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**Contract No. CV/2007/06**  
**Kwai Chung Incineration Plant**  
**Demolition and Decontamination Works**  
**(Environmental Permit No. EP-121/2002/A)**

**Remediation Report**

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**(Version 1.3)**

Prepared by:



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# 1 Introduction

## 1.1 Background

- 1.1.1 “Following the recommendations in the 1989 White Paper on “Pollution in Hong Kong – A Time to Act”, the municipal solid waste incinerators in Hong Kong have been closed in phases and replaced by a system of transfer stations feeding large landfill sites. The Kwai Chung Incineration Plant (KCIP), which was put into service as a municipal solid waste incinerator in 1978, ceased operation since May 1997.
- 1.1.2 In 1999, CEDD (former CED, Civil Engineering Department) completed a Preliminary Project Feasibility Study (PPFS) for the demolition of buildings, structures and chimney at the KCIP site (Report No. PPFS 2/99). The report concluded that the demolition was feasible and recommended that no blasting techniques be used in the demolition process.
- 1.1.3 The demolition of a municipal waste incinerator is classified as a designated project under Part II, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO). Accordingly, an EIA study was carried out under Agreement No. CE15/99, and an EIA Report – Demolition of Kwai Chung Incineration Plant (Atkins China, 2001) was submitted to the Director of Environmental Protection (DEP) in September 2001 under the EIAO (Register No. AEIAR-049/2002).
- 1.1.4 A Contamination Assessment Plan (CAP), which includes reference to necessary remedial action, was produced under Agreement No. CE15/99. The CAP report and the subsequent Contamination Assessment Report and Remediation Action Plan (CAR/RAP) were approved by the Authority, and the recommendations incorporated into the EIA Report.
- 1.1.5 The EIA Report was approved under the EIAO on 9 January 2002. An Environmental Permit (EP-121/2002) was issued on 1 March 2002 by the DEP.
- 1.1.6 At the EIA stage, preliminary site investigation was carried out, which identified the general nature and approximate extent of contamination, both within the structures and below ground level. However, further site investigation was necessary to accurately determine the extent of the contamination. Further site investigation including soil sampling and laboratory analysis were carried out under “Agreement No. CE85/2001 (CE) Demolition and Decontamination Works at the Kwai Chung Incineration Plant and At the Proposed Kennedy Town Comprehensive Development Area Site – Design and Construction” in 2002 and 2003. The drilling records and the laboratory testing results were provided by the CEDD for further review and analysis under this assignment.”
- 1.1.7 Having taking into account various site constraints relating to KCIP and its surrounding, Planning Department has agreed to exclude residential use from the future land use scenario for the KCIP contamination assessment under RBRGs. Given the above, it is recommended that the future land use for the KCIP site will be taken as either “Industrial” or “Public Parks” under the RBRGs land use scenarios. As such, a prudent approach is needed to ensure flexibility to cater both land use scenarios, i.e. the more stringent clean-up targets among “Industrial” and “Public Park” scenario are proposed.

## 1.2 General

- 1.2.1 In accordance with the varied Environmental Permit *EP Condition 2.11 (EP-121/2002/A)* a Remediation Report (RR) shall be submitted for approval by the Director of Environmental Protection Department within three months of completion of the remediation works.
- 1.2.2 This Final Remediation Report shall consist of three (3) parts, covering remediation of the followings:
- Part I – Remediation of hydrocarbons contaminated soils (Biopile No. 1) – Type B
  - Part II - Remediation of hydrocarbons and heavy metals contaminated soils (Biopile No. 2) – Type C
  - Part III – Remediation of heavy metals contaminated soils (Cement Solidification) – Type A and Type C
- 1.2.3 This Remediation Report shall demonstrate that the clean-up is adequate and all excavated contaminated soil has undergone proper soil remediation to meet the relevant standards for on-site reuse. All relevant information, such as details of closure assessment, sampling results, photographs, quantity of treated soil and final backfill locations shall be included in this Remediation Report.

## 2 Types and Volume of Contaminated Soil

### 2.1 Quantity of Different Types of Contaminated Soil

2.1.1 Material on the Kwai Chung Incineration Plant (KCIP) site has been classified into three distinct categories, which is based on the contaminant present in the soil. These categories are as follows:

- Type A: Heavy Metals
- Type B: Hydrocarbons
- Type C: Heavy Metals and Hydrocarbons

2.1.2 According to the Engineer's "RBRG for Contaminated Land Management - Contamination Assessment Report (CAR) and Remediation Action Plan (RAP) at Kwai Chung Incineration Plant (Report No. 203204/KCIP/RBRG/04/E) (August 2009)" which was approved by the EPD, the estimated quantities of contaminated soil requiring excavation and remediation at the KCIP site are summarized in Table 1 below.

**Table 1 Estimated and Actual Volumes of Contaminated Soil Requiring Excavation and Remediation**

Type	Contaminants	Estimated Volumes of Contaminated Soil Requiring Excavation and Remediation (m <sup>3</sup> ) <sup>1</sup> in CAR	Actual Volumes of Contaminated Soil Requiring Excavation and Remediation (m <sup>3</sup> ) <sup>1</sup>	Remediation Method
A	Heavy Metals	8,750 <sup>2</sup>	9,157 <sup>4</sup>	Cement Solidification
B	Hydrocarbons	1,750 <sup>2</sup>	1,922	Biopiling (Biopile No. 1)
C	Heavy Metals and Hydrocarbons	1,313 <sup>3</sup>	662	Biopiling (Biopile No. 2) followed by cement Solidification

<sup>1</sup> for "Public Park" land-use scenario and "Industrial" land-use scenario, whichever is more stringent

<sup>2</sup> As stated in Section 3.2.7 of the approved CAR, the calculated volume of Type A and Type B contaminated soil requiring excavation and remediation is calculated by taking the average grid area of (Type A): 875m<sup>2</sup> x (6 x 1.5m + 1.0m) = 8,750m<sup>3</sup>, (Type B): 875m<sup>2</sup> x (0.5+1.5)m = 1,750m<sup>3</sup>. While the actual volume is calculated based on the actual dimensions of the grids as measured on-site.

<sup>3</sup> As stated in Section 3.2.7 of the approved CAR, the calculated volume of Type C contaminated soil requiring excavation and remediation is calculated by taking the average grid area of 875m<sup>2</sup> x 1.5m = 1,313m<sup>3</sup>. While the actual volume is calculated based on the actual dimensions (i.e. irregular shape) of Grid 16 as measured on-site.

<sup>4</sup> Total volume of excavation, including total 6,491m<sup>3</sup> of heavy metals contaminated soil required for cement solidification and 2,666m<sup>3</sup> of rocky material and municipal solid waste that are not suitable for cement solidification treatment.

2.1.3 The location plans and the extent of contaminated zones are enclosed in Appendix A.

### 3 Part I – Remediation of hydrocarbons contaminated soils (Biopile No. 1) – Type B

#### 3.1 Treatment Methodology - Bioremediation

3.1.1 Bioremediation (i.e. biopiling) has been identified as the preferred method for the treatment of soils contaminated with hydrocarbon based substances (including Total Petroleum Hydrocarbons (TPH) (i.e. C<sub>6</sub>-C<sub>8</sub>, C<sub>9</sub>-C<sub>16</sub>, C<sub>17</sub>-C<sub>35</sub>), Polychlorinated Biphenyls (PCBs), and Benzo(a)pyrene). Soils that also contain heavy metal contamination shall be further treated via cement solidification, following the successful completion of biopile treatment.

3.1.2 During the biopile operation for the KCIP site, two numbers of biopiles were formed. The soil that was contaminated with hydrocarbons was formed to Biopile No. 1, with average size of about 20m x 50m x 3m high, and the soil that was contaminated with hydrocarbons and heavy metals was formed to Biopile No. 2, with average size of about 20m x 30m x 3m high.

3.1.3 The biopile decontamination system operates by providing air circulation to the biopile through extraction of air by a blower system. The induced air will maintain aerobic conditions in the soil pores and encourage biodegradation of the hydrocarbons by micro-organisms within the soil. The hydrocarbon contaminants will then be degraded. Based on the extent of hydrocarbons contamination, nature of the soil, and the design (bench-scale treatability test), it was anticipated that the biopiling treatment process should take about 7 months to complete.

3.1.4 The primary objectives of the biopile bench-scale treatability test are to determine:

- The type and concentration of TPH (i.e. C<sub>6</sub>-C<sub>8</sub>, C<sub>9</sub>-C<sub>16</sub>, C<sub>17</sub>-C<sub>35</sub>), / SVOC (i.e. Polychlorinated Biphenyls (PCBs), and Benzo(a)pyrene) contamination present in the soils requiring biopile treatment;
- The design and environmental parameters (including the potential addition of amendments) required to optimise the biodegradation rates;
- Whether the presence of heavy metals are inhibitory to biodegradation of the contaminants;
- To consider contingent strategies and actions for if “extreme contamination” is encountered; and
- The time necessary to attain the clean-up levels required.

3.1.5 This biopile treatability test is divided into three distinct phases of work as follows:

- Baseline Assessment – to determine and characterise the environmental condition of the contaminated soil prior to use in subsequent treatability tests.
- Respirometry Test – to evaluate the level of microbiological activity that may contribute to biodegradation of TPH and other hydrocarbons contaminants under various conditions, based on bacterial respiration from the contaminated soils (as characterised in the baseline assessment).
- Column Test – to determine the rate of biodegradation that can be achieved

under optimal (and practical) conditions in a biopile. The testing condition of the columns will be set based on the respirometry test results.

3.1.6 A basic arrangement of the biopile decontamination system includes:

- Regenerative blower: A source of aeration is a regenerative centrifugal blower. Upon finalization of the blower requirements, the system has been placed on a concrete pad in a weatherproof enclosure, which should adequately protect the blower system from climatic / environmental conditions. This weatherproof enclosure has been designed as a silencer to minimise noise impact during operations.
- Air manifold and header pipe connected to the blower: Aeration legs were constructed of 100mm diameter blank and slotted PVC pipe, capped on one end and connected to a second header pipe. The aeration legs have been placed at:
  - Approximately 2m centres in the horizontal plane; and
  - Approximately 1m centres (may be offset) in the vertical plan starting 1m above the drainage layer.
- Valves at the manifold branch points to allow balancing of the air flow;
- Air inlet hose is constructed with an impermeable cover directly contacting the soil;
- Water knockout pot, pump and collection tank; and
- Exhaust gas treatment system (i.e. activated carbon filtration system).

3.1.7 The primary phases involved in biopile construction include:

- Site preparation;
- Base construction;
- Aeration system installation;
- Nutrient addition system;
- Moisture addition system;
- Leachate collection system; and
- Biopile formation

3.1.8 Layout and cross section of the biopile decontamination system is included in Appendix A.

3.1.9 The biopile decontamination system was operated in a flexible manner to optimize biological degradation of contaminants while limiting the quantity of contaminants removed by vapour extraction.

3.1.10 Biopile No. 1 operated from 8 December 2010 to 7 August 2011.



### 3.2 Confirmatory Sampling at Contamination Areas

#### Confirmatory Sampling Requirement

- 3.2.1 In accordance with PS Clause 31.10, the Contractor shall carry out reassurance and confirmatory sampling and testing at limits of excavation to confirm that all contaminated soils / materials have been excavated before backfilling commences. The reassurance and confirmatory samples were collected from the four sidewalls and at the base of the limits of excavation.
- 3.2.2 EP-121/2002/A Section 2.10 indicates that “the Permit Holder shall conduct reassurance and confirmatory testings to verify the actual extent of contaminated soil before the remediation is carried out and to determine any additional areas for remedial action after initial remediation.”
- 3.2.3 As stated in the approved RAP, Sections 4.3.6 to 4.3.9 indicated that,
- “4.3.6 After excavation of contaminated soil in the respective excavation zones and prior to backfilling, confirmation sampling shall be conducted. Excavation will extend to the limits as determined by confirmation sampling.*
- 4.3.7 Sampling is to be carried out immediately upon completion of each excavation zone and at least one sample shall be taken from the side walls as well as the bottom of excavation zone. Sampling frequency shall commensurate with the dimension of each excavation zone.*
- 4.3.8 If analytical results have shown exceedance of the respective RBRGs criteria, excavation area shall be extended further (with 0.5 m increment in vertical direction and 1.0 m in horizontal direction on a horizontal plan) and further confirmatory sampling shall then be conducted until no further contamination is encountered.*
- 4.3.9 No confirmatory sampling is suggested at the sides of horizontal boundaries which are shared by another grid area or fall within another grid area. For some of the grids that fall partially outside the site boundary, confirmatory sampling shall be confined only to the site boundary.”*
- 3.2.4 Collection of confirmatory samples is carried out in accordance with the Engineer’s approved Confirmation Sampling and Testing Plan, which sets out the sampling and testing strategy for the ground decontamination works.
- 3.2.5 In each of the excavation zone (approx. 31m x 31m in size), a minimum of two soil sample shall be collected from each side wall and from the base.
- 3.2.6 The depth of sampling shall generally correspond with the depth of the original site investigation sample that triggered the requirement for excavation in that area (i.e. the depth of the confirmation excavation wall samples shall be matched to the depth of the original sample). Therefore, there could be samples collected at multiple depths in any one location on a side wall.
- 3.2.7 If any confirmation samples are found to contain contaminant concentrations exceeding relevant RBRGs assessment criteria, excavation area shall be extended further (with 0.5 m increment in vertical direction and 1.0 m in horizontal direction on a horizontal plan)

and further confirmatory sampling shall then be conducted until no further contamination is encountered.

#### Sidewall Samples

- 3.2.8 A total of 6 nos. of sidewall samples were taken for soil confirmatory testing for hydrocarbon (TPH) for contamination zone Grid 4, and a total of 8 nos. of sidewall samples were also taken for soil confirmatory testing for hydrocarbon (PCBs) for contamination zone Grid 12.

#### Base Samples

- 3.2.9 A total of 2 nos. of base samples was taken for soil confirmatory testing for hydrocarbon (TPH) for contamination zone Grid 4, a total of 2 no. of base sample was taken for soil confirmatory testing for hydrocarbon (PCBs) for contamination zone Grid 12.
- 3.2.10 The analytical results for confirmatory tests are enclosed in Appendix B and the summary of the testing results for confirmatory tests is summarized in Table 2 below.

**Table 2 Summary of Testing Results for Confirmatory Tests – Hydrocarbons (TPH and PCBs)**

Grid No.	Excavation Depth (m)	Location	Sample ID	RBRGs Criteria (mg/kg)	Result (mg/kg)	Exceedance
4	0-0.5	Sidewall	G4-0.25 B1	C <sub>6</sub> -C <sub>8</sub> < 10,000	C <sub>6</sub> -C <sub>8</sub> < 5	No
				C <sub>9</sub> -C <sub>16</sub> < 10,000	C <sub>9</sub> -C <sub>16</sub> < 200	
				C <sub>17</sub> -C <sub>35</sub> < 10,000	C <sub>17</sub> -C <sub>35</sub> < 500	
			G4-0.25 B2	C <sub>6</sub> -C <sub>8</sub> < 10,000	C <sub>6</sub> -C <sub>8</sub> < 5	No
				C <sub>9</sub> -C <sub>16</sub> < 10,000	C <sub>9</sub> -C <sub>16</sub> < 200	
				C <sub>17</sub> -C <sub>35</sub> < 10,000	C <sub>17</sub> -C <sub>35</sub> < 500	
			G4-0.25 C1	C <sub>6</sub> -C <sub>8</sub> < 10,000	C <sub>6</sub> -C <sub>8</sub> < 5	No
				C <sub>9</sub> -C <sub>16</sub> < 10,000	C <sub>9</sub> -C <sub>16</sub> < 200	
				C <sub>17</sub> -C <sub>35</sub> < 10,000	C <sub>17</sub> -C <sub>35</sub> < 500	
			G4-0.25 C2	C <sub>6</sub> -C <sub>8</sub> < 10,000	C <sub>6</sub> -C <sub>8</sub> < 5	No
				C <sub>9</sub> -C <sub>16</sub> < 10,000	C <sub>9</sub> -C <sub>16</sub> < 200	
				C <sub>17</sub> -C <sub>35</sub> < 10,000	C <sub>17</sub> -C <sub>35</sub> < 500	
		G4-0.25 D1	C <sub>6</sub> -C <sub>8</sub> < 10,000	C <sub>6</sub> -C <sub>8</sub> < 5	No	
			C <sub>9</sub> -C <sub>16</sub> < 10,000	C <sub>9</sub> -C <sub>16</sub> < 200		
			C <sub>17</sub> -C <sub>35</sub> < 10,000	C <sub>17</sub> -C <sub>35</sub> < 500		
G4-0.25 D2	C <sub>6</sub> -C <sub>8</sub> < 10,000	C <sub>6</sub> -C <sub>8</sub> < 5	No			
	C <sub>9</sub> -C <sub>16</sub> < 10,000	C <sub>9</sub> -C <sub>16</sub> < 200				
	C <sub>17</sub> -C <sub>35</sub> < 10,000	C <sub>17</sub> -C <sub>35</sub> < 500				
Base	G4-0.5 E1	C <sub>6</sub> -C <sub>8</sub> < 10,000	C <sub>6</sub> -C <sub>8</sub> < 5	No		
		C <sub>9</sub> -C <sub>16</sub> < 10,000	C <sub>9</sub> -C <sub>16</sub> < 200			
		C <sub>17</sub> -C <sub>35</sub> < 10,000	C <sub>17</sub> -C <sub>35</sub> < 500			
G4-0.5 E2	C <sub>6</sub> -C <sub>8</sub> < 10,000	C <sub>6</sub> -C <sub>8</sub> < 5	No			
	C <sub>9</sub> -C <sub>16</sub> < 10,000	C <sub>9</sub> -C <sub>16</sub> < 200				
	C <sub>17</sub> -C <sub>35</sub> < 10,000	C <sub>17</sub> -C <sub>35</sub> < 500				
12	3.0-4.5	Sidewall	G12-4.0 A1	Polychlorinated Biphenyls (PCBs) (Cleanup Target = 0.748 mg/kg) (for "Industrial" scenario)	<0.1	No
			G12-4.0 A2		<0.1	No
			G12-4.0 B1		<0.1	No
			G12-4.0 B2		<0.1	No
			G12-4.0 C1		<0.1	No
			G12-4.0 C2		<0.1	No
			G12-4.0 D1		<0.1	No
			G12-4.0 D2		<0.1	No
		Base	G12-4.5 E1		<0.1	No
			G12-4.5 E2		<0.1	No

### 3.3 Closure Assessment Approach

#### Sampling Requirement

- 3.3.1 Total quantity of hydrocarbons contaminated soil in Biopile No. 1 is approximately **1,922m<sup>3</sup>**. Closure assessment samples were collected with a sampling frequency of **one sample per 100m<sup>3</sup>** of treated soil. A total of **20 soil samples** for Biopile No. 1 were taken. For a biopile with 50 m long, the sampling locations spanned at approximately 5m, 15m, 25m, 35m and 45m from one end of the biopile. The soil sampling locations for closure assessment is shown in Figure 1.

#### Sampling Strategy

- 3.3.2 For Biopile No. 1, the soil sampling locations were taken from the centerline of the biopile in representing the contamination status of soil within Biopile No. 1. (Figure 1 refers)

#### Sampling Methodology

- 3.3.3 The following sampling methodology has been used for closure assessment:

1. Access to the sampling locations has been provided through opening of covering panels. These openings have been sealed up after each access.
2. Extracting the soil samples has been accomplished using a soil sampler.
3. All equipment in contact with the ground has been thoroughly decontaminated prior to use at each location by scrubbing with a lab-grade detergent and steam cleaning.
4. Soil samples at each location were taken (at about 0.5m from top of the biopile, in between two layers of air extraction pipes, and soil samples were taken at 0.5-1.0m, 1.0-1.5m, 1.5-2.0m and 2.0-2.5m from the top of the biopile).
5. The sample containers were wide mouth glass jars sterilized and were provided by the appointed HOKLAS accredited laboratory. Headspace was minimized. The scoop for mixing and handling the soil samples were made of stainless steel. All excess soil on the sampler had been returned to the biopile.
6. All samples were uniquely labelled and described on-site prior to laboratory analysis. Description included:
  - Soil sample number or identification number;
  - Soil sampling location and depth;
  - Estimated physical characteristics (clay, silt, sand, gravel, stone, cobble, colour, odour, moisture); and
  - Colour photograph.
7. The soil samples were put in an insulated box below ice immediately after being placed in an appropriate pre-washed container (provided by the appointed HOKLAS accredited laboratory) without being agitated and headspace. The sample containers were tightly closed and maintained refrigerated conditions at about 4°C. Samples were delivered to the appointed HOKLAS accredited laboratory as soon as practicable.
8. All soil samples were analysed within the detention period for relevant analysis

respectively. Analysis of soil samples were carried out by a HOKLAS accredited laboratory as approved by the Engineer.

Sampling analysis

3.3.4 The analysis suite for soil samples for biopile closure assessment for Biopile No. 1 is tabulated in Table 3 below.

**Table 3 Analysis Suite for Soil Samples for Closure Assessment for Biopile No. 1**

Analysis Parameter	Testing Method	Limit of Reporting
Total Petroleum Hydrocarbons (TPH) (individual concentrations of C <sub>6</sub> -C <sub>8</sub> , C <sub>9</sub> -C <sub>16</sub> , and C <sub>17</sub> -C <sub>35</sub> functions shall be specified)	TPH-volatiles: USEPA 8260A (GCMS) TPH Extractables: USEPA 8015A (GCFID)	TPH (sum for all carbon fractions): 252 mg/kg
Polychlorinated Biphenyls (PCBs)	USEPA 8270	0.1 mg/kg
Soil Moisture	-	0.1%
pH value	APHA 19 <sup>th</sup> 4500H <sup>+</sup>	0.1 pH unit
Total Nitrogen content / concentration	APHA 19 <sup>th</sup> 4500-N <sub>org</sub> /NO <sub>3</sub>	20 mg/kg
Total Phosphorus content / concentration	APHA 19 <sup>th</sup> 4500H B&F-P	20 mg/kg

3.4 Closure Assessment Result

3.4.1 The objective of the biopile closure assessment is to collect soil samples for testing in order to ensure the concentrations of hydrocarbons (Total Petroleum Hydrocarbons (TPH) and Polychlorinated Biphenyls (PCBs)) in the biopiles are below the cleanup targets.

3.4.2 Table 4 below summarised the relevant RBRG standards under “Industrial” land-use scenario, which is more stringent for PCBs (cleanup target) for biopile closure assessment.

**Table 4 Relevant RBRG Standards (Cleanup Target) for Biopile Closure Assessment**

Parameter	Cleanup Target (mg/kg), dry soil – “Industrial” landuse
Polychlorinated Biphenyls (PCBs)	0.748
Total Petroleum Hydrocarbons (TPH)	
C <sub>6</sub> -C <sub>8</sub>	*10,000
C <sub>9</sub> -C <sub>16</sub>	*10,000
C <sub>17</sub> -C <sub>35</sub>	*10,000

\* indicates a “ceiling limit” concentration

3.4.3 Totally 20 nos. of soil samples for closure assessment were collected for Biopile No. 1. The closure assessment soil samples were collected with a sampling frequency of one sample per 100m<sup>3</sup> of treated soil. Closure assessment results for Biopile No. 1 are summarized in Table 5 and the laboratory results of the closure assessment issued by the appointed HOKLAS accredited laboratory are presented in Appendix C.

3.4.4 Details of backfilling shall be referred to Section 6 of this Remediation Report.

**Table 5 Analytical Results and Concerned Cleanup Target for Closure Assessment**

Sample ID	Sampling Depth (from top) (m)	Testing Parameters	Cleanup Target (mg/kg)	Results (mg/kg)	Exceedance
B1-C1 (0.5-1.0)	0.5-1.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C1 (1.0-1.5)	1.0-1.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C1 (1.5-2.0)	1.5-2.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C1 (2.0-2.5)	2.0-2.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C2 (0.5-1.0)	0.5-1.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C2 (1.0-1.5)	1.0-1.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C2 (1.5-2.0)	1.5-2.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C2 (2.0-2.5)	2.0-2.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C3 (0.5-1.0)	0.5-1.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	0.2	No
B1-C3 (1.0-1.5)	1.0-1.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	0.2	No
B1-C3 (1.5-2.0)	1.5-2.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	

Sample ID	Sampling Depth (from top) (m)	Testing Parameters	Cleanup Target (mg/kg)	Results (mg/kg)	Exceedance
		PCBs	0.748	<0.1	No
B1-C3 (2.0-2.5)	2.0-2.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C4 (0.5-1.0)	0.5-1.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C4 (1.0-1.5)	1.0-1.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C4 (1.5-2.0)	1.5-2.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C4 (2.0-2.5)	2.0-2.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C5 (0.5-1.0)	0.5-1.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C5 (1.0-1.5)	1.0-1.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C5 (1.5-2.0)	1.5-2.0	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	<0.1	No
B1-C5 (2.0-2.5)	2.0-2.5	C <sub>6</sub> -C <sub>8</sub>	< 10,000	C <sub>6</sub> -C <sub>8</sub> <5	No
		C <sub>9</sub> -C <sub>16</sub>	< 10,000	C <sub>9</sub> -C <sub>16</sub> <200	
		C <sub>17</sub> -C <sub>35</sub>	< 10,000	C <sub>17</sub> -C <sub>35</sub> <500	
		PCBs	0.748	0.3	No

### 3.5 QA/QC Sampling Results

- 3.5.1 QA/QC procedures included the collection and analysis of samples, duplicate samples, and matrix spike/matrix spike duplicate (MS/MSD) samples.
- 3.5.2 Matrix Spike Duplicate Samples – for each 20 samples, one triple volume of sample of the aqueous samples were collected to provide the laboratory with adequate volume to perform MS/MSD for organic analysis. MS/MSD samples were analyzed to determine the reproducibility of the analytical methods used in the laboratory.
- 3.5.3 The analytical results of QA/QC Sampling for Closure Assessment showed that the Relative Percent Different (RPD) of Total Petroleum Hydrocarbons (TPH) and Polychlorinated Biphenyls (PCBs) were below detection limits, indicating the acceptable quality control/quality assurance procedures was achieved. Summary table of QA/QC samples are included in Table 6 below and the analytical results of QA/QC samples are enclosed in Appendix C.

**Table 6 Summary of QA/QC Samples (Biopile No. 1)**

Sample ID	Parameters	Original Result	Duplicate Result	RPD (%)
B1-C1 (0.5-1.0) HK1115262-001	Total Petroleum Hydrocarbons (TPH) C <sub>9</sub> -C <sub>16</sub> C <sub>17</sub> -C <sub>35</sub>	<200 <500	<200 <500	0 0
B1-C1 (0.5-1.0) HK1115262-001	Total Petroleum Hydrocarbons (TPH) C <sub>6</sub> -C <sub>8</sub>	<5	<5	0
Anonymous HK1114929-001	Polychlorinated biphenyls (PCBs)	<0.1	<0.1	0
Anonymous HK1115262-001	Total Petroleum Hydrocarbons (TPH) C <sub>9</sub> -C <sub>16</sub> C <sub>17</sub> -C <sub>35</sub>	<200 <500	<200 <500	0 0
Anonymous HK1115262-001	Total Petroleum Hydrocarbons (TPH) C <sub>6</sub> -C <sub>8</sub>	<5	<5	0
Anonymous HK1115440-003	Polychlorinated biphenyls (PCBs)	<0.1	<0.1	0
B1-C5 (1.5-2.0) HK1115440-003	Polychlorinated biphenyls (PCBs)	<0.1	<0.1	0



## 4 Part II – Remediation of Hydrocarbons and Heavy Metals Contaminated Soils (Biopile No. 2) – Type C

### 4.1 Treatment Methodology - Bioremediation

4.1.1 Bioremediation (i.e. biopiling) has been identified as the preferred method for the treatment of soils contaminated with hydrocarbon based substances (including Total Petroleum Hydrocarbons (TPH) (i.e. C<sub>6</sub>-C<sub>8</sub>, C<sub>9</sub>-C<sub>16</sub>, C<sub>17</sub>-C<sub>35</sub>), Polychlorinated Biphenyls (PCBs), and Benzo(a)pyrene). Soils that also contain heavy metal contamination shall be further treated via cement solidification, following the successful completion of biopile treatment.

4.1.2 The treatment methodology for Biopile No. 2 is the same as for Biopile No. 1 as described in Section 3.1.

4.1.3 Biopile No. 2 operated from 7 January 2011 to 24 September 2011.

### 4.2 Confirmatory Sampling at Contamination Areas

#### Confirmatory Sampling Requirement

4.2.1 The confirmatory sampling requirements for hydrocarbons and heavy metals contaminated soils are the same as for hydrocarbons contaminated soils as described in Section 3.2.

#### Grid 16

#### Initial Confirmatory Soil Sampling

4.2.2 Initially, a total of 4 nos. of sidewall samples (G16-2.5A1, G16-2.5A2, G16-2.5B1, G16-2.5D1) and 2 nos. of base samples (G16-3.0E1 and G16-3.0E2) were set out for soil confirmatory testing for hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) for contamination zone Grid 16.

4.2.3 Confirmatory soil sampling results were found below the relevant RBRGs cleanup targets.

#### Additional Base and Sidewall Confirmatory Soil Sampling

4.2.4 During excavation, it was observed that the base of the tentative excavation depth (i.e. 3.0m below ground level) is approaching bedrock; and that the soil at the base of tentative excavation depth was visibly indicated of contamination impact. Additional soil samples (G16-3.0F1 and G16-3.0F2) were taken for further confirmation of hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) at location adjacent to G16-3.0E1 and G16-3.0E2 respectively at depth slightly below the tentative excavation depth (i.e. approximately 3.5m below ground level). As a prudent approach, the soil down to rockhead level of Grid 16 had been excavated for treatment by biopiling and subsequent cement solidification.

4.2.5 Two soil samples (G16-2.5(boundary) – 1 and G16-2.5(boundary) – 2) were also taken for further confirmation of hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) at the south-eastern boundary of Grid 16 as concrete slabs and

pipelines were encountered during excavation of Grid 16 toward the south-eastern boundary.

- 4.2.6 Confirmatory soil sampling results were found below the relevant RBRGs cleanup targets.

#### Additional Sidewall Confirmatory Soil Sampling Alongside between Grid 16 and Grid 15

- 4.2.7 During excavation, it was also observed that the soil at alongside between Grid 16 and Grid 15 appeared to be visibly indicated of contamination impact. Additional soil samples (G16-1.5F3, G16-1.5F4, G16-1.5F5, G16-1.5F6 and G16-1.5F7) alongside between Grid 16 and Grid 15 were taken for further confirmation of hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)).
- 4.2.8 Upon confirmatory testing, G16-1.5F3 (sidewall sample) at depth of below 1.5m was found to exceed the cleanup target of 3.83 mg/kg for Benzo(a)pyrene only. In such case, further confirmation samples (i.e. G16-F3A(Confirm)1.5Side) was taken to confirm the extent of contamination on the sidewall toward Grid 15, and G16-F3A(Confirm)3.0Bottom was taken to confirm the extent of contamination at the base. Results of both G16-F3A(Confirm)1.5Side and G16-F3A(Confirm)3.0Bottom revealed the level of Benzo(a)pyrene below the cleanup target of 3.83 mg/kg. The additional extent of contamination from G16-1.5F3 was bounded by G16-2.5A1, G16-1.5F4, G16-F3A(Confirm)1.5Side, and G16-F3A(Confirm)3.0Bottom. Resulting in an additional 15m<sup>3</sup> of hydrocarbons contaminated soil between Grid 15 and Grid 16 taken for biopile remediation treatment.

#### Confirmatory Soil Sampling for Heavy Metal

- 4.2.9 Besides hydrocarbons contamination (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)), as stated in the approved CAR, Grid 16 was also identified to be contaminated with heavy metal – Lead (Pb). Laboratory analyses for lead (Pb) were also carried out for confirmatory soil samples (G16-2.5B1, G16-2.5D1, G16-3.0E1, G16-3.0E2, G16-2.5(boundary) – 1 and G16-2.5(boundary) – 2) as shown in Appendix B. Confirmatory testing results for heavy metal – Lead (Pb) are found below the RBRGs cleanup targets under the “Public Park” land use scenario. Details of cement solidification of the heavy metal contaminated soil after bioremediation treatment will be covered in Part III of the Remediation Report.
- 4.2.10 The analytical results for confirmatory tests are enclosed in Appendix B and the summary of the testing results for confirmatory tests for hydrocarbons (PAH and PCBs) is summarized in Table 7. Confirmatory tests for heavy metal (Lead) is included in Table 7A.

**Table 7 Summary of Testing Results for Confirmatory Tests – Hydrocarbons (PAH and PCBs)**

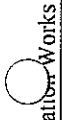
Grid No.	Excavation Depth (m)	Location	Remarks	Sample ID	Exceedance		Exceedance		
					Result (mg/kg)	Result (mg/kg)			
16	1.5-3.0	Sidewall	Initial confirmatory soil sampling	G16-2.5A1	<0.5	No	<0.1	No	
				G16-2.5A2	<0.5	No	<0.1	No	
				G16-2.5B1	<0.5	No	<0.1	No	
				G16-2.5D1	<0.5	No	<0.1	No	
			Additional confirmatory soil sampling alongside between Grid 16 and Grid 15*	G16-1.5F3	12.6	Yes	<0.1	No	
				G16-1.5F4	<0.5	No	<0.1	No	
				G16-1.5F5	0.7	No	<0.1	No	
				G16-1.5F6	<0.5	No	<0.1	No	
				G16-1.5F7	0.7	No	0.2	No	
				Additional sidewall confirmatory soil sampling**	G16-2.5 (boundary) – 1	0.6	No	<0.1	No
			G16-2.5 (boundary) – 2		1.5	No	<0.1	No	
			Further confirmatory soil sample for G16-1.5F3		G16-F3A(Confirm) 1.5 Side	0.6	No	Not Required	-
						0.6	No	Not Required	-
			Base	Initial confirmatory soil sampling	G16-3.0E1	<0.5	No	<0.1	No
G16-3.0E2	<0.5	No			<0.1	No			
Additional base confirmatory soil sampling***	G16-3.0F1	<0.5		No	0.4	No			
		G16-3.0F2		0.6	No	0.6	No		
Further confirmatory soil sample for G16-1.5F3	G16-F3A(Confirm) 3.0 Bottom**	<0.5		No	Not Required	-			
		<0.5		No	Not Required	-			

\* G16-1.5F3, G16-1.5F4, G16-1.5F5, G16-1.5F6 and G16-1.5F7 were taken alongside between Grid 16 and Grid 15 for further confirmation of hydrocarbons for soil that was visibly indicated of contamination impact

\*\* G16-2.5 (boundary) – 1 and G16-2.5 (boundary) – 1 were taken for further confirmation of hydrocarbons at the south-eastern boundary of Grid 16 as concrete slabs and pipelines were encountered during excavation of Grid 16 toward the south-eastern boundary.

\*\*\* G16-3.0F1 and G16-3.0F2 were taken location adjacent to G16-3.0E1 and G16-3.0E2 respectively at depth slightly below the tentative excavation depth for further confirmation of soil that was visibly indicated of contamination impact

Note: Since G16-1.5F3 was found exceedance of the cleanup target of 3.83 mg/kg for Benzo(a)pyrene only. In such case, further confirmation samples (i.e. G16-F3A(Confirm) 1.5 Side) was taken to confirm the extent of contamination on the sidewall toward Grid 15, and G16-F3A(Confirm) 3.0 Bottom was taken to confirm the extent of contamination at the base. Based on the confirmatory testing results, a total of 15m<sup>3</sup> of contaminated soil was extended toward the boundary between Grid 15 and Grid 16 for biopile remediation treatment.



**Table 7A Summary of Testing Results for Confirmatory Tests – Heavy Metal (Lead)**

Grid No.	Type of Contamination	Excavation Depth (m)	Location	Minimum No. of Confirmatory Samples Required	No. of Confirmatory Samples Taken	Sample ID	RBRGs Criteria (mg/kg)	Result (mg/kg)	Exceedance
16	Lead (Pb)	1.5-3.0	Sidewall	3	4	G16-2.5B1	Pb < 857	60	No
						G16-2.5D1		93	No
			G16-2.5 (boundary) - 1			364		No	
			G16-2.5 (boundary) - 2			757		No	
		Base	1	2	G16-3.0E1	61		No	
					G16-3.0E2	43		No	

### 4.3 Closure Assessment Approach

#### Sampling Requirement

4.3.1 Total quantity of hydrocarbons contaminated soil in Biopile No. 2 is approximately **662m<sup>3</sup>** (including **15m<sup>3</sup>** of contaminated soil extending towards the boundary between Grid 15 and Grid 16 upon reveal of the results from confirmatory tests). Closure assessment samples were collected with a sampling frequency of at least **one sample per 100m<sup>3</sup>** of treated soil. In view of the contamination status of Biopile No. 2, a total of **25 soil samples** (including 1 additional soil sample for re-confirmation) for Biopile No. 2 were taken. For a biopile with 30 m long, the sampling locations spanned at approximately 5m, 15m, and 25m from one end of the biopile in two rows. The soil sampling locations for closure assessment is shown in Figure 2.

#### Sampling Strategy

4.3.2 For Biopile No. 2, the soil sampling locations were taken at six locations across the biopile in representing the contamination status of soil within Biopile No. 2. (Figure 2 refers)

#### Sampling Methodology

4.3.3 The sampling methodology for closure assessment of Biopile No. 2 is the same as for Biopile No. 1 as described in Section 3.3.3.

#### Sampling analysis

4.3.4 The analysis suite for soil samples for biopile closure assessment for Biopile No. 2 is tabulated in Table 8 below.

**Table 8 Analysis Suite for Soil Samples for Closure Assessment for Biopile No. 2**

Analysis Parameter	Testing Method	Limit of Reporting
Benzo(a)pyrene	USEPA 8270	0.5 mg/kg
Polychlorinated Biphenyls (PCBs)	USEPA 8270	0.1 mg/kg
Soil Moisture	-	0.1%
pH value	APHA 19 <sup>th</sup> 4500H <sup>+</sup>	0.1 pH unit
Total Nitrogen content / concentration	APHA 19 <sup>th</sup> 4500-N <sub>org</sub> /NO <sub>3</sub>	20 mg/kg
Total Phosphorus content / concentration	APHA 19 <sup>th</sup> 4500H B&F-P	20 mg/kg

### 4.4 Closure Assessment Result

4.4.1 The objective of the biopile closure assessment is to collect soil samples for testing in order to ensure the concentrations of hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) in the biopiles are below the cleanup targets.

4.4.2 Table 9 below summarised the relevant RBRG standards under respective land-use scenario (cleanup target) for biopile closure assessment.”

**Table 9 Relevant RBRG Standards (Cleanup Target) for Biopile Closure Assessment**

Parameter	Cleanup Target (mg/kg), dry soil	Landuse Scenario
Polychlorinated Biphenyls (PCBs)	0.748	Industrial
Benzo(a)pyrene	3.83	Public Park

4.4.3 Totally 25 nos. of soil samples (including 1 additional soil sample for re-confirmation) for closure assessment were collected for Biopile No. 2. The closure assessment soil samples were collected with a sampling frequency of at least one sample per 100m<sup>3</sup> of treated soil. Closure assessment results for Biopile No. 2 are summarized in Table 10 and the laboratory results of the closure assessment issued by the appointed HOKLAS accredited laboratory are presented in Appendix C.

4.4.4 Upon review of the closure assessment results for Biopile No. 2 on 11 to 15 August 2011, which revealed that B2-C4 (0.5-1.0) at depth of 0.5 to 1.0m with Polychlorinated Biphenyls (PCBs) concentration of 0.9 mg/kg which is slightly above the RBRG standard cleanup target of 0.748 mg/kg.

4.4.5 Given the fact that the PCBs exceedance at B2-C4 (0.5-1.0) was only slightly exceeded, and during the course of the biopile decontamination operation process, a number of nutrients injections were carried out on 20 May, 11 July, 30 July, 2 August and 31 August 2011 to promote the growth of micro-organism and degradation of hydrocarbons contaminants, it is therefore recommended that re-confirmation sample should be taken on 31 August 2011 to further confirm the contamination status.

4.4.6 Re-confirmation sample B2-C4A (0.5-1.0) was taken adjacent to B2-C4 (0.5-1.0) on 31 August 2011 to ensure the concentrations of hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) in the biopiles are below the cleanup targets.

4.4.7 Laboratory analytical results of B2-C4A (0.5-1.0) confirmed that both Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) are below the relevant cleanup targets.

**Table 10 Analytical Results and Concerned Cleanup Target for Closure Assessment**

Sample ID	Sampling Depth (from top) (m)	Date of Sampling	Testing Parameters	Cleanup Target (mg/kg)	Results (mg/kg)	Exceedance
B2-C1 (0.5-1.0)	0.5-1.0	11 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C1 (1.0-1.5)	1.0-1.5	11 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C1 (1.5-2.0)	1.5-2.0	11 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C1 (2.0-2.5)	2.0-2.5	11 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No

Sample ID	Sampling Depth (from top) (m)	Date of Sampling	Testing Parameters	Cleanup Target (mg/kg)	Results (mg/kg)	Exceedance
B2-C2 (0.5-1.0)	0.5-1.0	12 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	0.5	No
B2-C2 (1.0-1.5)	1.0-1.5	12 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	0.4	No
B2-C2 (1.5-2.0)	1.5-2.0	12 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	0.7	No
B2-C2 (2.0-2.5)	2.0-2.5	12 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	0.4	No
B2-C3 (0.5-1.0)	0.5-1.0	12 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C3 (1.0-1.5)	1.0-1.5	12 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C3 (1.5-2.0)	1.5-2.0	12 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C3 (2.0-2.5)	2.0-2.5	12 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C4 (0.5-1.0)*	0.5-1.0	13 Aug 2011	Benzo(a)pyrene	3.83	1.0	No
			PCBs	0.748	0.9	Yes
B2-C4 (1.0-1.5)	1.0-1.5	13 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C4 (1.5-2.0)	1.5-2.0	13 Aug 2011	Benzo(a)pyrene	3.83	2.6	No
			PCBs	0.748	0.2	No
B2-C4 (2.0-2.5)	2.0-2.5	13 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C5 (0.5-1.0)	0.5-1.0	15 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C5 (1.0-1.5)	1.0-1.5	15 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	0.6	No
B2-C5 (1.5-2.0)	1.5-2.0	15 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C5 (2.0-2.5)	2.0-2.5	15 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C6 (0.5-1.0)	0.5-1.0	15 Aug 2011	Benzo(a)pyrene	3.83	1.1	No
			PCBs	0.748	0.5	No
B2-C6 (1.0-1.5)	1.0-1.5	15 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	<0.1	No
B2-C6 (1.5-2.0)	1.5-2.0	15 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	0.1	No
B2-C6 (2.0-2.5)	2.0-2.5	15 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	0.4	No
B2-C4A (0.5-1.0)	0.5-1.0	31 Aug 2011	Benzo(a)pyrene	3.83	<0.5	No
			PCBs	0.748	0.5	No

\* Further confirmed by B2-C4A (0.5-1.0)

Note: Injections of nutrient solution were carried out on 20 May, 11 July, 30 July, 2 August and 31 August 2011

to promote the growth of bacteria and degradation of hydrocarbons contaminants.

#### 4.5 QA/QC Sampling Results

- 4.5.1 QA/QC procedures included the collection and analysis of samples, duplicate samples, and matrix spike/matrix spike duplicate (MS/MSD) samples.
- 4.5.2 Matrix Spike Duplicate Samples – for each 20 samples, one triple volume of sample of the aqueous samples were collected to provide the laboratory with adequate volume to perform MS/MSD for organic analysis. MS/MSD samples were analyzed to determine the reproducibility of the analytical methods used in the laboratory.
- 4.5.3 Field contamination is monitored by the analysis of Field Blanks and Equipment Blanks Rinsate Samples.
- 4.5.4 Field Blanks - A sample of analyte free media is taken from the laboratory to the sampling site and returned to the laboratory in order to determine contamination from shipping and field handling.
- 4.5.5 Equipment Blanks - A sample of reagent water used to rinse the sampling equipment between the decontamination and sampling steps to determine equipment decontamination.
- 4.5.6 The analytical results of Field Blanks and Equipment Blanks showed that concentration of all tested parameters below were below the respective detection limits, and the analytical results of QA/QC Sampling for Closure Assessment showed that the Relative Percent Different (RPD) of Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs) were below detection limits, indicating the acceptable quality control/quality assurance procedures was achieved. Summary table of QA/QC samples are included in Table 11 below and the analytical results of QA/QC samples are enclosed in Appendix C.



**Table 11 Summary of QA/QC Samples (Biopile No. 2)**

Sample ID	Parameters	Original Result	Duplicate Result	RPD (%)
Anonymous HK1118449-001	Benzo(a)pyrene	<0.5	<0.5	0
Anonymous HK1118982-001	Polychlorinated biphenyls (PCBs)	0.5	0.6	0
B2-C2 (0.5-1.0) HK1118982-001	Polychlorinated biphenyls (PCBs)	0.5	0.6	0
B2-C3 (0.5-1.0) HK1118982-001	Benzo(a)pyrene	<0.5	<0.5	0
Anonymous HK1119041-001	Benzo(a)pyrene	<0.5	<0.5	0
B2-C6 (0.5-1.0) HK1119157-009	Polychlorinated biphenyls (PCBs)	0.5	0.5	0
B2-C1 FB (FIELD BLANK)	Benzo(a)pyrene Polychlorinated biphenyls (PCBs)	<2 ug/L <1 ug/L	Not required	-
B2-C1 EB (EQUIPMENT BLANK)	Benzo(a)pyrene Polychlorinated biphenyls (PCBs)	<2 ug/L <1 ug/L	Not required	-
B2-C6 FB (FIELD BLANK)	Benzo(a)pyrene Polychlorinated biphenyls (PCBs)	<2 ug/L <1 ug/L	Not required	-
B2-C6 EB (EQUIPMENT BLANK)	Benzo(a)pyrene Polychlorinated biphenyls (PCBs)	<2 ug/L <1 ug/L	Not required	-

#### 4.6 Biopile Decommissioning

- 4.6.1 Prior to biopile decommissioning, soil gas (i.e. Oxygen, Carbon dioxide, Carbon monoxide, Methane, Volatile Organic Carbon) shall be measured at each of the injection / irrigation pipe locations and exhaust.
- 4.6.2 After soil gas monitoring, water shall be injected from the disconnected section of the header pipe through the entire header pipe system to the end section of the header pipe of both Biopile No. 1 and Biopile No. 2
- 4.6.3 After the purging with water, soil gas shall be measured again at each of the injection / irrigation pipe locations and exhaust.
- 4.6.4 Upon completion of soil gas monitoring and water purging, the header pipes shall be cut into manageable sections, and be sliced open and wiped with damp cloths to remove any remaining dust particles.
- 4.6.5 The system components / parts in direct contact with the soil (i.e. HDPE liners, drainage mat, perforated pipes etc.) shall also be wiped with damp cloths to remove any remaining dust particles.
- 4.6.6 The cloths used in this process will also be drummed in the steel containers for final disposal as chemical waste.

## 5 Type III – Remediation of Heavy Metals Contaminated Soils (Cement Solidification) – Type A and Type C

### 5.1 Treatment Methodology - Cement Solidification

- 5.1.1 Solidification has been identified as the preferred method for treating soils contaminated with heavy metals and involves the immobilization of the contaminant within the soil matrix by mixing cement in with the soil.

#### Pilot test – Cement Solidification

- 5.1.2 Objectives: The objectives of the cement solidification pilot test are to:

- Determine if the cement solidification treatment of the heavy metal contaminated soils from the KCIP site will result in attainment of the cleanup targets for the cement solidification process; and
- Determine the appropriate design parameters, including the optimum additives/mix for solidification, effective additive/mix concentration and the optimum mixing and curing conditions for the full scale cement solidification treatment.

- 5.1.3 Representative contaminated soil samples were collected from the KCIP site for carrying out the treatability test / pilot test. The representative contaminated soil samples were collected from the grid where contamination level was the highest, given the assumption that the selected cement-water-soil mixture for the solidification treatment process shall be satisfactory on a “safe-for-all” basis.

- 5.1.4 The following processes / testing were undertaken:

- Contaminated Soil collected were sub-divided into four of 10kg portion;
- Each of the 10kg of contaminated soil were mixed thoroughly by manual mixing according to the proposed mix / formulations;
- Water content of each mix / formulations were recorded;
- After mixing, the mix / formulation were placed in the appropriate moulds (approx. 100mm x 100mm x 100mm) and be allowed for cure for 7 days;
- Each mix / formulation were formed at least 3 samples for TCLP and UCS testing; and
- After curing, 3 samples of each mix / formulation were taken for the corresponding TCLP metals and UCS testing.

- 5.1.5 The mixing equipment identified to perform the solidification treatment of heavy metal contaminated soils at the KCIP site is a mixing chamber (pugmill). The pugmill was chosen for its capability to achieve a homogeneous soil-cement-water mixture.

- 5.1.6 During the operational process, prior to solidification, soil contaminated with heavy metal shall be screened to segregate soil from municipal solid waste, rock fragments, oversize materials and to break soil clumps into sizes to allow effective mixing with cement. The screened soil shall be transferred to the mixing plant through the conveyor belt system.

5.1.7 10% of cement and 10% of water (as determined by the treatability test) by weight shall be added to the untreated soil, which shall be mixed uniformly within the pugmill. The mixing shall be performed for a minimum duration of at least one minute to ensure a homogenous mixture. The mixed material shall be discharged directly from the mixing plant to a transport vehicle, which shall move and relocate the treated material to a designated temporary storage location for setting and validation purposes. The temporary stockpiles shall be covered by impermeable covers, where necessary, to minimise wind erosion and potential leaching.

5.1.8 The cement solidification plant operated from 5 July 2010 to 17 December 2011.

## 5.2 Confirmatory Sampling at Contamination Areas

### Confirmatory Sampling Requirement

5.2.1 The confirmatory sampling requirements for heavy metals contaminated soil are the same as for hydrocarbons contaminated soils as described in Section 3.2.

### Sidewall Samples

5.2.2 A total of 37 nos. of sidewall samples were taken for soil confirmatory testing for lead (Pb) for contamination zone Grid 4, Grid 12, Grid 13, Grid 14, Grid 15 and Grid 16, and a total of 6 nos. of sidewall samples were taken for soil confirmatory testing for lead (Pb) and copper (Cu) for contamination zone Grid 14.

### Base Samples

5.2.3 A total of 22 nos. of base samples was taken for soil confirmatory testing for lead (Pb) for contamination zone Grid 4, Grid 12, Grid 13, Grid 14, Grid 15 and Grid 16, and a total of 4 no. of base sample was taken for soil confirmatory testing for lead (Pb) and copper (Cu) for contamination zone Grid 14.

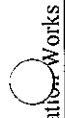
5.2.4 The relevant RBRG Standards (Cleanup Target) for confirmatory testing for remediation of heavy metals contaminated soil is summarized in Table 12. The analytical results for confirmatory tests are enclosed in Appendix B and the summary of the testing results for confirmatory tests is summarized in Table 13.

**Table 12 Relevant RBRG Standards (Cleanup Target) for Heavy Metals Contamination**

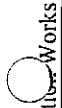
Parameter	Cleanup Target (mg/kg), dry soil	Landuse Scenario
Lead (Pb)	857	Public Park
Copper (Cu)	9,790	Public Park

**Table 13 Summary of Testing Results for Confirmatory Tests – Heavy Metals (Pb and Cu)**

Grid No.	Type of Contamination	Excavation Depth (m)	Location	Minimum No. of Confirmatory Samples Required	No. of Confirmatory Samples Taken	Sample ID	RBRGs Criteria (mg/kg)	Result (mg/kg)	Exceedance	Page Reference
4	Lead (Pb)	4.5-6.0	Sidewall	3	6	G4-5.5 B1	Pb < 857	112	No	B3-8
						G4-5.5 B2		149	No	B3-11
						G4-5.5 C1		100	No	B3-2
						G4-5.5 C2		440	No	B3-2
						G4-5.5 D1		221	No	B3-8
						G4-5.5 D2		137	No	B3-5
			Base	1	4	G4-6.0 E1		218	No	B3-5
						G4-6.0 E2		170	No	B3-5
						G4-6.0 E3		246	No	B3-8
						G4-6.0 E4		116	No	B3-8
						G12-7.0 A1		184	No	B3-17
						G12-7.0 A2		208	No	B3-17
12	Lead (Pb)	6.0-7.5	Sidewall	4	8	G12-7.0 B1	Pb < 857	207	No	B3-20
						G12-7.0 B2		174	No	B3-20
						G12-7.0 C1		108	No	B3-14
						G12-7.0 C2		204	No	B3-14
						G12-7.0 D1		117	No	B3-21
						G12-7.0 D2		63	No	B3-21
13	Lead (Pb)	0.5-1.5	Base	1	2	G12-7.5 E1	Pb < 857	87	No	B3-17
						G12-7.5 E2		159	No	B3-17
						G13-1.0 A1		225	No	B3-24
						G13-1.0 A2		42	No	B3-30
						G13-1.0 B		410	No	B3-27
						G13-1.0 D		166	No	B3-24
			Base	1	2	G13-1.5 E1		50	No	B3-27



Grid No.	Type of Contamination	Excavation Depth (m)	Location	Minimum No. of Confirmatory Samples Required	No. of Confirmatory Samples Taken	Sample ID	RBRGs Criteria (mg/kg)	Result (mg/kg)	Exceedance	Page Reference						
14	Lead (Pb) and Copper (Cu)	1.5-3.0	Sidewall	3	6	G13-1.5 E2		67	No	B3-30						
						G14-2.5A1	Pb < 857	91	No	B3-39						
						G14-2.5A2	Cu < 9,790	17	No	B3-39						
							Pb < 857	87	No	B3-33						
						G14-2.5B1	Cu < 9,790	13	No	B3-33						
							Pb < 857	428	No	B3-33						
						G14-2.5B2	Cu < 9,790	8	No	B3-33						
							Pb < 857	144	No	B3-39						
						G14-2.5D1	Cu < 9,790	35	No	B3-39						
							Pb < 857	193	No	B3-42						
						G14-2.5D2	Cu < 9,790	7.48	No	B3-42						
							Pb < 857	123	No	B3-36						
						Base					4	G14-3.0E1	Pb < 857	73	No	B3-36
												G14-3.0E2	Cu < 9,790	54	No	B3-36
Pb < 857	111	No	B3-39													
G14-3.0E3	Cu < 9,790	37	No	B3-39												
	Pb < 857	211	No	B3-33												



Grid No.	Type of Contamination	Excavation Depth (m)	Location	Minimum No. of Confirmatory Samples Required	No. of Confirmatory Samples Taken	Sample ID	RBRGs Criteria (mg/kg)	Result (mg/kg)	Exceedance	Page Reference
							Cu < 9,790	10	No	B3-33
						G14-3.0E4	Pb < 857	136	No	B3-42
							Cu < 9,790	10.6	No	B3-42
14	Lead (Pb)	6.0-7.5	Sidewall	3	6	G14-7.0A1	Pb < 857	31	No	B3-49
						G14-7.0A2		175	No	B3-55
						G14-7.0B1		151	No	B3-39
						G14-7.0B2		36	No	B3-49
						G14-7.0D1		183	No	B3-57A
						G14-7.0D2		130	No	B3-55
			G14-7.5E1	114	No	B3-39				
			G14-7.5E2	125	No	B3-46				
			G14-7.5E3	146	No	B3-52				
			G14-7.5E4	129	No	B3-57A				
15	Lead (Pb)	1.5-3.0	Sidewall	2	5	G15-2.5B1	Pb < 857	131	No	B3-61
						G15-2.5B2		55	No	B3-61
						G15-2.5B2(A)		39	No	B3-77
						G15-2.5D1		56	No	B3-90
						G15-2.5D2		147	No	B3-86
			G15-3.0E1	464	No	B3-65				
			G15-3.0E2	447	No	B3-77				
			G15-3.0E3	250	No	B3-80				
			G15-3.0E4	415	No	B3-77				
			G15-7.0B1	17	No	B3-71				
G15-7.0B1(A)	18	No	B3-74							
15	Lead (Pb)	6.0-7.5	Sidewall	2	4		Pb < 857		No	

Grid No.	Type of Contamination	Excavation Depth (m)	Location	Minimum No. of Confirmatory Samples Required	No. of Confirmatory Samples Taken	Sample ID	RBRGs Criteria (mg/kg)	Result (mg/kg)	Exceedance	Page Reference		
16	Lead (Pb)	1.5-3.0	Base	1	4	G15-7.0D1		151	No	B3-90		
						G15-7.0D2		10.8	No	B3-86		
						G15-7.5E1		33	No	B3-68		
						G15-7.5E2		20	No	B3-83		
			G15-7.5E3			89	No	B3-90				
			G15-7.5E4			61.1	No	B3-86				
			G16-2.5B1			60	No	B3-93				
			G16-2.5D1			93	No	B3-93				
			G16-2.5 (boundary) -1	3	4	Sidewall		Pb < 857	364	No	B3-98	
			G16-2.5 (boundary) -2						757	No	B3-98	
				Base		1	2		G16-3.0E1	61	No	B3-93
									G16-3.0E2	43	No	B3-93

### 5.3 TCLP and UCS Testing

- 5.3.1 During the solidification process, three cubes for every 100m<sup>3</sup> of treated soil were tested to confirm the treated soils meet the minimum required compressive strength and TCLP test by HOKLAS laboratory.
- 5.3.2 TCLP tests were conducted in accordance with USEPA Method 1311 and USEPA Method 6020 for the concerned metals in this Study. "Universal Treatment Standards" (UTS) were used for interpretation of the TCLP test results. UTS for the concerned heavy metals are summarised in Table 14.

**Table 14 Universal Treatment Standards (UTS) for the Concerned Heavy Metals**

Parameter	Universal Treatment Standard*
Lead	0.75 mg/L as TCLP
Copper	7.8** mg/L as TCLP

\* Reference to Universal Treatment Standards (UTS) of U.S. Resource Conservation and Recovery Act (RCRA) in Title 40 of the Code of Federal Regulations (CFR) Parts 268.

\*\*It should be noted that UTS standard for copper is unavailable. To determine the UTS for copper, a comparison has been made between Drinking Water Standards for the USEPA and the USEPA Federal Register. It was found that the 2 sets of standards differ by a factor of ~6 (for Chromium) to ~2950 (for Cyanide). Using a more conservative approach, the factor of 6 is taken. Therefore, the UTS for copper is taken to be the Drinking Water Standard value of 1.3mg/L times a factor of 6, giving a value of 7.8mg/L. This derivation was adopted in the approved EIA for *Decommissioning of Cheoy Lee Shipyard at Penny's Bay (AEIAR-055/2002)* and *Decommissioning of the Former Kai Tak Airport other than the North Apron (AEIAR-114/2007)*.

- 5.3.3 The cubes of treated soil were also tested for Unconfined Compressive Strength (UCS), satisfying the requirement of 1.03 N/m<sup>2</sup> (150 psi or 1034 kPa or 1 MPa).

### 5.4 Testing Results

- 5.4.1 The analytical results for TCLP tests and UCS tests are enclosed in Appendix D and the summary of the testing results for TCLP and UCS tests are summarized in Table 15.



**Table 15 Summary of Testing Results for TCLP and UCS Tests – Soil Contaminated with Lead (Pb)**

Nature of Contamination	Actual Volume of Contaminated Soil requiring remediation by cement solidification (m <sup>3</sup> )	Sample ID	TCLP (mg/L) – Cu (7.8 mg/L)	TCLP (mg/L) – Pb (0.75 mg/L)	UCS (MPa) > 1 MPa	Exceedance	Page Reference TCLP Appendix D1	Page Reference UCS Appendix D2***
Lead (Pb)	6491 m <sup>3</sup> *	G4-B1A	Not required	<0.1	3.7	No	D1-2	D2-3
		G4-B2A	Not required	<0.1	7.6	No	D1-2	D2-3
		G4-B3A	Not required	<0.1	6.9	No	D1-2	D2-3
		G4-B4A	Not required	<0.1	6.8	No	D1-6	D2-5
		G4-B5A	Not required	<0.1	7.2	No	D1-6	D2-5
		G4-B6A	Not required	<0.1	9.9	No	D1-10	D2-7
		G4-B7A	Not required	<0.1	10.9	No	D1-10	D2-7
		G4-B8A	Not required	<0.1	10.5	No	D1-10	D2-7
		G4-B9A	Not required	<0.1	7.6	No	D1-14	D2-9
		G4-B10A	Not required	<0.1	7.5	No	D1-14	D2-9
		G4-B11A	Not required	<0.1	7.8	No	D1-14	D2-9
		G4-B12A	Not required	<0.1	9.7	No	D1-17	D2-11
		G4-B13A	Not required	<0.1	10.5	No	D1-17	D2-11
		G4-B14A	Not required	<0.1	4.3	No	D1-17	D2-12
		G4-B15A	Not required	<0.1	4.4	No	D1-17	D2-12
		G4-B16A	Not required	<0.1	4	No	D1-17	D2-12
		G4-B17A	Not required	<0.1	5.3	No	D1-17	D2-13
		G4-B18A	Not required	<0.1	5	No	D1-17	D2-13
		G4-B19A	Not required	<0.1	4.3	No	D1-17	D2-14
		G4-B20A	Not required	<0.1	4.2	No	D1-17	D2-14
		G4-B21A	Not required	<0.1	7.8	No	D1-20	D2-16
		G4-B22A	Not required	<0.1	8.3	No	D1-20	D2-16
		G4-B23A	Not required	<0.1	8.3	No	D1-20	D2-16
		G4-B24A	Not required	<0.1	5.9	No	D1-20	D2-17
		G4-B25A	Not required	<0.1	6.6	No	D1-20	D2-17
		G4-B26A	Not required	<0.1	6.3	No	D1-20	D2-17
		G4-B27A	Not required	<0.1	8.9	No	D1-20	D2-18
		G4-B28A	Not required	<0.1	10.5	No	D1-23	D2-30
		G4-B29A	Not required	<0.1	11.5	No	D1-23	D2-30
		G4-B30A	Not required	<0.1	11.3	No	D1-23	D2-30
		G4-B31A	Not required	<0.1	11.9	No	D1-23	D2-31
		G4-B32A	Not required	<0.1	11.9	No	D1-23	D2-31

Nature of Contamination	Actual Volume of Contaminated Soil requiring remediation by cement solidification (m <sup>3</sup> )	Sample ID	TCLP (mg/L) – Cu (7.8 mg/L)	TCLP (mg/L) – Pb (0.75 mg/L)	UCS (MPa) > 1 MPa	Exceedance	Page Reference TCLP Appendix D1	Page Reference UCS Appendix D2***
		G4-B33A	Not required	<0.1	12.4	No	D1-23	D2-31
		G4-B34A	Not required	<0.1	10.9	No	D1-26	D2-34
		G4-B35A	Not required	<0.1	10.3	No	D1-26	D2-34
		G4-B36A	Not required	<0.1	11.1	No	D1-26	D2-34
		G12-B1A	Not required	< 0.1	40.6	No	D1-30	D2-41
		G12-B2A	Not required	< 0.1	33.5	No	D1-30	D2-42
		G12-B3A	Not required	< 0.1	34.0	No	D1-30	D2-43
		G12-B4A	Not required	< 0.1	22.7	No	D1-34	D2-45
		G12-B5A	Not required	< 0.1	3.2	No	D1-34	D2-46
		G12-B6A	Not required	< 0.1	6.2	No	D1-34	D2-47
		G12-B7A	Not required	< 0.1	9.5	No	D1-34	D2-48
		G12-B8A	Not required	< 0.1	91.9	No	D1-38	D2-50
		G12-B9A	Not required	< 0.1	9.6	No	D1-38	D2-51
		G12-B10A	Not required	< 0.1	7.6	No	D1-38	D2-52
		G12-B11A	Not required	< 0.1	11.2	No	D1-38	D2-53
		G12-B12A	Not required	< 0.1	12.3	No	D1-38	D2-54
		G12-B13A	Not required	< 0.1	11.5	No	D1-39	D2-55
		G12-B14A	Not required	< 0.1	11.5	No	D1-39	D2-56
		G12-B15A	Not required	< 0.1	12.1	No	D1-42	D2-58
		G12-B16A	Not required	< 0.1	4.8	No	D1-42	D2-59
		G12-B17A	Not required	< 0.1	11.9	No	D1-42	D2-60
		G12-B18A	Not required	< 0.1	5.3	No	D1-42	D2-61
		G12-B19A	Not required	< 0.1	52	No	D1-42	D2-62
		G12-B20A	Not required	< 0.1	6.4	No	D1-42	D2-63
		G12-B21A	Not required	< 0.1	15.6	No	D1-42	D2-64
		G12-B22A	Not required	< 0.1	27.8	No	D1-42	D2-65
		G12-B23A	Not required	< 0.1	26.7	No	D1-42	D2-66
		G12-B24A	Not required	< 0.1	9.2	No	D1-42	D2-67
		G13-B1A	Not required	< 0.1	8.2	No	D1-45	D2-69
		G13-B2	Not required	< 0.1	10.3	No	D1-49	D2-71
		G13-B3	Not required	< 0.1	11	No	D1-49	D2-72
		G13-B4	Not required	< 0.1	11.6	No	D1-49	D2-73
		G13-B5A	Not required	< 0.1	14.7	No	D1-53	D2-75

Nature of Contamination	Actual Volume of Contaminated Soil requiring remediation by cement solidification (m <sup>3</sup> )	Sample ID	TCLP (mg/L) – Cu (7.8 mg/L)	TCLP (mg/L) – Pb (0.75 mg/L)	UCS (MPa) > 1 MPa	Exceedance	Page Reference TCLP Appendix D1	Page Reference UCS Appendix D2***
		G13-B6A	Not required	< 0.1	8.8	No	D1-57	D2-77
		G13-B7A	Not required	< 0.1	18.8	No	D1-57	D2-78
		G13-B8A	Not required	< 0.1	9.2	No	D1-57	D2-79
		G13-B9A	Not required	< 0.1	16.6	No	D1-57	D2-80
		G15-B1A	Not required	< 0.1	43	No	D1-61	D2-82
		G15-B2A	Not required	< 0.1	26.2	No	D1-61	D2-83
		G15-B3A	Not required	< 0.1	44.1	No	D1-61	D2-84
		G15-B4A	Not required	< 0.1	13.4	No	D1-61	D2-85
		G15-B5A	Not required	< 0.1	18.8	No	D1-61	D2-86
		G15-B6A	Not required	< 0.1	45.8	No	D1-69	D2-88
		G15-B7A	Not required	< 0.1	58.4	No	D1-69	D2-89
		G15-B8A	Not required	< 0.1	10.9	No	D1-69	D2-90
		± G15-D1A	Not required	< 0.1	15.6	No	D1-65	D2-92
		± G15-D2A	Not required	< 0.1	13.4	No	D1-65	D2-92
		± G15-D3A	Not required	< 0.1	39.3	No	D1-65	D2-92
		± G15-D4A	Not required	< 0.1	2.8	No	D1-65	D2-92
		G15-D5A	Not required	< 0.1	9.2	No	D1-72	D2-99
		G15-D6A	Not required	< 0.1	8.6	No	D1-72	D2-100
		G15-D7A	Not required	< 0.1	17.7	No	D1-76	D2-102
		G15-D8A	Not required	< 0.1	18	No	D1-76	D2-103
		G15-D9A	Not required	< 0.1	4.5	No	D1-80	D2-105
		G15-D10A	Not required	< 0.1	4.4	No	D1-80	D2-106
		G15-D11A	Not required	< 0.1	4.9	No	D1-80	D2-107
		G15-D12A	Not required	< 0.1	4.5	No	D1-80	D2-108
		G15-D13A	Not required	< 0.1	12.2	No	D1-84	D2-110
		G15-D13B	Not required	< 0.1	13.3	No	D1-84	D2-110
		G15-D14A	Not required	< 0.1	13.5	No	D1-84	D2-111
		G15-D14B	Not required	< 0.1	13.6	No	D1-85	D2-111
		G15-D15A	Not required	< 0.1	12	No	D1-84	D2-112
		G15-D15B	Not required	< 0.1	13	No	D1-85	D2-112
		G15-D16A	Not required	< 0.1	13.5	No	D1-84	D2-113
		G15-D16B	Not required	< 0.1	13.8	No	D1-85	D2-113
		G15-D17A	Not required	< 0.1	14.8	No	D1-89	D2-119

Nature of Contamination	Actual Volume of Contaminated Soil requiring remediation by cement solidification (m <sup>3</sup> )	Sample ID	TCLP (mg/L) – Cu (7.8 mg/L)	TCLP (mg/L) – Pb (0.75 mg/L)	UCS (MPa) > 1 MPa	Exceedance	Page Reference TCLP Appendix D1	Page Reference UCS Appendix D2***
		G15-D17B	Not required	<0.1	4	No	D1-89	D2-120
		G15-D17C	Not required	<0.1	4.3	No	D1-90	D2-121
		G15-D18A	Not required	<0.1	4.5	No	D1-90	D2-122
		G15-D18B	Not required	<0.1	5.1	No	D1-90	D2-123
		G15-D18C	Not required	<0.1	5.2	No	D1-90	D2-124
		G15-D19A	Not required	<0.1	5.3	No	D1-90	D2-125
		G15-D19B	Not required	<0.1	4.6	No	D1-91	D2-126
		G15-D19C	Not required	<0.1	5.5	No	D1-91	D2-127
		G15-D20A	Not required	<0.1	10.3	No	D1-91	D2-128
		G15-D20B	Not required	<0.1	10.5	No	D1-91	D2-129
		G15-D20C	Not required	<0.1	10.4	No	D1-91	D2-130
		G15-D21A	Not required	<0.1	10.2	No	D1-92	D2-131
		G15-D21B	Not required	<0.1	10.2	No	D1-92	D2-132
		G15-D21C	Not required	<0.1	12.9	No	D1-92	D2-133
		G15-D22A	Not required	<0.1	10.9	No	D1-92	D2-134
		G15-D22B	Not required	<0.1	9.9	No	D1-92	D2-135
		G15-D22C	Not required	<0.1	10.9	No	D1-93	D2-136
		G15-D23A	Not required	<0.1	13	No	D1-93	D2-137
		G15-D23B	Not required	<0.1	13	No	D1-93	D2-138
		G15-D23C	Not required	<0.1	13.2	No	D1-93	D2-139
		G15-D24A	Not required	<0.1	13.4	No	D1-93	D2-140
		G15-D24B	Not required	<0.1	13.4	No	D1-94	D2-141
		G15-D24C	Not required	<0.1	12.8	No	D1-94	D2-142
		G15-D25A	Not required	<0.1	10.7	No	D1-98	D2-145
		G15-D25B	Not required	<0.1	10.2	No	D1-98	D2-145
		G15-D25C	Not required	<0.1	10.2	No	D1-98	D2-145
		G15-D26A	Not required	<0.1	10.5	No	D1-98	D2-146
		G15-D26B	Not required	<0.1	10.2	No	D1-98	D2-146
		G15-D26C	Not required	<0.1	10.1	No	D1-99	D2-146
		G15-D27A	Not required	<0.1	10.1	No	D1-99	D2-147
		G15-D27B	Not required	<0.1	10.2	No	D1-99	D2-147
		G15-D27C	Not required	<0.1	9.5	No	D1-99	D2-147

Nature of Contamination	Actual Volume of Contaminated Soil requiring remediation by cement solidification (m <sup>3</sup> )	Sample ID	TCLP (mg/L) – Cu (7.8 mg/L)	TCLP (mg/L) – Pb (0.75 mg/L)	UCS (MPa) > 1 MPa	Exceedance	Page Reference TCLP Appendix D1	Page Reference UCS Appendix D2***
		G15-D28A	Not required	<0.1	8	No	D1-99	D2-148
		G15-D28B	Not required	<0.1	13.3	No	D1-100	D2-148
		G15-D28C	Not required	<0.1	10.6	No	D1-100	D2-148
		G15-D29A	Not required	<0.1	13.2	No	D1-100	D2-149
		G15-D29B	Not required	<0.1	6.3	No	D1-100	D2-149
		G15-D29C	Not required	<0.1	11.2	No	D1-100	D2-149
		G15-D30A	Not required	<0.1	13.4	No	D1-101	D2-150
		G15-D30B	Not required	<0.1	12.8	No	D1-101	D2-150
		G15-D30C	Not required	<0.1	12.7	No	D1-101	D2-150
		G15-D31A	Not required	<0.1	6.6	No	D1-101	D2-151
		G15-D31B	Not required	<0.1	6.8	No	D1-101	D2-151
		G15-D31C	Not required	<0.1	6.9	No	D1-102	D2-151
		G15-D32A	Not required	<0.1	6.7	No	D1-102	D2-152
		G15-D32B	Not required	<0.1	3.9	No	D1-102	D2-152
		G15-D32C	Not required	<0.1	6.6	No	D1-102	D2-152
		G14-B12A	Not required	<0.1	4.8	No	D1-112	D2-172
		G14-B12B	Not required	<0.1	5.1	No	D1-112	D2-172
		G14-D13A	Not required	<0.1	7.6	No	D1-112	D2-172
		G14-D14A	Not required	<0.1	5.7	No	D1-112	D2-172
		G14-D15A	Not required	<0.1	8.9	No	D1-112	D2-173
		G14-D16A	Not required	<0.1	8.8	No	D1-112	D2-173
		G14-D17A	Not required	<0.1	8.7	No	D1-112	D2-173
		G14-B13A	Not required	<0.1	9.1	No	D1-112	D2-174
		G14-B13B	Not required	<0.1	9.1	No	D1-112	D2-174
		G14-B14A	Not required	<0.1	9.2	No	D1-112	D2-174
		G14-B14B	Not required	<0.1	8.9	No	D1-112	D2-174
		G14-B15A	Not required	<0.1	8.7	No	D1-112	D2-174
		G14-B15B	Not required	<0.1	8.7	No	D1-112	D2-174
		G14-D18A	Not required	<0.1	5.6	No	D1-112	D2-175
		G14-D19A	Not required	<0.1	3.2	No	D1-122	D2-184
		G14-D20A	Not required	<0.1	3.3	No	D1-122	D2-184
		G14-D21A	Not required	<0.1	2.9	No	D1-122	D2-184

Nature of Contamination	Actual Volume of Contaminated Soil requiring remediation by cement solidification (m <sup>3</sup> )	Sample ID	TCLP (mg/L) – Cu (7.8 mg/L)	TCLP (mg/L) – Pb (0.75 mg/L)	UCS (MPa) > 1 MPa	Exceedance	Page Reference TCLP Appendix D1	Page Reference UCS Appendix D2***		
		G14-D22A	Not required	<0.1	6.4	No	D1-122	D2-185		
		G14-D23A	Not required	<0.1	2.8	No	D1-122	D2-185		
		G14-D24A	Not required	<0.1	1.1	No	D1-122	D2-186		
		G14-D25A	Not required	<0.1	1.1	No	D1-122	D2-186		
		G14-D26A	Not required	<0.1	1.1	No	D1-122	D2-186		
		G14-D27A	Not required	<0.1	1.1	No	D1-122	D2-187		
		G14-D28A	Not required	<0.1	6.7	No	D1-122	D2-187		
		G14-D29A	Not required	<0.1	6.2	No	D1-122	D2-187		
		G14-D30A	Not required	<0.1	0.7	Supplementary UCS test by G14-D30B and G14-D31B	D1-122	D2-187		
		G14-D31A	Not required	<0.1	0.8		D1-122	D2-187		
		G14-D30B	Not required	<0.1	3.2	No	D1-116	D2-177		
		G14-D31B	Not required	<0.1	3.5	No	D1-116	D2-177		
		G14-D32A	Not required	<0.1	2.6	No	D1-119	D2-179		
		G14-D33A	Not required	<0.1	4.2	No	D1-119	D2-179		
		G14-D34A	Not required	<0.1	2.5	No	D1-119	D2-179		
		G14-D35A	Not required	<0.1	2.5	No	D1-119	D2-179		
		G14-B16A	Not required	<0.1	3.4	No	D1-119	D2-180		
		G14-B17A	Not required	<0.1	4.2	No	D1-119	D2-180		
		G14-D36A	Not required	<0.1	1.6	No	D1-119	D2-180		
		G14-D37A	Not required	<0.1	1.3	No	D1-119	D2-180		
		G14-D38A	Not required	<0.1	2.9	No	D1-119	D2-181		
		G14-D39A	Not required	<0.1	4.2	No	D1-119	D2-181		
		G14-D40A	Not required	<0.1	2.7	No	D1-119	D2-181		
		G14-D41A	Not required	<0.1	3.5	No	D1-128	D2-201		
		G14-D42A	Not required	<0.1	4	No	D1-128	D2-201		
		G14-D43A	Not required	<0.1	1.1	No	D1-128	D2-201		
		G14-D44A	Not required	<0.1	1.1	No	D1-128	D2-201		
		Lead (Pb) and Copper (Cu)		G14-B5A	0.2	<0.1	4.9	No	D1-125	D2-190
				G14-B5B	0.2	<0.1	4.9	No	D1-125	D2-190
				G14-B6A	0.2	<0.1	5	No	D1-125	D2-191
				G14-B6B	0.3	<0.1	4.8	No	D1-125	D2-191
				G14-B7A	0.1	<0.1	4.8	No	D1-125	D2-192
				G14-B7B	0.2	<0.1	4.6	No	D1-125	D2-192
				G14-D3A	0.1	<0.1	4.8	No	D1-125	D2-193
				G14-D3B	0.2	<0.1	4.7	No	D1-125	D2-193
				G14-D5A	0.2	<0.1	5.8	No	D1-125	D2-195
				G14-D5B	0.2	<0.1	6.3	No	D1-125	D2-195
		G14-D6A	0.1	<0.1	7.3	No	D1-125	D2-196		

Nature of Contamination	Actual Volume of Contaminated Soil requiring remediation by cement solidification (m <sup>3</sup> )	Sample ID	TCLP (mg/L) – Cu (7.8 mg/L)	TCLP (mg/L) – Pb (0.75 mg/L)	UCS (MPa) > 1 MPa	Exceedance	Page Reference TCLP Appendix D1	Page Reference UCS Appendix D2***
		G14-D6B	0.1	<0.1	6.9	No	D1-125	D2-196
		G14-D7A	0.2	<0.1	6.1	No	D1-125	D2-197
		G14-D7B	0.2	<0.1	6	No	D1-125	D2-197
		G14-D8A	0.2	<0.1	6.4	No	D1-125	D2-198
		G14-D8B	0.2	<0.1	5.7	No	D1-125	D2-198
		G14-D9A	0.2	<0.1	6.1	No	D1-125	D2-199
		G14-D9B	0.2	<0.1	6.1	No	D1-125	D2-199
		G14-D10A	<0.1	<0.1	10.5	No	D1-112	D2-169
		G14-D11A	<0.1	<0.1	10.3	No	D1-112	D2-169
		G14-D12A	0.2	<0.1	5.8	No	D1-112	D2-170
		G14-B8A	<0.1	<0.1	5.5	No	D1-112	D2-171
		G14-B8B	0.2	<0.1	6.2	No	D1-112	D2-171
		G14-B9A	0.2	<0.1	6	No	D1-112	D2-171
		G14-B9B	<0.1	<0.1	5.4	No	D1-112	D2-171
		G14-B10A	<0.1	<0.1	5.4	No	D1-112	D2-171
		G14-B10B	0.2	<0.1	5.7	No	D1-112	D2-171
		G14-B11A	<0.1	<0.1	8.6	No	D1-112	D2-172
		G14-B11B	<0.1	<0.1	9	No	D1-112	D2-172
		G14-B1A	<0.1	<0.1	14.0	No	D1-131	D2-204
		G14-B2A	<0.1	<0.1	14.9	No	D1-131	D2-205
		G14-D1A	<0.1	<0.1	15.1	No	D1-131	D2-206
		G14-D2A	<0.1	<0.1	9.3	No	D1-131	D2-207
		G14-D4A	<0.1	<0.1	12.4	No	D1-135	D2-213
		G14-D4B	<0.1	<0.1	13.2	No	D1-135	D2-214
		G14-D4C	<0.1	<0.1	12.9	No	D1-135	D2-215
		Lead (Pb) – Soil after bioremediation	615 m <sup>3</sup> **	B2-G16-B1A	Not required	<0.1	5.3	No
B2-G16-B2A	Not required			<0.1	11.3	No	D1-105	D2-156
B2-G16-B3A	Not required			<0.1	14.4	No	D1-105	D2-156
B2-G16-B3B	Not required			<0.1	3.4	No	D1-109	D2-162
B2-G16-B4A	Not required			<0.1	4.6	No	D1-105	D2-157
B2-G16-B5A	Not required			<0.1	6.2	No	D1-105	D2-157
B2-G16-B6A	Not required			<0.1	5.7	No	D1-105	D2-157
B2-G16-B6B	Not required			<0.1	3.7	No	D1-109	D2-163
B2-G16-B7A	Not required			<0.1	13	No	D1-105	D2-158
B2-G16-B8A	Not required			<0.1	13	No	D1-105	D2-158
B2-G16-B9A	Not required			<0.1	11.5	No	D1-105	D2-158
B2-G16-B9B	Not required			<0.1	3.5	No	D1-109	D2-164
B2-G16-B10A	Not required			<0.1	9.8	No	D1-105	D2-159
B2-G16-B11A	Not required			<0.1	10	No	D1-105	D2-159
B2-G16-B12A	Not required	<0.1	9.4	No	D1-105	D2-159		
B2-G16-B12B	Not required	<0.1	3.1	No	D1-109	D2-165		

Nature of Contamination	Actual Volume of Contaminated Soil requiring remediation by cement solidification (m <sup>3</sup> )	Sample ID	TCLP (mg/L)– Cu (7.8 mg/L)	TCLP (mg/L)– Pb (0.75 mg/L)	UCS (MPa) > 1 MPa	Exceedance	Page Reference TCLP Appendix D1	Page Reference UCS Appendix D2***
		B2-G16-B13A	Not required	<0.1	11.5	No	D1-105	D2-160
		B2-G16-B14A	Not required	<0.1	10.4	No	D1-105	D2-160
		B2-G16-B15A	Not required	<0.1	10.2	No	D1-105	D2-160
		B2-G16-B15B	Not required	<0.1	3.8	No	D1-109	D2-166

\* Excluding 2,666m<sup>3</sup> of rocky material and municipal solid waste that are not suitable for cement solidification process

\*\* Excluding 47 m<sup>3</sup> of rocky material that are not suitable for cement solidification process

\*\*\* Page reference UCS from D2-20 to D2-29 in Appendix D2 is not used

+ Sample ID G15-D1A, D2A, D3A and D4A for TCLP test and G15-D1A1, D2A1, D3A1 and D4A1 for UCS test are the same batch produced on 13 May 2011

## 5.5 QA/QC Sampling Results

- 5.5.1 QA/QC procedures included the collection and analysis of samples, duplicate samples, and matrix spike/matrix spike duplicate (MS/MSD) samples.
- 5.5.2 Matrix Spike Duplicate Samples – for each 20 samples, one triple volume of sample of the aqueous samples were collected to provide the laboratory with adequate volume to perform MS/MSD for hydrocarbons and heavy metals analysis. MS/MSD samples were analyzed to determine the reproducibility of the analytical methods used in the laboratory.
- 5.5.3 The analytical results of QA/QC Sampling for Closure Assessment showed that the Relative Percent Different (RPD) of hydrocarbons (TPH and PCBs), and heavy metals (Pb and Cu) were below detection limits, indicating the acceptable quality control/quality assurance procedures was achieved. Summary table of QA/QC samples are included in Table 16 below and the analytical results of QA/QC samples are enclosed in Appendix D.



**Table 16 Summary of QA/QC Samples (Cement Solidification)**

Sample ID	Parameters	Original Result	Duplicate Result	RPD (%)
G14-D42A HK1121701-002	Copper (Cu) Lead (Pb)	1.0 <0.1	1.0 <0.1	0 0
G4-B5A HK1122035-002	Lead (Pb)	<0.1	<0.1	0
Anonymous HK1122303-006	Lead (Pb)	0.2	0.2	0
G4-B7A HK1122436-002	Lead (Pb)	<0.1	<0.1	0
Anonymous HK1122436-002	Lead (Pb)	<0.1	<0.1	0
Anonymous HK1124254-001	Lead (Pb)	1.0	1.0	0
G4-B22A HK1126306-002	Lead (Pb)	<0.1	<0.1	0
Anonymous HK1024657-002	Lead (Pb)	<0.1	<0.1	0
G12-B5A HK1025229-002	Lead (Pb)	<0.1	<0.1	0
G12-B9A HK1026473-002	Lead (Pb)	<0.1	<0.1	0
G12-B16A HK1027725-002	Lead (Pb)	<0.1	<0.1	0
G12-B24A HK1027725-010	Lead (Pb)	<0.1	<0.1	0
G13-B3 HK1019600-002	Lead (Pb)	<0.1	<0.1	0
G13-B7A HK1024657-002	Lead (Pb)	<0.1	<0.1	0
G14-B5B HK1119768-002	Copper (Cu) Lead (Pb)	0.2 <0.1	0.2 <0.1	0 0
G14-D4B HK1119768-010	Copper (Cu) Lead (Pb)	0.2 <0.1	0.2 <0.1	0 0
G14-D11A HK1120282-002	Copper (Cu) Lead (Pb)	<0.1 <0.1	<0.1 <0.1	0 0
G14-B11A HK1120282-010	Copper (Cu) Lead (Pb)	<0.1 <0.1	<0.1 <0.1	0 0
G14-B14B HK1120282-022	Copper (Cu) Lead (Pb)	<0.1 <0.1	<0.1 <0.1	0 0
G14-D20A HK1120606-002	Copper (Cu) Lead (Pb)	0.5 <0.1	0.5 <0.1	0 0
G14-D28A HK1120606-010	Copper (Cu) Lead (Pb)	0.3 <0.1	0.3 <0.1	0 0
Anonymous HK1122035-002	Copper (Cu) Lead (Pb)	<0.1 <0.1	<0.1 <0.1	0 0
Anonymous HK1122303-006	Copper (Cu) Lead (Pb)	<0.1 0.2	<0.1 0.2	0 0
G14-D33A HK1121464-002	Copper (Cu) Lead (Pb)	0.1 <0.1	0.1 <0.1	0 0
G14-D40A HK1121464-011	Copper (Cu) Lead (Pb)	0.5 <0.1	0.5 <0.1	0 0
G14-D42A HK1121701-002	Copper (Cu) Lead (Pb)	0.1 <0.1	0.1 <0.1	0 0
G15-B2A HK110239-002	Lead (Pb)	<0.1	<0.1	0

Sample ID	Parameters	Original Result	Duplicate Result	RPD (%)
G15-B7A HK1102478-002	Lead (Pb)	<0.1	<0.1	0
Anonymous HK1115745-002	Lead (Pb)	<0.1	<0.1	0
G15-D14A HK1117888-002	Lead (Pb)	<0.1	<0.1	0
G14-D4B HK1118949-002	Copper (Cu) Lead (Pb)	<0.1 <0.1	<0.1 <0.1	0 0
G14-D19B HK1118949-011	Copper (Cu) Lead (Pb)	<0.1 <0.1	<0.1 <0.1	0 0
G15-D23A HK1117888-022	Lead (Pb)	<0.1	<0.1	0
G15-D25B HK1119336-002	Lead (Pb)	<0.1	<0.1	0
G15-D28B HK1119336-011	Lead (Pb)	<0.1	<0.1	0
G15-D32A HK1119336-022	Lead (Pb)	<0.1	<0.1	0
Anonymous HK1119525-002	Lead (Pb)	<0.1	<0.1	0

## 6 Detail of On-site Backfilling

6.1.1 Both hydrocarbons and/or heavy metals contaminated soil after satisfying the relevant cleanup targets are backfilled on-site. Table 17 summarised the locations for on-site backfilling.

**Table 17 Summary of On-site Backfilling**

Location	Depth (m, below initial ground level)	Contaminants	Remediation Treatment	Backfilling Location	
				Location	Depth (m, below initial ground level)
Grid 4	0 - 0.5	TPH	Biopiling (Biopile No. 1)	Grid 4	0.50 - 2.75
	4.5 - 6.0	Pb	Cement Solidification	Grid 4	2.75 - 4.00
Grid 10 (Refuse Bunker)				4.00 - 4.50	
Grid 12	3.0 - 4.5	PCBs	Biopiling (Biopile No. 1)	Grid 4	0.50 - 2.75
	6.0 - 7.5	Pb	Cement Solidification	Grid 12	1.50 - 3.00
Grid 13	0.5 - 1.5	Pb	Cement Solidification	Grid 12	1.50 - 3.00
Grid 14	1.5 - 3.0	Pb, Cu	Cement Solidification	Grid 14	2.25 - 4.75
	6.0 - 7.5	Pb	Cement Solidification	Grid 14	2.25 - 4.75
Grid 15	1.5 - 3.0	Pb	Cement Solidification	Grid 15	3.25 - 4.25
	6.0 - 7.5	Pb	Cement Solidification	Grid 15	3.25 - 4.25
Grid 16	1.5 - 3.0	Pb, Benzo(a)pyrene, PCBs	Biopiling (Biopile No. 2) + Cement Solidification	Grid 9 (Refuse Bunker)	1.00 - 4.50

## 7 Conclusion

### Biopile No. 1 – Hydrocarbons Contaminated Soil (Type B)

- 7.1.1 Hydrocarbons (TPH and PCBs) contaminated soils from Grid 4 and Grid 12 had been fully excavated for the formation of Biopile No. 1 (Volume of about 1,922m<sup>3</sup>). Upon completion of excavation, confirmatory soil samples were collected at the sidewalls and base of both Grid 4 and Grid 12. Laboratory results from the confirmatory soil samples confirmed the extents of contamination are bound within Grid 4 and Grid 12.
- 7.1.2 Based on the design from the bench-scale treatability test, it is anticipated that biopiling treatment process shall take approximately 7 months for the hydrocarbons contaminants to degrade below the relevant cleanup target (i.e. RBRGs standards under the “Public Park” or “Industrial” scenario, whichever is more stringent).
- 7.1.3 Upon completion of biopiling treatment process, 20 soil samples (about one soil sample per 96m<sup>3</sup>) were taken for closure assessment for Biopile No. 1. Based on the laboratory analytical results of the closure assessment, the identified hydrocarbons (TPH and PCBs) contaminated soils at Grid 4 and Grid 12 within Biopile No. 1 have been treated, and the biopiling treatment process at Biopile No. 1 is confirmed complete.

### Biopile No. 2 – Hydrocarbons and Heavy Metals Contaminated soil (Type C)

- 7.1.4 Hydrocarbons (Benzo(a)pyrene and PCBs) contaminated soils from Grid 16 had been fully excavated for the formation of Biopile No. 2 (Volume of about 662m<sup>3</sup>). Upon completion of excavation, confirmatory soil samples were collected at the sidewalls and base of Grid 16.
- 7.1.5 Initially, a total of 4 nos. of sidewall samples (G16-2.5A1, G16-2.5A2, G16-2.5B1, G16-2.5D1) and 2 nos. of base samples (G16-3.0E1 and G16-3.0E2) were set out for soil confirmatory testing for hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) for contamination zone Grid 16. Confirmatory soil sampling results were found below the relevant RBRGs cleanup targets.
- 7.1.6 During excavation, it was observed that the base of the tentative excavation depth (i.e. 3.0m below ground level) is approaching bedrock; and that the soil at the base of tentative excavation depth was visibly indicated of contamination impact. Additional soil samples (G16-3.0F1 and G16-3.0F2) were taken for further confirmation of hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) at location adjacent to G16-3.0E1 and G16-3.0E2 respectively at depth slightly below the tentative excavation depth (i.e. approximately 3.5m below ground level). Confirmatory soil sampling results were found below the relevant RBRGs cleanup targets. As a prudent approach, the soil down to rockhead level of Grid 16 had been excavated for treatment by biopiling and subsequent cement solidification.
- 7.1.7 Two soil samples (G16-2.5(boundary) – 1 and G16-2.5(boundary) – 2) were also taken for further confirmation of hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) at the south-eastern boundary of Grid 16 as concrete slabs and pipelines were encounter during excavation of Grid 16 toward the south-eastern boundary. Confirmatory soil sampling results were found below the relevant RBRGs cleanup targets.

- 7.1.8 During excavation, it was also observed that the soil at alongside between Grid 16 and Grid 15 appeared was visibly indicated of contamination impact. Additional soil samples (G16-1.5F3, G16-1.5F4, G16-1.5F5, G16-1.5F6 and G16-1.5F7) alongside between Grid 16 and Grid 15 were taken for further confirmation of hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)).
- 7.1.9 Upon confirmatory testing, G16-1.5F3 (sidewall sample) at depth of below 1.5m was found exceedance of the cleanup target of 3.83 mg/kg for Benzo(a)pyrene only. In such case, further confirmation samples (i.e. G16-F3A(Confirm)1.5Side) was taken to confirm the extent of contamination on the sidewall toward Grid 15, and G16-F3A(Confirm)3.0Bottom was taken to confirm the extent of contamination at the base. Results of both G16-F3A(Confirm)1.5Side and G16-F3A(Confirm)3.0Bottom revealed the level of Benzo(a)pyrene below the cleanup target of 3.83 mg/kg. The additional extent of contamination from G16-1.5F3 was bounded by G16-2.5A1, G16-1.5F4, G16-F3A(Confirm)1.5Side, and G16-F3A(Confirm)3.0Bottom. Resulting in an additional 15m<sup>3</sup> of hydrocarbons contaminated soil between Grid 15 and Grid 16 taken for biopile remediation treatment.
- 7.1.10 Besides hydrocarbons contamination (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)), as stated in the approved CAR, Grid 16 was also identified to be contaminated with heavy metal – Lead (Pb). Laboratory analyses for lead (Pb) were also carried out for confirmatory soil samples (G16-2.5B1, G16-2.5D1, G16-3.0E1, G16-3.0E2, G16-2.5(boundary) – 1 and G16-2.5(boundary) – 2). Confirmatory testing results for heavy metal – Lead (Pb) are found below the RBRGs cleanup targets under the “Public Park” landuse scenario. Details of cement solidification of the heavy metal contaminated soil after bioremediation treatment will be covered in Part III of the Remediation Report.
- 7.1.11 With an additional 15m<sup>3</sup> of contaminated soil extending towards the boundary between Grid 15 and Grid 16 had been included onto Biopile No. 2. The total quantity of contaminated soil within Biopile No. 2 is approximately 662m<sup>3</sup>.
- 7.1.12 Based on the design from the bench-scale treatability test, it is anticipated that biopiling treatment process shall take approximately 7 months for the hydrocarbons contaminants to degrade below the relevant cleanup target (i.e. RBRGs standards under the “Public Park” or “Industrial” scenario, whichever is more stringent).
- 7.1.13 The actual biopile decontamination process for Biopile No. 2 has taken approximately 8.5 months for the hydrocarbons contaminants to degrade below the relevant cleanup target. This is considered inline with the results from bench-scale treatability test as under full scale biopile operation, a number of operating conditions, including the ambient conditions, weather, temperature, the heterogeneous nature of contaminated soils etc. are slightly varied from the laboratory conditions as for the bench-scale treatability test. As such, a longer period of time is necessary for the hydrocarbons contaminants to degrade below the relevant cleanup target. Furthermore, based on the parameters monitored from operation progress monitoring, injections of nutrient solution were carried out on 20 May, 11 July, 30 July, 2 August and 31 August 2011 to promote the growth of bacteria and degradation of hydrocarbons contaminants. The monitored results concluded that the addition of nutrients has been effective in promoting the growth of micro-organism, and therefore degradation of hydrocarbons contaminants.

- 7.1.14 Upon completion of biopiling treatment process, total 25 soil samples (including one additional sample for re-confirmation, i.e. about one soil sample per 28m<sup>3</sup>) were taken for closure assessment for Biopile No. 2.
- 7.1.15 Upon review of the closure assessment results for Biopile No. 2 taken on 11 to 15 August 2011, which revealed that B2-C4 (0.5-1.0) at depth of 0.5 to 1.0m with Polychlorinated Biphenyls (PCBs) concentration of 0.9 mg/kg which is above the RBRG standard cleanup target of 0.748 mg/kg.
- 7.1.16 Given the fact that the PCBs exceedance at B2-C4 (0.5-1.0) was only slightly exceeded, and during the course of the biopile decontamination process, a number of nutrients injections were carried out on 20 May, 11 July, 30 July, 2 August and 31 August 2011 to promote the growth of micro-organism and degradation of hydrocarbons contaminants, it is therefore recommended that re-confirmation sample should be taken on 31 August 2011 to further confirm the contamination status.
- 7.1.17 Re-confirmation sample B2-C4A (0.5-1.0) was taken adjacent to B2-C4 (0.5-1.0) on 31 August 2011 to ensure the concentrations of hydrocarbons (i.e. Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs)) in the biopiles are below the cleanup targets. Laboratory analytical results of B2-C4A (0.5-1.0) confirmed that both Benzo(a)pyrene and Polychlorinated Biphenyls (PCBs) are below the relevant cleanup targets.
- 7.1.18 Based on all the laboratory analytical results of the closure assessment, the identified hydrocarbons (Benzo(a)pyrene and PCBs) contaminated soils at Grid 16 within Biopile No. 2 have been treated, and the biopiling treatment process at Biopile No. 2 is confirmed complete.
- 7.1.19 The treated soils within Biopile No. 2 were **treated by cement solidification** prior to on-site backfilling within the KCIP site.

#### Cement Solidification –Heavy Metals Contaminated soil (Type A and Type C)

- 7.1.20 Heavy metals (Pb and/or Cu) contaminated soils from Grid 4, Grid 12, Grid 13, Grid 14, Grid 15 and Grid 16 had been fully excavated for the cement solidification (Volume of heavy metals contaminated soil of about 9,157m<sup>3</sup> and volume of heavy metals and hydrocarbons contaminated soil of about 662m<sup>3</sup>). Upon completion of excavation, confirmatory soil samples were collected at the sidewalls and base of Grid 4, Grid 12, Grid 13, Grid 14, Grid 15 and Grid 16. Laboratory results of heavy metals contaminants from the confirmatory soil samples confirmed the extents of contamination are bound within Grid 4, Grid 12, Grid 13, Grid 14, Grid 15 and Grid 16.
- 7.1.21 Based on the design from the treatability test, 10% of cement and 10% of water by weight were added to the untreated soil, and be mixed uniformly within the pugmill. The mixing process were carried out for at least 1 minute to ensure a homogenous mixture for the heavy metals contaminants to completely bounded with the cement mixture in satisfying the relevant cleanup target (i.e. RBRGs standards under the “Public Park” or “Industrial” scenario, whichever is more stringent).
- 7.1.22 Upon completion of the cement solidification treatment process, three cubes for every 100m<sup>3</sup> of treated soil were tested to confirm the treated soils meet the requirement of

UCS test and TCLP test by HOKLAS laboratory. Based on the laboratory analytical results, no exceedance in the TCLP was recorded, and UCS of > 1MPa was found in all solidified soil. Therefore, the cement solidification treatment process for all heavy metals contaminated soils have been confirmed complete.

- 7.1.23 The treated soils (both previously contaminated with heavy metals and/or hydrocarbons) were backfilled on-site as described in Section 6.0, there was no off-site disposal of both contaminated and treated soils necessary.

## Figure



NOTES

LEGEND

◆ Location of Soil Sampling

PROJECT

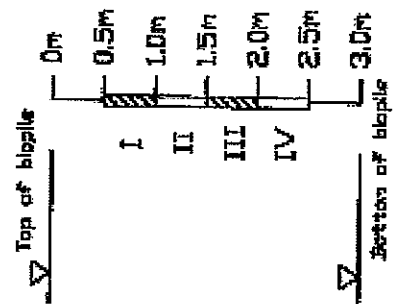
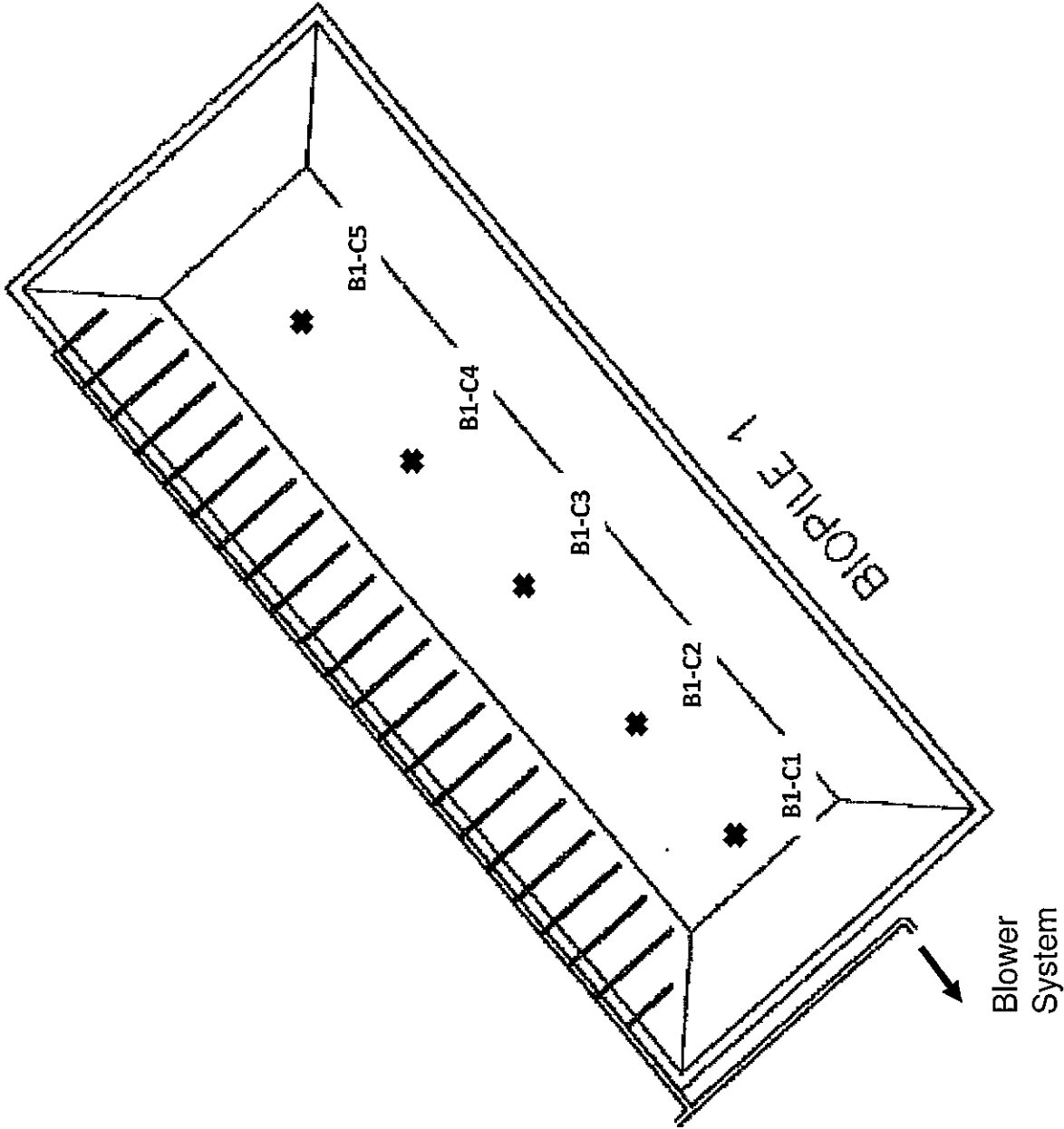
Contract No. CV/2007/06  
Kwai Chung Incineration Plant  
Demolition and  
Decontamination Works

FIGURE TITLE

Locations of Soil Sampling  
for Closure Assessment for  
Biopile No. 1

FIGURE No.

FIGURE 1



**SAMPLING DEPTH**

NOTES

LEGEND

- ⊕ Location of Confirmatory Samples
- ⊕ Location of Re-Confirmatory Sample

PROJECT

Contract No. CV/2007/06

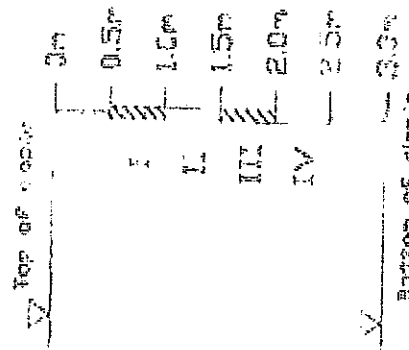
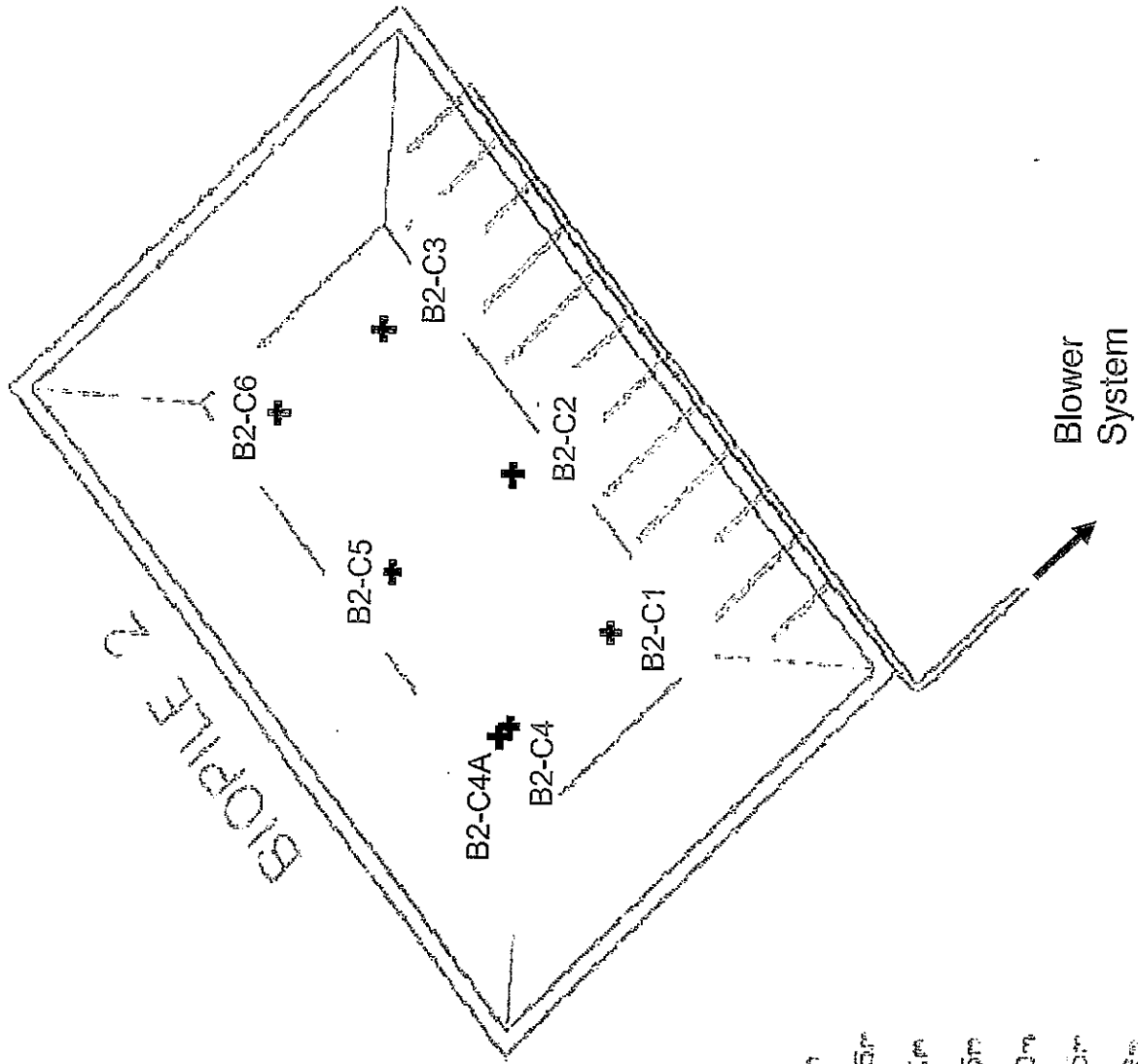
Kwai Chung Incineration Plant Demolition and Decontamination Works

FIGURE TITLE

Locations of Soil Sampling for Closure Assessment for Biopile No. 2

FIGURE No.

FIGURE 2



SAMS INC 2012

## Appendix

## **Appendix A**

### **Location plans for contamination zones**

### **Cross section of the biopile decontamination system**

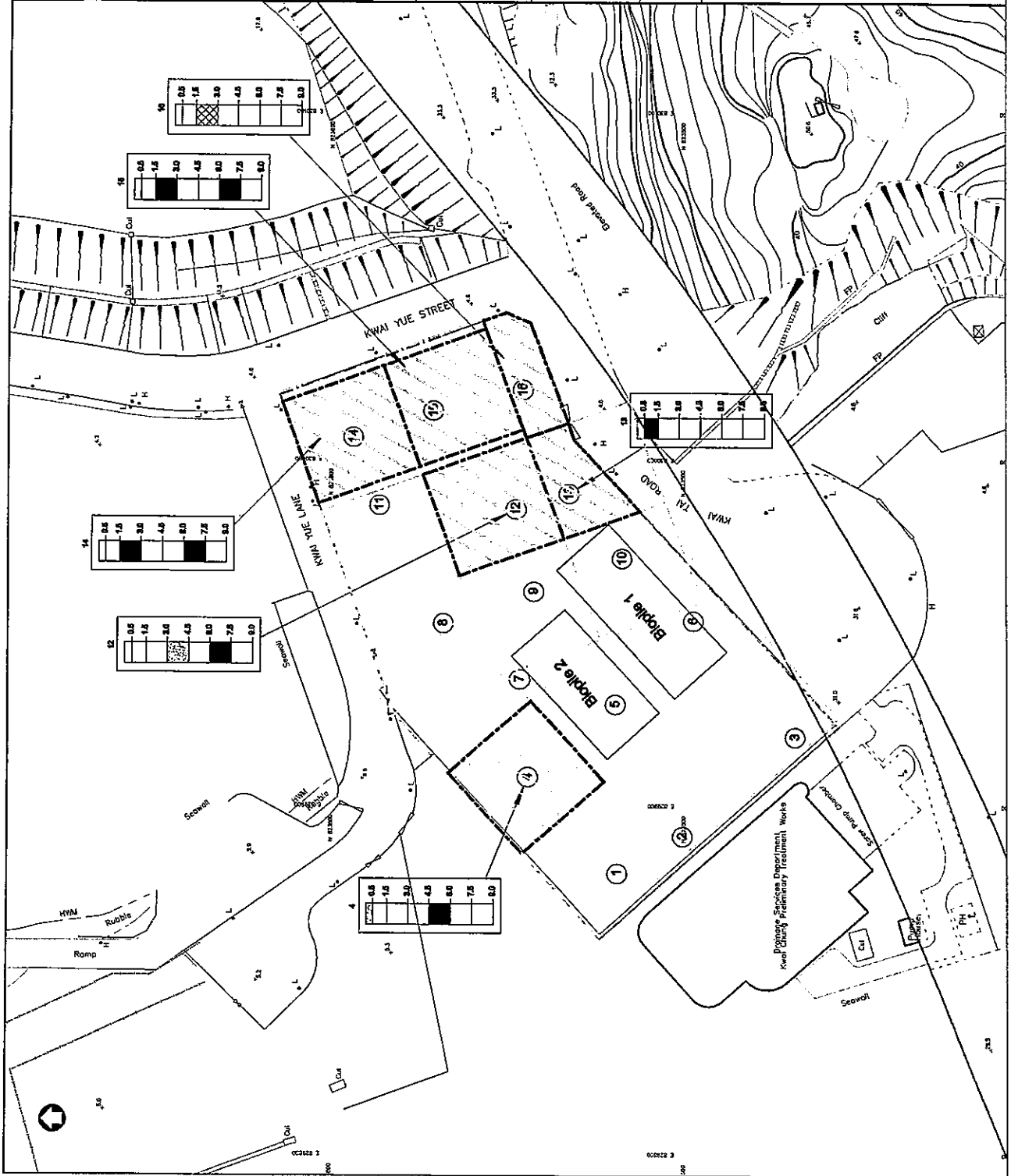
**NOTES**  
LEGEND

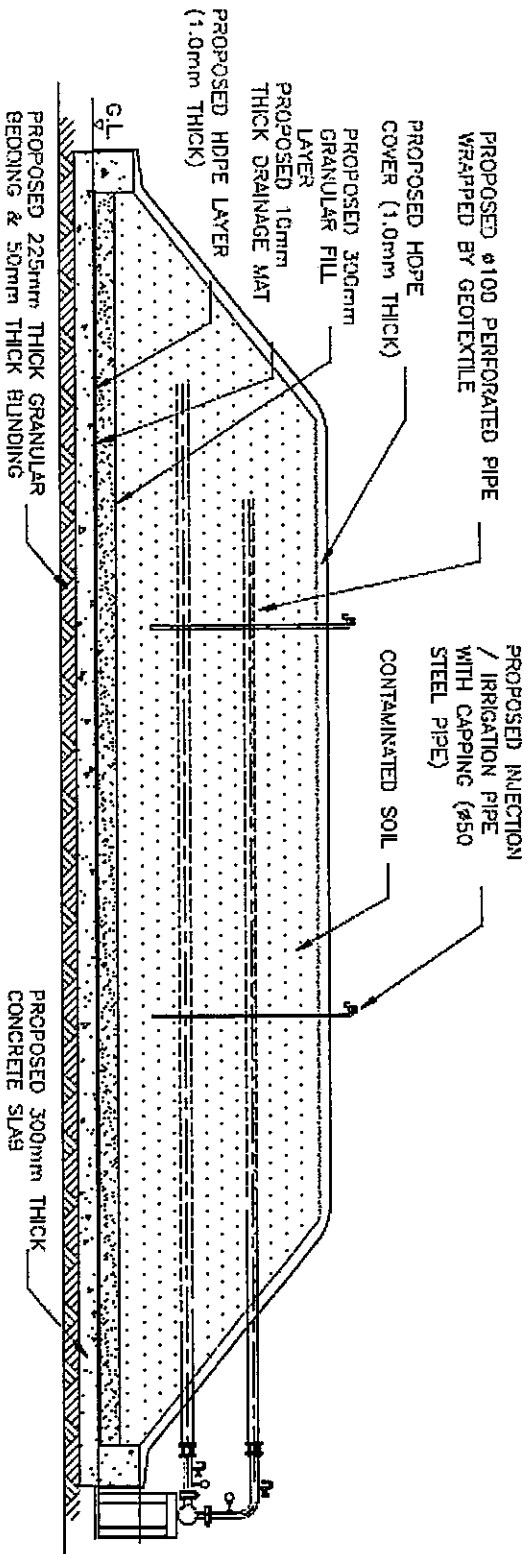
- SPECIAL 300 TO 375mm GRID AREA UNLESS SHOWN OTHERWISE (FOR MACHINE ONLY)
- CONTAMINATED WITH METALS ONLY
- CONTAMINATED WITH HYDROCARBONS ONLY
- CONTAMINATED WITH BOTH METALS AND HYDROCARBONS
- CONTAMINATION IS NOT IDENTIFIED

**PROJECT**  
CONTRACT NO. CV/2007/06  
KWAI CHUNG INCINERATION PLANT  
DEMOLITION AND DECONTAMINATION  
WORKS

**FIGURE TITLE:**  
Location Plan for Contamination  
Zones

**FIGURE No.**  
Appendix A





**BIOPILE SECTION**

**PROJECT**

Con tract No. CV/2007/06  
 Kwai Chung Incineration Plant  
 Demolition and  
 Decontamination Works

**FIGURE TITLE**

Cross Section of Biopile

**FIGURE No.**

Appendix A

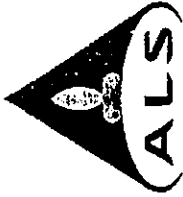
## **Appendix B**

### **Analytical results of laboratory test for confirmatory samples**

**Appendix B1**  
**Analytical results of laboratory test of Hydrocarbons**  
**Contaminated Soil (Type B)**

**Grid 4 (0 - 0.5m)**  
**Grid 12 (3.0 - 4.5m)**





### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1028408
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	Amendment	: 1
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 01-DEC-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 13-OCT-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 8
Project	: ----	Quota number	: ----	No. of samples analysed	: 8
Order number	: ----				
C-O-C number	: H009461				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 12-OCT-2011

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: HK1028408

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition. Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories	Position	Authorised results for
Arth Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

B1-1



**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID		G4-0.25 B1	G4-0.25 B2	G4-0.25 C1	G4-0.25 C2	G4-0.25 D1
		Client sampling date / time	Unit					
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)		0.1	%	2.0	9.7	12.8	13.3	8.8
EP-071HK: Total Petroleum Hydrocarbons (TPH)								
C6 - C8 Fraction		5	mg/kg	<5	<5	<5	<5	<5
C9 - C16 Fraction		200	mg/kg	<200	<200	<200	<200	<200
C17 - C35 Fraction		500	mg/kg	<500	<500	<500	<500	<500
EP-080S: TPH(Volatile)/BTEX Surrogate								
Dibromofluoromethane	1868-53-7	0.1	%	98.1	97.4	97.8	101	96.9
Toluene-D8	2037-28-5	0.1	%	102	101	102	105	94.0
4-Bromofluorobenzene	480-00-4	0.1	%	109	108	107	104	92.8

Surrogate control limits listed at end of this report.

B1-2



Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1028408, Amendment 1

Compound	CAS Number	LOR	Client sample ID			
			Client sampling date / time	Unit	Surrogate control limits listed at end of this report.	
Sub-Matrix: SOIL						
EAJED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)		0.1	%	10.6	4.8	10.1
EP-071HK: Total Petroleum Hydrocarbons (TPH)						
C6 - C8 Fraction		5	mg/kg	<5	<5	<5
C9 - C16 Fraction		200	mg/kg	<200	<200	<200
C17 - C38 Fraction		500	mg/kg	<500	<500	<500
EP-080S: TPH(Volatile)/BTEX Surrogate						
Dibromofluoromethane	1868-83-7	0.1	%	97.5	99.9	97.9
Toluene-D8	2037-26-5	0.1	%	102	101	101
4-Bromofluorobenzene	460-00-4	0.1	%	106	92.8	108

B1-3



**Laboratory Duplicate (DUP) Report**

Matrix: SOIL		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1585993)</b>					
HK1028408-001	G4-0.25 B1	EA055: Moisture Content (dried @ 103°C)	0.1	%	0.0
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1996371)</b>					
HK1028408-002	G4-0.25 B2	C6 - C8 Fraction	5	mg/kg	0.0
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1996694)</b>					
HK1028408-001	G4-0.25 B1	C9 - C16 Fraction	200	mg/kg	0.0
		C17 - C35 Fraction	500	mg/kg	0.0

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

Matrix: SOIL		Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1996371)</b>										
C6 - C8 Fraction		5	mg/kg	<5	3 mg/kg	116			63	126
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1996694)</b>										
C9 - C16 Fraction		200	mg/kg	<200	31 mg/kg	93.1			67	110
C17 - C35 Fraction		500	mg/kg	<500	75 mg/kg	108			69	119

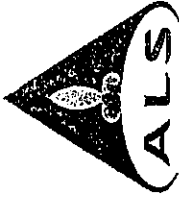
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix: SOIL		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MSD
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1996371)</b>					
HK1028408-003	G4-0.25 C1	C6 - C8 Fraction		3 mg/kg	98.2
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1996694)</b>					
HK1028408-003	G4-0.25 C1	C9 - C16 Fraction		31 mg/kg	81.0
		C17 - C35 Fraction		75 mg/kg	60.0

**Surrogate Control Limits**

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

B1-4



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1021309
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 09-SEP-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 24-SEP-2010
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 4
Project	: CV_2007_06	Quote number	: ---	No. of samples analysed	: 4
Order number	: ---				
C-O-C number	: H009068				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 17-SEP-2010

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: HK1021309

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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<u>Signatories</u>	<u>Position</u>	<u>Authorised results for</u>
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

BI-5



**Analytical Results**

Sub-Matrix: SOIL

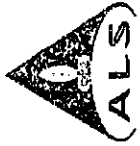
Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)		0.1		%
EG: Metals and Major Cations				
EG020: Lead	7439-92-1	1		mg/kg
EP-066: Polychlorinated Biphenyls				
Total Polychlorinated biphenyls		0.1		mg/kg
EP-066S: PCB Surrogate				
Tetrachlorometaxylene	677-09-8	0.1		%
Dibutylchlorodate	1770-80-5	0.1		%

Compound	G13-1.0 A2 09-SEP-2010 14:30 HK1021309-001	G13-1.5 E2 09-SEP-2010 14:20 HK1021309-002	G12-4.0 A1 09-SEP-2010 14:45 HK1021309-003	G12-4.0 A2 09-SEP-2010 14:45 HK1021309-004
EA055: Moisture Content (dried @ 103°C)	9.0	14.5	26.8	23.0
EG020: Lead	42	67		
Total Polychlorinated biphenyls			<0.1	<0.1
Tetrachlorometaxylene			70.7	66.7
Dibutylchlorodate			75.9	69.3

Surrogate control limits listed at end of this report.

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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EAI/ED: Physical and Aggregate Properties (QC Lot: 1487163)</b>								
HK1021192-004	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	23.3	23.3	0.0
HK1021241-005	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	14.5	14.1	2.3
<b>EAI/ED: Physical and Aggregate Properties (QC Lot: 1487164)</b>								
HK1021309-003	G12-4.0 A1	EA055: Moisture Content (dried @ 103°C)		0.1	%	25.8	27.4	5.8
HK1021365-007	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	29.8	32.4	8.1
<b>EG: Metals and Major Cations (QC Lot: 1487739)</b>								
HK1020699-006	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	44	47	6.9
HK1021192-003	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	30	30	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1484848)</b>								
HK1021241-003	Anonymous	Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)
<b>Method Blank (MB) Report</b>									
EG: Metals and Major Cations (QC Lot: 1487739)				<1					
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	87.3	85	115	
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1484848)</b>									
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	90.2	30	151	

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report		
								Recovery Limits (%)	Low	High
<b>Matrix: SOIL</b>										
EG: Metals and Major Cations (QC Lot: 1487739)										
HK1020699-007	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	97.8	75	125			

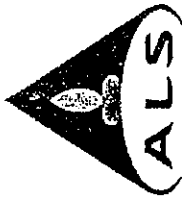
**Surrogate Control Limits**

Sub-Matrix: SOIL	Compound	CAS Number	Recovery Limits (%)
			Low High
EP-066S: PCB Surrogate	Tetrachlorometaxylene	877-09-8	50 130
	Dibutylchlorendate	1770-80-5	50 130

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# ALS Technichem (HK) Pty Ltd

ALS Laboratory Group  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1026215
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 05-NOV-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 22-NOV-2010
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 10
Project	: ----	Quote number	: ----	No. of samples analysed	: 10
Order number	: ----				
C-O-C number	: H009078				
Site	: KCIP				

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 16-NOV-2010

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: HK1026215

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company

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**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID		
				Client sampling date / time	G12-4.0 B1	G12-4.0 B2
EA055: Moisture Content (dried @ 103°C)		0.1	%	21.4	21.0	21.0
EG: Metals and Major Cations						
EG020: Lead	7439-92-1	1	mg/kg			
EP-066: Polychlorinated Biphenyls						
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	<0.1
EP-066S: PCB Surrogate						
Tetrachlorometaxylene	877-09-8	0.1	%	68.0	88.4	88.4
Dibutylchlorodate	1770-80-5	0.1	%	75.7	100	100

Compound	CAS Number	LOR	Unit	G12-7.0 B1	G12-7.0 B2	G12-4.0 D1
EA055: Moisture Content (dried @ 103°C)		0.1	%	21.8	24.0	9.4
EG: Metals and Major Cations						
EG020: Lead	7439-92-1	1	mg/kg	207	174	
EP-066: Polychlorinated Biphenyls						
Total Polychlorinated biphenyls		0.1	mg/kg			<0.1
EP-066S: PCB Surrogate						
Tetrachlorometaxylene	877-09-8	0.1	%			81.6
Dibutylchlorodate	1770-80-5	0.1	%			64.5

Surrogate control limits listed at end of this report.

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Page Number : 3 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1026215

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time	Client sample ID	G12-4.0 D2 [20-OCT-2010] HK1026215-006	G12-7.0 D1 [20-OCT-2010] HK1026215-007	G12-7.0 D2 [20-OCT-2010] HK1026215-008	G12-4.0 C1 [05-NOV-2010] HK1026215-009	G12-4.0 C2 [05-NOV-2010] HK1026215-010
			Unit						
<b>EA/ED: Physical and Aggregate Properties</b>									
EA055: Moisture Content (dried @ 103°C)		0.1	%		3.4	27.5	14.3	21.6	21.6
<b>EG: Metals and Major Cations</b>									
EG020: Lead	7439-92-1	1	mg/kg			117	63		
<b>EP-066: Polychlorinated Biphenyls</b>									
Total Polychlorinated biphenyls		0.1	mg/kg		<0.1			<0.1	<0.1
<b>EP-066S: PCB Surrogate</b>									
Tetrachlorometaxylene	877-09-8	0.1	%		81.6			76.1	69.0
Dibutylchlorendate	1770-80-5	0.1	%		64.1			83.3	83.8
					Surrogate control limits listed at end of this report.				

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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EAJED: Physical and Aggregate Properties (QC Lot: 1551762)</b>								
HK1026026-004	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	5.7	6.6	15.4
HK1026215-003	G12-7.0 B1	EA055: Moisture Content (dried @ 103°C)		0.1	%	21.8	20.5	5.9
<b>EG: Metals and Major Cations (QC Lot: 1553207)</b>								
HK1026202-001	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	7	7	0.0
EP-066: Polychlorinated Biphenyls (QC Lot: 1543362)								
HK1025515-001	Anonymous	Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	0.0

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

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1553207)</b>										
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	98.1		85 - 115	85	115
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1543362)</b>										
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	97.3		35 - 141	35	141

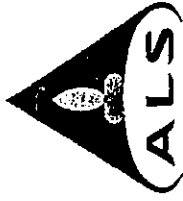
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit	
<b>EG: Metals and Major Cations (QC Lot: 1553207)</b>										
HK1026202-002	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	95.5		75 - 125	75	125	

**Surrogate Control Limits**

Sub-Matrix: SOIL Compound	CAS Number	Recovery Limits (%)	
		Low	High
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchloroendate	1770-80-5	50	130

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1021321
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 10-SEP-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 27-SEP-2010
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: CV_2007_06	Quote number	: ----	No. of samples analysed	: 2
Order number	: ----				
C-O-C number	: H009070				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 17-SEP-2010

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: HK1021321

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

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Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics



**Analytical Results**

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
Sub-Matrix: SOIL				
EAJED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)		0.1	%	23.9
EP-066: Polychlorinated Biphenyls				
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1
EP-068S: PCB Surrogate				
Tetrachlorometaxylene	877-09-8	0.1	%	66.7
Dibutylchlorendate	1770-80-5	0.1	%	96.5
				71.1
				96.2
Surrogate control limits listed at end of this report.				

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1021321

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EAIED: Physical and Aggregate Properties (QC Lot: 1487164)								
HK1021309-003	Anonymous		EA055: Moisture Content (dried @ 103°C)	0.1	%	25.8	27.4	5.8
HK1021365-007	Anonymous		EA055: Moisture Content (dried @ 103°C)	0.1	%	29.8	32.4	8.1
EP-066: Polychlorinated Biphenyls (QC Lot: 1484848)								
HK1021241-003	Anonymous		Total Polychlorinated biphenyls	0.1	mg/kg	<0.1	<0.1	0.0

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

Method Blank (MB) Report				Laboratory Control Spikes (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EP-066: Polychlorinated Biphenyls (QC Lot: 1484848)		0.1	mg/kg	<0.1	0.5 mg/kg	90.2			30	151			
Total Polychlorinated biphenyls													

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

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

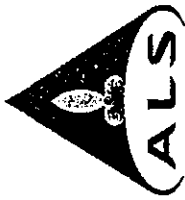
**Surrogate Control Limits**

Sub-Matrix: SOIL	Compound	CAS Number	Low	High
	EP-066S: PCB Surrogate			
	Tetrachlorometaxylene	877-09-8	50	130
	Dibutylchlorendate	1770-80-5	50	130

BI-14

**Appendix B2**  
**Analytical results of laboratory test for**  
**Hydrocarbons and Heavy Metals Contaminated Soil**  
**(Type C)**

**Grid 16 (1.5 – 3.0m)**



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1029394
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 10-DEC-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 24-DEC-2010
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 8
Project	: ----	Quote number	: ----	No. of samples analysed	: 8
Order number	: ----				
C-O-C number	: H009462				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

22-DEC-2010

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: HK1029394

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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#### Signatories

Anh Ngoc Huynh  
Fung Lim Chee, Richard

#### Position

Senior Chemist  
General Manager

#### Authorised results for

Organics  
Inorganics

B2-1





**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sampling date / time		Unit	G16-2.5 B1 [10-DEC-2010] HK1029394-001	G16-2.5 D1 [10-DEC-2010] HK1029394-002	G16-3.0 E1 [10-DEC-2010] HK1029394-003	G16-3.0 E2 [10-DEC-2010] HK1029394-004	G16-2.5 A1 [10-DEC-2010] HK1029394-005
			Client sample ID	Client sampling date / time						

**EA/ED: Physical and Aggregate Properties**

EA055: Moisture Content (dried @ 103°C)	---	0.1	%	11.9	5.8	21.3	24.6	17.7
---	-----	-----	---	------	-----	------	------	------

**EG: Metals and Major Cations**

EG020: Lead	7439-92-1	1	mg/kg	60	93	61	43
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**EP-075B: Polycyclic Aromatic Hydrocarbons (PAHs)**

Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
----------------	---------	-----	-------	------	------	------	------	------

**EP-066: Polychlorinated Biphenyls**

Total Polychlorinated biphenyls	---	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
---------------------------------	-----	-----	-------	------	------	------	------	------

**EP-075S: Acid Extractable Surrogates**

								Surrogate control limits listed at end of this report.
2-Fluorophenol	367-12-4	0.1	%	71.6	84.9	76.7	59.2	71.6
Phenol-d6	13127-88-3	0.1	%	71.4	84.0	73.6	61.8	67.4
2,4,6-Tribromophenol	118-79-6	0.1	%	39.2	52.0	50.7	56.5	47.4

**EP-075T: Base/Neutral Extractable Surrogates**

								Surrogate control limits listed at end of this report.
Nitrobenzene -d5	4165-60-0	0.1	%	71.6	85.7	74.4	58.2	69.1
2-Fluorobiphenyl	321-60-8	0.1	%	71.5	81.4	71.6	60.4	65.6
4-Terphenyl-d14	1718-51-0	0.1	%	101	99.5	90.7	97.8	99.6

**EP-066S: PCB Surrogate**

Tetrachlorometaxylene	877-09-8	0.1	%	112	116	109	98.2	106
Dibutylchlorodate	1770-80-5	0.1	%	101	99.5	89.2	108	89.8

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Compound	Client sample ID		CAS Number	Client sampling date / time	
	LOR	Unit		LOR	Unit
Sub-Matrix: SOIL					
G16-2.5 A2 [10-DEC-2010] HK1029394-006					
G15-2.5 B1 [10-DEC-2010] HK1029394-007					
G15-2.5 B2 [10-DEC-2010] HK1029394-008					
X					
EAI/ED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)	0.1	%	16.6	43.2	24.2
EG: Metals and Major Cations					
EG020: Lead	7439-92-1	1	mg/kg	131	55
EP-075B: Polyaromatic Hydrocarbons (PAHs)					
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	
EP-066: Polychlorinated Biphenyls					
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	
EP-075S: Acid Extractable Surrogates					
2-Fluorophenol	367-12-4	0.1	%	69.0	
Phenol-d6	13127-88-3	0.1	%	67.5	
2,4,6-Tribromophenol	118-79-6	0.1	%	57.5	
EP-075T: Base/Neutral Extractable Surrogates					
Nitrobenzene -d5	4165-60-0	0.1	%	67.4	
2-Fluorobiphenyl	321-60-8	0.1	%	68.2	
4-Terphenyl-d14	1718-51-0	0.1	%	101	
EP-066S: PCB Surrogate					
Tetrachlorometaxylene	877-09-8	0.1	%	99.2	
Dibutylchloroendate	1770-80-5	0.1	%	118	
Surrogate control limits listed at end of this report.					
Surrogate control limits listed at end of this report.					
Surrogate control limits listed at end of this report.					

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**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>EAJED: Physical and Aggregate Properties (QC Lot: 1599972)</b>								
HK1029345-004	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	16.2	14.7	9.5
HK1029474-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	10.6	11.1	3.8
<b>EG: Metals and Major Cations (QC Lot: 1601752)</b>								
HK1029401-001	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	19	20	0.0
HK1029529-002	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	16	15	7.4
<b>EP-075B: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 1598677)</b>								
HK1028980-001	Anonymous	Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0
<b>EP-066: Polychlorinated Biphenyls (PCBs) (QC Lot: 1598681)</b>								
HK1029394-001	G16-2.5 B1	Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	0.0

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

Matrix: SOIL		Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1601752)</b>														
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	92.7	85	115	85	115	---	---	---	---
<b>EP-075B: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 1598677)</b>														
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.25 mg/kg	85.1	55	107	55	107	---	---	---	---
<b>EP-066: Polychlorinated Biphenyls (PCBs) (QC Lot: 1598681)</b>														
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	136	35	141	35	141	---	---	---	---

**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	MS	MSD	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1601752)</b>												
HK1029394-001	G16-2.5 B1	EG020: Lead	7439-92-1	5 mg/kg	---	---	75	125	75	125	---	---

**Surrogate Control Limits**

Sub-Matrix: SOIL		Recovery Limits (%)		
Compound	CAS Number	Low	High	High
<b>EP-075S: Acid Extractable Surrogates</b>				
2-Fluorophenol	367-12-4	25	121	121
Phenol-d6	13127-88-3	24	113	113
2,4,6-Tribromophenol	118-79-6	20	122	122

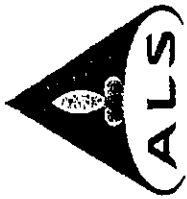
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Page Number : 5 of 5  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1029394

Compound	CAS Number	Recovery Limits (%)	
		Low	High
Sub-Matrix: SOIL			
EP-075T: Base/Neutral Extractable Surrogates			
Nitrobenzene -d5	4165-60-0	23	120
2-Fluorobiphenyl	321-60-8	30	115
4-Terphenyl-d14	1718-51-0	20	137
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorodate	1770-80-5	50	130

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1030810
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 28-DEC-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 04-JAN-2011 11:30
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 7
Project	: ----	Quote number	: ----	No. of samples analysed	: 7
Order number	: ----				
C-O-C number	: H009463				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

31-DEC-2010

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: HK1030810

Sample(s) were received in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories	Position	Authorised results for
Anth Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

**PRELIMINARY REPORT FOR REFERENCE ONLY**

Page Number : 2 of 5

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1030810



**Analytical Results**

Sub-Matrix: SOIL

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	G16-3.0 F1 [17-DEC-2010] HK1030810-001	G16-3.0 F2 [17-DEC-2010] HK1030810-002	G16-1.5 F3 [28-DEC-2010] HK1030810-003	G16-1.5 F4 [28-DEC-2010] HK1030810-004	G16-1.5 F5 [28-DEC-2010] HK1030810-005
<b>EAJED: Physical and Aggregate Properties</b>								
EA055: Moisture Content (dried @ 103°C)		0.1	%	33.0	24.7	27.0	42.8	43.2
<b>EG: Metals and Major Cations</b>								
EG020: Lead	7439-92-1	1	mg/kg	309	152	1490	657	855
<b>EP-071: Total Petroleum Hydrocarbons (TPH)</b>								
C6 - C9 Fraction		2	mg/kg	<2	<2	<2	<2	<2
C10 - C14 Fraction		50	mg/kg	207	127	363	281	310
C15 - C28 Fraction		100	mg/kg	1650	1110	3490	1790	2560
C29 - C36 Fraction		100	mg/kg	1080	656	1970	1300	1330
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs)</b>								
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.6	12.6	<0.5	0.7
<b>EP-066: Polychlorinated Biphenyls</b>								
Total Polychlorinated biphenyls		0.1	mg/kg	0.4	0.6	<0.1	<0.1	<0.1
<b>EP-080S: TPH(Volatiles)/BTEX Surrogate</b>								
Dibromofluoromethane	1868-53-7	0.1	%	96.8	94.7	89.4	94.2	92.1
Toluene-D8	2037-26-5	0.1	%	100	99.8	102	97.7	96.8
4-Bromofluorobenzene	460-00-4	0.1	%	97.2	101	106	108	105
<b>EP-075S: Acid Extractable Surrogates</b>								
2-Fluorophenol	367-12-4	0.1	%	64.3	79.7	81.8	79.8	70.1
Phenol-d6	13127-88-3	0.1	%	66.4	78.2	83.8	80.3	70.2
2,4,6-Tribromophenol	118-79-6	0.1	%	109	111	112	112	98.4
<b>EP-075T: Base/Neutral Extractable Surrogates</b>								
Nitrobenzene -d5	4165-60-0	0.1	%	66.0	85.0	82.9	81.2	69.7
2-Fluorobiphenyl	321-60-8	0.1	%	73.6	81.4	83.2	80.9	71.0
4-Terphenyl-d14	1718-51-0	0.1	%	40.4	47.3	46.7	42.0	40.0
<b>EP-066S: PCB Surrogate</b>								
Tetrachlorometylene	877-09-8	0.1	%	104	113	72.9	119	114
Dibutylchloride	1770-80-5	0.1	%	96.6	92.4	107	77.5	69.6

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**PRELIMINARY REPORT FOR REFERENCE ONLY**

Page Number : 3 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Mark Order : HK1030810



Compound	CAS Number	LOR	Unit	Client sample ID	G16-1.5 F6 [28-DEC-2010]	G16-1.5 F7 [28-DEC-2010]
Sub-Matrix: SOIL						
EA/ED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)		0.1	%		46.1	35.5
EG: Metals and Major Cations						
EG020: Lead	7439-92-1	1	mg/kg		1150	2880
EP-071: Total Petroleum Hydrocarbons (TPH)						
C6 - C9 Fraction		2	mg/kg		<2	<2
C10 - C14 Fraction		50	mg/kg		336	327
C15 - C28 Fraction		100	mg/kg		2440	2460
C29 - C36 Fraction		100	mg/kg		1400	1480
EP-075B: Polycyclic Aromatic Hydrocarbons (PAHs)						
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	0.7
EP-066: Polychlorinated Biphenyls						
Total Polychlorinated biphenyls		0.1	mg/kg		<0.1	0.2
EP-080S: TPH(Volatile)/BTEX Surrogate						
Dibromofluoromethane	1868-53-7	0.1	%		94.1	94.7
Toluene-D8	2037-26-5	0.1	%		97.8	99.5
4-Bromofluorobenzene	460-00-4	0.1	%		108	106
EP-075S: Acid Extractable Surrogates						
2-Fluorophenol	367-12-4	0.1	%		69.3	87.9
Phenol-d6	13127-88-3	0.1	%		71.1	88.3
2,4,6-Trifluorophenol	118-79-6	0.1	%		99.5	114
EP-075T: Base/Neutral Extractable Surrogates						
Nitrobenzene -d5	4165-60-0	0.1	%		74.3	88.5
2-Fluorobiphenyl	321-60-8	0.1	%		70.7	88.4
4-Terphenyl-d14	1718-51-0	0.1	%		38.9	48.0
EP-066S: PCB Surrogate						
Tetrachlorometaxylene	877-09-8	0.1	%		69.8	99.1
Dibutylchlorodate	1770-80-5	0.1	%		66.8	115

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**PRELIMINARY REPORT FOR REFERENCE ONLY**

Page Number : 4 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1030810



**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EAIED: Physical and Aggregate Properties (QC Lot: 1617389)</b>								
HK1030810-001	G16-3.0 F1	EA055: Moisture Content (dried @ 103°C)		0.1	%	33.0	34.0	3.1
<b>EG: Metals and Major Cations (QC Lot: 1617445)</b>								
HK1030810-001	G16-3.0 F1	EG020: Lead	7439-92-1	1	mg/kg	309	378	19.9
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1617258)</b>								
HK1030789-001	Anonymous	C6 - C9 Fraction				Not Authorised		
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1617351)</b>								
HK1030810-001	G16-3.0 F1	C15 - C28 Fraction		100	mg/kg	1650	1500	10.1
		C29 - C36 Fraction		100	mg/kg	1080	976	9.9
		C10 - C14 Fraction		50	mg/kg	207	225	8.3
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1616270)</b>								
HK1030653-012	Anonymous	Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1616269)</b>								
HK1030653-012	Anonymous	Total Polychlorinated biphenyls				Not Authorised		

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1617445)</b>													
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	96.5			85	115			
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1617258)</b>													
C6 - C9 Fraction		2	mg/kg	Not Authorised					86	129			
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1617351)</b>													
C10 - C14 Fraction		50	mg/kg	<50	16 mg/kg	92.6			56	118			
C15 - C28 Fraction		100	mg/kg	<100	53 mg/kg	90.5			53	121			
C29 - C36 Fraction		100	mg/kg	<100	45 mg/kg	92.5			45	118			
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1616270)</b>													
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.25 mg/kg	76.4			55	107			
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1616269)</b>													
Total Polychlorinated biphenyls		0.1	mg/kg	Not Authorised					35	141			

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					MS	MSD	Recovery Limits (%)	
<b>EG: Metals and Major Cations (QC Lot: 1617445)</b>								
					MS	MSD	Recovery Limits (%)	Value
					Low	High	Control Limit	

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PRELIMINARY REPORT FOR REFERENCE ONLY

Page Number : 5 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1030810

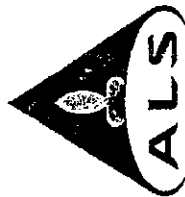


Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
				Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 1617445) - Continued										
HK1027597-008	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	---	---	75	125	---
EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1617258)										
HK1030788-002	Anonymous	C6 - C9 Fraction	---	---	# Not Authorized	---	---	50	130	---
EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1617351)										
HK1030810-002	G16-3.0 F2	C10 - C14 Fraction	---	16 mg/kg	---	---	---	50	130	---
		C15 - C28 Fraction	---	53 mg/kg	---	---	---	50	130	---
		C29 - C36 Fraction	---	45 mg/kg	---	---	---	50	130	---

Surrogate Control Limits

Compound	CAS Number	Low	High
Sub-Matrix: SOIL			
EP-080S: 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-075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2,4,6-Tribromophenol	118-79-6	20	122
EP-075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-d5	4165-60-0	23	120
2-Fluorobiphenyl	321-60-8	30	115
4-Terphenyl-d14	1718-51-0	20	137
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorodate	1770-80-5	50	130

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1031208
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 31-DEC-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 14-JAN-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: ---	Quote number	: ---	No. of samples analysed	: 2
Order number	: ---				
C-O-C number	: H009464				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

06-JAN-2011

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: HK1031208

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics



**Analytical Results**

Sub-Matrix: SOIL

Client sample ID

Compound	CAS Number	LOR	Unit	Client sampling date / time		G16-2.5 (BOUNDARY)	G16-2.5 (BOUNDARY)
				-1	-2		
				[30-DEC-2010]	[30-DEC-2010]		
				HK1031208-001	HK1031208-002		

**EA/ED: Physical and Aggregate Properties**

EA055: Moisture Content (dried @ 103°C)	0.1	%	46.1
---	-----	---	------

**EG: Metals and Major Cations**

EG020: Lead	7439-92-1	1	mg/kg	364	757
-------------	-----------	---	-------	-----	-----

**EP-071: Total Petroleum Hydrocarbons (TPH)**

Compound	CAS Number	LOR	Unit	Value	Surrogate control limits listed at end of this report
C6 - C9 Fraction		2	mg/kg	<2	<2
C10 - C14 Fraction		50	mg/kg	300	538
C15 - C28 Fraction		100	mg/kg	2150	5660
C29 - C36 Fraction		100	mg/kg	1150	2330

**EP-075B: Polyaromatic Hydrocarbons (PAHs)**

Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.6	1.5
----------------	---------	-----	-------	-----	-----

**EP-066: Polychlorinated Biphenyls**

Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1
---------------------------------	--	-----	-------	------	------

**EP-080S: TPH(Volatile)/BTX Surrogate**

Compound	CAS Number	LOR	Unit	Value	Surrogate control limits listed at end of this report
Dibromofluoromethane	1868-53-7	0.1	%	90.6	88.3
Toluene-D8	2037-26-5	0.1	%	92.2	93.4
4-Bromofluorobenzene	460-00-4	0.1	%	106	106

**EP-075S: Acid Extractable Surrogates**

Compound	CAS Number	LOR	Unit	Value	Surrogate control limits listed at end of this report
2-Fluorophenol	367-12-4	0.1	%	92.8	73.2
Phenol-d6	13127-88-3	0.1	%	90.7	76.8
2,4,6-Tribromophenol	118-79-6	0.1	%	120	118

**EP-075T: Base/Neutral Extractable Surrogates**

Compound	CAS Number	LOR	Unit	Value	Surrogate control limits listed at end of this report
Nitrobenzene -d5	4165-60-0	0.1	%	89.3	78.3
2-Fluorobiphenyl	321-60-8	0.1	%	95.9	77.4
4-Terphenyl-d14	1718-51-0	0.1	%	117	91.4

**EP-068S: PCB Surrogate**

Compound	CAS Number	LOR	Unit	Value	Surrogate control limits listed at end of this report
Tetrachlorometylene	877-09-8	0.1	%	116	113
Dibutylchlorodate	1770-80-5	0.1	%	83.5	72.6

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### Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EAI: Physical and Aggregate Properties (QC Lot: 1621124)</b>								
HK1031187-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	15.9	15.4	3.3
HK1100022-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	45.7	43.6	4.8
<b>EG: Metals and Major Cations (QC Lot: 1621658)</b>								
HK1031104-002	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	24	22	5.2
HK1031118-002	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	30	30	0.0
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1618822)</b>								
HK1030995-009	Anonymous	C6 - C9 Fraction		2	mg/kg	<2	<2	0.0
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1619856)</b>								
HK1031208-001	G16-2.5 (BOUNDARY)-1	C15 - C28 Fraction		100	mg/kg	2150	1930	10.5
		C29 - C36 Fraction		100	mg/kg	1150	1200	3.9
		C10 - C14 Fraction		50	mg/kg	300	298	0.7
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1619857)</b>								
HK1031208-001	G16-2.5 (BOUNDARY)-1	Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.6	0.6	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1616269)</b>								
HK1030653-012	Anonymous	Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
					Spike Concentration	Recovery (%)	DCS	Control Limit	Spike Concentration	Recovery Limits (%)	Value	RPD (%)
<b>Matrix: SOIL</b>												
<b>EG: Metals and Major Cations (QC Lot: 1621658)</b>												
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	93.4	85	115				
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1618822)</b>												
C6 - C9 Fraction		2	mg/kg	<2	4 mg/kg	87.2	86	129				
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1619856)</b>												
C10 - C14 Fraction		50	mg/kg	<50	16 mg/kg	110	56	118				
C15 - C28 Fraction		100	mg/kg	<100	53 mg/kg	111	53	121				
C29 - C36 Fraction		100	mg/kg	<100	45 mg/kg	111	45	118				
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1619857)</b>												
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.25 mg/kg	87.0	55	107				
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1616269)</b>												
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	96.9	35	141				

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

Matrix: SOIL	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report		Recovery Limits (%)	RPD (%)
		Spike Recovery (%)	Recovery Limits (%)		

B2-13

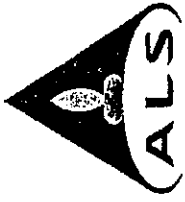


Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report		
				MS Spike Recovery (%)	Recovery Limits (%)	
		Spike Concentration		Value RPD (%)	Control Limit	
EG: Metals and Major Cations: (QC Lot: 1621658)						
HK1031104-001	Anonymous	EG020: Lead	7439-92-1	105	75	125
EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1618922)						
HK1030995-010	Anonymous	C6 - C9 Fraction		75.3	50	130
EP-074: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1619856)						
HK1031208-002	G16-2.5 (BOUNDARY)-2	C10 - C14 Fraction			50	130
		C15 - C28 Fraction			50	130
		C29 - C36 Fraction			50	130

**Surrogate Control Limits**

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-080S: 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-075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2,4,6-Tribromophenol	118-79-6	20	122
EP-075T: Base/Neutral Extractable Surrogates			
Nitrobenzene -d5	4165-60-0	23	120
2-Fluorobiphenyl	321-60-8	30	115
4-Terphenyl-d14	1718-51-0	20	137
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorodate	1770-80-5	50	130

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1100706
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 08-JAN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 21-JAN-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: ----	Quote number	: ----	No. of samples analysed	: 2
Order number	: ----				
C-O-C number	: H009465				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

12-JAN-2011

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: HK1100706

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

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Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

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**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			CAS Number	Unit
Client sampling date / time		G16-F3A (CONFIRM)		G16-F3A (CONFIRM)
08-JAN-2011		1.5 SIDE [08-JAN-2011]		3.0 BOTTOM [08-JAN-2011]
HK1100706-001		HK1100706-001		HK1100706-002
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)		0.1	%	22.7
EP-075B: Polyaromatic Hydrocarbons (PAHs)				
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5
EP-075S: Acid Extractable Surrogates				
2-Fluorophenol	367-12-4	0.1	%	84.4
Phenol-d6	13127-88-3	0.1	%	88.7
2,4,6-Tribromophenol	118-79-6	0.1	%	76.5
EP-075T: Base/Neutral Extractable Surrogates				
Nitrobenzene -d5	4165-60-0	0.1	%	84.9
2-Fluorobiphenyl	321-60-8	0.1	%	78.5
4-Terphenyl-d14	1718-51-0	0.1	%	77.2

Surrogate control limits listed at end of this report.

Surrogate control limits listed at end of this report.

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1100706

### Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
					Original Result	Duplicate Result	
<b>EAJED: Physical and Aggregate Properties (QC Lot: 1628068)</b>							
HK1100655-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	16.9	15.7	6.9
HK1100658-008	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	12.5	12.2	2.8
<b>EP-075B: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 1626409)</b>							
HK1100658-001	Anonymous	Benz(a)pyrene	0.5	mg/kg	<0.5	<0.5	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
					Spike Concentration	LCS	Spike Recovery (%)	DCS
<b>EP-075B: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 1626409)</b>								
Benz(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.25 mg/kg	79.0	55	107

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

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

### Surrogate Control Limits

Compound	CAS Number	Recovery Limits (%)	
		Low	High
<b>Sub-Matrix: SOIL</b>			
<b>EP-075S: Acid Extractable Surrogates</b>			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2,4,6-Tribromophenol	118-79-6	20	122
<b>EP-075T: Base/Neutral Extractable Surrogates</b>			
Nitrobenzene -d5	4165-60-0	23	120
2-Fluorobiphenyl	321-60-8	30	115
4-Terphenyl-d14	1718-51-0	20	137

B2-17



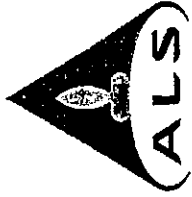
## **Appendix B3**

### **Analytical results of laboratory test for Heavy Metals Contaminated Soil (Type A)**

**Grid 4 (4.5 – 6.0m)**  
**Grid 12 (6.0 – 7.5m)**  
**Grid 13 (0.5 – 1.5m)**  
**Grid 14 (1.5 – 3.0m, 6.0 - 7.5m)**  
**Grid 15 (1.5 – 3.0m, 6.0 - 7.5m)**

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1121051
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 08-SEP-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 21-SEP-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: ---	Quote number	: ---	No. of samples analysed	: 2
Order number	: ---				
C-O-C number	: H015666				
Site	: KCIP				

### General Comments

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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: HK1121051

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories: Fung Lim Chee, Richard  
Position: General Manager  
Authorised results for: Inorganics

B3-1

**ALS Laboratory Group**  
Trading Name: **ALS Technichem (HK) Pty Ltd**  
11/F., Chung Shun Knitting Centre, 1-3 Wings Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company



Page Number : 2 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1121051

**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			G4-5.5 C1 [07-SEP-2011]	G4-5.5 C2 [07-SEP-2011]
EA055: Moisture Content (dried @ 103°C)		0.1	23.0	24.0
EG: Metals and Major Cations				
EG020: Lead	7439-92-1	1	100	440

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1121051

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1957165)</b>								
HK1121051-001	G4-5.5 C1		EA055: Moisture Content (dried @ 103°C)	0.1	%	23.0	23.3	1.3
HK1121417-002	Anonymous		EA055: Moisture Content (dried @ 103°C)	0.1	%	27.4	27.3	0.4
<b>EG: Metals and Major Cations (QC Lot: 1961431)</b>								
HK1121051-002	G4-5.5 C2	7439-92-1	EG020: Lead	1	mg/kg	440	436	0.8

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1961431)	7439-92-1	1	mg/kg	<1	5 mg/kg	96.1				85	115		
EG020: Lead													

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report												
Laboratory sample ID	Client sample ID	CAS Number	Method: Compound	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1961431)	G4-5.5 C1	7439-92-1	EG020: Lead	5 mg/kg	# Not Determined				75	125		
HK1121051-001	G4-5.5 C1											

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# ALS Technichem (HK) Pty Ltd

## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES



### CERTIFICATE OF ANALYSIS

<b>Client</b>	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	<b>Laboratory</b>	: ALS Technichem HK Pty Ltd	<b>Page</b>	: 1 of 3
<b>Contact</b>	: MR PENG FENG LI	<b>Contact</b>	: Chan Kwok Fai, Godfrey	<b>Work Order</b>	: HK1121354
<b>Address</b>	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	<b>Address</b>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<b>E-mail</b>	: eokcip@hotmail.com	<b>E-mail</b>	: Godfrey.Chan@alsglobal.com	<b>Date Samples Received</b>	: 10-SEP-2011
<b>Telephone</b>	: +852 2408 1173	<b>Telephone</b>	: +852 2610 1044	<b>Issue Date</b>	: 21-SEP-2011
<b>Facsimile</b>	: ---	<b>Facsimile</b>	: +852 2610 2021	<b>No. of samples received</b>	: 3
<b>Project</b>	: ---	<b>Quote number</b>	: ---	<b>No. of samples analysed</b>	: 3
<b>Order number</b>	: ---				
<b>C-O-C number</b>	: H015667				
<b>Site</b>	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 20-SEP-2011

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: HK1121354

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

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ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd

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Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsmtr.com

A Campbell Brothers Limited Company



Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
			G4-5.5 D2 [09-SEP-2011] HK1121354-001	G4-6.0 E2 [09-SEP-2011] HK1121354-003

EAI/ED: Physical and Aggregate Properties

Compound	CAS Number	LOR	Client sampling date / time	Unit	Value
EA055: Moisture Content (dried @ 103°C)		0.1		%	22.6
					22.0
					21.4

EG: Metals and Major Cations

Compound	CAS Number	LOR	Client sampling date / time	Unit	Value
EG020: Lead	7439-92-1	1		mg/kg	137
					218
					170

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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EAI/ED: Physical and Aggregate Properties (QC Lot: 1957165)</b>								
HK1121051-001	Anonymous		EA055: Moisture Content (dried @ 103°C)	0.1	%	23.0	23.3	1.3
HK1121417-002	Anonymous		EA055: Moisture Content (dried @ 103°C)	0.1	%	27.4	27.3	0.4
<b>EG: Metals and Major Cations (QC Lot: 1961431)</b>								
HK1121051-002	Anonymous	7439-92-1	EG020: Lead	1	mg/kg	440	436	0.8

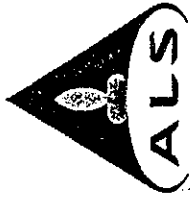
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1961431)	7439-92-1	1	mg/kg	<1	5 mg/kg	96.1	85	115	85	115	---	---	---
EG020: Lead													

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1961431)</b>													
HK1121051-001	Anonymous		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	75	125	75	125	---	---	---

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1124908
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 20-OCT-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Issue Date	: 31-OCT-2011
Project	: ----	Quote number	: ----	No. of samples received	: 4
Order number	: ----			No. of samples analysed	: 4
C-O-C number	: H015675				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 25-OCT-2011

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: HK1124908

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories	Position	Authorised results for
Fung Lim Chee, Richard	General Manager	Inorganics

B3-7





**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID		Unit	Result	Unit
		Sub-Matrix	Client sampling date / time			
EA/ED: Physical and Aggregate Properties		G4-5.5 D1	G4-5.5 B1			
EA055: Moisture Content (dried @ 103°C)	—	[20-OCT-2011]	[20-OCT-2011]	%	23.1	30.3
EG: Metals and Major Cations		G4-6.0 E3	G4-6.0 E4			
EG020: Lead	7439-92-1	[20-OCT-2011]	[20-OCT-2011]	mg/kg	246	112
		HK1124908-001	HK1124908-003		23.5	
			HK1124908-004			

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP.  
 Work Order : HK1124908

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 2012176)</b>								
HK1124816-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	15.5	15.4	1.0
HK1124826-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	11.4	10.8	5.3
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 2012177)</b>								
HK1124908-003	G4-6.0 E4	EA055: Moisture Content (dried @ 103°C)		0.1	%	23.5	22.8	3.0
HK1124938-010	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	14.2	14.6	2.2
<b>EG: Metals and Major Cations (QC Lot: 2012180)</b>								
HK1124913-001	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	9	11	16.4

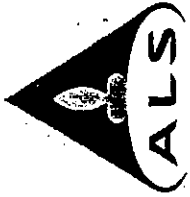
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Value
EG: Metals and Major Cations (QC Lot: 2012180)	7439-92-1	1	mg/kg	<1	5 mg/kg	99.7	85	115		

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
					MS	MSD	Spike Recovery (%)	Recovery Limits (%)	Value	RPD (%)
EG: Metals and Major Cations (QC Lot: 2012180)	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	92.9	75	125			

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1121454
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 12-SEP-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 22-SEP-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ---	Quote number	: ---	No. of samples analysed	: 1
Order number	: ---				
C-O-C number	: H015668				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

20-SEP-2011

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: HK1121454

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Authorised results for

Inorganics

BS-10



**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)		0.1	23.2	%
EG: Metals and Major Cations				
EG020: Lead	7439-92-1	1	149	mg/kg

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1121454

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1957165)									
HK1121051-001	Anonymous		EA055: Moisture Content (dried @ 103°C)		0.1	%	23.0	23.3	1.3
HK1121417-002	Anonymous		EA055: Moisture Content (dried @ 103°C)		0.1	%	27.4	27.3	0.4
EG: Metals and Major Cations (QC Lot: 1961431)									
HK1121051-002	Anonymous	7439-92-1	EG020: Lead		1	mg/kg	440	436	0.8

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)
EG: Metals and Major Cations (QC Lot: 1961431)	7439-92-1	1	mg/kg	<1	5 mg/kg	96.1			85	115			
EG020: Lead													

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	RPD (%)
EG: Metals and Major Cations (QC Lot: 1961431)													
HK1121051-001	Anonymous		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined			75	125			

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1026866
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 12-NOV-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 23-NOV-2010
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: ----	Quote number	: ----	No. of samples analysed	: 2
Order number	: ----				
C-O-C number	: H009079				
Site	: KCIP				

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 17-NOV-2010

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: HK1026866

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

03-13

ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



### Analytical Results

Sub-Matrix: SOIL

Client sample ID	Client sampling date / time	CAS Number	LOR	Unit
G12-7.0 C1	[12-NOV-2010]	HK1026866-001		
G12-7.0 C2	[12-NOV-2010]	HK1026866-002		

Compound

EA/ED: Physical and Aggregate Properties

EA055: Moisture Content (dried @ 103°C)

EG: Metals and Major Cations

EG020: Lead

0.1	%	17.4	20.8
7439-92-1	1	108	204
		mg/kg	

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1026866

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EATED: Physical and Aggregate Properties (QC Lot: 1562613)</b>								
HK1026866-001	G12-7.0 C1	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	17.4	17.8	2.5
HK1026925-013	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	37.8	38.1	0.7
<b>EG: Metals and Major Cations (QC Lot: 1562979)</b>								
HK1026789-001	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	20	23	15.3

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Method: Compound	CAS Number	LOR	Unit	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 1562979)	7439-92-1	1	mg/kg	5 mg/kg	85.3	85 - 115	---
EG020: Lead							

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

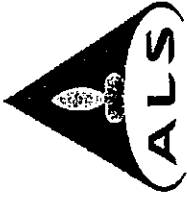
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 1562979)	7439-92-1	EG020: Lead	7439-92-1	5 mg/kg	75	---	75 - 125	---
HK1026780-003	Anonymous				# Not Determined			

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# ALS Technichem (HK) Pty Ltd

## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1021848
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 17-SEP-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 29-SEP-2010
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 4
Project	: CV_2007_06	Quote number	: ----	No. of samples analysed	: 4
Order number	: ----				
C-O-C number	: H009071				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 24-SEP-2010

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: HK1021848

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company

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**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID		
				Client sampling date / time	Client sample ID	Client sample ID
EA055: Moisture Content (dried @ 103°C)		0.1	%	17-SEP-2010 16:00 HK1021848-001	21.3	
EG: Metals and Major Cations				17-SEP-2010 16:00 HK1021848-002	21.8	
EG020: Lead	7439-92-1	1	mg/kg	17-SEP-2010 16:00 HK1021848-003	21.8	159
				17-SEP-2010 16:00 HK1021848-004	25.7	

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1021848

### Laboratory Duplicate (DUP) Report

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report				
Matrix: SOIL						LOR	Unit	Original Result	Duplicate Result	RPD (%)
EAIED: Physical and Aggregate Properties (QC Lot: 1493156)	EA055: Moisture Content (dried @ 103°C)					0.1	%	14.1	14.6	3.2
HK1021841-003	Anonymous									
EG: Metals and Major Cations (QC Lot: 1494539)	G12-7.0 A2						mg/kg	208	222	6.5
HK1021848-002	EG020: Lead	7439-92-1	1							

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
Matrix: SOIL				Spike Concentration	LCS	Spike Recovery (%)	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1494539)	EG020: Lead	7439-92-1	1	5 mg/kg	87.6	<1	85	85	115		

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number
EG: Metals and Major Cations (QC Lot: 1494539)	G12-7.0 A1	EG020: Lead	7439-92-1
HK1021848-001			

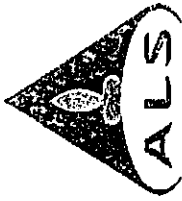
  

Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
5 mg/kg	# Not Determined		75	75	125		

B3-1B

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1026215
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 1/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 05-NOV-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 22-NOV-2010
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 10
Project	: ---	Quote number	: ---	No. of samples analysed	: 10
Order number	: ---				
C-O-C number	: H009078				
Site	: KCIP				

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 16-NOV-2010  
 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: HK1026215

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
 Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
 Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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<u>Signatories</u>	<u>Position</u>	<u>Authorised results for</u>
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

ALS Laboratory Group  
 Trading Name: ALS Technichem (HK) Pty Ltd  
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 Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
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Page Number : 2 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1026215

**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Unit	Client sample ID	Client sampling date / time
EA055: Moisture Content (dried @ 103° C)	---	0.1	%	G12-4.0 B1 [20-OCT-2010] HK1026215-001	G12-7.0 B1 [20-OCT-2010] HK1026215-003
EG: Metals and Major Cations					
EG020: Lead	7439-92-1	1	mg/kg		
EP-066: Polychlorinated Biphenyls					
Total Polychlorinated biphenyls		0.1	mg/kg		
EP-066S: PCB Surrogate					
Tetrachlorometaxylene	877-09-8	0.1	%		
Dibutylchlorendate	1770-80-5	0.1	%		

Client sample ID	Client sampling date / time
G12-4.0 B1 [20-OCT-2010] HK1026215-001	G12-4.0 B2 [20-OCT-2010] HK1026215-002
G12-7.0 B1 [20-OCT-2010] HK1026215-003	G12-7.0 B2 [20-OCT-2010] HK1026215-004
G12-4.0 D1 [20-OCT-2010] HK1026215-005	

21.4	21.0	21.8	24.0	9.4
---	---	207	174	---
<0.1	<0.1	---	---	<0.1
68.0	88.4	---	---	81.6
75.7	100	---	---	64.5

Surrogate control limits listed at end of this report.

BB-20



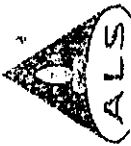
Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1026215

Compound	CAS Number	Client sample ID	
		Client sampling date / time	Unit
Sub-Matrix: SOIL			
<b>EA055: Moisture Content (dried @ 103°C)</b>			
EG: Metals and Major Cations			
EG020: Lead	7439-92-1	1	mg/kg
EP-066: Polychlorinated Biphenyls			
Total Polychlorinated biphenyls		0.1	mg/kg
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	0.1	%
Dibutylchloroendate	1770-80-5	0.1	%

Compound	G12-4.0 D2 [20-OCT-2010] HK1026215-006	G12-7.0 D1 [20-OCT-2010] HK1026215-007	G12-7.0 D2 [20-OCT-2010] HK1026215-008	G12-4.0 C1 [05-NOV-2010] HK1026215-009	G12-4.0 C2 [05-NOV-2010] HK1026215-010
EA055: Moisture Content (dried @ 103°C)	3.4	27.5	14.3	21.6	21.6
EG: Metals and Major Cations					
EG020: Lead		117	63		
EP-066: Polychlorinated Biphenyls					
Total Polychlorinated biphenyls	<0.1			<0.1	<0.1
EP-066S: PCB Surrogate					
Tetrachlorometaxylene	81.6			76.1	69.0
Dibutylchloroendate	64.1			83.3	83.8

Surrogate control limits listed at end of this report.

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### 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: 1551762)</b>								
HK1026026-004	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	5.7	6.6	15.4
HK1026215-003	G12-7.0 B1	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	21.8	20.5	5.9
<b>EG: Metals and Major Cations (QC Lot: 1553207)</b>								
HK1026202-001	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	7	7	0.0
EP-066: Polychlorinated Biphenyls (QC Lot: 1543362)	Anonymous	Total Polychlorinated biphenyls	---	0.1	mg/kg	<0.1	<0.1	0.0

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

Matrix: SOIL										
Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Value	RPD (%)
<b>EG: Metals and Major Cations (QC Lot: 1553207)</b>										
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	98.1	---	85	115	---
EP-066: Polychlorinated Biphenyls (QC Lot: 1543362)	---	0.1	mg/kg	<0.1	0.5 mg/kg	97.3	---	35	141	---

### 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	MS	MSD	Recovery Limits (%)	Value	RPD (%)	
<b>EG: Metals and Major Cations (QC Lot: 1553207)</b>										
HK1026202-002	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	95.5	---	75	125	---	

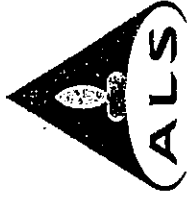
### Surrogate Control Limits

Sub-Matrix: SOIL		
Compound	CAS Number	Recovery Limits (%)
		Low
		High
EP-066S: PCB Surrogate		
Tetrachlorometaxylene	877-09-8	50
Dibutylchlorendate	1770-80-5	50

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1017721
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 04-AUG-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 11-AUG-2010
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: ----	Quote number	: ----	No. of samples analysed	: 2
Order number	: ----				
C-O-C number	: H009063				
Site	: KWAI CHUNG INCINERATION PLANT				

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the 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 processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client. The completion date of analysis is: 10-AUG-2010

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: HK1017721

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

B3-23

ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	---	0.1	20.6	19.3
EG: Metals and Major Cations				
EG020: Lead	7439-92-1	1	225	166

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1017721

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report				
LOR	CAS Number	Unit	Original Result	Duplicate Result	RPD (%)	LOR	CAS Number	Unit	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1443597)										
HK1017721-001	G13-1.0 A	%	20.6	20.5	0.7	0.1				
EG: Metals and Major Cations (QC Lot: 1443122)										
HK1017721-002	G13-1.0 D	mg/kg	166	174	4.8	1	7439-92-1	mg/kg	174	4.8

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
LOR	CAS Number	Unit	Result	Spike Concentration	LCS	DCS	Recovery Limits (%)	Value	RPD (%)	
1	7439-92-1	mg/kg	<1	5 mg/kg	89.2	---	85 - 115	---	---	
EG: Metals and Major Cations (QC Lot: 1443122)										
EG020: Lead										

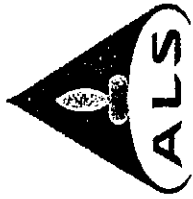
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number
HK1017721-001	G13-1.0 A	EG020: Lead	7439-92-1
Spike Concentration: 5 mg/kg			
# Not Determined			
Recovery Limits (%)			
MS	MSD	Low	High
---	---	75	125
Value			
---			
Control Limit			
---			

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1019716
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 26-AUG-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 07-SEP-2010
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: ---	Quote number	: ---	No. of samples analysed	: 2
Order number	: ---				
C-O-C number	: H009066				
Site	: KCIP				

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the 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 processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client. The completion date of analysis is: 02-SEP-2010

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: HK1019716

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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#### Signatories

Fung Lim Chee, Richard

#### Position

General Manager

#### Authorised results for

Inorganics

B3-26

**ALS Laboratory Group**  
Trading Name: **ALS Technichem (HK) Pty Ltd**  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
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**Analytical Results**

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			G13-1.0B	G13-1.5E1
EA055: Moisture Content (dried @ 103°C)		0.1	26-AUG-2010 14:15	26-AUG-2010 14:20
EG: Metals and Major Cations			HK1019716-001	HK1019716-002
EG020: Lead	7439-92-1	1	23.0	22.7
			410	50

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1019716

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report			
LOR	CAS Number	Unit	Duplicate Result	Original Result	Duplicate Result	RPD (%)	RPD (%)
EAIED: Physical and Aggregate Properties (QC Lot: 1469662)							
HK1019825-002	Anonymous	%	14.1	14.0	14.1	0.0	0.0
EG: Metals and Major Cations (QC Lot: 1469686)							
HK1019716-002	G13-1.5E	mg/kg	54	50	54	8.5	8.5

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	LCS	DCS	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1469686)									
EG020: Lead	mg/kg	<1	5 mg/kg	89.0	89.0	---	85 - 115	---	---

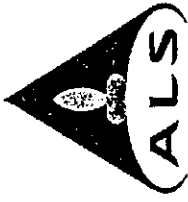
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Laboratory sample ID		Client sample ID	Method: Compound	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Spike Concentration	CAS Number	MS	MSD	Recovery Limits (%)	Value	Control Limit	MS	MSD	# Not Determined
EG: Metals and Major Cations (QC Lot: 1469686)									
HK1019716-001	G13-1.0B	5 mg/kg	---	75 - 125	---	---	75	125	---

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORPORATION  
Laboratory : ALS Technichem HK Pty Ltd Page : 1 of 3

Contact : MR PENG FENG LI  
Contact : Chan Kwok Fai, Godfrey Work Order : HK1021309

Address : RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD,  
NORTH POINT,  
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Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing  
Yip Street,  
Kwai Chung, N.T., Hong Kong

E-mail : eokcip@hotmail.com  
E-mail : Godfrey.Chan@alsenviro.com  
Telephone : +852 2408 1173  
Telephone : +852 2610 1044  
Facsimile :  
Facsimile : +852 2610 2021

Project : CV\_2007\_06  
Quote number :  
Order number :  
Date Samples Received : 09-SEP-2010  
C-O-C number : H009068  
Issue Date : 24-SEP-2010  
Site : KCIP  
No. of samples received : 4  
No. of samples analysed : 4

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 17-SEP-2010

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: HK1021309

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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#### Signatories

Anh Ngoc Huynh

Fung Lim Chee, Richard

#### Position

Senior Chemist

General Manager

#### Authorised results for

Organics

Inorganics

B3-29

ALS Laboratory Group

Trading Name: ALS Technichem (HK) Pty Ltd

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		Unit
			Client sampling date / time	Client sample ID	
EAJED: Physical and Aggregate Properties					
EA055: Moisture Content (dried @ 103°C)		0.1	%	09-SEP-2010 14:30 HK1021309-001	14.5
EG: Metals and Major Cations					
EG020: Lead	7439-92-1	1	mg/kg	09-SEP-2010 14:45 HK1021309-003	25.8
EP-066: Polychlorinated Biphenyls					
Total Polychlorinated biphenyls		0.1	mg/kg	09-SEP-2010 14:45 HK1021309-004	23.0
EP-066S: PCB Surrogate					
Tetrachlorometaxylene	877-09-8	0.1	%		<0.1
Dibutylchlorendate	1770-80-5	0.1	%		70.7
					75.9
Surrogate control limits listed at end of this report.					
					66.7
					69.3

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**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>EAIED: Physical and Aggregate Properties (QC Lot: 1487163)</b>								
HK1021192-004	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	23.3	23.3	0.0
HK1021241-005	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	14.5	14.1	2.3
<b>EAIED: Physical and Aggregate Properties (QC Lot: 1487164)</b>								
HK1021309-003	G12-4.0 A1	EA055: Moisture Content (dried @ 103°C)		0.1	%	25.8	27.4	5.8
HK1021365-007	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	29.8	32.4	8.1
<b>EG: Metals and Major Cations (QC Lot: 1487739)</b>								
HK1020699-006	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	44	47	6.9
HK1021192-003	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	30	30	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1484848)</b>								
HK1021241-003	Anonymous	Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	0.0

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

Matrix: SOIL				Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1487739)</b>													
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	87.3	---	---	85	115	---	---	---
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1484848)</b>													
Total Polychlorinated biphenyls		---	0.1	mg/kg	<0.1	90.2	---	---	30	151	---	---	---

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

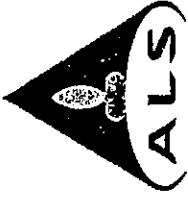
Matrix: SOIL				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1487739)</b>											
HK1020695-007	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	97.8	---	---	75	125	---	---

**Surrogate Control Limits**

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorendate	1770-80-5	50	130

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK11104645
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 25-FEB-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 08-MAR-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 3
Project	: ---	Quote number	: ---	No. of samples analysed	: 3
Order number	: ---				
C-O-C number	: H009476				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

04-MAR-2011

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: HK11104645

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

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**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
			G14-2.5A2 [25-FEB-2011]	G14-3.0E3 [25-FEB-2011]
			HK1104645-001	HK1104645-002
EAI/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)		0.1	18.3	12.2
EG: Metals and Major Cations				
EG020: Copper	7440-50-8	1	13	8
EG020: Lead	7439-92-1	1	87	428
				10
				211

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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EAIED: Physical and Aggregate Properties (QC Lot: 1688819)</b>								
HK1104556-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	13.5	13.6	0.0
HK1104680-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	14.8	14.5	2.1
<b>EG: Metals and Major Cations (QC Lot: 1690382)</b>								
HK1104225-002	Anonymous	EG020: Copper	7440-50-8	1	mg/kg	53	44	19.4
		EG020: Lead	7439-92-1	1	mg/kg	25	26	0.0
HK1104655-001	Anonymous	EG020: Copper	7440-50-8	1	mg/kg	4	4	0.0
		EG020: Lead	7439-92-1	1	mg/kg	12	10	10.8

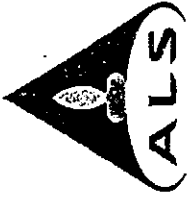
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Recovery (%)	DCS	Recovery Limits (%)	Value	Control Limit	Recovery Low	Recovery High	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1690382)</b>														
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	105	85	115	85	115	85	115	85	115
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	91.0	85	115	85	115	85	115	85	115

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report								
					MS	MSD	Recovery Low (%)	Recovery High (%)	Value	Control Limit			
<b>EG: Metals and Major Cations (QC Lot: 1690382)</b>													
HK1104225-001	Anonymous	EG020: Copper	7440-50-8	5 mg/kg	75.6	75	75	125	125	75	125	75	125
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	75	75	125	125	75	125	75	125

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1105284
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 04-MAR-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 15-MAR-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: ----	Quote number	: ----	No. of samples analysed	: 2
Order number	: ----				
C-O-C number	: H013561				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 14-MAR-2011

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: HK1105284

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
 Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
 Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories  
 Fung Lim Chee, Richard  
 Position  
 General Manager  
 Authorised results for  
 Inorganics

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Page Number : 2 of 3  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1105284

**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	Client sampling date / time		Unit	LOR	Client sample ID	
		Client sampling date / time	Unit			Client sample ID	Unit
EAIED: Physical and Aggregate Properties							
EA055: Moisture Content (dried @ 103°C)		0.1	%			18.4	25.7
EG: Metals and Major Cations							
EG020: Copper	7440-50-8	1	mg/kg			29	54
EG020: Lead	7439-92-1	1	mg/kg			123	73

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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	LOR	CAS Number	Laboratory Duplicate (DUP) Report		RPD (%)
					Original Result	Duplicate Result	
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1697571)</b>							
HK1105283-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1		16.4	16.6	1.2
HK1105283-012	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1		29.8	27.9	6.8
<b>EG: Metals and Major Cations (QC Lot: 1697573)</b>							
HK1105281-002	Anonymous	EG020: Copper	1	7440-50-8	19	19	0.0
		EG020: Lead	1	7439-92-1	34	35	0.0
HK1105281-012	Anonymous	EG020: Copper	1	7440-50-8	37	39	3.7
		EG020: Lead	1	7439-92-1	91	92	1.2
<b>EG: Metals and Major Cations (QC Lot: 1697574)</b>							
HK1105394-001	Anonymous	EG020: Copper	1	7440-50-8	4	3	0.0
		EG020: Lead	1	7439-92-1	6	7	19.5

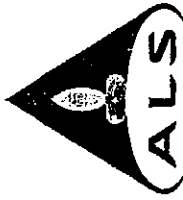
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
					Spike Concentration	Recovery Limits (%)	DCS	Value	Control Limit	Spike Recovery (%)	Recovery Limits (%)	DCS
<b>EG: Metals and Major Cations (QC Lot: 1697573)</b>												
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	89.2	85	115	---	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	87.5	85	115	---	---	---	---
<b>EG: Metals and Major Cations (QC Lot: 1697574)</b>												
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	91.8	85	115	---	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	90.7	85	115	---	---	---	---

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				RPD (%)
					MS	MSD	Recovery Limits (%)	Value	
<b>EG: Metals and Major Cations (QC Lot: 1697573)</b>									
HK1105281-001	Anonymous	EG020: Copper	7440-50-8	5 mg/kg	78.6	75	125	---	---
		EG020: Lead	7439-92-1	5 mg/kg	84.8	75	125	---	---
<b>EG: Metals and Major Cations (QC Lot: 1697574)</b>									
HK1105284-002	G14-3.0 E1	EG020: Copper	7440-50-8	5 mg/kg	# Not Determined	75	125	---	---
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	75	125	---	---

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1110923
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 13-MAY-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 20-MAY-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 5
Project	: ---	Quote number	: ---	No. of samples analysed	: 5
Order number	: ---				
C-O-C number	: H013577				
Site	: LIWEC KGIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 18-MAY-2011

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: HK1110923

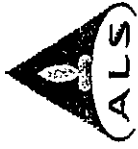
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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<u>Signatories</u>	<u>Position</u>	<u>Authorised results for</u>
Fung Lim Chee, Richard	General Manager	Inorganics

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**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
			G14-2.5 A1 [13-MAY-2011] HK1110923-001	
			G14-2.5 B2 [13-MAY-2011] HK1110923-002	
			G14-3.0 E2 [13-MAY-2011] HK1110923-003	
			G14-7.0 B1 [13-MAY-2011] HK1110923-004	
			G14-7.5 E1 [13-MAY-2011] HK1110923-005	

**EA/ED: Physical and Aggregate Properties**

EA055: Moisture Content (dried @ 103°C)	Unit	Value
	%	21.8
	%	19.4
	%	16.2
	%	18.7
	%	16.9

**EG: Metals and Major Cations**

EG020: Copper	Unit	Value
	mg/kg	17
	mg/kg	35
	mg/kg	37
EG020: Lead	Unit	Value
	mg/kg	91
	mg/kg	144
	mg/kg	111
	mg/kg	151
	mg/kg	114

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**Laboratory Duplicate (DUP) Report**

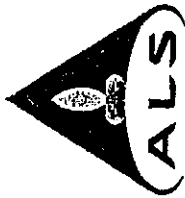
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report		
					Original Result	Duplicate Result	RPD (%)
<b>EAI/ED: Physical and Aggregate Properties (QC Lot: 1791141)</b>							
HK1110887-002	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	14.5	13.2	9.0
HK1110915-004	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	18.3	20.3	10.5
<b>EG: Metals and Major Cations (QC Lot: 1791906)</b>							
HK1110923-003	G14-3.0 E2	EG020: Copper	7440-50-8	1	37	43	15.3
		EG020: Lead	7439-92-1	1	111	99	11.4

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High
<b>Matrix: SOIL</b>											
<b>Method Blank (MB) Report</b>											
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	90.0	—	85	115	—	—
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	94.0	—	85	115	—	—

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
					MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
<b>Matrix: SOIL</b>											
<b>Method: Compound</b>											
EG: Metals and Major Cations (QC Lot: 1791906)	G14-2.5 A1	EG020: Copper	7440-50-8	5 mg/kg	77.0	—	75	125	125	—	—
HK1110923-001		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	—	75	125	125	—	—



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1111963
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 26-MAY-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	Issue Date	: 14-JUN-2011
Project	: ---	Quote number	: ---	No. of samples received	: 10
Order number	: ---			No. of samples analysed	: 6
C-O-C number	: H013579				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 30-MAY-2011

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: HK1111963

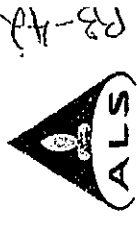
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by In-house method EG-3051A based on USEPA method 3051a, prior to the determination of metals.

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Signatories	Position	Authorised results for
Anth Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

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**Analytical Results**

Sub-Matrix: SOIL	Client sample ID	
	Client sampling date / time	Unit
EA055: Moisture Content (dried @ 103°C)	12.3	16.9
EG: Metals and Major Cations		
EG020: Copper	10.5	7.48
EG020: Lead	136	193

Compound	CAS Number	LOR	Unit	G14-3.0E4 [26-MAY-2011] HK1111963-005	G14-2.5D1 [26-MAY-2011] HK1111963-006	G15-7.5E4 [26-MAY-2011] HK1111963-007	G15-7.0D2 [26-MAY-2011] HK1111963-008	G15-2.5D2 [26-MAY-2011] HK1111963-009
		0.1	%	12.3	16.9	32.9	22.5	12.9
	7440-50-8	0.05	mg/kg	10.5	7.48			
	7439-92-1	0.05	mg/kg	136	193	61.1	10.8	147

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Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1111963

Compound	CAS Number		LOR		Client sampling date / time		Client sample ID	
Sub-Matrix: SOIL								
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)			0.1					G12-4.0B2 [26-MAY-2011] HK1111963-010
EP-066: Polychlorinated Biphenyls							37.6	
Total Polychlorinated biphenyls			0.1				<0.1	
EP-066S: PCB Surrogate								
Tetrachlorometaxylene	877-09-8		0.1				114	
Dibutylchlorodate	1770-80-5		0.1				84.6	
Surrogate control limits listed at end of this report.								

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### Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1809277)</b>								
HK1111861-011	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	38.1	38.0	0.0
HK1111963-006	G14-2.5D1	EA055: Moisture Content (dried @ 103°C)		0.1	%	16.9	16.4	3.1
<b>EG: Metals and Major Cations (QC Lot: 1811075)</b>								
HK1111963-006	G14-2.5D1	EG020: Copper	7440-50-8	0.05	mg/kg	7.48	7.46	0.2
EP-066: Polychlorinated Biphenyls (QC Lot: 1808576)		EG020: Lead	7439-92-1	0.05	mg/kg	193	186	3.8
HK1111963-010	G12-4.0B2	Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value
<b>EG: Metals and Major Cations (QC Lot: 1811075)</b>												
EG020: Copper	7440-50-8	0.05	mg/kg	<0.05	5 mg/kg	89.9	85	115	85	115	---	---
EG020: Lead	7439-92-1	0.05	mg/kg	<0.05	5 mg/kg	101	85	115	85	115	---	---
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1808576)</b>												
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	101	39	158	---	---	---	---

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report		Recovery Limits (%)	RPD (%)
					Spike Recovery (%)	MSD		
<b>EG: Metals and Major Cations (QC Lot: 1811075)</b>								
HK1111963-005	G14-3.0E4	EG020: Copper	7440-50-8	5 mg/kg	90.6	75	125	---
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	75	125	---

### Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorendate	1770-80-5	50	130

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1113934
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 20-JUN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 30-JUN-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ---	Quote number	: ---	No. of samples analysed	: 1
Order number	: ---				
C-O-C number	: H009965				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 25-JUN-2011

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: HK1113934

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

B3-45



**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)		0.1	%	24.2
EG: Metals and Major Cations				
EG020: Copper	7440-50-8	1	mg/kg	12
EG020: Lead	7439-92-1	1	mg/kg	125

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**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: 1842625)</b>									
HK1113896-001	Anonymous		EA055: Moisture Content (dried @ 103°C)		0.1	%	23.0	20.7	10.6
HK1113967-001	Anonymous		EA055: Moisture Content (dried @ 103°C)		0.1	%	39.0	39.6	1.3
<b>EG: Metals and Major Cations (QC Lot: 1842496)</b>									
HK1113615-001	Anonymous		EG020: Copper	7440-50-8	1	mg/kg	202	221	8.8
			EG020: Lead	7439-92-1	1	mg/kg	675	658	2.5
HK1113896-004	Anonymous		EG020: Copper	7440-50-8	1	mg/kg	8	9	13.0
			EG020: Lead	7439-92-1	1	mg/kg	14	16	9.3

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

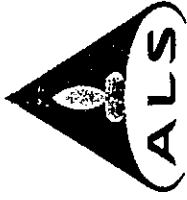
Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1842496)</b>													
EG020: Copper	7440-50-8	1	mg/kg	<1	5 mg/kg	92.0	85	---	85	115	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	94.2	85	---	85	115	---	---	---

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1842496)</b>													
HK1113143-002	Anonymous		EG020: Copper	7440-50-8	5 mg/kg	86.2	75	---	75	125	---	---	---
			EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	---	---	75	125	---	---	---

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1114863
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 30-JUN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 12-JUL-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: ---	Quote number	: ---	No. of samples analysed	: 2
Order number	: ---				
C-O-C number	: H009967				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 08-JUL-2011

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: HK1114863

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

B3-48



**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID		Unit	LOR	Client sampling date / time
		G14-7.0 A1	G14-7.0 B2			
EAJED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)		0.1	%			
EG: Metals and Major Cations						
EG020: Lead	7439-92-1	1	mg/kg	31		36

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**Laboratory Duplicate (DUP) Report**

Matrix: SOIL		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1858718)</b>							
HK1114853-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	17.7	17.5	1.1
HK1114929-008	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	12.2	11.0	10.1
<b>EG: Metals and Major Cations (QC Lot: 1862040)</b>							
HK1114863-001	G14-7.0 A1	EG020: Lead	1	mg/kg	31	26	18.6
HK1114994-001	Anonymous	EG020: Lead	1	mg/kg	36	36	0.0

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

Matrix: SOIL				Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1862040)	7439-92-1	1	mg/kg	<1	5 mg/kg	91.7	---	85	115	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	91.7	---	85	115	---	---	---

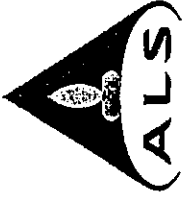
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix: SOIL		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
Laboratory sample ID	Client sample ID	CAS Number	Spike Concentration	Spike Recovery (%)	MSD	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations (QC Lot: 1862040)	Anonymous	EG020: Lead	5 mg/kg	78.3	---	75	---
HK1114853-001	Anonymous	EG020: Lead	5 mg/kg	78.3	---	125	---

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# ALS Technichem (HK) Pty Ltd

## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1116620
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 19-JUL-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	Issue Date	: 28-JUL-2011
Project	: ---	Quote number	: ---	No. of samples received	: 4
Order number	: ---			No. of samples analysed	: 4
C-O-C number	: H009976				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:  
27-JUL-2011

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: HK1116620

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

BB-51

ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company



**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		Unit	Result
			Client sampling date / time	Client sample ID		
EA056: Moisture Content (dried @ 103°C)	—	0.1	G14-7.5E3 [19-JUL-2011] HK1116620-001	G15-2.5D1 [19-JUL-2011] HK1116620-003	%	28.7
			G15-7.5E3 [19-JUL-2011] HK1116620-002	G15-7.0D1 [19-JUL-2011] HK1116620-004	%	34.8
EG: Metals and Major Cations	7439-92-1	1			ng/kg	146
					ng/kg	89
						151

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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1885588)</b>								
HK1116620-001	G14-7.5E3	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	28.7	28.4	1.0
HK1116643-007	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	18.3	18.4	1.0
<b>EG: Metals and Major Cations (QC Lot: 1887181)</b>								
HK1116620-003	G15-2.5D1	EG020: Lead	7439-92-1	1	mg/kg	56	51	8.4

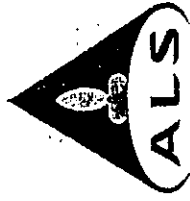
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1887181)	7439-92-1	1	mg/kg	<1	5 mg/kg	97.7	---	---	85	115	---	---	---
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	97.7	---	---	85	115	---	---	---

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report											
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1887181)	G14-7.5E3	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	---	75	125	---	---	---
HK1116620-001	G14-7.5E3	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	---	75	125	---	---	---

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1117461
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 27-JUL-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 05-AUG-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 2
Project	: ---	Quote number	: ---	No. of samples analysed	: 2
Order number	: ---				
C-O-C number	: H009977				
Site	: ---				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 02-AUG-2011

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: HK1117461

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

B3-54

ALS Laboratory Group  
ALS Technichem (HK) Pty Ltd

Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
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Page Number : 2 of 3  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK117461

Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID	
		LOR	Unit
EAJED: Physical and Aggregate Properties			
EA055: Moisture Content (dried @ 103°C)		0.1	%
EG: Metals and Major Cations			
EG020: Lead	7439-92-1	1	mg/kg

Client sample ID	Client sampling date / time
G14-7.0 A2	G14-7.0 D2
[27-JUL-2011]	[27-JUL-2011]
HK117461-001	HK117461-002
24.8	19.1
175	130

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1117461

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	LOR	CAS Number	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1894795)</b>								
HK1117262-008	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1		%	32.5	32.1	1.2
HK1117262-018	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1		%	28.8	28.2	1.9
<b>EG: Metals and Major Cations (QC Lot: 1894766)</b>								
HK1117262-009	Anonymous	EG020: Lead	1	7439-92-1	mg/kg	32	34	5.1
HK1117262-018	Anonymous	EG020: Lead	1	7439-92-1	mg/kg	27	28	0.0

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

Method Blank (MB) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				RPD (%)
						LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	
EG: Metals and Major Cations (QC Lot: 1894766)	7439-92-1	1	mg/kg	<1	5 mg/kg	92.9	85	115		
EG020: Lead										

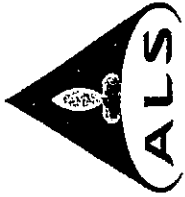
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

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 (%)			Value	Control Limit
						MS	MSD	MSD		
EG: Metals and Major Cations (QC Lot: 1894766)	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	75	125			
HK1117262-008	Anonymous									

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# ALS Technichem (HK) Pty Ltd

## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES



### CERTIFICATE OF ANALYSIS

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Contact : MR PENG FENG LI  
Address : RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG  
E-mail : eokcip@hotmail.com  
Telephone : +852 2408 1173  
Facsimile :  
Project :  
Order number : H015661  
C-O-C number :  
Site : KCIP

Laboratory : ALS Technichem HK Pty Ltd  
Contact : Chan Kwok Fai, Godfrey  
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
E-mail : Godfrey.Chan@alsglobal.com  
Telephone : +852 2610 1044  
Facsimile : +852 2610 2021  
Quote number : ---

Page : 1 of 3  
Work Order : HK1120423

Date Samples Received : 31-AUG-2011  
Issue Date : 09-SEP-2011  
No. of samples received : 2  
No. of samples analysed : 2

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 07-SEP-2011

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: HK1120423

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories : Fung Lim Chee, Richard  
Position : General Manager  
Authorised results for : Inorganics

ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company

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**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID	
		Client sampling date / line	Unit
EA/ED: Physical and Aggregate Properties		G14-7.0 D1 [31-AUG-2011]	G14-7.5 E4 [31-AUG-2011]
EA055: Moisture Content (dried @ 103°C)	—	0.1 %	14.8
EG: Metals and Major Cations			
EG020: Lead	7439-92-1	1 mg/kg	183
			129

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1120423

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report				
			LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EAIED: Physical and Aggregate Properties (QC Lot: 1940564)</b>							
HK1120157-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	14.1	14.0	1.0
HK1120444-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	66.7	66.4	0.5
<b>EG: Metals and Major Cations (QC Lot: 1943252)</b>							
HK1120590-002	Anonymous	EG020: Lead	1	mg/kg	89	79	12.6
HK1120432-001	Anonymous	EG020: Lead	1	mg/kg	11	11	0.0

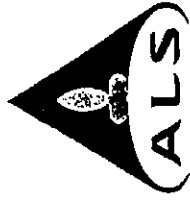
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Laboratory sample ID	Client sample ID	Method: Compound	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
			LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1943252)					<1	5 mg/kg	92.3		85	115		
EG020: Lead			1	mg/kg								

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Spike Recovery (%)			MSD	Recovery Limits (%)	Value	Control Limit
					MS	MSD	MSD				
EG: Metals and Major Cations (QC Lot: 1943252)			7439-92-1	5 mg/kg	# Not Determined	75	125				
HK1120590-001	Anonymous	EG020: Lead									

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1029394
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 10-DEC-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 24-DEC-2010
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 8
Project	: ---	Quote number	: ---	No. of samples analysed	: 8
Order number	: ---				
C-O-C number	: H009462				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 22-DEC-2010

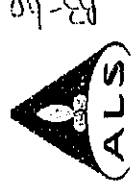
Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society. Specific comments for Work Order: HK1029394

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories	Position	Authorised results for
Anth Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics



**Analytical Results**

Sub-Matrix: SOIL	Client sample ID	
Compound	CAS Number	Unit
EAJED: Physical and Aggregate Properties	Client sampling date / time	
EA056: Moisture Content (dried @ 103°C)	---	%
EG: Metals and Major Cations		
EG020: Lead	7439-92-1	1 mg/kg
EP-075B: Polyaromatic Hydrocarbons (PAHs)		
Benzo(a)pyrene	50-32-8	0.5 mg/kg
EP-066: Polychlorinated Biphenyls		
Total Polychlorinated biphenyls	---	0.1 mg/kg
EP-075S: Acid Extractable Surrogates		
2-Fluorophenol	367-12-4	0.1 %
Phenol-d6	13127-88-3	0.1 %
2,4,6-Tribromophenol	118-79-6	0.1 %
EP-075T: Base/Neutral Extractable Surrogates		
Nitrobenzene -d5	4169-60-0	0.1 %
2-Fluorobiphenyl	321-60-8	0.1 %
4-Terphenyl-d14	1718-51-0	0.1 %
EP-066S: PCB Surrogate		
Tetrachlorometaxylene	877-09-8	0.1 %
Dibutylchlorodate	1770-90-5	0.1 %

Compound	G16-2.5 B1 [10-DEC-2010] HK1029394-001	G16-2.5 D1 [10-DEC-2010] HK1029394-002	G16-3.0 E1 [10-DEC-2010] HK1029394-003	G16-3.0 E2 [10-DEC-2010] HK1029394-004	G16-2.5 A1 [10-DEC-2010] HK1029394-005
EA056: Moisture Content (dried @ 103°C)	11.9	5.8	21.3	24.6	17.7
EG020: Lead	60	93	61	43	---
Benzo(a)pyrene	<0.5	<0.5	<0.5	<0.5	<0.5
Total Polychlorinated biphenyls	<0.1	<0.1	<0.1	<0.1	<0.1
2-Fluorophenol	71.6	84.9	76.7	89.2	71.6
Phenol-d6	71.4	84.0	73.6	61.8	67.4
2,4,6-Tribromophenol	39.2	52.0	50.7	56.5	47.4
Nitrobenzene -d5	71.6	85.7	74.4	58.2	69.1
2-Fluorobiphenyl	71.5	81.4	71.6	60.4	65.6
4-Terphenyl-d14	101	99.5	90.7	97.8	99.6
Tetrachlorometaxylene	112	116	109	98.2	106
Dibutylchlorodate	101	99.5	89.2	108	89.8

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Page Number : 3 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1029394

Compound	CAS Number	LOR	Client sample ID																																														
			Client sampling date / time	Unit																																													
Sub-Matrix: SOIL																																																	
EA/ED: Physical and Aggregate Properties																																																	
EA055: Moisture Content (dried @ 103°C)		0.1		%																																													
EG: Metals and Major Cations																																																	
EG020: Lead	7439-92-1	1		mg/kg																																													
EP-075B: Polycyclic Aromatic Hydrocarbons (PAHs)																																																	
Benzo(a)pyrene	50-32-8	0.5		mg/kg																																													
EP-066: Polychlorinated Biphenyls																																																	
Total Polychlorinated biphenyls																																																	
EP-075S: Acid Extractable Surrogates		0.1		mg/kg																																													
2-Fluorophenol	367-12-4	0.1		%																																													
Phenol-d6	13127-88-3	0.1		%																																													
2,4,6-Tribromophenol	118-79-6	0.1		%																																													
EP-075T: Base/Neutral Extractable Surrogates																																																	
Nitrobenzene -d5	4165-90-0	0.1		%																																													
2-Fluorobiphenyl	321-60-8	0.1		%																																													
4-Terphenyl-d14	1718-51-0	0.1		%																																													
EP-066S: PCB Surrogate																																																	
Tetrachlorometaxylene	877-09-8	0.1		%																																													
Dibutylchlorodate	1770-80-5	0.1		%																																													
<table border="1"> <thead> <tr> <th>Client sample ID</th> <th>G15-2.5 B1</th> <th>G15-2.5 B2</th> </tr> <tr> <th>[10-DEC-2010]</th> <th>[10-DEC-2010]</th> <th>[10-DEC-2010]</th> </tr> </thead> <tbody> <tr> <td>HK1029394-006</td> <td>HK1029394-007</td> <td>HK1029394-008</td> </tr> <tr> <td>16.6</td> <td>13.2</td> <td>24.2</td> </tr> <tr> <td></td> <td>131</td> <td>55</td> </tr> <tr> <td>&lt;0.5</td> <td></td> <td></td> </tr> <tr> <td>&lt;0.1</td> <td></td> <td></td> </tr> <tr> <td>69.0</td> <td></td> <td></td> </tr> <tr> <td>67.5</td> <td></td> <td></td> </tr> <tr> <td>57.5</td> <td></td> <td></td> </tr> <tr> <td>67.4</td> <td></td> <td></td> </tr> <tr> <td>68.2</td> <td></td> <td></td> </tr> <tr> <td>101</td> <td></td> <td></td> </tr> <tr> <td>99.2</td> <td></td> <td></td> </tr> <tr> <td>118</td> <td></td> <td></td> </tr> </tbody> </table>					Client sample ID	G15-2.5 B1	G15-2.5 B2	[10-DEC-2010]	[10-DEC-2010]	[10-DEC-2010]	HK1029394-006	HK1029394-007	HK1029394-008	16.6	13.2	24.2		131	55	<0.5			<0.1			69.0			67.5			57.5			67.4			68.2			101			99.2			118		
Client sample ID	G15-2.5 B1	G15-2.5 B2																																															
[10-DEC-2010]	[10-DEC-2010]	[10-DEC-2010]																																															
HK1029394-006	HK1029394-007	HK1029394-008																																															
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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Unit	Original Result	Duplicate Result	
<b>EAIED: Physical and Aggregate Properties (QC Lot: 1599972)</b>								
HK1029345-004	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	16.2	14.7	9.5	
HK1029474-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	10.6	11.1	3.8	
<b>EG: Metals and Major Cations (QC Lot: 1601752)</b>								
HK1029401-001	Anonymous	EG020: Lead	7439-92-1	1	19	20	0.0	
HK1029529-002	Anonymous	EG020: Lead	7439-92-1	1	16	15	7.4	
HK1029980-001	Anonymous	Benzo(a)pyrene	50-32-8	0.5	<0.5	<0.5	0.0	
HK1029394-001	G16-2.5 B1	Total Polychlorinated biphenyls (QC Lot: 1598681)		0.1	<0.1	<0.1	0.0	

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

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report						
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Value	Control Limit
<b>Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report</b>											
EG: Metals and Major Cations (QC Lot: 1601752)											
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	92.7	85	115			
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1598677)</b>											
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.25 mg/kg	85.1	55	107			
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1598681)</b>											
Total Polychlorinated biphenyls			mg/kg	<0.1	0.5 mg/kg	136	35	141			

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
					MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit	
<b>Matrix: SOIL</b>											
EG: Metals and Major Cations (QC Lot: 1601752)											
HK1029394-001	G16-2.5 B1	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	75	125				

**Surrogate Control Limits**

Sub-Matrix: SOIL	Compound	CAS Number	Recovery Limits (%)	
			Low	High
<b>EP-075S: Acid Extractable Surrogates</b>				
	2-Fluorophenol	367-12-4	25	121
	Phenol-d6	13127-88-3	24	113
	2,4,6-Tribromophenol	118-79-6	20	122

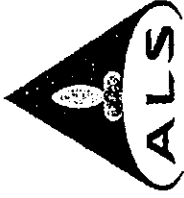




Page Number : 5 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1029394

Sub-Matrix: SOIL Compound	CAS Number	Recovery Limits (%)	
		Low	High
EP-075T: Base/Neutral Extractable Surrogates			
Nitrobenzene -d5	4165-60-0	23	120
2-Fluorobiphenyl	321-60-8	30	115
4-Terphenyl-d14	1718-51-0	20	137
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchloroendate	1770-80-5	50	130

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1100931
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 11-JAN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 20-JAN-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ----	Quote number	: ----	No. of samples analysed	: 1
Order number	: ----				
C-O-C number	: H009466				
Site	: ----				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

14-JAN-2011

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: HK1100931

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

B3-64

ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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Page Number : 2 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1100931

**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID	
		Client sampling date / time	Unit
EA/ED: Physical and Aggregate Properties			
EA055: Moisture Content (dried @ 103°C)	---	0.1	%
EG: Metals and Major Cations			
EG020: Lead	7439-92-1	1	mg/kg
			464

G15-3.0 E1  
 [10-JAN-2011]  
 HK1100931-001

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1100931

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report				
Method	Compound	CAS Number	LOR	Unit	Duplicate Result	Original Result	Value	High	Control Limit	RPD (%)
<b>EJED: Physical and Aggregate Properties (QC Lot: 1630889)</b>										
EA055	Molsture Content (dried @ 103°C)		0.1	%	23.7	27.1	23.7			13.4
EA055	Molsture Content (dried @ 103°C)		0.1	%	45.1	49.4	45.1			9.1
<b>EG: Metals and Major Cations (QC Lot: 1630841)</b>										
EG020	Lead	7439-92-1	1	mg/kg	25	27	25			7.4

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Method	Compound	CAS Number	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG	Metals and Major Cations (QC Lot: 1630841)	7439-92-1	<1	5 mg/kg	88.3				85	115		
EG020	Lead	7439-92-1	<1	5 mg/kg								

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

Laboratory sample ID		Client sample ID		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Method	Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit	RPD (%)
EG	Metals and Major Cations (QC Lot: 1630841)	7439-92-1	5 mg/kg	81.2			75	125			
EG020	Lead	7439-92-1	5 mg/kg								

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1101871
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 21-JAN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 28-JAN-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ---	Quote number	: ---	No. of samples analysed	: 1
Order number	: ---				
C-O-C number	: H009468				
Site	: KCIP				

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

26-JAN-2011

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: HK1101871

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signalories  
Fung Lim Chee, Richard

Position

General Manager

Authorised results for  
Inorganics

B3-67

**ALS Laboratory Group**  
**ALS Technichem (HK) Pty Ltd**

Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	Client sampling date / time		Client sample ID
		LOR	Unit	
<b>EAIED: Physical and Aggregate Properties</b>				
EA055: Moisture Content (dried @ 103°C)		0.1	%	15.4
<b>EG: Metals and Major Cations</b>				
EG020: Lead	7439-92-1	1	mg/kg	33

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**Laboratory Duplicate (DUP) Report**

Matrix: SOIL		Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1644730)</b>							
HK1101871-001	G15-7.5 E1	EA055: Moisture Content (dried @ 103°C)	0.1	%	15.4	15.7	2.1
HK1101970-008	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	13.9	14.4	3.5
<b>EG: Metals and Major Cations (QC Lot: 1644744)</b>							
HK1101957-001	Anonymous	EG020: Lead	1	mg/kg	17	16	11.1

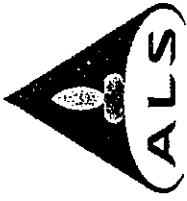
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

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	LCS	DCS	Recovery Limits (%)	Value	RPD (%)
EG: Metals and Major Cations (QC Lot: 1644744)	7439-92-1	1	mg/kg	<1	5 mg/kg	88.4	---	85	115	---
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	88.4	---	85	115	---

**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	MS	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1644744)	G15-7.5 E1	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	---	75	125	---
HK1101871-001	G15-7.5 E1	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	---	75	125	---

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1101957
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 22-JAN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 28-JAN-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ----	Quote number	: ----	No. of samples analysed	: 1
Order number	: ----				
S-O-C number	: H009469				
Site	: KCIP				

#### General Comments

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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: HK1101957

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories	: Fung Lim Chee, Richard	Position	: General Manager	Authorised results for	: Inorganics
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**Analytical Results**

Compound	CAS Number	Client sample ID	
		LOR	Unit
Sub-Matrix: SOIL			
EATED: Physical and Aggregate Properties		G15-7.0 B1	
EA055: Moisture Content (dried @ 103°C)		[22-JAN-2011]	
EG: Metals and Major Cations		HK1101957-001	
EG020: Lead	7439-92-1	1	17
		0.1	%
			17.8

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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report					
			CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1644730)</b>								
HK1101871-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	15.4	15.7	2.1
HK1101970-008	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	13.9	14.4	3.5
<b>EG: Metals and Major Cations (QC Lot: 1644744)</b>								
HK1101957-001	G15-7.0 B1	EG020: Lead	7439-92-1	1	mg/kg	17	16	11.1

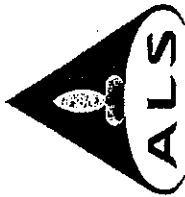
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High
<b>EG: Metals and Major Cations (QC Lot: 1644744)</b>											
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	88.4	---	85	115	---	---

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
					MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High
<b>EG: Metals and Major Cations (QC Lot: 1644744)</b>										
HK1101871-001	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	---	75	125	---	---

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1101959
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 22-JAN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 28-JAN-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ---	Quote number	: ---	No. of samples analysed	: 1
Order number	: ---				
C-O-C number	: H009470				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 26-JAN-2011

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: HK1101959

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories	Position	Authorised results for
Fung Lim Chee, Richard	General Manager	Inorganics

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**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID	
		Client sampling date / time	Unit
EA1ED: Physical and Aggregate Properties			
EA055: Moisture Content (dried @ 103°C)	0.1	19.4	%
EG: Metals and Major Cations			
EG020: Lead	7439-92-1	1	mg/kg
			18

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### Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report				
			LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1644730)</b>							
HK1101871-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	15.4	15.7	2.1
HK1101970-008	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	13.9	14.4	3.5
<b>EG: Metals and Major Cations (QC Lot: 1644744)</b>							
HK1101957-001	Anonymous	EG020: Lead	1	mg/kg	17	16	11.1

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

Method: Compound	CAS Number	LOR	Unit	Result	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1644744)	7439-92-1	1	mg/kg	<1	5 mg/kg	88.4	---	85	115	---	---	---	---

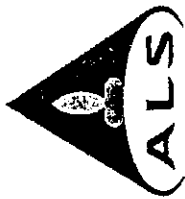
### Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
					MS	MSD	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 1644744)	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	---	75	125	---

83-75

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Contact : MR PENG FENG LI  
Address : RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD,  
NORTH POINT,  
HONG KONG  
E-mail : eokcip@hotmail.com  
Telephone : +852 2408 1173  
Facsimile : ----  
Project : ----  
Order number : ----  
C-O-C number : H009472  
Site : KCIP

Laboratory : ALS Technichem HK Pty Ltd  
Contact : Chan Kwok Fai, Godfrey  
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing  
Yip Street,  
Kwai Chung, N.T., Hong Kong  
E-mail : Godfrey.Chan@alsenviro.com  
Telephone : +852 2610 1044  
Facsimile : +852 2610 2021  
Quote number : ----

Page : 1 of 3  
Work Order : HK1102997

Date Samples Received : 09-FEB-2011  
Issue Date : 17-FEB-2011  
No. of samples received : 3  
No. of samples analysed : 3

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

16-FEB-2011

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: HK1102997

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

**ALS Laboratory Group**  
**ALS Technichem (HK) Pty Ltd**

Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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B3-76



**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID		G15-3.0E2	G15-2.5B2 (A)
			Client sampling date / time	Unit		
EAJED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)	---	0.1	%	35.2	29.8	10.9
EG: Metals and Major Cations						
EG020: Lead	7439-92-1	1	mg/kg	415	447	39

B3-77



Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1102997

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EAIED: Physical and Aggregate Properties (QC Lot: 1666027)</b>								
HK1102997-001	G15-3.0E4	EA055: Moisture Content (dried @ 103°C)		0.1	%	35.2	31.9	9.7
HK1103066-020	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	74.1	74.2	0.0
<b>EG: Metals and Major Cations (QC Lot: 1667851)</b>								
HK1102997-002	G15-3.0E2	EG020: Lead	7439-92-1	1	mg/kg	447	543	19.4
HK1103128-004	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	46	47	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1667851)	7439-92-1	1	mg/kg	<1	5 mg/kg	85.5	85	115					
EG020: Lead													

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
					Spike Recovery (%)	Recovery Limits (%)	Value	
EG: Metals and Major Cations (QC Lot: 1667851)	G15-3.0E4	EG020: Lead	7439-92-1	5 mg/kg	MSD	Low	High	Control Limit
HK1102997-001	G15-3.0E4	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	75	125	

B3-7B



# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1103658
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 16-FEB-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 25-FEB-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ----	Quote number	: ----	No. of samples analysed	: 1
Order number	: ----				
C-O-C number	: H009473				
Site	: KCIP				

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

23-FEB-2011

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: HK1103658

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by In-house method EG-3051A based on USEPA method 3051a, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

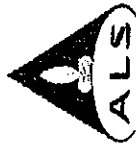
Inorganics

B3-79

**ALS Laboratory Group**  
**ALS Technichem (HK) Pty Ltd**

Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2810 2021 www.alsenviro.com

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Analytical Results

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EAJED: Physical and Aggregate Properties			G15-3.0 E3	
EA055: Moisture Content (dried @ 103°C)	—	0.1	[16-FEB-2011]	
EG: Metals and Major Cations			HK1103668-001	
EG020: Lead	7439-92-1	1		27.6
				250

B3-80



**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report			RPD (%)
					Unit	Original Result	Duplicate Result	
<b>EATED: Physical and Aggregate Properties (QC Lot: 1674163)</b>								
HK1103657-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	21.6	21.2	2.0
HK1103655-003	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	44.6	46.0	3.0
<b>EG: Metals and Major Cations (QC Lot: 1677054)</b>								
HK1103659-001	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	39	40	0.0

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

Method Blank (MB) Report						Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
CAS Number	LOR	Unit	Result	Spike Concentration	Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
7439-92-1	1	mg/kg	<1	5 mg/kg	97.0				85	115			

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
					MS	MSD	Recovery Limits (%)	RPD (%)	
EG: Metals and Major Cations (QC Lot: 1677054)	G15-3.0 E3	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined		75	125	

B3-81



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1103913
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 18-FEB-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 25-FEB-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ---	Quote number	: ---	No. of samples analysed	: 1
Order number	: ---				
C-O-C number	: H009474				
Site	: KCIP				

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

23-FEB-2011

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: HK1103913

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition. Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

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Signatories

Fung Lim Chee, Richard

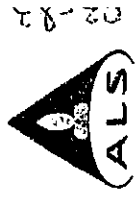
Position

General Manager

Authorised results for

Inorganics

B3-82



Page Number : 2 of 3

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1103913

**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	Client sample ID	
		LOR	Unit
EA/ED: Physical and Aggregate Properties			
EA055: Moisture Content (dried @ 103°C)	---	0.1	%
EG: Metals and Major Cations			
EG020: Lead	7439-92-1	1	mg/kg
			20

G15-7.5 E2

[18-FEB-2011]

HK1103913-001

29.2

20

B3-B3



Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1103913

**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>EATED: Physical and Aggregate Properties (QC Lot: 1676325)</b>								
HK1103822-001	Anonymous	EA056: Moisture Content (dried @ 103°C)		0.1	%	20.8	20.0	4.0
HK1103906-006	Anonymous	EA056: Moisture Content (dried @ 103°C)		0.1	%	12.0	11.6	2.8

**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	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1679019)	7439-92-1	1	mg/kg	<1	5 mg/kg	104				85	115		
EG020: Lead													

**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	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations (QC Lot: 1679019)	G15-7.5 E2	EG020: Lead	7439-92-1	5 mg/kg	115			75	125		
HK1103913-001											

B3-84



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1111963
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 26-MAY-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 14-JUN-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 10
Project	: ----	Quote number	: ----	No. of samples analysed	: 6
Order number	: ----				
C-O-C number	: H013579				
Site	: KCIP				

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

30-MAY-2011

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: HK1111963

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method EG-3051A based on USEPA method 3051a, prior to the determination of metals.

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<b>Signatories</b>	<b>Position</b>	<b>Authorised results for</b>
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

B3-85

98-4



Page Number : 2 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1111963

**Analytical Results**

Sub-Matrix: SOIL

Client sample ID  
 Client sampling date / time  
 CAS Number LOR Unit

EAJED: Physical and Aggregate Properties

EA055: Moisture Content (dried @ 103°C)

EG: Metals and Major Cations

EG020: Copper

EG020: Lead

G14-3.0E4 [26-MAY-2011] HK1111963-005	G14-2.5D1 [26-MAY-2011] HK1111963-006	G15-7.5E4 [26-MAY-2011] HK1111963-007	G15-7.0D2 [26-MAY-2011] HK1111963-008	G15-2.5D2 [26-MAY-2011] HK1111963-009
12.3	16.9	32.9	22.5	12.9
10.6	7.48	---	---	---
136	193	61.1	10.8	147

B3-86

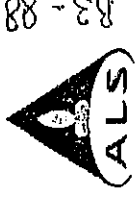




Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1111963

Compound	CAS Number	Client sample ID		LOR	Unit	Surrogate control limits listed at end of this report.
		Client sampling date / time				
Sub-Matrix: SOIL						
EA/JED: Physical and Aggregate Properties						
EA055: Moisture Content (dried @ 103°C)	---	0.1	%	37.6		
EP-066: Polychlorinated Biphenyls						
Total Polychlorinated biphenyls	---	0.1	mg/kg	<0.1		
EP-066S: PCB Surrogate						
Tetrachlorometaxylene	877-09-8	0.1	%	114		
Dibutylchlorendate	1770-80-5	0.1	%	84.6		

B3-87



**Laboratory Duplicate (DUP) Report**

Matrix: SOIL		Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	CAS Number	Unit	LOR	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1809277)</b>							
HK111881-011	Anonymous			0.1	38.1	38.0	0.0
HK111963-006	G14-2.5D1		%	0.1	16.9	16.4	3.1
<b>EG: Metals and Major Cations (QC Lot: 1811075)</b>							
HK111963-006	G14-2.5D1	7440-50-8	mg/kg	0.05	7.48	7.46	0.2
		7439-92-1	mg/kg	0.05	193	186	3.8
EP-066: Polychlorinated Biphenyls (QC Lot: 1808576)							
HK111963-010	G12-4.0B2		mg/kg	0.1	<0.1	<0.1	0.0

**Method Blank (MB), 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	Recovery Limits (%)	DCS	Recovery Limits (%)	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1811075)</b>										
EG020: Copper	7440-50-8	0.05	mg/kg	<0.05	5 mg/kg	89.9		85	115	
EG020: Lead	7439-92-1	0.05	mg/kg	<0.05	5 mg/kg	101		85	115	
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1808576)</b>										
Total Polychlorinated biphenyls			mg/kg	<0.1	0.5 mg/kg	101		39	158	

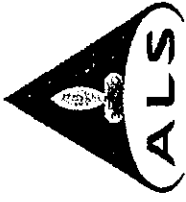
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix: SOIL		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)
<b>EG: Metals and Major Cations (QC Lot: 1811075)</b>								
HK111963-005	G14-3.0E4	EG020: Copper	7440-50-8	5 mg/kg	90.6		75	125
		EG020: Lead	7439-92-1	5 mg/kg	# Not Determined		75	125

**Surrogate Control Limits**

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP-066: PCB Surrogate			
Tetrachlorometylene	877-09-8	50	130
Dibutylchlorendate	1770-80-5	50	130

B3-88



### CERTIFICATE OF ANALYSIS

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Contact : MR PENG FENG LI  
Address : RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD,  
NORTH POINT,  
HONG KONG  
E-mail : eokcip@hotmail.com  
Telephone : +852 2408 1173  
Facsimile :  
Project :  
Order number :  
C-O-C number : H009976  
Site : KCIP

Laboratory : ALS Technichem HK Pty Ltd  
Contact : Chan Kwok Fai, Godfrey  
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing  
Yip Street Kwai Chung, N.T., Hong Kong  
E-mail : Godfrey.Chan@alsenviro.com  
Telephone : +852 2610 1044  
Facsimile : +852 2610 2021  
Quote number :  
Date Samples Received : 19-JUL-2011  
Issue Date : 28-JUL-2011  
No. of samples received : 4  
No. of samples analyzed : 4

Page : 1 of 3  
Work Order : HK1116620

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:  
27-JUL-2011

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: HK1116620

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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Signatories

Fung Lim Chee, Richard

Authorised results for

Inorganics

B3-89



**Analytical Results**

Sub-Matrix: SOIL

Compound	CAS Number	LOR	Client sample ID			
			Client sampling date / time	Unit		
EA055: Moisture Content (dried @ 103°C)	---	0.1	G14-7.5E3 [19-JUL-2011] HK1116620-001	28.7		
			G15-7.5E3 [19-JUL-2011] HK1116620-002	34.8		
EG: Metals and Major Cations	7439-92-1	1	G15-2.5D1 [19-JUL-2011] HK1116620-003	17.0		
			G15-7.0D1 [19-JUL-2011] HK1116620-004	32.8		
EG020: Lead			146	89	56	151

B3-90



**Laboratory Duplicate (DUP) Report**

Matrix: SOIL	Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1885588)</b>								
	HK1116620-001	G14-7.5E3	EA055: Moisture Content (dried @ 103°C)	0.1	%	28.7	28.4	1.0
	HK1116843-007	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	18.3	18.4	1.0
<b>EG: Metals and Major Cations (QC Lot: 1887181)</b>								
	HK1116620-003	G15-2.5D1	EG020: Lead	1	mg/kg	56	51	8.4

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

Matrix: SOIL	Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
						Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Value	Control Limit
	EG: Metals and Major Cations (QC Lot: 1887181)	7439-92-1	1	mg/kg	<1	5 mg/kg	97.7	85	115	---	---	---
	EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	97.7	85	115	---	---	---

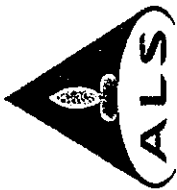
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix: SOIL	Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
						Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit	
	EG: Metals and Major Cations (QC Lot: 1887181)	G14-7.5E3	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	75	125	---	---	---
	HK1116620-001	G14-7.5E3	EG020: Lead	7439-92-1	5 mg/kg	# Not Determined	75	125	---	---	---

B3-91

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Contact : MR PENG FENG LI  
Address : RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD,  
NORTH POINT,  
HONG KONG  
E-mail : eokcip@hotmail.com  
Telephone : +852 2408 1173  
Facsimile : ---  
Project : ---  
Order number : ---  
C-O-C number : H009462  
Site : KCIP

Laboratory : ALS Technichem HK Pty Ltd  
Contact : Chan Kwok Fai, Godfrey  
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing  
Yip Street,  
Kwai Chung, N.T., Hong Kong  
E-mail : Godfrey.Chan@alsenviro.com  
Telephone : +852 2610 1044  
Facsimile : +852 2610 2021  
Quote number : ---

Page : 1 of 5  
Work Order : HK1029394

Date Samples Received : 10-DEC-2010  
Issue Date : 24-DEC-2010  
No. of samples received : 8  
No. of samples analysed : 8

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

22-DEC-2010

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: HK1029394

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by in-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

#### Signatories

Anh Ngoc Huynh  
Fung Lim Chee, Richard

#### Position

Senior Chemist  
General Manager

#### Authorised results for

Organics  
Inorganics

B3-92

**ALS Laboratory Group**

Trading Name: **ALS Technichem (HK) Pty Ltd**  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



**Analytical Results**

Compound	CAS Number	LOR	Unit	G16-2.5 B1 [10-DEC-2010] HK1029394-001	G16-2.5 D1 [10-DEC-2010] HK1029394-002	G16-3.0 E1 [10-DEC-2010] HK1029394-003	G16-3.0 E2 [10-DEC-2010] HK1029394-004	G16-2.5 A1 [10-DEC-2010] HK1029394-005
Sub-Matrix: SOIL Client sample ID								
Client sampling date / time								
EA/ED: Physical and Aggregate Properties								
EA055: Moisture Content (dried @ 103°C)	—	0.1	%	11.9	5.8	21.3	24.6	17.7
EG: Metals and Major Cations								
EG020: Lead	7439-92-1	1	mg/kg	60	93	61	43	—
EP-075B: Polyaromatic Hydrocarbons (PAHs)								
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5
EP-066: Polychlorinated Biphenyls								
Total Polychlorinated biphenyls	—	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1
EP-075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	0.1	%	71.6	84.9	76.7	59.2	71.6
Phenol-d6	13127-88-3	0.1	%	71.4	84.0	73.6	61.8	67.4
2,4,6-Tribromophenol	118-79-6	0.1	%	39.2	52.0	50.7	56.5	47.4
EP-075T: Base/Neutral Extractable Surrogates								
Nitrobenzene -d5	4165-60-0	0.1	%	71.6	85.7	74.4	58.2	69.1
2-Fluorobiphenyl	321-60-8	0.1	%	71.5	81.4	71.6	60.4	65.6
4-Terphenyl-d14	1718-51-0	0.1	%	101	99.5	90.7	97.8	99.6
EP-066S: PCB Surrogate								
Tetrachlorometaxylene	877-09-8	0.1	%	112	116	109	98.2	106
Dibutylchlorodate	1770-80-5	0.1	%	101	99.5	89.2	108	89.8

83-93

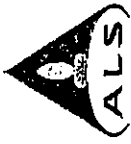


Page Number : 3 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1029394

Sub-Matrix: SOIL	Client sample ID		Client sampling date / time	
Compound	CAS Number	LOR	Unit	Unit
<b>EA/ED: Physical and Aggregate Properties</b>				
EA055: Moisture Content (dried @ 103°C)	—	0.1	%	24.2
<b>EG: Metals and Major Cations</b>				
EG020: Lead	7439-92-1	1	mg/kg	55
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs)</b>				
Benzo(a)pyrene	50-32-8	0.5	mg/kg	—
<b>EP-068: Polychlorinated Biphenyls</b>				
Total Polychlorinated biphenyls	—	0.1	mg/kg	—
<b>EP-075S: Acid Extractable Surrogates</b>				
2-Fluorophenol	367-12-4	0.1	%	69.0
Phenol-d6	13127-88-3	0.1	%	67.5
2,4,6-Tribromophenol	118-79-6	0.1	%	67.5
<b>EP-075T: Base/Neutral Extractable Surrogates</b>				
Nitrobenzene -d5	4165-60-0	0.1	%	67.4
2-Fluorobiphenyl	321-60-8	0.1	%	66.2
4-Terphenyl-d14	1718-51-0	0.1	%	101
<b>EP-068S: PCB Surrogate</b>				
Tetrachlorometaxylene	877-09-8	0.1	%	99.2
Dibutylchlorodate	1770-80-5	0.1	%	118

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**Laboratory Duplicate (DUP) Report**

Matrix: SOIL		Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Duplicate Result	RPD (%)
<b>EATED: Physical and Aggregate Properties (QC Lot: 1599972)</b>						
HK1029345-004	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	14.7	9.5
HK1029474-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	11.1	3.8
<b>EG: Metals and Major Cations (QC Lot: 1601752)</b>						
HK1029401-001	Anonymous	EG020: Lead	1	mg/kg	20	0.0
HK1029529-002	Anonymous	EG020: Lead	1	mg/kg	15	7.4
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1598677)</b>						
HK1028980-001	Anonymous	Benzo(a)pyrene	0.5	mg/kg	<0.5	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1598681)</b>						
HK1029394-001	G16-2.5 B1	Total Polychlorinated biphenyls	0.1	mg/kg	<0.1	0.0

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

Matrix: SOIL		Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	DCS	Recovery Limits (%)	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1601752)</b>										
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	92.7	85	115	---	---
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1598677)</b>										
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.25 mg/kg	85.1	55	107	---	---
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1598681)</b>										
Total Polychlorinated biphenyls	---	0.1	mg/kg	<0.1	0.5 mg/kg	136	35	141	---	---

**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	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit
<b>EG: Metals and Major Cations (QC Lot: 1601752)</b>								
HK1029394-001	G16-2.5 B1	EG020: Lead	5 mg/kg	75	125	---	---	---

**Surrogate Control Limits**

Compound	CAS Number	Low	High	Recovery Limits (%)
EP-075B: Acid Extractable Surrogates	---	---	---	---
2-Fluorophenol	367-12-4	25	121	---
Phenol-d6	13127-98-3	24	113	---
2,4,6-Tribromophenol	118-79-6	20	122	---

B3-95



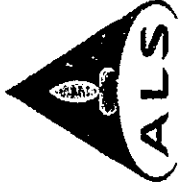
Page Number : 5 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1029394

Compound	CAS Number	Recovery Limits (%)	
		Low	High
Sub-Matrix: SOIL			
EP-075T: Base/Neutral Extractable Surrogates			
Nitrobenzene -d5	4165-60-0	23	120
2-Fluorobiphenyl	321-60-8	30	115
4-Terphenyl-d14	1718-51-0	20	137
EP-066S: PCB Surrogate			
Tetrachlorometylene	877-09-8	50	130
Dibutylchloroendate	1770-80-5	50	130

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Laboratory : ALS Technichem HK Pty Ltd Page : 1 of 4

Contact : MR PENG FENG LI  
Contact : Chan Kwok Fai, Godfrey Work Order : HK1031208

Address : RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD,  
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HONG KONG  
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing  
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E-mail : eokcip@hotmail.com  
E-mail : Godfrey.Chan@alsenviro.com  
Telephone : +852 2408 1173  
Telephone : +852 2610 1044  
Facsimile :  
Facsimile : +852 2610 2021  
Quote number : ---

Project :  
Date Samples Received : 31-DEC-2010  
Order number :  
Issue Date : 14-JAN-2011  
C-O-C number : H009464  
No. of samples received : 2  
Site : KCIP  
No. of samples analysed : 2

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

06-JAN-2011

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: HK1031208

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Soil sample(s) as received, digested by In-house method E-ASTM D3974-81 based on ASTM D3974-81, prior to the determination of metals.

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics

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**ALS Laboratory Group**  
**ALS Technichem (HK) Pty Ltd**

Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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**Analytical Results**

Compound	Client sample ID		G16-2.5 (BOUNDARY) -1 [30-DEC-2010] HK1031208-001	G16-2.5 (BOUNDARY) -2 [30-DEC-2010] HK1031208-002
	CAS Number	Unit		
Sub-Matrix: SOIL				
EAJED: Physical and Aggregate Properties				
EA055: Moisture Content (dried @ 103°C)	—	0.1	41.5	46.1
EG: Metals and Major Cations				
EG020: Lead	7439-92-1	1	364	767
EP-071: Total Petroleum Hydrocarbons (TPH)				
C8 - C9 Fraction	—	2	<2	<2
C10 - C14 Fraction	—	50	300	538
C15 - C28 Fraction	—	100	2150	5660
C29 - C36 Fraction	—	100	1150	2330
EP-075B: Polyaromatic Hydrocarbons (PAHs)				
Benzo(a)pyrene	50-32-8	0.5	0.6	1.5
EP-066: Polychlorinated Biphenyls				
Total Polychlorinated biphenyls	—	0.1	<0.1	<0.1
EP-080S: TPH(Volatile)/BTEX Surrogate				
Dibromofluoromethane	1868-53-7	0.1	90.6	88.3
Toluene-D8	2037-26-5	0.1	92.2	93.4
4-Bromofluorobenzene	460-00-4	0.1	106	106
EP-075S: Acid Extractable Surrogates				
2-Fluorophenol	367-12-4	0.1	92.8	73.2
Phenol-d6	13127-88-3	0.1	90.7	76.8
2,4,6-Tribromophenol	118-79-6	0.1	120	118
EP-075T: Base/Neutral Extractable Surrogates				
Nitrobenzene -d5	4165-60-0	0.1	89.3	79.3
2-Fluorobiphenyl	321-60-8	0.1	95.9	77.4
4-Terphenyl-d14	1718-51-0	0.1	117	91.4
EP-066S: PCB Surrogate				
Tetrachlorometaxylene	877-09-8	0.1	116	113
Dibutylchlorodate	1770-80-5	0.1	83.5	72.6

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Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1031208

### Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1621124)</b>								
HK1031187-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	15.9	15.4	3.3
HK1100022-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	45.7	43.6	4.8
<b>EG: Metals and Major Cations (QC Lot: 1621658)</b>								
HK1031104-002	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	24	22	5.2
HK1031118-002	Anonymous	EG020: Lead	7439-92-1	1	mg/kg	30	30	0.0
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1618822)</b>								
HK1030995-009	Anonymous	C6 - C9 Fraction		2	mg/kg	<2	<2	0.0
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1619856)</b>								
HK1031208-001	C16-2.5 (BOUNDARY)-1	C15 - C28 Fraction		100	mg/kg	2150	1930	10.5
		C29 - C36 Fraction		100	mg/kg	1150	1200	3.9
		C10 - C14 Fraction		50	mg/kg	300	298	0.7
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1619857)</b>								
HK1031208-001	C16-2.5 (BOUNDARY)-1	Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.6	0.6	0.0
<b>EP-086: Polychlorinated Biphenyls (QC Lot: 1616269)</b>								
HK1030653-012	Anonymous	Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	<0.1	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
					Spike Concentration	LCS	Spike Recovery (%)	Recovery Limits (%)	
<b>EG: Metals and Major Cations (QC Lot: 1621658)</b>									
EG020: Lead	7439-92-1	1	mg/kg	<1	5 mg/kg	93.4	85	115	—
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1618822)</b>									
C6 - C9 Fraction		2	mg/kg	<2	4 mg/kg	87.2	86	129	—
<b>EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1619856)</b>									
C10 - C14 Fraction		50	mg/kg	<50	16 mg/kg	110	56	118	—
C15 - C28 Fraction		100	mg/kg	<100	53 mg/kg	111	53	121	—
C29 - C36 Fraction		100	mg/kg	<100	45 mg/kg	111	45	118	—
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1619857)</b>									
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	0.25 mg/kg	87.0	55	107	—
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1616269)</b>									
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	96.9	35	141	—

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

Matrix: SOIL	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)

BB-99



Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report		Value RPD (%Control Limit)
					MS Spike Recovery (%)	Recovery Limits (%)	
EG: Metals and Major Cations (QC Lot: 1621658)							
HK1031104-001	Anonymous	EG020: Lead	7439-92-1	5 mg/kg	105	75	125
EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1618822)							
HK1030995-010	Anonymous	C8 - C9 Fraction	—	4 mg/kg	75.3	50	130
EP-071: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1619856)							
HK1031208-002	G16-2.5 (BOUNDARY)-2	C10 - C14 Fraction	—	16 mg/kg	—	50	130
		C15 - C28 Fraction	—	58 mg/kg	—	50	130
		C29 - C36 Fraction	—	45 mg/kg	—	50	130

**Surrogate Control Limits**

Compound	CAS Number	Recovery Limits (%)	
		Low	High
Sub-Matrix: SOIL			
EP-080S: TPH(Volatile)/BTEX Surrogate			
Dibromofluoromethane	1868-53-7	80	120
Toluene-D8	2037-26-5	81	117
4-Bromofluorobenzene	480-00-4	74	121
EP-075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2,4,6-Tribromophenol	118-79-6	20	122
EP-075T: Base/Neutral Extractable Surrogates			
Nitrobenzene -d8	4165-80-0	23	120
2-Fluorobiphenyl	321-80-8	30	115
4-Terphenyl-d14	1718-51-0	20	137
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorodate	1770-80-5	50	130

BS-100

## Appendix C

### **Analytical results of laboratory test for closure assessment (including QA/QC samples)**

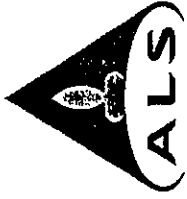
# Appendix C1

## Biopile No. 1

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0,





### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 6
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK11115262
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	Amendment	: 1
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 06-JUL-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Issue Date	: 20-JUL-2011
Project	: ----	Quote number	: ----	No. of samples received	: 8
Order number	: ----			No. of samples analysed	: 8
C-O-C number	: H009968				
Site	: KCIP				

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics
Leung Sai Ho, Ivan	Supervisor	Microbiology



Page Number : 2 of 6  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1115262, Amendment 1

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 18-JUL-2011

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: HK1115262

- pH value and Nitrate+Nitrite as N are determined and reported on a 1:5 soil / water extract.
- Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.
- Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.
- Total Nitrogen is the sum of Total Oxidizable and Total Kjeldahl Nitrogen.
- Sample(s) were arrived in the laboratory at 13:00. Microbiological sample(s), in glass bottles, were received in a chilled condition. Testing period : 07/07/2011 (10:00) - 12/07/2011

CI-2



**Analytical Results**

Compound	CAS Number	Client sample ID		Unit	Client sampling date / time	B1-C1 (0.5-1.0) [05-JUL-2011] HK1115262-001	B1-C1 (1.0-1.5) [05-JUL-2011] HK1115262-002	B1-C1 (1.5-2.0) [05-JUL-2011] HK1115262-003	B1-C1 (2.0-2.5) [05-JUL-2011] HK1115262-004	B1-C2 (0.5-1.0) [05-JUL-2011] HK1115262-005
		LOR	Unit							
<b>EA/ED: Physical and Aggregate Properties</b>										
EA002: pH Value	—	0.1	pH Unit	8.3	8.2	8.4	8.4	8.4	8.4	9.2
EA055: Moisture Content (dried @ 103°C)	—	0.1	%	8.8	18.5	13.9	10.2	10.2	10.2	10.4
<b>ED/IEK: Inorganic Nonmetallic Parameters</b>										
EK059A: Nitrite + Nitrate as N (Sol.)	—	0.1	mg/kg	0.8	0.9	0.9	1.4	1.4	1.4	1.8
EK061A: Total Kjeldahl Nitrogen as N	—	20	mg/kg	60	110	160	80	80	80	80
EK062A: Total Nitrogen as N	—	20	mg/kg	60	120	160	80	80	80	80
EK067A: Total Phosphorus as P	—	20	mg/kg	100	310	220	160	160	160	220
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH)</b>										
C6 - C8 Fraction	—	5	mg/kg	<5	<5	<5	<5	<5	<5	<5
C9 - C16 Fraction	—	200	mg/kg	<200	<200	<200	<200	<200	<200	<200
C17 - C35 Fraction	—	500	mg/kg	<500	<500	<500	<500	<500	<500	<500
<b>EP-066: Polychlorinated Biphenyls</b>										
Total Polychlorinated biphenyls	—	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<b>EM: Microbiological Testing</b>										
EM101: Aerobic Bacteria Count	—	10	CFU/g	4900	1800	12000	7100	7100	7100	4800
EM113: Hydrocarbon Utilising Bacteria	—	10	CFU/g	10	180	90	30	30	30	20
<b>EP-080S: TPH(Volatiles)/BTX Surrogate</b>										
Dibromofluoromethane	1868-53-7	0.1	%	97.7	97.5	96.0	95.8	95.8	95.8	98.8
Toluene-D8	2037-28-5	0.1	%	99.8	99.6	100	99.8	99.8	99.8	99.5
4-Bromofluorobenzene	460-00-4	0.1	%	98.5	98.9	98.3	97.5	97.5	97.5	98.1
<b>EP-066S: PCB Surrogate</b>										
Tetrachlorometylene	877-09-9	0.1	%	106	87.4	117	85.2	85.2	85.2	88.7
Dibutylchloroendate	1770-80-5	0.1	%	120	127	103	113	113	113	116

Surrogate control limits listed at end of this report.

Surrogate control limits listed at end of this report.



Compound	CAS Number	Client sample ID		Unit
		Client sampling date / time	Client sampling date / time	
Sub-Matrix: SOIL				
EA/ED: Physical and Aggregate Properties		B1-C2 (1.0-1.5) [05-JUL-2011]	B1-C2 (1.5-2.0) [05-JUL-2011]	B1-C2 (2.0-2.5) [05-JUL-2011]
EA002: pH Value	---	7.6	7.6	8.1
EA055: Moisture Content (dried @ 103°C)	---	16.4	12.9	12.5
ED/EX: Inorganic Nonmetallic Parameters				
EK059A: Nitrite + Nitrate as N (Sol.)	---	3.7	2.1	4.1
EK061A: Total Kjeldahl Nitrogen as N	20	40	60	80
EK062A: Total Nitrogen as N	20	50	60	80
EK067A: Total Phosphorus as P	20	250	140	160
EP-071HK: Total Petroleum Hydrocarbons (TPH)				
C6 - C8 Fraction	5	<5	<5	<5
C9 - C16 Fraction	200	<200	<200	<200
C17 - C35 Fraction	500	<500	<500	<500
EP-066: Polychlorinated Biphenyls				
Total Polychlorinated biphenyls	0.1	<0.1	<0.1	<0.1
EM: Microbiological Testing				
EM101: Aerobic Bacteria Count	10	1400	2000	8200
EM113: Hydrocarbon Utilising Bacteria	10	<10	<10	20
EP-080S: TPH(Volatile)/BTEX Surrogate				
Dibromofluoromethane	1868-53-7	99.1	98.1	99.9
Toluene-D8	2037-26-5	99.6	100	99.5
4-Bromofluorobenzene	460-00-4	99.0	98.1	98.2
EP-066S: PCB Surrogate				
Tetrachlorometaxylene	677-09-8	100	97.7	102
Dibutylchlorendate	1770-80-5	112	116	111

CI-4



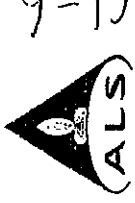
**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)
				LOR	Unit	Duplicate Result	
<b>EAJED: Physical and Aggregate Properties (QC Lot: 1866444)</b>							
HK1115262-001	B1-C1 (0.5-1.0)	EA055: Moisture Content (dried @ 103°C)		0.1	%	8.4	4.9
HK1115264-003	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	18.4	6.5
<b>EAJED: Physical and Aggregate Properties (QC Lot: 1872235)</b>							
HK1115262-002	B1-C1 (1.0-1.5)	EA002: pH Value		0.1	pH Unit	8.4	1.2
<b>EDJIEK: Inorganic Nonmetallic Parameters (QC Lot: 1866850)</b>							
HK1115387-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N		10	mg/kg	1020	16.2
<b>EDJIEK: Inorganic Nonmetallic Parameters (QC Lot: 1866851)</b>							
HK1115264-001	Anonymous	EK067A: Total Phosphorus as P		20	mg/kg	130	0.0
<b>EDJIEK: Inorganic Nonmetallic Parameters (QC Lot: 1872236)</b>							
HK1115262-006	B1-C2 (1.0-1.5)	EK059A: Nitrite + Nitrate as N (Sol)		0.1	mg/kg	3.8	0.0
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>							
HK1115262-001	B1-C1 (0.5-1.0)	C9 - C16 Fraction		200	mg/kg	<200	0.0
		C17 - C35 Fraction		500	mg/kg	<500	0.0
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>							
HK1115262-001	B1-C1 (0.5-1.0)	C6 - C8 Fraction		5	mg/kg	<5	0.0
EP-066: Polychlorinated Biphenyls (QC Lot: 1856857)	Anonymous	Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Recovery Limits (%)	Value	RPD (%)	DCS	Low	High
<b>Method Blank (MB) Report</b>											
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866850)											
EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg	<20	1000 mg/kg	96.7	85	115			
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866851)</b>											
EK067A: Total Phosphorus as P		20	mg/kg	<20	695 mg/kg	107	85	115			
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1872236)</b>											
EK059A: Nitrite + Nitrate as N (Sol)		0.1	mg/kg	<0.1	2 mg/kg	108	85	115			
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>											
C9 - C16 Fraction		200	mg/kg	<200	31 mg/kg	91.2	67	110			
C17 - C35 Fraction		500	mg/kg	<500	75 mg/kg	82.7	69	119			
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>											
C6 - C8 Fraction		5	mg/kg	<5	3 mg/kg	104	63	126			
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1856857)</b>											
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	74.3	39	158			

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

Matrix: SOIL

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
				Spike Concentration	MS	MSD	Recovery Limits (%)
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>							
HK1115262-002	B1-C1 (1.0-1.5)	C9 - C16 Fraction		31 mg/kg	78.5	50	130
		C17 - C35 Fraction		75 mg/kg	76.6	50	130
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>							
HK1115262-002	B1-C1 (1.0-1.5)	C6 - C8 Fraction		3 mg/kg	103	50	130

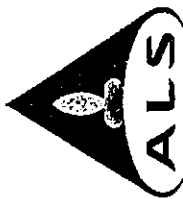
Surrogate Control Limits

Compound	CAS Number	Recovery Limits (%)	
		Low	High
<b>Sub-Matrix: SOIL</b>			
<b>EP-080S: 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-066S: PCB Surrogate</b>			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchloroendate	1770-80-5	50	130

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1115264
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 06-JUL-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Issue Date	: 20-JUL-2011
Project	: ----	Quote number	: ----	No. of samples received	: 4
Order number	: ----			No. of samples analysed	: 4
C-O-C number	: H009969				
Site	: KCIP				

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

### Signatories

Anh Ngoc Huynh  
Fung Lim Chee, Richard  
Leung Sai Ho, Ivan

### Position

Senior Chemist  
General Manager  
Supervisor

### Authorised results for

Organics  
Inorganics  
Microbiology

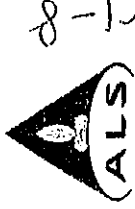
**ALS Laboratory Group.**  
Trading Name: **ALS Technichem (HK) Pty Ltd**  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company

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Page Number : 2 of 5

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1115264



**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

15-JUL-2011

Key: LOA = 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: HK1115264

pH value and Nitrate+Nitrite as N are determined and reported on a 1:5 soil / water extract

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Sample(s) were arrived in the laboratory at 13:00. Microbiological sample(s), in glass bottles, were received in a chilled condition. Testing period : 07/07/2011 (10:00) - 12/07/2011

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Page Number : 3 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK115264

**Analytical Results**

Compound	CAS Number	Client sample ID		Unit	Client sampling date / time			
		LOR	Unit		B1-C3 (0.5-1.0) [06-JUL-2011]	B1-C3 (1.0-1.5) [06-JUL-2011]	B1-C3 (1.5-2.0) [06-JUL-2011]	B1-C3 (2.0-2.5) [06-JUL-2011]
<b>EA/ED: Physical and Aggregate Properties</b>								
EA002: pH Value		0.1	pH Unit	7.9	7.8	7.8	7.7	
EA055: Moisture Content (dried @ 103°C)		0.1	%	13.8	17.2	17.2	14.0	
<b>ED/EK: Inorganic Nonmetallic Parameters</b>								
EK059A: Nitrite + Nitrate as N (Sol.)		0.1	mg/kg	0.1	0.2	0.9	1.6	
EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg	120	1600	200	90	
EK062A: Total Nitrogen as N		20	mg/kg	120	1600	210	90	
EK067A: Total Phosphorus as P		20	mg/kg	130	630	400	230	
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH)</b>								
C6 - C8 Fraction		5	mg/kg	<5	<5	<5	<5	
C9 - C16 Fraction		200	mg/kg	<200	<200	<200	<200	
C17 - C35 Fraction		500	mg/kg	<500	<500	<500	<500	
<b>EP-066: Polychlorinated Biphenyls</b>								
Total Polychlorinated biphenyls		0.1	mg/kg	0.2	0.2	<0.1	<0.1	
<b>EM: Microbiological Testing</b>								
EM101: Aerobic Bacteria Count		10	CFU/g	7600	9000	3600	1800	
EM113: Hydrocarbon Utilising Bacteria		10	CFU/g	<10	30	160	80	
<b>EP-080S: TPH(Volatile)/BTEX Surrogate</b>								
Dibromofluoromethane	1868-53-7	0.1	%	99.4	100	94.4	95.5	
Toluene-D8	2037-26-5	0.1	%	99.6	99.0	98.2	98.5	
4-Bromofluorobenzene	460-00-4	0.1	%	97.6	98.9	102	100	
<b>EP-066S: PCB Surrogate</b>								
Tetrachlorometaxylene	877-09-8	0.1	%	113	83.6	79.4	86.7	
Dibutylchlorandate	1770-80-5	0.1	%	112	101	103	112	

Surrogate control limits listed at end of this report.

Surrogate control limits listed at end of this report.

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Laboratory Duplicate (DUP) Report

Main: SOIL		Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1866444)</b>							
HK1115262-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	8.8	8.4	4.9
HK1115264-003	B1-C3 (1.5-2.0)	EA055: Moisture Content (dried @ 103°C)	0.1	%	17.2	18.4	6.5
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1872235)</b>							
HK1115262-002	Anonymous	EA002: pH Value	0.1	pH Unit	8.2	8.4	1.2
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866850)</b>							
HK1115387-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N	10	mg/kg	870	1020	16.2
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866851)</b>							
HK1115264-001	B1-C3 (0.5-1.0)	EK067A: Total Phosphorus as P	20	mg/kg	130	130	0.0
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1872236)</b>							
HK1115262-006	Anonymous	EK059A: Nitrite + Nitrate as N (Sol.)	0.1	mg/kg	3.7	3.8	0.0
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>							
HK1115262-001	Anonymous	C9 - C16 Fraction	200	mg/kg	<200	<200	0.0
		C17 - C35 Fraction	500	mg/kg	<500	<500	0.0
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>							
HK1115262-001	Anonymous	C6 - C8 Fraction	5	mg/kg	<5	<5	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1856857)</b>							
HK1114929-001	Anonymous	Total Polychlorinated biphenyls	0.1	mg/kg	<0.1	<0.1	0.0

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

Main: 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	LCS	DCS	Recovery Low (%)	Recovery High (%)	Value	Control Limit	RPD (%)
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866850)</b>												
EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg	<20	1000 mg/kg	96.7		85	115			
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866851)</b>												
EK067A: Total Phosphorus as P		20	mg/kg	<20	695 mg/kg	107		85	115			
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1872236)</b>												
EK059A: Nitrite + Nitrate as N (Sol.)		0.1	mg/kg	<0.1	2 mg/kg	108		85	115			
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>												
C9 - C16 Fraction		200	mg/kg	<200	31 mg/kg	91.2		67	110			
C17 - C35 Fraction		500	mg/kg	<500	75 mg/kg	82.7		69	119			
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>												
C6 - C8 Fraction		5	mg/kg	<5	3 mg/kg	104		63	126			
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1856857)</b>												
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	74.3		39	158			



Page Number : 5 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1115264

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

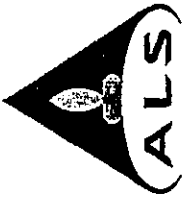
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
				Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)
				Low	High	Value	Control Limit	
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>								
HK1115262-002	Anonymous	C9 - C16 Fraction		31 mg/kg	78.5	50	130	
		C17 - C35 Fraction		75 mg/kg	76.6	50	130	
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>								
HK1115262-002	Anonymous	C6 - C8 Fraction		3 mg/kg	103	50	130	

**Surrogate Control Limits**

Sub-Matrix: SOIL	Compound	CAS Number	Low	High
EP-080S: 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-066S: PCB Surrogate	Tetrachlorometaxylene	877-09-8	50	130
	Dibutylchlorendate	1770-80-5	50	130

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# ALS Technichem (HK) Pty Ltd



## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES

### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK11115440
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 07-JUL-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Issue Date	: 21-JUL-2011
Project	: ----	Quote number	: ----	No. of samples received	: 4
Order number	: ----			No. of samples analysed	: 4
C-O-C number	: H009971				
Site	: KCIP				

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Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics
Leung Sai Ho, Ivan	Supervisor	Microbiology

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Page Number : 2 of 5

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1115440



**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 18-JUL-2011

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: HK1115440

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Total Nitrogen is the sum of Total Oxidizable and Total Kjeldahl Nitrogen.

pH value and Nitrate+Nitrite as N are determined and reported on a 1:5 soil / water extract.

Sample(s) were arrived in the laboratory at 13:00. Microbiological sample(s), in glass bottles, were received in a chilled condition. Tasting period : 08/07/2011 (10:00) - 13/07/2011.

CI-13



**Analytical Results**

Compound	CAS Number	Client sample ID		Unit	
		Sub-Matrix: SOIL	Sub-Matrix: SOIL		
		Client sampling date / time	Client sampling date / time		
		LOD	LOD		
<b>EA/ED: Physical and Aggregate Properties</b>					
EA002: pH Value	---	0.1	8.4	pH Unit	8.3
EA055: Moisture Content (dried @ 103°C)	---	0.1	13.0	%	18.5
<b>ED/EK: Inorganic Nonmetallic Parameters</b>					
EK059A: Nitrite + Nitrate as N (Sol.)	---	0.1	2.8	mg/kg	0.1
EK061A: Total Kjeldahl Nitrogen as N	---	20	100	mg/kg	330
EK062A: Total Nitrogen as N	---	20	100	mg/kg	330
EK067A: Total Phosphorus as P	---	20	250	mg/kg	510
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH)</b>					
C6 - C8 Fraction	---	5	<5	mg/kg	<5
C9 - C16 Fraction	---	200	<200	mg/kg	<200
C17 - C35 Fraction	---	500	<500	mg/kg	<500
<b>EP-066: Polychlorinated Biphenyls</b>					
Total Polychlorinated biphenyls	---	0.1	<0.1	mg/kg	0.3
<b>EM: Microbiological Testing</b>					
EM101: Aerobic Bacteria Count	---	10	13000	CFU/g	6600
EM113: Hydrocarbon Utilising Bacteria	---	10	50	CFU/g	<10
<b>EP-080S: TPH(Volatile)/BTEX Surrogate</b>					
Dibromofluoromethane	1868-53-7	0.1	96.4	%	97.0
Toluene-D8	2037-26-5	0.1	100	%	100
4-Bromofluorobenzene	460-00-4	0.1	101	%	100
<b>EP-066S: PCB Surrogate</b>					
Tetrachlorometaxylene	877-08-8	0.1	83.4	%	121
Dibutylchlorodenate	1770-80-5	0.1	105	%	124

Surrogate control limits listed at end of this report.

Surrogate control limits listed at end of this report.

CI-14



**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method/Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report		RPD (%)
					Original Result	Duplicate Result	
<b>EAIJED: Physical and Aggregate Properties (QC Lot: 1866445)</b>							
HK1115417-002	Anonymous	EA065: Moisture Content (dried @ 103°C)		0.1	10.3	10.7	3.9
HK1115446-002	Anonymous	EA065: Moisture Content (dried @ 103°C)		0.1	29.7	27.7	7.2
<b>EAIJED: Physical and Aggregate Properties (QC Lot: 1872237)</b>							
HK1115656-008	Anonymous	EA002: pH Value		0.1	7.6	7.6	0.0
<b>EDIJK: Inorganic Nonmetallic Parameters (QC Lot: 1866851)</b>							
HK1115264-001	Anonymous	EK067A: Total Phosphorus as P		20	130	130	0.0
<b>EDIJK: Inorganic Nonmetallic Parameters (QC Lot: 1866852)</b>							
HK1115264-001	Anonymous	EK067A: Total Kjeldahl Nitrogen as N		20	120	120	0.0
<b>EDIJK: Inorganic Nonmetallic Parameters (QC Lot: 1872238)</b>							
HK1115440-001	B1-C5 (0.5-1.0)	EK059A: Nitrite + Nitrate as N (Sol.)		0.1	2.8	2.7	0.0
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>							
HK1115262-001	Anonymous	C9 - C16 Fraction		200	<200	<200	0.0
		C17 - C35 Fraction		500	<500	<500	0.0
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>							
HK1115262-001	Anonymous	C6 - C8 Fraction		5	<5	<5	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1856857)</b>							
HK1114929-001	Anonymous	Total Polychlorinated biphenyls		0.1	<0.1	<0.1	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1865199)</b>							
HK1115440-003	B1-C5 (1.5-2.0)	Total Polychlorinated biphenyls		0.1	<0.1	<0.1	0.0

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

Method/Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Value
<b>Method Blank (MB) Report</b>											
EDIJK: Inorganic Nonmetallic Parameters (QC Lot: 1866851)											
EK067A: Total Phosphorus as P		20	mg/kg	<20	695 mg/kg	107	85	115			
<b>EDIJK: Inorganic Nonmetallic Parameters (QC Lot: 1866852)</b>											
EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg	<20	1000 mg/kg	88.5	85	115			
<b>EDIJK: Inorganic Nonmetallic Parameters (QC Lot: 1872238)</b>											
EK059A: Nitrite + Nitrate as N (Sol.)		0.1	mg/kg	<0.1	2 mg/kg	108	85	115			
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>											
C9 - C16 Fraction		200	mg/kg	<200	31 mg/kg	91.2	67	110			
C17 - C35 Fraction		500	mg/kg	<500	75 mg/kg	82.7	69	119			
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>											
C6 - C8 Fraction		5	mg/kg	<5	3 mg/kg	104	63	126			
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1856857)</b>											
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	74.3	39	158			



Page Number : 5 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1115440

Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	DCS	Recovery Limits (%)	Value	RPD (%)	Control Limit
EP-066: Polychlorinated Biphenyls (QC Lot: 1865199)											
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	83.8		39	158		

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
					MS	MSD	Recovery Limits (%)	RPD (%)			
EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)											
HK1115262-002	Anonymous		C9 - C16 Fraction	31 mg/kg	78.5		50	130			
EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)											
HK1115262-002	Anonymous		C17 - C35 Fraction	75 mg/kg	76.6		50	130			
			C6 - C8 Fraction	3 mg/kg	103		50	130			

**Surrogate Control Limits**

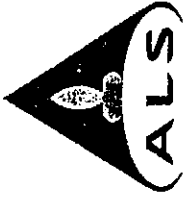
Sub-Matrix: SOIL	Compound	CAS Number	Low	High
EP-080S: TPH(Volatile)/BTEX Surrogate				
Dibromofluoromethane	1868-53-7	80	120	
Toluene-D8	2037-26-5	81	117	
4-Bromofluorobenzene	460-00-4	74	121	
EP-066S: PCB Surrogate				
Tetrachlorometaxylene	877-09-8	50	130	
Dibutylchlorobenzene	1770-80-5	50	130	

CI-16



# ALS Technichem (HK) Pty Ltd

## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1115442
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 07-JUL-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 21-JUL-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 4
Project	: KCIP	Quote number	: ---	No. of samples analysed	: 4
Order number	: ---				
C-O-C number	: H009970				
Site	: ---				

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Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics
Leung Sai Ho, Ivan	Supervisor	Microbiology

Page Number : 2 of 5

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1115442



**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

16-JUL-2011

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: HK1115442

Sample(s) were arrived in the laboratory at 13:00. Microbiological sample(s), in glass bottles, were received in a chilled condition. Testing period : 08/07/2011 (10:00) - 13/07/2011.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

Total Nitrogen is the sum of Total Oxidizable and Total Kjeldahl Nitrogen.

pH value and Nitrate+Nitrite as N are determined and reported on a 1:5 soil / water extract.

CI-18



**Analytical Results**

Compound	CAS Number	Client sample ID		Unit
		Sub-Matrix: SOIL	Client sampling date / time	
<b>EAJED: Physical and Aggregate Properties</b>				
EA002: pH Value	---	0.1	8.4	pH Unit
EA055: Moisture Content (dried @ 103°C)	---	0.1	13.2	%
<b>EDIEK: Inorganic Nonmetallic Parameters</b>				
EK059A: Nitrite + Nitrate as N (Sol.)	---	0.1	2.4	mg/kg
EK061A: Total Kjeldahl Nitrogen as N	---	20	100	mg/kg
EK062A: Total Nitrogen as N	---	20	100	mg/kg
EK067A: Total Phosphorus as P	---	20	210	mg/kg
<b>EP-074HK: Total Petroleum Hydrocarbons (TPH)</b>				
C6 - C8 Fraction	---	5	<5	mg/kg
C9 - C16 Fraction	---	200	<200	mg/kg
C17 - C35 Fraction	---	500	<500	mg/kg
<b>EP-066: Polychlorinated Biphenyls</b>				
Total Polychlorinated biphenyls	---	0.1	<0.1	mg/kg
<b>EM: Microbiological Testing</b>				
EM101: Aerobic Bacteria Count	---	10	12000	CFU/g
EM113: Hydrocarbon Utilising Bacteria	---	10	170	CFU/g
<b>EP-080S: TPH(Volatile)/BTX Surrogate</b>				
Dibromofluoromethane	1868-53-7	0.1	95.3	%
Toluene-D8	2037-28-5	0.1	100	%
4-Bromofluorobenzene	460-00-4	0.1	99.7	%
<b>EP-066S: PCB Surrogate</b>				
Tetrachlorometaxylene	877-09-8	0.1	118	%
Dibutylchloride	1770-80-5	0.1	122	%

Client sample ID	B1-C4 (1.0-1.5)	B1-C4 (1.5-2.0)	B1-C4 (2.0-2.5)
[06-JUL-2011]	[06-JUL-2011]	[06-JUL-2011]	[06-JUL-2011]
HK1115442-001	HK1115442-002	HK1115442-003	HK1115442-004
15000	15000	4200	4200
10	10	<10	<10
Surrogate control limits listed at end of this report.			
97.0	96.3	95.9	95.9
99.5	100	100	100
99.1	99.2	100	100
Surrogate control limits listed at end of this report.			
108	123	125	125
101	128	116	116

CI-19



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report			RPD (%)	
				LOR	Unit	Duplicate Result		Original Result
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1866445)</b>								
HK1115417-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	10.3	10.7	3.9
HK1115446-002	Anonymous	EA055: Moisture Content (dried @ 103°C)	---	0.1	%	29.7	27.7	7.2
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1872237)</b>								
HK1115658-008	Anonymous	EA002: pH Value	---	0.1	pH Unit	7.6	7.6	0.0
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866851)</b>								
HK1115264-001	Anonymous	EK067A: Total Phosphorus as P	---	20	mg/kg	130	130	0.0
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866852)</b>								
HK1115264-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N	---	20	mg/kg	120	120	0.0
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1872238)</b>								
HK1115440-001	Anonymous	EK059A: Nitrite + Nitrate as N (Sol)	---	0.1	mg/kg	2.8	2.7	0.0
<b>EP-074HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>								
HK1115262-001	Anonymous	C9 - C16 Fraction	---	200	mg/kg	<200	<200	0.0
		C17 - C35 Fraction	---	500	mg/kg	<500	<500	0.0
<b>EP-074HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>								
HK1115262-001	Anonymous	C6 - C8 Fraction	---	5	mg/kg	<5	<5	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1865199)</b>								
HK1115440-003	Anonymous	Total Polychlorinated biphenyls	---	0.1	mg/kg	<0.1	<0.1	0.0

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

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
		LOR	Unit	Result	Spike Concentration	Recovery Limits (%)	Recovery Limits (%)	Value	Control Limit	
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866851)</b>										
EK067A: Total Phosphorus as P	---	20	mg/kg	<20	695 mg/kg	107	85	115	---	---
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1866852)</b>										
EK061A: Total Kjeldahl Nitrogen as N	---	20	mg/kg	<20	1000 mg/kg	88.5	85	115	---	---
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1872238)</b>										
EK059A: Nitrite + Nitrate as N (Sol)	---	0.1	mg/kg	<0.1	2 mg/kg	108	85	115	---	---
<b>EP-074HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>										
C9 - C16 Fraction	---	200	mg/kg	<200	31 mg/kg	91.2	67	110	---	---
C17 - C35 Fraction	---	500	mg/kg	<500	75 mg/kg	82.7	69	119	---	---
<b>EP-074HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>										
C6 - C8 Fraction	---	5	mg/kg	<5	3 mg/kg	104	63	126	---	---
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1865199)</b>										
Total Polychlorinated biphenyls	---	0.1	mg/kg	<0.1	0.5 mg/kg	83.8	39	158	---	---



Page Number : 5 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1115442

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

Matrix: SOIL

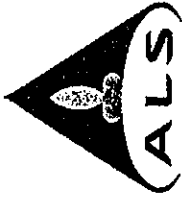
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
				Spike Concentration	MS	MSD	Recovery Limits (%)	RPD (%)
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863110)</b>								
HK1115262-002	Anonymous	C9 - C16 Fraction		31 mg/kg	78.5		50	130
		C17 - C35 Fraction		75 mg/kg	76.6		50	130
<b>EP-071HK: Total Petroleum Hydrocarbons (TPH) (QC Lot: 1863128)</b>								
HK1115262-002	Anonymous	C6 - C8 Fraction		3 mg/kg	103		50	130

**Surrogate Control Limits**

Compound	CAS Number	Recovery Limits (%)	
		Low	High
<b>Sub-Matrix: SOIL</b>			
<b>EP-080S: 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-066S: PCB Surrogate</b>			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorendate	1770-80-5	50	130

C1-21

## Appendix C2 Biopile No. 2



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1118982
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 12-AUG-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 26-AUG-2011
Facsimile	: -----	Facsimile	: +852 2610 2021	No. of samples received	: 4
Project	: -----	Quote number	: -----	No. of samples analysed	: 4
Order number	: -----				
C-O-C number	: H013570				
Site	: KCIP				

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

*Signatories*

Anh Ngoc Huynh  
Fung Lim Chee, Richard  
Leung Sai Ho, Ivan

*Position*

Senior Chemist  
General Manager  
Supervisor

*Authorised results for*

Organics  
Inorganics  
Microbiology

C2-1



Page Number : 2 of 5

Client : CHINA INTERNATIONAL WATER & ELECTRIC CO.

Work Order : HK1118982

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

25-AUG-2011

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: HK1118982

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

pH determined and reported on a 1:5 soil / water extract.

Total Nitrogen is the sum of Total Oxidizable and Total Kjeldahl Nitrogen.

Sample(s) were arrived in the laboratory at 13:00. Microbiological sample(s), in soil jar, were received in a chilled condition. Testing period: 12/08/2011 (15:00) - 17/08/2011.

C2-2

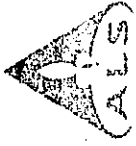




**Analytical Results**

Compound	CAS Number	LOR	Client sample ID		Unit
			Client sampling date / time	Client sampling date / time	
<b>EA/ED: Physical and Aggregate Properties</b>					
EA002: pH Value	---	0.1	7.9	7.7	8.3
EA055: Moisture Content (dried @ 103°C)	---	0.1	24.7	27.3	24.8
<b>ED/EK: Inorganic Nonmetallic Parameters</b>					
EK059A: Nitrite + Nitrate as N (Sol.)	---	0.1	11.9	52.9	3.8
EK061A: Total Kjeldahl Nitrogen as N	---	20	1380	2140	290
EK062A: Total Nitrogen as N	---	20	1400	2190	300
EK067A: Total Phosphorus as P	---	20	2160	1050	380
<b>EP-0755: Polyaromatic Hydrocarbons (PAHs)</b>					
Benzo(e)pyrene	50-32-8	0.5	<0.5	<0.5	<0.5
<b>EP-066: Polychlorinated Biphenyls</b>					
Total Polychlorinated biphenyls	---	0.1	0.5	0.4	0.7
<b>EM: Microbiological Testing</b>					
EM101: Aerobic Bacteria Count	---	10	360000	120000	610000
EM113: Hydrocarbon Utilising Bacteria	---	10	40000	3400	30
<b>EP-0755: Acid Extractable Surrogates</b>					
2-Fluorophenol	367-12-4	0.1	77.2	85.8	80.3
Phenol-d6	13127-86-3	0.1	71.8	77.9	72.9
2,4,6-Tribromophenol	118-79-6	0.1	89.5	95.1	73.3
<b>EP-075T: Base/Neutral Extractable Surrogates</b>					
Nitrobenzene -d5	4165-60-0	0.1	73.6	87.0	77.8
2-Fluorobiphenyl	321-60-8	0.1	69.7	74.7	64.1
4-Terphenyl-d14	1718-51-0	0.1	84.6	93.3	78.4
<b>EP-066S: PCB Surrogate</b>					
Tetrachlorotaxylene	877-09-8	0.1	106	84.8	76.5
Dibutylchlorotendate	1770-80-5	0.1	113	100	76.9

C2-8



Laboratory Duplicate (DUP) Report

Laboratory Sample ID	Client Sample ID	Method/Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
EA/JED: Physical and Aggregate Properties (QC Lot: 1913433)								
HK1118244-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	23.7	23.8	0.0
EA/JED: Physical and Aggregate Properties (QC Lot: 1928124)								
HK1118983-001	Anonymous	EA002: pH Value		0.1	pH Unit	8.8	8.9	0.0
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917135)								
HK1118495-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg	1850	1970	6.2
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917136)								
HK1118495-001	Anonymous	EK067A: Total Phosphorus as P		20	mg/kg	580	540	6.9
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928125)								
HK1118982-002	B2-C2 (1.0-1.5)	EK059A: Nitrite + Nitrate as N (Sol.)		0.1	mg/kg	52.9	50.6	4.4
EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1904654)								
HK1118449-001	Anonymous	Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0
EP-066: Polychlorinated Biphenyls (QC Lot: 1912781)								
HK1118982-001	B2-C2 (0.5-1.0)	Total Polychlorinated biphenyls		0.1	mg/kg	0.5	0.6	0.0

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

Method/Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
					Spike Concentration	Spike Recovery (%)		Control Limit
						LCS	DCS	
Method Blank (MB) Report								
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917135)				<20				
EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg		1000 mg/kg	105	85	115
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917136)				<20				
EK067A: Total Phosphorus as P		20	mg/kg		695 mg/kg	87.5	85	115
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928125)				<0.1				
EK059A: Nitrite + Nitrate as N (Sol.)		0.1	mg/kg		2 mg/kg	105	85	115
EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1904654)				<0.5				
Benzo(a)pyrene	50-32-8	0.5	mg/kg		0.25 mg/kg	83.1	58	92
EP-066: Polychlorinated Biphenyls (QC Lot: 1912781)				<0.1				
Total Polychlorinated biphenyls		0.1	mg/kg		0.5 mg/kg	92.9	39	158

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

No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

Surrogate Control Limits

Sub-Matrix: SOIL	Recovery Limits (%)		
Compound	CAS Number	Low	High
EP-075B: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	25	121

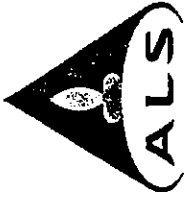
C2-4



Compound	CAS Number	Recovery Limits (%)	
		Low	High
<b>Sub-Matrix: SOIL</b>			
<b>EP-075S: Acid Extractable Surrogates - Continued</b>			
Phenol-d6	13127-88-3	24	113
2,4,6-Tribromophenol	118-79-6	20	122
<b>EP-075T: Base/Neutral Extractable Surrogates</b>			
Nitrobenzene-d5	4165-60-0	23	120
2-Fluorobiphenyl	321-60-8	30	115
4-Terphenyl-d14	1718-51-0	20	137
<b>EP-066S: PCB Surrogate</b>			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorodate	1770-80-5	50	130

C2-5

# ALS Technichem (HK) Pty Ltd



## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES

### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 6
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1118983
Address	: RMI 508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 12-AUG-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Issue Date	: 26-AUG-2011
Project	: ----	Quote number	: ----	No. of samples received	: 6
Order number	: ----			No. of samples analysed	: 6
C-O-C number	: H013570				
Site	: KCIP				

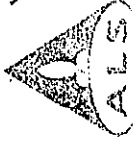
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Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics
Leung Sai Ho, Ivan	Supervisor	Microbiology

ALS Laboratory Group  
**ALS Technichem (HK) Pty Ltd**  
 Trading Name: ALS Technichem (HK) Pty Ltd  
 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
 Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
 A Campbell Brothers Limited Company

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Page Number : 2 of 6  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1118983

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 25-AUG-2011

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: HK1118983

Sample(s) were picked up from client by ALS Technicians (HK) staff in a chilled condition.

Water sample(s) analysed and reported on as received basis.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

pH determined and reported on a 1:5 soil / water extract.

Total Nitrogen is the sum of Total Oxidizable and Total Kjeldahl Nitrogen.

Sample(s) were arrived in the laboratory at 13:00. Microbiological sample(s), in soil jar, were received in a chilled condition. Testing period : 12/08/2011 (14:30) - 17/08/2011.

C2-7



**Analytical Results**

Compound	CAS Number	LOR	Unit	Client sample ID	Client sampling date / time	B2-C1 (0.5-1.0)	B2-C1 (1.0-1.5)	B2-C1 (1.5-2.0)	B2-C1 (2.0-2.5)
Sub-Matrix: SOIL									
EAJED: Physical and Aggregate Properties									
EA002: pH Value		0.1	pH Unit			8.8	8.9	8.4	8.1
EA055: Moisture Content (dried @ 103°C)		0.1	%			19.5	16.6	18.6	17.6
EDJEK: Inorganic Nonmetallic Parameters									
EK059A: Nitrite + Nitrate as N (Sol.)		0.1	mg/kg			0.2	0.2	0.1	1.1
EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg			110	70	90	80
EK062A: Total Nitrogen as N		20	mg/kg			110	70	90	80
EK067A: Total Phosphorus as P		20	mg/kg			500	310	330	410
EP-075B: Polyaromatic Hydrocarbons (PAHs)									
Benzo(a)pyrene	50-32-8	0.5	mg/kg			<0.5	<0.5	<0.5	<0.5
EP-066: Polychlorinated Biphenyls									
Total Polychlorinated biphenyls		0.1	mg/kg			<0.1	<0.1	<0.1	<0.1
EM: Microbiological Testing									
EM101: Aerobic Bacteria Count		10	CFU/g			870000	1100000	1200000	760000
EM113: Hydrocarbon Utilising Bacteria		10	CFU/g			33000	38000	27000	23000
EP-075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.1	%			84.3	90.7	82.3	86.9
Phenol-d6	13127-85-3	0.1	%			75.7	78.9	74.1	79.2
2,4,6-Tribromophenol	118-79-6	0.1	%			74.8	78.4	79.9	87.2
EP-075T: Base/Neutral Extractable Surrogates									
Nitrobenzene -d5	4185-60-0	0.1	%			79.8	85.1	81.3	84.6
2-Fluorobiphenyl	321-60-8	0.1	%			72.4	70.9	70.4	68.7
4-Terphenyl-d14	1718-51-0	0.1	%			74.2	82.6	50.6	49.0
EP-066S: PCB Surrogate									
Tetrachlorometaxylene	877-09-8	0.1	%			102	89.5	121	119
Dibutylchlorodate	1770-80-5	0.1	%			93.1	70.5	78.1	65.1

C2-8



Page Number : 4 of 6  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK118983

Sub-Matrix: WATER		Client sample ID		B2-C1 EB (EQUIPMENT)	
		Client sampling date / time		BLANK	
		LOR		[11-AUG-2011]	
Compound		CAS Number	Unit	HK118983-005	HK118983-006

EA/ED: Physical and Aggregate Properties					
EA002: pH Value		0.1	pH Unit	7.4	7.0
EP-075B: Polyaromatic Hydrocarbons (PAHs)					
Benzo(a)pyrene	50-32-6	2	µg/L	<2	<2
EP-066: Polychlorinated Biphenyls					
Total Polychlorinated biphenyls		1	µg/L	<1	<1
EP-075S: Acid Extractable Surrogates					
2-Fluorophenol	387-12-4	0.1	%	46.6	32.4
Phenol-d6	13127-88-3	0.1	%	35.9	22.8
2,4,6-Tribromophenol	118-79-6	0.1	%	60.7	64.2
EP-075T: Base/Neutral Extractable Surrogates					
Nitrobenzene -d5	4165-60-0	0.1	%	69.0	47.0
2-Fluorobiphenyl	321-60-8	0.1	%	73.3	49.4
4-Terphenyl-d14	1718-51-0	0.1	%	90.3	81.6
EP-066S: PCB Surrogate					
Tetrachlorometaxylene	877-09-8	0.1	%	82.5	55.4
Dibutylchlorodate	1770-90-5	0.1	%	83.8	80.4

Surrogate control limits listed at end of this report.

Surrogate control limits listed at end of this report.

Surrogate control limits listed at end of this report.

C2-9



Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1913433)</b>								
HK1118244-001	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	23.7	23.8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1928124)</b>								
HK1118983-001	B2-C1 (0.5-1.0)	EA002: pH Value		0.1	pH Unit	8.8	8.9	0.0
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917135)</b>								
HK1118495-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg	1850	1970	6.2
HK1118495-001	Anonymous	EK067A: Total Phosphorus as P		20	mg/kg	580	540	6.9
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928125)</b>								
HK1118982-002	Anonymous	EK059A: Nitrite + Nitrate as N (Sol.)		0.1	mg/kg	52.9	50.6	4.4
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1904654)</b>								
HK1118449-001	Anonymous	Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1912781)</b>								
HK1118982-001	Anonymous	Total Polychlorinated biphenyls		0.1	mg/kg	0.5	0.6	0.0

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
							Spike Concentration	Spike Recovery (%)	DCS	Recovery Limits (%)	Value	RPD (%)
<b>Method Blank (MB) Report</b>												
EA/ED: Physical and Aggregate Properties (QC Lot: 1913446)												
HK1118524-001	Anonymous	EA002: pH Value		0.1	pH Unit	8.6	8.6	8.6	8.6	8.6	8.6	0.0
HK1118871-001	Anonymous	EA002: pH Value		0.1	pH Unit	8.1	8.1	8.1	8.1	8.1	8.1	0.0
<b>Method Blank (MB) Report</b>												
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917135)												
EK061A: Total Kjeldahl Nitrogen as N				20	mg/kg	<20	1000 mg/kg	105	85	115	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917136)												
EK067A: Total Phosphorus as P				20	mg/kg	<20	695 mg/kg	87.5	85	115	---	---
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928125)												
EK059A: Nitrite + Nitrate as N (Sol.)				0.1	mg/kg	<0.1	2 mg/kg	105	85	115	---	---
EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1904654)												
Benzo(a)pyrene				0.5	mg/kg	<0.5	0.25 mg/kg	83.1	58	92	---	---
EP-066: Polychlorinated Biphenyls (QC Lot: 1912781)												
Total Polychlorinated biphenyls				0.1	mg/kg	<0.1	0.5 mg/kg	92.9	39	156	---	---

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Method: Compound		CAS Number		LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Value	RPD (%)	Control Limit
EP-075B: Polycyclic Aromatic Hydrocarbons (PAHs) (QC Lot: 1908875)		50-32-8	2		µg/L	<2	5 µg/L	86.3	---	---	52	103			
EP-066: Polychlorinated Biphenyls (QC Lot: 1908874)					µg/L	<1	10 µg/L	93.1	---	---	43	139			
Total Polychlorinated biphenyls				1	µg/L										

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

• No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

**Surrogate Control Limits**

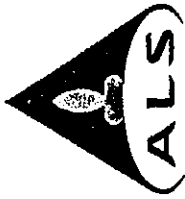
Sub-Matrix: SOIL	Compound	CAS Number	Low	High	Recovery Limits (%)
EP-075S: Acid Extractable Surrogates	2-Fluorophenol	367-12-4	25	121	
	Phenol-d6	13127-88-3	24	113	
	2,4,6-Tribromophenol	118-79-6	20	122	
EP-075T: Base/Neutral Extractable Surrogates	Nitrobenzene -d5	4165-60-0	23	120	
	2-Fluorobiphenyl	321-60-8	30	115	
	4-Terphenyl-d14	1718-51-0	20	137	
EP-066S: PCB Surrogate	Tetrachlorometaxylene	877-09-8	50	130	
	Dibutylchlorodate	1770-80-5	50	130	

Sub-Matrix: WATER	Compound	CAS Number	Low	High	Recovery Limits (%)
EP-075S: Acid Extractable Surrogates	2-Fluorophenol	367-12-4	21	100	
	Phenol-d6	13127-88-3	20	94	
	2,4,6-Tribromophenol	118-79-6	20	123	
EP-075T: Base/Neutral Extractable Surrogates	Nitrobenzene -d5	4165-60-0	35	114	
	2-Fluorobiphenyl	321-60-8	43	116	
	4-Terphenyl-d14	1718-51-0	33	141	
EP-066S: PCB Surrogate	Tetrachlorometaxylene	877-09-8	50	130	
	Dibutylchlorodate	1770-80-5	50	130	

02-11

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1119041
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 13-AUG-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Issue Date	: 27-AUG-2011
Project	: ----	Quote number	: ----	No. of samples received	: 4
Order number	: ----			No. of samples analysed	: 4
C-O-C number	: H013570				
Site	: KGIP				

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories	Position	Authorised results for
Anth Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics
Leung Sai Ho, Ivan	Supervisor	Microbiology

C2-12

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 25-AUG-2011

Key: Lot = 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: HK1119041.

Sample(s) were arrived in the laboratory at 13:00. Microbiological sample(s), in soil jar. Testing period : 13/08/2011 (13:30) - 18/08/2011.

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

pH determined and reported on a 1:5 soil / water extract.

Total Nitrogen is the sum of Total Oxidizable and Total Kjeldahl Nitrogen.

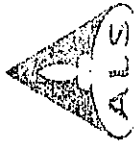
CR-13



**Analytical Results**

Compound	CAS Number	Client sample ID		Unit	LOD	LOQ	Client sampling date / time		Surrogate control limits listed at end of this report.
		B2-C3 (0.5-1.0)	B2-C3 (1.0-1.5)				B2-C3 (1.5-2.0)	B2-C3 (2.0-2.5)	
Sub-Matrix: SOIL									
EA/ED: Physical and Aggregate Properties									
EA002: pH Value			8.9	pH Unit	9.0	8.2	9.0	12-AUG-2011	1100000
EA055: Moisture Content (dried @ 103°C)			12.7	%	16.0	13.1	17.2	12-AUG-2011	41000
ED/IEK: Inorganic Nonmetallic Parameters									
EK059A: Nitrite + Nitrate as N (Sol.)		0.1	0.1	mg/kg	0.5	86.3	0.4		
EK061A: Total Kjeldahl Nitrogen as N		20	40	mg/kg	60	130	70		
EK062A: Total Nitrogen as N		20	40	mg/kg	60	210	70		
EK067A: Total Phosphorus as P		20	200	mg/kg	260	390	240		
EP-075B: Polyaromatic Hydrocarbons (PAHs)									
Benzo(a)pyrene	50-32-8	0.5	<0.5	mg/kg	<0.5	<0.5	<0.5		
EP-066: Polychlorinated Biphenyls									
Total Polychlorinated biphenyls		0.1	<0.1	mg/kg	<0.1	<0.1	<0.1		
EM: Microbiological Testing									
EM10: Aerobic Bacteria Count		10	47000	CFU/g	340000	1800000	1100000		
EM113: Hydrocarbon Utilising Bacteria		10	1200	CFU/g	33000	360000	41000		
EP-075S: Acid Extractable Surrogates									
2-Fluorophenol	367-12-4	0.1	80.3	%	67.0	64.6	85.6		
Phenol-d6	13127-88-3	0.1	82.1	%	72.4	68.9	89.0		
2,4,6-Tribromophenol	118-79-6	0.1	68.6	%	50.4	61.7	63.4		
EP-075T: Base/Neutral Extractable Surrogates									
Nitrobenzene -d5	4165-60-0	0.1	78.1	%	68.9	66.6	82.1		
2-Fluorobiphenyl	321-60-8	0.1	75.3	%	67.3	66.1	76.2		
4-Terphenyl-d14	1718-51-0	0.1	85.6	%	82.5	78.0	90.8		
EP-066S: PCB Surrogate									
Tetrachlorometaxylene	877-09-8	0.1	77.5	%	76.6	74.6	83.6		
Dibutylchlorodate	1770-80-5	0.1	76.5	%	54.4	69.8	75.3		

C2-14



**Laboratory Duplicate (DUP) Report**

Laboratory Sample ID	Client Sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1920406)</b>								
HK1119041-001	B2-C3 (0.5-1.0)	EA055: Moisture Content (dried @ 103°C)		0.1	%	12.7	11.8	7.3
HK1119157-007	Anonymous	EA055: Moisture Content (dried @ 103°C)		0.1	%	10.9	11.2	3.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1928124)</b>								
HK1118983-001	Anonymous	EA002: pH Value		0.1	pH Unit	8.8	8.9	0.0
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917135)</b>								
HK1118495-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg	1850	1970	6.2
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917136)</b>								
HK1118495-001	Anonymous	EK067A: Total Phosphorus as P		20	mg/kg	580	540	6.5
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928125)</b>								
HK1118982-002	Anonymous	EK059A: Nitrite + Nitrate as N (Sol)		0.1	mg/kg	52.9	50.6	4.4
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1914317)</b>								
HK1119041-001	B2-C3 (0.5-1.0)	Benzo(e)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1912781)</b>								
HK1118982-001	Anonymous	Total Polychlorinated biphenyls		0.1	mg/kg	0.5	0.6	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			RPD (%)
						LCS	DCS	Recovery Limits (%)	
<b>Method Blank (MB) Report</b>									
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917135)</b>									
EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg	<20	1000 mg/kg	105	85	115	
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917136)</b>									
EK067A: Total Phosphorus as P		20	mg/kg	<20	695 mg/kg	87.5	85	115	
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928125)</b>									
EK059A: Nitrite + Nitrate as N (Sol)		0.1	mg/kg	<0.1	2 mg/kg	105	85	115	
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1914317)</b>									
Benzo(e)pyrene	50-32-8	0.5	mg/kg	<0.5	0.25 mg/kg	88.8	56	92	
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1912781)</b>									
Total Polychlorinated biphenyls		0.1	mg/kg	<0.1	0.5 mg/kg	92.9	39	158	

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

• No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

**Surrogate Control Limits**

Sub-Matrix: SOIL	CAS Number	Recovery Limits (%)
EP-075B: Acid Extractable Surrogates		Low High

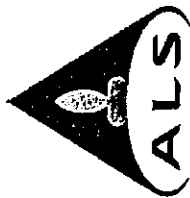
02-15



Page Number : 5 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1119041

Compound	CAS Number	Recovery Limits (%)	
		Low	High
Sub-Matrix: SOIL			
EP-075S: Acid Extractable Surrogates - Continued			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2,4,6-Tribromophenol	118-79-6	20	122
EP-075T: Base/Neutral Extractable Surrogates			
Nitrobenzene -d5	4165-60-0	23	120
2-Fluorobiphenyl	321-60-8	30	115
4-Terphenyl-d14	1718-51-0	20	137
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorodate	1770-80-5	50	130

C2-16



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 9
Contact	: MIR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1119157
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokctp@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 15-AUG-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	Issue Date	: 29-AUG-2011
Project	: ---	Quote number	: ---	No. of samples received	: 14
Order number	: ---			No. of samples analysed	: 14
C-C number	: H015651-H015652				
Site	: KCIP				

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories	Position	Authorised results for
Anh Ngoc Huynh	Senior Chemist	Organics
Fung Lim Chee, Richard	General Manager	Inorganics
Leung Sai Ho, Ivan	Supervisor	Microbiology

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Page Number : 2 of 9  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1119157

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 25-AUG-2011  
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: HK1119157

- Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.
- Water sample(s) analysed and reported on an as received basis.
- Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.
- pH value was determined and reported on a 1:5 soil / water extract.
- Total Nitrogen is the sum of Total Oxidizable and Total Kjeldahl Nitrogen.
- Sample(s) were arrived in the laboratory at 17:30. Microbiological sample(s), in glass bottles, were received in a chilled condition. Testing period : 16/08/2011 (11:30) - 21/08/2011.

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**Analytical Results**

Sub-Matrix: SOIL

Compound	Client sample ID			
	CAS Number	LOR	Unit	Client sampling date / time
<b>EA/ED: Physical and Aggregate Properties</b>				
EA002: pH Value	---	0.1	pH Unit	B2-C4 (0.5-1.0) [13-AUG-2011] HK1119157-001
EA055: Moisture Content (dried @ 103°C)	---	0.1	%	B2-C4 (2.0-2.5) [13-AUG-2011] HK1119157-004
<b>ED/IEK: Inorganic Nonmetallic Parameters</b>				
EK059A: Nitrite + Nitrate as N (Sol.)	---	0.1	mg/kg	B2-C4 (1.5-2.0) [13-AUG-2011] HK1119157-003
EK061A: Total Kjeldahl Nitrogen as N	---	20	mg/kg	B2-C5 (0.5-1.0) [15-AUG-2011] HK1119157-005
EK062A: Total Nitrogen as N	---	20	mg/kg	
EK067A: Total Phosphorus as P	---	20	mg/kg	
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs)</b>				
Benzo(a)pyrene	50-32-8	0.5	mg/kg	8.2
EP-066: Polychlorinated Biphenyls	---	0.1	mg/kg	7.7
Total Polychlorinated biphenyls	---	0.1	mg/kg	25.6
<b>EM: Microbiological Testing</b>				
EM101: Aerobic Bacteria Count	---	10	CFU/g	41.0
EM113: Hydrocarbon Utilising Bacteria	---	10	CFU/g	1380
<b>EP-075S: Acid Extractable Surrogates</b>				
2-Fluorophenol	367-12-4	0.1	%	<0.1
Phenol-d6	13127-68-3	0.1	%	88.7
2,4,6-Tribromophenol	118-79-6	0.1	%	96.6
<b>EP-075T: Base/Neutral Extractable Surrogates</b>				
Nitrobenzene -d5	4165-60-0	0.1	%	84.3
2-Fluorobiphenyl	321-60-8	0.1	%	89.6
4-Terphenyl-d14	1718-51-0	0.1	%	76.9
<b>EP-066S: PCB Surrogate</b>				
Tetrachlorometaxylene	877-09-6	0.1	%	86.4
Dibutylchlorodendate	1770-80-5	0.1	%	87.4
<b>Surrogate control limits listed at end of this report.</b>				
				102
				96.9
				88.8
				82.8
				87.9
				98.6
				86.0
				75.2
				72.7
				98.6
				93.8
				62.8
				57.3

C2-19



Compound	CAS Number	LOR	Unit	Client sample ID	Client sampling date / time	B2-C5 (1.0-1.5) [15-AUG-2011]	B2-C5 (1.5-2.0) [15-AUG-2011]	B2-C5 (2.0-2.5) [15-AUG-2011]	B2-C6 (0.5-1.0) [15-AUG-2011]	B2-C6 (1.0-1.5) [15-AUG-2011]
Sub-Matrix: SOIL										
EAI/ED: Physical and Aggregate Properties										
EA002: pH Value		0.1	pH Unit			7.9	8.0	7.9	7.5	8.1
EA055: Moisture Content (dried @ 103°C)		0.1	%			26.3	10.9	13.8	31.0	28.6
ED/IEK: Inorganic Nonmetallic Parameters										
EK059A: Nitrite + Nitrate as N (Sol.)		0.1	mg/kg			18.2	36.8	20.7	616	0.8
EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg			1460	150	140	2180	1660
EK062A: Total Nitrogen as N		20	mg/kg			1480	190	160	2790	1660
EK067A: Total Phosphorus as P		20	mg/kg			930	310	280	2080	320
EP-075B: Polyaromatic Hydrocarbons (PAHs)										
Benzo(e)pyrene	50-32-8	0.5	mg/kg			<0.5	<0.5	<0.5	1.1	<0.5
EP-066: Polychlorinated Biphenyls										
Total Polychlorinated biphenyls		0.1	mg/kg			0.5	<0.1	<0.1	0.5	<0.1
EM: Microbiological Testing										
EM101: Aerobic Bacteria Count		10	CFU/g			130000	4000000	6000000	600000	330000
EM113: Hydrocarbon Utilising Bacteria		10	CFU/g			790	150000	160000	240	50
EP-075S: Acid Extractable Surrogates										
2-Fluorophenol	387-12-4	0.1	%			89.7	77.6	85.5	87.5	93.3
Phenol-d6	13127-88-3	0.1	%			98.8	85.9	87.2	91.3	98.4
2,4,6-Tribromophenol	118-79-6	0.1	%			92.6	87.1	55.8	101	38.9
EP-075T: Base/Neutral Extractable Surrogates										
Nitrobenzene -d5	4165-60-0	0.1	%			92.8	84.5	85.8	88.5	91.0
2-Fluorobiphenyl	321-60-8	0.1	%			91.6	87.1	85.8	88.4	91.8
4-Terphenyl-d14	1718-51-0	0.1	%			104	99.6	91.2	94.0	99.3
EP-066S: PCB Surrogate										
Tetrachlorometaxylene	877-09-8	0.1	%			80.1	94.0	108	66.1	89.8
Dibutylchlorodate	1770-80-5	0.1	%			76.4	72.0	70.1	63.0	61.4



Sub-Matrix: SOIL

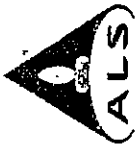
Compound	Client sample ID		LOR	Unit	Client sampling date / time
	CAS Number	Unit			
EA/ED: Physical and Aggregate Properties					
EA002: pH Value	—	0.1	pH Unit	7.7	7.6
EA055: Moisture Content (dried @ 103°C)	—	0.1	%	26.6	28.2
ED/EK: Inorganic Nonmetallic Parameters					
EK059A: Nitrite + Nitrate as N (Sol.)	—	0.1	mg/kg	202	85.0
EK051A: Total Kjeldahl Nitrogen as N	—	20	mg/kg	2170	3560
EK062A: Total Nitrogen as N	—	20	mg/kg	2380	3650
EK067A: Total Phosphorus as P	—	20	mg/kg	1130	2510
EP-075B: Polyaromatic Hydrocarbons (PAHs)					
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5
EP-066: Polychlorinated Biphenyls					
Total Polychlorinated biphenyls	—	0.1	mg/kg	0.1	0.4
EM: Microbiological Testing					
EM101: Aerobic Bacteria Count					
EM113: Hydrocarbon Utilising Bacteria	—	10	CFU/g	1100000	820000
EP-075S: Acid Extractable Surrogates	—	10	CFU/g	20	120
2-Fluorophenol					
Phenol-d6	357-12-4	0.1	%	95.8	92.1
2,4,6-Tribromophenol	13127-85-3	0.1	%	104	97.1
EP-075T: Base/Neutral Extractable Surrogates	118-79-6	0.1	%	106	94.9
Nitrobenzene -d5					
2-Fluorobiphenyl	4185-60-0	0.1	%	100	92.8
4-Terphenyl-d14	321-66-8	0.1	%	97.9	89.7
EP-066S: PCB Surrogate	1718-51-0	0.1	%	106	99.3
Tetrachlorometaxylene					
Dibutylchlorendate	877-08-8	0.1	%	74.0	64.2
	1770-80-5	0.1	%	58.8	59.8

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Sub-Matrix: WATER

Compound	CAS Number	Client sample ID		LOR	Unit	Client sampling date / time	B2-C6 EB [15-AUG-2011]	B2-C6 FB [15-AUG-2011]	HK1119157-014	HK1119157-013
		LOR	Unit							
<b>EAJED: Physical and Aggregate Properties</b>										
EA002: pH Value		0.1	pH Unit				6.1	6.0		
EP-075B: Polycyclic Aromatic Hydrocarbons (PAHs)	50-32-8	2	µg/L				<2	<2		
Benzo(e)pyrene							<2	<2		
EP-066: Polychlorinated Biphenyls		1	µg/L				<1	<1		
Total Polychlorinated biphenyls										
EP-075S: Acid Extractable Surrogates										
2-Fluorophenol	367-12-4	0.1	%				33.9	32.7		
Phenol-d6	13127-68-3	0.1	%				30.9	29.8		
2,4,6-Tribromophenol	118-79-6	0.1	%				38.3	45.4		
Surrogate control limits listed at end of this report.										
EP-075T: Base/Neutral Extractable Surrogates										
Nitrobenzene -d5	4165-60-0	0.1	%				57.3	55.4		
2-Fluorobiphenyl	321-60-8	0.1	%				50.8	51.7		
4-Terphenyl-d14	1718-51-0	0.1	%				81.3	75.9		
Surrogate control limits listed at end of this report.										
EP-066S: PCB Surrogate										
Tetrachlorometaxylene	877-09-8	0.1	%				65.9	55.6		
Dibutylchloridate	1770-90-5	0.1	%				59.0	55.8		



**Laboratory Duplicate (DUP) Report**

Main: SOIL		Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1920406)</b>							
HK1119041-001	Anonymous	EA055: Moisture Content (dried @ 103°C)	0.1	%	12.7	11.8	7.3
HK1119157-007	B2-C5 (1.5-2.0)	EA055: Moisture Content (dried @ 103°C)	0.1	%	10.9	11.2	3.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1928124)</b>							
HK1118983-001	Anonymous	EA002: pH Value	0.1	pH Unit	8.8	8.9	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1928126)</b>							
HK1119157-012	B2-C6 (2.0-2.5)	EA002: pH Value	0.1	pH Unit	7.6	7.7	1.3
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917135)</b>							
HK1118495-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N	20	mg/kg	1850	1970	6.2
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917136)</b>							
HK1118495-001	Anonymous	EK067A: Total Phosphorus as P	20	mg/kg	580	540	6.9
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917137)</b>							
HK1118760-001	Anonymous	EK061A: Total Kjeldahl Nitrogen as N	20	mg/kg	11300	10900	3.1
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917138)</b>							
HK1119157-004	B2-C4 (2.0-2.5)	EK067A: Total Phosphorus as P	20	mg/kg	220	230	0.0
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928125)</b>							
HK1118982-002	Anonymous	EK059A: Nitrite + Nitrate as N (Sol.)	0.1	mg/kg	52.9	50.6	4.4
<b>ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928127)</b>							
HK1119157-012	B2-C6 (2.0-2.5)	EK059A: Nitrite + Nitrate as N (Sol.)	0.1	mg/kg	85.0	91.9	7.9
<b>EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1914317)</b>							
HK1119041-001	Anonymous	Benzo(a)pyrene	50-32-8	mg/kg	<0.5	<0.5	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1912781)</b>							
HK1118982-001	Anonymous	Total Polychlorinated biphenyls	0.1	mg/kg	0.5	0.6	0.0
<b>EP-066: Polychlorinated Biphenyls (QC Lot: 1916972)</b>							
HK1119157-009	B2-C6 (0.5-1.0)	Total Polychlorinated biphenyls	0.1	mg/kg	0.5	0.5	0.0

Main: WATER		Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 1917102)</b>							
HK1119209-002	Anonymous	EA002: pH Value	0.1	pH Unit	7.8	7.8	0.0
HK1119197-001	Anonymous	EA002: pH Value	0.1	pH Unit	7.4	7.4	0.0

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

Main: SOIL		Method Blank (MB) Report							
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Recovery Limits (%)		Value	Control Limit
						LCS	DCS	Low	High
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917135)				<20	1000 mg/kg	105	85	115	
EK061A: Total Kjeldahl Nitrogen as N		20	mg/kg						
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917136)									



Page Number : 8 of 9  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1119157

Method: Compound		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
<b>Matrix: SOIL</b>													
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917136) - Continued													
EK067A: Total Phosphorus as P	20	mg/kg	<20	695 mg/kg	87.5	85	115						
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917137)													
EK061A: Total Kjeldahl Nitrogen as N	20	mg/kg	<20	1000 mg/kg	103	85	115						
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1917138)													
EK067A: Total Phosphorus as P	20	mg/kg	<20	695 mg/kg	96.6	85	115						
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928125)													
EK059A: Nitrite + Nitrate as N (Sol.)	0.1	mg/kg	<0.1	2 mg/kg	105	85	115						
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1928127)													
EK059A: Nitrite + Nitrate as N (Sol.)	0.1	mg/kg	<0.1	2 mg/kg	106	85	115						
EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1914317)													
Benzo(a)pyrene	50-32-8	0.5	mg/kg	0.25 mg/kg	88.8	58	92						
EP-066: Polychlorinated Biphenyls (QC Lot: 1912781)													
Total Polychlorinated biphenyls	0.1	mg/kg	<0.1	0.5 mg/kg	92.9	39	158						
EP-066: Polychlorinated Biphenyls (QC Lot: 1916972)													
Total Polychlorinated biphenyls	0.1	mg/kg	<0.1	0.5 mg/kg	93.2	39	158						
<b>Matrix: WATER</b>													
Method Blank (MB) Report													
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report													
CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%) <td>DCS</td> <td>Recovery Limits (%)</td> <td>Low</td> <td>High</td> <td>Value</td> <td>RPD (%)</td> <td>Control Limit</td>	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
EP-075B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1908875)													
Benzo(a)pyrene	50-32-8	2	µg/L	<2	86.3	52	103						
EP-066: Polychlorinated Biphenyls (QC Lot: 1908874)													
Total Polychlorinated biphenyls	1	µg/L	<1	10 µg/L	93.1	43	139						

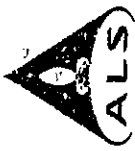
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

**Surrogate Control Limits**

Sub-Matrix: SOIL	CAS Number	Recovery Limits (%)	Low	High
Compound				
EP-075S: Acid Extractable Surrogates				
2-Fluorophenol	967-12-4	25	121	
Phenol-d6	13127-88-3	24	113	
2,4,6-Tribromophenol	118-79-6	20	122	
EP-075T: Base/Neutral Extractable Surrogates				
Nitrobenzene -d5	4165-60-0	23	120	
2-Fluorobiphenyl	321-60-8	30	115	
4-Terphenyl-d14	1718-51-0	20	137	

02-24



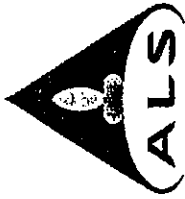
Page Number : 9 of 9  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1119157

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
<b>EP-066S: PCB Surrogate</b>			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorendate	1770-80-5	50	130
Sub-Matrix: WATER			
Compound	CAS Number	Low	High
<b>EP-075S: Acid Extractable Surrogates</b>			
2-Fluorophenol	367-12-4	21	100
Phenol-d6	13127-88-3	20	94
2,4,6-Tribromophenol	118-79-6	20	123
<b>EP-075T: Base/Neutral Extractable Surrogates</b>			
Nitrobenzene -d5	4185-60-0	35	114
2-Fluorobiphenyl	321-60-8	43	116
4-Terphenyl-d14	1718-51-0	33	141
<b>EP-066S: PCB Surrogate</b>			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorendate	1770-80-5	50	130

C2-25

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

<p><b>Client</b> : CHINA INTERNATIONAL WATER &amp; ELECTRIC CORP</p> <p><b>Contact</b> : MIR PENG FENG LI</p> <p><b>Address</b> : RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG</p> <p><b>E-mail</b> : eokcip@hotmail.com</p> <p><b>Telephone</b> : +852 2408 1173</p> <p><b>Facsimile</b> : ----</p> <p><b>Project</b> : ----</p> <p><b>Order number</b> : ----</p> <p><b>C-D-C number</b> : H015662</p> <p><b>Site</b> : KCIP</p>	<p><b>Laboratory</b> : ALS Technichem HK Pty Ltd</p> <p><b>Contact</b> : Chan Kwok Fai, Godfrey</p> <p><b>Address</b> : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong</p> <p><b>E-mail</b> : Godfrey.Chan@alsglobal.com</p> <p><b>Telephone</b> : +852 2610 1044</p> <p><b>Facsimile</b> : +852 2610 2021</p> <p><b>Quote number</b> : ----</p>	<p><b>Page</b> : 1 of 5</p> <p><b>Work Order</b> : HK1120426</p> <p><b>Date Samples Received</b> : 31-AUG-2011</p> <p><b>Issue Date</b> : 16-SEP-2011</p> <p><b>No. of samples received</b> : 1</p> <p><b>No. of samples analysed</b> : 1</p>
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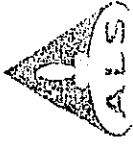
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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

<p><b>Signatories</b></p> <p><b>Anth Ngoc Huynh</b> Fung Lim Chee, Richard Leung Sai Ho, Ivan</p>	<p><b>Position</b></p> <p>Senior Chemist General Manager Supervisor</p>	<p><b>Authorised results for</b></p> <p>Organics Inorganics Microbiology</p>
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C2-26





Page Number : 2 of 5  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1120426

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 14-SEP-2011

Key: LCR = 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: HK1120426

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

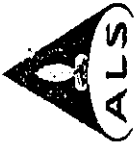
Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

pH determined and reported on a 1:5 soil / water extract.

Total Nitrogen is the sum of Total Oxidizable and Total Kjeldahl Nitrogen.

Sample(s) were arrived in the laboratory at 17:30. Microbiological sample(s), in soil jar, was received in a chilled condition. Testing period : 01/09/2011 (11:30) - 06/09/2011.

C2-27



**Analytical Results**

Compound	CAS Number	Client sample ID		Unit	LOR	Client sampling date / time
		B2-G4A (0.5-1.0)	[31-AUG-2011]			
Sub-Matrix: SOIL						
EA/ED: Physical and Aggregate Properties						
EA002: pH Value		0.1		pH Unit		8.0
EA055: Moisture Content (dried @ 103°C)		0.1		%		15.5
ED/EK: Inorganic Nonmetallic Parameters						
EK059A: Nitrite + Nitrate as N (Sol.)		0.1		mg/kg		41.8
EK051A: Total Kjeldahl Nitrogen as N		20		mg/kg		600
EK052A: Total Nitrogen as N		20		mg/kg		640
EK057A: Total Phosphorus as P		20		mg/kg		60
EP-075B: Polyaromatic Hydrocarbons (PAHs)						
Benzo(a)pyrene	50-32-8	0.5		mg/kg		<0.5
EP-066: Polychlorinated Biphenyls						
Total Polychlorinated biphenyls		0.1		mg/kg		0.5
EM: Microbiological Testing						
EM101: Aerobic Bacteria Count		10		CFU/g		1800000
EM113: Hydrocarbon Utilising Bacteria		10		CFU/g		1700
EP-075S: Acid Extractable Surrogates						
2-Fluorophenol	397-12-4	0.1		%		67.6
Phenol-d6	13127-88-3	0.1		%		75.4
2,4,6-Tribromophenol	118-79-6	0.1		%		61.4
EP-075T: Base/Neutral Extractable Surrogates						
Nitrobenzene -d5	4165-60-0	0.1		%		96.6
2-Fluorobiphenyl	321-60-8	0.1		%		78.8
4-Terphenyl-d14	1718-51-0	0.1		%		79.5
EP-066S: PCB Surrogate						
Tetrachlorometaxylene	877-99-8	0.1		%		88.8
Dibutylchlorendate	1770-80-5	0.1		%		105

C2-28



Laboratory Duplicate (DUP) Report

Matrix: SOIL	Laboratory Sample ID	Client Sample ID	Method: Compound	LOR	CAS Number	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1940564)	EA055: Moisture Content (dried @ 103°C)			0.1		%	14.1	14.0	1.0
	EA058: Moisture Content (dried @ 103°C)			0.1		%	66.7	66.4	0.5
EA/ED: Physical and Aggregate Properties (QC Lot: 1951854)	EA002: pH Value			0.1		pH Unit	8.0	7.8	1.9
	B2-C4A (0.5-1.0)								
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1947577)	ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1947577)			20		mg/kg	19200	19500	1.7
	Anonymous								
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1947578)	ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1947578)			20		mg/kg	11000	11500	3.7
	Anonymous								
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1951855)	ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1951855)			0.1		mg/kg	41.8	42.2	1.0
	B2-C4A (0.5-1.0)								
EP-07/5S: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1931167)	EP-07/5S: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1931167)			0.5		mg/kg	<0.5	<0.5	0.0
	Anonymous								
EP-066: Polychlorinated Biphenyls (QC Lot: 1939717)	EP-066: Polychlorinated Biphenyls (QC Lot: 1939717)			0.1		mg/kg	0.5	0.5	0.0
	B2-C4A (0.5-1.0)								

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

Matrix: SOIL	Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1947577)	ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1947577)		20	mg/kg	<200	1000 mg/kg	97.7	85	85	85	115	115			
	Anonymous														
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1947578)	ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1947578)		20	mg/kg	<200	695 mg/kg	96.7	85	85	85	115	115			
	Anonymous														
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1951855)	ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 1951855)		0.1	mg/kg	<0.1	2 mg/kg	107	85	85	85	115	115			
	Anonymous														
EP-07/5B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1931167)	EP-07/5B: Polyaromatic Hydrocarbons (PAHs) (QC Lot: 1931167)		0.5	mg/kg	<0.5	0.25 mg/kg	85.9	58	58	58	92	92			
	Anonymous														
EP-066: Polychlorinated Biphenyls (QC Lot: 1939717)	EP-066: Polychlorinated Biphenyls (QC Lot: 1939717)		0.1	mg/kg	<0.1	0.5 mg/kg	125	39	39	39	158	158			
	Anonymous														

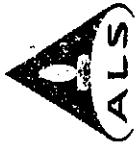
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

Surrogate Control Limits

Sub-Matrix: SOIL	Compound	CAS Number	Recovery Limits (%)	Low	High
EP-07/5S: Acid Extractable Surrogates					

02-29



Page Number : 5 of 5

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1120426

Substrate: SOIL Compound	CAS Number	Recovery Limits (%)	
		Low	High
EP-075S: Acid Extractable Surrogates - Continued			
2-Fluorophenol	367-12-4	25	121
Phenol-d6	13127-88-3	24	113
2,4,6-Tribromophenol	118-79-6	20	122
EP-075T: Base/Neutral Extractable Surrogates			
Nitrobenzene -d5	4185-50-0	23	120
2-Fluorobiphenyl	321-60-8	30	115
4-Terphenyl-d14	1718-51-0	20	137
EP-066S: PCB Surrogate			
Tetrachlorometaxylene	877-09-8	50	130
Dibutylchlorodate	1770-80-5	50	130

C2-30

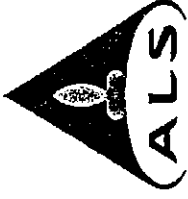
## Appendix D

# Analytical results of laboratory test for Cement Solidification

3

3

# Appendix D1 TCLP



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1121701
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date received	: 15-SEP-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date of issue	: 28-SEP-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples	: -
Order number	: ---	Quote number	: ---	Received	: 7
O-C number	: H015670			Analysed	: 7
Reference	: KCIP				

#### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1121701 supersedes any previous reports with this reference. The completion date of analysis is 23-SEP-2011. 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 HK1121701 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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Signatory	: Fung Lim Chee, Richard	Position	: General Manager
Authorised results for:-			: Inorganics

DI-1



**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound LOR Unit	EG020: Copper EG: Metals and Major Cations - Filtered 0.1 mg/L	EG020: Lead EG: Metals and Major Cations - Filtered 0.1 mg/L	E-TCLP: Extraction Fluid Number
G14-D41A	[08-SEP-2011]	HK1121701-001		0.8	<0.1	1
G14-D42A	[08-SEP-2011]	HK1121701-002		1.0	<0.1	1
G14-D43A	[08-SEP-2011]	HK1121704-000		1.1	<0.1	1
G14-D44A	[08-SEP-2011]	HK1121701-004		1.0	<0.1	1
G4-B1A	[09-SEP-2011]	HK1121701-005		---	<0.1	1
G4-B2A	[09-SEP-2011]	HK1121701-006		---	<0.1	1
G4-B3A	[09-SEP-2011]	HK1121701-007		---	<0.1	1

D1-2



Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1121701



**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report				
Matrix	WATER	CAS Number	Unit	Result	Concentration	LCS	DCS	Recovery Limits (%)	Value	RPDs (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1968070)		7440-50-8	mg/L	<0.1	1 mg/L	97.0	85	85	115	115
HK1121701-002	G14-D42A	EG020: Copper								
		7439-92-1	mg/L	<0.1	1 mg/L	100	85	85	115	115
		EG020: Lead								

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

Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report	
Matrix	WATER	Spike Concentration	Recovery Limits (%)
Method: Compound		LCS	DCS
EG: Metals and Major Cations - Filtered (QC Lot: 1968070)		7440-50-8	0.001
EG020: Copper		7439-92-1	0.001

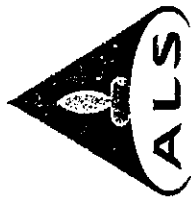
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
Matrix	WATER	CAS Number	Unit	Result	Concentration	MS	MSD	Recovery Limits (%)	Value	RPDs (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1968070)		7440-50-8	mg/L	<0.1	1 mg/L	94.9	91.8	75	125	3.4
HK1121701-001	G14-D41A	EG020: Copper								
		7439-92-1	mg/L	<0.1	1 mg/L	102	99.4	75	125	2.4
		EG020: Lead								

DI-3

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1122035
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 19-SEP-2011
Facsimile	: *****	Facsimile	: +852 2610 2021	Issue Date	: 28-SEP-2011
Project	: *****	Quote number	: *****	No. of samples received	: 2
Ref number	: *****			No. of samples analysed	: 2
D-C number	: H015671				
Reference	: KCIP				

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Signatories Position

Fung Lim Chee, Richard

General Manager

Authorised results for  
Inorganics

DI-4

Page Number

: 2 of 4

Client

: CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order

HK1122035



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 27-SEP-2011

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: HK1122035

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

D1-5



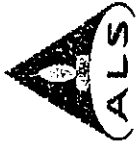
Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1122035

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EG: Metals and Major Cations - Filtered			G4-B4A	G4-B5A
EG020: Lead	7439-92-1	0.1	[16-SEP-2011]	[16-SEP-2011]
Sample Preparation Method			HK1122035-001	HK1122035-002
E-TCLP: Extraction Fluid Number				
			<0.1	<0.1
			1	1

DI-6



**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	LOR	CAS Number	Unit	Original Result	Duplicate Result	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1974019)</b>									
HK1122035-002	G4-B5A		EG020: Lead	0.1	7439-92-1	mg/L	<0.1	<0.1	0.0
HK1122303-006	Anonymous		EG020: Lead	0.1	7439-92-1	mg/L	0.2	0.2	0.0

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

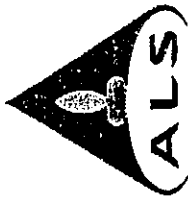
Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1974019)	7439-92-1	0.001	mg/L	<0.1	1 mg/L	94.4	85	115	---	---
EG020: Lead										

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1974019)</b>											
HK1122035-001	G4-B4A		EG020: Lead	7439-92-1	1 mg/L	93.3	94.1	75	125	0.8	---

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# ALS Technichem (HK) Pty Ltd



## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES

### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1122436
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 23-SEP-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 04-OCT-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 3
Quote number	: ---	Quote number	: ---	No. of samples analysed	: 3
Order number	: ---				
ISO-C number	: H015673				
File	: ---				

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Signatories: Fung Lim Chee, Richard  
Position: General Manager  
Authorised results for: Inorganics

DI-B

ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company

Page Number : 2 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1122436



**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 24-OCT-2011

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: HK1122436

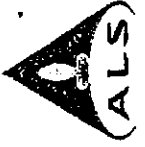
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

DI-9



Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1122436

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOF	Unit	Client sample ID	Client sampling date / time
EG: Metals and Major Cations - Filtered	7439-92-1	0.1	mg/L	G4-B6A	[17-SEP-2011]
EG020: Lead				G4-B7A	[17-SEP-2011]
Sample Preparation Method				G4-B8A	[17-SEP-2011]
E-TCLP: Extraction Fluid Number					HK1122436-001
					HK1122436-002
					HK1122436-003

DI-10





**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1983544)</b>									
HK1122436-002	G4-B7A	EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0	0.0

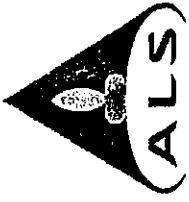
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Method: Compound	CAS Number	LOR	Unit	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1983544)</b>												
EG020: Lead	7439-92-1	0.001	mg/L	1 mg/L	94.2	85	115	85	115	---	---	---

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

Laboratory sample ID		Client sample ID		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1983544)</b>												
HK1122436-001	G4-B6A	EG020: Lead	7439-92-1	1 mg/L	91.1	75	125	75	125	94.1	3.2	---

DI-11



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1122666
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 26-SEP-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Issue Date	: 06-OCT-2011
Quote number	: ----	Quote number	: ----	No. of samples received	: 3
Order number	: ----			No. of samples analysed	: 3
-O-C number	: HD15674				
File	: KCIP				

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Signatories	Position	Authorised results for
Fung Lim Chee, Richard	General Manager	Inorganics

DI-12



Page Number : 2 of 4  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1122666

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 14-OCT-2011

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: HK1122666

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	Client sample ID		Unit	Result	Reference
		LOR	Client sampling date / time			
EG: Metals and Major Cations - Filtered	7439-92-1	0.1		ng/L		
EG020: Lead			[19-SEP-2011]		<0.1	G4-B10A [19-SEP-2011] HK1122666-002
			[19-SEP-2011]		<0.1	G4-B11A [19-SEP-2011] HK1122666-003
Sample Preparation Method						
E-TCLP: Extraction Fluid Number						

DI-14



**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report	
LOR	CAS Number	Unit	Original Result	Duplicate Result	RPD (%)		
EG: Metals and Major Cations - Filtered (QC Lot: 1983544)	7439-92-1	mg/L	<0.1	<0.1	0.0		
HK1122436-002	Anonymous						

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1983544)	7439-92-1	0.001	mg/L	1 mg/L	94.2				85	115			
EG020: Lead													

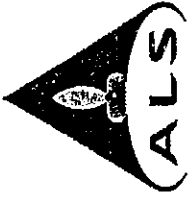
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report								
LOR	CAS Number	Unit	Original Result	Duplicate Result	RPD (%)	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1983544)	7439-92-1	1 mg/L	91.1	94.1	3.2	1 mg/L	91.1	94.1	75	125			3.2	
HK1122436-001	Anonymous													

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1125160
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date received	: 25-OCT-2011
Facsimile	: -----	Facsimile	: +852 2610 2021	Date of issue	: 08-NOV-2011
Project	: -----	Quote number	: -----	No. of samples	: 9
Order number	: -----			Received	: 9
ISO-C number	: H015676			Analyse	: 9
Site	: -----				

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1125160 supersedes any previous reports with this reference. The completion date of analysis is 01-NOV-2011. 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 HK1125160 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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

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Signature	Position	Authorised results for:-
Fung Lim Chee, Richard	General Manager	Inorganics

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**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Compound		EG020: Lead	E-TCLP: Extraction Fluid Number
	Sub-Matrix	Compound		
	Client sampling date / time	Laboratory sample ID	EG: Metals and Major Cations - Filtered	Sample Preparation Method
G4-B12A	[28-SEP-2011]	HK1125160-001	<0.1	1
G4-B13A	[28-SEP-2011]	HK1125160-002	<0.1	1
G4-B14A	[20-OCT-2011]	HK1125160-003	<0.1	1
G4-B15A	[20-OCT-2011]	HK1125160-004	<0.1	1
G4-B16A	[20-OCT-2011]	HK1125160-005	<0.1	1
G4-B17A	[21-OCT-2011]	HK1125160-006	<0.1	1
G4-B18A	[21-OCT-2011]	HK1125160-007	<0.1	1
G4-B19A	[22-OCT-2011]	HK1125160-008	<0.1	1
G4-B20A	[22-OCT-2011]	HK1125160-009	<0.1	1

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1125160

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report				
LOR	Unit	Original Result	Duplicate Result	RPD (%)						
HK1124254-001	Anonymous	EG020: Lead	7439-92-1	mg/L	0.1	1.1	1.0	0.0		

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPDs (%)	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2020726)	7439-92-1	0.001	mg/L	<0.1	1 mg/L	101	---	---	85	115	---	---	---	---

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

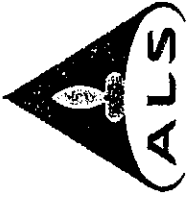
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report													
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	RPDs (%)	Control Limit
HK1124254-001	Anonymous	EG020: Lead	7439-92-1	1 mg/L	97.9	97.8	97.8	75	125	125	0.1	---	---

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1126306
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@atsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date received	: 08-NOV-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Date of issue	: 18-NOV-2011
Quote number	: ----	Quote number	: ----	No. of samples	: Received : 7
O-C number	: H015677				: Analysed : 7
Reference	: KCIP				

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1126306 supersedes any previous reports with this reference. The completion date of analysis is 15-NOV-2011. 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 access purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1126306 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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Signatory

Fung Lim Chee, Richard

Position

General Manager

Authorised results for:-

Inorganics

D1-19

**ALS Laboratory Group**  
Trading Name: **ALS Technichem (HK) Pty Ltd**

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

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**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound LOR Unit	EG020: Lead 0.1 mg/L EG: Metals and Major Cations - Filtered	E-TCLP: Extraction Fluid Number		
						Sample Preparation Method	
G4-B21A	[24-OCT-2011]	HK1126306-001		<0.1	1		
G4-B22A	[24-OCT-2011]	HK1126306-002		<0.1	1		
G4-B23A	[24-OCT-2011]	HK1126306-003		<0.1	1		
G4-B24A	[25-OCT-2011]	HK1126306-004		<0.1	1		
G4-B25A	[25-OCT-2011]	HK1126306-005		<0.1	1		
G4-B26A	[25-OCT-2011]	HK1126306-006		<0.1	1		
G4-B27A	[28-OCT-2011]	HK1126306-007		<0.1	1		

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1126306

**Laboratory Duplicate (DUP) Report**

Matrix: WATER		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Method: Compound
EG: Metals and Major Cations - Filtered (QC Lot: 2043853)			
HK1126306-002	G4-B22A	EG020: Lead	EG020: Lead
		7439-92-1	7439-92-1
		0.1	0.1
		mg/L	mg/L
		<0.1	<0.1
			0.0
			RPD (%)

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

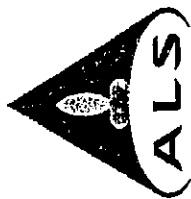
Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report	
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration
EG: Metals and Major Cations - Filtered (QCLot: 2043853)					
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L
					105
					85
					115
					Control Limit

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

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Method: Compound
EG: Metals and Major Cations - Filtered (QCLot: 2043853)			
HK1126306-001	G4-B21A	EG020: Lead	EG020: Lead
		7439-92-1	7439-92-1
		1 mg/L	1 mg/L
		102	102
		75	125
		0.1	0.1
			Control Limit

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# ALS Technichem (HK) Pty Ltd



## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES

### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1128553
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@atsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date received	: 05-DEC-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	Date of issue	: 20-DEC-2011
Order number	: ---	Quote number	: ---	No. of samples	: Received : 6
Lab. O-C number	: H015678				: Analysed : 6
Reference	: KCIP				

#### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1128553 supersedes any previous reports with this reference. The completion date of analysis is 20-DEC-2011. 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 access purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1128553 :  
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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Signature	: Fung Lim Chee, Richard	Position	: General Manager
		Authorised results for:-	: Inorganics

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**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound LOR Unit	EG020: Lead	E-TCLP: Extraction		
				EG: Metals and Major Cations - Filtered 0.1 mg/L	Fluid Number Sample Preparation Method		
G4-B28A	[05-NOV-2011]	HK1128553-001		<0.1	1		
G4-B29A	[05-NOV-2011]	HK1128553-002		<0.1	1		
G4-B30A	[05-NOV-2011]	HK1128553-003		<0.1	1		
G4-B31A	[07-NOV-2011]	HK1128553-004		<0.1	1		
G4-B32A	[07-NOV-2011]	HK1128553-005		<0.1	1		
G4-B33A	[07-NOV-2011]	HK1128553-006		<0.1	1		

D1-23



Report Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1128553

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 2084049)								
HK1128553-002	G4-B29A	EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0

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

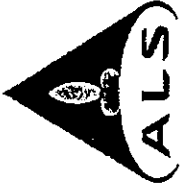
Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	DCS	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2084049)										
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	99.8	---	84	108	---

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 2084049)									
HK1128553-001	G4-B28A	EG020: Lead	7439-92-1	1 mg/L	93.9	93.2	75	125	0.8

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

<b>Client</b>	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	<b>Laboratory</b>	: ALS Technichem HK Pty Ltd	<b>Page</b>	: 1 of 3
<b>Contact</b>	: MR PENG FENG LI	<b>Contact</b>	: Chan Kwok Fai, Godfrey	<b>Work Order</b>	: HK1130236
<b>Address</b>	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	<b>Address</b>	: 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<b>E-mail</b>	: eokcip@hotmail.com	<b>E-mail</b>	: Godfrey.Chan@alsglobal.com	<b>Date received</b>	: 20-DEC-2011
<b>Telephone</b>	: +852 2408 1173	<b>Telephone</b>	: +852 2610 1044	<b>Date of issue</b>	: 31-DEC-2011
<b>Facsimile</b>	: ---	<b>Facsimile</b>	: +852 2610 2021	<b>No. of samples</b>	: - Received : 18
<b>Project</b>	: ---	<b>Quote number</b>	: ---		: - Analysed : 18
<b>Order number</b>	: ---				
<b>C-O-C number</b>	: H015679-H015680				
<b>Site</b>	: KCIP				

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1130236 supersedes any previous reports with this reference. The completion date of analysis is 31-DEC-2011. 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.

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on as received basis.

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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

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**Signatory**  
Fung Lim Chee, Richard

**Position**  
General Manager

**Authorised results for-**  
Inorganics

D1-25

**ALS Laboratory Group**  
**ALS Technichem (HK) Pty Ltd**  
Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
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Page Number : 2 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1130236

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound LOR Unit	EG020: Lead EG: Metals and Major Cations - Filtered	E-TCLP: Extraction Fluid Number	Sample Preparation Method
G4-B34A	[10-DEC-2011]	HK1130236-001		<0.1	1	
G4-B35A	[10-DEC-2011]	HK1130236-002		<0.1	1	
G4-B36A	[10-DEC-2011]	HK1130236-003		<0.1	1	
<del>B2-G16-B1A</del>	<del>[13-DEC-2011]</del>	<del>HK1130236-004</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B2A</del>	<del>[13-DEC-2011]</del>	<del>HK1130236-005</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B3A</del>	<del>[13-DEC-2011]</del>	<del>HK1130236-006</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B4A</del>	<del>[14-DEC-2011]</del>	<del>HK1130236-007</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B5A</del>	<del>[14-DEC-2011]</del>	<del>HK1130236-008</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B6A</del>	<del>[14-DEC-2011]</del>	<del>HK1130236-009</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B7A</del>	<del>[15-DEC-2011]</del>	<del>HK1130236-010</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B8A</del>	<del>[15-DEC-2011]</del>	<del>HK1130236-011</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B9A</del>	<del>[15-DEC-2011]</del>	<del>HK1130236-012</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B10A</del>	<del>[16-DEC-2011]</del>	<del>HK1130236-013</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B11A</del>	<del>[16-DEC-2011]</del>	<del>HK1130236-014</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B12A</del>	<del>[16-DEC-2011]</del>	<del>HK1130236-015</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B13A</del>	<del>[17-DEC-2011]</del>	<del>HK1130236-016</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B14A</del>	<del>[17-DEC-2011]</del>	<del>HK1130236-017</del>		<del>&lt;0.1</del>	<del>1</del>	
<del>B2-G16-B15A</del>	<del>[17-DEC-2011]</del>	<del>HK1130236-018</del>		<del>&lt;0.1</del>	<del>1</del>	

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Mark Order : HK1130236

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method/Compound	Laboratory Duplicate (DUP) Report				
			LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>Matrix: WATER</b>							
EG: Metals and Major Cations - Filtered (QC Lot: 2111766)							
HK1130236-002	G4-B35A	EG020: Lead	0.1	mg/L	<0.1	<0.1	0.0
HK1130236-011	B2-G16-B8A	EG020: Lead	0.1	mg/L	<0.1	<0.1	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method/Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
<b>Matrix: WATER</b>													
EG: Metals and Major Cations - Filtered (QC Lot: 2111766)													
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	97.4	84	108	84	108	—	—	—

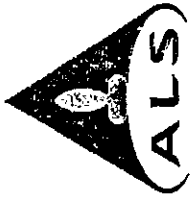
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method/Compound	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
<b>Matrix: WATER</b>										
EG: Metals and Major Cations - Filtered (QC Lot: 2111766)										
HK1130236-001	G4-B34A	EG020: Lead	1 mg/L	92.4	97.5	75	125	125	5.4	—

D1-27

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1024701
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 27-SEP-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 01-NOV-2010
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 3
Quote number	: ---	Quote number	: ---	No. of samples analysed	: 3

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories  
Fung Lim Chee, Richard

Position  
General Manager

Authorised results for  
Inorganics

D1-28

Page Number

: 2 of 4

Client

: CHINA INTERNATIONAL WATER & ELECTRIC CORP.

Work Order

HK1024701



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 28-OCT-2010

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: HK1024701

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1024701

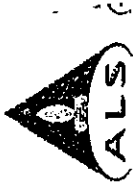


**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	Client sampling date / time		Unit	Result	Count
		LOR	Unit			
EG: Metals and Major Cations - Filtered						
EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	1
Sample Preparation Method						
E-TCLP: Extraction Fluid Number						

D1-30



**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1537851)			7439-92-1	0.1	mg/L	<0.1	<0.1		0.0
HK1024657-002	Anonymous	EG020: Lead							

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1537851)					0.1 mg/L	95.8				85	115		
EG020: Lead	7439-92-1	0.001	mg/L	<0.001									

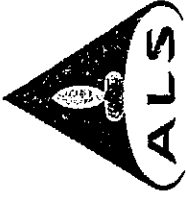
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report											
Laboratory sample ID	Client sample ID	CAS Number	Method: Compound	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1537851)				0.1 mg/L	93.4	98.3		75	125	5.0	
HK1024657-001	Anonymous	EG020: Lead									

D1-31

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1025229
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 26-OCT-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 05-NOV-2010
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 4
Quote number	: ----	Quote number	: ----	No. of samples analysed	: 4
LC number	: H009076				
	: KCIP				

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Signatories: Fung Lim Chee, Richard  
Position: General Manager  
Authorised results for: Inorganics

D1-32

Page Number : 2 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP.

Work Order : HK1025229



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

03-NOV-2010

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: HK1025229

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

D1-33



Report Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Order : HK1025229

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Unit	Client sample ID	Client sampling date / time	G12-B4A	G12-B5A	G12-B6A	G12-B7A
EG: Metals and Major Cations - Filtered									
EG020: Lead	7439-92-1	0.1	mg/L			[20-OCT-2010] HK1025229-001	[21-OCT-2010] HK1025229-002	[22-OCT-2010] HK1025229-003	[22-OCT-2010] HK1025229-004
Sample Preparation Method									
E-TCLP: Extraction Fluid Number						1	1	1	1

D1-34





**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report			
LOR	CAS Number	Unit	Duplicate Result	Original Result	Duplicate Result	RPD (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1545043)							
HK1025229-002	G12-B5A	mg/L	<0.1	<0.1	<0.1	<0.1	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	DCS
EG: Metals and Major Cations - Filtered (QC Lot: 1545043)							
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	98.3	85
							115
							---

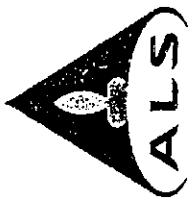
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1545043)											
HK1025229-001	G12-B4A	EG020: Lead	7439-92-1	1 mg/L	99.9	99.0	75	125	0.8	0.8	---

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1026473
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 05-NOV-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 18-NOV-2010
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 7
Project	: ---	Quote number	: ---	No. of samples analysed	: 7
Order number	: ---				
D-C number	: H009077				
3	: KCIP				

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Signatories	Fung Lim Chee, Richard	Position	General Manager
		Authorised results for	Inorganics

D1-36

Page Number : 2 of 5  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP.  
Work Order : HK1026473



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

17-NOV-2010

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: HK1026473

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

D1-37



11-27



**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	Client sample ID		G12-B10A	G12-B11A	G12-B12A
		LOR	Unit			
EG: Metals and Major Cations - Filtered						
EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1
Sample Preparation Method						
E-TCLP: Extraction Fluid Number		-	-	1	1	1

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Page Number : 4 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1026473

Sub-Matrix: TCLP LEACHATE	Client sample ID		LOR	Unit	mg/L	1	1
	CAS Number	Client sampling date / time					
EG: Metals and Major Cations - Filtered	7439-92-1	0.1	0.1	mg/L	<0.1	<0.1	<0.1
EG020: Lead							
Sample Preparation Method							
E-TCLP: Extraction Fluid Number							

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Page Number : 5 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1026473

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report			
Matrix	WATER	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1559466)		7439-92-1	0.1	mg/L	<0.1	<0.1	0.0		
HK1026473-002		G12-B9A							

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Matrix	WATER	CAS Number	Unit	Spike Concentration	LCS	DCS	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1559466)		7439-92-1	mg/L	0.1 mg/L	90.9	85	115		
EG020: Lead									

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

Laboratory sample ID		Client sample ID		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
Matrix	WATER	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit	RPD (%)		
EG: Metals and Major Cations - Filtered (QC Lot: 1559466)		7439-92-1	0.1 mg/L	92.8	93.0	75	125	0.2			
HK1026473-001		G12-B8A									

DI-40

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Contact : MR PENG FENG LI  
Address : RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD,  
NORTH POINT,  
HONG KONG  
E-mail : eokcip@hotmail.com  
Telephone : +852 2408 1173  
Facsimile : ---  
Quote number : ---  
Work Order : HK1027725  
Date received : 22-NOV-2010  
Date of issue : 07-DEC-2010  
No. of samples : Received : 10  
: Analyzed : 10

Laboratory : ALS Technichem HK Pty Ltd  
Contact : Chan Kwok Fai, Godfrey  
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing  
Yip Street,  
Kwai Chung, N.T., Hong Kong  
E-mail : Godfrey.Chan@alsenviro.com  
Telephone : +852 2610 1044  
Facsimile : +852 2610 2021  
Quote number : ---

Page : 1 of 3

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1027725 supersedes any previous reports with this reference. The completion date of analysis is 07-DEC-2010. 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 HK1027725 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98. Extraction Fluid #2 pH 2.83 - 2.93.

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Signatory

Fung Lim Chee, Richard

Position

General Manager

Authorised results for:-

Inorganics

D1-41

ALS Laboratory Group  
Trading Name: ALS Technichem (HK) Pty Ltd

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



Page Number : 2 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1027725

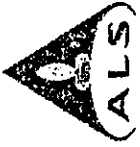
**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	LOR Unit	Compound	
				EG020: Lead	E-TCLP: Extraction Fluid Number
G12-B15A	[02-NOV-2010]	HK1027725-001		0.1 mg/L EG: Metals and Major Cations - Filtered	1 Sample Preparation Method
G12-B16A	[02-NOV-2010]	HK1027725-002		<0.1	1
G12-B17A	[03-NOV-2010]	HK1027725-003		<0.1	1
G12-B18A	[03-NOV-2010]	HK1027725-004		<0.1	1
G12-B19A	[06-NOV-2010]	HK1027725-005		<0.1	2
G12-B20A	[09-NOV-2010]	HK1027725-006		<0.1	1
G12-B21A	[13-NOV-2010]	HK1027725-007		<0.1	1
G12-B22A	[13-NOV-2010]	HK1027725-008		<0.1	1
G12-B23A	[17-NOV-2010]	HK1027725-009		<0.1	1
G12-B24A	[17-NOV-2010]	HK1027725-010		<0.1	1

D1-42





**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report			
EG: Metals and Major Cations - Filtered (QC Lot: 1582672)	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	RPD (%)
HK1027725-002	G12-B16A	0.1	mg/L	<0.1	<0.1	0.0	0.0
HK1027725-010	G12-B24A	0.1	mg/L	<0.1	<0.1	0.0	0.0

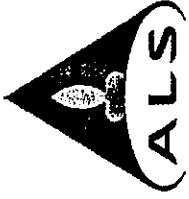
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QCLot: 1582672)	7439-92-1	0.001	mg/L	<0.1	1 mg/L	96.4	85	115	85	115	---	---
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	96.4	85	115	85	115	---	---

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QCLot: 1582672)	G12-B15A	EG020: Lead	7439-92-1	1 mg/L	95.9	96.4	96.4	75	125	125	0.5	---
HK1027725-001	G12-B15A	EG020: Lead	7439-92-1	1 mg/L	95.9	96.4	96.4	75	125	125	0.5	---

D1-43



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1018819
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 13-AUG-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 24-AUG-2010 16:31
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ----	Quote number	: ----	No. of samples analysed	: 1
Order number	: ----				
-O-C number	: H009064				
Site	: KCIP				

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Signatories	Fung Lim Chee, Richard	Position	General Manager	Authorised results for	Inorganics
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DI-43A

PRELIMINARY REPORT FOR REFERENCE ONLY

Page Number : 2 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1018819



**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the 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 processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client. The completion date of analysis is:

0-AUG-2010

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: HK1018819

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

D1-44

**PRELIMINARY REPORT FOR REFERENCE ONLY**

Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1018819



**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	Client sample ID	
		LOR	Unit
EG: Metals and Major Cations - Filtered			
EG020: Lead	7439-92-1	0.1	mg/L
Sample Preparation Method			
E-TCLP: Extraction Fluid Number			

G13-B1A (S18)  
 [13-AUG-2010]  
 HK1018819-001

7439-92-1

<0.1

1

PI-45



**Laboratory Duplicate (DUP) Report**

- No Laboratory Duplicate (DUP) Results are required to be reported.

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
Matrix: WATER	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	DCS	Recovery Limits (%)	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1457342)	7439-92-1	0.001	mg/L	<0.1	0.1 mg/L	93.2	---	85	115	---	---
EG020: Lead											

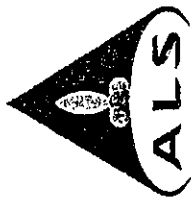
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number
EG: Metals and Major Cations - Filtered (QC Lot: 1457342)			
HK1018819-001	G13-B1A (5/8)	EG020: Lead	7439-92-1
			0.1 mg/L
			90.9
			93.9
			75
			125
			3.2

D1-46

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1019600
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 24-AUG-2010
Facsimile	: ---	Facsimile	: +852 2610 2021	Issue Date	: 16-SEP-2010
Project	: ---	Quote number	: ---	No. of samples received	: 3
Order number	: ---			No. of samples analysed	: 3
ISO-C number	: H009065				
Site	: KCIP				

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorised results for

Inorganics

D1-47

ALS Laboratory Group

Trading Name: ALS Technichem (HK) Pty Ltd

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong

Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company

Page Number : 2 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1019600



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the 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 processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client. The completion date of analysis is: 1-SEP-2010

Library: 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: HK1019600

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

D1-48



Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1019600

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EG: Metals and Major Cations - Filtered	7439-92-1	0.1		
EG020: Lead			G13-B2 (13/8) [13-SEP-2010] HK1019600-001	G13-B3 (14/8) [13-SEP-2010] HK1019600-002
Sample Preparation Method				G13-B4 (16/8) [13-SEP-2010] HK1019600-003
E-TCLP: Extraction Fluid Number			1	1
			<0.1	<0.1

DI-49





**Laboratory Duplicate (DUP) Report**

Matrix: WATER		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	Method: Compound
EG: Metals and Major Cations - Filtered (QC Lot: 1471026)	7439-92-1	EG020: Lead	EG020: Lead
HK1019600-002	G13-B3 (14/8)	0.1	mg/L
		<0.1	
			0.0

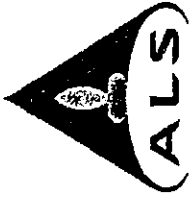
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report	
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration
EG: Metals and Major Cations - Filtered (QC Lot: 1471026)	7439-92-1	0.001	mg/L	<0.1	0.1 mg/L
EG020: Lead					98.4
					85
					115

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

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number
EG: Metals and Major Cations - Filtered (QC Lot: 1471026)	G13-B2 (13/8)	EG020: Lead	7439-92-1
HK1019600-001			0.1 mg/L
			94.0
			97.1
			75
			125
			3.3

D1-50



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1020957
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 07-SEP-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 25-SEP-2010
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 1
Project	: ----	Quote number	: ----	No. of samples analysed	: 1
Order number	: H009067				
Reference	: KCIP				

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<b>Signatories</b>	<b>Position</b>	<b>Authorised results for</b>
Fung Lim Chee, Richard	General Manager	Inorganics

D1-51

Page Number : 2 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP.

Work Order : HK1020957



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

15-SEP-2010

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: HK1020957

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

D1-52

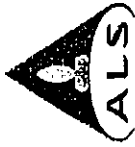


**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EG: Metals and Major Cations - Filtered				
EG020: Lead	7439-92-1	0.1	07-SEP-2010	mg/L
Sample Preparation Method			HK1020957-001	
E-TCLP: Extraction Fluid Number				<0.1
				1

D1-53



**Laboratory Duplicate (DUP) Report**

- No Laboratory Duplicate (DUP) Results are required to be reported.

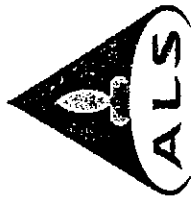
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

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 (%)	DCS	High	Low	Value	RPD (%)	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1486954)	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	97.7	85 - 115	---	---	---	---	---	---
EG020: Lead													

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Recovery (%)		Recovery Limits (%)		MSD	Value	Control Limit
				MS	MSD	Low	High			
EG: Metals and Major Cations - Filtered (QC Lot: 1486954)				96.4	94.2	75	125	94.2	125	2.3
HK1020957-001	G13-B5A (28/8)	EG020: Lead	7439-92-1	0.1 mg/L						

D1-54



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1024657
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 18-OCT-2010
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 02-NOV-2010
Facsimile	: ----	Facsimile	: +852 2610 2021	No. of samples received	: 4
Quote number	: ----	Quote number	: ----	No. of samples analysed	: 4
-O-C number	: H009075				
Site	: KCIP				

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Signatories	Fung Lim Chee, Richard	Position	General Manager	Authorised results for	Inorganics
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01-55

Page Number : 2 of 4  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1024657



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 3-OCT-2010

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: HK1024657

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

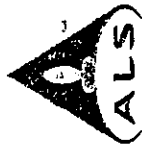
Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

D1-56

Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1024657



**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID		Unit	mg/L	Count
			Client sampling date / time	Client sample ID			
EG: Metals and Major Cations - Filtered	7439-92-1	0.1					
EG020: Lead			G13-B6A [17-SEP-2010] HK1024657-001	G13-B7A [17-SEP-2010] HK1024657-002		<0.1	1
Sample Preparation Method				B13-B8A [17-SEP-2010] HK1024657-003		<0.1	1
E-TCLP: Extraction Fluid Number				B13-B9A [17-SEP-2010] HK1024657-004		<0.1	1

D1-57





**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report				
LOR	Unit	CAS Number	Original Result	Duplicate Result	RPD (%)	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1537851)										
HK1024657-002	G13-B7A	EG020: Lead	7439-92-1	<0.1	<0.1	0.1	mg/L	<0.1	<0.1	0.0

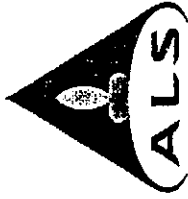
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Method: Compound	CAS Number	LOR	Unit	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1537851)												
EG020: Lead	7439-92-1	0.001	mg/L	0.1 mg/L	95.8	<0.001		85	115			

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

Laboratory sample ID		Client sample ID		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report								
LOR	Unit	CAS Number	Original Result	Duplicate Result	RPD (%)	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1537851)														
HK1024657-001	G13-B6A	EG020: Lead	7439-92-1	0.1 mg/L	98.3	0.1 mg/L	93.4	98.3	75	125	5.0			

DI-58



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1101239
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 14-JAN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 26-JAN-2011
Facsimile	: -----	Facsimile	: +852 2610 2021	No. of samples received	: 5
Quote number	: -----	Quote number	: -----	No. of samples analysed	: 5
Order number	: -----				
Order-C number	: H009467				
	: KCIP				

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Signatories	Position	Authorised results for
Fung Lim Chee, Richard	General Manager	Inorganics

D1-59

Page Number

: 2 of 4

Client

: CHINA INTERNATIONAL WATER & ELECTRIC CORP.

Work Order

HK1101239



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

25-JAN-2011

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: HK1101239

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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

DI-60

Page Number : 3 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1101239



### Analytical Results

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID		G15-B2A	G15-B3A	G15-B4A	G15-B5A
			Client sampling date / time	Unit				
			[08-JAN-2011]	HK1101239-001	[08-JAN-2011]	[10-JAN-2011]	[10-JAN-2011]	[11-JAN-2011]
EG: Metals and Major Cations - Filtered								
EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Sample Preparation Method								
E-TCLP: Extraction Fluid Number				1	1	1	1	1

A1-61



**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report			
LOR	CAS Number	Unit	Duplicate Result	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 1643004)	7439-92-1	mg/L	<0.1	<0.1	<0.1	0.0	
HK1101239-002	G15-B2A	EG020: Lead					

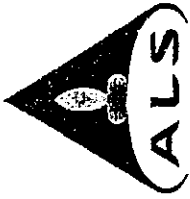
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1643004)	mg/L	<0.1	1 mg/L	96.5	85	115				
EG020: Lead	0.001		1 mg/L							

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report					
LOR	CAS Number	Unit	Result	Spike Recovery (%)	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1643004)	7439-92-1	mg/L	<0.1	95.7	89.3	75	125	6.9			
HK1101239-001	G15-B1A	EG020: Lead									

D1-62



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK11110925
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 13-MAY-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 24-MAY-2011
Facsimile	: -----	Facsimile	: +852 2610 2021	No. of samples received	: 4
Subject	: -----	Quote number	: -----	No. of samples analysed	: 4
Order number	: -----				
O-C number	: H013575				
Reference	: KCIP				

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Signatories	Position	Authorised results for
Fung Lim Chee, Richard	General Manager	Inorganics

P1-63

Page Number : 2 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP.

Work Order : HK1110925



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

20-MAY-2011

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: HK1110925

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

D1-64



Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1110925

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	Client sample ID	
		Client sampling date / time	Unit
		G15-D1A [13-MAY-2011]	G15-D2A [13-MAY-2011]
		HK1110925-001	HK1110925-002
			G15-D3A [13-MAY-2011]
			HK1110925-003
			G15-D4A [13-MAY-2011]
			HK1110925-004
EG: Metals and Major Cations - Filtered			
EG020: Lead	7439-92-1	0.1	mg/L
Sample Preparation Method			
E-TCLP: Extraction Fluid Number			
		<0.1	<0.1
		<0.1	<0.1
		1	1
		1	1

D1-65





**Laboratory Duplicate (DUP) Report**

Matrix: WATER		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	
EG: Metals and Major Cations - Filtered (QC Lot: 1797388)			
HK1110925-002	G15-D2A	EG020: Lead	
CAS Number	LOR	Unit	RPD (%)
7439-92-1	0.1	mg/L	0.0
Original Result	Duplicate Result		
<0.1	<0.1		

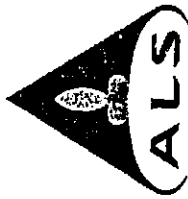
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Method: Compound	CAS Number	LOR	Unit	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1797388)							
EG020: Lead	7439-92-1	0.001	mg/L	1 mg/L	89.6	85 - 115	
Result							
<0.001							

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

Matrix: WATER		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
Laboratory sample ID	Client sample ID	CAS Number	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	RPD (%)	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1797388)							
HK1110925-001	G15-D1A	EG020: Lead	1 mg/L	90.7	75 - 125	1.1	
MSD	MS	MSD	MS	MS	MS	MS	MS
89.7	90.7	89.7	90.7	75	125	1.1	

D1-66



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1102478
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date Samples Received	: 28-JAN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 07-MAR-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 3
Project	: ---	Quote number	: ---	No. of samples analysed	: 3
Order number	: ---				
-O-C number	: H009471				
Site	: KCIP				

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Signatories  
Fung Lim Chee, Richard  
Position  
General Manager  
Authorised results for  
Inorganics

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Page Number : 2 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1102478



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 09-FEB-2011

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: HK1102478

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Sample #1 was used extraction fluid #2 pH 2.83 - 2.93. Sample #2 and #3 were used the extraction fluid #1 pH 4.88-4.98.

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**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
			G15-B6A	G15-B8A
			[25-JAN-2011]	[26-JAN-2011]
			HK1102478-001	HK1102478-003
EG: Metals and Major Cations - Filtered				
EG020: Lead	7439-92-1	0.1	<0.1	<0.1
Sample Preparation Method				
E-TCLP: Extraction Fluid Number			2	1

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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	Value	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1661720)	G15-B7A	EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1		0.0
HK1102478-002	G15-B7A	EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1		0.0

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

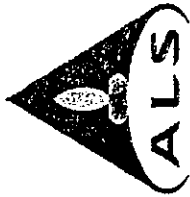
Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report									
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1661720)	7439-92-1	0.001	mg/L	<0.1	1 mg/L	98.9			85	115			
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	98.9			85	115			

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report												
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1661720)	G15-B6A	EG020: Lead	7439-92-1	1 mg/L	94.8		96.7	75	125		2.0	
HK1102478-001	G15-B6A	EG020: Lead	7439-92-1	1 mg/L	94.8		96.7	75	125		2.0	

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# ALS Technichem (HK) Pty Ltd



## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES

### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact Address	: MR PENG FENG LI : RM1508, 15/F, FORTRESS TOWER, : 250 KING'S ROAD, : NORTH POINT, : HONG KONG	Contact Address	: Chan Kwok Fai, Godfrey : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing : Yip Street, : Kwai Chung, N.T., Hong Kong	Work Order	: HK11113092
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com	Date received	: 10-JUN-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date of issue	: 21-JUN-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples	: 7
Project	: ---	Quote number	: ---	Received	: 7
Order number	: ---			Analyse	: 7
C-O-C number	: H009964				
Site	: ---				

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1113092 supersedes any previous reports with this reference. The completion date of analysis is 16-JUN-2011. 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 HK1113092 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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Signature	Position	Authorised results for:-
Fung Lim Chee, Richard	General Manager	Inorganics

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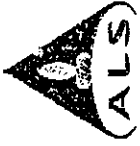


**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	EG020: Copper	EG020: Lead	E-TCLP: Extraction Fluid Number
G14-B1A	[31-MAY-2011]	HK1113092-001	LOR Unit	0.1 mg/L EG: Metals and Major Cations - Filtered	0.1 mg/L EG: Metals and Major Cations - Filtered	
G14-B2A	[07-JUN-2011]	HK1113092-002		<0.1	<0.1	1
G14-D1A	[02-JUN-2011]	HK1113092-003		<0.1	<0.1	1
G14-D2A	[02-JUN-2011]	HK1113092-004		<0.1	<0.1	1
G14-D3A	[03-JUN-2011]	HK1113092-005		<0.1	<0.1	1
G15-D5A	[31-MAY-2011]	HK1113092-006		<0.1	<0.1	1
G15-D6A	[01-JUN-2011]	HK1113092-007		<0.1	<0.1	1

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**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report					
			CAS Number	LOR	Unit	RPD (%)		
EG: Metals and Major Cations - Filtered (QC Lot: 1831202) HK1113092-002	G14-B2A	EG020: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0
			7439-92-1	0.1	mg/L	<0.1	<0.1	0.0

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

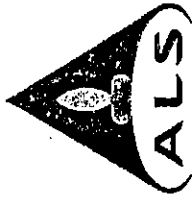
Method: Compound	Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1831202)													
EG020: Copper	7440-50-8	0.001	mg/L	<0.001	1 mg/L	91.9	---	---	85	115	---	---	---
EG020: Lead	7439-92-1	0.001	mg/L	<0.001	1 mg/L	99.1	---	---	85	115	---	---	---

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

Laboratory sample ID	Client sample ID	Method: Compound	Spike Concentration	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report				
				MS	MSD	Recovery Limits (%)	RPDs (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 1831202)								
HK1113092-001	G14-B1A	EG020: Copper	1 mg/L	95.7	93.8	75	125	2.1
			1 mg/L	105	102	75	125	2.9

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### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1114867
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 30-JUN-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	Issue Date	: 12-JUL-2011
Project	: ---	Quote number	: ---	No. of samples received	: 2
Order number	: ---			No. of samples analysed	: 2
C-O-C number	: H009966				
Site	: KCIP				

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Signatories: **Fung Lim Chee, Richard** Position: **General Manager** Authorised results for: **Inorganics**

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Page Number : 2 of 4

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1114867



### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 11-JUL-2011

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: HK1114867

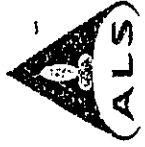
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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

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Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1114867

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	Client sample ID		Unit	mg/L
		LOR	Client sampling date / time		
EG: Metals and Major Cations - Filtered	7439-92-1	0.1			
EG020: Lead					<0.1
Sample Preparation Method					
E-TCLP: Extraction Fluid Number					
			G15 D-7A [21-JUN-2011] HK1114867-001	G15 D-8A [21-JUN-2011] HK1114867-002	

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Page Number : 4 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1114867

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1861159)		7439-92-1	EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
HK1114867-002		G15 D-8A							

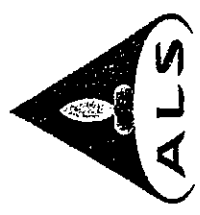
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1861159)	7439-92-1	0.001	mg/L	<0.1	1 mg/L	94.3	85	115				
EG020: Lead												

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

Matrix: WATER				Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1861159)	G15 D-7A	EG020: Lead	7439-92-1	1 mg/L	93.3	95.7		75	125	2.5	
HK1114867-001											

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## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES

### CERTIFICATE OF ANALYSIS

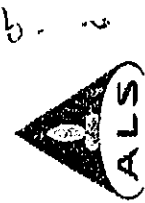
Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK11116176
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsenviro.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 14-JUL-2011
Facsimile	: -----	Facsimile	: +852 2610 2021	Issue Date	: 26-JUL-2011
Project	: -----	Quote number	: -----	No. of samples received	: 4
Order number	: -----			No. of samples analysed	: 4
-O-C number	: H009975				
Site	: KCIP				

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Signatories  
Fung Lim Chee, Richard  
Position  
General Manager  
Authorised results for  
Inorganics

D1-78



Page Number : 2 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1116176

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 20-JUL-2011

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: HK1116176

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
 Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.  
 The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.86 - 4.98.  
 TCLP leachate sample(s) were filtered prior to dissolved metal analysis.

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Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1116176

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID			
			Client sampling date / time	Unit		
EG: Metals and Major Cations - Filtered			G15-D9A	G15-D10A	G15-D11A	G15-D12A
EG020: Lead	7439-92-1	0.1	[14-JUL-2011]	[14-JUL-2011]	[14-JUL-2011]	[14-JUL-2011]
Sample Preparation Method			HK1116176-001	HK1116176-002	HK1116176-003	HK1116176-004
E-TCLP: Extraction Fluid Number			<0.1	<0.1	<0.1	<0.1
			1	1	1	1

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Page Number : 4 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP.  
 Work Order : HK1116176

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1879876)	7439-92-1	EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
HK1115745-002	Anonymous							

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

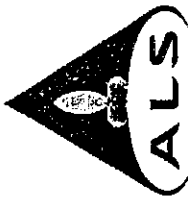
Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method: Compound	CAS Number	LOR	Unit	Spike Concentration	Result	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	High	Low	Value	Control Limit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1879876)	7439-92-1	0.001	mg/L	1 mg/L	<0.1	90.9	90.9	—	85	115	85	115	---	---
EG020: Lead														

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1879876)	7439-92-1	EG020: Lead	7439-92-1	1 mg/L	91.0	89.0	89.0	75	125	125	2.2	---
HK1115744-001	Anonymous											

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## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES

### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 5
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1117888
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 01-AUG-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 15-AUG-2011
Facsimile	: -----	Facsimile	: +852 2610 2021	No. of samples received	: 8
Quote number	: -----	Quote number	: -----	No. of samples analysed	: 8
Order number	: KCIP				
ISO-C number	: H009378				
File	: -----				

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Signalories	Position	Authorised results for
Fung Lim Chee, Richard	General Manager	Inorganics

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Page Number : 2 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP.  
 Work Order : HK1117888

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 12-AUG-2011

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: HK1117888

- Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.
- Soil sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.
- The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.
- TCLP leachate sample(s) were filtered prior to dissolved metal analysis.

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Page Number : 3 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1117888

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID		Unit	Concentration	Detection Limit
			Client sampling date / time	Client sample ID			
EG: Metals and Major Cations - Filtered	7439-92-1	0.1			mg/L	<0.1	<0.1
EG020: Lead							
<b>Sample Preparation Method</b>							
E-TCLP: Extraction Fluid Number							
			G15-D13A	G15-D14A	G15-D15A	G15-D16A	G15-D13B
			[25-JUL-2011]	[26-JUL-2011]	[27-JUL-2011]	[27-JUL-2011]	[25-JUL-2011]
			HK1117888-001	HK1117888-002	HK1117888-003	HK1117888-004	HK1117888-005
			1	1	1	1	1

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Compound	CAS Number	LOR	Client sample ID		Unit	mg/L
			Client sampling date / time	Client sampling date / time		
EG: Metals and Major Cations - Filtered	7439-92-1	0.1	G15-D14B	G15-D15B	G15-D16B	
EG020: Lead			[26-JUL-2011]	[27-JUL-2011]	[27-JUL-2011]	
Sample Preparation Method			HK1117888-006	HK1117888-007	HK1117888-008	
E-TCLP: Extraction Fluid Number						<0.1
						<0.1
						1
						1

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Page Number : 5 of 5  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1117888

**Laboratory Duplicate (DUP) Report**

Laboratory Sample ID		Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1909860)		7439-92-1	EG020: Lead		0.1	mg/L	<0.1	<0.1	0.0
HK1117888-002		G15-D14A							

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
Matrix:	Method:	CAS Number	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	Control Limit
WATER	Compound	7439-92-1	<0.1	1 mg/L	102	85	---	115	---	---	---	---
EG: Metals and Major Cations - Filtered (QC Lot: 1909860)												
EG020: Lead												

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

Laboratory sample ID		Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1909860)		7439-92-1	EG020: Lead		1 mg/L	100	97.8	75	125	75	125	2.4	---
HK1117888-001		G15-D13A											

DI-86

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 9
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1118949
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 12-AUG-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 23-AUG-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	No. of samples received	: 27
Project	: ---	Quote number	: ---	No. of samples analysed	: 27
Order number	: ---				
O-C number	: H009979-H009980 & H013570				
File	: KCIP				

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This document has been electronically signed by those names that appear on this report and are the authorized signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories	Position	Authorized results for
Fung Lim Chee, Richard	General Manager	Inorganics

DI-87

Page Number : 2 of 9

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1118949

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 22-AUG-2011

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: HK1118949

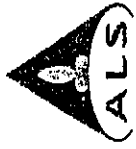
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

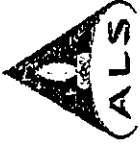
Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

DI-88





Page Number : 3 of 9  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1118949

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID		G14-D4A	G14-D4B	G14-D4C	G15-D17A	G15-D17B
			Client sampling date / time	Unit					
<b>EG: Metals and Major Cations - Filtered</b>									
EG020: Copper	7440-50-8	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
EG020: Lead	7439-92-1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
<b>Sample Preparation Method</b>									
E-TCLP: Extraction Fluid Number	-	-	1	1	1	1	1	1	1

D1-89





Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID		G15-D17C	G15-D18A	G15-D18B	G15-D18C	G15-D19A
			Client sampling date / time	Unit					
EG: Metals and Major Cations - Filtered					[28-JUL-2011]	[02-AUG-2011]	[02-AUG-2011]	[02-AUG-2011]	[02-AUG-2011]
EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sample Preparation Method									
E-TCLP: Extraction Fluid Number					1	1	1	1	1

DI-90



Page Number : 5 of 9  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1118949

Compound	CAS Number	Client sample ID		G15-D19C	G15-D19B	G15-D20A	G15-D20B	G15-D20C
		Client sampling date / time	Unit					
EG: Metals and Major Cations - Filtered	7439-92-1	0.1	mg/L					
EG020: Lead				<0.1	<0.1	<0.1	<0.1	<0.1
Sample Preparation Method				1	1	1	1	1
E-TCLP: Extraction Fluid Number				1	1	1	1	1

DI-91



Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID		G15-D21A	G15-D21B	G15-D21C	G15-D22A	G15-D22B
			Client sampling date / time	Unit					
EG: Metals and Major Cations - Filtered					[04-AUG-2011]	[04-AUG-2011]	[04-AUG-2011]	[04-AUG-2011]	[04-AUG-2011]
EG020: Lead	7439-92-1	0.1		mg/L	HK1118949-016	HK1118949-017	HK1118949-018	HK1118949-019	HK1118949-020
Sample Preparation Method					<0.1	<0.1	<0.1	<0.1	<0.1
E-TCLP: Extraction Fluid Number					1	1	1	1	1

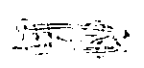
DI-92



Page Number : 7 of 9  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1118949

Compound	CAS Number	LOR	Client sample ID		G15-D22C	G15-D23A	G15-D23B	G15-D23C	G15-D24A
			Client sampling date / time	Unit					
EG: Metals and Major Cations - Filtered	7439-92-1	0.1	mg/L		[04-AUG-2011]	[05-AUG-2011]	[05-AUG-2011]	[05-AUG-2011]	[05-AUG-2011]
EG020: Lead					HK1118949-021	HK1118949-022	HK1118949-023	HK1118949-024	HK1118949-025
Sample Preparation Method					<0.1	<0.1	<0.1	<0.1	<0.1
E-TCLP: Extraction Fluid Number					1	1	1	1	1

DI-93





Compound	CAS Number	LOR	Client sample ID		Unit	mg/L
			Client sampling date / time	Client sample ID		
EG: Metals and Major Cations - Filtered	7439-92-1	0.1				
EG020: Lead			[05-AUG-2011]	G15-D24C		<0.1
Sample Preparation Method			HK1118949-026			
E-TCLP: Extraction Fluid Number						



**Laboratory Duplicate (DUP) Report**

Matrix: WATER		Laboratory Duplicate (DUP) Report	
Laboratory sample ID	Client sample ID	Method: Compound	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921015)</b>			
HK1118949-002	G14-D4B	EG020: Copper	0.0
		EG020: Lead	0.0
HK1118949-011	G15-D19B	EG020: Copper	0.0
		EG020: Lead	0.0
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921016)</b>			
HK1118949-022	G15-D23A	EG020: Lead	0.0

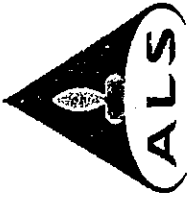
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER		Method Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921015)</b>							
EG020: Copper	7440-50-8	0.001	mg/L	<0.1	1 mg/L	96.5	85
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	91.2	85
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921016)</b>							
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	92.8	85

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

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MSD	MS	MSD	Recovery Limits (%)	Value	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921015)</b>										
HK1118949-001	G14-D4A	EG020: Copper	7440-50-8	1 mg/L	97.8	100	97.8	75	125	2.3
		EG020: Lead	7439-92-1	1 mg/L	93.4	94.2	93.4	75	125	0.8
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921016)</b>										
HK1118949-021	G15-D22C	EG020: Lead	7439-92-1	1 mg/L	93.2	93.6	93.2	75	125	0.5

D1-95



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 8
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1119336
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 17-AUG-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 31-AUG-2011
Facsimile	: -----	Facsimile	: +852 2610 2021	No. of samples received	: 24
Project	: -----	Quote number	: -----	No. of samples analysed	: 24
Order number	: -----				
C-O-C number	: H015653-H015654				
Site	: KCIP				

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Signatories	Position	Authorised results for
Fung Lim Ctee, Richard	General Manager	Inorganics

D1-96

Page Number : 2 of 8

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1119336



**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 29-AUG-2011

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: HK1119336

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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

DI-97



Page Number : 3 of 8

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1119336



Analytical Results

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID		G15-D25A	G15-D25B	G15-D25C	G15-D26A	G15-D26B
			Client sampling date / time	Unit					
EG: Metals and Major Cations - Filtered					[11-AUG-2011]	[11-AUG-2011]	[11-AUG-2011]	[11-AUG-2011]	[11-AUG-2011]
EG020: Lead	7439-92-1	0.1	mg/L		HK1119336-001	HK1119336-002	HK1119336-003	HK1119336-004	HK1119336-005
					<0.1	<0.1	<0.1	<0.1	<0.1
Sample Preparation Method									
E-TCLP: Extraction Fluid Number					1	1	1	1	1

DI-98



Page Number : 4 of 8

Client : CHINA INTERNATIONAL WATER & ELECTRIC COR.

Work Order : HK1119336

Sub-Matrix: TCLP LEACHATE	Client sample ID		G15-D26C	G15-D27A	G15-D27B	G15-D27C	G15-D28A
	CAS Number	Unit					
	7439-92-1	0.1	[11-AUG-2011]	[11-AUG-2011]	[11-AUG-2011]	[11-AUG-2011]	[12-AUG-2011]
EG: Metals and Major Cations - Filtered			HK1119336-006	HK1119336-007	HK1119336-008	HK1119336-009	HK1119336-010
EG020: Lead			<0.1	<0.1	<0.1	<0.1	<0.1
Sample Preparation Method			1	1	1	1	1
E-TCLP: Extraction Fluid Number							

DI-99



Page Number : 5 of 8  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Fork Order : HK1119336

Compound	CAS Number	LOR	Unit	Client sample ID		G15-D28C	G15-D29A	G15-D29B	G15-D29C
				Client sampling date / time	Client sampling date / time				
Sub-Matrix: TCLP LEACHATE				G15-D28B	G15-D29A	G15-D28C	G15-D29A	G15-D29B	G15-D29C
				[12-AUG-2011]	[13-AUG-2011]	[12-AUG-2011]	[13-AUG-2011]	[13-AUG-2011]	[13-AUG-2011]
				HK1119336-011	HK1119336-013	HK1119336-012	HK1119336-013	HK1119336-014	HK1119336-015
EG: Metals and Major Cations - Filtered	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
EG020: Lead									
Sample Preparation Method									
E-TCLP: Extraction Fluid Number				1	1	1	1	1	1

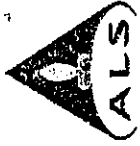
D1-100



Page Number : 6 of 8  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP.  
 Work Order : HK1119336

Sub-Matrix: TCLP LEACHATE	Client sample ID		G15-D30A	G15-D30B	G15-D30C	G15-D31A	G15-D31B
	Client sampling date / time	Client sampling date / time					
Compound	CAS Number	LOR	Unit	Unit	Unit	Unit	Unit
EG: Metals and Major Cations - Filtered							
EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1
Sample Preparation Method							
E-TCLP: Extraction Fluid Number				1	1	1	1
							HK1119336-016
							HK1119336-017
							HK1119336-018
							HK1119336-019
							HK1119336-020

DI-101



Sample Number : 7 of 8  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1119336

Sub-Matrix: TCLP LEACHATE	Client sample ID		G15-D32C	G15-D32A	G15-D32B	G15-D32C
	CAS Number	Client sampling date / time				
Compound	LOR	Unit	HK1119336-021	HK1119336-022	HK1119336-023	HK1119336-024
EG: Metals and Major Cations - Filtered						
EG020: Lead	7439-92-1	0.1 mg/L	<0.1	<0.1	<0.1	<0.1
Sample Preparation Method						
E-TCLP: Extraction Fluid Number			1	1	1	1

D1-102



**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: 1931536)</b>									
HK1119336-002	G15-D25B		EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
HK1119336-011	G15-D28B		EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1931537)</b>									
HK1119336-022	G15-D32A		EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
HK1119525-002	Anonymous		EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0

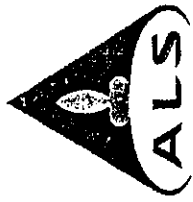
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report										
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1931536)</b>										
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	97.1	85	85	115	---
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1931537)</b>										
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	99.7	85	85	115	---

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Value	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1931536)</b>										
HK1119336-001	G15-D25A	EG020: Lead	7439-92-1	1 mg/L	95.8	98.4	75	125	2.7	---
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1931537)</b>										
HK1119336-021	G15-D31C	EG020: Lead	7439-92-1	1 mg/L	99.9	99.9	75	125	0.03	---

D1-103



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1130236
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date received	: 20-DEC-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Date of issue	: 31-DEC-2011
Quote number	: ----	Quote number	: ----	No. of samples	: Received : 18
Order number	: ----				: Analysed : 18
-O-C number	: H015679-H015680				
Site	: KGIP				

#### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1130236 supersedes any previous reports with this reference. The completion date of analysis is 31-DEC-2011. 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 HK1130236 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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

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Signatory: Fung Lim Chee, Richard  
Position: General Manager  
Authorised results for: Inorganics

D1-104



**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound LOR Unit	EG020: Lead EG: Metals and Major Cations - Filtered	E-TCLP: Extraction Fluid Number	Sample Preparation Method
G4-B34A	[10-DEC-2011]	HK1130236-001		<0.1	1	1
G4-B35A	[10-DEC-2011]	HK1130236-002		<0.1	1	1
G4-B36A	[10-DEC-2011]	HK1130236-003		<0.1	1	1
B2-G16-B1A	[13-DEC-2011]	HK1130236-004		<0.1	1	1
B2-G16-B2A	[13-DEC-2011]	HK1130236-005		<0.1	1	1
B2-G16-B3A	[13-DEC-2011]	HK1130236-006		<0.1	1	1
B2-G16-B4A	[14-DEC-2011]	HK1130236-007		<0.1	1	1
B2-G16-B5A	[14-DEC-2011]	HK1130236-008		<0.1	1	1
B2-G16-B6A	[14-DEC-2011]	HK1130236-009		<0.1	1	1
B2-G16-B7A	[15-DEC-2011]	HK1130236-010		<0.1	1	1
B2-G16-B8A	[15-DEC-2011]	HK1130236-011		<0.1	1	1
B2-G16-B9A	[15-DEC-2011]	HK1130236-012		<0.1	1	1
B2-G16-B10A	[16-DEC-2011]	HK1130236-013		<0.1	1	1
B2-G16-B11A	[16-DEC-2011]	HK1130236-014		<0.1	1	1
B2-G16-B12A	[16-DEC-2011]	HK1130236-015		<0.1	1	1
B2-G16-B13A	[17-DEC-2011]	HK1130236-016		<0.1	1	1
B2-G16-B14A	[17-DEC-2011]	HK1130236-017		<0.1	1	1
B2-G16-B15A	[17-DEC-2011]	HK1130236-018		<0.1	1	1

D1-105





Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1130236

**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: 2111766)</b>								
HK1130236-002	G4-B35A	EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
HK1130236-011	B2-G16-B8A	EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0

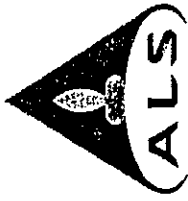
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report											
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPDs (%)
<b>Matrix: WATER</b>															
<b>Method: Compound</b>															
EG: Metals and Major Cations - Filtered (QCLot: 2111766)			7439-92-1	0.001	mg/L	<0.1	1 mg/L	97.4				84	108		
EG020: Lead															

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

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	RPDs (%)
<b>Matrix: WATER</b>												
<b>Method: Compound</b>												
EG: Metals and Major Cations - Filtered (QCLot: 2111766)			7439-92-1	1 mg/L	92.4		97.5		75	125	5.4	
HK1130236-001	G4-B34A	EG020: Lead										

DI-106



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1130467
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com	Date Samples Received	: 22-DEC-2011
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Issue Date	: 05-JAN-2012
Facsimile	: -----	Facsimile	: +852 2610 2021	No. of samples received	: 5
Project	: -----	Quote number	: -----	No. of samples analysed	: 5
Order number	: -----				
Q-C number	: H015681				
Site	: KCIP				

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories: **Fung Lim Chee, Richard** Position: **General Manager** Authorised results for: **Inorganics**

D1-107



Page Number : 2 of 4  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1130467

#### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 30-DEC-2011

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: HK1130467

Sample(s) were picked up from client by ALS Technicians (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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

D1-108



Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1130467

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID		Unit	mg/L	Count
			Client sampling date / time	Client sample ID			
EG: Metals and Major Cations - Filtered							
EG020: Lead	7439-92-1	0.1				<0.1	1
Sample Preparation Method							
E-TCLP: Extraction Fluid Number							
						<0.1	1
						<0.1	1
						<0.1	1
						<0.1	1
						<0.1	1

DI-109



Page Number : 4 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC COR.  
 Work Order : HK1130467

**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: 2111766)</b>									
HK1130236-002	Anonymous		EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
HK1130236-011	Anonymous		EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
<b>EG: Metals and Major Cations - Filtered (QC Lot: 2111767)</b>									
HK1130467-004	B2-G16-B12B		EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0

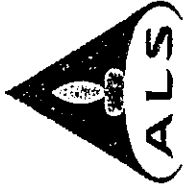
**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Method Blank (MB) Report										
Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 2111766)</b>										
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	97.4	84	108	84 - 108	
<b>EG: Metals and Major Cations - Filtered (QC Lot: 2111767)</b>										
EG020: Lead	7439-92-1	0.001	mg/L	<0.001	1 mg/L	92.4	84	108	84 - 108	

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

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report										
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Value	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 2111766)</b>										
HK1130236-001	Anonymous	EG020: Lead	7439-92-1	1 mg/L	92.4	97.5	75	125	5.4	
<b>EG: Metals and Major Cations - Filtered (QC Lot: 2111767)</b>										
HK1130467-001	B2-G16-B3B	EG020: Lead	7439-92-1	1 mg/L	102	105	75	125	2.3	

D1-110



### CERTIFICATE OF ANALYSIS

<b>Client</b> : CHINA INTERNATIONAL WATER & ELECTRIC CORP	<b>Laboratory</b> : ALS Technichem HK Pty Ltd	<b>Page</b> : 1 of 3
<b>Contact Address</b> : MR PENG FENG LI : RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	<b>Contact Address</b> : Chan Kwok Fai, Godfrey : 11/F., Chung Shun Knitting Centre, 1 -3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	<b>Work Order</b> : HK1120282
<b>E-mail</b> : eokcip@hotmail.com	<b>E-mail</b> : Godfrey.Chan@alsglobal.com	<b>Date received</b> : 29-AUG-2011
<b>Telephone</b> : +852 2408 1173	<b>Telephone</b> : +852 2610 1044	<b>Date of issue</b> : 12-SEP-2011
<b>Facsimile</b> : ---	<b>Facsimile</b> : +852 2610 2021	<b>No. of samples</b> : Received : 25
<b>Project</b> : ---	<b>Quote number</b> : ---	Analysed : 25
<b>Order number</b> : ---		
<b>C-O-C number</b> : H015658-H015660		
<b>Site</b> : KCIP		

#### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1120282 supersedes any previous reports with this reference. The completion date of analysis is 10-SEP-2011. 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 HK1120282 :  
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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Signature: Fung Lim Chee, Richard  
Position: General Manager  
Authorised results for: Inorganics

DI-111



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Page Number : 2 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1120282

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	EG020: Copper		EG020: Lead		E-TCLP: Extraction Fluid Number
				EG: Metals and Major Cations - Filtered	0.1 mg/L	EG: Metals and Major Cations - Filtered	0.1 mg/L	
G14-D10A	[17-AUG-2011]	HK1120282-001	LOR Unit	<0.1	<0.1	<0.1	<0.1	1
G14-D11A	[17-AUG-2011]	HK1120282-002		<0.1	<0.1	<0.1	<0.1	1
G14-D12A	[19-AUG-2011]	HK1120282-003		0.2	<0.1	<0.1	<0.1	1
G14-B8A	[19-AUG-2011]	HK1120282-004		<0.1	<0.1	<0.1	<0.1	1
G14-B8B	[19-AUG-2011]	HK1120282-005		0.2	<0.1	<0.1	<0.1	1
G14-B8A	[19-AUG-2011]	HK1120282-006		0.2	<0.1	<0.1	<0.1	1
G14-B8B	[19-AUG-2011]	HK1120282-007		<0.1	<0.1	<0.1	<0.1	1
G14-B10A	[19-AUG-2011]	HK1120282-008		<0.1	<0.1	<0.1	<0.1	1
G14-B10B	[19-AUG-2011]	HK1120282-009		0.2	<0.1	<0.1	<0.1	1
G14-B11A	[20-AUG-2011]	HK1120282-010		<0.1	<0.1	<0.1	<0.1	1
G14-B11B	[20-AUG-2011]	HK1120282-011		<0.1	<0.1	<0.1	<0.1	1
G14-B12A	[20-AUG-2011]	HK1120282-012		0.3	<0.1	<0.1	<0.1	1
G14-B12B	[20-AUG-2011]	HK1120282-013		0.3	<0.1	<0.1	<0.1	1
G14-D13A	[20-AUG-2011]	HK1120282-014		0.1	<0.1	<0.1	<0.1	1
G14-D14A	[20-AUG-2011]	HK1120282-015		0.1	<0.1	<0.1	<0.1	1
G14-D15A	[22-AUG-2011]	HK1120282-016		<0.1	<0.1	<0.1	<0.1	1
G14-D16A	[22-AUG-2011]	HK1120282-017		<0.1	<0.1	<0.1	<0.1	1
G14-D17A	[22-AUG-2011]	HK1120282-018		<0.1	<0.1	<0.1	<0.1	1
G14-B13A	[23-AUG-2011]	HK1120282-019		<0.1	<0.1	<0.1	<0.1	1
G14-B13B	[23-AUG-2011]	HK1120282-020		<0.1	<0.1	<0.1	<0.1	1
G14-B14A	[23-AUG-2011]	HK1120282-021		<0.1	<0.1	<0.1	<0.1	1
G14-B14B	[23-AUG-2011]	HK1120282-022		<0.1	<0.1	<0.1	<0.1	1
G14-B15A	[23-AUG-2011]	HK1120282-023		<0.1	<0.1	<0.1	<0.1	1
G14-B15B	[23-AUG-2011]	HK1120282-024		<0.1	<0.1	<0.1	<0.1	1
G14-D18A	[23-AUG-2011]	HK1120282-025		0.1	<0.1	<0.1	<0.1	1

D1-112



Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1120282

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report				
			LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1950228)</b>							
HK1120282-002	G14-D11A	EG020: Copper	0.1	mg/L	<0.1	<0.1	0.0
		EG020: Lead	0.1	mg/L	<0.1	<0.1	0.0
<b>HK1120282-010</b>							
	G14-B11A	EG020: Copper	0.1	mg/L	<0.1	<0.1	0.0
		EG020: Lead	0.1	mg/L	<0.1	<0.1	0.0
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1950229)</b>							
HK1120282-022	G14-B14B	EG020: Copper	0.1	mg/L	<0.1	<0.1	0.0
		EG020: Lead	0.1	mg/L	<0.1	<0.1	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
CAS Number	LOR	Unit	Result	Spike Concentration	LCS	DCS	Recovery Limits (%)	Value	Control Limit
<b>Method: Compound</b>									
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1950228)</b>									
EG020: Copper	0.001	mg/L	<0.1	1 mg/L	93.6	115	85	115	—
EG020: Lead	0.001	mg/L	<0.1	1 mg/L	98.2	115	85	115	—
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1950229)</b>									
EG020: Copper	0.001	mg/L	<0.1	1 mg/L	92.1	115	85	115	—
EG020: Lead	0.001	mg/L	<0.1	1 mg/L	93.6	115	85	115	—

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

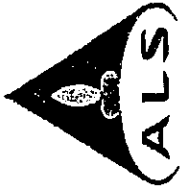
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report								
Laboratory sample ID	Client sample ID	Method: Compound	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit
<b>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report</b>								
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1950228)</b>								
HK1120282-001	G14-D10A	EG020: Copper	1 mg/L	97.8	102	75	125	3.8
		EG020: Lead	1 mg/L	92.6	94.3	75	125	1.8
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1950229)</b>								
HK1120282-021	G14-B14A	EG020: Copper	1 mg/L	89.9	93.4	75	125	3.8
		EG020: Lead	1 mg/L	94.5	95.2	75	125	0.7

D1-113



# ALS Technichem (HK) Pty Ltd

## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES



### CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 4
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1122113
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date Samples Received	: 20-SEP-2011
Facsimile	: ----	Facsimile	: +852 2610 2021	Issue Date	: 04-OCT-2011
Project	: ----	Quote number	: ----	No. of samples received	: 2
Order number	: ----			No. of samples analysed	: 2
C-O-C number	: H015672				
Site	: KCIP				

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Signatories

Fung Lim Chee, Richard

Position

General Manager

Authorized results for

Inorganics

DI-114

ALS Laboratory Group  
ALS Technichem (HK) Pty Ltd  
Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company

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Page Number : 2 of 4  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1122113

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is:

27-SEP-2011

Key: Lot = 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: HK1122113

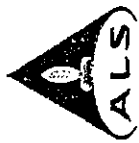
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

DI-115



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Page Number : 3 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1122113

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Unit	Client sample ID	Client sampling date / time
EG: Metals and Major Cations - Filtered				G14-D31B	[27-AUG-2011]
EG020: Copper	7440-50-8	0.1	mg/L	G14-D30B	[27-AUG-2011]
EG020: Lead	7439-92-1	0.1	mg/L	HK1122113-001	HK1122113-002
Sample Preparation Method					
E-TCLP: Extraction Fluid Number					

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Page Number : 4 of 4  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1122113

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Laboratory Duplicate (DUP) Report		RPD (%)
						Original Result	Duplicate Result	
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1974019)</b>								
HK1122035-002	Anonymous	EG020: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0
		EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
HK1122303-006	Anonymous	EG020: Copper	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0
		EG020: Lead	7439-92-1	0.1	mg/L	0.2	0.2	0.0

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

Method: Compound	CAS Number	LOR	Unit	Result	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
					Spike Concentration	DCS	Recovery Limits (%)	Control Limit
<b>Method Blank (MB) Report</b>								
Method Blank (MB) Report								
<b>Laboratory Control Spike (LCS) Report</b>								
Laboratory Control Spike (LCS) Report								
<b>Laboratory Control Spike Duplicate (DCS) Report</b>								
Laboratory Control Spike Duplicate (DCS) Report								
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1974019)</b>								
EG020: Copper	7440-50-8	0.001	mg/L	<0.1	96.0	85	115	---
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	94.4	85	115	---

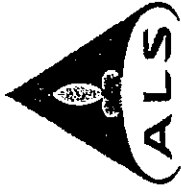
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			RPD (%)
							Spike Recovery (%)	Recovery Limits (%)	Value	
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1974019)</b>										
HK1122035-001	Anonymous	EG020: Copper	7440-50-8	1 mg/L	96.0	97.0	75	125	1.0	---
		EG020: Lead	7439-92-1	1 mg/L	93.3	94.1	75	125	0.8	---

DI-117

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

<b>Client</b> : CHINA INTERNATIONAL WATER & ELECTRIC CORP	<b>Laboratory</b> : ALS Technichem HK Pty Ltd	<b>Page</b> : 1 of 3
<b>Contact</b> : MR PENG FENG LI	<b>Contact</b> : Chan Kwok Fai, Godfrey	<b>Work Order</b> : HK1121464
<b>Address</b> : RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	<b>Address</b> : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	
<b>E-mail</b> : eokcjp@hotmail.com	<b>E-mail</b> : Godfrey.Chan@alsglobal.com	<b>Date received</b> : 12-SEP-2011
<b>Telephone</b> : +852 2408 1173	<b>Telephone</b> : +852 2610 1044	<b>Date of issue</b> : 23-SEP-2011
<b>Facsimile</b> : ---	<b>Facsimile</b> : +852 2610 2021	<b>No. of samples</b> : - Received : 11
<b>Project</b> : ---	<b>Quote number</b> : ---	- Analysed : 11
<b>Order number</b> : ---		
<b>C-O-C number</b> : H015669		
<b>Site</b> : KCIP		

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1121464 supersedes any previous reports with this reference. The completion date of analysis is 20-SEP-2011. 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 HK1121464 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed on an as received basis. Result(s) reported on a dry weight basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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**Signatory** : Fung Lim Chee, Richard  
**Position** : General Manager  
**Authorised results for:** Inorganics

D1-118

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Page Number : 2 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1121464

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	EG020: Copper 0.1 mg/L EG: Metals and Major Cations - Filtered	EG020: Lead 0.1 mg/L EG: Metals and Major Cations - Filtered	E-TCLP: Extraction Fluid Number
G14-D32A	[05-SEP-2011]	HK1121464-001	Lead	0.6	<0.1	1
G14-D33A	[05-SEP-2011]	HK1121464-002	Lead	1.0	<0.1	1
G14-D34A	[05-SEP-2011]	HK1121464-003	Lead	0.5	<0.1	1
G14-D35A	[05-SEP-2011]	HK1121464-004	Lead	0.5	<0.1	1
G14-B16A	[06-SEP-2011]	HK1121464-005	Lead	0.9	<0.1	1
G14-B17A	[06-SEP-2011]	HK1121464-006	Lead	0.6	<0.1	1
G14-D36A	[06-SEP-2011]	HK1121464-007	Lead	0.7	<0.1	1
G14-D37A	[06-SEP-2011]	HK1121464-008	Lead	0.7	<0.1	1
G14-D38A	[07-SEP-2011]	HK1121464-009	Lead	0.5	<0.1	1
G14-D39A	[07-SEP-2011]	HK1121464-010	Lead	0.5	<0.1	1
G14-D40A	[07-SEP-2011]	HK1121464-011	Lead	0.5	<0.1	1

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Page Number : 3 of 3

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1121464

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID		Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report			
Matrix: WATER	CAS Number	Unit	Original Result	Duplicate Result	RPD (%)	Control Limit	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1963832)</b>							
HK1121464-002	7440-50-8	mg/L	1.0	1.0	0.0	0.0	0.0
	EG020: Copper						
	7439-92-1	mg/L	<0.1	<0.1	0.0	0.0	0.0
	EG020: Lead						
HK1121464-011	7440-50-8	mg/L	0.5	0.5	0.0	0.0	0.0
	EG020: Copper						
	7439-92-1	mg/L	<0.1	<0.1	0.0	0.0	0.0
	EG020: Lead						

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Matrix: WATER	CAS Number	Unit	Result	Spike Concentration	LCS	DCS	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1963832)</b>							
EG020: Copper	7440-50-8	mg/L	<0.1	1 mg/L	99.5	85	115
EG020: Lead	7439-92-1	mg/L	<0.1	1 mg/L	93.6	85	115

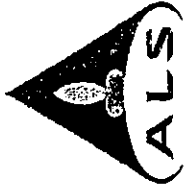
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	RPDs (%)	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1963832)</b>									
HK1121464-001	G14-D32A	Copper	7440-50-8	1 mg/L	98.5	105	75	125	6.3
		Lead	7439-92-1	1 mg/L	98.9	97.2	75	125	1.7

D1-120

# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

<b>Client</b>	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	<b>Laboratory</b>	: ALS Technichem HK Pty Ltd	<b>Page</b>	: 1 of 3
<b>Contact</b>	: MR PENG FENG LI	<b>Contact</b>	: Chan Kwok Fai, Godfrey	<b>Work Order</b>	: HK1120606
<b>Address</b>	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	<b>Address</b>	: 11/F, Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<b>E-mail</b>	: eokcip@hotmail.com	<b>E-mail</b>	: Godfrey.Chan@alsglobal.com		
<b>Telephone</b>	: +852 2408 1173	<b>Telephone</b>	: +852 2610 1044	<b>Date received</b>	: 02-SEP-2011
<b>Facsimile</b>	: ---	<b>Facsimile</b>	: +852 2610 2021	<b>Date of issue</b>	: 19-SEP-2011
<b>Project</b>	: KCIP	<b>Quote number</b>	: ---	<b>No. of samples</b>	: - Received : 13
<b>Order number</b>	: ---				: - Analysed : 13
<b>C-O-C number</b>	: H015663-H015664				
<b>Site</b>	: ---				

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1120606 supersedes any previous reports with this reference. The completion date of analysis is 16-SEP-2011. 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 HK1120606 :  
 Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
 Sample(s) analysed and reported on an as received basis.

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.  
 TCLP leachate sample(s) were filtered prior to dissolved metal analysis.

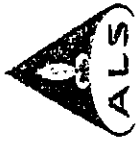
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<b>Signatory</b>	<b>Position</b>	<b>Authorised results for:-</b>
Fung Lim Chee, Richard	General Manager	Inorganics

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Page Number : 2 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1120606

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound LOR Unit	EG020: Copper		EG020: Lead		E-TCLP: Extraction Fluid Number	
				EG: Metals and Major Cations - Filtered	0.1 mg/L	EG: Metals and Major Cations - Filtered	0.1 mg/L	Sample Preparation Method	Extraction Fluid Number
G14-D19A	[24-AUG-2011]	HK1120606-001		0.4	<0.1	<0.1	1	1	
G14-D20A	[24-AUG-2011]	HK1120606-002		0.5	<0.1	<0.1	1	1	
G14-D21A	[24-AUG-2011]	HK1120606-003		0.4	<0.1	<0.1	1	1	
G14-D22A	[25-AUG-2011]	HK1120606-004		0.3	<0.1	<0.1	1	1	
G14-D23A	[25-AUG-2011]	HK1120606-005		0.6	<0.1	<0.1	1	1	
G14-D24A	[26-AUG-2011]	HK1120606-006		1.0	<0.1	<0.1	1	1	
G14-D25A	[26-AUG-2011]	HK1120606-007		0.9	<0.1	<0.1	1	1	
G14-D26A	[26-AUG-2011]	HK1120606-008		1.0	<0.1	<0.1	1	1	
G14-D27A	[27-AUG-2011]	HK1120606-009		0.9	<0.1	<0.1	1	1	
G14-D28A	[27-AUG-2011]	HK1120606-010		0.3	<0.1	<0.1	1	1	
G14-D29A	[27-AUG-2011]	HK1120606-011		0.3	<0.1	<0.1	1	1	
G14-D30A	[27-AUG-2011]	HK1120606-012		1.5	<0.1	<0.1	1	1	
G14-D31A	[27-AUG-2011]	HK1120606-013		1.5	<0.1	<0.1	1	1	

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1120606

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method: Compound	Laboratory Duplicate (DUP) Report			
			CAS Number	LOR	Unit	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1959929)</b>						
HK1120606-002	G14-D20A	EG020: Copper	7440-50-8	0.1	mg/L	0.0
		EG020: Lead	7439-92-1	<0.1	mg/L	0.0
HK1120606-010	G14-D28A	EG020: Copper	7440-50-8	0.1	mg/L	0.0
		EG020: Lead	7439-92-1	0.1	mg/L	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report			
Method: Compound	CAS Number	LOR	Unit	Spike Concentration	LCS	DCS	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1959929)</b>							
EG020: Copper	7440-50-8	0.001	mg/L	1 mg/L	101	85	115
EG020: Lead	7439-92-1	0.001	mg/L	1 mg/L	95.0	85	115

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

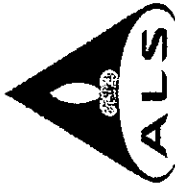
Laboratory sample ID	Client sample ID	Method: Compound	Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report			
			Spike Concentration	MS	MSD	RPDs (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1959929)</b>						
HK1120606-001	G14-D19A	EG020: Copper	1 mg/L	99.5	95.7	3.8
		EG020: Lead	1 mg/L	92.5	92.3	0.3

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# ALS Technichem (HK) Pty Ltd

## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



### CERTIFICATE OF ANALYSIS

<b>Client</b> : CHINA INTERNATIONAL WATER & ELECTRIC CORP	<b>Laboratory</b> : ALS Technichem HK Pty Ltd	<b>Page</b> : 1 of 3
<b>Contact</b> : MR PENG FENG LI	<b>Contact</b> : Chan Kwok Fai, Godfrey	<b>Work Order</b> : HK1119768
<b>Address</b> : RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	<b>Address</b> : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	
<b>E-mail</b> : eokcip@hotmail.com	<b>E-mail</b> : Godfrey.Chan@alsglobal.com	<b>Date received</b> : 23-AUG-2011
<b>Telephone</b> : +852 2408 1173	<b>Telephone</b> : +852 2510 1044	<b>Date of issue</b> : 06-SEP-2011
<b>Facsimile</b> : ---	<b>Facsimile</b> : +852 2510 2021	<b>No. of samples</b> : - Received : 20
<b>Project</b> : ---	<b>Quote number</b> : ---	- Analysed : 20
<b>Order number</b> : ---		
<b>C-O-C number</b> : H015656-H015657		
<b>Site</b> : KCIP		

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1119768 supersedes any previous reports with this reference. The completion date of analysis is 05-SEP-2011. 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 HK1119768 :  
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Sample(s) analysed and reported on an as received basis.  
TCLP sample(s) were filtered prior to dissolved metal analysis.  
The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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**Signatory** : Fung Lim Chee, Richard  
**Position** : General Manager  
**Authorised results for** : Inorganics

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**ALS Laboratory Group**  
Trading Name: **ALS Technichem (HK) Pty Ltd**  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2510 1044 Fax: +852 2510 2021 www.alsenviro.com  
A Campbell Brothers Limited Company



**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Sub-Matrix	Client sampling date / time	Laboratory sample ID	Compound LOR Unit	EG020: Copper		EG020: Lead		E-TCLP: Extraction	
					EG: Metals and Major Cations - Filtered	0.1 mg/L	EG: Metals and Major Cations - Filtered	0.1 mg/L	Fluid Number	Sample Preparation Method
G14-B5A		[15-AUG-2011]	HK1119768-001		0.2	<0.1	<0.1	1		
G14-B5B		[15-AUG-2011]	HK1119768-002		0.2	<0.1	<0.1	1		
G14-B6A		[15-AUG-2011]	HK1119768-003		0.2	<0.1	<0.1	1		
G14-B6B		[15-AUG-2011]	HK1119768-004		0.3	<0.1	<0.1	1		
G14-B7A		[15-AUG-2011]	HK1119768-005		0.1	<0.1	<0.1	1		
G14-B7B		[15-AUG-2011]	HK1119768-006		0.2	<0.1	<0.1	1		
G14-D3A		[15-AUG-2011]	HK1119768-007		0.1	<0.1	<0.1	1		
G14-D3B		[15-AUG-2011]	HK1119768-008		0.2	<0.1	<0.1	1		
G14-D4A		[15-AUG-2011]	HK1119768-009		0.2	<0.1	<0.1	1		
G14-D4B		[15-AUG-2011]	HK1119768-010		0.2	<0.1	<0.1	1		
G14-D5A		[16-AUG-2011]	HK1119768-011		0.2	<0.1	<0.1	1		
G14-D5B		[16-AUG-2011]	HK1119768-012		0.2	<0.1	<0.1	1		
G14-D6A		[16-AUG-2011]	HK1119768-013		0.1	<0.1	<0.1	1		
G14-D6B		[16-AUG-2011]	HK1119768-014		0.1	<0.1	<0.1	1		
G14-D7A		[16-AUG-2011]	HK1119768-015		0.2	<0.1	<0.1	1		
G14-D7B		[16-AUG-2011]	HK1119768-016		0.2	<0.1	<0.1	1		
G14-D8A		[16-AUG-2011]	HK1119768-017		0.2	<0.1	<0.1	1		
G14-D8B		[16-AUG-2011]	HK1119768-018		0.2	<0.1	<0.1	1		
G14-D9A		[16-AUG-2011]	HK1119768-019		0.2	<0.1	<0.1	1		
G14-D9B		[16-AUG-2011]	HK1119768-020		0.2	<0.1	<0.1	1		

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1119768

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method/Compound	CAS Number	LOR	Laboratory Duplicate (DUP) Report		RPD (%)
					Original Result	Duplicate Result	
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1941917)</b>							
HK1119768-002	G14-B58	EG020: Copper	7440-50-8	0.1	0.2	0.2	0.0
		EG020: Lead	7439-92-1	0.1	<0.1	<0.1	0.0
HK1119768-010	G14-D4B	EG020: Copper	7440-50-8	0.1	0.2	0.2	0.0
		EG020: Lead	7439-92-1	0.1	<0.1	<0.1	0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Matrix	Compound	CAS Number	Result	Spike Concentration	LCS	DCS	Recovery Limits (%)	Recovery (%)	RPDs (%)
<b>Matrix: WATER</b>									
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1941917)</b>									
EG020: Copper		7440-50-8	<0.1	1 mg/L	93.5	85	85 - 115	85	115
EG020: Lead		7439-92-1	<0.1	1 mg/L	89.8	85	85 - 115	85	115

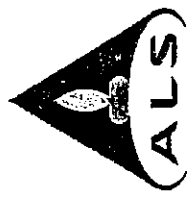
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report									
Laboratory sample ID	Client sample ID	Method/Compound	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Recovery (%)	RPDs (%)
<b>Matrix: WATER</b>									
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1941917)</b>									
HK1119768-001	G14-B5A	EG020: Copper	7440-50-8	1 mg/L	96.1	94.5	75 - 125	75	125
		EG020: Lead	7439-92-1	1 mg/L	90.9	90.8	75 - 125	75	125

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# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

Client	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 3
Contact	: MR PENG FENG LI	Contact	: Chan Kwok Fai, Godfrey	Work Order	: HK1121701
Address	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: eokcip@hotmail.com	E-mail	: Godfrey.Chan@alsglobal.com		
Telephone	: +852 2408 1173	Telephone	: +852 2610 1044	Date received	: 15-SEP-2011
Facsimile	: ---	Facsimile	: +852 2610 2021	Date of issue	: 28-SEP-2011
Project	: ---	Quote number	: ---	No. of samples	: Received : 7
Order number	: ---				: Analysed : 7
C-O-C number	: H015670				
Site	: KCIP				

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1121701 supersedes any previous reports with this reference. The completion date of analysis is 23-SEP-2011. 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 HK1121701 :  
 Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
 Sample(s) analysed and reported on an as received basis.  
 TCLP leachate sample(s) were filtered prior to dissolved metal analysis.  
 The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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Signature: **Fung Lim Chee, Richard** Position: **General Manager**  
 Authorised results for: **Inorganics**

D1-127

**ALS Laboratory Group**  
 Trading Name: **ALS Technichem (HK) Pty Ltd**  
 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
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Page Number : 2 of 3

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1121701

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	EG020: Copper		EG020: Lead		E-TCLP: Extraction		
			0.1 mg/L	EG: Metals and Major Cations - Filtered	0.1 mg/L	EG: Metals and Major Cations - Filtered	Fluid Number	Sample Preparation Method	
			1 Compound						
			LOR Unit						
G14-D41A	[08-SEP-2011]	HK1121701-001	0.8		<0.1		1		
G14-D42A	[08-SEP-2011]	HK1121701-002	1.0		<0.1		1		
G14-D43A	[08-SEP-2011]	HK1121701-003	1.1		<0.1		1		
G14-D44A	[08-SEP-2011]	HK1121701-004	1.0		<0.1		1		
G4-B7A	[09-SEP-2011]	HK1121701-005			<0.1		1		
G4-B2A	[09-SEP-2011]	HK1121701-006			<0.1		1		
G4-B3A	[09-SEP-2011]	HK1121701-007			<0.1		1		

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1121701

**Laboratory Duplicate (DUP) Report**

Laboratory sample ID	Client sample ID	Method/Compound	Laboratory Duplicate (DU/P) Report					
			LOR	Unit	Original Result	Duplicate Result	RPD (%)	
EG: Metals and Major Cations - Filtered (QC Lot: 1968070)								
HK1121701-002	G14-D42A	EG020: Copper	0.1	mg/L	1.0	1.0		0.0
		EG020: Lead	0.1	mg/L	<0.1	<0.1		0.0

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

Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method/Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPDs (%)	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1968070)														
EG020: Copper	7440-50-8	0.001	mg/L	<0.1	1 mg/L	97.0	85	115	85	115				
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	100	85	115	85	115				

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

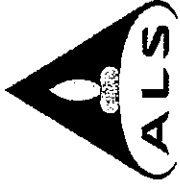
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report												
Laboratory sample ID	Client sample ID	Method/Compound	Spike Concentration	MS	Spike Recovery (%)	MSD	Recovery Limits (%)	Low	High	Value	RPDs (%)	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1968070)												
HK1121701-001	G14-D41A	EG020: Copper	1 mg/L	94.9	91.8	75	125	75	125	3.4		
		EG020: Lead	1 mg/L	102	99.4	75	125	75	125	2.4		

D1-129



# ALS Technichem (HK) Pty Ltd

**ALS Laboratory Group**  
ANALYTICAL CHEMISTRY & TESTING SERVICES



## CERTIFICATE OF ANALYSIS

<b>Client</b>	: CHINA INTERNATIONAL WATER & ELECTRIC CORP	<b>Laboratory</b>	: ALS Technichem HK Pty Ltd	<b>Page</b>	: 1 of 3
<b>Contact</b>	: MR PENG FENG LI	<b>Contact</b>	: Chan Kwok Fai, Godfrey	<b>Work Order</b>	: HK1113092
<b>Address</b>	: RM1508, 15/F, FORTRESS TOWER, 250 KING'S ROAD, NORTH POINT, HONG KONG	<b>Address</b>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<b>E-mail</b>	: eokcip@hotmail.com	<b>E-mail</b>	: Godfrey.Chan@alsenviro.com		
<b>Telephone</b>	: +852 2408 1173	<b>Telephone</b>	: +852 2610 1044	<b>Date received</b>	: 10-JUN-2011
<b>Facsimile</b>	: ---	<b>Facsimile</b>	: +852 2610 2021	<b>Date of issue</b>	: 21-JUN-2011
<b>Project</b>	: ---	<b>Quote number</b>	: ---	<b>No. of samples</b>	: - Received : 7
<b>Order number</b>	: ---				: - Analysed : 7
<b>C-O-C number</b>	: H009964				
<b>Site</b>	: ---				

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1113092 supersedes any previous reports with this reference. The completion date of analysis is 16-JUN-2011. 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 HK1113092 :  
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.86 - 4.98.

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

Signatory

Fung Lim Chee, Richard

Position

General Manager

Authorised results for:-

Inorganics

D1-130

**ALS Laboratory Group**  
**ALS Technichem (HK) Pty Ltd**  
Trading Name: ALS Technichem (HK) Pty Ltd  
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong  
Tel: +852 2610 1044 Fax: +852 2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company



Page Number : 2 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1113092

**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound		E-TCLP: Extraction Fluid Number
			EG020: Copper 0.1 mg/L EG: Metals and Major Cations - Filtered	EG020: Lead 0.1 mg/L EG: Metals and Major Cations - Filtered	
G14-B1A	[31-MAY-2011]	HK1113092-001	<0.1	<0.1	1
G14-B2A	[07-JUN-2011]	HK1113092-002	<0.1	<0.1	1
G14-D1A	[02-JUN-2011]	HK1113092-003	<0.1	<0.1	1
G14-D2A	[02-JUN-2011]	HK1113092-004	<0.1	<0.1	1
G14-D3A	[03-JUN-2011]	HK1113092-005	<0.1	<0.1	1
G15-D5A	[31-MAY-2011]	HK1113092-006	<0.1	<0.1	1
G15-D6A	[01-JUN-2011]	HK1113092-007	<0.1	<0.1	1

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Page Number : 3 of 3  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1113092

**Laboratory Duplicate (DUP) Report**

Matrix: WATER		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	Method: Compound	LOR	Unit	RPD (%)
EG: Metals and Major Cations - Filtered (QC Lot: 1831202)					
HK1113092-002	G14-B2A	EG020: Copper	0.1	mg/L	0.0
		EG020: Lead	0.1	mg/L	0.0

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

Matrix: WATER		Method Blank (MB) Report				Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report				
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1831202)										
EG020: Copper	7440-50-8	0.001	mg/L	<0.001	1 mg/L	91.9	85	115	85	---
EG020: Lead	7439-92-1	0.001	mg/L	<0.001	1 mg/L	99.1	85	115	85	---

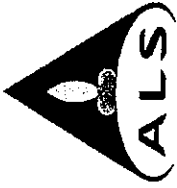
**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

Matrix: WATER		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report						
Laboratory sample ID	Client sample ID	Method: Compound	Spike Concentration	MS	MSD	Recovery Limits (%)	Value	Control Limit
EG: Metals and Major Cations - Filtered (QC Lot: 1831202)								
HK1113092-001	G14-B1A	EG020: Copper	1 mg/L	95.7	93.8	75	125	2.1
		EG020: Lead	1 mg/L	105	102	75	125	2.9

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# ALS Technichem (HK) Pty Ltd

## ALS Laboratory Group ANALYTICAL CHEMISTRY & TESTING SERVICES



### CERTIFICATE OF ANALYSIS

Client : CHINA INTERNATIONAL WATER & ELECTRIC  
CORP  
Contact : MR PENG FENG LI  
Address : RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD,  
NORTH POINT,  
HONG KONG  
E-mail : eokcip@hotmail.com  
Telephone : +852 2408 1173  
Facsimile : ---  
Project : ---  
Order number : ---  
C-O-C number : H009979-H009980 & H013570  
Site : KCIP

Laboratory : ALS Technichem HK Pty Ltd  
Contact : Chan Kwok Fal, Godfrey  
Address : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing  
Yip Street, Kwai Chung, N.T., Hong Kong  
E-mail : Godfrey.Chan@alsglobal.com  
Telephone : +852 2610 1044  
Facsimile : +852 2610 2021  
Quote number : ----

Page : 1 of 9

Work Order : HK1118949

Date Samples Received : 12-AUG-2011  
Issue Date : 23-AUG-2011  
No. of samples received : 27  
No. of samples analysed : 27

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This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the Electronic Transactions Ordinance of Hong Kong, Chapter 553, Section 6.

Signatories

Fung Lim Chee, Richard

General Manager

Authorised results for

Inorganics

D1-133



Page Number : 2 of 9  
Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Work Order : HK1118949

**General Comments**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 22-AUG-2011

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: HK1118949

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.

Sample(s) analysed and reported on an as received basis.

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

The metal concentrations reported are those determined on the TCLP leachate. Extraction Fluid #1 pH 4.88 - 4.98.

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**Analytical Results**

Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID		G14-D4A	G14-D4B	G14-D4C	G15-D17A	G15-D17B
			Client sampling date / time	Unit					
EG: Metals and Major Cations - Filtered									
EG020: Copper	7440-50-8	0.1	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1
EG020: Lead	7439-92-1	0.1	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1
Sample Preparation Method									
E-TCLP: Extraction Fluid Number									
					1	1	1	1	1

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Sub-Matrix: TCLP LEACHATE

Compound	CAS Number	LOR	Client sample ID	
			Client sampling date / time	Unit
EG: Metals and Major Cations - Filtered				
EG020: Lead	7439-92-1	0.1		mg/L
Sample Preparation Method				
E-TCLP: Extraction Fluid Number				
			G15-D17C [28-JUL-2011] HK1118949-006	G15-D18A [02-AUG-2011] HK1118949-007
			G15-D18B [02-AUG-2011] HK1118949-008	G15-D18C [02-AUG-2011] HK1118949-009
			G15-D18A [02-AUG-2011] HK1118949-007	G15-D18B [02-AUG-2011] HK1118949-008
			G15-D18B [02-AUG-2011] HK1118949-008	G15-D18C [02-AUG-2011] HK1118949-009
			G15-D18C [02-AUG-2011] HK1118949-009	G15-D18A [02-AUG-2011] HK1118949-010
			<0.1	<0.1
			<0.1	<0.1
			<0.1	<0.1
			1	1
			1	1
			1	1

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Sub-Matrix: TCLP LEACHATE	Client sample ID	Client sampling date / time	LOR	Unit
<del>G15-D18B</del>	<del>[02-AUG-2011]</del>	<del>HK1118949-011</del>	<del>0.1</del>	<del>mg/L</del>
<del>G15-D19C</del>	<del>[02-AUG-2011]</del>	<del>HK1118949-012</del>	<del>0.1</del>	<del>mg/L</del>
<del>G15-D20A</del>	<del>[04-AUG-2011]</del>	<del>HK1118949-013</del>	<del>0.1</del>	<del>mg/L</del>
<del>G15-D20B</del>	<del>[04-AUG-2011]</del>	<del>HK1118949-014</del>	<del>0.1</del>	<del>mg/L</del>
<del>G15-D20C</del>	<del>[04-AUG-2011]</del>	<del>HK1118949-015</del>	<del>0.1</del>	<del>mg/L</del>

EG: Metals and Major Cations - Filtered

EG020: Lead

Sample Preparation Method

E-TCLP: Extraction Fluid Number

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Page Number : 6 of 9

Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP

Work Order : HK1118949



Sub-Matrix: TCLP LEACHATE

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	G15-D21A [04-AUG-2011] HK1118949-016	G15-D21B [04-AUG-2011] HK1118949-017	G15-D21C [04-AUG-2011] HK1118949-018	G15-D22A [04-AUG-2011] HK1118949-019	G15-D22B [04-AUG-2011] HK1118949-020
EG: Metals and Major Cations - Filtered								
EG020: Lead	7439-92-1	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Sample Preparation Method								
E-TCLP: Extraction Fluid Number				1	1	1	1	1

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Page Number : 7 of 9  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK1118949



Sub-Matrix: TCLP LEACHATE

Client sample ID

Client sampling date / time

CAS Number LOR Unit

7439-92-1 0.1 mg/L

Compound  
 EG: Metals and Major Cations - Filtered

EG020: Lead

Sample Preparation Method

E-TCLP: Extraction Fluid Number

Client sample ID	Client sampling date / time	CAS Number	LOR	Unit
G15-D22C [04-AUG-2011] HK1118949-021	G15-D23A [05-AUG-2011] HK1118949-022	G15-D23B [05-AUG-2011] HK1118949-023	G15-D23C [05-AUG-2011] HK1118949-024	G15-D24A [05-AUG-2011] HK1118949-025
<0.1	<0.1	<0.1	<0.1	<0.1
1	1	1	1	1

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Page Number : 8 of 9  
 Client : CHINA INTERNATIONAL WATER & ELECTRIC CORP  
 Work Order : HK118949

Sub-Matrix: TCLP LEACHATE	Client sample ID	
	Client sampling date / time	Unit
Compound	CAS Number	LOR
EG: Metals and Major Cations - Filtered		
EG020: Lead	7439-92-1	0.1
Sample Preparation Method		
E-TCLP: Extraction Fluid Number		

Client sample ID	Client sampling date / time	Unit
G15-D24B [05-AUG-2011] HK118949-026	G15-D24C [05-AUG-2011] HK118949-027	
<0.1	<0.1	
1	1	

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**Laboratory Duplicate (DUP) Report**

Matrix: WATER		Method: Compound		Laboratory Duplicate (DUP) Report			
Laboratory sample ID	Client sample ID	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921015)</b>							
HK1118949-002	G14-D4B	7440-50-8	0.1	mg/L	<0.1	<0.1	0.0
		EG020: Copper					
		EG020: Lead			<0.1	<0.1	0.0
HK1118949-011	G15-D19B	7440-50-8	0.001	mg/L	<0.1	<0.1	0.0
		EG020: Copper					
		EG020: Lead			<0.1	<0.1	0.0
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921016)</b>							
HK1118949-022	G15-D23A	7439-92-1	0.1	mg/L	<0.1	<0.1	0.0
		EG020: Lead					

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

Matrix: WATER		Method: Blank (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report										
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	LCS	Spike Recovery (%)	DCS	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921015)</b>														
EG020: Copper	7440-50-8	0.001	mg/L	<0.1	1 mg/L	98.5	—	—	85	85	115	—	—	—
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	91.2	—	—	85	85	115	—	—	—
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921016)</b>														
EG020: Lead	7439-92-1	0.001	mg/L	<0.1	1 mg/L	92.8	—	—	85	85	115	—	—	—

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

Matrix: WATER		Method: Compound		Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
Laboratory sample ID	Client sample ID	CAS Number	Spike Concentration	MS	MSD	Recovery Limits (%)	Low	High	Value	RPD (%)	Control Limit
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921015)</b>											
HK1118949-001	G14-D4A	7440-50-8	1 mg/L	100	97.8	75	75	125	2.3	—	—
		EG020: Copper									
		EG020: Lead	1 mg/L	94.2	93.4	75	75	125	0.8	—	—
<b>EG: Metals and Major Cations - Filtered (QC Lot: 1921016)</b>											
HK1118949-021	G15-D22C	7439-92-1	1 mg/L	93.6	93.2	75	75	125	0.5	—	—
		EG020: Lead									

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## Appendix D2 UCS



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1121701  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 15/09/2011  
**DATE OF ISSUE:** 22/09/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 7

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 2 pages.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1121701-001	G14-D41A	08/09/2011	GCD110902116
HK1121701-002	G14-D42A	08/09/2011	GCD110902116
HK1121701-003	G14-D43A	08/09/2011	GCD110902116
HK1121701-004	G14-D44A	08/09/2011	GCD110902116
HK1121701-005	G4-B1A	09/09/2011	GCD110902124
HK1121701-006	G4-B2A	09/09/2011	GCD110902124
HK1121701-007	G4-B3A	09/09/2011	GCD110902124

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

My Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

D2-1

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110902116

Date of Issue : 19-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 08-09-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 08-09-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 4 Nominal Size : 100 mm Test at Age of : 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 16-09-2011 Date / Time Tested : 16-09-2011 18:37 GCE Test Unit Reg. No. : MI11074  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1121701-001 G14-D41A	HK1121701-002 G14-D42A	HK1121701-003 G14-D43A	HK1121701-004 G14-D44A	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.490	1.570	1.525	1.510	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.3	100.2	100.5	100.7	--	--
Width of Specimen	mm	100.6	100.4	100.1	100.8	--	--
Height of Specimen	mm	100.1	100.3	100	100.4	--	--
As-received Density	kg/m <sup>3</sup>	1480	1560	1520	1480	--	--
	-Vol. by Calculation						
	-Vol. by Water Displacement						
Maximum Load at Failure	kN	35.5	39.9	10.8	10.9	--	--
Compressive Strength	MPa	3.5	4.0	1.1	1.1	--	--
Observation Code		P	P	P	P	--	--
Failure Mode		S	S	S	S	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110902124

Date of Issue : 19-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -	Dosage	: -
Source of Coarse Agg.	: -	Source of Fine Agg.	: -	Designed / Measured Slump	: -
Cement Brand	: -	Admixture Brand	: -	A/C Ratio	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -		
Cement Content	: -	W/C Ratio	: -		
PFA Content	: -	PFA Source	: -		
Date Cast	: 09-09-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 09-09-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 16-09-2011 Date / Time Tested : 16-09-2011 18:47 GCE Test Unit Reg. No. : MI11074  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number						
Cube Mark		HK1121701-005 G4-B1A	HK1121701-006 G4-B2A	HK1121701-007 G4-B3A		
Mould No.		-	-	-	-	-
Mass of Specimen in Air	kg	1.535	1.705	1.870	-	-
Mass of Specimen in Water	kg	-	-	-	-	-
Length of Specimen	mm	100.6	100.8	100.4	-	-
Width of Specimen	mm	100.3	100.5	100.6	-	-
Height of Specimen	mm	100.2	100.4	100.7	-	-
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1520 -	1680 -	1840 -	-
Maximum Load at Failure		kN	*37.6	76.6	69.5	-
Compressive Strength		MPa	3.7	7.6	6.9	-
Observation Code			P	P	P	-
Failure Mode			S	S	S	-

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) \*The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

*LAU SUN HUNG, IVAN*  
 : Senior Testing Manager

D2-3

J





**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1122035  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 19/09/2011  
**DATE OF ISSUE:** 26/09/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 2

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 1 page.

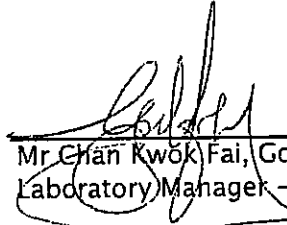
**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1122035-001	G4-B4A	16/09/2011	GCD110902522
HK1122035-002	G4-B5A	16/09/2011	GCD110902522

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

D2-4

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110902522

Date of Issue : 21-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 16-09-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 16-09-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 4 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 20-09-2011 Date / Time Tested : 20-09-2011 17:33 GCE Test Unit Reg. No. : MI11078  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 4 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1122035-001 G4-B4A	HK1122035-002 G4-B5A	-	-	-	-
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.665	1.710	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.4	100.5	--	--	--	--
Width of Specimen	mm	100.6	100.3	--	--	--	--
Height of Specimen	mm	100.4	100.1	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1640	1690	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	68.2	72.1	--	--	--	--
Compressive Strength	MPa	6.8	7.2	--	--	--	--
Observation Code		P	P	--	--	--	--
Failure Mode		S	S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-5

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1122436  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 23/09/2011  
**DATE OF ISSUE:** 04/10/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 3

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 1 page.

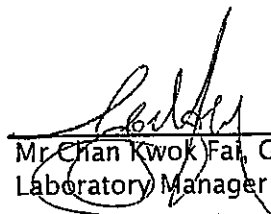
**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1122436-001	G4-B6A	17/09/2011	GCD110903992
HK1122436-002	G4-B7A	17/09/2011	GCD110903992
HK1122436-003	G4-B8A	17/09/2011	GCD110903992

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

D2-6

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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110903992

Date of Issue : 28-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 17-09-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 17-09-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-09-2011 Date / Time Tested : 26-09-2011 18:01 GCE Test Unit Reg. No. : MI11081  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1122436-001 G4-B6A	HK1122436-002 G4-B7A	HK1122436-003 G4-B8A	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.980	1.680	1.715	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.4	100.7	100.8	--	--	--
Width of Specimen	mm 100.1	100.5	100.3	--	--	--
Height of Specimen	mm 100.3	100.2	100.5	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1960	1660	1690	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 99.1	109.5	106.0	--	--	--
Compressive Strength	MPa 9.9	10.9	10.5	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory :

D2-7  
  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By : \_\_\_\_\_

Post



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1122666  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 26/09/2011  
**DATE OF ISSUE:** 04/10/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 3

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 1 page.

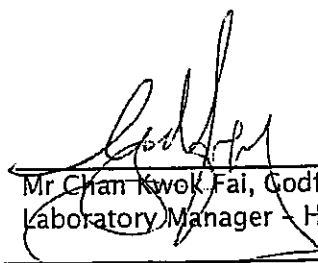
**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1122666-001	G4-B9A	19/09/2011	GCD110904192
HK1122666-002	G4-B10A	19/09/2011	GCD110904192
HK1122666-003	G4-B11A	19/09/2011	GCD110904192

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

D2-8

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110904192

Date of Issue : 28-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 19-09-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 19-09-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 27-09-2011 Date / Time Tested : 27-09-2011 18:01 GCE Test Unit Reg. No. : MI11082  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1122666-001 G4-B9A	HK1122666-002 G4-B10A	HK1122666-003 G4-11A	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.775	1.755	1.770	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.4	100.2	100.1	--	--	--
Width of Specimen	mm 100.6	100.4	100.2	--	--	--
Height of Specimen	mm 100.4	100.5	100.7	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1750	1740	1750	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 77.0	75.7	79.1	--	--	--
Compressive Strength	MPa 7.6	7.5	7.8	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

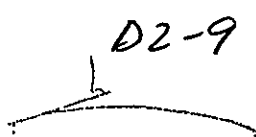
Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1125160  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 25/10/2011  
**DATE OF ISSUE:** 03/11/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 9

**COMMENTS**

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition. The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd. GCE details report was attached. The attached report contains a total of 4 pages.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1125160-001	G4-B12A	28/09/2011	GCD111006379
HK1125160-002	G4-B13A	28/09/2011	GCD111006379
HK1125160-003	G4-B14A	20/10/2011	GCD111006361
HK1125160-004	G4-B15A	20/10/2011	GCD111006361
HK1125160-005	G4-B16A	20/10/2011	GCD111006361
HK1125160-006	G4-B17A	21/10/2011	GCD111006353
HK1125160-007	G4-B18A	21/10/2011	GCD111006353
HK1125160-008	G4-B19A	22/10/2011	GCD111006345
HK1125160-009	G4-B20A	22/10/2011	GCD111006345

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

D2-10

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111006379

Date of Issue : 31-10-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 28-09-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 28-09-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 27 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 25-10-2011 Date / Time Tested : 25-10-2011 18:55 GCE Test Unit Reg. No. : MI11085  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 27 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1125160-001 G4-B12A	HK1125160-002 G4-B13A	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.685	1.675	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.4	100.2	--	--	--	--
Width of Specimen	mm	100.7	100.1	--	--	--	--
Height of Specimen	mm	100.4	100.3	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1660 --	1660 --	--	--	--
Maximum Load at Failure		kN	97.8	105.0	--	--	--
Compressive Strength		MPa	9.7	10.5	--	--	--
Observation Code			P	P	--	--	--
Failure Mode			S	S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  --END--  
 Checked By : \_\_\_\_\_  
 Approved Signatory :  LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111006361

Date of Issue : 31-10-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 20-10-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 20-10-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 5 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 25-10-2011 Date / Time Tested : 25-10-2011 18:58 GCE Test Unit Reg. No. : MI11085  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 5 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1125160-003 G4-B14A	HK1125160-004 G4-B15A	HK1125160-005 G4-B16A	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.650	1.670	1.720	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.4	100.1	100.2	--	--	--
Width of Specimen	mm 100.3	100.5	100.6	--	--	--
Height of Specimen	mm 100.7	100.3	100.4	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1630	1660	1700	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 43.7	44.8	40.5	--	--	--
Compressive Strength	MPa 4.3	4.4	4.0	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

D2-12

Tested By : T.Y. Chan

--END--

Approved Signatory :

Checked By :

Post :

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111006353

Date of Issue : 31-10-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location In Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 21-10-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 21-10-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 4 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 25-10-2011 Date / Time Tested : 25-10-2011 19:05 GCE Test Unit Reg. No. : MI11085  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 4 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1125160-006 G4-B17A	HK1125160-007 G4-B18A	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.795	1.750	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.3	100.3	--	--	--	--
Width of Specimen	mm	100.1	100.1	--	--	--	--
Height of Specimen	mm	100.0	100.3	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1790 --	1740 --	--	--	--
Maximum Load at Failure	kN	52.7	50.3	--	--	--	--
Compressive Strength	MPa	5.3	5.0	--	--	--	--
Observation Code		P	P	--	--	--	--
Failure Mode		S	S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-13

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111006345 Date of Issue : 31-10-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 22-10-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 22-10-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 2 Nominal Size : 100 mm Test at Age of : 3 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 25-10-2011 Date / Time Tested : 25-10-2011 19:08 GCE Test Unit Reg. No. : MI11085  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 3 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1125160-008 G4-B19A	HK1125160-009 G4-B20A	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.775	1.750	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.7	100.2	--	--	--	--
Width of Specimen	mm	100.8	100.5	--	--	--	--
Height of Specimen	mm	100.5	100.4	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1740 1730	--	--	--	--
Maximum Load at Failure	kN	43.1	42.6	--	--	--	--
Compressive Strength	MPa	4.3	4.2	--	--	--	--
Observation Code		P	P	--	--	--	--
Failure Mode		S	S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

D2-14

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1126306  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 08/11/2011  
**DATE OF ISSUE:** 18/11/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 7

**COMMENTS**

○ple(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 3 pages.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1126306-001	G4-B21A	24/10/2011	GCD111101187
HK1126306-002	G4-B22A	24/10/2011	GCD111101187
HK1126306-003	G4-B23A	24/10/2011	GCD111101187
HK1126306-004	G4-B24A	25/10/2011	GCD111101195
HK1126306-005	G4-B25A	25/10/2011	GCD111101195
HK1126306-006	G4-B26A	25/10/2011	GCD111101195
HK1126306-007	G4-B27A	28/10/2011	GCD111101200

**ISSUING LABORATORY: HONG KONG**

○**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

D2-15

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111101187

Date of Issue : 10-11-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 24-10-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 24-10-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 16 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 09-11-2011 Date / Time Tested : 09-11-2011 16:08 GCE Test Unit Reg. No. : MI11091  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 16 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1126306-001 G4-B21A	HK1126306-002 G4-B22A	HK1126306-003 G4-B23A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.560	1.585	1.595	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.4	100.3	100.1	--	--	--
Width of Specimen	mm	100.1	100.3	100.5	--	--	--
Height of Specimen	mm	100.3	100.5	100.2	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1550	1570	1580	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	78.0	83.6	83.2	--	--	--
Compressive Strength	MPa	7.8	8.3	8.3	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory :

Checked By :

Post :

*P2-16*  
 YU LEE KIEN, PETER  
 Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111101195

Date of Issue : 10-11-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 25-10-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 25-10-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 15 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 09-11-2011 Date / Time Tested : 09-11-2011 16:21 GCE Test Unit Reg. No. : MI11091  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 15 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1126306-004 G4-B24A	HK1126306-005 G4-B25A	HK1126306-006 G4-B26A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.560	1.595	1.550	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.3	100.5	100.2	--	--	--
Width of Specimen	mm	100.3	100.3	100.7	--	--	--
Height of Specimen	mm	100.1	100.5	100.4	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1550	1570	1530	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	58.9	66.8	63.4	--	--
Compressive Strength		MPa	5.9	6.6	6.3	--	--
Observation Code			P	P	P	--	--
Failure Mode			S	S	S	--	--

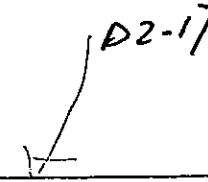
Legend :

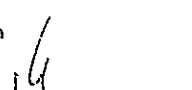
A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 YU LEE KIEN, PETER

Checked By : 

Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111101200

Date of Issue : 10-11-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 28-10-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 28-10-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 12 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 09-11-2011 Date / Time Tested : 09-11-2011 16:30 GCE Test Unit Reg. No. : MI11091  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 12 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1126306-007 G4-B27A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.605	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.4	--	--	--	--
Width of Specimen	mm	100.8	--	--	--	--
Height of Specimen	mm	100.4	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1580	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	90.1	--	--	--	--
Compressive Strength	MPa	8.9	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 YU-LEE KIEN, PETER  
 Post : Managing Director

Checked By :

D2-18



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1128553  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 05/12/2011  
**DATE OF ISSUE:** 19/12/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 6

**COMMENTS**

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition. The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd. GCE details report was attached. The attached report contains a total of 2 pages.

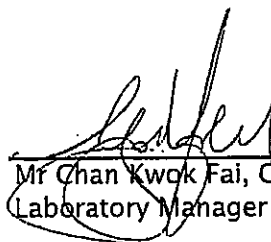
**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1128553-001	G4-B28A	05/11/2011	GCD11121521
HK1128553-002	G4-B29A	05/11/2011	GCD11121521
HK1128553-003	G4-B30A	05/11/2011	GCD11121521
HK1128553-004	G4-B31A	07/11/2011	GCD11121539
HK1128553-005	G4-B32A	07/11/2011	GCD11121539
HK1128553-006	G4-B33A	07/11/2011	GCD11121539

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

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ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11121521

Date of Issue : 09-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 05-11-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 05-11-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 32 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 06-12-2011 Date / Time Tested : 07-12-2011 10:34 GCE Test Unit Reg. No. : MI11097  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 32 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1128553-001 G4-B28A	HK1128553-002 G4-B29A	HK1128553-003 G4-B30A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.620	1.570	1.605	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.7	100.9	100.2	--	--	--
Width of Specimen	mm	100.4	100.7	100.4	--	--	--
Height of Specimen	mm	100.6	100.4	100.2	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1590	1540	1590	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	105.8	116.5	113.8	--	--
Compressive Strength		MPa	10.5	11.5	11.3	--	--
Observation Code			P	P	P	--	--
Failure Mode			S	S	S	--	--


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 YU LEE KIEN, PETER  
 Post : Managing Director

Checked By : 

D2-3



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11121539

Date of Issue : 09-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 07-11-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 07-11-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 30 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 06-12-2011 Date / Time Tested : 07-12-2011 10:42 GCE Test Unit Reg. No. : MI11097  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 30 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1128553-004 G4-B31A	HK1128553-005 G4-B32A	HK1128553-006 G4-B33A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.655	1.685	1.665	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.7	100.3	100.6	--	--	--
Width of Specimen	mm	100.9	100.5	100.5	--	--	--
Height of Specimen	mm	100.4	100.7	100.1	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1620	1660	1650	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	120.3	120.9	124.8	--	--	--
Compressive Strength	MPa	11.9	11.9	12.4	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 YU LEE KIEN, PETER  
 Post : Managing Director

Checked By :

D2-31



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1130236  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 20/12/2011  
**DATE OF ISSUE:** 30/12/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 18

**COMMENTS**

One sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition. The determination of compressive strength of concrete (UCS) was subcontracted to and tested by Geotechnics & Concrete Engineering (H.K.) Ltd. GCE details report was attached. The attached report contains a total of 6 pages.

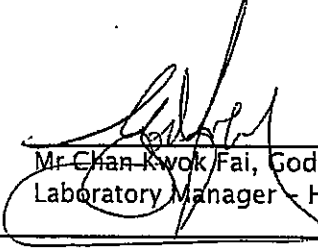
**NOTES**

This is the Final Report and supersedes any preliminary report with this batch number. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

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Page 1 of 2

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



RIGHT SOLUTIONS RIGHT PARTNER

# CERTIFICATE OF ANALYSIS



**Work Order:** HK1130236  
**Sub-batch:** 1  
**Date of Issue:** 30/12/2011  
**Client:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**Client Reference:** KCIP

**Sample Details**

<i>ALS Lab ID</i>	<i>Client's Sample ID</i>	<i>Sampling Date</i>	<i>GCE Report No.</i>
HK11302362-001	G4-B34A	10/12/2011	GCD11128808
HK11302362-002	G4-B35A	10/12/2011	GCD11128808
HK11302362-003	G4-B36A	10/12/2011	GCD11128808
HK11302362-004	B2-G16-B1A	13/12/2011	GCD11128816
HK11302362-005	B2-G16-B2A	13/12/2011	GCD11128816
HK11302362-006	B2-G16-B3A	13/12/2011	GCD11128816
HK11302362-007	B2-G16-B4A	14/12/2011	GCD11128824
HK11302362-008	B2-G16-B5A	14/12/2011	GCD11128824
HK11302362-009	B2-G16-B6A	14/12/2011	GCD11128824
HK11302362-010	B2-G16-B7A	15/12/2011	GCD11128832
HK11302362-011	B2-G16-B8A	15/12/2011	GCD11128832
HK11302362-012	B2-G16-B9A	15/12/2011	GCD11128832
HK11302362-013	B2-G16-B10A	16/12/2011	GCD11128840
HK11302362-014	B2-G16-B11A	16/12/2011	GCD11128840
HK11302362-015	B2-G16-B12A	16/12/2011	GCD11128840
HK11302362-016	B2-G16-B13A	17/12/2011	GCD11128858
HK11302362-017	B2-G16-B14A	17/12/2011	GCD11128858
HK11302362-018	B2-G16-B15A	17/12/2011	GCD11128858

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02



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128808

Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 10-12-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 10-12-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 14 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 10:42 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 14 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1130236-001 G4-B34A	HK1130236-002 G4-B35A	HK1130236-003 G4-B36A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.590	1.600	1.630	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.0	99.8	100.2	--	--	--
Width of Specimen	mm	100.0	99.9	100.1	--	--	--
Height of Specimen	mm	98.9	98.6	99.9	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1610 --	1630 --	1630 --	--	--
Maximum Load at Failure	kN	107.4	101.0	111.4	--	--	--
Compressive Strength	MPa	10.9	10.3	11.1	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : K.W. Wan

Approved Signatory

Checked By : \_\_\_\_\_

Post

YU LEE KIEN, PETER  
 : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128816

Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
Source of Coarse Agg. : -- Source of Fine Agg. : --  
Cement Brand : -- Admixture Brand : -- Dosage : --  
Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
Cement Content : -- W/C Ratio : -- A/C Ratio : --  
PFA Content : -- PFA Source : --  
Date Cast : 13-12-2011 Time of Adding Water to Mix : --  
Date of Sampling : 13-12-2011 Time of Sampling : --  
Place of Sampling : -- Place / Time of Making Cube : --  
Method of Compaction : -- Name of Person Making Cubes : --  
Site Curing Method : -- Site Max. / Min. Temperature : --  
No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 10:53 GCE Test Unit Reg. No. : MI11101  
Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1130236-004 B2-G16-B1A	HK1130236-005 B2-G16-B2A	HK1130236-006 B2-G16-B3A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.505	1.475	1.630	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	99.3	99.2	100.2	--	--	--
Width of Specimen	mm	99.0	99.5	100.4	--	--	--
Height of Specimen	mm	99.5	98.7	100.6	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1540 --	1510 --	1610 --	--	--
Maximum Load at Failure	kN	52.1	111.0	145.1	--	--	--
Compressive Strength	MPa	5.3	11.3	14.4	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : K.W. Wan

Approved Signatory :

YU LEE KIEN, PETER

Checked By :

Post :

: Managing Director

D2-35



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128824 Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 14-12-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 14-12-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 11:02 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1130236-007 B2-G16-B4A	HK1130236-008 B2-G16-B5A	HK1130236-009 B2-G16-B6A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.430	1.370	1.350	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	96.8	100.5	100.3	--	--	--
Width of Specimen	mm	99.8	100.5	100.4	--	--	--
Height of Specimen	mm	99.8	99.7	99.9	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1480	1360	1340	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	46.1*	62.4	57.2	--	--	--
Compressive Strength	MPa	4.6	6.2	5.7	--	--	--
Observation Code		P,H	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

*D2-36*

Remarks : 1) Matrix : Cement Cube  
 2) \*The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

--END--

Tested By : K.W. Wan

Approved Signatory :

Checked By : \_\_\_\_\_

Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128832 Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 15-12-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 15-12-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 11:17 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1130236-010 B2-G16-B7A	HK1130236-011 B2-G16-B8A	HK1130236-012 B2-G16-B9A			
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.500	1.550	1.530			
Mass of Specimen in Water	kg						
Length of Specimen	mm	99.3	99.4	99.7			
Width of Specimen	mm	99.0	99.4	99.8			
Height of Specimen	mm	99.9	100.6	100.3			
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1530 1560	1530			
Maximum Load at Failure	kN	128.7	129.5	115.3			
Compressive Strength	MPa	13.0	13.0	11.5			
Observation Code		P	P	P			
Failure Mode		S	S	S			

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube

--END--

Tested By : K.W. Wan

Approved Signatory :

Checked By :

Post :

YU LEE KIEN, PETER

: Managing Director

D2-37





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128840

Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 16-12-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 16-12-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 11:31 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1130236-013 B2-G16-B10A	HK1130236-014 B2-G16-B11A	HK1130236-015 B2-G16-B12A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.670	1.680	1.675	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.7	100.6	100.1	--	--	--
Width of Specimen	mm	100.6	100.7	100.4	--	--	--
Height of Specimen	mm	99.5	99.7	99.2	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1660 --	1660 --	1680 --	--	--
Maximum Load at Failure	kN	98.2	100.5	93.5	--	--	--
Compressive Strength	MPa	9.8	10.0	9.4	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-38

--END--

Tested By : K.W. Wan

Approved Signatory

Checked By :

Post

YU LEE KIEN, PETER  
 Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128858

Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 17-12-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 17-12-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 11:47 GCE Test Unit Reg. No. : MH11101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number							
Cube Mark		HK1130236-016 B2-G16-B13A	HK1130236-017 B2-G16-B14A	HK1130236-018 B2-G16-B15A			
Mould No.							
Mass of Specimen in Air	kg	1.690	1.690	1.665			
Mass of Specimen in Water	kg						
Length of Specimen	mm	100.7	100.7	100.0			
Width of Specimen	mm	99.0	101	100.1			
Height of Specimen	mm	99.6	99.8	99.9			
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1700 --	1660 --	1670 --		
Maximum Load at Failure	kN	113.8	104.6	102.1			
Compressive Strength	MPa	11.5	10.4	10.2			
Observation Code		P	P	P			
Failure Mode		S	S	S			

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : K.W. Wan

Approved Signatory :

Checked By :

Post :

YU LEE KIEN, PETER  
 Managing Director

D2-39

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# ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

ALS Technichem (HK) Pty Ltd  
Environmental Division



## CERTIFICATE OF ANALYSIS

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
**SITE:** KCIP

**Batch:** HK1022424  
**Sub-batch:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 27/09/2010  
**DATE OF ISSUE:** 11/10/2010  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 3

### COMMENTS

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 3 page.

### Sample Details

ALS Lab ID	Sample ID	Date of Sampling	GCE Report No
HK1022424-001	G12-B1A	17/09/2010	GCD100906613
HK1022424-002	G12-B2A	18/09/2010	GCD100906621
HK1022424-003	G12-B3A	18/09/2010	GCD100906639

### ISSUING LABORATORY: HONG KONG

#### Address

ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Chung  
HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
Mr Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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Vancouver  
Santiago  
Amtofagasta  
Lima

Abbreviations: % SPK REC denotes percentage spike recovery

CHK denotes duplicate check sample

LOR denotes limit of reporting

LCS % REC denotes Laboratory Control Sample percentage recovery

D2-40

ALS Technichem (HK) Pty Ltd

Part of the ALS Laboratory Group

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., H.K.

Phone: 852-2610 1044 Fax: 852-2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD100906613

Date of Issue : 30-09-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -	Dosage	: -
Cement Brand	: -	Admixture Brand	: -	Designed / Measured Slump	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	A/C Ratio	: -
Cement Content	: -	W/C Ratio	: -		
PFA Content	: -	PFA Source	: -		
Date Cast	: 17-09-2010	Time of Adding Water to Mix	: -		
Date of Sampling	: 17-09-2010	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 12 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 28-09-2010 Date / Time Tested : 29-09-2010 / 19:42 GCE Test Unit Reg. No. : MI10094  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 12 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	-	-	-	-	-	-	-
Cube Mark	G12-B1A	-	-	-	-	-	-
Mould No.	-	-	-	-	-	-	-
Mass of Specimen in Air	kg	2.095	-	-	-	-	-
Mass of Specimen in Water	kg	-	-	-	-	-	-
Length of Specimen	mm	99.7	-	-	-	-	-
Width of Specimen	mm	100.2	-	-	-	-	-
Height of Specimen	mm	100.5	-	-	-	-	-
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	2090	-	-	-	-
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-	-	-	-	-
Maximum Load at Failure		kN	409.0	-	-	-	-
Compressive Strength		MPa	40.6	-	-	-	-
Observation Code			P	-	-	-	-
Failure Mode			S	-	-	-	-

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1022424-1

D2-41

Tested By : K.M. Wan

--END--

Approved Signatory :

LAU SUN HUNG, IVAN

Checked By :

Post

: Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD100906621 Date of Issue : 30-09-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 18-09-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 18-09-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 28-09-2010 Date / Time Tested : 29-09-2010 / 19:46 GCE Test Unit Reg. No. : M110094  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B2A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	2.180	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--
Width of Specimen	mm	100.1	--	--	--	--
Height of Specimen	mm	100.5	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	2160	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure		kN	336.6	--	--	--
Compressive Strength		MPa	33.5	--	--	--
Observation Code			P	--	--	--
Failure Mode			S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1022424-2

Tested By : K.M. Wan

Checked By : \_\_\_\_\_

Form No. : CON-PS/R1 Issue 4 Rev. 1 (06-05-2003) Page 9 of 12

--END--

Approved Signatory

Post

*D2-42*  
  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD100906639

Date of Issue : 30-09-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 18-09-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 18-09-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 28-09-2010 Date / Time Tested : 29-09-2010 / 19:52 GCE Test Unit Reg. No. : MI10094  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		G12-B3A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	2.130	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.1	--	--	--	--	--
Width of Specimen	mm	100.5	--	--	--	--	--
Height of Specimen	mm	99.7	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	2120	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	341.1	--	--	--	--
Compressive Strength		MPa	34.0	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1022424-3

D2-43

Tested By : K.M. Wan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

# ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

## ALS Techichem (HK) Pty Ltd

Environmental Division



### CERTIFICATE OF ANALYSIS

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1025229  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 26/10/2010  
**DATE OF ISSUE:** 05/11/2010  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 4

#### COMMENTS

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 4 page.

#### Sample Details

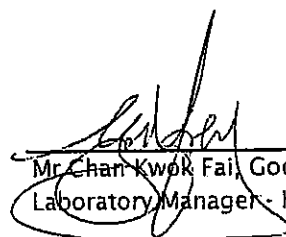
ALS Lab ID	Sample ID	Date of Sampling	GCE Report No
HK1025229-001	G12-B4A	20/10/2010	GCD101005842
HK1025229-002	G12-B5A	21/10/2010	GCD101005834
HK1025229-003	G12-B6A	22/10/2010	GCD101005818
HK1025229-004	G12-B7A	22/10/2010	GCD101005826

#### ISSUING LABORATORY: HONG KONG

**Address**

ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
Wing Yip Street  
Kwai Chung  
HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
Mr. Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

**Other ALS Environmental Laboratories:**

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	Lima

**Abbreviations:** % SPK REC denotes percentage spike recovery  
CHK denotes duplicate check sample  
LOR denotes limit of reporting  
LCS % REC denotes Laboratory Control Sample percentage recovery

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Phone: 852-2610 1044 Fax: 852-2610 2021 www.alsenviro.com  
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D2-44



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101005842

Date of Issue : 29-10-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 20-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 20-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 28-10-2010 Date / Time Tested : 28-10-2010 / 20:11 GCE Test Unit Reg. No. : MI10101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B4A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.830	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.5	--	--	--	--
Width of Specimen	mm	100.5	--	--	--	--
Height of Specimen	mm	99.9	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1810	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure		kN	227.7	--	--	--
Compressive Strength		MPa	22.7	--	--	--
Observation Code			P	--	--	--
Failure Mode			S	--	--	--


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1025229-1

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 Post : Managing Director





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101005834

Date of Issue : 29-10-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 21-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 21-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 28-10-2010 Date / Time Tested : 28-10-2010 / 20:14 GCE Test Unit Reg. No. : MI10101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B5A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.460	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.3	--	--	--	--
Width of Specimen	mm	99.7	--	--	--	--
Height of Specimen	mm	99.5	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1470	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure		kN	32.2	--	--	--
Compressive Strength		MPa	3.2	--	--	--
Observation Code			P	--	--	--
Failure Mode			S	--	--	--

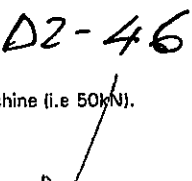
Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1025229-2  
 2) The maximum load at failure of the specimen was lower than the minimum calibrated range of compression machine (i.e 50kN).

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 YU LEE KIEN, PETER  
 Post : Managing Director

Checked By : 



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101005818

Date of Issue : 29-10-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 22-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 22-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 6 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 28-10-2010 Date / Time Tested : 28-10-2010 / 20:24 GCE Test Unit Reg. No. : MI10101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 6 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	G12-B6A	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.870	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.1	--	--	--	--	--
Width of Specimen	mm	100.9	--	--	--	--	--
Height of Specimen	mm	100.3	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1850	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	62.8	--	--	--	--
Compressive Strength		MPa	6.2	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1025229-3

--END--

Tested By : T.Y. Chan

Approved Signatory :

Checked By :

Post :

*D2-47*  
  
 YU LEE KIEN, PETER  
 Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101005826

Date of Issue : 29-10-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 22-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 22-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 6 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 28-10-2010 Date / Time Tested : 28-10-2010 / 20:21 GCE Test Unit Reg. No. : MI10101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 6 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B7A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.950	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.5	--	--	--	--
Width of Specimen	mm	100.4	--	--	--	--
Height of Specimen	mm	100.7	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1920	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	96.4	--	--	--	--
Compressive Strength	MPa	9.5	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

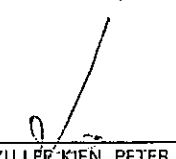
Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1025229-4

--END--

Tested By : T.Y. Chan

Approved Signatory : 

Checked By : 

Post : Managing Director

D2-48

1



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1 508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1026473  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 05/11/2010  
**DATE OF ISSUE:** 18/11/2010  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 7

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 7 page.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1026473-001	G12-B8A	25/10/2010	GCD101102199
HK1026473-002	G12-B9A	26/10/2010	GCD101102204
HK1026473-003	G12-B10A	26/10/2010	GCD101102212
HK1026473-004	G12-B11A	28/10/2010	GCD101102220
HK1026473-005	G12-B12A	29/10/2010	GCD101102238
HK1026473-006	G12-B13A	30/10/2010	GCD101102246
HK1026473-007	G12-B14A	01/11/2010	GCD101102254

**ISSUING LABORATORY: HONG KONG**

**Address**

ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

D2-49

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101102199

Date of Issue : 11-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 25-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 25-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 16 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 10-11-2010 Date / Time Tested : 10-11-2010 / 22:46 GCE Test Unit Reg. No. : MI10104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 16 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--
Cube Mark		G12-B8A	--	--	--	--
Mould No.		--	--	--	--	--
Mass of Specimen in Air	kg	1.835	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	99.6	--	--	--	--
Width of Specimen	mm	100.5	--	--	--	--
Height of Specimen	mm	99.5	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	919	--	--	--	--
Compressive Strength	MPa	91.9	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1026473-001

--END--

Tested By : K.P. Lam

Approved Signatory : 

Checked By : 

Post

YU LEE KIEN, PETER  
 : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101102204 Date of Issue : 11-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 26-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 26-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 15 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 10-11-2010 Date / Time Tested : 10-11-2010 / 22:44 GCE Test Unit Reg. No. : MI10104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 15 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B9A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.960	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	99.5	--	--	--	--
Width of Specimen	mm	100.4	--	--	--	--
Height of Specimen	mm	100.9	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1940	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	97.3	--	--	--	--
Compressive Strength	MPa	9.6	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1026473-002


--END--

Tested By : K.P. Lam

Approved Signatory

Checked By : 

Post

  
 YU LEE KIEN, PETER  
 Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101102212

Date of Issue : 11-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 26-10-2010 Time of Adding Water to Mix : --  
 Date of Sampling : 26-10-2010 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 15 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 10-11-2010 Date / Time Tested : 10-11-2010 / 22:38 GCE Test Unit Reg. No. : MI10104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 15 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		G12-B10A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.875	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	99.1	--	--	--	--	--
Height of Specimen	mm	99.8	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1890	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	75.1	--	--	--	--
Compressive Strength		MPa	7.6	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1026473-003

--END--

Tested By : K.P. Lam  
 Checked By : B

Approved Signatory : D2-52  
 YU LEE KIEN, PETER  
 Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101102220

Date of Issue : 11-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 28-10-2010 Time of Adding Water to Mix : --  
 Date of Sampling : 28-10-2010 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 10-11-2010 Date / Time Tested : 10-11-2010 / 22:43 GCE Test Unit Reg. No. : MI10104  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		G12-B11A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.975	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.1	--	--	--	--	--
Width of Specimen	mm	100.1	--	--	--	--	--
Height of Specimen	mm	100.1	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1970	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	112.4	--	--	--	--
Compressive Strength		MPa	11.2	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

*D2-53*

Remarks : 1) ALS Lab ID : HK1026473-004

--END--

Tested By : K.P. Lam

Approved Signatory :

Checked By :

Post : Managing Director





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101102238 Date of Issue : 11-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 29-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 29-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 12 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 10-11-2010 Date / Time Tested : 10-11-2010 / 22:42 GCE Test Unit Reg. No. : MI10104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 12 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		G12-B12A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.875	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.6	--	--	--	--	--
Width of Specimen	mm	100.8	--	--	--	--	--
Height of Specimen	mm	99.9	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1850	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	124.0	--	--	--	--
Compressive Strength		MPa	12.3	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1026473-005

--END--

Tested By : K.P. Lam

Approved Signatory :

Checked By : B

Post :

YU LEE KIEN, PETER  
 Managing Director

D2-54



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101102246 Date of Issue : 11-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 30-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 30-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 10-11-2010 Date / Time Tested : 10-11-2010 / 22:41 GCE Test Unit Reg. No. : MI10104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B13A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.855	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 99.7	--	--	--	--	--
Width of Specimen	mm 100.7	--	--	--	--	--
Height of Specimen	mm 100.0	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1850	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 115.4	--	--	--	--	--
Compressive Strength	MPa 11.5	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

Legend :


A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

*D2-55*

Remarks : 1) ALS Lab ID : HK1026473-006

--END--

Tested By : K.P. Lam

Approved Signatory :   
 YU LEE KIEN, PETER

Checked By : 

Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101102254 Date of Issue : 11-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 01-11-2010 Time of Adding Water to Mix : --  
 Date of Sampling : 01-11-2010 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 10-11-2010 Date / Time Tested : 10-11-2010 / 22:39 GCE Test Unit Reg. No. : MI10104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B14A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.845	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.1	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--
Height of Specimen	mm	99.9	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	115.4	--	--	--	--
Compressive Strength	MPa	11.5	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1026473-007

D2-56

--END--

Tested By : K.P. Lam

Approved Signatory :

Checked By :

Post : Managing Director



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1027725  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 22/11/2010  
**DATE OF ISSUE:** 06/12/2010  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 10

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 10 page.

**Sample Details**

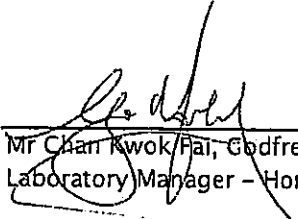
<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1027725-001	G12-B15A	02/11/2010	GCD10114696
HK1027725-002	G12-B16A	02/11/2010	GCD10114701
HK1027725-003	G12-B17A	03/11/2010	GCD10114719
HK1027725-004	G12-B18A	03/11/2010	GCD10114727
HK1027725-005	G12-B19A	06/11/2010	GCD10114735
HK1027725-006	G12-B20A	09/11/2010	GCD10114743
HK1027725-007	G12-B21A	13/11/2010	GCD10114751
HK1027725-008	G12-B22A	13/11/2010	GCD10114769
HK1027725-009	G12-B23A	17/11/2010	GCD10114777
HK1027725-010	G12-B24A	17/11/2010	GCD10114785

**ISSUING LABORATORY: HONG KONG**

**Address**

ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114696 Date of Issue : 25-11-2010

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-11-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-11-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 22 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 18:09 GCE Test Unit Reg. No. : MI10107  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 22 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	G12-B15A	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.790	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--	--
Height of Specimen	mm	100.1	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1780	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	121.4	--	--	--	--	--
Compressive Strength	MPa	12.1	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1027725-1

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : B

Post

YU LEÉ KIEN, PETER  
 Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114701 Date of Issue : 25-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-11-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-11-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 22 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 18:05 GCE Test Unit Reg. No. : MI10107  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 22 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B16A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.540	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.3	--	--	--	--
Width of Specimen	mm	100.1	--	--	--	--
Height of Specimen	mm	100.1	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1530	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	47.8	--	--	--	--
Compressive Strength	MPa	4.8	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

Legend :

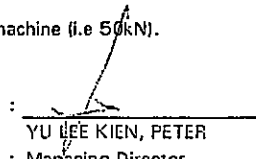
A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.


D2-59

Remarks : 1) ALS Lab ID : HK1027725-2  
 2) The maximum load at failure of the specimen was lower than the minimum calibrated range of compression machine (i.e 50kN).

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 Post : Managing Director

Checked By : 



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114719 Date of Issue : 25-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 03-11-2010 Time of Adding Water to Mix : --  
 Date of Sampling : 03-11-2010 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 21 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 18:21 GCE Test Unit Reg. No. : MI10107  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 21 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B17A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.800	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.2	--	--	--	--	--
Width of Specimen	mm 100.3	--	--	--	--	--
Height of Specimen	mm 99.8	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1790	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 118.8	--	--	--	--	--
Compressive Strength	MPa 11.9	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1027725-3

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 YU LEE-KIEN, PETER  
 Post : Managing Director

Checked By : 



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114727 Date of Issue : 25-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 03-11-2010 Time of Adding Water to Mix : --  
 Date of Sampling : 03-11-2010 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 21 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 18:16 GCE Test Unit Reg. No. : MI10107  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 21 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		G12-B18A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.550	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.0	--	--	--	--	--
Width of Specimen	mm	100.3	--	--	--	--	--
Height of Specimen	mm	100.2	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1540	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	53.2	--	--	--	--
Compressive Strength		MPa	5.3	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1027725-4

--END--

Tested By : T.Y. Chan

Checked By : B

Approved Signatory :

Post :

D2-61  
  
 YU LEE KIEN, PETER  
 Managing Director





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114735 Date of Issue : 25-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 06-11-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 06-11-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 18 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 18:16 GCE Test Unit Reg. No. : MI10107  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 18 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	G12-B19A	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	2.100	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.1	--	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--	--
Height of Specimen	mm	100.0	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	2090	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	521.4	--	--	--	--	--
Compressive Strength	MPa	52.0	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1027725-5

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : T.Y. Chan

Post

YU LEE KIEN, PETER  
 : Managing Director

D2-62



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114743 Date of Issue : 25-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 09-11-2010 Time of Adding Water to Mix : --  
 Date of Sampling : 09-11-2010 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 15 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 18:19 GCE Test Unit Reg. No. : MI10107  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 15 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		G12-B20A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.500	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--	--
Height of Specimen	mm	100.1	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1490	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	64.6	--	--	--	--	--
Compressive Strength	MPa	6.4	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1027725-6

--END--

Tested By : T.Y. Chan

Approved Signatory : 

Checked By : 

Post : YU LEE KIEN, PETER  
 : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114751 Date of Issue : 25-11-2010

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 13-11-2010 Time of Adding Water to Mix : --  
 Date of Sampling : 13-11-2010 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 11 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 17:52 GCE Test Unit Reg. No. : M10107  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		G12-B21A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.860	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--	--
Height of Specimen	mm	100.1	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1850	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	156.0	--	--	--	--
Compressive Strength		MPa	15.6	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1027725-7


--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : 

Post

  
 YU LEE KIEN, PETER  
 : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114769

Date of Issue : 25-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 13-11-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 13-11-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 18:31 GCE Test Unit Reg. No. : MI10107  
Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B22A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.940	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.1	--	--	--	--
Width of Specimen	mm	100.3	--	--	--	--
Height of Specimen	mm	100.2	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1930	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure		kN	278.9	--	--	--
Compressive Strength		MPa	27.8	--	--	--
Observation Code			P	--	--	--
Failure Mode			S	--	--	--


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1027725-8

--END--

Tested By : T.Y. Chan

Approved Signatory : 

Checked By : 

Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114777

Date of Issue : 25-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : --	Plant : --		
Source of Coarse Agg. : --	Source of Fine Agg. : --		
Cement Brand : --	Admixture Brand : --	Dosage : --	
Concrete Mix I.D. No. : --	Concrete Grade : --	Designed / Measured Slump : --	
Cement Content : --	W/C Ratio : --	A/C Ratio : --	
PFA Content : --	PFA Source : --		
Date Cast : 17-11-2010	Time of Adding Water to Mix : --		
Date of Sampling : 17-11-2010	Time of Sampling : --		
Place of Sampling : --	Place / Time of Making Cube : --		
Method of Compaction : --	Name of Person Making Cubes : --		
Site Curing Method : --	Site Max. / Min. Temperature : --		
No. of Cubes : 1	Nominal Size : 100 mm	Test at Age of : 7 days	

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 18:24 GCE Test Unit Reg. No. : MI10107  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	G12-B23A	--	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.906	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--	--
Height of Specimen	mm	100.3	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1890	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	268.1	--	--	--	--	--
Compressive Strength	MPa	26.7	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1027725-9

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 YU LEE KIEN, PETER

Checked By : 

Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD10114785 Date of Issue : 25-11-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 17-11-2010 Time of Adding Water to Mix : --  
 Date of Sampling : 17-11-2010 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-11-2010 Date / Time Tested : 24-11-2010 / 18:27 GCE Test Unit Reg. No. : MI10107  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G12-B24A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.840	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.3	--	--	--	--	--
Width of Specimen	mm 100.2	--	--	--	--	--
Height of Specimen	mm 100.1	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1830	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN	92.4	--	--	--	--
Compressive Strength	MPa	9.2	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

D2-67

Remarks : 1) ALS Lab ID : HK1027725-10

--END--

Tested By : T.Y. Chan

Approved Signatory :

YU LEE KIEN, PETER

Checked By :

Post :

Managing Director

# ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

**ALS TECHNICHEM (HK) Pty Ltd**  
Environmental Division



## CERTIFICATE OF ANALYSIS

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD,  
NORTH POINT,  
HONG KONG

**Batch:** HK1018819  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 13/08/2010  
**DATE OF ISSUE:** 26/08/2010  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 1

### COMMENTS

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 1 page.

### Sample Details

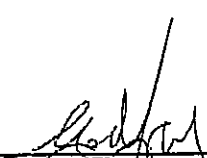
ALS Lab ID	Sample ID	Date of Sampling	GCE Report No
HK1018819-001	G13-B1A (5/8)	13/08/2010	GCD100802835

### ISSUING LABORATORY: HONG KONG

#### Address

ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
Mr Onan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

#### Other ALS Environmental Laboratories

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#### AMERICAS

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Santiago  
Arimotagasta  
Lima

Abbreviations: % SPK REC denotes percentage spike recovery

CHK denotes duplicate check sample

LOR denotes limit of reporting

LCS % REC denotes Laboratory Control Sample percentage recovery

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ALS Technichem (HK) Pty Ltd  
Part of the ALS Laboratory Group

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., H.K.

Phone: 852-2610 1044 Fax: 852-2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD100802835

Date of Issue : 18-08-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 13-08-2010	Time of Adding Water to Mix	: -		
Date of Sampling	: 13-08-2010	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 4 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 17-08-2010 Date / Time Tested : 17-08-2010 / 15:15 GCE Test Unit Reg. No. : MI10080  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 4 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		G13-B1A (5/8)	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.841	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	100.1	--	--	--	--	--
Height of Specimen	mm	100.4	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1830	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	82.6	--	--	--	--
Compressive Strength		MPa	8.2	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1018819-1

--END--

Tested By : K.P. Lam

Approved Signatory

Checked By : \_\_\_\_\_

Post

*D2-69*  
  
 YU LEE KIEN, PETER  
 : Managing Director



# ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

**ALS TECHNICHEM (HK) Pty Ltd**  
Environmental Division



## CERTIFICATE OF ANALYSIS

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
**SITE:** KCIP

**Batch:** HK1019600  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 24/08/2010  
**DATE OF ISSUE:** 06/09/2010  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 3

### COMMENTS

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
Sample(s) analysed on an as received basis.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 3 pages.

### Sample Details

ALS Lab ID	Sample ID	Date of Sampling	GCE Report No
HK1019600-001	G13-B2 (13/8)	13/08/2010	GCD100804748
HK1019600-002	G13-B3 (14/8)	14/08/2010	GCD100804756
HK1019600-003	G13-B4 (16/8)	16/08/2010	GCD100804764

### ISSUING LABORATORY: HONG KONG

**Address**  
ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr. Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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Sydney	Amtofagasta
Newcastle	Lima
Hong Kong	
Singapore	
Kuala Lumpur	
Bogor	

Abbreviations: % SPK REC denotes percentage spike recovery  
CHK denotes duplicate check sample  
LOR denotes limit of reporting  
LCS % REC denotes Laboratory Control Sample percentage recovery

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**ALS Technichem (HK) Pty Ltd**  
Part of the ALS Laboratory Group

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., H.K.  
Phone: 852-2610 1044 Fax: 852-2610 2021 www.alsenviro.com  
A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD100804748

Date of Issue : 30-08-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 13-08-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 13-08-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 14 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 26-08-2010 Date / Time Tested : 27-08-2010 / 19:00 GCE Test Unit Reg. No. : MI10081  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 14 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	G13-B2 (13/8)	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg	1.780	--	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	100.9	--	--	--
Width of Specimen	mm	100.7	--	--	--
Height of Specimen	mm	99.7	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1760	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--
Maximum Load at Failure	kN	103.9	--	--	--
Compressive Strength	MPa	10.3	--	--	--
Observation Code		P	--	--	--
Failure Mode		S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1019600-1

Tested By : K.P. Lam

--END--

Approved Signatory :

YU YEE KIEN, PETER  
 Managing Director

Checked By :

Post :

D2-71



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD100804756

Date of Issue : 30-08-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -	Dosage	: -
Cement Brand	: -	Admixture Brand	: -	Designed / Measured Slump	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	A/C Ratio	: -
Cement Content	: -	W/C Ratio	: -		
PFA Content	: -	PFA Source	: -		
Date Cast	: 14-08-2010	Time of Adding Water to Mix	: -		
Date of Sampling	: 14-08-2010	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 26-08-2010 Date / Time Tested : 27-08-2010 / 18:57 GCE Test Unit Reg. No. : M110081  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	-	-	-	-	-	-
Cube Mark	G13-B3 (14/8)	-	-	-	-	-
Mould No.	-	-	-	-	-	-
Mass of Specimen in Air	kg	1.805	-	-	-	-
Mass of Specimen in Water	kg	-	-	-	-	-
Length of Specimen	mm	100.4	-	-	-	-
Width of Specimen	mm	99.2	-	-	-	-
Height of Specimen	mm	100.5	-	-	-	-
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1800	-	-	-
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-	-	-	-
Maximum Load at Failure		kN	109.2	-	-	-
Compressive Strength		MPa	11.0	-	-	-
Observation Code			P	-	-	-
Failure Mode			S	-	-	-

**Legend :**


A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

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Remarks : 1) ALS Lab ID : HK1019600-2

--END--

Tested By : K.P. Lam

Approved Signatory :   
 YU LEE KIEN, PETER

Checked By : \_\_\_\_\_

Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD100804764

Date of Issue : 30-08-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 16-08-2010 Time of Adding Water to Mix : -  
 Date of Sampling : 16-08-2010 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 26-08-2010 Date / Time Tested : 27-08-2010 / 18:46 GCE Test Unit Reg. No. : M110081  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number							
Cube Mark	G13-B4 (16/8)						
Mould No.							
Mass of Specimen in Air	kg	1.765					
Mass of Specimen in Water	kg						
Length of Specimen	mm	100.7					
Width of Specimen	mm	100.4					
Height of Specimen	mm	100.1					
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1740				
	-Vol. by Water Displacement	kg/m <sup>3</sup>					
Maximum Load at Failure	kN	116.5					
Compressive Strength	MPa	11.6					
Observation Code		P					
Failure Mode		S					

**Legend :**


A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1019600-3

Tested By : K.P. Lam

--END--

Approved Signatory :

  
 YU LEE KIEN, PETER  
 Managing Director

Checked By :

Post :

# ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

ALS TECHNICHEM (HK) Pty Ltd

Environmental Division



## CERTIFICATE OF ANALYSIS

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
**SITE:** KCIP

**Batch:** HK1020957  
**Sub-batch:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 07/09/2010  
**DATE OF ISSUE:** 25/09/2010  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 1

### COMMENTS

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
Soil sample(s) analysed on an as received basis.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 1 page.

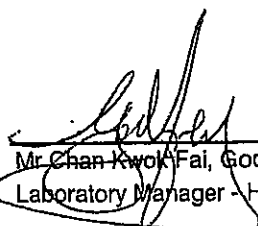
### Sample Details

ALS Lab ID	Sample ID	Date of Sampling	GCE Report No
HK1025957-001	G13-B5A (28/8)	07/09/2010	GCD100903851

### ISSUING LABORATORY: HONG KONG

**Address**  
ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
Mr Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

Other ALS Environmental Laboratories

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Santiago  
Amtofagasia  
Lima

Abbreviations: % SPK REC denotes percentage spike recovery

CHK denotes duplicate check sample

LOR denotes limit of reporting

LCS % REC denotes Laboratory Control Sample percentage recovery

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ALS Technichem (HK) Pty Ltd

Part of the ALS Laboratory Group

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., H.K.

Phone: 852-2610 1044 Fax: 852-2610 2021 www.alsenviro.com

A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD100903851

Date of Issue : 13-09-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 07-09-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 07-09-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 3 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 10-09-2010 Date / Time Tested : 10-09-2010 / 20:15 GCE Test Unit Reg. No. : MI10089  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 3 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--
Cube Mark		G13-B5A (28/8)	--	--	--	--
Mould No.		--	--	--	--	--
Mass of Specimen in Air	kg	1.875	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.7	--	--	--	--
Width of Specimen	mm	100.5	--	--	--	--
Height of Specimen	mm	99.7	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1860	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure		kN	147	--	--	--
Compressive Strength		MPa	14.7	--	--	--
Observation Code			P	--	--	--
Failure Mode			S	--	--	--


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1020957-1

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager

Checked By : 

# ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

## ALS Technichem (HK) Pty Ltd

Environmental Division



### CERTIFICATE OF ANALYSIS

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
250 KING`S ROAD,  
NORTH POINT,  
HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1024657  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 18/10/2010  
**DATE OF ISSUE:** 01/11/2010  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 4

### COMMENTS

Sample(s) were received in an chilled condition.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 4 page.

### Sample Details

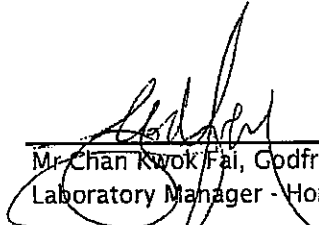
ALS Lab ID	Sample ID	Sampling Date	GCE Report No
HK1024657-001	G13-B6A	08/10/2010	GCD101004210
HK1024657-002	G13-B7A	09/10/2010	GCD101004228
HK1024657-003	B13-B8A	11/10/2010	GCD101004197
HK1024657-004	B13-B9A	11/10/2010	GCD101004202

### ISSUING LABORATORY: HONG KONG

#### Address

ALS Technichem (HK) Pty Ltd  
15/F, Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
Mr. Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
CHK denotes duplicate check sample  
LOR denotes limit of reporting  
LCS % REC denotes Laboratory Control Sample percentage recovery

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ALS Technichem (HK) Pty Ltd  
Part of the ALS Laboratory Group  
11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., H.K.  
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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101004210 Date of Issue : 21-10-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 08-10-2010 Time of Adding Water to Mix : --  
 Date of Sampling : 08-10-2010 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 12 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 20-10-2010 Date / Time Tested : 20-10-2010 / 19:16 GCE Test Unit Reg. No. : MI10097  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 12 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		-	-	-	-	-	-
Cube Mark		G13-B6A	-	-	-	-	-
Mould No.		-	-	-	-	-	-
Mass of Specimen in Air	kg	1.800	-	-	-	-	-
Mass of Specimen in Water	kg	-	-	-	-	-	-
Length of Specimen	mm	100.2	-	-	-	-	-
Width of Specimen	mm	100.3	-	-	-	-	-
Height of Specimen	mm	100.1	-	-	-	-	-
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1790	-	-	-	-
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-	-	-	-	-
Maximum Load at Failure		kN	88.7	-	-	-	-
Compressive Strength		MPa	8.8	-	-	-	-
Observation Code			P	-	-	-	-
Failure Mode			S	-	-	-	-

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1024657-1  
 2) The time of adding water to the mix is not provided by client, the exact age at test is therefore not determined in clause 10.4 of CS1:1990.

-END-

Tested By : T.Y. Chan

Approved Signatory

Checked By : AL

Post

*D2-77*  
  
 CHAN TAT TUNG, TONY  
 : Testing Manager





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101004228 Date of Issue : 21-10-2010

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 09-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 09-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 20-10-2010 Date / Time Tested : 20-10-2010 / 19:12 GCE Test Unit Reg. No. : MI10097  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	G13-B7A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.915	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.3	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--
Height of Specimen	mm	100.2	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1900	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure		kN	188.6	--	--	--
Compressive Strength		MPa	18.8	--	--	--
Observation Code			P	--	--	--
Failure Mode			S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1024657-2  
 2) The time of adding water to the mix is not provided by client, the exact age at test is therefore not determined in clause 10.2 of CS1:1990.

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 CHAN TAT TUNG, TONY  
 Post : Testing Manager

Checked By :



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD101004197

Date of Issue : 21-10-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 11-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 11-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 20-10-2010 Date / Time Tested : 20-10-2010 / 19:22 GCE Test Unit Reg. No. : MI10097  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number							
Cube Mark	B13-BBA						
Mould No.							
Mass of Specimen in Air	kg	1.855					
Mass of Specimen in Water	kg						
Length of Specimen	mm	100.3					
Width of Specimen	mm	100.2					
Height of Specimen	mm	100.3					
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840				
	-Vol. by Water Displacement	kg/m <sup>3</sup>					
Maximum Load at Failure		kN	92.8				
Compressive Strength		MPa	9.2				
Observation Code			P				
Failure Mode			S				

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK 1024657-3

2) The time of adding water to the mix is not provided by client, the exact age at test is therefore not determined in clause 10.4 of CS1:1990.

Tested By : T.Y. Chan

--END--

Approved Signatory :

Checked By : CL

Post

*D2-79*  
  
 CHAN TAT TUNG, TONY  
 : Testing Manager



### REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE

Page 1 of 1

Report No. : GCD101004202

Date of Issue : 21-10-2010

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 11-10-2010	Time of Adding Water to Mix	: --		
Date of Sampling	: 11-10-2010	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 20-10-2010 Date / Time Tested : 20-10-2010 / 19:19 GCE Test Unit Reg. No. : MI10097  
Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		B13-B9A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.910	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	100.3	--	--	--	--	--
Height of Specimen	mm	100.2	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1900	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	167.0	--	--	--	--
Compressive Strength		MPa	16.6	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) ALS Lab ID : HK1024657-4  
2) The time of adding water to the mix is not provided by client, the exact age at test is therefore not determined in clause 10.4 of CS1:1990.

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :   *TYC*  

Post

*D2-80*  
  *Chan Fat Tung*    
CHAN FAT TUNG, TONY  
: Testing Manager



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1101239  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 14/01/2011  
**DATE OF ISSUE:** 22/01/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 5

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 5 page.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1101239-001	G15-B1A	08/01/2011	GCD110101396
HK1101239-002	G15-B2A	08/01/2011	GCD110101401
HK1101239-003	G15-B3A	10/01/2011	GCD110101419
HK1101239-004	G15-B4A	10/01/2011	GCD110101427
HK1101239-005	G15-B5A	11/01/2011	GCD110101435

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 15/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

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ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110101396 Date of Issue : 19-01-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 08-01-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 08-01-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 17-01-2011 Date / Time Tested : 18-01-2011 / 10:36 GCE Test Unit Reg. No. : MI11005  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number						
Cube Mark	HK1101239-001 G15-B1A					
Mould No.	-					
Mass of Specimen in Air	kg	2.130				
Mass of Specimen in Water	kg	-				
Length of Specimen	mm	99.9				
Width of Specimen	mm	99.8				
Height of Specimen	mm	100.3				
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	2130			
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-			
Maximum Load at Failure	kN	430.9				
Compressive Strength	MPa	43.0				
Observation Code		P				
Failure Mode		S				

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : --

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--END--

Tested By : T.Y. Chan

Approved Signatory :

Checked By :

YU LEE KIEN, PETER  
 : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110101401

Date of Issue : 19-01-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 08-01-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 08-01-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 17-01-2011 Date / Time Tested : 18-01-2011 / 10:32 GCE Test Unit Reg. No. : MI11005  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number							
Cube Mark	HK1101239-002 G15-B2A						
Mould No.							
Mass of Specimen in Air	kg	1.915					
Mass of Specimen in Water	kg						
Length of Specimen	mm	99.9					
Width of Specimen	mm	99.8					
Height of Specimen	mm	100.4					
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1910				
	-Vol. by Water Displacement	kg/m <sup>3</sup>					
Maximum Load at Failure	kN	263.0					
Compressive Strength	MPa	26.2					
Observation Code		P					
Failure Mode		S					

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize; H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : --

--END--

Tested By : T.Y. Chan  
 Checked By : B

D2-83  
 Approved Signatory : [Signature]  
 YU LEE KIEN, PETER  
 Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110101419

Date of Issue : 19-01-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 10-01-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 10-01-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 17-01-2011 Date / Time Tested : 18-01-2011 / 10:28 GCE Test Unit Reg. No. : MI11005  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1101239-003 G15-B3A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	2.155	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.4	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--
Height of Specimen	mm	99.8	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	2150	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	440.9	--	--	--	--
Compressive Strength	MPa	44.1	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : -

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 YU LEE KIEN, PETER  
 Post : Managing Director

Checked By :

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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110101427

Date of Issue : 19-01-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -	Dosage	: -
Source of Coarse Agg.	: -	Source of Fine Agg.	: -	Designed / Measured Slump	: -
Cement Brand	: -	Admixture Brand	: -	A/C Ratio	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -		
Cement Content	: -	W/C Ratio	: -		
PFA Content	: -	PFA Source	: -		
Date Cast	: 10-01-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 10-01-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 17-01-2011 Date / Time Tested : 18-01-2011 / 10:24 GCE Test Unit Reg. No. : MI11005  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	-	-	-	-	-	-
Cube Mark	HK1101239-004 G15-B4A	-	-	-	-	-
Mould No.	-	-	-	-	-	-
Mass of Specimen in Air	kg	1.720	-	-	-	-
Mass of Specimen in Water	kg	-	-	-	-	-
Length of Specimen	mm	100.6	-	-	-	-
Width of Specimen	mm	99.2	-	-	-	-
Height of Specimen	mm	99.5	-	-	-	-
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1730	-	-	-
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-	-	-	-
Maximum Load at Failure	kN	132.1	-	-	-	-
Compressive Strength	MPa	13.4	-	-	-	-
Observation Code		P	-	-	-	-
Failure Mode		S	-	-	-	-

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : -

-END-

Tested By : T.Y. Chan

Approved Signatory : 

Checked By : 

Post : YU KEE KIEN, PETER  
 : Managing Director

D2-85





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110101435 Date of Issue : 19-01-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 11-01-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 11-01-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 17-01-2011 Date / Time Tested : 18-01-2011 / 10:21 GCE Test Unit Reg. No. : MI11005  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1101239-005 G15-B5A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.805	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	99.7	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--
Height of Specimen	mm	99.7	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1810	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	187.9	--	--	--	--
Compressive Strength	MPa	18.8	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : --

--END--

Tested By : T.Y. Chan

Approved Signatory : 

Checked By : 

Post : YU LEE KIEN, PETER  
 : Managing Director

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**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1102478  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 28/01/2011  
**DATE OF ISSUE:** 07/03/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 3

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 3 pages.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1102478-001	G15-B6A	25/01/2011	GCD110202760
HK1102478-002	G15-B7A	25/01/2011	GCD110202778
HK1102478-003	G15-B8A	26/01/2011	GCD110202786

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

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ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110202760

Date of Issue : 24-02-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 25-01-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 25-01-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 31-01-2011 Date / Time Tested : 01-02-2011 / 18:51 GCE Test Unit Reg. No. : MI11010  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1102478-001						
Cube Mark		G15-B6A						
Mould No.								
Mass of Specimen in Air	kg	2.125						
Mass of Specimen in Water	kg	--						
Length of Specimen	mm	99.9						
Width of Specimen	mm	100.4						
Height of Specimen	mm	100.2						
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	2110					
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--					
Maximum Load at Failure	kN	460.3						
Compressive Strength	MPa	45.8						
Observation Code		P						
Failure Mode		S						

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

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Tested By : T.Y. Chan

--END--

Approved Signatory :

Checked By :

Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110202778 Date of Issue : 24-02-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.D. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 25-01-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 25-01-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 31-01-2011 Date / Time Tested : 01-02-2011 / 19:03 GCE Test Unit Reg. No. : MI11010  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1102478-002	--	--	--	--	--
Mould No.	G15-B7A	--	--	--	--	--
Mass of Specimen in Air	kg 2.075	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.3	--	--	--	--	--
Width of Specimen	mm 100.4	--	--	--	--	--
Height of Specimen	mm 100.2	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 2060	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 587.7	--	--	--	--	--
Compressive Strength	MPa 58.4	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Checked By : \_\_\_\_\_

Approved Signatory : \_\_\_\_\_

YU LEE KIEN, PETER

Post

: Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110202786 Date of Issue : 24-02-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 26-01-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 26-01-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 6 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 31-01-2011 Date / Time Tested : 01-02-2011 / 18:59 GCE Test Unit Reg. No. : MI11010  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 6 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1102478-003 G15-B8A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.780	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	99.9	--	--	--	--	--
Width of Specimen	mm	100.4	--	--	--	--	--
Height of Specimen	mm	100.2	--	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1770 --	--	--	--	--
Maximum Load at Failure	kN	109.8	--	--	--	--	--
Compressive Strength	MPa	10.9	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-90

Tested By : T.Y. Chan

--END--

Approved Signatory :

Checked By :

Post :

YU LEE KIEN, PETER  
 Managing Director



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1111963  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 26/05/2011  
**DATE OF ISSUE:** 02/06/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 4

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 1 page.

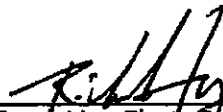
**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1111963-001	G15-D1A1	13/05/2011	GCD110506009
HK1111963-002	G15-D2A1	13/05/2011	GCD110506009
HK1111963-003	G15-D3A1	13/05/2011	GCD110506009
HK1111963-004	G15-D4A1	13/05/2011	GCD110506009

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr. Fung Lim Chee, Richard  
 General Manager -  
 Greater China & Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

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ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110506009

Date of Issue : 30-05-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 13-05-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 13-05-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 4 Nominal Size : 100 mm Test at Age of : 15 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 28-05-2011 Date / Time Tested : 28-05-2011 22:12 GCE Test Unit Reg. No. : M111040  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 15 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1111963-001 G15-D1A1	HK1111963-002 G15-D2A1	HK1111963-003 G15-D3A1	HK1111963-004 G15-D4A1	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.880	1.840	2.165	1.510	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.7	100.7	100.2	99.8	--	--
Width of Specimen	mm	100.7	100.4	100.3	99.9	--	--
Height of Specimen	mm	100.4	100.3	100.6	100.5	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1850 --	1810 --	2140 --	1510 --	-- --
Maximum Load at Failure	kN	157.7	134.7	396.5	*28.1	--	--
Compressive Strength	MPa	15.6	13.4	39.3	2.8	--	--
Observation Code		P	P	P	P	--	--
Failure Mode		S	S	S	S	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube  
 2) \*The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50 kN).

Tested By : K.M. Wan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1113092  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 10/06/2011  
**DATE OF ISSUE:** 21/06/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 7

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 7 pages.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1113092-001	G14-B1A	31/05/2011	GCD110602164
HK1113092-002	G14-B2A	07/06/2011	GCD110602172
HK1113092-003	G14-D1A	02/06/2011	GCD110602180
HK1113092-004	G14-D2A	02/06/2011	GCD110602198
HK1113092-005	G14-D3A	03/06/2011	GCD110602203
HK1113092-006	G15-D5A	31/05/2011	GCD110602211
HK1113092-007	G15-D6A	01/06/2011	GCD110602229

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

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ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602164

Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 31-05-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 31-05-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 19:08 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number									
Cube Mark	HK1113092-001 614-61A								
Mould No.									
Mass of Specimen in Air	kg	1.730							
Mass of Specimen in Water	kg								
Length of Specimen	mm	99.4							
Width of Specimen	mm	100.2							
Height of Specimen	mm	100.5							
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1730						
	-Vol. by Water Displacement	kg/m <sup>3</sup>							
Maximum Load at Failure	kN	141.4							
Compressive Strength	MPa	14.0							
Observation Code		P							
Failure Mode		S							

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

*D2-94*  
  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602172 Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty-Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 07-06-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 07-06-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 6 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A. Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 19:00 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 6 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number									
Cube Mark	HK1113092-002 G14-B2A								
Mould No.									
Mass of Specimen in Air	kg	1.755							
Mass of Specimen in Water	kg								
Length of Specimen	mm	100.4							
Width of Specimen	mm	100.2							
Height of Specimen	mm	100.7							
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1730						
	-Vol. by Water Displacement	kg/m <sup>3</sup>							
Maximum Load at Failure	kN	150.4							
Compressive Strength	MPa	14.9							
Observation Code		P							
Failure Mode		S							

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

Checked By : \_\_\_\_\_

--END--

Approved Signatory

Post

D2-95

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602180

Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 02-06-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 02-06-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 19:03 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--	--
Cube Mark	HK1113092-009 G14-D1A	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.740	--	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--	--
Length of Specimen	mm 99.2	--	--	--	--	--	--
Width of Specimen	mm 98.4	--	--	--	--	--	--
Height of Specimen	mm 100.5	--	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1760	--	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--	--
Maximum Load at Failure	kN 150.7	--	--	--	--	--	--
Compressive Strength	MPa 15.1	--	--	--	--	--	--
Observation Code	P	--	--	--	--	--	--
Failure Mode	S	--	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-96

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602198

Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-06-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-06-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 18:57 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number									
Cube Mark	HK1113092-004 G14-D2A								
Mould No.									
Mass of Specimen In Air	kg	1.630							
Mass of Specimen in Water	kg	--							
Length of Specimen	mm	100.4							
Width of Specimen	mm	100.4							
Height of Specimen	mm	100.2							
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1610						
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--						
Maximum Load at Failure	kN	93.2							
Compressive Strength	MPa	9.3							
Observation Code		P							
Failure Mode		S							

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : \_\_\_\_\_

Post

D2-97

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602203

Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 03-06-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 03-06-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 18:52 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1113092-005 G14-D3A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.630	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	99.4	--	--	--	--	--
Height of Specimen	mm	99.5	--	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1630 --	--	--	--	--
Maximum Load at Failure	kN	89.9	--	--	--	--	--
Compressive Strength	MPa	9.0	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : \_\_\_\_\_

Post

D2-98

LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602211

Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 31-05-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 31-05-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 18:45 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number								
Cube Mark	HK1113092-006 G15-D5A							
Mould No.								
Mass of Specimen in Air	kg	1.595						
Mass of Specimen in Water	kg	--						
Length of Specimen	mm	99.7						
Width of Specimen	mm	99.5						
Height of Specimen	mm	99.2						
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1620					
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--					
Maximum Load at Failure		kN	90.5					
Compressive Strength		MPa	9.2					
Observation Code			P					
Failure Mode			S					

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : \_\_\_\_\_

Post

*D2-99*  
  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602229

Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 01-06-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 01-06-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 12 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 19:06 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 12 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1113092-007 G15-06A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.595	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.4	--	--	--	--	--
Width of Specimen	mm 100.2	--	--	--	--	--
Height of Specimen	mm 99.4	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1600	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 85.9	--	--	--	--	--
Compressive Strength	MPa 8.6	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Checked By : \_\_\_\_\_

Approved Signatory

*D2-100*

LAU SUN HUNG, IVAN

Post

: Senior Testing Manager



ALS Technichem (HK) Pty Ltd

CERTIFICATE OF ANALYSIS

CONTACT: MR PENG FENG LI  
CLIENT: CHINA INTERNATIONAL WATER & ELECTRIC CORP  
ADDRESS: RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
SITE: KCIP

WORK ORDER: HK1114867  
SUB-BATCH: 1  
LABORATORY: HONG KONG  
DATE RECEIVED: 30/06/2011  
DATE OF ISSUE: 09/07/2011  
SAMPLE TYPE: CONCRETE  
No. of SAMPLES: 2

COMMENTS

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 2 pages.

Sample Details

ALS Lab ID	Sample ID	Date of Sampling	GCE Report No
HK1114867-001	G15-D7A	21/06/2011	GCD110700116
HK1114867-002	G15-D8A	21/06/2011	GCD110700108

ISSUING LABORATORY: HONG KONG

Address  
ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

Phone: 852-2610 1044  
Fax: 852-2610 2021  
Email: hongkong@alsenviro.com

Mr. Zhan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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Abbreviations: % SPK REC denotes percentage spike recovery  
CHK denotes duplicate check sample  
LOR denotes limit of reporting

02-101

LCS % REC denotes Laboratory Control Sample percentage recovery  
ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110700116

Date of Issue : 05-07-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 21-06-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 21-06-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 04-07-2011 Date / Time Tested : 04-07-2011 20:20 GCE Test Unit Reg. No. : MI11050  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1114867-001 G15D-7A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.810	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.6	--	--	--	--	--
Width of Specimen	mm	100.6	--	--	--	--	--
Height of Specimen	mm	99.3	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1800	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	176.9	--	--	--	--	--
Compressive Strength	MPa	17.7	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-102

Tested By : K.M. Wan

--END--

Approved Signatory :

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110700108

Date of Issue : 05-07-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 21-06-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 21-06-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 04-07-2011 Date / Time Tested : 04-07-2011 20:16 GCE Test Unit Reg. No. : MI11050  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1114887-002 G15D-8A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.820	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	99.9	--	--	--	--	--
Height of Specimen	mm	99.8	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	179.3	--	--	--	--
Compressive Strength		MPa	18.0	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : K.M. Wan

Approved Signatory :

Checked By :

Post :

LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1116176  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 14/07/2011  
**DATE OF ISSUE:** 25/07/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 4

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 4 pages.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1116176-001	G15-D9A	14/07/2011	GCD110702451
HK1116176-002	G15-D10A	14/07/2011	GCD110702469
HK1116176-003	G15-D11A	14/07/2011	GCD110702477
HK1116176-004	G15-D12A	14/07/2011	GCD110702485

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

D2-104

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110702451

Date of Issue : 18-07-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 14-07-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 14-07-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 1 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-07-2011 Date / Time Tested : 15-07-2011 16:20 GCE Test Unit Reg. No. : MI11055  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 1 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1116176-001 G15-D9A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.890	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.0	--	--	--	--	--
Width of Specimen	mm	100.0	--	--	--	--	--
Height of Specimen	mm	101.4	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1860	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	45.5	--	--	--	--
Compressive Strength		MPa	4.5	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Mortar : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50 kN).

*D2-105*

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

*[Signature]*  
 LAU SUN HUNG, IVAN

Post

: Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110702469

Date of Issue : 18-07-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 14-07-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 14-07-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 1 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 15-07-2011 Date / Time Tested : 15-07-2011 16:23 GCE Test Unit Reg. No. : MI11055  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 1 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	HK1116176-002 G15-D10A	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.895	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	99.8	--	--	--	--	--
Width of Specimen	mm	100.0	--	--	--	--	--
Height of Specimen	mm	101.2	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1880	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	44.5	--	--	--	--
Compressive Strength		MPa	4.4	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50 kN).

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110702477 Date of Issue : 18-07-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 14-07-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 14-07-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 1 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-07-2011 Date / Time Tested : 15-07-2011 16:26 GCE Test Unit Reg. No. : MI11055  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 1 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1116176-003 G15-D11A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.865	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	99.7	--	--	--	--
Width of Specimen	mm	100.0	--	--	--	--
Height of Specimen	mm	102.0	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1830	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	50.4	--	--	--	--
Compressive Strength	MPa	4.9	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

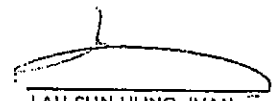
D2-107

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : 



LAU SUN HUNG, IVAN

Post

: Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110702485

Date of Issue : 18-07-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 14-07-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 14-07-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 1 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-07-2011 Date / Time Tested : 15-07-2011 16:27 GCE Test Unit Reg. No. : MI11055  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 1 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1116176-004 G15-D12A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.900	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.3	--	--	--	--
Width of Specimen	mm	100.3	--	--	--	--
Height of Specimen	mm	100.8	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1870	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	45.7	--	--	--	--
Compressive Strength	MPa	4.5	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50 kN).

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Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1117888  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 01/08/2011  
**DATE OF ISSUE:** 10/08/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 8

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 4 pages.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1117888-001	G15-D13A	25/07/2011	GCD110800217
HK1117888-002	G15-D14A	26/07/2011	GCD110800225
HK1117888-003	G15-D15A	27/07/2011	GCD110800233
HK1117888-004	G15-D16A	27/07/2011	GCD110800241
HK1117888-005	G15-D13B	25/07/2011	GCD110800217
HK1117888-006	G15-D14B	26/07/2011	GCD110800225
HK1117888-007	G15-D15B	27/07/2011	GCD110800233
HK1117888-008	G15-D16B	27/07/2011	GCD110800241

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

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ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110800217

Date of Issue : 04-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 25-07-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 25-07-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 2 Nominal Size : 100 mm Test at Age of : 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 03-08-2011 Date / Time Tested : 03-08-2011 18:43 GCE Test Unit Reg. No. : MI11058  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1117888-001 G15-D13A	HK1117888-005 G15-D13B	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.860	1.845	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 99.4	99.2	--	--	--	--
Width of Specimen	mm 100.2	100.5	--	--	--	--
Height of Specimen	mm 100.4	100.2	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1860	1850	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 123.1	133.5	--	--	--	--
Compressive Strength	MPa 12.2	13.3	--	--	--	--
Observation Code	P	P	--	--	--	--
Failure Mode	S	S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory :

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110800225 Date of Issue : 04-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 26-07-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 26-07-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :




Date Received : 03-08-2011 Date / Time Tested : 03-08-2011 18:48 GCE Test Unit Reg. No. : MI11058  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1117888-002 G15-D14A	HK1117888-006 G15-D14B	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.815	1.805	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.2	100.1	--	--	--
Width of Specimen	mm	100.5	100.2	--	--	--
Height of Specimen	mm	99.4	100.1	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1810	1800	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	134.5	136.2	--	--	--
Compressive Strength	MPa	13.5	13.6	--	--	--
Observation Code		P	P	--	--	--
Failure Mode		S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  --END--  
 Checked By :   
 Approved Signatory :   
 Post : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110800233

Date of Issue : 04-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd, Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --	Dosage	: --
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Designed / Measured Slump	: --
Cement Brand	: --	Admixture Brand	: --	A/C Ratio	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --		
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 27-07-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 27-07-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 03-08-2011 Date / Time Tested : 03-08-2011 18:53 GCE Test Unit Reg. No. : MI11058  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number							
Cube Mark		HK1117888-003 G15-D15A	HK1117888-007 G15-D15B				
Mould No.		--	--				
Mass of Specimen in Air	kg	1.840	1.830				
Mass of Specimen in Water	kg	--	--				
Length of Specimen	mm	100.1	100.4				
Width of Specimen	mm	100.2	100.2				
Height of Specimen	mm	99.2	100.1				
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1850	1820			
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--			
Maximum Load at Failure	kN	119.3	130.0				
Compressive Strength	MPa	12.0	13.0				
Observation Code		P	P				
Failure Mode		S	S				

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-112

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110800241 Date of Issue : 04-08-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 27-07-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 27-07-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 2 Nominal Size : 100 mm Test at Age of : 7 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 03-08-2011 Date / Time Tested : 03-08-2011 18:56 GCE Test Unit Reg. No. : MI11058  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		-	-	-	-	-	-
Cube Mark		HK1117888-004 G15-D16A	HK1117888-008 G15-D16B	-	-	-	-
Mould No.		-	-	-	-	-	-
Mass of Specimen in Air	kg	1.855	1.810	-	-	-	-
Mass of Specimen in Water	kg	-	-	-	-	-	-
Length of Specimen	mm	100.2	99.4	-	-	-	-
Width of Specimen	mm	100.1	100.2	-	-	-	-
Height of Specimen	mm	99.2	100.1	-	-	-	-
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1860	1820	-	-	-
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-	-	-	-	-
Maximum Load at Failure	kN	133.6	138.7	-	-	-	-
Compressive Strength	MPa	13.5	13.8	-	-	-	-
Observation Code		P	P	-	-	-	-
Failure Mode		S	S	-	-	-	-

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix ; Cement Cube

D2-113

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager



ALS Technichem (HK) Pty Ltd

## CERTIFICATE OF ANALYSIS

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1118949  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 12/08/2011  
**DATE OF ISSUE:** 23/08/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 27

### COMMENTS

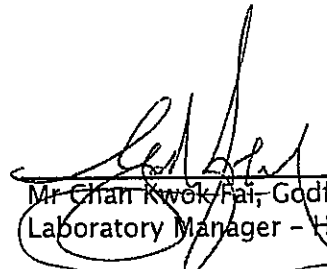
Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 27 pages.

### ISSUING LABORATORY: HONG KONG

**Address**

ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
Mr Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
CHK denotes duplicate check sample  
LOR denotes limit of reporting  
LCS % REC denotes Laboratory Control Sample percentage recovery

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ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company

# CERTIFICATE OF ANALYSIS



**Work Order:** HK1118949  
**Sub-batch:** 1  
**Date of Issue:** 23/08/2011  
**Client:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**Client Reference:** KCIP

The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.

This attached report contains a total of 27 pages.

## Sample Details

<i>ALS Lab ID</i>	<i>Client's Sample ID</i>	<i>Sampling Date</i>	<i>GCE Report No</i>
<del>HK1118949-001</del>	<del>G14-D4A</del>	<del>03/06/2011</del>	<del>GCD110801394</del>
<del>HK1118949-002</del>	<del>G14-D4B</del>	<del>03/06/2011</del>	<del>GCD110801409</del>
<del>HK1118949-003</del>	<del>G14-D4C</del>	<del>03/06/2011</del>	<del>GCD110801417</del>
HK1118949-004	G15-D17A	28/07/2011	GCD110801425
HK1118949-005	G15-D17B	28/07/2011	GCD110801433
HK1118949-006	G15-D17C	28/07/2011	GCD110801441
HK1118949-007	G15-D18A	02/08/2011	GCD110801459
HK1118949-008	G15-D18B	02/08/2011	GCD110801467
HK1118949-009	G15-D18C	02/08/2011	GCD110801475
HK1118949-010	G15-D19A	02/08/2011	GCD110801483
HK1118949-011	G15-D19B	02/08/2011	GCD110801491
HK1118949-012	G15-D19C	02/08/2011	GCD110801506
HK1118949-013	G15-D20A	04/08/2011	GCD110801514
HK1118949-014	G15-D20B	04/08/2011	GCD110801522
HK1118949-015	G15-D20C	04/08/2011	GCD110801530
HK1118949-016	G15-D21A	04/08/2011	GCD110801548
HK1118949-017	G15-D21B	04/08/2011	GCD110801556
HK1118949-018	G15-D21C	04/08/2011	GCD110801564
HK1118949-019	G15-D22A	04/08/2011	GCD110801572
HK1118949-020	G15-D22B	04/08/2011	GCD110801580
HK1118949-021	G15-D22C	04/08/2011	GCD110801598
HK1118949-022	G15-D23A	05/08/2011	GCD110801603
HK1118949-023	G15-D23B	05/08/2011	GCD110801611
HK1118949-024	G15-D23C	05/08/2011	GCD110801629
HK1118949-025	G15-D24A	05/08/2011	GCD110801637
HK1118949-026	G15-D24B	05/08/2011	GCD110801645
HK1118949-027	G15-D24C	05/08/2011	GCD110801653



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801394

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 03-06-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 03-06-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 73 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:33 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 73 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number							
Cube Mark	HK1118948-001 G14-D4A						
Mould No.							
Mass of Specimen in Air	kg	1.845					
Mass of Specimen in Water	kg						
Length of Specimen	mm	100.7					
Width of Specimen	mm	100.9					
Height of Specimen	mm	100.8					
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1800				
	-Vol. by Water Displacement	kg/m <sup>3</sup>					
Maximum Load at Failure	kN	126					
Compressive Strength	MPa	12.4					
Observation Code		P					
Failure Mode		S					

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801409

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --	Dosage	: --
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Designed / Measured Slump	: --
Cement Brand	: --	Admixture Brand	: --	A/C Ratio	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --		
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 03-06-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 03-06-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 73 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:29 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 73 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	HK1118949-002 G14-D48	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.890	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	101.1	--	--	--	--	--
Width of Specimen	mm	101.0	--	--	--	--	--
Height of Specimen	mm	101.8	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	136	--	--	--	--	--
Compressive Strength	MPa	13.2	--	--	--	--	--
Observation Code	P,G	--	--	--	--	--	--
Failure Mode	S	--	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-117

Tested By : T.Y. Chan

--END--

Approved Signatory :

Checked By :

LAU SUN HUNG, IVAN  
 Senior Testing Manager





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801417

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --	Dosage	: --
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Designed / Measured Slump	: --
Cement Brand	: --	Admixture Brand	: --	A/C Ratio	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --		
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 03-06-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 03-06-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 73 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 17:48 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 73 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-003 G14-D4C	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.870	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 101.3	--	--	--	--	--
Width of Specimen	mm 101.0	--	--	--	--	--
Height of Specimen	mm 102.6	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1780	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 133.3	--	--	--	--	--
Compressive Strength	MPa 12.9	--	--	--	--	--
Observation Code	P,G	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-11B


Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801425

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 28-07-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 28-07-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 18 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 17:59 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 18 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-004 G15-D17A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.795	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	101.4	--	--	--	--
Width of Specimen	mm	101.5	--	--	--	--
Height of Specimen	mm	100.9	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1730	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	151.2	--	--	--	--
Compressive Strength	MPa	14.8	--	--	--	--
Observation Code		P,G	--	--	--	--
Failure Mode		S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-119

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

  
 LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801433 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : --	Plant : --		
Source of Coarse Agg. : --	Source of Fine Agg. : --		
Cement Brand : --	Admixture Brand : --	Dosage : --	
Concrete Mix I.D. No. : --	Concrete Grade : --	Designed / Measured Slump : --	
Cement Content : --	W/C Ratio : --	A/C Ratio : --	
PFA Content : --	PFA Source : --		
Date Cast : 28-07-2011	Time of Adding Water to Mix : --		
Date of Sampling : 28-07-2011	Time of Sampling : --		
Place of Sampling : --	Place / Time of Making Cube : --		
Method of Compaction : --	Name of Person Making Cubes : --		
Site Curing Method : --	Site Max. / Min. Temperature : --		
No. of Cubes : 1	Nominal Size : 100 mm	Test at Age of : 18 days	

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:24 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 18 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118948-005 G15-D17B	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.715	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 101.2	--	--	--	--	--
Width of Specimen	mm 101.0	--	--	--	--	--
Height of Specimen	mm 102.0	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1640	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 41.5	--	--	--	--	--
Compressive Strength	MPa 4.0	--	--	--	--	--
Observation Code	P,E,G	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : \_\_\_\_\_

Post

*D2-120*  
  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801441

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 28-07-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 28-07-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 18 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:15 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 18 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-008 G15-D17C	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.685	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.6	--	--	--	--	--
Width of Specimen	mm 100.3	--	--	--	--	--
Height of Specimen	mm 100.3	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1660	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 43.1	--	--	--	--	--
Compressive Strength	MPa 4.3	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

LAU SUN HUNG, IVAN

Post

: Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801459

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:40 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-007 G15-D18A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.905	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	101.8	--	--	--	--
Width of Specimen	mm	101.9	--	--	--	--
Height of Specimen	mm	101.7	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1810	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	46.4	--	--	--	--
Compressive Strength	MPa	4.5	--	--	--	--
Observation Code		P,G	--	--	--	--
Failure Mode		S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801467

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 17:51 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1118949-008 G15-D18B	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.875	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	101.1	--	--	--	--	--
Width of Specimen	mm	101.1	--	--	--	--	--
Height of Specimen	mm	100.7	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	52.4	--	--	--	--	--
Compressive Strength	MPa	5.1	--	--	--	--	--
Observation Code		P,G	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.


Remarks : 1) Martix : Cement Cube

D2-123

Tested By : T.Y. Chan

--END--

Approved Signatory

  
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801475

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 02-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 02-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:43 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-009 G15-D18C	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.885	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.9	--	--	--	--	--
Width of Specimen	mm 100.7	--	--	--	--	--
Height of Specimen	mm 100.9	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1840	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 53.3	--	--	--	--	--
Compressive Strength	MPa 5.2	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity In Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-124

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801483

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : --	Plant : --		
Source of Coarse Agg. : --	Source of Fine Agg. : --		
Cement Brand : --	Admixture Brand : --	Dosage : --	
Concrete Mix I.D. No. : --	Concrete Grade : --	Designed / Measured Slump : --	
Cement Content : --	W/C Ratio : --	A/C Ratio : --	
PFA Content : --	PFA Source : --		
Date Cast : 02-08-2011	Time of Adding Water to Mix : --		
Date of Sampling : 02-08-2011	Time of Sampling : --		
Place of Sampling : --	Place / Time of Making Cube : --		
Method of Compaction : --	Name of Person Making Cubes : --		
Site Curing Method : --	Site Max. / Min. Temperature : --		
No. of Cubes : 1	Nominal Size : 100 mm	Test at Age of : 13 days	

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:16 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--
Cube Mark	HK1118948-010 G15-D19A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.865	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.3	--	--	--	--
Width of Specimen	mm	100.6	--	--	--	--
Height of Specimen	mm	101.6	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	53.9	--	--	--	--
Compressive Strength	MPa	5.3	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801491

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:55 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-011 G16-D19B	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.855	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.3	--	--	--	--	--
Width of Specimen	mm 100.6	--	--	--	--	--
Height of Specimen	mm 100.9	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1820	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 47.1	--	--	--	--	--
Compressive Strength	MPa 4.6	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).


--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : \_\_\_\_\_

Post

  
 LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801506

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 19:04 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--
Cube Mark	HK1118949-012 G15-D18C	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.870	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.7	--	--	--	--
Width of Specimen	mm	100.3	--	--	--	--
Height of Specimen	mm	100.8	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	55.4	--	--	--	--
Compressive Strength	MPa	5.5	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube


Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801514 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : -	Plant : -		
Source of Coarse Agg. : -	Source of Fine Agg. : -		
Cement Brand : -	Admixture Brand : -	Dosage : -	
Concrete Mix I.D. No. : -	Concrete Grade : -	Designed / Measured Slump : -	
Cement Content : -	W/C Ratio : -	A/C Ratio : -	
PFA Content : -	PFA Source : -		
Date Cast : 04-08-2011	Time of Adding Water to Mix : -		
Date of Sampling : 04-08-2011	Time of Sampling : -		
Place of Sampling : -	Place / Time of Making Cube : -		
Method of Compaction : -	Name of Person Making Cubes : -		
Site Curing Method : -	Site Max. / Min. Temperature : -		
No. of Cubes : 1	Nominal Size : 100 mm	Test at Age of : 11 days	

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:22 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	-	-	-	-	-	-
Cube Mark	HK1118949-013 G15-D20A	-	-	-	-	-
Mould No.	-	-	-	-	-	-
Mass of Specimen in Air	kg 1.875	-	-	-	-	-
Mass of Specimen in Water	kg -	-	-	-	-	-
Length of Specimen	mm 100.6	-	-	-	-	-
Width of Specimen	mm 100.8	-	-	-	-	-
Height of Specimen	mm 100.6	-	-	-	-	-
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1840	-	-	-	-
	-Vol. by Water Displacement	kg/m <sup>3</sup> -	-	-	-	-
Maximum Load at Failure	kN 104.5	-	-	-	-	-
Compressive Strength	MPa 10.3	-	-	-	-	-
Observation Code	P	-	-	-	-	-
Failure Mode	S	-	-	-	-	-

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-128

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801522

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 04-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 04-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:57 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1118949-014 G15-D208	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.875	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	99.9	--	--	--	--	--
Width of Specimen	mm	100.1	--	--	--	--	--
Height of Specimen	mm	99.6	--	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1880 --	--	--	--	--
Maximum Load at Failure	kN	104.8	--	--	--	--	--
Compressive Strength	MPa	10.5	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-129

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801530 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:35 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-015 G15-020C	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.885	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.9	--	--	--	--
Width of Specimen	mm	101.0	--	--	--	--
Height of Specimen	mm	100.7	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure		kN	105.6	--	--	--
Compressive Strength		MPa	10.4	--	--	--
Observation Code			P	--	--	--
Failure Mode			S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube

D2-130

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801548

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 04-08-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 04-08-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:13 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	-	-	-	-	-	-
Cube Mark	HK1118949-016 615-D21A	-	-	-	-	-
Mould No.	-	-	-	-	-	-
Mass of Specimen in Air	kg	1.900	-	-	-	-
Mass of Specimen in Water	kg	-	-	-	-	-
Length of Specimen	mm	100.8	-	-	-	-
Width of Specimen	mm	101.0	-	-	-	-
Height of Specimen	mm	100.9	-	-	-	-
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1850	-	-	-
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-	-	-	-
Maximum Load at Failure	kN	103.5	-	-	-	-
Compressive Strength	MPa	10.2	-	-	-	-
Observation Code		P	-	-	-	-
Failure Mode		S	-	-	-	-

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

D2-131

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801556

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 19:00 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1118948-017 G15-D21B	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.925	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	101.3	--	--	--	--	--
Width of Specimen	mm	100.8	--	--	--	--	--
Height of Specimen	mm	101.7	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1850	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	105	--	--	--	--
Compressive Strength		MPa	10.2	--	--	--	--
Observation Code			P,G	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :


A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Mertix : Cement Cube

D2-132

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801564 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 04-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 04-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 19:05 GCE Test Unit Reg. No. : M111061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1118949-018 G15-D21C	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.900	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.8	--	--	--	--	--
Width of Specimen	mm	100.7	--	--	--	--	--
Height of Specimen	mm	100.3	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1870	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	130.5	--	--	--	--
Compressive Strength		MPa	12.9	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

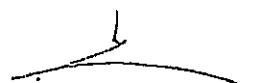
Remarks : 1) Martix : Cement Cube

D2-133

Tested By : T.Y. Chan

--END--

Approved Signatory

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By :

Post





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801572 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -	Dosage	: -
Cement Brand	: -	Admixture Brand	: -	Designed / Measured Slump	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	A/C Ratio	: -
Cement Content	: -	W/C Ratio	: -		
PFA Content	: -	PFA Source	: -		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 04-08-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -	Test at Age of	: 11 days
No. of Cubes	: 1	Nominal Size	: 100 mm		

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 17:57 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number							
Cube Mark	HK1118949-018 G15-D22A						
Mould No.							
Mass of Specimen in Air	kg	1.900					
Mass of Specimen in Water	kg						
Length of Specimen	mm	101.9					
Width of Specimen	mm	101.4					
Height of Specimen	mm	101.5					
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1810				
	-Vol. by Water Displacement	kg/m <sup>3</sup>					
Maximum Load at Failure		kN	111.8				
Compressive Strength		MPa	10.9				
Observation Code			P,G				
Failure Mode			S				


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory   
 Post : Senior Testing Manager

D2-134



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801580

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --	Dosage	: --
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Designed / Measured Slump	: --
Cement Brand	: --	Admixture Brand	: --	A/C Ratio	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --		
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:11 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	HK 1118949-020 G15-D22B	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.920	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	101.1	--	--	--	--	--
Width of Specimen	mm	101.3	--	--	--	--	--
Height of Specimen	mm	102.2	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1830	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	102.5	--	--	--	--	--
Compressive Strength	MPa	9.9	--	--	--	--	--
Observation Code		P,G	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube


D2-135

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

  
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801598

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 04-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 04-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:30 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1118949-021 G15-D22C	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.870	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.6	--	--	--	--	--
Width of Specimen	mm	100.6	--	--	--	--	--
Height of Specimen	mm	101.2	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1830	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	110.8	--	--	--	--
Compressive Strength		MPa	10.9	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-136



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801603

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 05-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 05-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:49 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--
Cube Mark	HR1118949-022 G15-D23A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.895	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	101.0	--	--	--	--
Width of Specimen	mm	101.0	--	--	--	--
Height of Specimen	mm	100.9	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	132.7	--	--	--	--
Compressive Strength	MPa	13.0	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager  
 D2-137



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801611

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 05-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 05-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:04 GCE Test Unit Reg. No. : MH11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	HK1118949-023 G15-D23B	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.880	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	101.1	--	--	--	--	--
Width of Specimen	mm	101.2	--	--	--	--	--
Height of Specimen	mm	101.4	--	--	--	--	--
As-received Density	-Vol. by Calculation kg/m <sup>3</sup>	1810	--	--	--	--	--
	-Vol. by Water Displacement kg/m <sup>3</sup>	--	--	--	--	--	--
Maximum Load at Failure	kN	133.9	--	--	--	--	--
Compressive Strength	MPa	13.0	--	--	--	--	--
Observation Code		P,G	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager  
 D2-138



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801629 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -	Dosage	: -
Source of Coarse Agg.	: -	Source of Fine Agg.	: -	Designed / Measured Slump	: -
Cement Brand	: -	Admixture Brand	: -	A/C Ratio	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -		
Cement Content	: -	W/C Ratio	: -		
PFA Content	: -	PFA Source	: -		
Date Cast	: 05-08-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 05-08-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:09 GCE Test Unit Reg. No. : M111061  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		-	-	-	-	-	-
Cube Mark		HK1118949-024	-	-	-	-	-
		G15-D23C	-	-	-	-	-
Mould No.		-	-	-	-	-	-
Mass of Specimen in Air	kg	1.885	-	-	-	-	-
Mass of Specimen in Water	kg	-	-	-	-	-	-
Length of Specimen	mm	101.3	-	-	-	-	-
Width of Specimen	mm	101.1	-	-	-	-	-
Height of Specimen	mm	101.0	-	-	-	-	-
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	-	-	-	-
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-	-	-	-	-
Maximum Load at Failure		kN	134.8	-	-	-	-
Compressive Strength		MPa	13.2	-	-	-	-
Observation Code			P,G	-	-	-	-
Failure Mode			S	-	-	-	-

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager  
 02-139



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801637 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 05-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 05-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --	Test at Age of	: 10 days
No. of Cubes	: 1	Nominal Size	: 100 mm		

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:26 GCE Test Unit Reg. No. : MI11061  
Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--
Cube Mark	HK1118949-025 G15-D24A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.870	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 101.0	--	--	--	--	--
Width of Specimen	mm 100.0	--	--	--	--	--
Height of Specimen	mm 100.3	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1850	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 134.4	--	--	--	--	--
Compressive Strength	MPa 13.4	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube

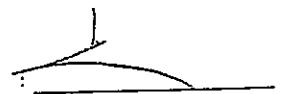
--END--

Tested By : T.Y. Chan

Checked By : \_\_\_\_\_

Approved Signatory

Post

  
LAU SUN HUNG, IVAN  
Senior Testing Manager

D2-140



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801645 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Ylp St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 05-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 05-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:47 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK 1118949-026 G15-D24B	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.895	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.8	--	--	--	--	--
Width of Specimen	mm	100.9	--	--	--	--	--
Height of Specimen	mm	101.1	--	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1840 --	--	--	--	--
Maximum Load at Failure	kN	137.1	--	--	--	--	--
Compressive Strength	MPa	13.4	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager

D2-141





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801653

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 05-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 05-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:37 GCE Test Unit Reg. No. : M111061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1118949-027 G15-D24C	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.855	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.8	--	--	--	--	--
Width of Specimen	mm	100.9	--	--	--	--	--
Height of Specimen	mm	101.4	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1800	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	130.9	--	--	--	--
Compressive Strength		MPa	12.8	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager  
 D2-142



ALS Technichem (HK) Pty Ltd

## CERTIFICATE OF ANALYSIS

CONTACT: MR PENG FENG LI  
CLIENT: CHINA INTERNATIONAL WATER & ELECTRIC CORP  
ADDRESS: RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
SITE: KCIP

WORK ORDER: HK1119336  
SUB-BATCH: 1  
LABORATORY: HONG KONG  
DATE RECEIVED: 17/08/2011  
DATE OF ISSUE: 25/08/2011  
SAMPLE TYPE: CONCRETE  
No. of SAMPLES: 24

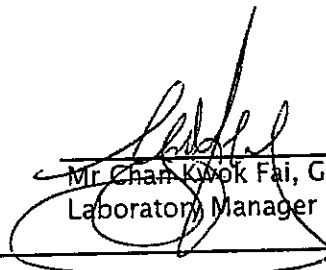
### COMMENTS

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 8 pages.

### ISSUING LABORATORY: HONG KONG

Address  
ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

Phone: 852-2610 1044  
Fax: 852-2610 2021  
Email: hongkong@alsenviro.com

  
Mr. Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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Abbreviations: % SPK REC denotes percentage spike recovery  
CHK denotes duplicate check sample  
LOR denotes limit of reporting  
LCS % REC denotes Laboratory Control Sample percentage recovery

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company

# CERTIFICATE OF ANALYSIS



**Work Order:** HK1119336  
**Sub-batch:** 1  
**Date of Issue:** 25/08/2011  
**Client:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**Client Reference:** KCIP

The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
 This attached report contains a total of 8 pages.

### Sample Details

<i>ALS Lab ID</i>	<i>Client's Sample ID</i>	<i>Sampling Date</i>	<i>GCE Report No</i>
HK1119336-001	G15-D25A	11/08/2011	GCD110802196
HK1119336-002	G15-D25B	11/08/2011	GCD110802196
HK1119336-003	G15-D25C	11/08/2011	GCD110802196
HK1119336-004	G15-D26A	11/08/2011	GCD110802201
HK1119336-005	G15-D26B	11/08/2011	GCD110802201
HK1119336-006	G15-D26C	11/08/2011	GCD110802201
HK1119336-007	G15-D27A	11/08/2011	GCD110802219
HK1119336-008	G15-D27B	11/08/2011	GCD110802219
HK1119336-009	G15-D27C	11/08/2011	GCD110802219
HK1119336-010	G15-D28A	12/08/2011	GCD110802227
HK1119336-011	G15-D28B	12/08/2011	GCD110802227
HK1119336-012	G15-D28C	12/08/2011	GCD110802227
HK1119336-013	G15-D29A	13/08/2011	GCD110802235
HK1119336-014	G15-D29B	13/08/2011	GCD110802235
HK1119336-015	G15-D29C	13/08/2011	GCD110802235
HK1119336-016	G15-D30A	13/08/2011	GCD110802243
HK1119336-017	G15-D30B	13/08/2011	GCD110802243
HK1119336-018	G15-D30C	13/08/2011	GCD110802243
HK1119336-019	G15-D31A	13/08/2011	GCD110802251
HK1119336-020	G15-D31B	13/08/2011	GCD110802251
HK1119336-021	G15-D31C	13/08/2011	GCD110802251
HK1119336-022	G15-D32A	13/08/2011	GCD110802269
HK1119336-023	G15-D32B	13/08/2011	GCD110802269
HK1119336-024	G15-D32C	13/08/2011	GCD110802269

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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110802196

Date of Issue : 19-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 11-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 11-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 18-08-2011 Date / Time Tested : 18-08-2011 18:32 GCE Test Unit Reg. No. : MI11063  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1119336-001 G15-D25A	HK1119336-002 G15-D25B	HK1119336-003 G15-D25C	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.840	1.900	1.875	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.1	100.0	100.1	--	--	--
Width of Specimen	mm 100.2	99.2	99.1	--	--	--
Height of Specimen	mm 99.5	99.4	99.9	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1840	1930	1890	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 106.8	100.3	100.8	--	--	--
Compressive Strength	MPa 10.7	10.2	10.2	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-145



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110802201 Date of Issue : 19-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 11-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 11-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 18-08-2011 Date / Time Tested : 18-08-2011 18:39 GCE Test Unit Reg. No. : MI11063  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118936-004 G15-D26A	HK1119336-005 G15-D26B	HK1119336-006 G15-D26C	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.915	1.905	1.935	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.2	99.5	99.1	--	--	--
Width of Specimen	mm 100.2	100.2	99.4	--	--	--
Height of Specimen	mm 99.4	100.1	100.2	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1920	1910	1960	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 104.8	102.2	100.3	--	--	--
Compressive Strength	MPa 10.5	10.2	10.1	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110802219 Date of Issue : 19-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : --	Plant : --		
Source of Coarse Agg. : --	Source of Fine Agg. : --		
Cement Brand : --	Admixture Brand : --	Dosage : --	
Concrete Mix I.D. No. : --	Concrete Grade : --	Designed / Measured Slump : --	
Cement Content : --	W/C Ratio : --	A/C Ratio : --	
PFA Content : --	PFA Source : --		
Date Cast : 11-08-2011	Time of Adding Water to Mix : --		
Date of Sampling : 11-08-2011	Time of Sampling : --		
Place of Sampling : --	Place / Time of Making Cube : --		
Method of Compaction : --	Name of Person Making Cubes : --		
Site Curing Method : --	Site Max. / Min. Temperature : --		
No. of Cubes : 3	Nominal Size : 100 mm	Test at Age of : 7 days	

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 18-08-2011 Date / Time Tested : 18-08-2011 18:48 GCE Test Unit Reg. No. : MI11063  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1119336-007 G15-D27A	HK1119336-008 G15-D27B	HK1119336-009 G15-D27C	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.900	1.890	1.910	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.2	100.2	99.4	--	--	--
Width of Specimen	mm 100.4	100.2	100.2	--	--	--
Height of Specimen	mm 99.2	100.4	100.2	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1900	1870	1910	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 100.6	102.4	95.6	--	--	--
Compressive Strength	MPa 10.1	10.2	9.5	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-147



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110802227

Date of Issue : 19-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 12-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 12-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 6 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 18-08-2011 Date / Time Tested : 18-08-2011 18:53 GCE Test Unit Reg. No. : MI11063  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 6 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1119336-010 G15-D28A	HK1119336-011 G15-D28B	HK1119336-012 G15-D28C	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.915	1.850	1.905	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	100.4	100.4	--	--	--
Width of Specimen	mm	100.5	100.2	100.4	--	--	--
Height of Specimen	mm	99.4	100.1	100.1	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1910 --	1840 --	1890 --	--	--
Maximum Load at Failure	kN	80.2	133.6	106.4	--	--	--
Compressive Strength	MPa	8.0	13.3	10.6	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

*LAU SUN HUNG, IVAN*  
 Senior Testing Manager  
 D2-14B



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110802235

Date of Issue : 19-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 13-08-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 13-08-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 5 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 18-08-2011 Date / Time Tested : 18-08-2011 19:00 GCE Test Unit Reg. No. : MI11063  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 5 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HL1119336-013 G15-D29A	HK1119336-014 G15-D29B	HK1119336-015 G15-D29C	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.935	1.910	1.915	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	99.8	99.2	100.5	--	--	--
Width of Specimen	mm	100.4	99.4	99.7	--	--	--
Height of Specimen	mm	99.4	100.2	100.4	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1940 --	1930 --	1900 --	--	--
Maximum Load at Failure	kN	132.0	63.1	112.4	--	--	--
Compressive Strength	MPa	13.2	6.3	11.2	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

D2-149





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110802243

Date of Issue : 19-08-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 13-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 13-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 5 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 18-08-2011 Date / Time Tested : 18-08-2011 19:05 GCE Test Unit Reg. No. : MI11063  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 5 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1119336-D16 G15-D30A	HK1119336-017 G15-D30B	HK1119336-D18 G15-D30C	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.925	1.915	1.890	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.4	100.7	100.1	--	--	--
Width of Specimen	mm	99.7	100.4	99.3	--	--	--
Height of Specimen	mm	99.2	99.4	100.2	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1940 --	1910 --	1900 --	--	--
Maximum Load at Failure	kN	132.9	127.8	126.3	--	--	--
Compressive Strength	MPa	13.4	12.8	12.7	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Checked By : \_\_\_\_\_

Approved Signatory

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager  
 02-150



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110802251

Date of Issue : 19-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 13-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 13-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 5 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 18-08-2011 Date / Time Tested : 18-08-2011 19:14 GCE Test Unit Reg. No. : MI11063  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 5 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number						
Cube Mark	HK1119336-019 G15-D31A	HK1119336-020 G15-D31B	HK1119336-021 G15-D31C	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.910	1.875	1.875	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.4	100.4	100.7	--	--	--
Width of Specimen	mm 100.2	100.2	100.4	--	--	--
Height of Specimen	mm 100.4	99.5	99.8	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1890	1870	1860	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 66.0	67.7	69.0	--	--	--
Compressive Strength	MPa 6.6	6.8	6.9	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory :

Checked By :

Post

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager  
 02-151



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110802269

Date of Issue : 19-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 13-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 13-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 5 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 18-08-2011 Date / Time Tested : 18-08-2011 19:17 GCE Test Unit Reg. No. : MI11063  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 5 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1119336-022 G15-D32A	HK1119336-023 G15-D32B	HK1119336-024 G15-D32C	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.850	1.820	1.850	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.4	100.4	100.2	--	--	--
Width of Specimen	mm 100.7	100.1	100.4	--	--	--
Height of Specimen	mm 99.4	99.8	99.2	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1840	1810	1850	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 67.5	38.8	66.2	--	--	--
Compressive Strength	MPa 6.7	3.9	6.6	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



ALS Technichem (HK) Pty Ltd

CERTIFICATE OF ANALYSIS

CONTACT: MR PENG FENG LI  
CLIENT: CHINA INTERNATIONAL WATER & ELECTRIC CORP  
ADDRESS: RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
SITE: KCIP

WORK ORDER: HK1130236  
SUB-BATCH: 1  
LABORATORY: HONG KONG  
DATE RECEIVED: 20/12/2011  
DATE OF ISSUE: 30/12/2011  
SAMPLE TYPE: CONCRETE  
No. of SAMPLES: 18

COMMENTS

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition. The determination of compressive strength of concrete (UCS) was subcontracted to and tested by Geotechnics & Concrete Engineering (H.K.) Ltd. GCE details report was attached. The attached report contains a total of 6 pages.

NOTES

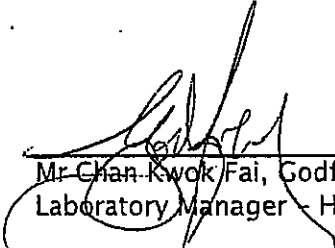
This is the Final Report and supersedes any preliminary report with this batch number. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: HONG KONG

**Address**

ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

Phone: 852-2610 1044  
Fax: 852-2610 2021  
Email: hongkong@alsenviro.com

  
Mr Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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Abbreviations: % SPK REC denotes percentage spike recovery  
CHK denotes duplicate check sample  
LOR denotes limit of reporting  
LCS % REC denotes Laboratory Control Sample percentage recovery

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ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



# CERTIFICATE OF ANALYSIS



**Work Order:** HK1130236  
**Sub-batch:** 1  
**Date of Issue:** 30/12/2011  
**Client:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**Client Reference:** KCIP

## Sample Details

<i>ALS Lab ID</i>	<i>Client's Sample ID</i>	<i>Sampling Date</i>	<i>GCE Report No.</i>
<del>HK11302362-001</del>	<del>G4-B34A</del>	<del>10/12/2011</del>	<del>GCD11128808</del>
<del>HK11302362-002</del>	<del>G4-B35A</del>	<del>10/12/2011</del>	<del>GCD11128808</del>
<del>HK11302362-003</del>	<del>G4-B36A</del>	<del>10/12/2011</del>	<del>GCD11128808</del>
HK11302362-004	B2-G16-B1A	13/12/2011	GCD11128816
HK11302362-005	B2-G16-B2A	13/12/2011	GCD11128816
HK11302362-006	B2-G16-B3A	13/12/2011	GCD11128816
HK11302362-007	B2-G16-B4A	14/12/2011	GCD11128824
HK11302362-008	B2-G16-B5A	14/12/2011	GCD11128824
HK11302362-009	B2-G16-B6A	14/12/2011	GCD11128824
HK11302362-010	B2-G16-B7A	15/12/2011	GCD11128832
HK11302362-011	B2-G16-B8A	15/12/2011	GCD11128832
HK11302362-012	B2-G16-B9A	15/12/2011	GCD11128832
HK11302362-013	B2-G16-B10A	16/12/2011	GCD11128840
HK11302362-014	B2-G16-B11A	16/12/2011	GCD11128840
HK11302362-015	B2-G16-B12A	16/12/2011	GCD11128840
HK11302362-016	B2-G16-B13A	17/12/2011	GCD11128858
HK11302362-017	B2-G16-B14A	17/12/2011	GCD11128858
HK11302362-018	B2-G16-B15A	17/12/2011	GCD11128858





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128808

Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 10-12-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 10-12-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 14 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 10:42 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 14 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number						
Cube Mark	HK1130236-001 G4-B34A	HK1130236-002 G4-B35A	HK1130236-003 G4-B36A	-	-	-
Mould No.	-	-	-	-	-	-
Mass of Specimen in Air	kg 1.590	1.600	1.620	-	-	-
Mass of Specimen in Water	kg -	-	-	-	-	-
Length of Specimen	mm 100.0	99.8	100.2	-	-	-
Width of Specimen	mm 99.0	99.9	100.1	-	-	-
Height of Specimen	mm 98.9	98.6	99.9	-	-	-
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1610	1630	1630	-	-
	-Vol. by Water Displacement	kg/m <sup>3</sup> -	-	-	-	-
Maximum Load at Failure	kN 107.4	101.0	111.4	-	-	-
Compressive Strength	MPa 10.9	10.3	11.1	-	-	-
Observation Code	P	P	P	-	-	-
Failure Mode	S	S	S	-	-	-


Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

-END-

Tested By : K.W. Wan

Approved Signatory :   
 YU LEE KIEN, PETER

Checked By : \_\_\_\_\_

Post : Managing Director



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128816

Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 13-12-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 13-12-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 10:53 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1130236-004 B2-G16-B1A	HK1130236-005 B2-G16-B2A	HK1130236-006 B2-G16-B3A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.505	1.475	1.630	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	99.3	99.2	100.2	--	--	--
Width of Specimen	mm	99.0	99.5	100.4	--	--	--
Height of Specimen	mm	99.5	98.7	100.6	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1540	1510	1610	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	52.1	111.0	145.1	--	--	--
Compressive Strength	MPa	5.3	11.3	14.4	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : K.W. Wan

Approved Signatory :

Checked By :

Post :

YU LEE KIEN, PETER  
 Managing Director

D2-156



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128824 Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 14-12-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 14-12-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 11:02 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1130236-007 B2-G16-B4A	HK1130236-008 B2-G16-B5A	HK1130236-009 B2-G16-B5A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.430	1.370	1.350	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	96.8	100.5	100.3	--	--	--
Width of Specimen	mm	99.8	100.5	100.4	--	--	--
Height of Specimen	mm	99.8	99.7	99.9	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1480	1360	1340	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	46.1*	62.4	57.2	--	--	--
Compressive Strength	MPa	4.6	6.2	5.7	--	--	--
Observation Code		P,H	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

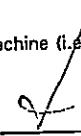
Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) \*The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

--END--

Tested By : K.W. Wan

Approved Signatory :   
 YU LEE KIEN, PETER

Checked By : \_\_\_\_\_

Post : Managing Director

P2-157





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128832 Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 15-12-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 15-12-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 11:17 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1130236-010 B2-G16-87A	HK1130236-011 B2-G16-88A	HK1130236-012 B2-G16-89A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.500	1.550	1.530	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	99.3	99.4	99.7	--	--	--
Width of Specimen	mm	99.0	99.4	99.8	--	--	--
Height of Specimen	mm	99.9	100.6	100.3	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1630	1560	1530	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	128.7	129.5	115.3	--	--	--
Compressive Strength	MPa	13.0	13.0	11.5	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : K.W. Wan

Approved Signatory :

Checked By : \_\_\_\_\_

Post :

YU EEE KIEN, PETER  
 Managing Director

D2-158



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11128840 Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 16-12-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 16-12-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --	Test at Age of	: 8 days
No. of Cubes	: 3	Nominal Size	: 100 mm		

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 11:31 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1130236-013 B2-G16-B10A	HK1130236-014 B2-G16-B11A	HK1130236-015 B2-G16-B12A	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.670	1.680	1.675	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.7	100.6	100.1	--	--	--
Width of Specimen	mm 100.6	100.7	100.4	--	--	--
Height of Specimen	mm 99.5	99.7	99.2	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1660	1660	1680	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 98.2	100.5	93.5	--	--	--
Compressive Strength	MPa 9.8	10.0	9.4	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : K.W. Wan

Checked By : \_\_\_\_\_

--END--

Approved Signatory :

Post

YU LEE KIEN, PETER  
 Managing Director  
 D2-159



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11126858 Date of Issue : 27-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 17-12-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 17-12-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 22-12-2011 Date / Time Tested : 24-12-2011 11:47 GCE Test Unit Reg. No. : MI11101  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1130236-016 B2-G16-B13A	HK1130236-017 B2-G16-B14A	HK1130236-018 B2-G16-B15A	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.690	1.690	1.665	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.7	100.7	100.0	--	--	--
Width of Specimen	mm 99.0	101	100.1	--	--	--
Height of Specimen	mm 99.6	99.8	99.9	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1700	1660	1670	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 113.8	104.6	102.1	--	--	--
Compressive Strength	MPa 11.5	10.4	10.2	--	--	--
Observation Code	P	P	P	--	--	--
Failure Mode	S	S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : K.W. Wan

Approved Signatory :

YU KEE KIEN, PETER

Checked By :

Post :

Managing Director

D2-160



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1130467  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 22/12/2011  
**DATE OF ISSUE:** 05/01/2012  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 5

**COMMENTS**

Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition. The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd. GCE details report was attached. The attached report contains a total of 5 pages.

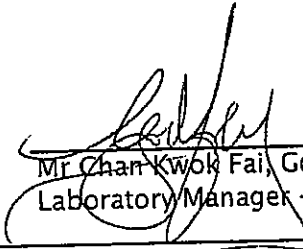
**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1130467-001	B2-G16-B3B	13/12/2011	GCD111209765
HK1130467-002	B2-G16-B6B	14/12/2011	CCD111209773
HK1130467-003	B2-G16-B9B	15/12/2011	GCD111209781
HK1130467-004	B2-G16-B12B	16/12/2011	GCD111209799
HK1130467-005	B2-G16-B15B	17/12/2011	GCD111209804

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 1/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

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ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111209765 Date of Issue : 30-12-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 13-12-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 13-12-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 24-12-2011 Date / Time Tested : 24-12-2011 20:35 GCE Test Unit Reg. No. : MI11104  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1130467-001 B2-G16-B3B	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.545	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.4	--	--	--	--	--
Width of Specimen	mm	100.1	--	--	--	--	--
Height of Specimen	mm	100.2	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1530	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	34.4	--	--	--	--
Compressive Strength		MPa	3.4	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

**Legend :**

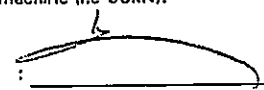
A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan

--END--

Approved Signatory

  
 LAU SUN HUNG, IVAN

Checked By : \_\_\_\_\_

Post

: Senior Testing Manager

D2-162



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111209773 Date of Issue : 30-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 14-12-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 14-12-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --	Test at Age of	: 10 days
No. of Cubes	: 1	Nominal Size	: 100 mm		

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-12-2011 Date / Time Tested : 24-12-2011 20:31 GCE Test Unit Reg. No. : MI11104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1130467-002	--	--	--	--	--
Mould No.		82-G16-868	--	--	--	--	--
Mass of Specimen in Air	kg	1.505	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	100.3	--	--	--	--	--
Height of Specimen	mm	100.3	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1490	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	37.0	--	--	--	--
Compressive Strength		MPa	3.7	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : \_\_\_\_\_

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

D2-163



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111209781

Date of Issue : 30-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 15-12-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 15-12-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-12-2011 Date / Time Tested : 24-12-2011 20:37 GCE Test Unit Reg. No. : MI11104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1130467-003 B2-G16-B9B	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.540	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.2	--	--	--	--	--
Width of Specimen	mm 100.2	--	--	--	--	--
Height of Specimen	mm 100.0	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1530	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 34.9	--	--	--	--	--
Compressive Strength	MPa 3.5	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

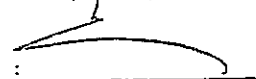
Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e. 50kN).

--END--

Tested By : T.Y. Chan

Approved Signatory :   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager

Checked By : \_\_\_\_\_

D2-164



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111209799

Date of Issue : 30-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --	Dosage	: --
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Designed / Measured Slump	: --
Cement Brand	: --	Admixture Brand	: --	A/C Ratio	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --		
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 16-12-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 16-12-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-12-2011 Date / Time Tested : 24-12-2011 20:39 GCE Test Unit Reg. No. : MI11104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1130467-004 B2-G16-B12B	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.420	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.2	--	--	--	--	--
Width of Specimen	mm 100.1	--	--	--	--	--
Height of Specimen	mm 100.2	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1410	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 31.1	--	--	--	--	--
Compressive Strength	MPa 3.1	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-165





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD111209804

Date of Issue : 30-12-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : --	Plant : --		
Source of Coarse Agg. : --	Source of Fine Agg. : --		
Cement Brand : --	Admixture Brand : --	Dosage : --	
Concrete Mix I.D. No. : --	Concrete Grade : --	Designed / Measured Slump : --	
Cement Content : --	W/C Ratio : --	A/C Ratio : --	
PFA Content : --	PFA Source : --		
Date Cast : 17-12-2011	Time of Adding Water to Mix : --		
Date of Sampling : 17-12-2011	Time of Sampling : --		
Place of Sampling : --	Place / Time of Making Cube : --		
Method of Compaction : --	Name of Person Making Cubes : --		
Site Curing Method : --	Site Max. / Min. Temperature : --		
No. of Cubes : 1	Nominal Size : 100 mm	Test at Age of : 7 days	

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-12-2011 Date / Time Tested : 24-12-2011 20:41 GCE Test Unit Reg. No. : MI11104  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1130467-005 B2-G16-B15B	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.510	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.3	--	--	--	--	--
Width of Specimen	mm 100.0	--	--	--	--	--
Height of Specimen	mm 100.1	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1500	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 38.0	--	--	--	--	--
Compressive Strength	MPa 3.8	--	--	--	--	--
Observation Code	P	--	--	--	--	--
Failure Mode	S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager  
 D2-166



ALS Technichem (HK) Pty Ltd

## CERTIFICATE OF ANALYSIS

CONTACT: MR PENG FENG LI  
CLIENT: CHINA INTERNATIONAL WATER & ELECTRIC CORP  
ADDRESS: RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
PROJECT: --

WORK ORDER: HK1120282  
SUB-BATCH: 1  
LABORATORY: HONG KONG  
DATE RECEIVED: 29/08/2011  
DATE OF ISSUE: 12/09/2011  
SAMPLE TYPE: CONCRETE  
No. of SAMPLES: 25

### COMMENTS

6 Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 7 pages.

### NOTES

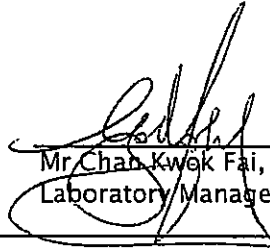
This is the Final Report and supersedes any preliminary report with this batch number.  
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

### ISSUING LABORATORY: HONG KONG

#### Address

ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

Phone: 852-2610 1044  
Fax: 852-2610 2021  
Email: hongkong@alsenviro.com

6  
  
Mr. Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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Abbreviations: % SPK REC denotes percentage spike recovery  
CHK denotes duplicate check sample  
LOR denotes limit of reporting  
LCS % REC denotes Laboratory Control Sample percentage recovery

Page 1 of 2

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company

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D2-167

# CERTIFICATE OF ANALYSIS



Work Order: HK1120282  
Sub-batch: 1  
Date of Issue: 12/09/2011  
Client: CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Client Reference: --

The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
This attached report contains a total of 7 pages.

## Sample Details

<i>ALS Lab ID</i>	<i>Client's Sample ID</i>	<i>Sampling Date</i>	<i>GCE Report No</i>
HK1120282-001	G14-D10A	17/08/2011	GCD110807609
HK1120282-002	G14-D11A	17/08/2011	GCD110807609
HK1120282-003	G14-D12A	19/08/2011	GCD110807617
HK1120282-004	G14-B8A	19/08/2011	GCD110807625
HK1120282-005	G14-B8B	19/08/2011	GCD110807625
HK1120282-006	G14-B9A	19/08/2011	GCD110807625
HK1120282-007	G14-B9B	19/08/2011	GCD110807625
HK1120282-008	G14-B10A	19/08/2011	GCD110807625
HK1120282-009	G14-B10B	19/08/2011	GCD110807625
HK1120282-010	G14-B11A	20/08/2011	GCD110807633
HK1120282-011	G14-B11B	20/08/2011	GCD110807633
HK1120282-012	G14-B12A	20/08/2011	GCD110807633
HK1120282-013	G14-B12B	20/08/2011	GCD110807633
HK1120282-014	G14-D13A	20/08/2011	GCD110807633
HK1120282-015	G14-D14A	20/08/2011	GCD110807633
HK1120282-016	G14-D15A	22/08/2011	GCD110807641
HK1120282-017	G14-D16A	22/08/2011	GCD110807641
HK1120282-018	G14-D17A	22/08/2011	GCD110807641
HK1120282-019	G14-B13A	23/08/2011	GCD110807659
HK1120282-020	G14-B13B	23/08/2011	GCD110807659
HK1120282-021	G14-B14A	23/08/2011	GCD110807659
HK1120282-022	G14-B14B	23/08/2011	GCD110807659
HK1120282-023	G14-B15A	23/08/2011	GCD110807659
HK1120282-024	G14-B15B	23/08/2011	GCD110807659
HK1120282-025	G14-D18A	23/08/2011	GCD110807667



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110807609

Date of Issue : 03-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong  
 Project / Site : --

W.O. No. / Job No. : --  
 Audit / Request No. : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --	Dosage	: --
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Designed / Measured Slump	: --
Cement Brand	: --	Admixture Brand	: --	A/C Ratio	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --		
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 17-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 17-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 14 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 31-08-2011 Date / Time Tested : 31-08-2011 19:17 GCE Test Unit Reg. No. : MI11068  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 14 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1120282-001 G14-D10A	HK1120282-002 G14-D11A				
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.800	1.745				
Mass of Specimen in Water	kg	--	--				
Length of Specimen	mm	100.5	100.5				
Width of Specimen	mm	100.7	100.5				
Height of Specimen	mm	100.4	100.6				
As-received Density	kg/m <sup>3</sup>	1770	1720				
	-Vol. by Calculation						
	-Vol. by Water Displacement						
Maximum Load at Failure	kN	106.1	103.7				
Compressive Strength	MPa	10.5	10.3				
Observation Code		P	P				
Failure Mode		S	S				

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-169



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110807617 Date of Issue : 03-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 19-08-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 19-08-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 12 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 31-08-2011 Date / Time Tested : 31-08-2011 19:21 GCE Test Unit Reg. No. : MI11068  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 12 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		-	-	-	-	-	-
Cube Mark		HK1120282-003 G14-D12A	-	-	-	-	-
Mould No.		-	-	-	-	-	-
Mass of Specimen in Air	kg	1.800	-	-	-	-	-
Mass of Specimen in Water	kg	-	-	-	-	-	-
Length of Specimen	mm	100.4	-	-	-	-	-
Width of Specimen	mm	100.9	-	-	-	-	-
Height of Specimen	mm	100.8	-	-	-	-	-
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1760 -	-	-	-	-
Maximum Load at Failure	kN	59.3	-	-	-	-	-
Compressive Strength	MPa	5.8	-	-	-	-	-
Observation Code		P	-	-	-	-	-
Failure Mode		S	-	-	-	-	-

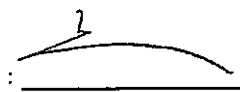
**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

-END-

Approved Signatory :   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager  
 D2-170



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110807625 Date of Issue : 03-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 19-08-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 19-08-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -	Test at Age of	: 12 days
No. of Cubes	: 6	Nominal Size	: 100 mm		

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 31-08-2011 Date / Time Tested : 31-08-2011 19:21 GCE Test Unit Reg. No. : MI11068  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 12 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1120282-004 G14-B8A	HK1120282-005 G14-B8B	HK1120282-006 G14-B9A	HK1120282-007 G14-B9B	HK1120282-008 G14-B10A	HK1120282-009 G14-B10B
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.825	1.695	1.780	1.795	1.795	1.755
Mass of Specimen in Water	kg	-	-	-	-	-	-
Length of Specimen	mm	100.8	100.4	100.3	100.3	100.4	100.8
Width of Specimen	mm	100.5	100.7	100.1	100.5	100.4	100.3
Height of Specimen	mm	100.6	100.2	100.7	100.9	100.5	100.3
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1790 1670	1760	1760	1770	1730
Maximum Load at Failure		kN	55.8	62.3	60.9	54.9	54
Compressive Strength		MPa	5.5	6.2	6.0	5.4	5.7
Observation Code			P	P	P	P	P
Failure Mode			S	S	S	S	S

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110807633

Date of Issue : 03-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 20-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 20-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 6 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 31-08-2011 Date / Time Tested : 31-08-2011 19:30 GCE Test Unit Reg. No. : MI11068  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1120282-010 G14-B11A	HK1120282-011 G14-B11B	HK1120282-012 G14-B12A	HK1120282-013 G14-B12B	HK1120282-014 G14-D13A	HK1120282-015 G14-D14A
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.880	1.910	1.655	1.695	1.770	1.715
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	100.5	100.7	100.5	100.4	100.6
Width of Specimen	mm	100.4	100.4	100.7	100.3	100.2	100.3
Height of Specimen	mm	100.7	100.4	100.1	100.8	100.2	100.6
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1860 1890	1630	1670	1760	1690
Maximum Load at Failure	kN	87.4	90.4	48.4	51.2	76.8	57.1
Compressive Strength	MPa	8.6	9.0	4.8	5.1	7.6	5.7
Observation Code		P	P	P	P	P	P
Failure Mode		S	S	S	S	S	S

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

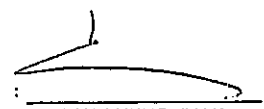
Tested By : T.Y. Chan

--END--

Checked By :

Approved Signatory

Post

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110807641

Date of Issue : 03-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 22-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 22-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 9 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 31-08-2011 Date / Time Tested : 31-08-2011 19:50 GCE Test Unit Reg. No. : M111068  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1120282-016 G14-D15A	HK1120282-017 G14-D18A	HK1120282-018 G14-D17A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.845	1.885	1.920	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.6	100.4	100.3	--	--	--
Width of Specimen	mm	100.9	100.9	100.5	--	--	--
Height of Specimen	mm	100.3	100.1	100.5	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1810 1860	1900	--	--	--
Maximum Load at Failure	kN	90.5	89.1	87.5	--	--	--
Compressive Strength	MPa	8.9	8.8	8.7	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

Checked By : \_\_\_\_\_

Post

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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110807659

Date of Issue : 03-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
Source of Coarse Agg. : - Source of Fine Agg. : -  
Cement Brand : - Admixture Brand : - Dosage : -  
Concrete Mix i.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
Cement Content : - W/C Ratio : - A/C Ratio : -  
PFA Content : - PFA Source : -  
Date Cast : 23-08-2011 Time of Adding Water to Mix : -  
Date of Sampling : 23-08-2011 Time of Sampling : -  
Place of Sampling : - Place / Time of Making Cube : -  
Method of Compaction : - Name of Person Making Cubes : -  
Site Curing Method : - Site Max. / Min. Temperature : -  
No. of Cubes : 6 Nominal Size : 100 mm Test at Age of : 8 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 31-08-2011 Date / Time Tested : 31-08-2011 19:40 GCE Test Unit Reg. No. : MH11068  
Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 8 days  
Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1120282-019 G14-B13A	HK1120282-020 G14-B13B	HK1120282-021 G14-B14A	HK1120282-022 G14-B14B	HK1120282-023 G14-B15A	HK1120282-024 G14-B15B
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.875	kg 1.870	kg 1.895	kg 1.850	kg 1.835	kg 1.87
Mass of Specimen in Water	kg --	kg --	kg --	kg --	kg --	kg --
Length of Specimen	mm 100.4	mm 100.3	mm 100.7	mm 100.5	mm 100.7	mm 100.3
Width of Specimen	mm 100.1	mm 100.6	mm 100.1	mm 100.6	mm 100.8	mm 100.3
Height of Specimen	mm 100.1	mm 100.2	mm 100.3	mm 100.1	mm 100.5	mm 100.7
As-received Density	-Vol. by Calculation kg/m <sup>3</sup> 1860	-Vol. by Calculation kg/m <sup>3</sup> 1850	-Vol. by Calculation kg/m <sup>3</sup> 1870	-Vol. by Calculation kg/m <sup>3</sup> 1830	-Vol. by Calculation kg/m <sup>3</sup> 1800	-Vol. by Calculation kg/m <sup>3</sup> 1850
Maximum Load at Failure	kN 91.4	kN 91.5	kN 92.6	kN 89.3	kN 87.9	kN 87.5
Compressive Strength	MPa 9.1	MPa 9.1	MPa 9.2	MPa 8.9	MPa 8.7	MPa 8.7
Observation Code	P	P	P	P	P	P
Failure Mode	S	S	S	S	S	S

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN

Checked By :

Post

: Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110807667

Date of Issue : 03-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 23-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 23-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 8 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 31-08-2011 Date / Time Tested : 31-08-2011 19:56 GCE Test Unit Reg. No. : MH11068  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1120262-025 G14-D16A	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.795	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.5	--	--	--	--	--
Width of Specimen	mm	100.1	--	--	--	--	--
Height of Specimen	mm	100.6	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1770	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	56.6	--	--	--	--	--
Compressive Strength	MPa	5.6	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1122113  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 20/09/2011  
**DATE OF ISSUE:** 28/09/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 2

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 1 page.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1122113-001	G14-D30B	27/08/2011	GCD11090342
HK1122113-002	G14-D31B	27/08/2011	GCD11090342

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD11090342 Date of Issue : 23-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : ~ W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 27-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 27-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 2 Nominal Size : 100 mm Test at Age of : 25 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**



Date Received : 21-09-2011 Date / Time Tested : 21-09-2011 20:10 GCE Test Unit Reg. No. : MI11079  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 25 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number							
Cube Mark		HK1122113-001 G14-D309	HK1122113-002 G14-D318				
Mould No.		--	--				
Mass of Specimen in Air	kg	1.630	1.620				
Mass of Specimen in Water	kg	--	--				
Length of Specimen	mm	100.3	100.0				
Width of Specimen	mm	100.1	100.4				
Height of Specimen	mm	100.5	100.1				
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1620 --	1610 --			
Maximum Load at Failure		kN	32.3	34.7			
Compressive Strength		MPa	3.2	3.5			
Observation Code			P	P			
Failure Mode			S	S			

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan  -END- Approved Signatory   
 Checked By : \_\_\_\_\_ Post : LAU SUN HUNG, IVAN  
 : Senior Testing Manager

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**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1121464  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 12/09/2011  
**DATE OF ISSUE:** 22/09/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 11

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 3 pages.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1121464-001	G14-D32A	05/09/2011	GCD110901241
HK1121464-002	G14-D33A	05/09/2011	GCD110901241
HK1121464-003	G14-D34A	05/09/2011	GCD110901241
HK1121464-004	G14-D35A	05/09/2011	GCD110901241
HK1121464-005	G14-B16A	06/09/2011	GCD110901259
HK1121464-006	G14-B17A	06/09/2011	GCD110901259
HK1121464-007	G14-D36A	06/09/2011	GCD110901259
HK1121464-008	G14-D37A	06/09/2011	GCD110901259
HK1121464-009	G14-D38A	07/09/2011	GCD110901267
HK1121464-010	G14-D39A	07/09/2011	GCD110901267
HK1121464-011	G14-D40A	07/09/2011	GCD110901267

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting

LCS % REC denotes Laboratory Control Sample percentage recovery  
 ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110901241

Date of Issue : 15-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 05-09-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 05-09-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 4 Nominal Size : 100 mm Test at Age of : 9 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 14-09-2011 Date / Time Tested : 14-09-2011 18:33 GCE Test Unit Reg. No. : MI11072  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1121464-001 G14-D32A	HK1121464-002 G14-D33A	HK1121464-003 G14-D34A	HK1121464-004 G14-D35A	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.595	1.575	1.555	1.615	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.5	100.2	100.3	100.1	--	--
Width of Specimen	mm	100.3	100.7	100.5	100.6	--	--
Height of Specimen	mm	100.3	100.1	100.3	100.2	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1580	1560	1540	1600	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	25.7	21.2	25.1	24.9	--	--
Compressive Strength	MPa	2.6	4.2	2.5	2.5	--	--
Observation Code		P	P	P	P	--	--
Failure Mode		S	S	S	S	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110901259

Date of Issue : 15-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 06-09-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 06-09-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 4	Nominal Size	: 100 mm	Test at Age of	: 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 14-09-2011 Date / Time Tested : 14-09-2011 18:40 GCE Test Unit Reg. No. : M11072  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
		HK1121464-005 G14-B16A	HK1121464-006 G14-B17A	HK1121464-007 G14-D36A	HK1121464-008 G14-D37A	--	--
Cube Mark		--	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.490	1.525	1.565	1.555	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.3	100.0	100.5	100.4	--	--
Width of Specimen	mm	100.1	100.3	100.4	100.4	--	--
Height of Specimen	mm	100.2	100.3	100	100	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1480	1520	1550	1540	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	33.7	33.0	16.4	12.8	--
Compressive Strength		MPa	3.4	4.2	1.6	1.3	--
Observation Code			P	P	P	P	--
Failure Mode			S	S	S	S	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN

Checked By

Post

: Senior Testing Manager

D2-180



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110901267

Date of Issue : 15-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier : - Plant : -  
 Source of Coarse Agg. : - Source of Fine Agg. : -  
 Cement Brand : - Admixture Brand : - Dosage : -  
 Concrete Mix I.D. No. : - Concrete Grade : - Designed / Measured Slump : -  
 Cement Content : - W/C Ratio : - A/C Ratio : -  
 PFA Content : - PFA Source : -  
 Date Cast : 07-09-2011 Time of Adding Water to Mix : -  
 Date of Sampling : 07-09-2011 Time of Sampling : -  
 Place of Sampling : - Place / Time of Making Cube : -  
 Method of Compaction : - Name of Person Making Cubes : -  
 Site Curing Method : - Site Max. / Min. Temperature : -  
 No. of Cubes : 3 Nominal Size : 100 mm Test at Age of : 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 14-09-2011 Date / Time Tested : 14-09-2011 18:27 GCE Test Unit Reg. No. : MI11072  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1121464-009 G14-D38A	HK1121464-010 G14-D38A	HK1121464-011 G14-D40A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.650	1.630	1.580	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.6	100.4	100.6	--	--	--
Width of Specimen	mm	100.6	100.5	100.5	--	--	--
Height of Specimen	mm	100.3	100.1	100.3	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1630 --	1610 --	1560 --	--	--
Maximum Load at Failure	kN	29.4	29.1	27.0	--	--	--
Compressive Strength	MPa	2.9	4.2	2.7	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

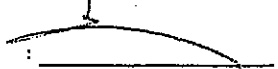
Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan   
 Checked By : \_\_\_\_\_

-END-

Approved Signatory :   
 Post : Senior Testing Manager

D2-181





**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**PROJECT:** KCIP

**WORK ORDER:** HK1120606  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 02/09/2011  
**DATE OF ISSUE:** 12/09/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 13

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 4 pages.

**NOTES**

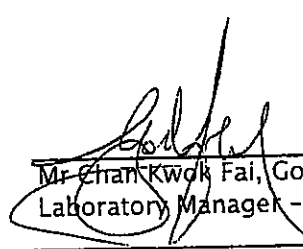
This is the Final Report and supersedes any preliminary report with this batch number.  
 Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

**ISSUING LABORATORY: HONG KONG**

**Address**

ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr. Frank Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting

LCS % REC denotes Laboratory Control Sample percentage recovery  
 ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company

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RIGHT SOLUTIONS RIGHT PARTNER

# CERTIFICATE OF ANALYSIS



Work Order: HK1120606  
Sub-batch: 1  
Date of Issue: 12/09/2011  
Client: CHINA INTERNATIONAL WATER & ELECTRIC CORP  
Client Reference: KCIP

The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
This attached report contains a total of 4 pages.

## Sample Details

<i>ALS Lab ID</i>	<i>Client's Sample ID</i>	<i>Sampling Date</i>	<i>GCE Report No</i>
HK1120606-001	G14-D19A	24/08/2011	GCD110900261
HK1120606-002	G14-D20A	24/08/2011	GCD110900261
HK1120606-003	G14-D21A	24/08/2011	GCD110900261
HK1120606-004	G14-D22A	25/08/2011	GCD110900279
HK1120606-005	G14-D23A	25/08/2011	GCD110900279
HK1120606-006	G14-D24A	26/08/2011	GCD110900287
HK1120606-007	G14-D25A	26/08/2011	GCD110900287
HK1120606-008	G14-D26A	26/08/2011	GCD110900287
HK1120606-009	G14-D27A	27/08/2011	GCD110900295
HK1120606-010	G14-D28A	27/08/2011	GCD110900295
HK1120606-011	G14-D29A	27/08/2011	GCD110900295
HK1120606-012	G14-D30A	27/08/2011	GCD110900295
HK1120606-013	G14-D31A	27/08/2011	GCD110900295

D2-183



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110900261 Date of Issue : 07-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 24-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 24-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --	Test at Age of	: 12 days
No. of Cubes	: 3	Nominal Size	: 100 mm		

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 03-09-2011 Date / Time Tested : 05-09-2011 17:26 GCE Test Unit Reg. No. : MI11070  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 12 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1120806-001 G14-D18A	HK1120806-002 G14-D20A	HK1120806-003 G14-D21A			
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.580	1.625	1.570			
Mass of Specimen in Water	kg						
Length of Specimen	mm	100.4	100.7	100.5			
Width of Specimen	mm	100.4	100.3	100.2			
Height of Specimen	mm	100.5	100.4	100.3			
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1560 1600	1550			
Maximum Load at Failure		kN	32.0	33.1	29.2		
Compressive Strength		MPa	3.2	3.3	2.9		
Observation Code			P	P	P		
Failure Mode			S	S	S		

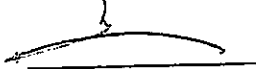
**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110900279

Date of Issue : 07-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 25-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 25-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 2 Nominal Size : 100 mm Test at Age of : 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 03-09-2011 Date / Time Tested : 05-09-2011 17:31 GCE Test Unit Reg. No. : MH11070  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1120606-004 G14-D22A	HK1120606-005 G14-D23A	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.720	1.595	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	100.5	--	--	--	--
Width of Specimen	mm	100.2	100.6	--	--	--	--
Height of Specimen	mm	100.2	100.2	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1710	1570	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	64.6	28.7	--	--	--	--
Compressive Strength	MPa	6.4	2.8	--	--	--	--
Observation Code		P	P	--	--	--	--
Failure Mode		S	S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager  
 D2-185



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110900287 Date of Issue : 07-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 26-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 26-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --	Test at Age of	: 10 days
No. of Cubes	: 3	Nominal Size	: 100 mm		

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 03-09-2011 Date / Time Tested : 05-09-2011 17:35 GCE Test Unit Reg. No. : M11070  
Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1120806-006 G14-D24A	HK1120806-007 G14-D25A	HK1120806-008 G14-D26A	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.415	1.470	1.480	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	100.6	100.3	--	--	--
Width of Specimen	mm	100.2	100.4	100.2	--	--	--
Height of Specimen	mm	100.4	100.4	100.4	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1400	1450	1470	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	10.6	11.3	11.3	--	--	--
Compressive Strength	MPa	1.1	1.1	1.1	--	--	--
Observation Code		P	P	P	--	--	--
Failure Mode		S	S	S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan  --END--  
Checked By : \_\_\_\_\_  
Approved Signatory  LAU SUN HUNG, IVAN  
Post : Senior Testing Manager  
D2-186



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110900295

Date of Issue : 07-09-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 27-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 27-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --	Test at Age of	: 9 days
No. of Cubes	: 5	Nominal Size	: 100 mm		

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 03-09-2011 Date / Time Tested : 05-09-2011 17:41 GCE Test Unit Reg. No. : MI11070  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1120806-008 G14-D27A	HK1120806-010 G14-D28A	HK1120806-011 G14-D28A	HK1120806-012 G14-D30A	HK1120806-013 G14-D31A	
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.380	1.765	1.725	1.245	1.230	
Mass of Specimen in Water	kg	--	--	--	--	--	
Length of Specimen	mm	100.2	100.6	100.4	100.7	100.3	
Width of Specimen	mm	100.4	100.1	100.2	100.5	100.3	
Height of Specimen	mm	100.0	100.2	100.5	100.4	100.2	
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1370 --	1750 --	1710 --	1230 --	1220 --
Maximum Load at Failure	kN	11.2	67.0	62.3	7.4	8.2	
Compressive Strength	MPa	1.1	6.7	6.2	0.7	0.8	
Observation Code		P	P	P	P	P	
Failure Mode		S	S	S	S	S	

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-187



ALS Technichem (HK) Pty Ltd

## CERTIFICATE OF ANALYSIS

CONTACT: MR PENG FENG LI  
CLIENT: CHINA INTERNATIONAL WATER & ELECTRIC CORP  
ADDRESS: RM1508, 15/F, FORTRESS TOWER,  
250 KING'S ROAD, NORTH POINT,  
HONG KONG.  
SITE: KCIP

WORK ORDER: HK1119768  
SUB-BATCH: 1  
LABORATORY: HONG KONG  
DATE RECEIVED: 23/08/2011  
DATE OF ISSUE: 06/09/2011  
SAMPLE TYPE: CONCRETE  
No. of SAMPLES: 20

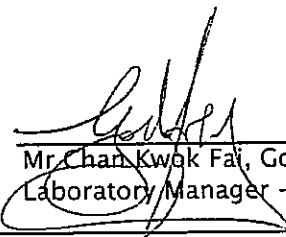
### COMMENTS

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
GCE details report was attached. The attached report contains a total of 10 pages.

### ISSUING LABORATORY: HONG KONG

Address  
ALS Technichem (HK) Pty Ltd  
11/F Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung  
HONG KONG

Phone: 852-2610 1044  
Fax: 852-2610 2021  
Email: hongkong@alsenviro.com

  
Mr. Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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Abbreviations: % SPK REC denotes percentage spike recovery  
CHK denotes duplicate check sample  
LOR denotes limit of reporting  
LCS % REC denotes Laboratory Control Sample percentage recovery

Page 1 of 2

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company

# CERTIFICATE OF ANALYSIS



**Work Order:** HK1119768  
**Sub-batch:** 1  
**Date of Issue:** 06/09/2011  
**Client:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**Client Reference:** KCIP

The determination of compressive strength of concrete (UCS) was subcontracted and tested by  
 Geotechnics & Concrete Engineering (H.K.) Ltd.  
 This attached report contains a total of 10 pages.

### Sample Details

<i>ALS Lab ID</i>	<i>Client's Sample ID</i>	<i>Sampling Date</i>	<i>GCE Report No</i>
HK1119768-001	G14-B5A	15/08/2011	GCD110806572
HK1119768-002	G14-B5B	15/08/2011	GCD110806572
HK1119768-003	G14-B6A	15/08/2011	GCD110806580
HK1119768-004	G14-B6B	15/08/2011	GCD110806580
HK1119768-005	G14-B7A	15/08/2011	GCD110806598
HK1119768-006	G14-B7B	15/08/2011	GCD110806598
HK1119768-007	G14-D3A	15/08/2011	GCD110806603
HK1119768-008	G14-D3B	15/08/2011	GCD110806603
HK1119768-009	G14-D4A	15/08/2011	GCD110806611
HK1119768-010	G14-D4B	15/08/2011	GCD110806611
HK1119768-011	G14-D5A	16/08/2011	GCD110806629
HK1119768-012	G14-D5B	16/08/2011	GCD110806629
HK1119768-013	G14-D6A	16/08/2011	GCD110806637
HK1119768-014	G14-D6B	16/08/2011	GCD110806637
HK1119768-015	G14-D7A	16/08/2011	GCD110806645
HK1119768-016	G14-D7B	16/08/2011	GCD110806645
HK1119768-017	G14-D8A	16/08/2011	GCD110806653
HK1119768-018	G14-D8B	16/08/2011	GCD110806653
HK1119768-019	G14-D9A	16/08/2011	GCD110806661
HK1119768-020	G14-D9B	16/08/2011	GCD110806661

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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806572

Date of Issue : 31-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --	Dosage	: --
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Designed / Measured Slump	: --
Cement Brand	: --	Admixture Brand	: --	A/C Ratio	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --		
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 15-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 15-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 17:48 GCE Test Unit Reg. No. : MI11066  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1119768-001 G14-B5A	HK1119768-002 G14-B5B				
Cube Mark		--	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.735	1.750	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.0	100.0	--	--	--	--
Width of Specimen	mm	99.8	100.9	--	--	--	--
Height of Specimen	mm	99.5	98.3	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1750	1760	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	48.2	49	--	--	--	--
Compressive Strength	MPa	4.9	4.9	--	--	--	--
Observation Code		P	P	--	--	--	--
Failure Mode		S	S	--	--	--	--

Legend :

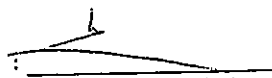
A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan

--END--

Approved Signatory

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By : 

Post

D2-190



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806580

Date of Issue : 31-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 15-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 15-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 17:51 GCE Test Unit Reg. No. : MI11066  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number					
Cube Mark		HK1119768-003 G14-B6A	HK1119768-004 G14-B6B	--	--
Mould No.		--	--	--	--
Mass of Specimen in Air	kg	1.760	1.745	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	100.6	100.8	--	--
Width of Specimen	mm	101.0	100.3	--	--
Height of Specimen	mm	99.5	99.5	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1740 --	1730 --	-- --
Maximum Load at Failure	kN	50.5	47.5	--	--
Compressive Strength	MPa	5.0	4.8	--	--
Observation Code		P	P	--	--
Failure Mode		S	S	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager  
 D2-191



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806598 Date of Issue : 31-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 15-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 15-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 2 Nominal Size : 100 mm Test at Age of : 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 17:54 GCE Test Unit Reg. No. : M11066  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1119768-005 G14-B7A	HK1119768-006 G14-B7B	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.810	1.765	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	101.2	100.2	--	--	--	--
Width of Specimen	mm	101.0	100.2	--	--	--	--
Height of Specimen	mm	99.0	99.2	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1790 --	1770 --	--	--	--
Maximum Load at Failure	kN	47.6	46.1	--	--	--	--
Compressive Strength	MPa	4.8	4.6	--	--	--	--
Observation Code		P, G	P	--	--	--	--
Failure Mode		S	S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan  
 Checked By :

--END--

Approved Signatory   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806603

Date of Issue : 31-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 15-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 15-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :



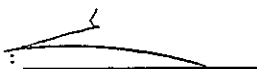
Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 17:58 GCE Test Unit Reg. No. : MI11066  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1119768-007 G14-D3A	HK1119768-008 G14-D3B	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.805	1.800	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.5	100.7	--	--	--	--
Width of Specimen	mm	100.5	100.6	--	--	--	--
Height of Specimen	mm	99.5	99	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1800	1790	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	47.8	46.5	--	--	--	--
Compressive Strength	MPa	4.8	4.7	--	--	--	--
Observation Code		P	P	--	--	--	--
Failure Mode		S	S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan  --END--  
 Checked By :   
 Approved Signatory :   
 Post : Senior Testing Manager

D2-193



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806611

Date of Issue : 31-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 15-08-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 15-08-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 9 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 18:01 GCE Test Unit Reg. No. : M111066  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 9 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1119768-009 G14-D4A	HK1119768-010 G14-D4B				
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.770	1.775				
Mass of Specimen in Water	kg						
Length of Specimen	mm	100.4	100.0				
Width of Specimen	mm	99.0	100.1				
Height of Specimen	mm	99.5	99.7				
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1790 1780				
Maximum Load at Failure	kN	45.7	49.5				
Compressive Strength	MPa	4.6	5.0				
Observation Code		P	P				
Failure Mode		S	S				

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager  
 D2-194



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806629

Date of Issue : 31-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 16-08-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 16-08-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 18:05 GCE Test Unit Reg. No. : MI11066  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1119768-011 G14-D5A	HK1119768-012 G14-D5B				
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.765	1.790				
Mass of Specimen in Water	kg	-	-				
Length of Specimen	mm	100.4	100.1				
Width of Specimen	mm	100.5	100.1				
Height of Specimen	mm	102.2	98.9				
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1710	1810			
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-	-			
Maximum Load at Failure	kN	59.7	62.4				
Compressive Strength	MPa	5.8	6.3				
Observation Code		P, G	P				
Failure Mode		S	S				

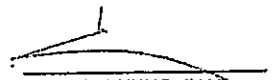
**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager  
 D2-195



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806637

Date of Issue : 31-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -	Dosage	: -
Source of Coarse Agg.	: -	Source of Fine Agg.	: -	Designed / Measured Slump	: -
Cement Brand	: -	Admixture Brand	: -	A/C Ratio	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -		
Cement Content	: -	W/C Ratio	: -		
PFA Content	: -	PFA Source	: -		
Date Cast	: 16-08-2011	Time of Adding Water to Mix	: -	Test at Age of	: 8 days
Date of Sampling	: 16-08-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 2	Nominal Size	: 100 mm		

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 18:09 GCE Test Unit Reg. No. : MI11066  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1119768-013 G14-D6A	HK1119768-014 G14-D6B				
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.800	1.790				
Mass of Specimen in Water	kg	-	-				
Length of Specimen	mm	100.3	100.7				
Width of Specimen	mm	99.4	100.5				
Height of Specimen	mm	100.0	101.2				
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1810	1750			
	-Vol. by Water Displacement	kg/m <sup>3</sup>	-	-			
Maximum Load at Failure	kN	72.6	70.1				
Compressive Strength	MPa	7.3	6.9				
Observation Code		P	P				
Failure Mode		S	S				

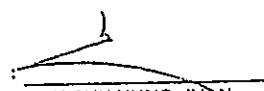
Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager  
 D2-196



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806645

Date of Issue : 31-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --	Dosage	: --
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Designed / Measured Slump	: --
Cement Brand	: --	Admixture Brand	: --	A/C Ratio	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --		
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 16-08-2011	Time of Adding Water to Mix	: --	Test at Age of	: 8 days
Date of Sampling	: 16-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 2	Nominal Size	: 100 mm		

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 18:14 GCE Test Unit Reg. No. : M111066  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1119768-015 G14-D7A	HK1119768-016 G14-D7B				
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.825	1.860				
Mass of Specimen in Water	kg	--	--				
Length of Specimen	mm	100.7	101.0				
Width of Specimen	mm	100.9	100.9				
Height of Specimen	mm	100.9	101.6				
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1780	1800			
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--			
Maximum Load at Failure	kN	61.7	61.9				
Compressive Strength	MPa	6.1	6.0				
Observation Code		P	P				
Failure Mode		S	S				

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager  
 D2-197





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806653

Date of Issue : 31-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 16-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 16-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 2	Nominal Size	: 100 mm	Test at Age of	: 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 18:17 GCE Test Unit Reg. No. : MI11066  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--		--			
	HK1119768-017 G14-DBA	HK1119768-018 G14-DBB	--	--	--	--
Cube Mark	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.840	1.840	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.0	100.8	--	--	--
Width of Specimen	mm	100.4	101	--	--	--
Height of Specimen	mm	100.9	101	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	1790	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	64.9	58.6	--	--	--
Compressive Strength	MPa	6.4	5.7	--	--	--
Observation Code		P	P	--	--	--
Failure Mode		S	S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : \_\_\_\_\_

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager  
 02-198



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110806661

Date of Issue : 31-08-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 16-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 16-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 2 Nominal Size : 100 mm Test at Age of : 8 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 24-08-2011 Date / Time Tested : 24-08-2011 18:21 GCE Test Unit Reg. No. : MI11066  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number							
Cube Mark		HK1119768-019 G14-D9A	HK1119768-020 G14-D9B				
Mould No.							
Mass of Specimen in Air	kg	1.800	1.810				
Mass of Specimen in Water	kg						
Length of Specimen	mm	100.8	100.4				
Width of Specimen	mm	101.0	99.9				
Height of Specimen	mm	101.1	100.4				
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1750	1800			
	-Vol. by Water Displacement	kg/m <sup>3</sup>					
Maximum Load at Failure	kN	62.3	61.6				
Compressive Strength	MPa	6.1	6.1				
Observation Code		P	P				
Failure Mode		S	S				

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-199



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1121701  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 15/09/2011  
**DATE OF ISSUE:** 22/09/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 7

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 2 pages.

**Sample Details**

<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1121701-001	G14-D41A	08/09/2011	GCD110902116
HK1121701-002	G14-D42A	08/09/2011	GCD110902116
HK1121701-003	G14-D43A	08/09/2011	GCD110902116
HK1121701-004	G14-D44A	08/09/2011	GCD110902116
<del>HK1121701-005</del>	<del>G4-B1A</del>	<del>09/09/2011</del>	<del>GCD110902124</del>
<del>HK1121701-006</del>	<del>G4-B2A</del>	<del>09/09/2011</del>	<del>GCD110902124</del>
HK1121701-007	G4-B3A	09/09/2011	GCD110902124

**ISSUING LABORATORY: HONG KONG**

Address  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

Mr Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

D2-200

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110902116 Date of Issue : 19-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 08-09-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 08-09-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 4	Nominal Size	: 100 mm	Test at Age of	: 8 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 16-09-2011 Date / Time Tested : 16-09-2011 18:37 GCE Test Unit Reg. No. : MI11074  
Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 8 days  
Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1121701-001 G14-D41A	HK1121701-002 G14-D42A	HK1121701-003 G14-D43A	HK1121701-004 G14-D44A	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.490	1.570	1.525	1.510	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--
Length of Specimen	mm 100.3	100.2	100.5	100.7	--	--
Width of Specimen	mm 100.6	100.4	100.1	100.8	--	--
Height of Specimen	mm 100.1	100.3	100	100.4	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1480	1560	1520	1480	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--
Maximum Load at Failure	kN 35.5	39.9	10.8	10.9	--	--
Compressive Strength	MPa 3.5	4.0	1.1	1.1	--	--
Observation Code	P	P	P	P	--	--
Failure Mode	S	S	S	S	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

LAU SUN HUNG, IVAN  
: Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110902124

Date of Issue : 19-09-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 09-09-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 09-09-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 3	Nominal Size	: 100 mm	Test at Age of	: 7 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 16-09-2011 Date / Time Tested : 16-09-2011 18:47 GCE Test Unit Reg. No. : MI11074  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 7 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		HK1121701-005 G4-B1A	HK1121701-006 G4-B2A	HK1121701-007 G4-B3A			
Cube Mark							
Mould No.							
Mass of Specimen in Air	kg	1.535	1.705	1.870			
Mass of Specimen in Water	kg						
Length of Specimen	mm	100.6	100.8	100.4			
Width of Specimen	mm	100.3	100.5	100.6			
Height of Specimen	mm	100.2	100.4	100.7			
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1520	1680	1840		
	-Vol. by Water Displacement	kg/m <sup>3</sup>					
Maximum Load at Failure	kN	*37.6	76.6	69.5			
Compressive Strength	MPa	3.7	7.6	6.9			
Observation Code		P	P	P			
Failure Mode		S	S	S			

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Matrix : Cement Cube  
 2) \*The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kN).

--END--

Tested By : T.Y. Chan

Approved Signatory

LAU SUN HUNG, IVAN

Checked By :

Post

: Senior Testing Manager



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1113092  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 10/06/2011  
**DATE OF ISSUE:** 21/06/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 7

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 7 pages.

**Sample Details**

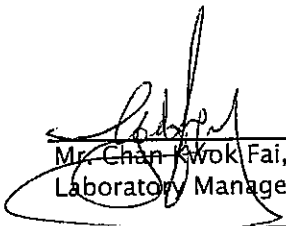
<i>ALS Lab ID</i>	<i>Sample ID</i>	<i>Date of Sampling</i>	<i>GCE Report No</i>
HK1113092-001	G14-B1A	31/05/2011	GCD110602164
HK1113092-002	G14-B2A	07/06/2011	GCD110602172
HK1113092-003	G14-D1A	02/06/2011	GCD110602180
HK1113092-004	G14-D2A	02/06/2011	GCD110602198
<del>HK1113092-005</del>	<del>G14-D3A</del>	<del>03/06/2011</del>	<del>GCD110602203</del>
<del>HK1113092-006</del>	<del>G15-D5A</del>	<del>31/05/2011</del>	<del>GCD110602211</del>
<del>HK1113092-007</del>	<del>G15-D6A</del>	<del>01/06/2011</del>	<del>GCD110602229</del>

**ISSUING LABORATORY: HONG KONG**

**Address**

ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com

  
 Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602164 Date of Issue : 17-06-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 31-05-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 31-05-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 19:08 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--
Cube Mark		HK1113092-001 G14-B1A	--	--	--	--
Mould No.		--	--	--	--	--
Mass of Specimen in Air	kg	1.730	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	99.4	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--
Height of Specimen	mm	100.5	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1730 --	--	--	--
Maximum Load at Failure		kN	141.4	--	--	--
Compressive Strength		MPa	14.0	--	--	--
Observation Code			P	--	--	--
Failure Mode			S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Checked By :

Approved Signatory

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

D2-204



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602172

Date of Issue : 17-06-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 07-06-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 07-06-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 6 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 19:00 GCE Test Unit Reg. No. : M111044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 6 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1113092-002 G14-B2A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.755	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.4	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--
Height of Specimen	mm	100.7	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1730	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	150.4	--	--	--	--
Compressive Strength	MPa	14.9	--	--	--	--
Observation Code		P	--	--	--	--
Failure Mode		S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube


Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-205





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602180

Date of Issue : 17-06-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : --	Plant : --	
Source of Coarse Agg. : --	Source of Fine Agg. : --	
Cement Brand : --	Admixture Brand : --	Dosage : --
Concrete Mix I.D. No. : --	Concrete Grade : --	Designed / Measured Slump : --
Cement Content : --	W/C Ratio : --	A/C Ratio : --
PFA Content : --	PFA Source : --	
Date Cast : 02-06-2011	Time of Adding Water to Mix : --	
Date of Sampling : 02-06-2011	Time of Sampling : --	
Place of Sampling : --	Place / Time of Making Cube : --	
Method of Compaction : --	Name of Person Making Cubes : --	
Site Curing Method : --	Site Max. / Min. Temperature : --	
No. of Cubes : 1	Nominal Size : 100 mm	Test at Age of : 11 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 19:03 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1113082-003 G14-01A	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg	1.740	--	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	99.2	--	--	--
Width of Specimen	mm	99.4	--	--	--
Height of Specimen	mm	100.5	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1760	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--
Maximum Load at Failure	kN	150.7	--	--	--
Compressive Strength	MPa	15.1	--	--	--
Observation Code		P	--	--	--
Failure Mode		S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Checked By : \_\_\_\_\_

Approved Signatory

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager

Post

D2-206

D2-206



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602198

Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-06-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-06-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 18:57 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	HK1113092-004 G14-D2A	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.630	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.4	--	--	--	--	--
Width of Specimen	mm	100.4	--	--	--	--	--
Height of Specimen	mm	100.2	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1610	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	93.2	--	--	--	--	--
Compressive Strength	MPa	9.3	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

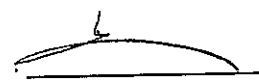
Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

  
 LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-207



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602203

Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 03-06-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 03-06-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 18:52 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	HK1113092-005 G14-D3A	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.630	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.2	--	--	--	--	--
Width of Specimen	mm	100.4	--	--	--	--	--
Height of Specimen	mm	99.5	--	--	--	--	--
As-received Density	-Vol. by Calculation -Vol. by Water Displacement	kg/m <sup>3</sup> kg/m <sup>3</sup>	1630 --	--	--	--	--
Maximum Load at Failure	kN	89.9	--	--	--	--	--
Compressive Strength	MPa	9.0	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By :

Post

D2-208



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602211

Date of Issue : 17-06-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 31-05-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 31-05-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 18:45 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1113092-008 G15-05A	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg 1.595	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--
Length of Specimen	mm 99.7	--	--	--	--
Width of Specimen	mm 99.5	--	--	--	--
Height of Specimen	mm 99.2	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1620	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--
Maximum Load at Failure	kN 90.5	--	--	--	--
Compressive Strength	MPa 9.2	--	--	--	--
Observation Code	P	--	--	--	--
Failure Mode	S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : \_\_\_\_\_

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-209



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110602229

Date of Issue : 17-06-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 01-06-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 01-06-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 12 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 13-06-2011 Date / Time Tested : 13-06-2011 19:06 GCE Test Unit Reg. No. : MI11044  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 12 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	HK1113092-007 G15-D6A	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1,595	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.4	--	--	--	--	--
Width of Specimen	mm	100.2	--	--	--	--	--
Height of Specimen	mm	99.4	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1600	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	85.9	--	--	--	--	--
Compressive Strength	MPa	8.6	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize; H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By : \_\_\_\_\_

Post

D2-210



**ALS Technichem (HK) Pty Ltd**

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MR PENG FENG LI  
**CLIENT:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**ADDRESS:** RM1508, 15/F, FORTRESS TOWER,  
 250 KING'S ROAD, NORTH POINT,  
 HONG KONG.  
**SITE:** KCIP

**WORK ORDER:** HK1118949  
**SUB-BATCH:** 1  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 12/08/2011  
**DATE OF ISSUE:** 23/08/2011  
**SAMPLE TYPE:** CONCRETE  
**No. of SAMPLES:** 27

**COMMENTS**

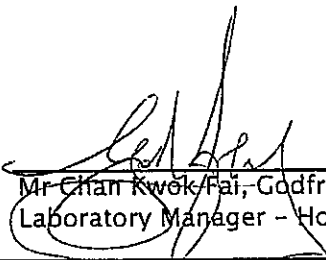
Sample(s) were collected by ALS Technichem (HK) staff in a chilled condition.  
 Determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
 GCE details report was attached. The attached report contains a total of 27 pages.

**ISSUING LABORATORY: HONG KONG**

**Address**  
 ALS Technichem (HK) Pty Ltd  
 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
 Kwai Chung  
 HONG KONG

**Phone:** 852-2610 1044  
**Fax:** 852-2610 2021  
**Email:** hongkong@alsenviro.com



  
 Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong

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**Abbreviations:** % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
 ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company

# CERTIFICATE OF ANALYSIS



**Work Order:** HK1118949  
**Sub-batch:** 1  
**Date of Issue:** 23/08/2011  
**Client:** CHINA INTERNATIONAL WATER & ELECTRIC CORP  
**Client Reference:** KCIP

The determination of compressive strength of concrete (UCS) was subcontracted and tested by Geotechnics & Concrete Engineering (H.K.) Ltd.  
 This attached report contains a total of 27 pages.

### Sample Details

<i>ALS Lab ID</i>	<i>Client's Sample ID</i>	<i>Sampling Date</i>	<i>GCE Report No</i>
HK1118949-001	G14-D4A	03/06/2011	GCD110801394
HK1118949-002	G14-D4B	03/06/2011	GCD110801409
HK1118949-003	G14-D4C	03/06/2011	GCD110801417
HK1118949-004	G15-D17A	28/07/2011	GCD110801425
HK1118949-005	G15-D17B	28/07/2011	GCD110801433
HK1118949-006	G15-D17C	28/07/2011	GCD110801441
HK1118949-007	G15-D18A	02/08/2011	GCD110801459
HK1118949-008	G15-D18B	02/08/2011	GCD110801467
HK1118949-009	G15-D18C	02/08/2011	GCD110801475
HK1118949-010	G15-D19A	02/08/2011	GCD110801483
HK1118949-011	G15-D19B	02/08/2011	GCD110801491
HK1118949-012	G15-D19C	02/08/2011	GCD110801506
HK1118949-013	G15-D20A	04/08/2011	GCD110801514
HK1118949-014	G15-D20B	04/08/2011	GCD110801522
HK1118949-015	G15-D20C	04/08/2011	GCD110801530
HK1118949-016	G15-D21A	04/08/2011	GCD110801548
HK1118949-017	G15-D21B	04/08/2011	GCD110801556
HK1118949-018	G15-D21C	04/08/2011	GCD110801564
HK1118949-019	G15-D22A	04/08/2011	GCD110801572
HK1118949-020	G15-D22B	04/08/2011	GCD110801580
HK1118949-021	G15-D22C	04/08/2011	GCD110801598
HK1118949-022	G15-D23A	05/08/2011	GCD110801603
HK1118949-023	G15-D23B	05/08/2011	GCD110801611
HK1118949-024	G15-D23C	05/08/2011	GCD110801629
HK1118949-025	G15-D24A	05/08/2011	GCD110801637
HK1118949-026	G15-D24B	05/08/2011	GCD110801645
HK1118949-027	G15-D24C	05/08/2011	GCD110801653

D2-212



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801394 Date of Issue : 16-08-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 03-06-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 03-06-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 73 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:33 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 73 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-001 G14-D4A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.845	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	100.7	--	--	--	--
Width of Specimen	mm	100.9	--	--	--	--
Height of Specimen	mm	100.8	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1800	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure		kN	126	--	--	--
Compressive Strength		MPa	12.4	--	--	--
Observation Code			P	--	--	--
Failure Mode			S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory :

LAU SUN HUNG, IVAN

Checked By :

Post

Senior Testing Manager

D2-213





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801409

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 03-06-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 03-06-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 73 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :


Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:29 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 73 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-002 G14-D4B	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.890	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	101.1	--	--	--	--
Width of Specimen	mm	101.0	--	--	--	--
Height of Specimen	mm	101.8	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	136	--	--	--	--
Compressive Strength	MPa	13.2	--	--	--	--
Observation Code		P,G	--	--	--	--
Failure Mode		S	--	--	--	--

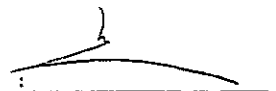
**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan   
 Checked By : \_\_\_\_\_

-END-

Approved Signatory :   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager

D 2-214



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801417 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location In Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 03-06-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 03-06-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 73 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 17:48 GCE Test Unit Reg. No. : M111061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 73 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-003 G14-D4C	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.870	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	101.3	--	--	--	--
Width of Specimen	mm	101.0	--	--	--	--
Height of Specimen	mm	102.6	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1780	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	133.3	--	--	--	--
Compressive Strength	MPa	12.9	--	--	--	--
Observation Code		P,G	--	--	--	--
Failure Mode		S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

--END--

Tested By : T.Y. Chan

Approved Signatory :

Checked By :

Post :

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-215



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801425 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location In Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 28-07-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 28-07-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 18 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 17:59 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 18 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--
Cube Mark	HK1118949-004 G15-D17A	--	--	--	--	--
Mould No.	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.795	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	101.4	--	--	--	--
Width of Specimen	mm	101.5	--	--	--	--
Height of Specimen	mm	100.9	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1730	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure	kN	151.2	--	--	--	--
Compressive Strength	MPa	14.8	--	--	--	--
Observation Code		P,G	--	--	--	--
Failure Mode		S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

-END-

Approved Signatory

Checked By : \_\_\_\_\_

Post

  
 LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801433

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 28-07-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 28-07-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 18 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:24 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 18 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1118949-005 G15-D178	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg 1.715	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--
Length of Specimen	mm 101.2	--	--	--	--
Width of Specimen	mm 101.0	--	--	--	--
Height of Specimen	mm 102.0	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1640	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--
Maximum Load at Failure		kN 41.5	--	--	--
Compressive Strength		MPa 4.0	--	--	--
Observation Code		P,E,G	--	--	--
Failure Mode		S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By : \_\_\_\_\_

Post

02-217



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801441

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 28-07-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 28-07-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 18 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:15 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 18 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1118849-006	--	--	--	--	--
		G15-D17C	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.685	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.6	--	--	--	--	--
Width of Specimen	mm	100.3	--	--	--	--	--
Height of Specimen	mm	100.3	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1660	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	43.1	--	--	--	--
Compressive Strength		MPa	4.3	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By :

Post



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801459 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:40 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1118949-007 G15-D18A	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg	1.905	--	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	101.8	--	--	--
Width of Specimen	mm	101.9	--	--	--
Height of Specimen	mm	101.7	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1810	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--
Maximum Load at Failure	kN	46.4	--	--	--
Compressive Strength	MPa	4.5	--	--	--
Observation Code		P,G	--	--	--
Failure Mode		S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By : \_\_\_\_\_

Post



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801467 Date of Issue : 16-08-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 17:51 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1118949-008 G15-D188	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg	1.875	--	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	101.1	--	--	--
Width of Specimen	mm	101.1	--	--	--
Height of Specimen	mm	100.7	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--
Maximum Load at Failure	kN	52.4	--	--	--
Compressive Strength	MPa	5.1	--	--	--
Observation Code		P,G	--	--	--
Failure Mode		S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-220



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801475

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : --	Plant : --		
Source of Coarse Agg. : --	Source of Fine Agg. : --		
Cement Brand : --	Admixture Brand : --	Dosage : --	
Concrete Mix I.D. No. : --	Concrete Grade : --	Designed / Measured Slump : --	
Cement Content : --	W/C Ratio : --	A/C Ratio : --	
PFA Content : --	PFA Source : --		
Date Cast : 02-08-2011	Time of Adding Water to Mix : --		
Date of Sampling : 02-08-2011	Time of Sampling : --		
Place of Sampling : --	Place / Time of Making Cube : --		
Method of Compaction : --	Name of Person Making Cubes : --		
Site Curing Method : --	Site Max. / Min. Temperature : --		
No. of Cubes : 1	Nominal Size : 100 mm	Test at Age of : 13 days	

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :


Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:43 GCE Test Unit Reg. No. : MH11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--	--	--	--
Cube Mark	HK1118949-009	--	--	--	--	--	--	--	--
	G15-D18C	--	--	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.885	--	--	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--	--	--
Length of Specimen	mm	100.9	--	--	--	--	--	--	--
Width of Specimen	mm	100.7	--	--	--	--	--	--	--
Height of Specimen	mm	100.9	--	--	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840	--	--	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--	--	--
Maximum Load at Failure		kN	53.3	--	--	--	--	--	--
Compressive Strength		MPa	5.2	--	--	--	--	--	--
Observation Code			P	--	--	--	--	--	--
Failure Mode			S	--	--	--	--	--	--

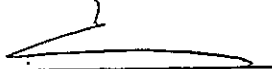
Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan   
 Checked By : \_\_\_\_\_

--END--

Approved Signatory   
 LAU SUN HUNG, IVAN  
 Post : Senior Testing Manager

D2-221





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801483

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:16 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1118949-010 G15-019A	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg	1.865	--	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	100.3	--	--	--
Width of Specimen	mm	100.6	--	--	--
Height of Specimen	mm	101.6	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--
Maximum Load at Failure		kN	53.9	--	--
Compressive Strength		MPa	5.3	--	--
Observation Code			P	--	--
Failure Mode			S	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801491 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 02-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 02-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:55 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	HK1118949-011 G15-D198	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.855	--	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--	--
Length of Specimen	mm 100.3	--	--	--	--	--	--
Width of Specimen	mm 100.6	--	--	--	--	--	--
Height of Specimen	mm 100.9	--	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1820	--	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--	--
Maximum Load at Failure	kN 47.1	--	--	--	--	--	--
Compressive Strength	MPa 4.6	--	--	--	--	--	--
Observation Code	P	--	--	--	--	--	--
Failure Mode	S	--	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube  
 2) The maximum load at failure of the specimens are lower than the minimum calibrated range of compression machine (i.e 50kn).

Tested By : T.Y. Chan

-END-

Approved Signatory

LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By : \_\_\_\_\_

Post

D2-223



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801506

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : -  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : -  
 Project / Site : -

Location in Works of Concrete Batch Sampled : -

Supplier	: -	Plant	: -		
Source of Coarse Agg.	: -	Source of Fine Agg.	: -		
Cement Brand	: -	Admixture Brand	: -	Dosage	: -
Concrete Mix I.D. No.	: -	Concrete Grade	: -	Designed / Measured Slump	: -
Cement Content	: -	W/C Ratio	: -	A/C Ratio	: -
PFA Content	: -	PFA Source	: -		
Date Cast	: 02-08-2011	Time of Adding Water to Mix	: -		
Date of Sampling	: 02-08-2011	Time of Sampling	: -		
Place of Sampling	: -	Place / Time of Making Cube	: -		
Method of Compaction	: -	Name of Person Making Cubes	: -		
Site Curing Method	: -	Site Max. / Min. Temperature	: -		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 13 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 19:04 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 13 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number					
Cube Mark	HK1118949-012 G15-D15C				
Mould No.					
Mass of Specimen in Air	kg	1.870			
Mass of Specimen in Water	kg				
Length of Specimen	mm	100.7			
Width of Specimen	mm	100.3			
Height of Specimen	mm	100.8			
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840		
	-Vol. by Water Displacement	kg/m <sup>3</sup>			
Maximum Load at Failure		kN	55.4		
Compressive Strength		MPa	5.5		
Observation Code			P		
Failure Mode			S		

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

D2-224



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801514

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:22 GCE Test Unit Reg. No. : M11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number									
Cube Mark	HK1118949-013 G15-D20A								
Mould No.									
Mass of Specimen in Air	kg	1.875							
Mass of Specimen in Water	kg	--							
Length of Specimen	mm	100.6							
Width of Specimen	mm	100.8							
Height of Specimen	mm	100.6							
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840						
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--						
Maximum Load at Failure		kN	104.5						
Compressive Strength		MPa	10.3						
Observation Code			P						
Failure Mode			S						

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

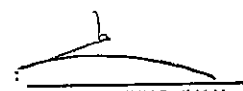
--END--

Tested By : T.Y. Chan

Approved Signatory

Checked By : \_\_\_\_\_

Post

  
 LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801522

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:57 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1118949-014 G15-020B	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg	1.875	--	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	99.9	--	--	--
Width of Specimen	mm	100.1	--	--	--
Height of Specimen	mm	99.6	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1880	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--
Maximum Load at Failure	kN	104.8	--	--	--
Compressive Strength	MPa	10.5	--	--	--
Observation Code		P	--	--	--
Failure Mode		S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By : \_\_\_\_\_

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801530 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --	Dosage	: --
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Designed / Measured Slump	: --
Cement Brand	: --	Admixture Brand	: --	A/C Ratio	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --		
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:35 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--	--	--
Cube Mark	HK1118949-015 G15-020C	--	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.885	--	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--	--
Length of Specimen	mm	100.9	--	--	--	--	--	--
Width of Specimen	mm	101.0	--	--	--	--	--	--
Height of Specimen	mm	100.7	--	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840	--	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--	--
Maximum Load at Failure	kN	105.6	--	--	--	--	--	--
Compressive Strength	MPa	10.4	--	--	--	--	--	--
Observation Code		P	--	--	--	--	--	--
Failure Mode		S	--	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

  
 LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801548

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:13 GCE Test Unit Reg. No. : M111061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1118949-016					
		G15-D21A					
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.900	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.8	--	--	--	--	--
Width of Specimen	mm	101.0	--	--	--	--	--
Height of Specimen	mm	100.9	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1850	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	103.5	--	--	--	--	--
Compressive Strength	MPa	10.2	--	--	--	--	--
Observation Code		P	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801556

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : --	Plant : --		
Source of Coarse Agg. : --	Source of Fine Agg. : --		
Cement Brand : --	Admixture Brand : --	Dosage : --	
Concrete Mix I.D. No. : --	Concrete Grade : --	Designed / Measured Slump : --	
Cement Content : --	W/C Ratio : --	A/C Ratio : --	
PFA Content : --	PFA Source : --		
Date Cast : 04-08-2011	Time of Adding Water to Mix : --		
Date of Sampling : 04-08-2011	Time of Sampling : --		
Place of Sampling : --	Place / Time of Making Cube : --		
Method of Compaction : --	Name of Person Making Cubes : --		
Site Curing Method : --	Site Max. / Min. Temperature : --		
No. of Cubes : 1	Nominal Size : 100 mm	Test at Age of : 11 days	

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 19:00 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--	--
Cube Mark	HK1118949-017 G15-D21B	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg 1.925	--	--	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--	--	--
Length of Specimen	mm 101.3	--	--	--	--	--	--
Width of Specimen	mm 100.8	--	--	--	--	--	--
Height of Specimen	mm 101.7	--	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1850	--	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--	--	--
Maximum Load at Failure	kN 105	--	--	--	--	--	--
Compressive Strength	MPa 10.2	--	--	--	--	--	--
Observation Code	P,G	--	--	--	--	--	--
Failure Mode	S	--	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-229





**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801564

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 19:05 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--	--	--	--	--
Cube Mark	HK1118049-018 G15-D21C	--	--	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.900	--	--	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--	--	--
Length of Specimen	mm	100.8	--	--	--	--	--	--	--
Width of Specimen	mm	100.7	--	--	--	--	--	--	--
Height of Specimen	mm	100.3	--	--	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1870	--	--	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--	--	--
Maximum Load at Failure	kN	130.5	--	--	--	--	--	--	--
Compressive Strength	MPa	12.9	--	--	--	--	--	--	--
Observation Code	P	--	--	--	--	--	--	--	--
Failure Mode	S	--	--	--	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

D2-230



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801572

Date of Issue : 16-08-2011

Sample Details as Supplied by Client:

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

Certificate of Sampling, Slump Test, Cube Making and Curing:

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results:

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 17:57 GCE Test Unit Reg. No. : M11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark	HK1118949-019 G15-D22A	--	--	--	--	--	--
Mould No.	--	--	--	--	--	--	--
Mass of Specimen in Air	kg	1.900	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	101.9	--	--	--	--	--
Width of Specimen	mm	101.4	--	--	--	--	--
Height of Specimen	mm	101.5	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1810	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure	kN	111.8	--	--	--	--	--
Compressive Strength	MPa	10.9	--	--	--	--	--
Observation Code		P,G	--	--	--	--	--
Failure Mode		S	--	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-251



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801580

Date of Issue : 16-08-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 11 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:11 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1118949-020 G15-D22B	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg	1.920	--	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	101.1	--	--	--
Width of Specimen	mm	101.3	--	--	--
Height of Specimen	mm	102.2	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1830	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--
Maximum Load at Failure	kN	102.5	--	--	--
Compressive Strength	MPa	9.9	--	--	--
Observation Code		P,G	--	--	--
Failure Mode		S	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

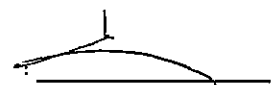
Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

  
 LAU SUN HUNG, IVAN  
 : Senior Testing Manager



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801598

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --	Dosage	: --
Cement Brand	: --	Admixture Brand	: --	Designed / Measured Slump	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	A/C Ratio	: --
Cement Content	: --	W/C Ratio	: --		
PFA Content	: --	PFA Source	: --		
Date Cast	: 04-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 04-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --	Test at Age of	: 11 days
No. of Cubes	: 1	Nominal Size	: 100 mm		

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:30 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 11 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1118949-021 G15-022C	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg 1.870	--	--	--	--
Mass of Specimen in Water	kg --	--	--	--	--
Length of Specimen	mm 100.6	--	--	--	--
Width of Specimen	mm 100.6	--	--	--	--
Height of Specimen	mm 101.2	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup> 1830	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup> --	--	--	--
Maximum Load at Failure	kN 110.8	--	--	--	--
Compressive Strength	MPa 10.9	--	--	--	--
Observation Code	P	--	--	--	--
Failure Mode	S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN  
 Senior Testing Manager

Checked By :

Post

D2-235



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801603

Date of Issue : 16-08-2011

**Sample Details as Supplied by Client :**

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 05-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 05-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 10 days

**Certificate of Sampling, Slump Test, Cube Making and Curing :**

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

**Laboratory Test Results :**

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:49 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : - / - Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number					
Cube Mark	HK1118949-022 G15-D23A				
Mould No.					
Mass of Specimen in Air	kg	1.895			
Mass of Specimen in Water	kg				
Length of Specimen	mm	101.0			
Width of Specimen	mm	101.0			
Height of Specimen	mm	100.9			
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840		
	-Vol. by Water Displacement	kg/m <sup>3</sup>			
Maximum Load at Failure	kN	132.7			
Compressive Strength	MPa	13.0			
Observation Code		P			
Failure Mode		S			

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 Senior Testing Manager

D2-234



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801611

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier : -- Plant : --  
 Source of Coarse Agg. : -- Source of Fine Agg. : --  
 Cement Brand : -- Admixture Brand : -- Dosage : --  
 Concrete Mix I.D. No. : -- Concrete Grade : -- Designed / Measured Slump : --  
 Cement Content : -- W/C Ratio : -- A/C Ratio : --  
 PFA Content : -- PFA Source : --  
 Date Cast : 05-08-2011 Time of Adding Water to Mix : --  
 Date of Sampling : 05-08-2011 Time of Sampling : --  
 Place of Sampling : -- Place / Time of Making Cube : --  
 Method of Compaction : -- Name of Person Making Cubes : --  
 Site Curing Method : -- Site Max. / Min. Temperature : --  
 No. of Cubes : 1 Nominal Size : 100 mm Test at Age of : 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:04 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--
Cube Mark		HK1118949-023	--	--	--	--
		G15-D23B	--	--	--	--
Mould No.		--	--	--	--	--
Mass of Specimen in Air	kg	1.880	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--
Length of Specimen	mm	101.1	--	--	--	--
Width of Specimen	mm	101.2	--	--	--	--
Height of Specimen	mm	101.4	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1810	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--
Maximum Load at Failure		kN	133.9	--	--	--
Compressive Strength		MPa	13.0	--	--	--
Observation Code			P,G	--	--	--
Failure Mode			S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

D2-235



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801629

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 05-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 05-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:09 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK1118949-024	--	--	--	--	--
		G15-D23C	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.885	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	101.3	--	--	--	--	--
Width of Specimen	mm	101.1	--	--	--	--	--
Height of Specimen	mm	101.0	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1820	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	134.8	--	--	--	--
Compressive Strength		MPa	13.2	--	--	--	--
Observation Code			P,G	--	--	--	--
Failure Mode			S	--	--	--	--

**Legend :**

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN

Checked By :

Post

: Senior Testing Manager

D2-256



**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801637 Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 05-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 05-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:26 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1118949-025 G15-D24A	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg	1.870	--	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	101.0	--	--	--
Width of Specimen	mm	100.0	--	--	--
Height of Specimen	mm	100.3	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1850	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--
Maximum Load at Failure		kN	134.4	--	--
Compressive Strength		MPa	13.4	--	--
Observation Code			P	--	--
Failure Mode			S	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan  
 Checked By : \_\_\_\_\_

--END--

Approved Signatory :   
 Post : Senior Testing Manager

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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801645

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : - W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 05-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 05-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:47 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number		--	--	--	--	--	--
Cube Mark		HK 1118949-026	--	--	--	--	--
		G15-D24B	--	--	--	--	--
Mould No.		--	--	--	--	--	--
Mass of Specimen in Air	kg	1.895	--	--	--	--	--
Mass of Specimen in Water	kg	--	--	--	--	--	--
Length of Specimen	mm	100.8	--	--	--	--	--
Width of Specimen	mm	100.9	--	--	--	--	--
Height of Specimen	mm	101.1	--	--	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1840	--	--	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--	--	--
Maximum Load at Failure		kN	137.1	--	--	--	--
Compressive Strength		MPa	13.4	--	--	--	--
Observation Code			P	--	--	--	--
Failure Mode			S	--	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

Checked By : \_\_\_\_\_

Post

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**REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBE**

Report No. : GCD110801653

Date of Issue : 16-08-2011

Sample Details as Supplied by Client :

Client : ALS Technichem (HK) Pty Ltd. Contract No. : -- W.O. No. / Job No. : --  
 Address : 11/F., Chung Shun Knitting Centre, 1-3 Wing Yip St., Kwai Chung, N.T., Hong Kong Audit / Request No. : --  
 Project / Site : --

Location in Works of Concrete Batch Sampled : --

Supplier	: --	Plant	: --		
Source of Coarse Agg.	: --	Source of Fine Agg.	: --		
Cement Brand	: --	Admixture Brand	: --	Dosage	: --
Concrete Mix I.D. No.	: --	Concrete Grade	: --	Designed / Measured Slump	: --
Cement Content	: --	W/C Ratio	: --	A/C Ratio	: --
PFA Content	: --	PFA Source	: --		
Date Cast	: 05-08-2011	Time of Adding Water to Mix	: --		
Date of Sampling	: 05-08-2011	Time of Sampling	: --		
Place of Sampling	: --	Place / Time of Making Cube	: --		
Method of Compaction	: --	Name of Person Making Cubes	: --		
Site Curing Method	: --	Site Max. / Min. Temperature	: --		
No. of Cubes	: 1	Nominal Size	: 100 mm	Test at Age of	: 10 days

Certificate of Sampling, Slump Test, Cube Making and Curing :

A Certificate of Sampling, Slump Test, Cube Making and Curing is not available.

Laboratory Test Results :

Date Received : 15-08-2011 Date / Time Tested : 15-08-2011 18:37 GCE Test Unit Reg. No. : MI11061  
 Curing Method : In Air Max. / Min. Temp. : -- / -- Cube Age at Test : 10 days  
 Test Location : No. 6, Ko Shan Road, Ground Floor, Hung Hom, Kowloon, Hong Kong

Laboratory Reference Number	--	--	--	--	--
Cube Mark	HK1118949-027 G15-D24C	--	--	--	--
Mould No.	--	--	--	--	--
Mass of Specimen in Air	kg	1.855	--	--	--
Mass of Specimen in Water	kg	--	--	--	--
Length of Specimen	mm	100.8	--	--	--
Width of Specimen	mm	100.9	--	--	--
Height of Specimen	mm	101.4	--	--	--
As-received Density	-Vol. by Calculation	kg/m <sup>3</sup>	1800	--	--
	-Vol. by Water Displacement	kg/m <sup>3</sup>	--	--	--
Maximum Load at Failure	kN	130.9	--	--	--
Compressive Strength	MPa	12.8	--	--	--
Observation Code		P	--	--	--
Failure Mode		S	--	--	--

Legend :

A - Dry on Receipt; B - Poor Compaction; C - Honeycombing; D - Damaged Edge; E - Damaged Corner; F - Irregular; G - Oversize;  
 H - Undersize; P - No Irregularity in Squareness; S - Satisfactory Failure; U - Unsatisfactory Failure.

Remarks : 1) Martix : Cement Cube

Tested By : T.Y. Chan

--END--

Approved Signatory

Checked By :

Post

LAU SUN HUNG, IVAN  
 : Senior Testing Manager

## Appendix E

### Selected site photo



## Base Construction



Lining of HDPE Liner

- Function: To prevent leachate from biopile in contaminating the existing ground



## Base Construction

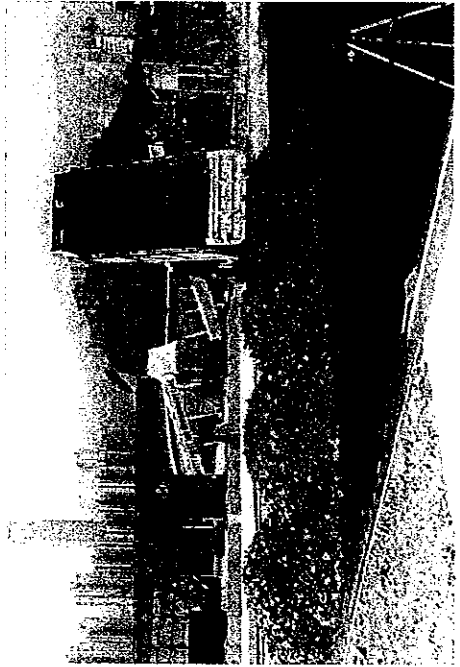


Laying of Drainage Mat

- Function: For collection of leachate from biopile



## Base Construction



Laying of C & D Aggregate

- Function: To enhance the Drainage Layer and to provide a "cushioning" effect during biopile formation (as contaminated soil consists of various material of irregular shapes).

## Installation of Nutrients / Moisture Injection Pipes



Irrigation / Injection Pipes

- Function: To provide necessary nutrients and moisture to the biopile

## Formation of Biopile

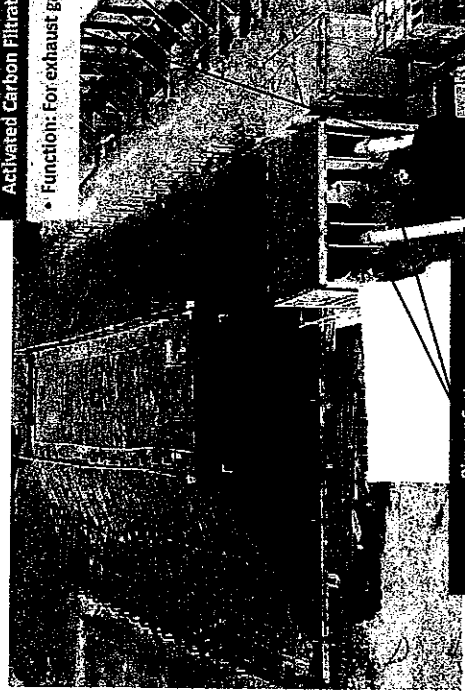


Perforated uPVC Pipes

- Function: Aeration system - to control air supply to the biopile



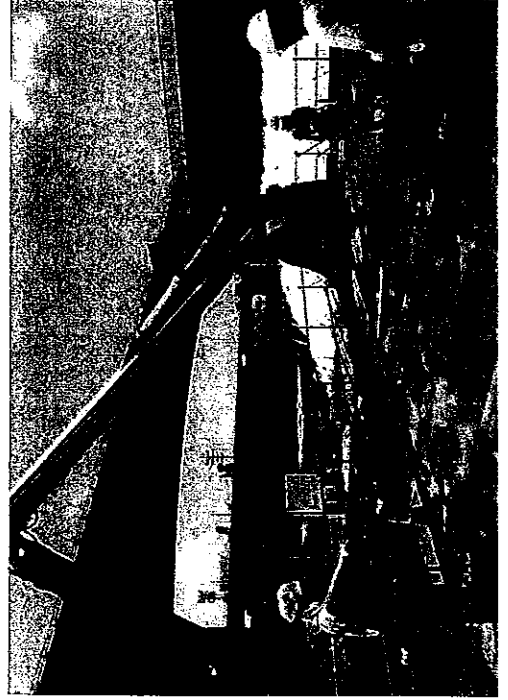
## Biopile Treatment Process in Operation



Blower System

- Function: Supply airflow to the biopile

## Soil Sampling for Closure Assessment



## Soil Sampling for Closure Assessment



○ Cement Solidification – Treatability Test



○ Cement Solidification Plant

