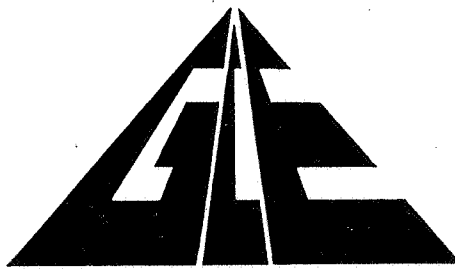


**Appendix 4H**

Soil Test Results of Site Investigation  
at CLS



GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.  
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.  
TEL.: 2365 9123-6, 2333 6482 FAX NO.: 852-2765 8034

香港土力混凝土工程有限公司  
九龍紅磡高山道六號地下  
電話：2365 9123-6, 2333 6482

## MATERIAL TESTING LABORATORY

# REPORT ON LABORATORY TESTING (HK11355)

---

**Client** : ALS Technichem (HK) Pty Ltd.  
**Site / Project** : Infrastructure for Penny's Bay  
Development - Site Investigation  
Phase 2  
**GCE Job No.** : GCE/PS/01189  
**Date** : 28 May 2001

---

CERTIFIED BY :

  
\_\_\_\_\_  
W.T. Cheung  
Deputy Manager

©CONTENTS

- (1) SUMMARY OF SOIL TEST RESULTS
- (2) PARTICLE SIZE DISTRIBUTION CURVES

(1) SUMMARY OF SOIL TEST RESULTS



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01050175  
 SITE Infrastructure for Penny's Bay Development - S.I. Ph. 2  
 CONTRACT NO. - WORKS ORDER NO. -  
 JOB NO. GCE/PS/01189 DATE 25-5-2001

<b>Site Data</b>	Sample I.D.		HK1355-1			
	Sample / Specimen No.		S0013/SW3			
	Type		Bulk			
	Depth	(m)	1.4-1.5			
<b>Soil Description</b>			Moist, brown, clayey, very silty, gravelly SAND			
<b>In-situ</b>	Moisture Content (%)					
	Density	Bulk Dry	(Mg/m <sup>3</sup> )			
Specific gravity						
<b>Atterberg Limits</b>	Liquid Limit (LL)					
	Plastic Limit (PL)					
	Plasticity Index (PI)					
	Liquidity Index (LI)					
<b>Particle Size</b>	Clay	(%)	11			
	Silt	(%)	18			
	Sand	(%)	58			
	Gravel	(%)	13			
<b>Consolidation</b>	e <sub>0</sub>					
	C <sub>c</sub> (Compression Index)					
	C <sub>v</sub> (m <sup>2</sup> /yr)					
	m <sub>v</sub> (m <sup>2</sup> /kN)					
	k (m/yr)					
Type of test						
<b>Triaxial Compr.</b>	Cohesion (kPa)	c'				
	Angle of internal friction	φ'				
	σ' <sub>3</sub> (kPa)					
	Type of test					
<b>Chemical</b>	Sulphate content (%)					
	Chloride content (%)					
	Organic Matter content (%)					
	pH value					
<b>Compactor</b>	Optimum m.c. (%)					
	Max. dry density (Mg/m <sup>3</sup> )					
	Type of test					
<b>Remarks</b>						

- S = Single Stage
- M = Multi Stage
- = Consolidated
- = Drained
- U = Undrained
- = Pore Water pressure
- B = Back pressure saturation
- = Non Plastic

CHECKED BY W.K. Chan  
 W.K. Chan

DATE 25-5-2001



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01050176  
 SITE Infrastructure for Penny's Bay Development - S.I. Ph. 2  
 CONTRACT NO. \_\_\_\_\_ WORKS ORDER NO. \_\_\_\_\_  
 JOB NO. GCE/PS/01189 DATE 25-5-2001

Site Data	Sample I.D.		HK1355-2					
	Sample / Specimen No.		S0014 SW4					
	Type		Bulk					
	Depth	(m)	1.4-1.5					
Soil Description			Moist, brown, silty, very gravelly SAND					
In-situ	Moisture Content (%)							
	Density	Bulk	(Mg/m <sup>3</sup> )					
Dry								
Specific gravity								
Atterberg Limits	Liquid Limit (LL)							
	Plastic Limit (PL)							
	Plasticity Index (PI)							
	Liquidity Index (LI)							
Particle Size	Clay	(%)	2					
	Silt	(%)	9					
	Sand	(%)	56					
	Gravel	(%)	33					
Consolidation	e <sub>0</sub>							
	C <sub>c</sub> (Compression Index)							
	C <sub>v</sub> (m <sup>2</sup> /yr)							
	m <sub>v</sub> (m <sup>2</sup> /kN)							
	k (m/yr)							
Type of test								
Triaxial Compr.	Cohesion (kPa)		c'					
	Angle of internal friction		φ'					
	σ' <sub>3</sub> (kPa)							
	Type of test							
Chemical	Sulphate content (%)							
	Chloride content (%)							
	Organic Matter content (%)							
	pH value							
Compaction	Optimum m.c. (%)							
	Max. dry density (Mg/m <sup>3</sup> )							
	Type of test							
Remarks								

- Single Stage
- Multi Stage
- Consolidated
- Drained
- Undrained
- Pore Water pressure
- Back pressure saturation
- Non Plastic

CHECKED BY W.K. Chan DATE 25-5-2001  
 W.K. Chan

(2) PARTICLE SIZE DISTRIBUTION CURVES



**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**  
 IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

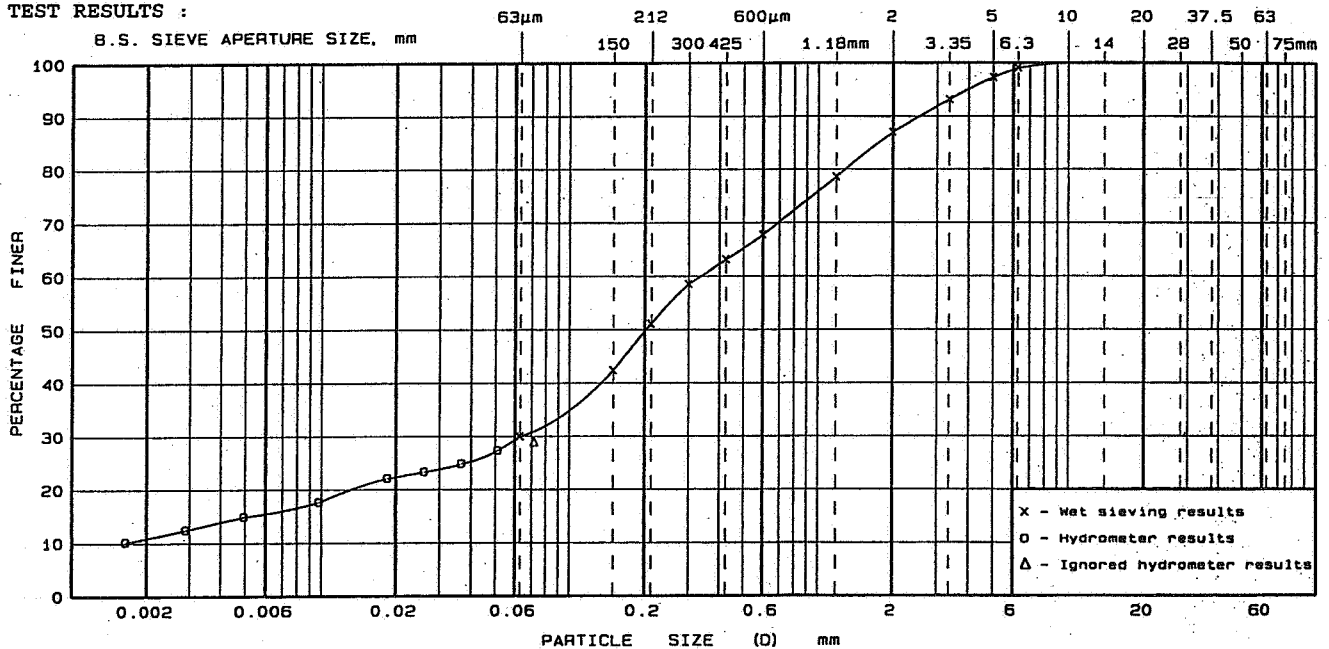
Page 1 of 1

CLIENT* : ALS TECHNICHEM (HK) PTY LTD.	REPORT NO. : PSD01050051
SITE* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - SITE INVESTIGATION PH.2	DATE RECEIVED : 11/05/2001
TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON	DATE STARTED : 14/05/2001
W.O. NO.* : -- CONTRACT NO.* : --	DATE COMPLETED : 17/05/2001
JOB NO. : GCE/PS/01189 TEST UNIT NO. : STP 01055	SAMPLE TYPE* : BULK
HOLE NO.* : - SAMPLE NO.* : S0013/SW 3	SAMPLE DEPTH* : 1.40-1.50 m
DESCRIPTION : Moist, brown, clayey, very silty, gravelly SAND	SPEC. DEPTH* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB-BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

ANALYSIS OF PARTICLE SIZE CURVE

FINAL SUMMARY

Effective Diameter ( $D_{10}$ )	=	—	mm	CLAY	=	11	%
Median Diameter ( $D_{50}$ )	=	0.21	mm	SILT	=	18	%
Uniformity Coefficient ( $U = D_{60}/D_{10}$ )	=	—		SAND	=	58	%
(Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))				GRAVEL	=	13	%

Note : \*Information provided by client

Remarks: Sample I.D. HK11355-1

TESTED BY : W.S. LEE

CHECKED BY :

W.K. Chan

CERTIFIED BY :

W.T. Cheung

POST : Lab. Technician

POST : Reporting Officer

POST

: Dept. Manager

DATE : 17/05/2001

DATE : 25/05/2001

DATE

: 25/05/2001

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**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**

IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

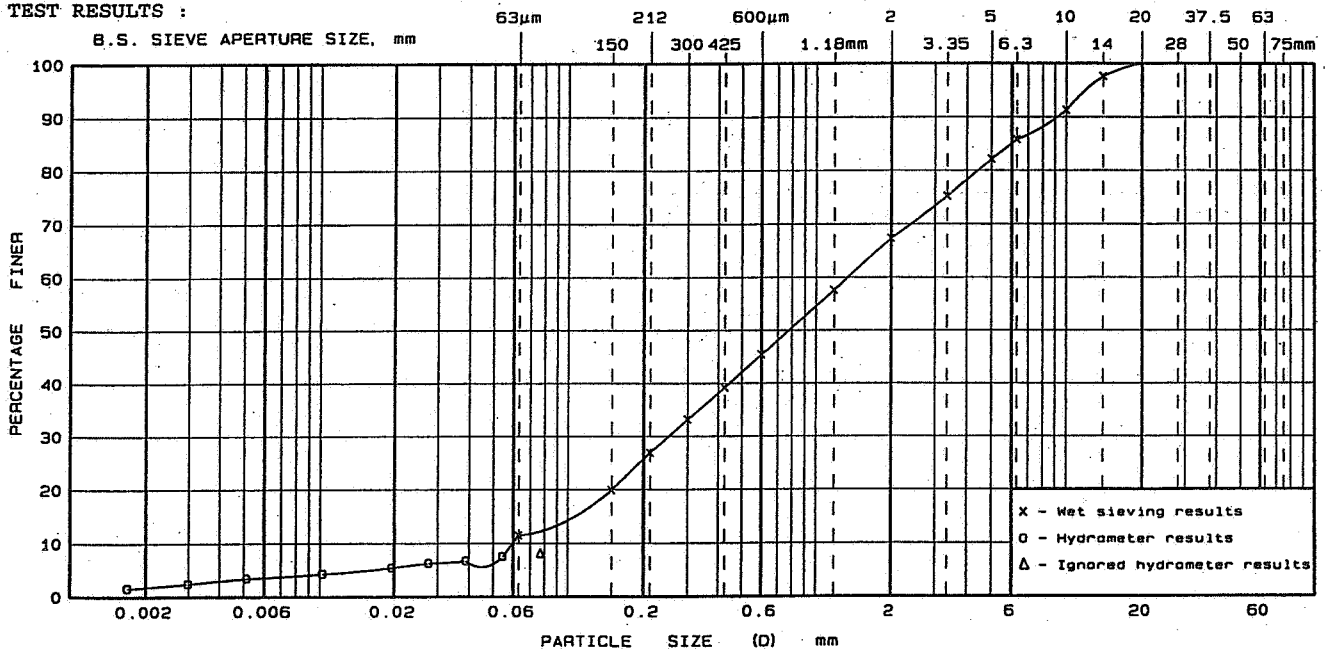
Page 1 of 1

CLIENT* : ALS TECHNICHEM (HK) PTY LTD.	REPORT NO. : PSD01050052
SITE* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - SITE INVESTIGATION PH.2	DATE RECEIVED : 11/05/2001
TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON	DATE STARTED : 14/05/2001
W.O. NO.* : -- CONTRACT NO.* : --	DATE COMPLETED: 17/05/2001
JOB NO. : GCE/PS/01189 TEST UNIT NO. : STP 01055	SAMPLE TYPE* : BULK
HOLE NO.* : -- SAMPLE NO.* : S0014/SW 4	SAMPLE DEPTH : 1.40-1.50 m
DESCRIPTION : Moist, brown, silty, very gravelly SAND	SPEC. DEPTH* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	SAND	Fine	Medium	Coarse	GRAVEL	COB- BLES
	SILT								

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

ANALYSIS OF PARTICLE SIZE CURVE

FINAL SUMMARY

Effective Diameter (D<sub>10</sub>) = — mm  
 Median Diameter (D<sub>50</sub>) = 0.79 mm  
 Uniformity Coefficient (U = D<sub>60</sub>/D<sub>10</sub>) = —  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

CLAY = 2 %  
 SILT = 9 %  
 SAND = 56 %  
 GRAVEL = 33 %

Note : \*Information provided by client  
 Remarks: Sample I.D. HK11355-2

TESTED BY : W.S. LEE

CHECKED BY : *W.K. Chan*  
 W.K. Chan

CERTIFIED BY : *W.T. Cheung*

POST : Lab. Technician

POST : Reporting Officer

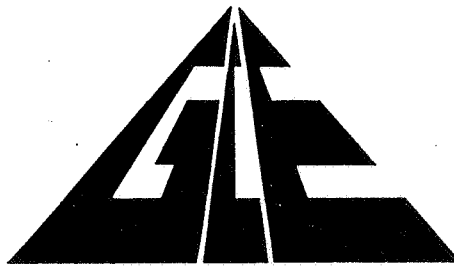
POST : Dept. Manager

DATE : 17/05/2001

DATE : 25/05/2001

DATE : 25/05/2001

Form No.: SOI-P4/R Issue 2 Rev. 4 (1-6-2000) Page 38 of 40



GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.  
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.  
TEL.: 2365 9123-6, 2333 6482 FAX NO.: 852-2765 8034

香港土力混凝土工程有限公司  
九龍紅磡高山道六號地下  
電話：2365 9123-6, 2333 6482

## MATERIAL TESTING LABORATORY

**REPORT**

**ON**

**LABORATORY TESTING**

**(HK11273)**

---

**Client** : ALS Technichem (HK) Pty Ltd.  
**Site / Project** : Infrastructure for Penny's Bay  
Development-Site Investigation Phase 2  
**Contract No.** : -  
**GCE Job No.** : GCE/PS/01185  
**Date** : 26 June 2001

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CERTIFIED BY :

---

W.T. Cheung  
Deputy Manager

©CONTENTS

- (1) SUMMARY OF SOIL TEST RESULTS
- (2) PARTICLE SIZE DISTRIBUTION CURVES

(1) SUMMARY OF SOIL TEST RESULTS



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01060609  
 SITE Infrastructure for Penny's Bay Development - Site Investigation Phase 2  
 CONTRACT NO. \_\_\_\_\_ WORKS ORDER NO. \_\_\_\_\_  
 JOB NO. GCE/PS/01185 DATE 23-6-2001

<b>Site Data</b>	Sample I.D.		HK11273-13			
	Sample / Specimen No.		S0012/SW 1			
	Type		Bulk			
	Depth	(m)	1.4-1.5			
<b>Soil Description</b>			Moist, greenish brown, silty, very gravelly SAND			
<b>In-situ</b>	Moisture Content (%)					
	Density	Bulk Dry	(Mg/m <sup>3</sup> )			
Specific gravity						
<b>Atterberg Limits</b>	Liquid Limit (LL)					
	Plastic Limit (PL)					
	Plasticity Index (PI)					
	Liquidity Index (LI)					
<b>Particle Size</b>	Clay	(%)	3			
	Silt	(%)	11			
	Sand	(%)	44			
	Gravel	(%)	42			
<b>Consolidation</b>	e <sub>0</sub>					
	C <sub>c</sub> (Compression Index)					
	C <sub>v</sub> (m <sup>2</sup> /yr)					
	m <sub>v</sub> (m <sup>2</sup> /kN)					
	k (m/yr)					
Type of test						
<b>Triaxial Compr.</b>	Cohesion (kPa)	c'				
	Angle of internal friction	φ'				
	σ' <sub>3</sub> (kPa)					
	Type of test					
<b>Chemical</b>	Sulphate content (%)					
	Chloride content (%)					
	Organic Matter content (%)					
	pH value					
<b>Compaction</b>	Optimum m.c. (%)					
	Max. dry density (Mg/m <sup>3</sup> )					
	Type of test					
<b>Remarks</b>						

- = Single Stage
- V = Multi Stage
- = Consolidated
- = Drained
- U = Undrained
- P = Pore Water pressure
- B = Back pressure saturation
- = Non Plastic

CHECKED BY W.K. Chan  
 W.K. Chan

DATE 23-6-2001



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01060610  
 SITE Infrastructure for Penny's Bay Development - Site Investigation Phase 2  
 CONTRACT NO. - WORKS ORDER NO. -  
 JOB NO. GCE/PS/01185 DATE 23-6-2001

Site Data	Sample I.D.		HK11273-12			
	Sample / Specimen No.		S0011/SW 6			
	Type		Bulk			
	Depth	(m)	0.15-0.30			
Soil Description			Moist, greenish brown, silty, gravelly SAND			
In-situ	Moisture Content (%)					
	Density	Bulk Dry	(Mg/m <sup>3</sup> )			
Specific gravity						
Atterberg Limits	Liquid Limit (LL)					
	Plastic Limit (PL)					
	Plasticity Index (PI)					
	Liquidity Index (LI)					
Particle Size	Clay	(%)	4			
	Silt	(%)	11			
	Sand	(%)	67			
	Gravel	(%)	18			
Consolidation	e <sub>0</sub>					
	C <sub>c</sub> (Compression Index)					
	C <sub>v</sub> (m <sup>2</sup> /yr)					
	m <sub>v</sub> (m <sup>2</sup> /kN)					
	k (m/yr)					
Type of test						
Triaxial Compr.	Cohesion (kPa)		c'			
	Angle of internal friction		φ'			
	σ' <sub>3</sub> (kPa)					
	Type of test					
Chemical	Sulphate content (%)					
	Chloride content (%)					
	Organic Matter content (%)					
	pH value					
Compaction	Optimum m.c. (%)					
	Max. dry density (Mg/m <sup>3</sup> )					
	Type of test					
Remarks						

- = Single Stage
- V = Multi Stage
- = Consolidated
- = Drained
- U = Undrained
- P = Pore Water pressure
- σ = Back pressure saturation
- ∅ = Non Plastic

CHECKED BY W.K. Chan  
 W.K. Chan

DATE 23-6-2001



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01060611  
 SITE Infrastructure for Penny's Bay Development - Site Investigation Phase 2  
 CONTRACT NO. - WORKS ORDER NO. -  
 JOB NO. GCE/PS/01185 DATE 23-6-2001

Site Data	Sample I.D.		HK11273-11			
	Sample / Specimen No.		S0010/SW 9			
	Type		Bulk			
	Depth	(m)	0.25-0.40			
Soil Description			Moist, yellowish brown, silty, very gravelly SAND			
In-situ	Moisture Content (%)					
	Density	Bulk	(Mg/m <sup>3</sup> )			
Dry						
Specific gravity						
Atterberg Limits	Liquid Limit (LL)					
	Plastic Limit (PL)					
	Plasticity Index (PI)					
	Liquidity Index (LI)					
Particle Size	Clay	(%)	6			
	Silt	(%)	17			
	Sand	(%)	49			
	Gravel	(%)	28			
Consolidation	e <sub>0</sub>					
	C <sub>c</sub> (Compression Index)					
	C <sub>v</sub> (m <sup>2</sup> /yr)					
	m <sub>v</sub> (m <sup>2</sup> /kN)					
	k (m/yr)					
Type of test						
Triaxial Compr.	Cohesion (kPa)	c'				
	Angle of internal friction	φ'				
	σ' <sub>3</sub> (kPa)					
	Type of test					
Chemical	Sulphate content (%)					
	Chloride content (%)					
	Organic Matter content (%)					
	pH value					
Compactor	Optimum m.c. (%)					
	Max. dry density (Mg/m <sup>3</sup> )					
	Type of test					
Remarks						

- = Single Stage
- M = Multi Stage
- = Consolidated
- = Drained
- U = Undrained
- P = Pore Water pressure
- B = Back pressure saturation
- = Non Plastic

CHECKED BY W.K. Chan  
 W.K. Chan

DATE 23-6-2001



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01060612  
 SITE Infrastructure for Penny's Bay Development - Site Investigation Phase 2  
 CONTRACT NO. \_\_\_\_\_ WORKS ORDER NO. \_\_\_\_\_  
 JOB NO. GCE/PS/01185 DATE 23-6-2001

<b>Site Data</b>	Sample I.D.		HK11273-10				
	Sample / Specimen No.		S0009/SW10				
	Type		Bulk				
	Depth (m)		0.15-0.30				
<b>Soil Description</b>			Moist, greenish brown, silty, very gravelly SAND				
<b>In-situ</b>	Moisture Content (%)						
	Density	Bulk	(Mg/m <sup>3</sup> )				
Dry							
Specific gravity							
<b>Atterberg Limits</b>	Liquid Limit (LL)						
	Plastic Limit (PL)						
	Plasticity Index (PI)						
	Liquididity Index (LI)						
<b>Particle Size</b>	Clay (%)		8				
	Silt (%)		14				
	Sand (%)		43				
	Gravel (%)		35				
<b>Consolidation</b>	e <sub>0</sub>						
	C <sub>c</sub> (Compression Index)						
	C <sub>v</sub> (m <sup>2</sup> /yr)						
	m <sub>v</sub> (m <sup>2</sup> /kN)						
	k (m/yr)						
	Type of test						
<b>Triaxial Compr.</b>	Cohesion (kPa)	c'					
	Angle of internal friction	φ'					
	σ' <sub>3</sub> (kPa)						
	Type of test						
<b>Chemical</b>	Sulphate content (%)						
	Chloride content (%)						
	Organic Matter content (%)						
	pH value						
<b>Compaction</b>	Optimum m.c. (%)						
	Max. dry density (Mg/m <sup>3</sup> )						
	Type of test						
<b>Remarks</b>							

- = Single Stage
- M = Multi Stage
- = Consolidated
- = Drained
- U = Undrained
- P = Pore Water pressure
- B = Back pressure saturation
- ∞ = Non Plastic

CHECKED BY W.K. Chan  
 W.K. Chan

DATE 23-6-2001



(2) PARTICLE SIZE DISTRIBUTION CURVES



**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**  
 IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

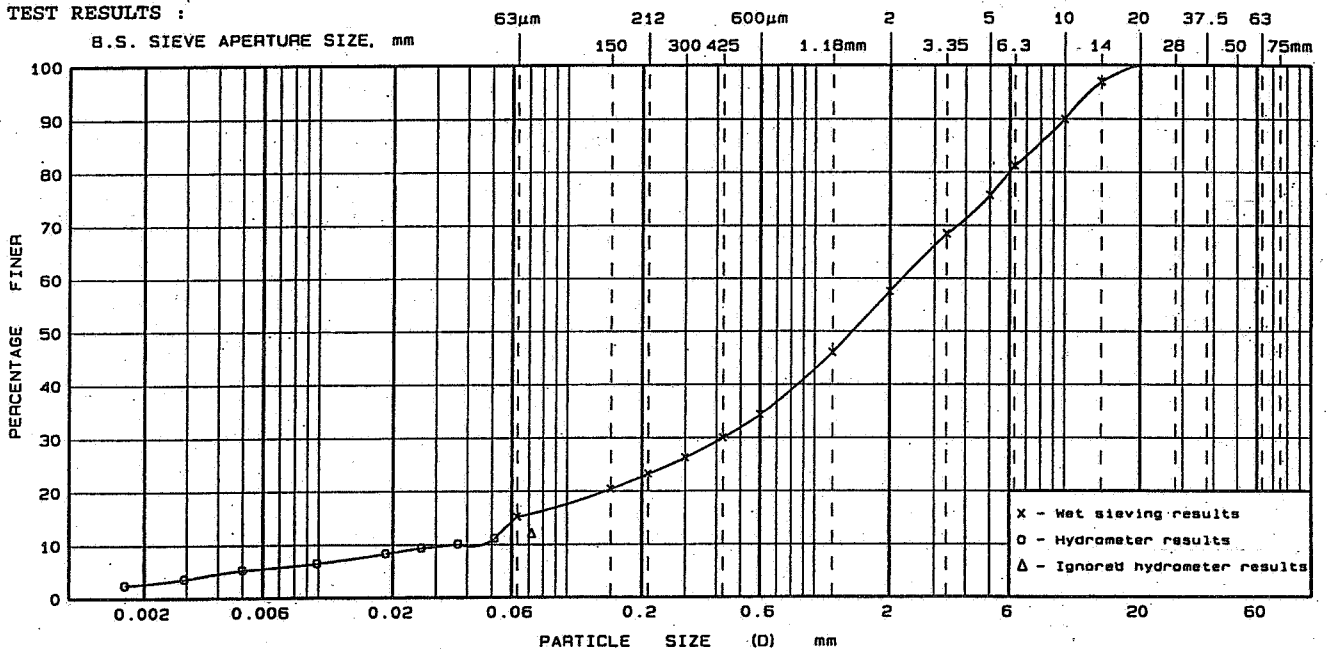
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CLIENT\* : ALS TECHNICHEM (HK) PTY LTD.  
 SITE\* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - S.I. PHASE 2  
 TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON  
 W.O. NO.\* : -- CONTRACT NO.\* : --  
 JOB NO. : GCE/PS/01185 TEST UNIT NO. : STP 01052  
 HOI'E NO.\* : -- SAMPLE NO.\* : S0012/SW 1  
 DESCRIPTION : Moist, greenish brown, silty, very gravelly SAND  
 REPORT NO. : PSD01060117  
 DATE RECEIVED : 09/05/2001  
 DATE STARTED : 26/05/2001  
 DATE COMPLETED : 13/06/2001  
 SAMPLE TYPE\* : BULK  
 SAMPLE DEPTH\* : 1.40-1.50 m  
 SPEC. DEPTH\* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB- BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

**ANALYSIS OF PARTICLE SIZE CURVE**

Effective Diameter ( $D_{10}$ ) = 0.039 mm  
 Median Diameter ( $D_{50}$ ) = 1.4 mm  
 Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = 59  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

**FINAL SUMMARY**

CLAY = 3 %  
 SILT = 11 %  
 SAND = 44 %  
 GRAVEL = 42 %

Note : \*Information provided by client  
 Remarks: SAMPLE I.D. : HK11273-13

TESTED BY : W.S. LEE

CHECKED BY :

W.K. Chan

CERTIFIED BY :

W.T. Cheung

POST : Lab. Technician

POST : Reporting Officer

POST

: Dept. Manager

DATE : 13/06/2001

DATE : 23/06/2001

DATE

: 23/06/2001

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**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**  
 IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

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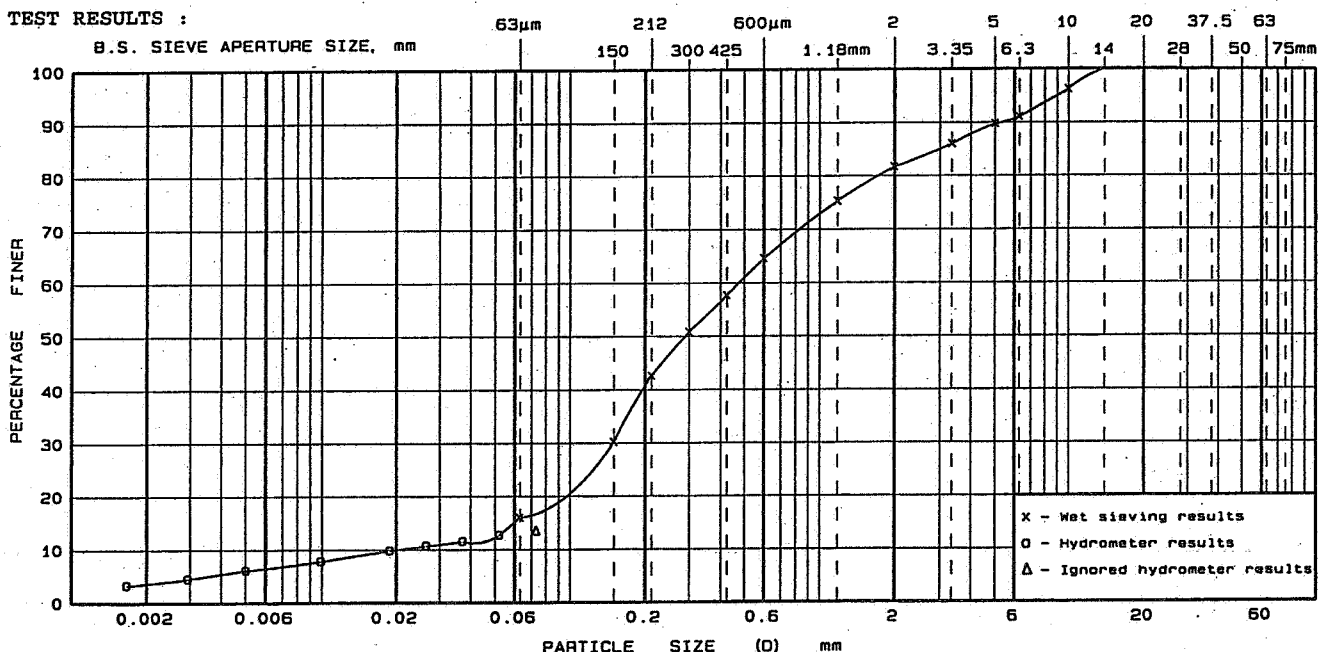
CLIENT\* : ALS TECHNICHEM (HK) PTY LTD.  
 SITE\* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - S.I. PHASE 2  
 TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON  
 W.O. NO.\* : -- CONTRACT NO.\* : --  
 JOB NO. : GCE/PS/01185 TEST UNIT NO. : STP 01052  
 HOLE NO.\* : -- SAMPLE NO.\* : S0011/SW 6  
 DESCRIPTION : Moist, greenish brown, silty, gravelly SAND

REPORT NO. : PSD01060116  
 DATE RECEIVED : 09/05/2001  
 DATE STARTED : 26/05/2001  
 DATE COMPLETED: 13/06/2001  
 SAMPLE TYPE\* : BULK  
 SAMPLE DEPTH\* : 0.15-0.30 m  
 SPEC. DEPTH\* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB-BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

**ANALYSIS OF PARTICLE SIZE CURVE**

**FINAL SUMMARY**

Effective Diameter ( $D_{10}$ ) = 0.021 mm  
 Median Diameter ( $D_{50}$ ) = 0.30 mm  
 Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = 23  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

CLAY = 4 %  
 SILT = 11 %  
 SAND = 67 %  
 GRAVEL = 18 %

Note : \*Information provided by client  
 Remarks: SAMPLE I.D. : HK11273-12

TESTED BY : W.S. LEE

CHECKED BY :

W.K. Chan

CERTIFIED BY :

W.T. Cheung

POST : Lab. Technician

POST : Reporting Officer

POST

: Dept. Manager

DATE : 13/06/2001

DATE : 23/06/2001

DATE

: 23/06/2001

Form No.: SOI-P4/R Issue 2 Rev. 4 (1-6-2000) Page 38 of 40



**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**

IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

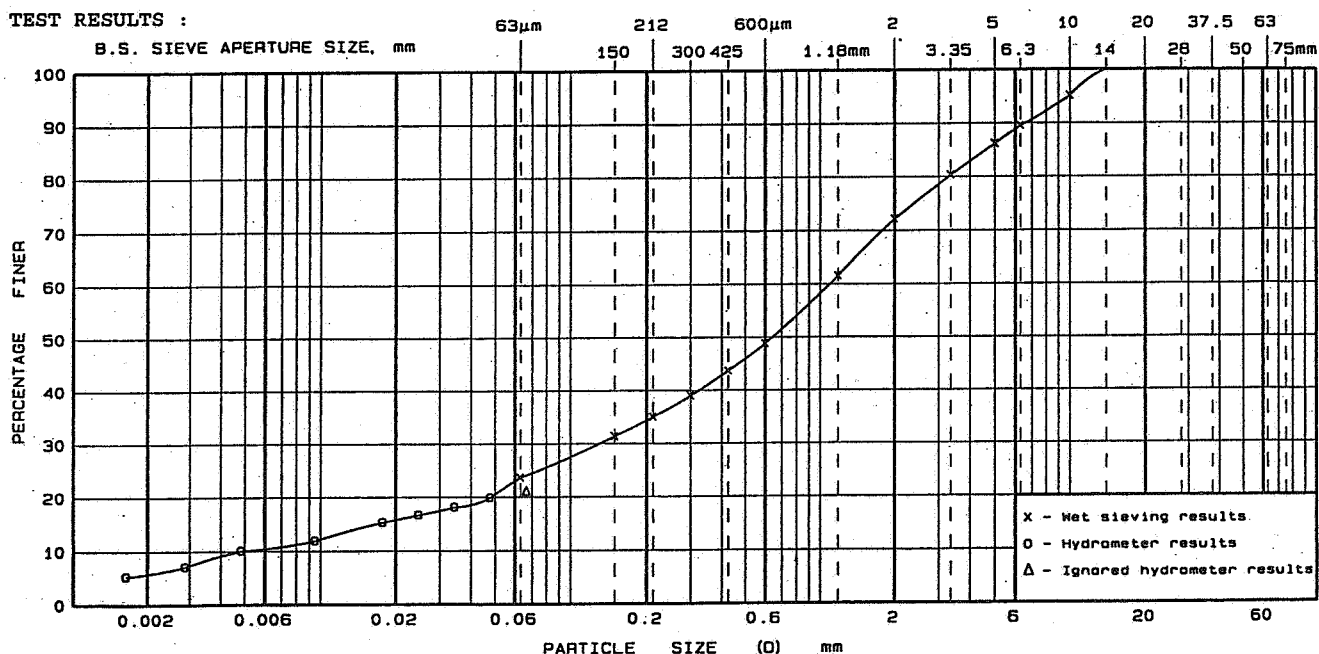
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CLIENT* : ALS TECHNICHEM (HK) PTY LTD.	REPORT NO. : PSD01060115
SITE* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - S.I. PHASE 2	DATE RECEIVED : 09/05/2001
TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON	DATE STARTED : 26/05/2001
W.O. NO.* : -- CONTRACT NO.* : --	DATE COMPLETED : 13/06/2001
JOB NO. : GCE/PS/01185 TEST UNIT NO. : STP 01052	SAMPLE TYPE* : BULK
HOLE NO.* : -- SAMPLE NO.* : S0010/SW 9	SAMPLE DEPTH* : 0.25-0.40 m
DESCRIPTION : Moist, yellowish brown, silty, very gravelly SAND	SPEC. DEPTH* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB- BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

**ANALYSIS OF PARTICLE SIZE CURVE**

**FINAL SUMMARY**

Effective Diameter ( $D_{10}$ ) = 0.0050 mm  
 Median Diameter ( $D_{50}$ ) = 0.66 mm  
 Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = 226  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

CLAY = 6 %  
 SILT = 17 %  
 SAND = 49 %  
 GRAVEL = 28 %

Note : \*Information provided by client  
 Remarks: SAMPLE I.D. : HK11273-11

TESTED BY : W.S. LEE

CHECKED BY :

W.K. Chan

CERTIFIED BY :

W.T. Cheung

POST : Lab. Technician

POST : Reporting Officer

POST

: Dept. Manager

DATE : 13/06/2001

DATE : 23/06/2001

DATE

: 23/06/2001

Form No.: SOI-P4/R Issue 2 Rev. 4 (1-6-2000) Page 38 of 40



**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**  
 IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

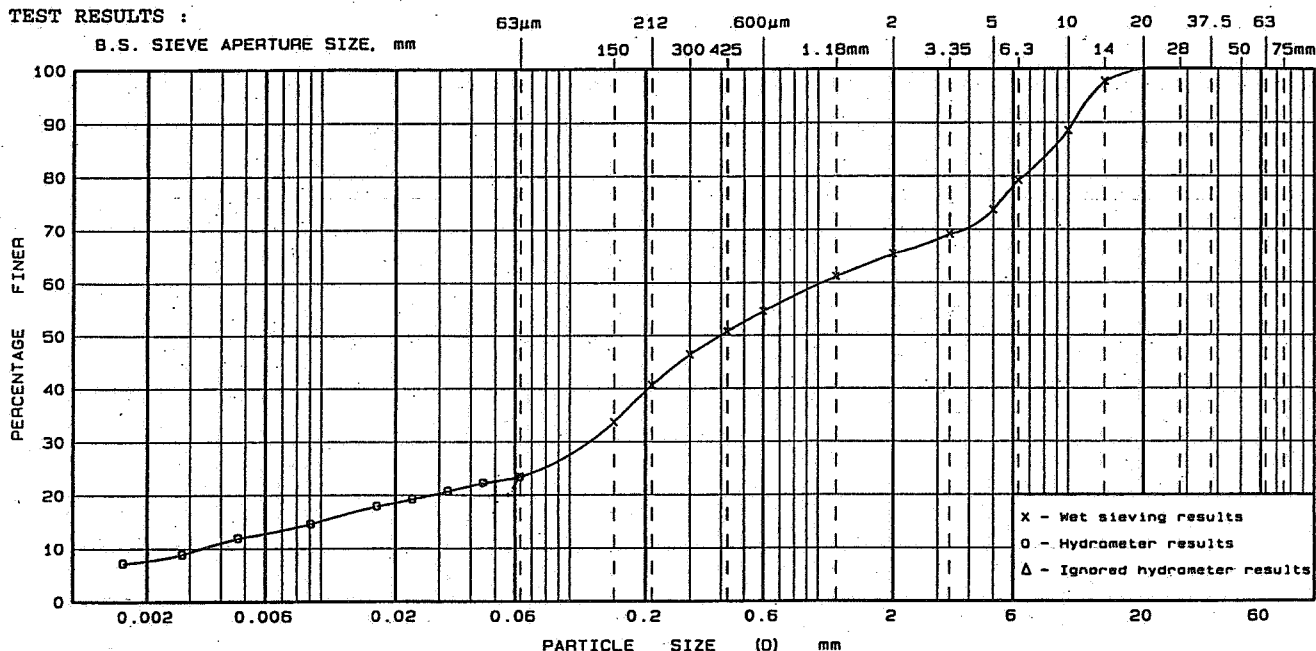
Page 1 of 1

CLIENT* : ALS TECHNICHEM (HK) PTY LTD.	REPORT NO. : PSD01060114
SITE* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - S.I. PHASE 2	DATE RECEIVED : 09/05/2001
TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON	DATE STARTED : 26/05/2001
W.O. NO.* : -- CONTRACT NO.* : --	DATE COMPLETED: 13/06/2001
JOB NO. : GCE/PS/01185 TEST UNIT NO. : STP 01052	SAMPLE TYPE* : BULK
HOLE NO.* : -- SAMPLE NO.* : S0009/SW10	SAMPLE DEPTH* : 0.15-0.30 m
DESCRIPTION : Moist, greenish brown, silty, very gravelly SAND	SPEC. DEPTH* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB- BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

**ANALYSIS OF PARTICLE SIZE CURVE**

**FINAL SUMMARY**

Effective Diameter ( $D_{10}$ ) = 0.0034 mm  
 Median Diameter ( $D_{50}$ ) = 0.41 mm  
 Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = 314  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

CLAY = 8 %  
 SILT = 14 %  
 SAND = 43 %  
 GRAVEL = 35 %

Note : \*Information provided by client  
 Remarks: SAMPLE I.D. : HK11273-10

TESTED BY : W.S. LEE

CHECKED BY : *W.K. Chan*  
 W.K. Chan

CERTIFIED BY : *W.T. Cheung*  
 W.T. Cheung

POST : Lab. Technician

POST : Reporting Officer

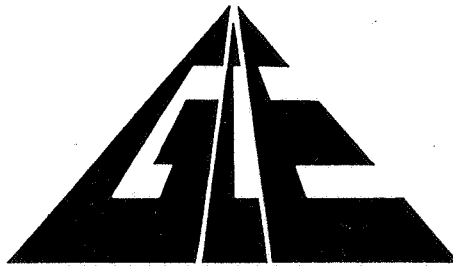
POST : Dept. Manager

DATE : 13/06/2001

DATE : 23/06/2001

DATE : 23/06/2001

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GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.  
6 KO SHAN RD., GROUND FL., HUNG HOM, KOWLOON, HONG KONG.  
TEL.: 2365 9123-6, 2333 6482 FAX NO.: 852-2765 8034

香港土力混凝土工程有限公司  
九龍紅磡高山道六號地下  
電話：2365 9123-6, 2333 6482

## MATERIAL TESTING LABORATORY

**REPORT**

**ON**

**LABORATORY TESTING**

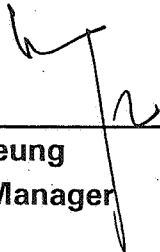
**(HK11355)**

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**Client** : ALS Technichem (HK) Pty Ltd.  
**Site / Project** : Infrastructure for Penny's Bay  
Development - Site Investigation  
Phase 2  
**GCE Job No.** : GCE/PS/01189  
**Date** : 28 May 2001

---

CERTIFIED BY :

  
\_\_\_\_\_  
W.T. Cheung  
Deputy Manager

©CONTENTS

- (1) SUMMARY OF SOIL TEST RESULTS
- (2) PARTICLE SIZE DISTRIBUTION CURVES

(1) SUMMARY OF SOIL TEST RESULTS





## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01050175  
 SITE Infrastructure for Penny's Bay Development - S.I. Ph. 2  
 CONTRACT NO. \_\_\_\_\_ WORKS ORDER NO. \_\_\_\_\_  
 JOB NO. GCE/PS/01189 DATE 25-5-2001

Site Data	Sample I.D.		HK1355-1				
	Sample / Specimen No.		S0013/SW3				
	Type		Bulk				
	Depth (m)		1.4-1.5				
Soil Description			Moist, brown, clayey, very silty, gravelly SAND				
In-situ	Moisture Content (%)						
	Density	Bulk Dry	(Mg/m <sup>3</sup> )				
Specific gravity							
Atterberg Limits	Liquid Limit (LL)						
	Plastic Limit (PL)						
	Plasticity Index (PI)						
	Liquidity Index (LI)						
Particle Size	Clay (%)		11				
	Silt (%)		18				
	Sand (%)		58				
	Gravel (%)		13				
Consolidation	e <sub>0</sub>						
	C <sub>c</sub> (Compression Index)						
	C <sub>v</sub> (m <sup>2</sup> /yr)						
	m <sub>v</sub> (m <sup>2</sup> /kN)						
	k (m/yr)						
Type of test							
Triaxial Compr.	Cohesion (kPa)	c'					
	Angle of internal friction	φ'					
	σ' <sub>3</sub> (kPa)						
	Type of test						
Chemical	Sulphate content (%)						
	Chloride content (%)						
	Organic Matter content (%)						
	pH value						
Compaction	Optimum m.c. (%)						
	Max. dry density (Mg/m <sup>3</sup> )						
	Type of test						
Remarks							

- S = Single Stage
- M = Multi Stage
- = Consolidated
- = Drained
- U = Undrained
- = Pore Water pressure
- B = Back pressure saturation
- = Non Plastic

CHECKED BY W.K. Chan DATE 25-5-2001  
 W.K. Chan



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01050176  
 SITE Infrastructure for Penny's Bay Development - S.I. Ph. 2  
 CONTRACT NO. - WORKS ORDER NO. -  
 JOB NO. GCE/PS/01189 DATE 25-5-2001

<b>Site Data</b>	Sample I.D.		HK1355-2			
	Sample / Specimen No.		S0014/SW4			
	Type		Bulk			
	Depth	(m)	1.4-1.5			
<b>Soil Description</b>			Moist, brown, silty, very gravelly SAND			
<b>In-situ</b>	Moisture Content (%)					
	Density	Bulk Dry	(Mg/m <sup>3</sup> )			
Specific gravity						
<b>Atterberg Limits</b>	Liquid Limit (LL)					
	Plastic Limit (PL)					
	Plasticity Index (PI)					
	Liquidity Index (LI)					
<b>Particle Size</b>	Clay	(%)	2			
	Silt	(%)	9			
	Sand	(%)	56			
	Gravel	(%)	33			
<b>Consolidation</b>	e <sub>0</sub>					
	C <sub>c</sub> (Compression Index)					
	C <sub>v</sub> (m <sup>2</sup> /yr)					
	m <sub>v</sub> (m <sup>2</sup> /kN)					
	k (m/yr)					
Type of test						
<b>Triaxial Compr.</b>	Cohesion (kPa)	c'				
	Angle of internal friction	φ'				
	σ' <sub>3</sub> (kPa)					
	Type of test					
<b>Chemical</b>	Sulphate content (%)					
	Chloride content (%)					
	Organic Matter content (%)					
	pH value					
<b>Compactor</b>	Optimum m.c. (%)					
	Max. dry density (Mg/m <sup>3</sup> )					
	Type of test					
<b>Remarks</b>						

- Single Stage
- Multi Stage
- Consolidated
- Drained
- Undrained
- Pore Water pressure
- Back pressure saturation
- Non Plastic

CHECKED BY W.K. Chan DATE 25-5-2001  
 W.K. Chan

(2) PARTICLE SIZE DISTRIBUTION CURVES



**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**

IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

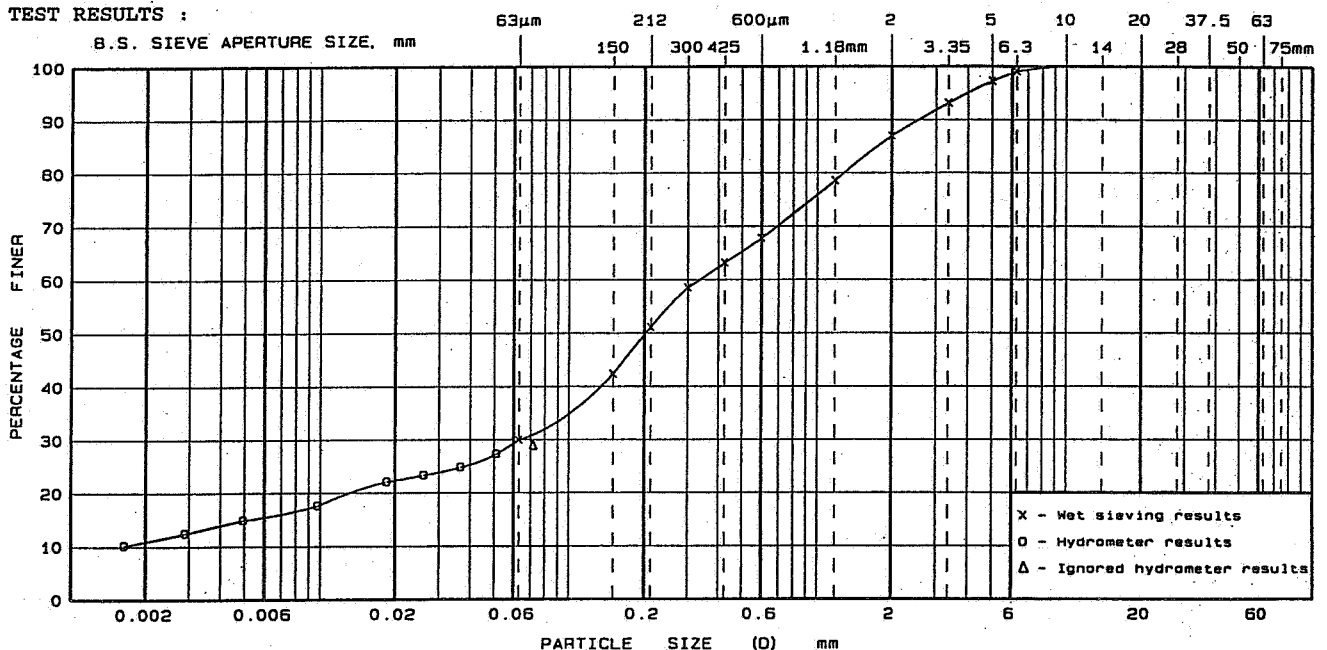
Page 1 of 1

CLIENT* : ALS TECHNICHEM (HK) PTY LTD.	REPORT NO. : PSD01050051
SITE* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - SITE INVESTIGATION PH.2	DATE RECEIVED : 11/05/2001
TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON	DATE STARTED : 14/05/2001
W.O. NO.* : -- CONTRACT NO.* : --	DATE COMPLETED : 17/05/2001
JOB NO. : GCE/PS/01189 TEST UNIT NO. : STP 01055	SAMPLE TYPE* : BULK
HOLE NO.* : -- SAMPLE NO.* : S0013/SW 3	SAMPLE DEPTH* : 1.40-1.50 m
DESCRIPTION : Moist, brown, clayey, very silty, gravelly SAND	SPEC. DEPTH* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB- BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

ANALYSIS OF PARTICLE SIZE CURVE

FINAL SUMMARY

Effective Diameter ( $D_{10}$ ) = — mm  
 Median Diameter ( $D_{50}$ ) = 0.21 mm  
 Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = —  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

CLAY = 11 %  
 SILT = 18 %  
 SAND = 58 %  
 GRAVEL = 13 %

Note : \*Information provided by client

Remarks: Sample I.D. HK11355-1

TESTED BY : W.S. LEE

CHECKED BY : *W.K. Chan*  
 W.K. Chan

CERTIFIED BY : *W.T. Cheung*

POST : Lab. Technician

POST : Reporting Officer

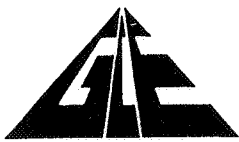
POST : Dept. Manager

DATE : 17/05/2001

DATE : 25/05/2001

DATE : 25/05/2001

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**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**  
 IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

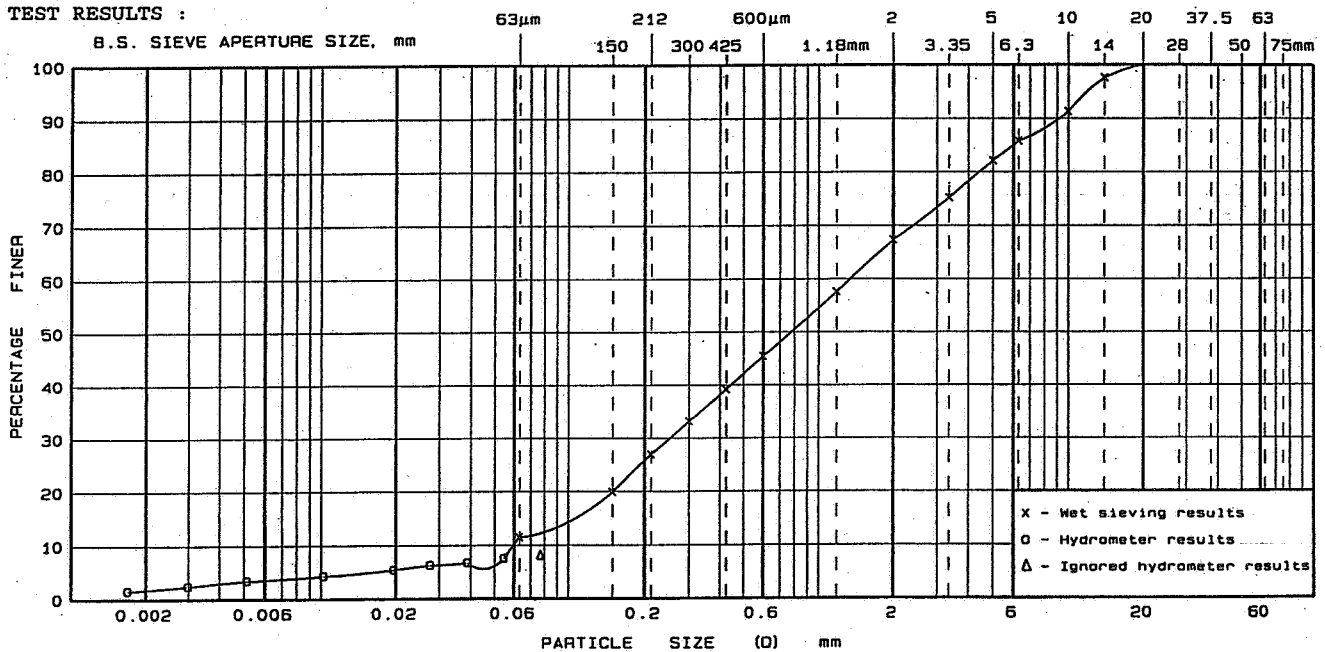
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CLIENT* : ALS TECHNICHEM (HK) PTY LTD.	REPORT NO. : PSD01050052
SITE* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - SITE INVESTIGATION PH.2	DATE RECEIVED : 11/05/2001
TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON	DATE STARTED : 14/05/2001
W.O. NO.* : -- CONTRACT NO.* : --	DATE COMPLETED : 17/05/2001
JOB NO. : GCE/PS/01189 TEST UNIT NO. : STP 01055	SAMPLE TYPE* : BULK
HOLE NO.* : -- SAMPLE NO.* : S0014/SV 4	SAMPLE DEPTH* : 1.40-1.50 m
DESCRIPTION : Moist, brown, silty, very gravelly SAND	SPEC. DEPTH* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB- BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

**ANALYSIS OF PARTICLE SIZE CURVE**

**FINAL SUMMARY**

Effective Diameter ( $D_{10}$ ) = — mm	CLAY = 2 %
Median Diameter ( $D_{50}$ ) = 0.79 mm	SILT = 9 %
Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = —	SAND = 56 %
(Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))	GRAVEL = 33 %

Note : \*Information provided by client  
 Remarks: Sample I.D. HK11355-2

TESTED BY : W.S. LEE

CHECKED BY :

*W.K. Chan*  
 W.K. Chan

CERTIFIED BY :

*W.T. Cheung*  
 W.T. Cheung

POST : Lab. Technician

POST : Reporting Officer

POST

: Dept. Manager

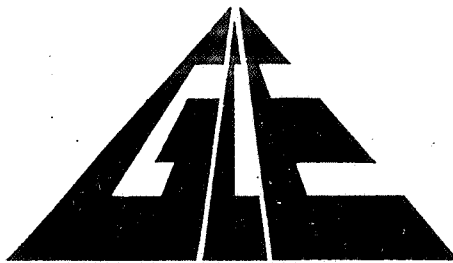
DATE : 17/05/2001

DATE : 25/05/2001

DATE

: 25/05/2001

Form No.: SOI-P4/R Issue 2 Rev. 4 (1-6-2000) Page 38 of 40



GEOTECHNICS & CONCRETE ENGINEERING (H.K.) LTD.  
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TEL.: 2365 9123-6, 2333 6482

香港土力混凝土工程有限公司  
九龍紅磡高山道六號地下  
電話：2365 9123-6, 2333 6482

## **MATERIAL TESTING LABORATORY**

---

**REPORT**

**ON**

**LABORATORY TESTING**

**(HK11273)**

---

**Client** : ALS Technichem (HK) Pty Ltd.  
**Site / Project** : Infrastructure for Penny's Bay  
Development-Site Investigation Phase 2  
**Contract No.** : -  
**GCE Job No.** : GCE/PS/01185  
**Date** : 26 June 2001

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CERTIFIED BY :

---

W.T. Cheung  
Deputy Manager

©CONTENTS

- (1) SUMMARY OF SOIL TEST RESULTS
- (2) PARTICLE SIZE DISTRIBUTION CURVES

(1) SUMMARY OF SOIL TEST RESULTS





## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01060609  
 SITE Infrastructure for Penny's Bay Development - Site Investigation Phase 2  
 CONTRACT NO. - WORKS ORDER NO. -  
 JOB NO. GCE/PS/01185 DATE 23-6-2001

<b>Site Data</b>	Sample I.D.		HK11273-13					
	Sample / Specimen No.		S0012/SW 1					
	Type		Bulk					
	Depth	(m)	1.4-1.5					
<b>Soil Description</b>			Moist, greenish brown, silty, very gravelly SAND					
<b>In-situ</b>	Moisture Content (%)							
	Density	Bulk	(Mg/m <sup>3</sup> )					
Dry								
Specific gravity								
<b>Atterberg Limits</b>	Liquid Limit (LL)							
	Plastic Limit (PL)							
	Plasticity Index (PI)							
	Liquididity Index (LI)							
<b>Particle Size</b>	Clay	(%)	3					
	Silt	(%)	11					
	Sand	(%)	44					
	Gravel	(%)	42					
<b>Consolidation</b>	e <sub>0</sub>							
	C <sub>c</sub> (Compression Index)							
	C <sub>v</sub> (m <sup>2</sup> /yr)							
	m <sub>v</sub> (m <sup>2</sup> /kN)							
	k (m/yr)							
Type of test								
<b>Triaxial Compr.</b>	Cohesion (kPa)		c'					
	Angle of internal friction		φ'					
	σ <sub>3</sub> (kPa)							
	Type of test							
<b>Chemical</b>	Sulphate content (%)							
	Chloride content (%)							
	Organic Matter content (%)							
	pH value							
<b>Compaction</b>	Optimum m.c. (%)							
	Max. dry density (Mg/m <sup>3</sup> )							
	Type of test							
<b>Remarks</b>								

- S = Single Stage
- M = Multi Stage
- C = Consolidated
- D = Drained
- U = Undrained
- P = Pore Water pressure
- B = Back pressure saturation
- N = Non Plastic

CHECKED BY W.K. Chan  
 W.K. Chan

DATE 23-6-2001



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01060610  
 SITE Infrastructure for Penny's Bay Development - Site Investigation Phase 2  
 CONTRACT NO. \_\_\_\_\_ WORKS ORDER NO. \_\_\_\_\_  
 JOB NO. GCE/PS/01185 DATE 23-6-2001

Site Data	Sample I.D.		HK11273-12				
	Sample / Specimen No.		S0011/SW 6				
	Type		Bulk				
	Depth	(m)	0.15-0.30				
Soil Description		Moist, greenish brown, silty, gravelly SAND					
In-situ	Moisture Content (%)						
	Density	Bulk	(Mg/m <sup>3</sup> )				
		Dry					
Specific gravity							
Atterberg Limits	Liquid Limit (LL)						
	Plastic Limit (PL)						
	Plasticity Index (PI)						
	Liquidity Index (LI)						
Particle Size	Clay	(%)	4				
	Silt	(%)	11				
	Sand	(%)	67				
	Gravel	(%)	18				
Consolidation	e <sub>0</sub>						
	C <sub>c</sub> (Compression Index)						
	C <sub>v</sub> (m <sup>2</sup> /yr)						
	m <sub>v</sub> (m <sup>2</sup> /kN)						
	k (m/yr)						
Type of test							
Triaxial Compr.	Cohesion (kPa)	c'					
	Angle of internal friction	φ'					
	σ <sub>3</sub> (kPa)						
	Type of test						
Chemical	Sulphate content (%)						
	Chloride content (%)						
	Organic Matter content (%)						
	pH value						
Compactor	Optimum m.c. (%)						
	Max. dry density (Mg/m <sup>3</sup> )						
	Type of test						
Remarks							

- Single Stage
- Multi Stage
- Consolidated
- Drained
- Undrained
- Pore Water pressure
- Back pressure saturation
- Non Plastic

CHECKED BY W.K. Chan DATE 23-6-2001  
 W.K. Chan



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01060611  
 SITE Infrastructure for Penny's Bay Development - Site Investigation Phase 2  
 CONTRACT NO. \_\_\_\_\_ WORKS ORDER NO. \_\_\_\_\_  
 JOB NO. GCE/PS/01185 DATE 23-6-2001

<b>Site Data</b>	Sample I.D.		HK11273-11				
	Sample / Specimen No.		S00'0/SW 9				
	Type		Bulk				
	Depth	(m)	0.25-0.40				
<b>Soil Description</b>			Moist, yellowish brown, silty, very gravelly SAND				
<b>In-situ</b>	Moisture Content (%)						
	Density	Bulk	(Mg/m <sup>3</sup> )				
Dry							
Specific gravity							
<b>Atterberg Limits</b>	Liquid Limit (LL)						
	Plastic Limit (PL)						
	Plasticity Index (PI)						
	Liquididity Index (LI)						
<b>Particle Size</b>	Clay	(%)	6				
	Silt	(%)	17				
	Sand	(%)	49				
	Gravel	(%)	28				
<b>Consolidation</b>	e <sub>0</sub>						
	C <sub>c</sub> (Compression Index)						
	C <sub>v</sub> (m <sup>2</sup> /yr)						
	m <sub>v</sub> (m <sup>2</sup> /kN)						
	k (m/yr)						
Type of test							
<b>Triaxial Compr.</b>	Cohesion (kPa)	c'					
	Angle of internal friction	φ'					
	σ' <sub>3</sub> (kPa)						
	Type of test						
<b>Chemical</b>	Sulphate content (%)						
	Chloride content (%)						
	Organic Matter content (%)						
	pH value						
<b>Compaction</b>	Optimum m.c. (%)						
	Max. dry density (Mg/m <sup>3</sup> )						
	Type of test						
<b>Remarks</b>							

- S = Single Stage
- M = Multi Stage
- C = Consolidated
- D = Drained
- U = Undrained
- P = Pore Water pressure
- B = Back pressure saturation
- N = Non Plastic

CHECKED BY W.K. Chan  
 W.K. Chan

DATE 23-6-2001



## SUMMARY OF SOIL TEST RESULTS

CLIENT ALS Technichem (HK) Pty Ltd. REPORT NO. SUM 01060612  
 SITE Infrastructure for Penny's Bay Development - Site Investigation Phase 2  
 CONTRACT NO. \_\_\_\_\_ WORKS ORDER NO. \_\_\_\_\_  
 JOB NO. GCE/PS/01185 DATE 23-6-2001

<b>Site Data</b>	Sample I.D.		HK11273-10				
	Sample / Specimen No.		S0009/SW10				
	Type		Bulk				
	Depth (m)		0.15-0.30				
<b>Soil Description</b>			Moist, greenish brown, silty, very gravelly SAND				
<b>In-situ</b>	Moisture Content (%)						
	Density	Bulk	(Mg/m <sup>3</sup> )				
Dry							
Specific gravity							
<b>Atterberg Limits</b>	Liquid Limit (LL)						
	Plastic Limit (PL)						
	Plasticity Index (PI)						
	Liquididity Index (LI)						
<b>Particle Size</b>	Clay (%)	8					
	Silt (%)	14					
	Sand (%)	43					
	Gravel (%)	35					
<b>Consolidation</b>	e <sub>0</sub>						
	C <sub>c</sub> (Compression Index)						
	C <sub>v</sub> (m <sup>2</sup> /yr)						
	m <sub>v</sub> (m <sup>2</sup> /kN)						
	k (m/yr)						
	Type of test						
<b>Triaxial Compr.</b>	Cohesion (kPa)	c'					
	Angle of internal friction	φ'					
	σ' <sub>3</sub> (kPa)						
	Type of test						
<b>Chemical</b>	Sulphate content (%)						
	Chloride content (%)						
	Organic Matter content (%)						
	pH value						
<b>Compaction</b>	Optimum m.c. (%)						
	Max. dry density (Mg/m <sup>3</sup> )						
	Type of test						
<b>Remarks</b>							

- S = Single Stage
- M = Multi Stage
- C = Consolidated
- D = Drained
- U = Undrained
- P = Pore Water pressure
- B = Back pressure saturation
- NP = Non Plastic

CHECKED BY W.K. Chan  
 W.K. Chan

DATE 23-6-2001

(2) PARTICLE SIZE DISTRIBUTION CURVES



**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**  
 IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

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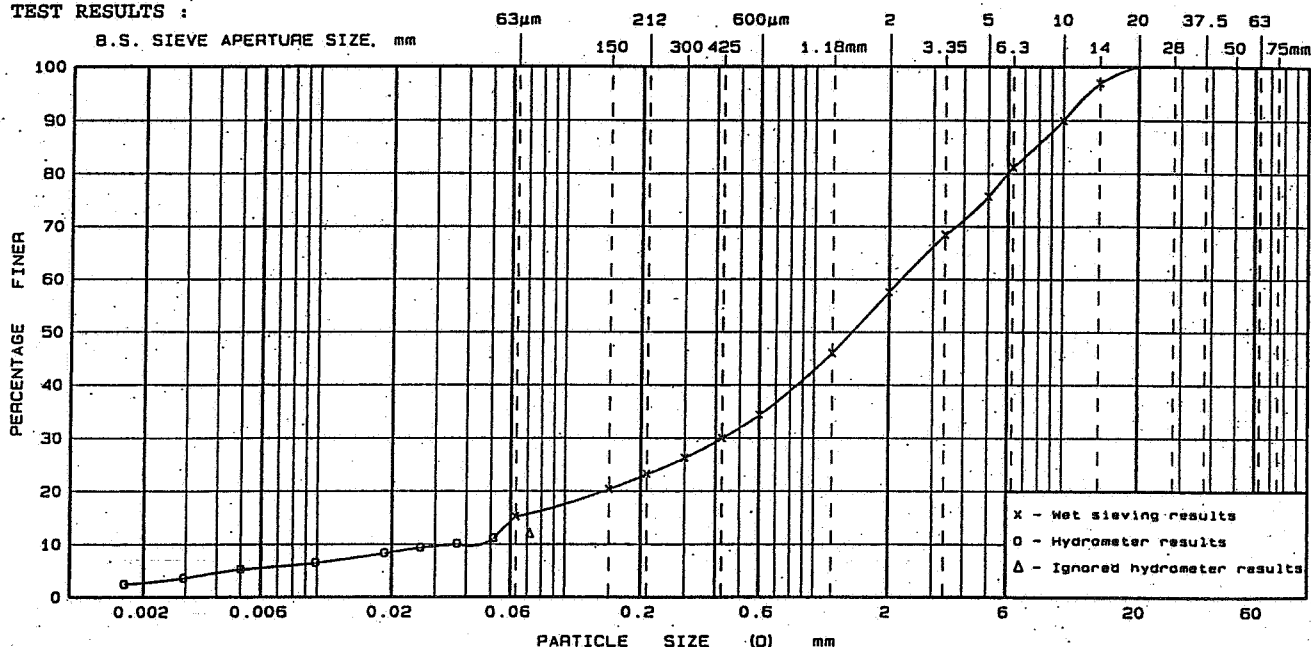
CLIENT\* : ALS TECHNICHEM (HK) PTY LTD.  
 SITE\* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - S.I. PHASE 2  
 TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON  
 W.O. NO.\* : -- CONTRACT NO.\* : --  
 JOB NO. : GCE/PS/01185 TEST UNIT NO. : STP 01052  
 HOLE NO.\* : -- SAMPLE NO.\* : S0012/SW 1  
 DESCRIPTION : Moist, greenish brown, silty, very gravelly SAND

REPORT NO. : PSD01060117  
 DATE RECEIVED : 09/05/2001  
 DATE STARTED : 26/05/2001  
 DATE COMPLETED : 13/06/2001  
 SAMPLE TYPE\* : BULK  
 SAMPLE DEPTH\* : 1.40-1.50 m  
 SPEC. DEPTH\* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB- BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

**ANALYSIS OF PARTICLE SIZE CURVE**

**FINAL SUMMARY**

Effective Diameter ( $D_{10}$ ) = 0.039 mm  
 Median Diameter ( $D_{50}$ ) = 1.4 mm  
 Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = 59  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

CLAY = 3 %  
 SILT = 11 %  
 SAND = 44 %  
 GRAVEL = 42 %

Note : \*Information provided by client  
 Remarks: SAMPLE I.D. : HK11273-13

TESTED BY : W.S. LEE

CHECKED BY :

W.K. Chan

CERTIFIED BY :

W.T. Cheung

POST : Lab. Technician

POST : Reporting Officer

POST

: Dept. Manager

DATE : 13/06/2001

DATE : 23/06/2001

DATE

: 23/06/2001

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**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**  
 IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

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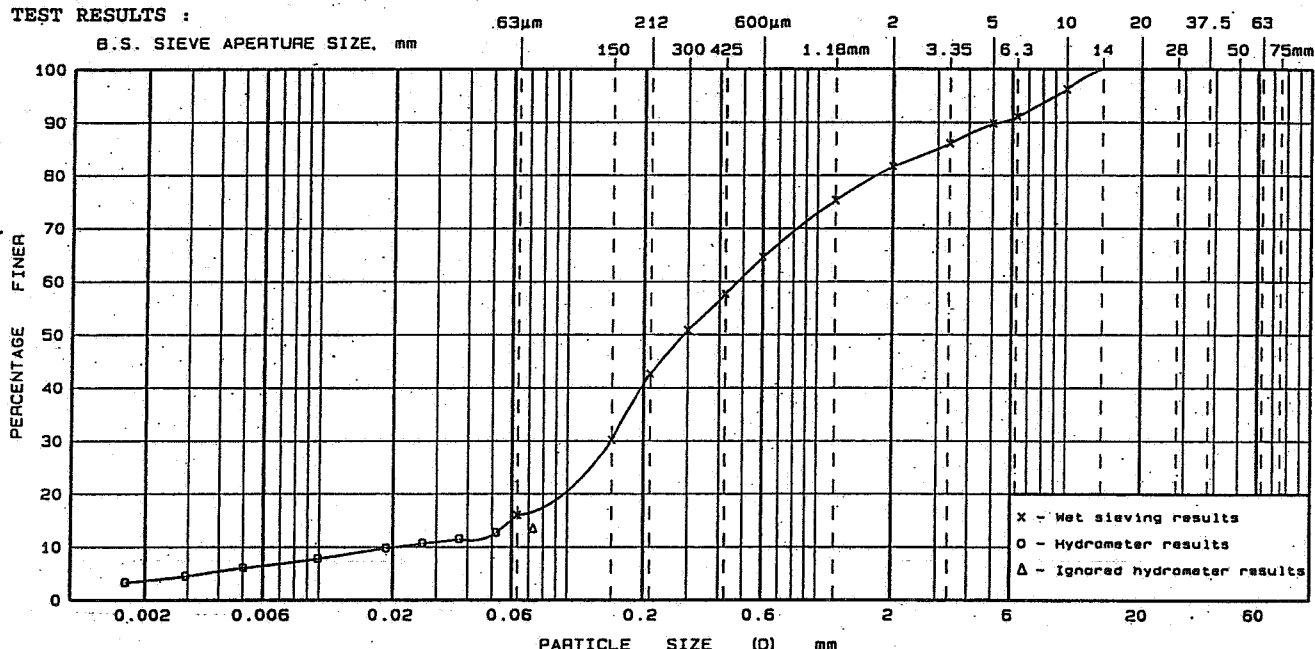
CLIENT\* : ALS TECHNICHEM (HK) PTY LTD.  
 SITE\* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - S.I. PHASE 2  
 TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON  
 W.O. NO.\* : -- CONTRACT NO.\* : --  
 JOB NO. : GCE/PS/01185 TEST UNIT NO. : STP 01052  
 HOLE NO.\* : -- SAMPLE NO.\* : S0011/SW 6  
 DESCRIPTION : Moist, greenish brown, silty, gravelly SAND

REPORT NO. : PSD01060116  
 DATE RECEIVED : 09/05/2001  
 DATE STARTED : 26/05/2001  
 DATE COMPLETED : 13/06/2001  
 SAMPLE TYPE\* : BULK  
 SAMPLE DEPTH\* : 0.15-0.30 m  
 SPEC. DEPTH\* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB- BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

ANALYSIS OF PARTICLE SIZE CURVE

FINAL SUMMARY

Effective Diameter ( $D_{10}$ ) = 0.021 mm  
 Median Diameter ( $D_{50}$ ) = 0.30 mm  
 Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = 23  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

CLAY = 4 %  
 SILT = 11 %  
 SAND = 67 %  
 GRAVEL = 18 %

Note : \*Information provided by client.  
 Remarks: SAMPLE I.D. : HK11273-12

TESTED BY : W.S. LEE

CHECKED BY : *W.K. Chan*  
 W.K. Chan

CERTIFIED BY : *W.T. Cheung*  
 W.T. Cheung

POST : Lab. Technician

POST : Reporting Officer

POST : Dept. Manager

DATE : 13/06/2001

DATE : 23/06/2001

DATE : 23/06/2001

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**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**  
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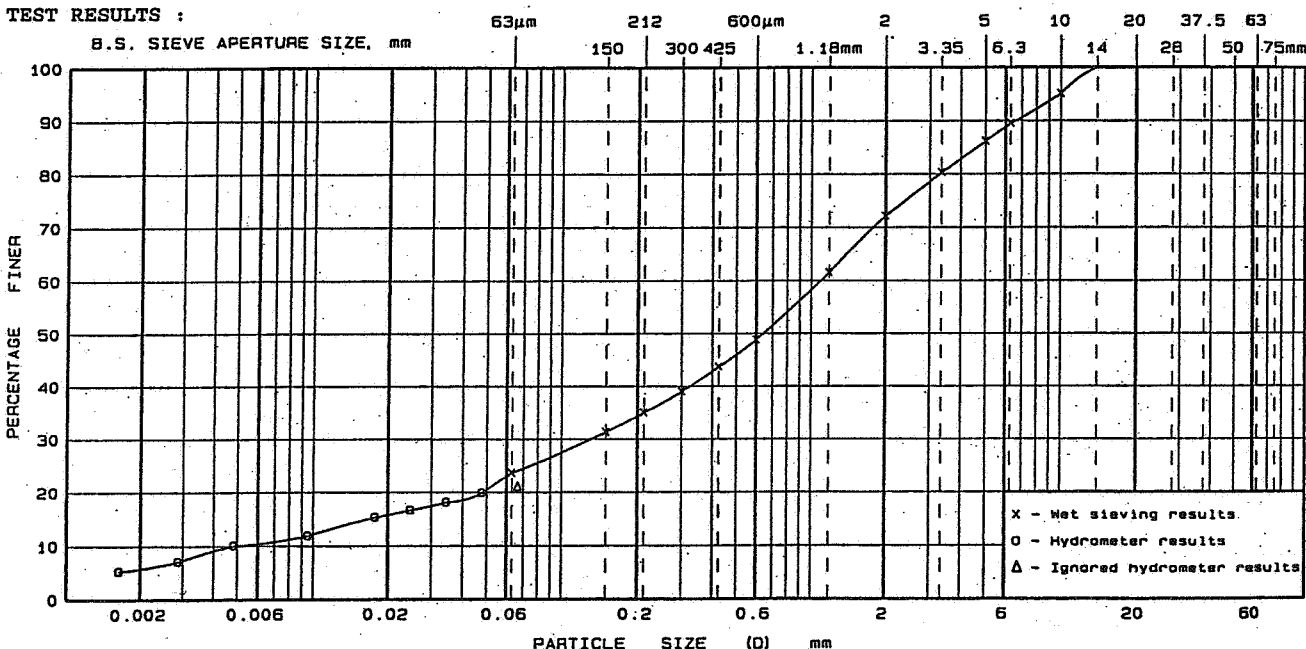
CLIENT\* : ALS TECHNICHEM (HK) PTY LTD.  
 SITE\* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - S.I. PHASE 2  
 TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON  
 W.O. NO.\* : -- CONTRACT NO.\* : --  
 JOB NO. : GCE/PS/01185 TEST UNIT NO. : STP 01052  
 HOLE NO \* : -- SAMPLE NO.\* : S0010/SW 9  
 DESCRIPTION : Moist, yellowish brown, silty, very gravelly SAND

REPORT NO. : PSD01060115  
 DATE RECEIVED : 09/05/2001  
 DATE STARTED : 26/05/2001  
 DATE COMPLETED: 13/06/2001  
 SAMPLE TYPE\* : BULK  
 SAMPLE DEPTH\* : 0.25-0.40 m  
 SPEC. DEPTH\* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	SILT	Fine	Medium	Coarse	SAND	Fine	Medium	Coarse	GRAVEL	COB- BLES

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

**ANALYSIS OF PARTICLE SIZE CURVE**

**FINAL SUMMARY**

Effective Diameter ( $D_{10}$ ) = 0.0050 mm  
 Median Diameter ( $D_{50}$ ) = 0.66 mm  
 Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = 226  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

CLAY = 6 %  
 SILT = 17 %  
 SAND = 49 %  
 GRAVEL = 28 %

Note : \*Information provided by client  
 Remarks: SAMPLE I.D. : HK11273-11

TESTED BY : W.S. LEE

CHECKED BY : *W.K. Chan*  
 W.K. Chan

CERTIFIED BY : *W.T. Cheung*  
 W.T. Cheung

POST : Lab. Technician

POST : Reporting Officer

POST : Dept. Manager

DATE : 13/06/2001

DATE : 23/06/2001

DATE : 23/06/2001

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**REPORT ON DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SOIL**  
 IN ACCORDANCE WITH GEO REPORT NO. 36 : 1994 TEST(S) 2.9.2A / 2.9.5A / 2.9.6

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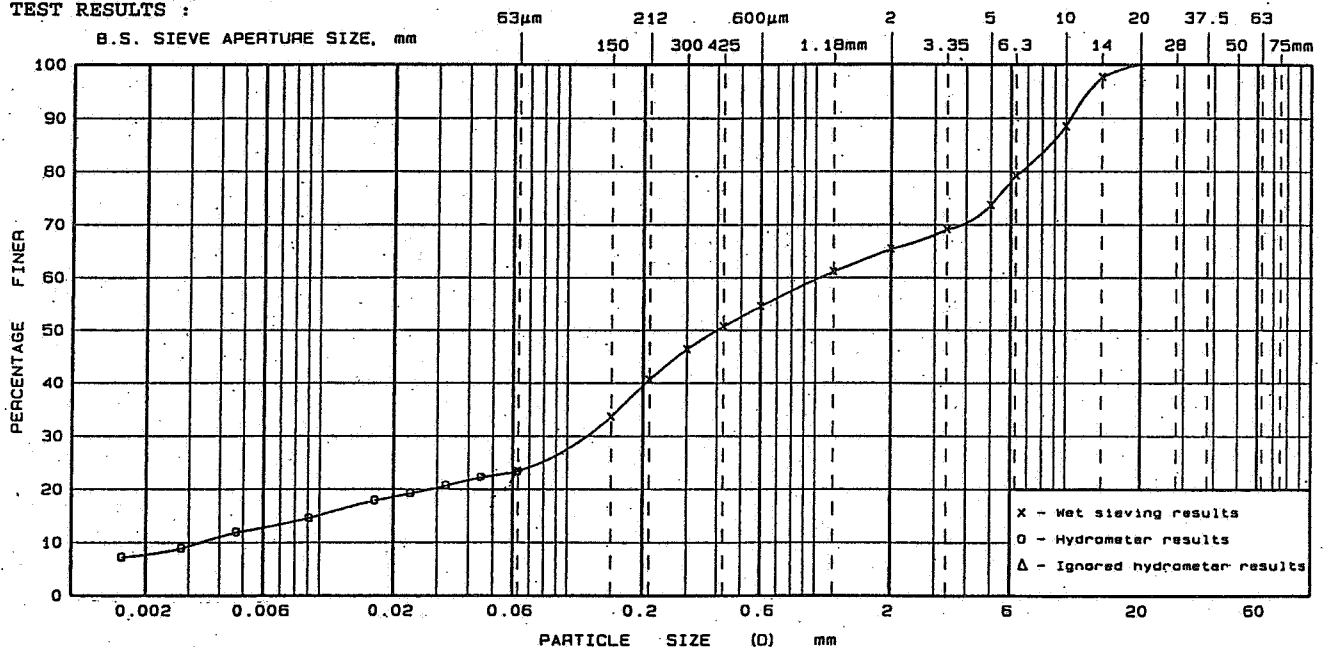
CLIENT\* : ALS TECHNICHEM (HK) PTY LTD.  
 SITE\* : INFRASTRUCTURE FOR PENNY'S BAY DEVELOPMENT - S.I. PHASE 2  
 TEST LOCATION : GROUND FLOOR, 21-23 SAN WAI STREET, HUNG HOM, KOWLOON  
 W.O. NO.\* : -- CONTRACT NO.\* : --  
 JOB NO. : GCE/PS/01185 TEST UNIT NO. : STP 01052  
 HOLE NO.\* : -- SAMPLE NO.\* : S0009/SW10  
 DESCRIPTION : Moist, greenish brown, silty, very gravelly SAND

REPORT NO. : PSD01060114  
 DATE RECEIVED : 09/05/2001  
 DATE STARTED : 26/05/2001  
 DATE COMPLETED: 13/06/2001  
 SAMPLE TYPE\* : BULK  
 SAMPLE DEPTH\* : 0.15-0.30 m  
 SPEC. DEPTH\* : -- m

**SAMPLE PREPARATION:**

Procedure for sieving test : Method A

**TEST RESULTS :**



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COB- BLES
	SILT			SAND			GRAVEL			

The following information are only based on the opinion of the laboratory and are not under the scope of accreditation by HOKLAS :

**ANALYSIS OF PARTICLE SIZE CURVE**

Effective Diameter ( $D_{10}$ ) = 0.0034 mm  
 Median Diameter ( $D_{50}$ ) = 0.41 mm  
 Uniformity Coefficient ( $U = D_{60}/D_{10}$ ) = 314  
 (Ref. : Clause 6.59(4) of General Specification for Civil Engineering Works (1992))

**FINAL SUMMARY**

CLAY = 8 %  
 SILT = 14 %  
 SAND = 43 %  
 GRAVEL = 35 %

Note : \*Information provided by client  
 Remarks: SAMPLE I.D. : HK11273-10

TESTED BY : W.S. LEE

CHECKED BY : *W.K. Chan*  
 W.K. Chan

CERTIFIED BY : *W.T. Cheung*

POST : Lab. Technician

POST : Reporting Officer

POST : Dept. Manager

DATE : 13/06/2001

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