# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

· ERM HONG KONG Client : MS KAREN LUI

: 21/F, LINCOLN HOUSE, 979 KING'S ROAD,

TAIKOO PLACE, ISLAND EAST,

**QUARRY BAY, HONG KONG** 

E-mail : Karen.Lui@erm.com +852 2271 3000 Telephone

: ----

Facsimile +852 2723 5660

Project : TUEN MUN

Order number

C-O-C number

Contact

Address

Site

: ALS Technichem HK Pty Ltd Laboratory

: Chan Kwok Fai, Godfrey Contact

Address : 11/F., Chung Shun Knitting Centre,

1 - 3 Wing Yip Street,

Kwai Chung, N.T., Hong Kong

: Godfrey.Chan@alsenviro.com

+852 2610 1044 Telephone

Facsimile +852 2610 2021

· HK/1426c/2009\*\*

Date received

Page

Work Order

· 01-DEC-2009

HK0925261

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Date of issue · 04-DEC-2009

No. of samples

Received

78

Analysed

78

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925261 supersedes any previous reports with this reference. The completion date of analysis is 03-DEC-2009. 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 HK0925261:

Sample(s) were collected by ALS Technichem (HK) staff on 01 December, 2009.

Water sample(s) analysed and reported on an as received basis.

E-mail

Quote number

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of Hong Kong, Chapter 553, Section 6.

Signatory Fung Lim Chee, Richard Position

**General Manager** 

Authorised results for:-

Inorganics

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Client : ERM HONG KONG

Work Order HK0925261



# Analytical Results

Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
·	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[01-DEC-2009]	HK0925261-001	14		
MPB1 MID-EBB S DUP	[01-DEC-2009]	HK0925261-002	12		
MPB1 MID-EBB M	[01-DEC-2009]	HK0925261-003	15		
MPB1 MID-EBB M DUP	[01-DEC-2009]	HK0925261-004	18		
MPB1 MID-EBB B	[01-DEC-2009]	HK0925261-005	16		
MPB1 MID-EBB B DUP	[01-DEC-2009]	HK0925261-006	16		
MPB2 MID-EBB S	[01-DEC-2009]	HK0925261-007	12		
MPB2 MID-EBB S DUP	[01-DEC-2009]	HK0925261-008	10		
MPB2 MID-EBB M	[01-DEC-2009]	HK0925261-009	13		
MPB2 MID-EBB M DUP	[01-DEC-2009]	HK0925261-010	10		
MPB2 MID-EBB B	[01-DEC-2009]	HK0925261-011	15		
MPB2 MID-EBB B DUP	[01-DEC-2009]	HK0925261-012	16		
MP MID-EBB S	[01-DEC-2009]	HK0925261-013	10		
MP MID-EBB S DUP	[01-DEC-2009]	HK0925261-014	11		
MP MID-EBB M	[01-DEC-2009]	HK0925261-015	10		
MP MID-EBB M DUP	[01-DEC-2009]	HK0925261-016	11		
MP MID-EBB B	[01-DEC-2009]	HK0925261-017	15		
MP MID-EBB B DUP	[01-DEC-2009]	HK0925261-018	13		
IMO5 MID-EBB S	[01-DEC-2009]	HK0925261-043	12		
IMO5 MID-EBB S DUP	[01-DEC-2009]	HK0925261-044	10		
IMO5 MID-EBB M	[01-DEC-2009]	HK0925261-045	12		
IMO5 MID-EBB M DUP	[01-DEC-2009]	HK0925261-046	11		
IMO5 MID-EBB B	[01-DEC-2009]	HK0925261-047	14		
IMO5 MID-EBB B DUP	[01-DEC-2009]	HK0925261-048	12		
IMO6 MID-EBB S	[01-DEC-2009]	HK0925261-049	18		
IMO6 MID-EBB S DUP	[01-DEC-2009]	HK0925261-050	18		
IMO6 MID-EBB M	[01-DEC-2009]	HK0925261-051	19		
IMO6 MID-EBB M DUP	[01-DEC-2009]	HK0925261-052	18		
IMO6 MID-EBB B	[01-DEC-2009]	HK0925261-053	12		
IMO6 MID-EBB B DUP	[01-DEC-2009]	HK0925261-054	15		
C2 (NM5) MID-EBB S	[01-DEC-2009]	HK0925261-055	19		
C2 (NM5) MID-EBB S DUP	[01-DEC-2009]	HK0925261-056	17		
C2 (NM5) MID-EBB M	[01-DEC-2009]	HK0925261-057	11		
C2 (NM5) MID-EBB M DUP	[01-DEC-2009]	HK0925261-058	11		
C2 (NM5) MID-EBB B	[01-DEC-2009]	HK0925261-059	14		

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Work Order

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Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[01-DEC-2009]	HK0925261-060	16		
MPB1 MID-FLOOD S	[01-DEC-2009]	HK0925261-061	13		
MPB1 MID-FLOOD S DUP	[01-DEC-2009]	HK0925261-062	12		
MPB1 MID-FLOOD M	[01-DEC-2009]	HK0925261-063	12		
MPB1 MID-FLOOD M DUP	[01-DEC-2009]	HK0925261-064	11		
MPB1 MID-FLOOD B	[01-DEC-2009]	HK0925261-065	11		
MPB1 MID-FLOOD B DUP	[01-DEC-2009]	HK0925261-066	12		
MPB2 MID-FLOOD S	[01-DEC-2009]	HK0925261-067	10		
MPB2 MID-FLOOD S DUP	[01-DEC-2009]	HK0925261-068	12		
MPB2 MID-FLOOD M	[01-DEC-2009]	HK0925261-069	12		
MPB2 MID-FLOOD M DUP	[01-DEC-2009]	HK0925261-070	11		
MPB2 MID-FLOOD B	[01-DEC-2009]	HK0925261-071	13		
MPB2 MID-FLOOD B DUP	[01-DEC-2009]	HK0925261-072	10		
MP MID-FLOOD S	[01-DEC-2009]	HK0925261-073	11		
MP MID-FLOOD S DUP	[01-DEC-2009]	HK0925261-074	10		
MP MID-FLOOD M	[01-DEC-2009]	HK0925261-075	10		
MP MID-FLOOD M DUP	[01-DEC-2009]	HK0925261-076	9		
MP MID-FLOOD B	[01-DEC-2009]	HK0925261-077	11		
MP MID-FLOOD B DUP	[01-DEC-2009]	HK0925261-078	11		
IMO5 MID-FLOOD S	[01-DEC-2009]	HK0925261-103	17		
IMO5 MID-FLOOD S DUP	[01-DEC-2009]	HK0925261-104	15		
IMO5 MID-FLOOD M	[01-DEC-2009]	HK0925261-105	16		
IMO5 MID-FLOOD M DUP	[01-DEC-2009]	HK0925261-106	15		
IMO5 MID-FLOOD B	[01-DEC-2009]	HK0925261-107	14		
IMO5 MID-FLOOD B DUP	[01-DEC-2009]	HK0925261-108	11		
IMO6 MID-FLOOD S	[01-DEC-2009]	HK0925261-109	12		
IMO6 MID-FLOOD S DUP	[01-DEC-2009]	HK0925261-110	11		
IMO6 MID-FLOOD M	[01-DEC-2009]	HK0925261-111	16		
IMO6 MID-FLOOD M DUP	[01-DEC-2009]	HK0925261-112	15		
IMO6 MID-FLOOD B	[01-DEC-2009]	HK0925261-113	18		
IMO6 MID-FLOOD B DUP	[01-DEC-2009]	HK0925261-114	16		
C1 (NM3) MID-FLOOD S	[01-DEC-2009]	HK0925261-115	13		
C1 (NM3) MID-FLOOD S DUP	[01-DEC-2009]	HK0925261-116	11		
C1 (NM3) MID-FLOOD M	[01-DEC-2009]	HK0925261-117	10		
C1 (NM3) MID-FLOOD M DUP	[01-DEC-2009]	HK0925261-118	12		

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Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[01-DEC-2009]	HK0925261-119	14		
C1 (NM3) MID-FLOOD B DUP	[01-DEC-2009]	HK0925261-120	13		
C3 (NM6) MID-FLOOD S	[01-DEC-2009]	HK0925261-121	17		
C3 (NM6) MID-FLOOD S DUP	[01-DEC-2009]	HK0925261-122	16		
C3 (NM6) MID-FLOOD M	[01-DEC-2009]	HK0925261-123	17		
C3 (NM6) MID-FLOOD M DUP	[01-DEC-2009]	HK0925261-124	14		
C3 (NM6) MID-FLOOD B	[01-DEC-2009]	HK0925261-125	16		
C3 (NM6) MID-FLOOD B DUP	[01-DEC-2009]	HK0925261-126	14		

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## Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1183188)								
HK0925261-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	14	12	11.3		
HK0925261-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	15	15	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1183189)								
HK0925261-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	12	13	13.4		
HK0925261-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	19	17	13.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1183190)								
HK0925261-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	11	11	0.0		
HK0925261-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	10	11	11.9		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1183192)								
HK0925261-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	12	12	0.0		
HK0925261-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	14	16	11.4		

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

Matrix: WATER			Method Blank (MI	B) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Re	covery (%)	Recovery	Limits (%)	RPD	s (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1183188)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	100		85	115		
A/ED: Physical and Aggregate Properties (QCLot: 1183189)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	98.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLo	t: 1183190)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	110		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1183192)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	110		85	115		

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

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

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

Client: ERM HONG KONG Laboratory: ALS Technichem HK Pty Ltd Page: 1 of 5

Contact : MS FRANCESCA ZINO Contact : Chan Kwok Fai, Godfrey Work Order : HK0925289

Address : 21/F, LINCOLN HOUSE, 979 KING`S ROAD, Address : 11/F., Chung Shun Knitting Centre,

TAIKOO PLACE, ISLAND EAST, 1 - 3 Wing Yip Street,

QUARRY BAY, HONG KONG Kwai Chung, N.T., Hong Kong

Telephone : +852 2271 3000 Telephone : +852 2610 1044
Facsimile : +852 2723 5660 Facsimile : +852 2610 2021

Project: TUEN MUN

Quote number: HK/1426c/2009\*\*

Date received: 02-DEC-2009

Order number : --- Date of issue : 08-DEC-2009

C-O-C number : ---- No. of samples - Received : 78

Site : --- - Analysed : 78

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925289 supersedes any previous reports with this reference. The completion date of analysis is 04-DEC-2009. 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 HK0925289: Sample(s) were collected by ALS Technichem (HK) staff on 02 December, 2009.

Water sample(s) analysed and reported on an as received basis.

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of Hong Kong, Chapter 553, Section 6.

Signatory Position Authorised results for:-

Fung Lim Chee, Richard General Manager Inorganics

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Work Order HK0925289



# Analytical Results

Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
		00111204114	Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[02-DEC-2009]	HK0925289-001	10		
MPB1 MID-EBB S DUP	[02-DEC-2009]	HK0925289-002	11		
MPB1 MID-EBB M	[02-DEC-2009]	HK0925289-003	9		
MPB1 MID-EBB M DUP	[02-DEC-2009]	HK0925289-004	9		
MPB1 MID-EBB B	[02-DEC-2009]	HK0925289-005	10		
MPB1 MID-EBB B DUP	[02-DEC-2009]	HK0925289-006	9		
MPB2 MID-EBB S	[02-DEC-2009]	HK0925289-007	10		
MPB2 MID-EBB S DUP	[02-DEC-2009]	HK0925289-008	9		
MPB2 MID-EBB M	[02-DEC-2009]	HK0925289-009	12		
MPB2 MID-EBB M DUP	[02-DEC-2009]	HK0925289-010	10		
MPB2 MID-EBB B	[02-DEC-2009]	HK0925289-011	11		
MPB2 MID-EBB B DUP	[02-DEC-2009]	HK0925289-012	12		
MP MID-EBB S	[02-DEC-2009]	HK0925289-013	16		
MP MID-EBB S DUP	[02-DEC-2009]	HK0925289-014	14		
MP MID-EBB M	[02-DEC-2009]	HK0925289-015	10		
MP MID-EBB M DUP	[02-DEC-2009]	HK0925289-016	11		
MP MID-EBB B	[02-DEC-2009]	HK0925289-017	10		
MP MID-EBB B DUP	[02-DEC-2009]	HK0925289-018	12		
IMO5 MID-EBB S	[02-DEC-2009]	HK0925289-043	8		
IMO5 MID-EBB S DUP	[02-DEC-2009]	HK0925289-044	9		
IMO5 MID-EBB M	[02-DEC-2009]	HK0925289-045	9		
IMO5 MID-EBB M DUP	[02-DEC-2009]	HK0925289-046	9		
IMO5 MID-EBB B	[02-DEC-2009]	HK0925289-047	17		
IMO5 MID-EBB B DUP	[02-DEC-2009]	HK0925289-048	17		
IMO6 MID-EBB S	[02-DEC-2009]	HK0925289-049	10		
IMO6 MID-EBB S DUP	[02-DEC-2009]	HK0925289-050	10		
IMO6 MID-EBB M	[02-DEC-2009]	HK0925289-051	9		
IMO6 MID-EBB M DUP	[02-DEC-2009]	HK0925289-052	9		
IMO6 MID-EBB B	[02-DEC-2009]	HK0925289-053	9		
IMO6 MID-EBB B DUP	[02-DEC-2009]	HK0925289-054	9		
C2 (NM5) MID-EBB S	[02-DEC-2009]	HK0925289-055	11		
C2 (NM5) MID-EBB S DUP	[02-DEC-2009]	HK0925289-056	12		
C2 (NM5) MID-EBB M	[02-DEC-2009]	HK0925289-057	10		
C2 (NM5) MID-EBB M DUP	[02-DEC-2009]	HK0925289-058	13		
C2 (NM5) MID-EBB B	[02-DEC-2009]	HK0925289-059	12		

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Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[02-DEC-2009]	HK0925289-060	10		
MPB1 MID-FLOOD S	[02-DEC-2009]	HK0925289-061	10		
MPB1 MID-FLOOD S DUP	[02-DEC-2009]	HK0925289-062	11		
MPB1 MID-FLOOD M	[02-DEC-2009]	HK0925289-063	11		
MPB1 MID-FLOOD M DUP	[02-DEC-2009]	HK0925289-064	9		
MPB1 MID-FLOOD B	[02-DEC-2009]	HK0925289-065	11		
MPB1 MID-FLOOD B DUP	[02-DEC-2009]	HK0925289-066	12		
MPB2 MID-FLOOD S	[02-DEC-2009]	HK0925289-067	9		
MPB2 MID-FLOOD S DUP	[02-DEC-2009]	HK0925289-068	10		
MPB2 MID-FLOOD M	[02-DEC-2009]	HK0925289-069	12		
MPB2 MID-FLOOD M DUP	[02-DEC-2009]	HK0925289-070	14		
MPB2 MID-FLOOD B	[02-DEC-2009]	HK0925289-071	11		
MPB2 MID-FLOOD B DUP	[02-DEC-2009]	HK0925289-072	12		
MP MID-FLOOD S	[02-DEC-2009]	HK0925289-073	12		
MP MID-FLOOD S DUP	[02-DEC-2009]	HK0925289-074	12		
MP MID-FLOOD M	[02-DEC-2009]	HK0925289-075	10		
MP MID-FLOOD M DUP	[02-DEC-2009]	HK0925289-076	10		
MP MID-FLOOD B	[02-DEC-2009]	HK0925289-077	10		
MP MID-FLOOD B DUP	[02-DEC-2009]	HK0925289-078	10		
IMO5 MID-FLOOD S	[02-DEC-2009]	HK0925289-103	10		
IMO5 MID-FLOOD S DUP	[02-DEC-2009]	HK0925289-104	10		
IMO5 MID-FLOOD M	[02-DEC-2009]	HK0925289-105	10		
IMO5 MID-FLOOD M DUP	[02-DEC-2009]	HK0925289-106	8		
IMO5 MID-FLOOD B	[02-DEC-2009]	HK0925289-107	11		
IMO5 MID-FLOOD B DUP	[02-DEC-2009]	HK0925289-108	9		
IMO6 MID-FLOOD S	[02-DEC-2009]	HK0925289-109	12		
IMO6 MID-FLOOD S DUP	[02-DEC-2009]	HK0925289-110	10		
IMO6 MID-FLOOD M	[02-DEC-2009]	HK0925289-111	11		
IMO6 MID-FLOOD M DUP	[02-DEC-2009]	HK0925289-112	11		
IMO6 MID-FLOOD B	[02-DEC-2009]	HK0925289-113	11		
IMO6 MID-FLOOD B DUP	[02-DEC-2009]	HK0925289-114	10		
C1 (NM3) MID-FLOOD S	[02-DEC-2009]	HK0925289-115	15		
C1 (NM3) MID-FLOOD S DUP	[02-DEC-2009]	HK0925289-116	13		
C1 (NM3) MID-FLOOD M	[02-DEC-2009]	HK0925289-117	17		
C1 (NM3) MID-FLOOD M DUP	[02-DEC-2009]	HK0925289-118	16		

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Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[02-DEC-2009]	HK0925289-119	12		
C1 (NM3) MID-FLOOD B DUP	[02-DEC-2009]	HK0925289-120	11		
C3 (NM6) MID-FLOOD S	[02-DEC-2009]	HK0925289-121	10		
C3 (NM6) MID-FLOOD S DUP	[02-DEC-2009]	HK0925289-122	11		
C3 (NM6) MID-FLOOD M	[02-DEC-2009]	HK0925289-123	10		
C3 (NM6) MID-FLOOD M DUP	[02-DEC-2009]	HK0925289-124	10		
C3 (NM6) MID-FLOOD B	[02-DEC-2009]	HK0925289-125	10		
C3 (NM6) MID-FLOOD B DUP	[02-DEC-2009]	HK0925289-126	10		

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## Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)		
EA/ED: Physical and	d Aggregate Properties (Q0	C Lot: 1184148)								
HK0925289-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	10	11	10.8		
HK0925289-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	11	12	9.8		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1184149)								
HK0925289-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	9	9	0.0		
HK0925289-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	11	12	8.8		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1184150)								
HK0925289-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	11	13	14.3		
HK0925289-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	10	9	14.5		
EA/ED: Physical and	d Aggregate Properties (Q0	C Lot: 1184151)								
HK0925289-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	12	11	15.2		
HK0925289-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	12	11	9.1		

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

Matrix: WATER		Method Blank (Mi	B) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
				Spike	Spike Red	covery (%)	Recovery	Limits (%)	RPD	s (%)
Method: Compound CAS Number	r LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
A/ED: Physical and Aggregate Properties (QCLot: 1184148)										
EA025: Suspended Solids (SS)	- 2	mg/L	<2	20 mg/L	97.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118414	A/ED: Physical and Aggregate Properties (QCLot: 1184149)									
EA025: Suspended Solids (SS)	- 2	mg/L	<2	20 mg/L	99.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118415	))									
EA025: Suspended Solids (SS)	- 2	mg/L	<2	20 mg/L	110		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118415	A/ED: Physical and Aggregate Properties (QCLot: 1184151)									
EA025: Suspended Solids (SS)	- 2	mg/L	<2	20 mg/L	94.5		85	115		

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

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

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



: 1 of 5

## **CERTIFICATE OF ANALYSIS**

Client : ERM HONG KONG Laboratory : ALS Technichem HK Pty Ltd Page

Contact : MS FRANCESCA ZINO Contact : Chan Kwok Fai, Godfrey Work Order : HK0925290

Address : 21/F, LINCOLN HOUSE, 979 KING`S ROAD, Address : 11/F., Chung Shun Knitting Centre,

TAIKOO PLACE, ISLAND EAST, 1 - 3 Wing Yip Street,

QUARRY BAY, HONG KONG Kwai Chung, N.T., Hong Kong

 E-mail
 : francesca.zino@erm.com
 E-mail
 : Godfrey.Chan@alsenviro.com

 Telephone
 : +852 2271 3000
 Telephone
 : +852 2610 1044

Facsimile : +852 2723 5660 Facsimile : +852 2610 2021

Project: TUEN MUN

Quote number: HK/1426c/2009\*\*

Date received: 03-DEC-2009

Order number : --- Date of issue : 08-DEC-2009

C-O-C number : ---- No. of samples - Received : 78

Site : ---- - Analysed : 78

## **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925290 supersedes any previous reports with this reference. The completion date of analysis is 06-DEC-2009. 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 HK0925290: Sample(s) were collected by ALS Technichem (HK) staff on 03 December, 2009.

Water sample(s) analysed and reported on an as received basis.

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of Hong Kong, Chapter 553, Section 6.

Signatory Position Authorised results for:-

Fung Lim Chee, Richard General Manager Inorganics

Page Number : 2 of 5

Client : ERM HONG KONG

Work Order HK0925290

# ALS

# Analytical Results

Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[03-DEC-2009]	HK0925290-001	78		
MPB1 MID-EBB S DUP	[03-DEC-2009]	HK0925290-002	74		
MPB1 MID-EBB M	[03-DEC-2009]	HK0925290-003	70		
MPB1 MID-EBB M DUP	[03-DEC-2009]	HK0925290-004	75		
MPB1 MID-EBB B	[03-DEC-2009]	HK0925290-005	70		
MPB1 MID-EBB B DUP	[03-DEC-2009]	HK0925290-006	72		
MPB2 MID-EBB S	[03-DEC-2009]	HK0925290-007	40		
MPB2 MID-EBB S DUP	[03-DEC-2009]	HK0925290-008	39		
MPB2 MID-EBB M	[03-DEC-2009]	HK0925290-009	48		
MPB2 MID-EBB M DUP	[03-DEC-2009]	HK0925290-010	41		
MPB2 MID-EBB B	[03-DEC-2009]	HK0925290-011	42		
MPB2 MID-EBB B DUP	[03-DEC-2009]	HK0925290-012	39		
MP MID-EBB S	[03-DEC-2009]	HK0925290-013	47		
MP MID-EBB S DUP	[03-DEC-2009]	HK0925290-014	44		
MP MID-EBB M	[03-DEC-2009]	HK0925290-015	44		
MP MID-EBB M DUP	[03-DEC-2009]	HK0925290-016	40		
MP MID-EBB B	[03-DEC-2009]	HK0925290-017	43		
MP MID-EBB B DUP	[03-DEC-2009]	HK0925290-018	41		
IMO5 MID-EBB S	[03-DEC-2009]	HK0925290-043	47		
IMO5 MID-EBB S DUP	[03-DEC-2009]	HK0925290-044	42		
IMO5 MID-EBB M	[03-DEC-2009]	HK0925290-045	44		
IMO5 MID-EBB M DUP	[03-DEC-2009]	HK0925290-046	41		
IMO5 MID-EBB B	[03-DEC-2009]	HK0925290-047	44		
IMO5 MID-EBB B DUP	[03-DEC-2009]	HK0925290-048	43		
IMO6 MID-EBB S	[03-DEC-2009]	HK0925290-049	37		
IMO6 MID-EBB S DUP	[03-DEC-2009]	HK0925290-050	41		
IMO6 MID-EBB M	[03-DEC-2009]	HK0925290-051	38		
IMO6 MID-EBB M DUP	[03-DEC-2009]	HK0925290-052	49		
IMO6 MID-EBB B	[03-DEC-2009]	HK0925290-053	40		
IMO6 MID-EBB B DUP	[03-DEC-2009]	HK0925290-054	44		
C2 (NM5) MID-EBB S	[03-DEC-2009]	HK0925290-055	39		
C2 (NM5) MID-EBB S DUP	[03-DEC-2009]	HK0925290-056	36		
C2 (NM5) MID-EBB M	[03-DEC-2009]	HK0925290-057	41		
C2 (NM5) MID-EBB M DUP	[03-DEC-2009]	HK0925290-058	38		
C2 (NM5) MID-EBB B	[03-DEC-2009]	HK0925290-059	42		

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Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[03-DEC-2009]	HK0925290-060	41		
MPB1 MID-FLOOD S	[03-DEC-2009]	HK0925290-061	72		
MPB1 MID-FLOOD S DUP	[03-DEC-2009]	HK0925290-062	67		
MPB1 MID-FLOOD M	[03-DEC-2009]	HK0925290-063	73		
MPB1 MID-FLOOD M DUP	[03-DEC-2009]	HK0925290-064	71		
MPB1 MID-FLOOD B	[03-DEC-2009]	HK0925290-065	54		
MPB1 MID-FLOOD B DUP	[03-DEC-2009]	HK0925290-066	59		
MPB2 MID-FLOOD S	[03-DEC-2009]	HK0925290-067	44		
MPB2 MID-FLOOD S DUP	[03-DEC-2009]	HK0925290-068	39		
MPB2 MID-FLOOD M	[03-DEC-2009]	HK0925290-069	40		
MPB2 MID-FLOOD M DUP	[03-DEC-2009]	HK0925290-070	41		
MPB2 MID-FLOOD B	[03-DEC-2009]	HK0925290-071	43		
MPB2 MID-FLOOD B DUP	[03-DEC-2009]	HK0925290-072	41		
MP MID-FLOOD S	[03-DEC-2009]	HK0925290-073	39		
MP MID-FLOOD S DUP	[03-DEC-2009]	HK0925290-074	36		
MP MID-FLOOD M	[03-DEC-2009]	HK0925290-075	40		
MP MID-FLOOD M DUP	[03-DEC-2009]	HK0925290-076	38		
MP MID-FLOOD B	[03-DEC-2009]	HK0925290-077	40		
MP MID-FLOOD B DUP	[03-DEC-2009]	HK0925290-078	43		
IMO5 MID-FLOOD S	[03-DEC-2009]	HK0925290-103	40		
IMO5 MID-FLOOD S DUP	[03-DEC-2009]	HK0925290-104	41		
IMO5 MID-FLOOD M	[03-DEC-2009]	HK0925290-105	39		
IMO5 MID-FLOOD M DUP	[03-DEC-2009]	HK0925290-106	43		
IMO5 MID-FLOOD B	[03-DEC-2009]	HK0925290-107	37		
IMO5 MID-FLOOD B DUP	[03-DEC-2009]	HK0925290-108	41		
IMO6 MID-FLOOD S	[03-DEC-2009]	HK0925290-109	29		
IMO6 MID-FLOOD S DUP	[03-DEC-2009]	HK0925290-110	30		
IMO6 MID-FLOOD M	[03-DEC-2009]	HK0925290-111	34		
IMO6 MID-FLOOD M DUP	[03-DEC-2009]	HK0925290-112	35		
IMO6 MID-FLOOD B	[03-DEC-2009]	HK0925290-113	39		
IMO6 MID-FLOOD B DUP	[03-DEC-2009]	HK0925290-114	35		
C1 (NM3) MID-FLOOD S	[03-DEC-2009]	HK0925290-115	22		
C1 (NM3) MID-FLOOD S DUP	[03-DEC-2009]	HK0925290-116	20		
C1 (NM3) MID-FLOOD M	[03-DEC-2009]	HK0925290-117	21		
C1 (NM3) MID-FLOOD M DUP	[03-DEC-2009]	HK0925290-118	19		

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Client

: ERM HONG KONG

Work Order

HK0925290



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[03-DEC-2009]	HK0925290-119	20		
C1 (NM3) MID-FLOOD B DUP	[03-DEC-2009]	HK0925290-120	20		
C3 (NM6) MID-FLOOD S	[03-DEC-2009]	HK0925290-121	25		
C3 (NM6) MID-FLOOD S DUP	[03-DEC-2009]	HK0925290-122	22		
C3 (NM6) MID-FLOOD M	[03-DEC-2009]	HK0925290-123	25		
C3 (NM6) MID-FLOOD M DUP	[03-DEC-2009]	HK0925290-124	22		
C3 (NM6) MID-FLOOD B	[03-DEC-2009]	HK0925290-125	24		
C3 (NM6) MID-FLOOD B DUP	[03-DEC-2009]	HK0925290-126	21		

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Client : ERM HONG KONG

Work Order HK0925290



## Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1186025)								
HK0925290-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	78	80	2.8		
HK0925290-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	42	42	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1186026)								
HK0925290-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	44	41	7.0		
HK0925290-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	39	41	5.2		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1186027)								
HK0925290-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	54	54	0.0		
HK0925290-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	40	37	7.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1186028)								
HK0925290-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	29	30	4.0		
HK0925290-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	20	19	8.8		

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

, ,,	•					· · · ·					
Matrix: WATER			Method Blank (MI	3) Report		Laboratory Control S	pike (LCS) and Laborate	ory Control S	pike Duplicat	te (DCS) Report	
					Spike	Spike Red	covery (%)	Recovery	Limits (%)	RPD	s (%)
Method: Compound CAS	Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 11	(ED: Physical and Aggregate Properties (QCLot: 1186025)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	104		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11	86026)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	109		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11	86027)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	108		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11	86028)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	106		85	115		

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

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

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

Client: ERM HONG KONG Laboratory: ALS Technichem HK Pty Ltd Page: 1 of 5

Contact : MS FRANCESCA ZINO Contact : Chan Kwok Fai, Godfrey Work Order : HK0925476

Address : 21/F, LINCOLN HOUSE, 979 KING'S ROAD, Address : 11/F., Chung Shun Knitting Centre,

TAIKOO PLACE, ISLAND EAST, 1 - 3 Wing Yip Street,

QUARRY BAY, HONG KONG Kwai Chung, N.T., Hong Kong

Telephone : +852 2271 3000 Telephone : +852 2610 1044

Facsimile : +852 2723 5660 Facsimile : +852 2610 2021

Project : TUEN MUN Quote number : HK/1426c/2009\*\* Date received : 04-DEC-2009

Order number : ---- Date of issue : 09-DEC-2009

C-O-C number : ---- No. of samples - Received : 78

Site : --- - Analysed : 78

#### **Report Comments**

E-mail

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925476 supersedes any previous reports with this reference. The completion date of analysis is 07-DEC-2009. 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 HK0925476: Sample(s) were collected by ALS Technichem (HK) staff on 04 December, 2009.

Water sample(s) analysed and reported on an as received basis.

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of Hong Kong, Chapter 553, Section 6.

Signatory Position Authorised results for:-

Fung Lim Chee, Richard General Manager Inorganics

Page Number : 2 of 5

Client : ERM HONG KONG

Work Order HK0925476



# Analytical Results

Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[04-DEC-2009]	HK0925476-001	19		
MPB1 MID-EBB S DUP	[04-DEC-2009]	HK0925476-002	21		
MPB1 MID-EBB M	[04-DEC-2009]	HK0925476-003	16		
MPB1 MID-EBB M DUP	[04-DEC-2009]	HK0925476-004	16		
MPB1 MID-EBB B	[04-DEC-2009]	HK0925476-005	14		
MPB1 MID-EBB B DUP	[04-DEC-2009]	HK0925476-006	16		
MPB2 MID-EBB S	[04-DEC-2009]	HK0925476-007	19		
MPB2 MID-EBB S DUP	[04-DEC-2009]	HK0925476-008	16		
MPB2 MID-EBB M	[04-DEC-2009]	HK0925476-009	17		
MPB2 MID-EBB M DUP	[04-DEC-2009]	HK0925476-010	17		
MPB2 MID-EBB B	[04-DEC-2009]	HK0925476-011	17		
MPB2 MID-EBB B DUP	[04-DEC-2009]	HK0925476-012	20		
MP MID-EBB S	[04-DEC-2009]	HK0925476-013	17		
MP MID-EBB S DUP	[04-DEC-2009]	HK0925476-014	17		
MP MID-EBB M	[04-DEC-2009]	HK0925476-015	21		
MP MID-EBB M DUP	[04-DEC-2009]	HK0925476-016	20		
MP MID-EBB B	[04-DEC-2009]	HK0925476-017	22		
MP MID-EBB B DUP	[04-DEC-2009]	HK0925476-018	18		
IMO5 MID-EBB S	[04-DEC-2009]	HK0925476-043	18		
IMO5 MID-EBB S DUP	[04-DEC-2009]	HK0925476-044	15		
IMO5 MID-EBB M	[04-DEC-2009]	HK0925476-045	17		
IMO5 MID-EBB M DUP	[04-DEC-2009]	HK0925476-046	16		
IMO5 MID-EBB B	[04-DEC-2009]	HK0925476-047	17		
IMO5 MID-EBB B DUP	[04-DEC-2009]	HK0925476-048	16		
IMO6 MID-EBB S	[04-DEC-2009]	HK0925476-049	16		
IMO6 MID-EBB S DUP	[04-DEC-2009]	HK0925476-050	19		
IMO6 MID-EBB M	[04-DEC-2009]	HK0925476-051	17		
IMO6 MID-EBB M DUP	[04-DEC-2009]	HK0925476-052	17		
IMO6 MID-EBB B	[04-DEC-2009]	HK0925476-053	20		
IMO6 MID-EBB B DUP	[04-DEC-2009]	HK0925476-054	18		
C2 (NM5) MID-EBB S	[04-DEC-2009]	HK0925476-055	17		
C2 (NM5) MID-EBB S DUP	[04-DEC-2009]	HK0925476-056	18		
C2 (NM5) MID-EBB M	[04-DEC-2009]	HK0925476-057	18		
C2 (NM5) MID-EBB M DUP	[04-DEC-2009]	HK0925476-058	20		
C2 (NM5) MID-EBB B	[04-DEC-2009]	HK0925476-059	18		

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Client : ERM HONG KONG

Work Order HK0925476



Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
Chem campio 12	time	ID	Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[04-DEC-2009]	HK0925476-060	19		
MPB1 MID-FLOOD S	[04-DEC-2009]	HK0925476-061	17		
MPB1 MID-FLOOD S DUP	[04-DEC-2009]	HK0925476-062	20		
MPB1 MID-FLOOD M	[04-DEC-2009]	HK0925476-063	17		
MPB1 MID-FLOOD M DUP	[04-DEC-2009]	HK0925476-064	18		
MPB1 MID-FLOOD B	[04-DEC-2009]	HK0925476-065	15		
MPB1 MID-FLOOD B DUP	[04-DEC-2009]	HK0925476-066	15		
MPB2 MID-FLOOD S	[04-DEC-2009]	HK0925476-067	20		
MPB2 MID-FLOOD S DUP	[04-DEC-2009]	HK0925476-068	18		
MPB2 MID-FLOOD M	[04-DEC-2009]	HK0925476-069	17		
MPB2 MID-FLOOD M DUP	[04-DEC-2009]	HK0925476-070	20		
MPB2 MID-FLOOD B	[04-DEC-2009]	HK0925476-071	14		
MPB2 MID-FLOOD B DUP	[04-DEC-2009]	HK0925476-072	16		
MP MID-FLOOD S	[04-DEC-2009]	HK0925476-073	15		
MP MID-FLOOD S DUP	[04-DEC-2009]	HK0925476-074	16		
MP MID-FLOOD M	[04-DEC-2009]	HK0925476-075	15		
MP MID-FLOOD M DUP	[04-DEC-2009]	HK0925476-076	18		
MP MID-FLOOD B	[04-DEC-2009]	HK0925476-077	16		
MP MID-FLOOD B DUP	[04-DEC-2009]	HK0925476-078	17		
IMO5 MID-FLOOD S	[04-DEC-2009]	HK0925476-103	17		
IMO5 MID-FLOOD S DUP	[04-DEC-2009]	HK0925476-104	18		
IMO5 MID-FLOOD M	[04-DEC-2009]	HK0925476-105	18		
IMO5 MID-FLOOD M DUP	[04-DEC-2009]	HK0925476-106	18		
IMO5 MID-FLOOD B	[04-DEC-2009]	HK0925476-107	18		
IMO5 MID-FLOOD B DUP	[04-DEC-2009]	HK0925476-108	19		
IMO6 MID-FLOOD S	[04-DEC-2009]	HK0925476-109	19		
IMO6 MID-FLOOD S DUP	[04-DEC-2009]	HK0925476-110	17		
IMO6 MID-FLOOD M	[04-DEC-2009]	HK0925476-111	24		
IMO6 MID-FLOOD M DUP	[04-DEC-2009]	HK0925476-112	22		
IMO6 MID-FLOOD B	[04-DEC-2009]	HK0925476-113	19		
IMO6 MID-FLOOD B DUP	[04-DEC-2009]	HK0925476-114	16		
C1 (NM3) MID-FLOOD S	[04-DEC-2009]	HK0925476-115	18		
C1 (NM3) MID-FLOOD S DUP	[04-DEC-2009]	HK0925476-116	16		
C1 (NM3) MID-FLOOD M	[04-DEC-2009]	HK0925476-117	22		
C1 (NM3) MID-FLOOD M DUP	[04-DEC-2009]	HK0925476-118	19		

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Client

: ERM HONG KONG

Work Order HK0925476



Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[04-DEC-2009]	HK0925476-119	20		
C1 (NM3) MID-FLOOD B DUP	[04-DEC-2009]	HK0925476-120	17		
C3 (NM6) MID-FLOOD S	[04-DEC-2009]	HK0925476-121	15		
C3 (NM6) MID-FLOOD S DUP	[04-DEC-2009]	HK0925476-122	18		
C3 (NM6) MID-FLOOD M	[04-DEC-2009]	HK0925476-123	18		
C3 (NM6) MID-FLOOD M DUP	[04-DEC-2009]	HK0925476-124	17		
C3 (NM6) MID-FLOOD B	[04-DEC-2009]	HK0925476-125	19		
C3 (NM6) MID-FLOOD B DUP	[04-DEC-2009]	HK0925476-126	16		

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Client : ERM HONG KONG

Work Order HK0925476



## Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)		
EA/ED: Physical and	d Aggregate Properties (Q0	C Lot: 1186756)								
HK0925476-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	19	17	10.3		
HK0925476-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	17	17	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1186757)								
HK0925476-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	17	20	12.2		
HK0925476-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	17	16	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1186758)								
HK0925476-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	15	17	12.3		
HK0925476-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	15	16	0.0		
EA/ED: Physical and	d Aggregate Properties (Q0	C Lot: 1186759)								
HK0925476-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	19	20	7.7		
HK0925476-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	20	18	12.6		

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

				<u>-</u>						
Matrix: WATER		Method Blank (M	B) Report		Laboratory Control S	pike (LCS) and Laborate	ory Control S	pike Duplica	te (DCS) Report	
				Spike	Spike Red	covery (%)	Recovery	Limits (%)	RPD	s (%)
Method: Compound CAS Numi	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 11867	6)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	110		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11867	7)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	114		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11867	8)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11867	9)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	102		85	115		

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

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

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



## **CERTIFICATE OF ANALYSIS**

Client: ERM HONG KONG Laboratory: ALS Technichem HK Pty Ltd Page: 1 of 5

Contact : MS FRANCESCA ZINO Contact : Chan Kwok Fai, Godfrey Work Order : HK0925578

Address : 21/F, LINCOLN HOUSE, 979 KING`S ROAD, Address : 11/F., Chung Shun Knitting Centre,

TAIKOO PLACE, ISLAND EAST, 1 - 3 Wing Yip Street,

QUARRY BAY, HONG KONG Kwai Chung, N.T., Hong Kong

 Telephone
 : +852 2271 3000
 Telephone
 : +852 2610 1044

 Facsimile
 : +852 2723 5660
 Facsimile
 : +852 2610 2021

Project: TUEN MUN

Quote number: HK/1426c/2009\*\*

Date received: 05-DEC-2009

Order number : ---- Date of issue : 09-DEC-2009

C-O-C number : ---- No. of samples - Received : 78

Site : ---- - Analysed : 78

## **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925578 supersedes any previous reports with this reference. The completion date of analysis is 08-DEC-2009. 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 HK0925578: Sample(s) were collected by ALS Technichem (HK) staff on 05 December, 2009.

Water sample(s) analysed and reported on an as received basis.

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of Hong Kong, Chapter 553, Section 6.

Signatory Position Authorised results for:-

Fung Lim Chee, Richard General Manager Inorganics

: 2 of 5 Client : ERM HONG KONG

Work Order HK0925578



# Analytical Results

Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
Jan Mann Centralen		Combodila	Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[05-DEC-2009]	HK0925578-001	17		
MPB1 MID-EBB S DUP	[05-DEC-2009]	HK0925578-002	20		
MPB1 MID-EBB M	[05-DEC-2009]	HK0925578-003	20		
MPB1 MID-EBB M DUP	[05-DEC-2009]	HK0925578-004	18		
MPB1 MID-EBB B	[05-DEC-2009]	HK0925578-005	19		
MPB1 MID-EBB B DUP	[05-DEC-2009]	HK0925578-006	17		
MPB2 MID-EBB S	[05-DEC-2009]	HK0925578-007	22		
MPB2 MID-EBB S DUP	[05-DEC-2009]	HK0925578-008	20		
MPB2 MID-EBB M	[05-DEC-2009]	HK0925578-009	21		
MPB2 MID-EBB M DUP	[05-DEC-2009]	HK0925578-010	18		
MPB2 MID-EBB B	[05-DEC-2009]	HK0925578-011	23		
MPB2 MID-EBB B DUP	[05-DEC-2009]	HK0925578-012	22		
MP MID-EBB S	[05-DEC-2009]	HK0925578-013	26		
MP MID-EBB S DUP	[05-DEC-2009]	HK0925578-014	25		
MP MID-EBB M	[05-DEC-2009]	HK0925578-015	22		
MP MID-EBB M DUP	[05-DEC-2009]	HK0925578-016	24		
MP MID-EBB B	[05-DEC-2009]	HK0925578-017	25		
MP MID-EBB B DUP	[05-DEC-2009]	HK0925578-018	24		
IMO5 MID-EBB S	[05-DEC-2009]	HK0925578-043	45		
IMO5 MID-EBB S DUP	[05-DEC-2009]	HK0925578-044	40		
IMO5 MID-EBB M	[05-DEC-2009]	HK0925578-045	44		
IMO5 MID-EBB M DUP	[05-DEC-2009]	HK0925578-046	50		
IMO5 MID-EBB B	[05-DEC-2009]	HK0925578-047	52		
IMO5 MID-EBB B DUP	[05-DEC-2009]	HK0925578-048	56		
IMO6 MID-EBB S	[05-DEC-2009]	HK0925578-049	40		
IMO6 MID-EBB S DUP	[05-DEC-2009]	HK0925578-050	37		
IMO6 MID-EBB M	[05-DEC-2009]	HK0925578-051	32		
IMO6 MID-EBB M DUP	[05-DEC-2009]	HK0925578-052	28		
IMO6 MID-EBB B	[05-DEC-2009]	HK0925578-053	32		
IMO6 MID-EBB B DUP	[05-DEC-2009]	HK0925578-054	33		
C2 (NM5) MID-EBB S	[05-DEC-2009]	HK0925578-055	39		
C2 (NM5) MID-EBB S DUP	[05-DEC-2009]	HK0925578-056	44		
C2 (NM5) MID-EBB M	[05-DEC-2009]	HK0925578-057	39		
C2 (NM5) MID-EBB M DUP	[05-DEC-2009]	HK0925578-058	45		
C2 (NM5) MID-EBB B	[05-DEC-2009]	HK0925578-059	50		

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Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[05-DEC-2009]	HK0925578-060	58		
MPB1 MID-FLOOD S	[05-DEC-2009]	HK0925578-061	21		
MPB1 MID-FLOOD S DUP	[05-DEC-2009]	HK0925578-062	19		
MPB1 MID-FLOOD M	[05-DEC-2009]	HK0925578-063	25		
MPB1 MID-FLOOD M DUP	[05-DEC-2009]	HK0925578-064	23		
MPB1 MID-FLOOD B	[05-DEC-2009]	HK0925578-065	22		
MPB1 MID-FLOOD B DUP	[05-DEC-2009]	HK0925578-066	26		
MPB2 MID-FLOOD S	[05-DEC-2009]	HK0925578-067	24		
MPB2 MID-FLOOD S DUP	[05-DEC-2009]	HK0925578-068	23		
MPB2 MID-FLOOD M	[05-DEC-2009]	HK0925578-069	28		
MPB2 MID-FLOOD M DUP	[05-DEC-2009]	HK0925578-070	23		
MPB2 MID-FLOOD B	[05-DEC-2009]	HK0925578-071	26		
MPB2 MID-FLOOD B DUP	[05-DEC-2009]	HK0925578-072	30		
MP MID-FLOOD S	[05-DEC-2009]	HK0925578-073	28		
MP MID-FLOOD S DUP	[05-DEC-2009]	HK0925578-074	25		
MP MID-FLOOD M	[05-DEC-2009]	HK0925578-075	29		
MP MID-FLOOD M DUP	[05-DEC-2009]	HK0925578-076	29		
MP MID-FLOOD B	[05-DEC-2009]	HK0925578-077	38		
MP MID-FLOOD B DUP	[05-DEC-2009]	HK0925578-078	35		
IMO5 MID-FLOOD S	[05-DEC-2009]	HK0925578-103	43		
IMO5 MID-FLOOD S DUP	[05-DEC-2009]	HK0925578-104	42		
IMO5 MID-FLOOD M	[05-DEC-2009]	HK0925578-105	39		
IMO5 MID-FLOOD M DUP	[05-DEC-2009]	HK0925578-106	43		
IMO5 MID-FLOOD B	[05-DEC-2009]	HK0925578-107	46		
IMO5 MID-FLOOD B DUP	[05-DEC-2009]	HK0925578-108	44		
IMO6 MID-FLOOD S	[05-DEC-2009]	HK0925578-109	30		
IMO6 MID-FLOOD S DUP	[05-DEC-2009]	HK0925578-110	30		
IMO6 MID-FLOOD M	[05-DEC-2009]	HK0925578-111	52		
IMO6 MID-FLOOD M DUP	[05-DEC-2009]	HK0925578-112	49		
IMO6 MID-FLOOD B	[05-DEC-2009]	HK0925578-113	37		
IMO6 MID-FLOOD B DUP	[05-DEC-2009]	HK0925578-114	34		
C1 (NM3) MID-FLOOD S	[05-DEC-2009]	HK0925578-115	36		
C1 (NM3) MID-FLOOD S DUP	[05-DEC-2009]	HK0925578-116	32		
C1 (NM3) MID-FLOOD M	[05-DEC-2009]	HK0925578-117	35		
C1 (NM3) MID-FLOOD M DUP	[05-DEC-2009]	HK0925578-118	28		

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Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[05-DEC-2009]	HK0925578-119	36		
C1 (NM3) MID-FLOOD B DUP	[05-DEC-2009]	HK0925578-120	40		
C3 (NM6) MID-FLOOD S	[05-DEC-2009]	HK0925578-121	23		
C3 (NM6) MID-FLOOD S DUP	[05-DEC-2009]	HK0925578-122	26		
C3 (NM6) MID-FLOOD M	[05-DEC-2009]	HK0925578-123	20		
C3 (NM6) MID-FLOOD M DUP	[05-DEC-2009]	HK0925578-124	22		
C3 (NM6) MID-FLOOD B	[05-DEC-2009]	HK0925578-125	16		
C3 (NM6) MID-FLOOD B DUP	[05-DEC-2009]	HK0925578-126	19		

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Client : ERM HONG KONG

Work Order HK0925578



## Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)			
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1188619)									
HK0925578-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	17	19	11.7			
HK0925578-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	23	20	12.8			
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1188620)									
HK0925578-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	44	47	5.6			
HK0925578-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	39	40	3.1			
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1188621)									
HK0925578-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	22	24	8.9			
HK0925578-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	29	25	12.3			
EA/ED: Physical and	d Aggregate Properties (Q0	C Lot: 1188622)									
HK0925578-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	30	26	14.9			
HK0925578-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	36	38	4.9			

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

	-			<u>-</u>	· · · ·						
Matrix: WATER		Method Blank (M	B) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
				Spike	Spike Red	covery (%)	Recovery	Limits (%)	RPD	s (%)	
Method: Compound CAS Num	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit	
EA/ED: Physical and Aggregate Properties (QCLot: 11886	9)										
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	93.0		85	115			
EA/ED: Physical and Aggregate Properties (QCLot: 11886	20)										
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	112		85	115			
EA/ED: Physical and Aggregate Properties (QCLot: 11886	21)										
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	112		85	115			
EA/ED: Physical and Aggregate Properties (QCLot: 11886	22)										
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	110		85	115			

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

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

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

Client: ERM HONG KONG Laboratory: ALS Technichem HK Pty Ltd Page: 1 of 5

Contact : MS FRANCESCA ZINO Contact : Chan Kwok Fai, Godfrey Work Order : HK0925761

Address : 21/F, LINCOLN HOUSE, 979 KING'S ROAD, Address : 11/F,, Chung Shun Knitting Centre,

TAIKOO PLACE, ISLAND EAST, 1 - 3 Wing Yip Street,

QUARRY BAY, HONG KONG Kwai Chung, N.T., Hong Kong

 Telephone
 : +852 2271 3000
 Telephone
 : +852 2610 1044

 Facsimile
 : +852 2723 5660
 Facsimile
 : +852 2610 2021

Project: TUEN MUN

Quote number: HK/1426c/2009\*\*

Date received: 07-DEC-2009

Order number : ---- Date of issue : 11-DEC-2009

C-O-C number : ---- No. of samples - Received : 78

Site : ---- - Analysed : 78

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925761 supersedes any previous reports with this reference. The completion date of analysis is 10-DEC-2009. 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 HK0925761: Sample(s) were collected by ALS Technichem (HK) staff on 06 December, 2009.

Water sample(s) analysed and reported on an as received basis.

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of Hong Kong, Chapter 553, Section 6.

Signatory Position Authorised results for:-

Fung Lim Chee, Richard General Manager Inorganics

Page Number : 2 of 5

Client : ERM HONG KONG

Work Order HK0925761



# Analytical Results

Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Client sample ID	Oliont compliant data /		EA/ED: Physical and		
Onen sample 15	Client sampling date / time	Laboratory sample ID	Aggregate Properties		
MPB1 MID-EBB S	[06-DEC-2009]	HK0925761-001	20		
MPB1 MID-EBB S DUP	[06-DEC-2009]	HK0925761-002	18		
MPB1 MID-EBB M	[06-DEC-2009]	HK0925761-003	19		
MPB1 MID-EBB M DUP	[06-DEC-2009]	HK0925761-004	20		
MPB1 MID-EBB B	[06-DEC-2009]	HK0925761-005	24		
MPB1 MID-EBB B DUP	[06-DEC-2009]	HK0925761-006	26		
MPB2 MID-EBB S	[06-DEC-2009]	HK0925761-007	23		
MPB2 MID-EBB S DUP	[06-DEC-2009]	HK0925761-008	26		
MPB2 MID-EBB M	[06-DEC-2009]	HK0925761-009	26		
MPB2 MID-EBB M DUP	[06-DEC-2009]	HK0925761-010	21		
MPB2 MID-EBB B	[06-DEC-2009]	HK0925761-011	21		
MPB2 MID-EBB B DUP	[06-DEC-2009]	HK0925761-012	18		
MP MID-EBB S	[06-DEC-2009]	HK0925761-013	21		
MP MID-EBB S DUP	[06-DEC-2009]	HK0925761-014	20		
MP MID-EBB M	[06-DEC-2009]	HK0925761-015	24		
MP MID-EBB M DUP	[06-DEC-2009]	HK0925761-016	20		
MP MID-EBB B	[06-DEC-2009]	HK0925761-017	26		
MP MID-EBB B DUP	[06-DEC-2009]	HK0925761-018	22		
IMO5 MID-EBB S	[06-DEC-2009]	HK0925761-043	22		
IMO5 MID-EBB S DUP	[06-DEC-2009]	HK0925761-044	19		
IMO5 MID-EBB M	[06-DEC-2009]	HK0925761-045	16		
IMO5 MID-EBB M DUP	[06-DEC-2009]	HK0925761-046	17		
IMO5 MID-EBB B	[06-DEC-2009]	HK0925761-047	16		
IMO5 MID-EBB B DUP	[06-DEC-2009]	HK0925761-048	17		
IMO6 MID-EBB S	[06-DEC-2009]	HK0925761-049	21		
IMO6 MID-EBB S DUP	[06-DEC-2009]	HK0925761-050	19		
IMO6 MID-EBB M	[06-DEC-2009]	HK0925761-051	18		
IMO6 MID-EBB M DUP	[06-DEC-2009]	HK0925761-052	21		
IMO6 MID-EBB B	[06-DEC-2009]	HK0925761-053	20		
IMO6 MID-EBB B DUP	[06-DEC-2009]	HK0925761-054	22		
C2 (NM5) MID-EBB S	[06-DEC-2009]	HK0925761-055	19		
C2 (NM5) MID-EBB S DUP	[06-DEC-2009]	HK0925761-056	17		
C2 (NM5) MID-EBB M	[06-DEC-2009]	HK0925761-057	17		
C2 (NM5) MID-EBB M DUP	[06-DEC-2009]	HK0925761-058	18		
C2 (NM5) MID-EBB B	[06-DEC-2009]	HK0925761-059	20		

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Client

: ERM HONG KONG

Work Order HK0925761



Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[06-DEC-2009]	HK0925761-060	16		
MPB1 MID-FLOOD S	[06-DEC-2009]	HK0925761-061	17		
MPB1 MID-FLOOD S DUP	[06-DEC-2009]	HK0925761-062	17		
MPB1 MID-FLOOD M	[06-DEC-2009]	HK0925761-063	20		
MPB1 MID-FLOOD M DUP	[06-DEC-2009]	HK0925761-064	19		
MPB1 MID-FLOOD B	[06-DEC-2009]	HK0925761-065	23		
MPB1 MID-FLOOD B DUP	[06-DEC-2009]	HK0925761-066	20		
MPB2 MID-FLOOD S	[06-DEC-2009]	HK0925761-067	19		
MPB2 MID-FLOOD S DUP	[06-DEC-2009]	HK0925761-068	20		
MPB2 MID-FLOOD M	[06-DEC-2009]	HK0925761-069	19		
MPB2 MID-FLOOD M DUP	[06-DEC-2009]	HK0925761-070	20		
MPB2 MID-FLOOD B	[06-DEC-2009]	HK0925761-071	18		
MPB2 MID-FLOOD B DUP	[06-DEC-2009]	HK0925761-072	18		
MP MID-FLOOD S	[06-DEC-2009]	HK0925761-073	14		
MP MID-FLOOD S DUP	[06-DEC-2009]	HK0925761-074	16		
MP MID-FLOOD M	[06-DEC-2009]	HK0925761-075	13		
MP MID-FLOOD M DUP	[06-DEC-2009]	HK0925761-076	16		
MP MID-FLOOD B	[06-DEC-2009]	HK0925761-077	15		
MP MID-FLOOD B DUP	[06-DEC-2009]	HK0925761-078	13		
IMO5 MID-FLOOD S	[06-DEC-2009]	HK0925761-103	19		
IMO5 MID-FLOOD S DUP	[06-DEC-2009]	HK0925761-104	19		
IMO5 MID-FLOOD M	[06-DEC-2009]	HK0925761-105	18		
IMO5 MID-FLOOD M DUP	[06-DEC-2009]	HK0925761-106	17		
IMO5 MID-FLOOD B	[06-DEC-2009]	HK0925761-107	19		
IMO5 MID-FLOOD B DUP	[06-DEC-2009]	HK0925761-108	18		
IMO6 MID-FLOOD S	[06-DEC-2009]	HK0925761-109	17		
IMO6 MID-FLOOD S DUP	[06-DEC-2009]	HK0925761-110	18		
IMO6 MID-FLOOD M	[06-DEC-2009]	HK0925761-111	19		
IMO6 MID-FLOOD M DUP	[06-DEC-2009]	HK0925761-112	19		
IMO6 MID-FLOOD B	[06-DEC-2009]	HK0925761-113	16		
IMO6 MID-FLOOD B DUP	[06-DEC-2009]	HK0925761-114	16		
C1 (NM3) MID-FLOOD S	[06-DEC-2009]	HK0925761-115	20		
C1 (NM3) MID-FLOOD S DUP	[06-DEC-2009]	HK0925761-116	23		
C1 (NM3) MID-FLOOD M	[06-DEC-2009]	HK0925761-117	23		
C1 (NM3) MID-FLOOD M DUP	[06-DEC-2009]	HK0925761-118	20		

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Client

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Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[06-DEC-2009]	HK0925761-119	20		
C1 (NM3) MID-FLOOD B DUP	[06-DEC-2009]	HK0925761-120	21		
C3 (NM6) MID-FLOOD S	[06-DEC-2009]	HK0925761-121	20		
C3 (NM6) MID-FLOOD S DUP	[06-DEC-2009]	HK0925761-122	21		
C3 (NM6) MID-FLOOD M	[06-DEC-2009]	HK0925761-123	18		
C3 (NM6) MID-FLOOD M DUP	[06-DEC-2009]	HK0925761-124	19		
C3 (NM6) MID-FLOOD B	[06-DEC-2009]	HK0925761-125	19		
C3 (NM6) MID-FLOOD B DUP	[06-DEC-2009]	HK0925761-126	19		

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Client : ERM HONG KONG

Work Order HK0925761



## Laboratory Duplicate (DUP) Report

Matrix: WATER					Labo	oratory Duplicate (DUP) I	Report	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1188624)						
HK0925761-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	20	18	12.2
HK0925761-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	21	22	5.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1188625)						
HK0925761-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	16	16	0.0
HK0925761-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	19	18	5.7
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1188626)						
HK0925761-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	23	26	13.3
HK0925761-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	13	15	12.7
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1188627)						
HK0925761-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	17	17	0.0
HK0925761-120	C1 (NM3) MID-FLOOD B DUP	EA025: Suspended Solids (SS)		2	mg/L	21	18	14.3

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

Matrix: WATER			Method Blank (ME	B) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report							
					Spike	Spike Red	overy (%)	Recovery	Limits (%)	RPD	s (%)	
Method: Compound Ca	AS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit	
EA/ED: Physical and Aggregate Properties (QCLot:	1188624)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115			
EA/ED: Physical and Aggregate Properties (QCLot:	1188625)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	110		85	115			
EA/ED: Physical and Aggregate Properties (QCLot:	1188626)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	99.0		85	115			
EA/ED: Physical and Aggregate Properties (QCLot:	1188627)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	106		85	115			

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

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

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

Client : ERM HONG KONG Laboratory : ALS Technichem HK Pty Ltd

Contact : MS FRANCESCA ZINO Contact : Chan Kwok Fai, Godfrey

21/F, LINCOLN HOUSE, 979 KING'S ROAD. Address 11/F., Chung Shun Knitting Centre,

TAIKOO PLACE, ISLAND EAST, 1 - 3 Wing Yip Street,

QUARRY BAY, HONG KONG Kwai Chung, N.T., Hong Kong

 Telephone
 : +852 2271 3000
 Telephone
 : +852 2610 1044

 Facsimile
 : +852 2723 5660
 Facsimile
 : +852 2610 2021

Project: TUEN MUN

Quote number: HK/1426c/2009\*\*

Date received: 07-DEC-2009

Order number : --- Date of issue : 12-DEC-2009

C-O-C number : ---- No. of samples - Received : 78

Site : ---- - Analysed : 78

#### **Report Comments**

Address

E-mail

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925762 supersedes any previous reports with this reference. The completion date of analysis is 10-DEC-2009. 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 HK0925762: Sample(s) were collected by ALS Technichem (HK) staff on 07 December, 2009.

Water sample(s) analysed and reported on an as received basis.

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of Hong Kong, Chapter 553, Section 6.

Signatory Position Authorised results for:-

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HK0925762

Fung Lim Chee, Richard General Manager Inorganics

: 2 of 5 Client : ERM HONG KONG

Work Order HK0925762



# Analytical Results

Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[07-DEC-2009]	HK0925762-001	13		
MPB1 MID-EBB S DUP	[07-DEC-2009]	HK0925762-002	10		
MPB1 MID-EBB M	[07-DEC-2009]	HK0925762-003	12		
MPB1 MID-EBB M DUP	[07-DEC-2009]	HK0925762-004	10		
MPB1 MID-EBB B	[07-DEC-2009]	HK0925762-005	10		
MPB1 MID-EBB B DUP	[07-DEC-2009]	HK0925762-006	10		
MPB2 MID-EBB S	[07-DEC-2009]	HK0925762-007	13		
MPB2 MID-EBB S DUP	[07-DEC-2009]	HK0925762-008	11		
MPB2 MID-EBB M	[07-DEC-2009]	HK0925762-009	15		
MPB2 MID-EBB M DUP	[07-DEC-2009]	HK0925762-010	12		
MPB2 MID-EBB B	[07-DEC-2009]	HK0925762-011	11		
MPB2 MID-EBB B DUP	[07-DEC-2009]	HK0925762-012	11		
MP MID-EBB S	[07-DEC-2009]	HK0925762-013	9		
MP MID-EBB S DUP	[07-DEC-2009]	HK0925762-014	9		
MP MID-EBB M	[07-DEC-2009]	HK0925762-015	9		
MP MID-EBB M DUP	[07-DEC-2009]	HK0925762-016	10		
MP MID-EBB B	[07-DEC-2009]	HK0925762-017	9		
MP MID-EBB B DUP	[07-DEC-2009]	HK0925762-018	8		
IMO5 MID-EBB S	[07-DEC-2009]	HK0925762-043	13		
IMO5 MID-EBB S DUP	[07-DEC-2009]	HK0925762-044	10		
IMO5 MID-EBB M	[07-DEC-2009]	HK0925762-045	10		
IMO5 MID-EBB M DUP	[07-DEC-2009]	HK0925762-046	10		
IMO5 MID-EBB B	[07-DEC-2009]	HK0925762-047	10		
IMO5 MID-EBB B DUP	[07-DEC-2009]	HK0925762-048	8		
IMO6 MID-EBB S	[07-DEC-2009]	HK0925762-049	10		
IMO6 MID-EBB S DUP	[07-DEC-2009]	HK0925762-050	10		
IMO6 MID-EBB M	[07-DEC-2009]	HK0925762-051	7		
IMO6 MID-EBB M DUP	[07-DEC-2009]	HK0925762-052	9		
IMO6 MID-EBB B	[07-DEC-2009]	HK0925762-053	11		
IMO6 MID-EBB B DUP	[07-DEC-2009]	HK0925762-054	13		
C2 (NM5) MID-EBB S	[07-DEC-2009]	HK0925762-055	9		
C2 (NM5) MID-EBB S DUP	[07-DEC-2009]	HK0925762-056	8		
C2 (NM5) MID-EBB M	[07-DEC-2009]	HK0925762-057	12		
C2 (NM5) MID-EBB M DUP	[07-DEC-2009]	HK0925762-058	15		
C2 (NM5) MID-EBB B	[07-DEC-2009]	HK0925762-059	10		

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HK0925762



Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[07-DEC-2009]	HK0925762-060	11		
MPB1 MID-FLOOD S	[07-DEC-2009]	HK0925762-061	13		
MPB1 MID-FLOOD S DUP	[07-DEC-2009]	HK0925762-062	10		
MPB1 MID-FLOOD M	[07-DEC-2009]	HK0925762-063	11		
MPB1 MID-FLOOD M DUP	[07-DEC-2009]	HK0925762-064	12		
MPB1 MID-FLOOD B	[07-DEC-2009]	HK0925762-065	11		
MPB1 MID-FLOOD B DUP	[07-DEC-2009]	HK0925762-066	13		
MPB2 MID-FLOOD S	[07-DEC-2009]	HK0925762-067	11		
MPB2 MID-FLOOD S DUP	[07-DEC-2009]	HK0925762-068	11		
MPB2 MID-FLOOD M	[07-DEC-2009]	HK0925762-069	14		
MPB2 MID-FLOOD M DUP	[07-DEC-2009]	HK0925762-070	12		
MPB2 MID-FLOOD B	[07-DEC-2009]	HK0925762-071	12		
MPB2 MID-FLOOD B DUP	[07-DEC-2009]	HK0925762-072	10		
MP MID-FLOOD S	[07-DEC-2009]	HK0925762-073	15		
MP MID-FLOOD S DUP	[07-DEC-2009]	HK0925762-074	12		
MP MID-FLOOD M	[07-DEC-2009]	HK0925762-075	15		
MP MID-FLOOD M DUP	[07-DEC-2009]	HK0925762-076	12		
MP MID-FLOOD B	[07-DEC-2009]	HK0925762-077	12		
MP MID-FLOOD B DUP	[07-DEC-2009]	HK0925762-078	11		
IMO5 MID-FLOOD S	[07-DEC-2009]	HK0925762-103	10		
IMO5 MID-FLOOD S DUP	[07-DEC-2009]	HK0925762-104	10		
IMO5 MID-FLOOD M	[07-DEC-2009]	HK0925762-105	10		
IMO5 MID-FLOOD M DUP	[07-DEC-2009]	HK0925762-106	11		
IMO5 MID-FLOOD B	[07-DEC-2009]	HK0925762-107	10		
IMO5 MID-FLOOD B DUP	[07-DEC-2009]	HK0925762-108	13		
IMO6 MID-FLOOD S	[07-DEC-2009]	HK0925762-109	10		
IMO6 MID-FLOOD S DUP	[07-DEC-2009]	HK0925762-110	12		
IMO6 MID-FLOOD M	[07-DEC-2009]	HK0925762-111	12		
IMO6 MID-FLOOD M DUP	[07-DEC-2009]	HK0925762-112	16		
IMO6 MID-FLOOD B	[07-DEC-2009]	HK0925762-113	12		
IMO6 MID-FLOOD B DUP	[07-DEC-2009]	HK0925762-114	12		
C1 (NM3) MID-FLOOD S	[07-DEC-2009]	HK0925762-115	11		
C1 (NM3) MID-FLOOD S DUP	[07-DEC-2009]	HK0925762-116	14		
C1 (NM3) MID-FLOOD M	[07-DEC-2009]	HK0925762-117	10		
C1 (NM3) MID-FLOOD M DUP	[07-DEC-2009]	HK0925762-118	12		

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Client

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HK0925762



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[07-DEC-2009]	HK0925762-119	12		
C1 (NM3) MID-FLOOD B DUP	[07-DEC-2009]	HK0925762-120	12		
C3 (NM6) MID-FLOOD S	[07-DEC-2009]	HK0925762-121	11		
C3 (NM6) MID-FLOOD S DUP	[07-DEC-2009]	HK0925762-122	10		
C3 (NM6) MID-FLOOD M	[07-DEC-2009]	HK0925762-123	11		
C3 (NM6) MID-FLOOD M DUP	[07-DEC-2009]	HK0925762-124	12		
C3 (NM6) MID-FLOOD B	[07-DEC-2009]	HK0925762-125	12		
C3 (NM6) MID-FLOOD B DUP	[07-DEC-2009]	HK0925762-126	11		

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Client : ERM HONG KONG

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## Laboratory Duplicate (DUP) Report

Matrix: WATER					Labo	oratory Duplicate (DUP) F	Report	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and	d Aggregate Properties (Q0	C Lot: 1188639)						
HK0925762-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	13	12	12.8
HK0925762-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	11	12	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1188640)						
HK0925762-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	10	11	0.0
HK0925762-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	9	10	11.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1188641)						
HK0925762-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	11	12	0.0
HK0925762-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	15	17	11.7
EA/ED: Physical and	d Aggregate Properties (Q0	C Lot: 1188642)						
HK0925762-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	10	10	0.0
HK0925762-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	12	12	0.0

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

Matrix: WATER			Method Blank (ME	B) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Red	covery (%)	Recovery	Limits (%)	RPD	s (%)
Method: Compound CAS Nu	ımber	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 118	8639)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	108		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118	8640)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118	8641)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118	8642)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115		

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

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

# **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



## **CERTIFICATE OF ANALYSIS**

· ERM HONG KONG Client Contact

: MS FRANCESCA ZINO

: 21/F, LINCOLN HOUSE, 979 KING'S ROAD,

TAIKOO PLACE, ISLAND EAST,

**QUARRY BAY, HONG KONG** 

E-mail francesca.zino@erm.com

+852 2271 3000 Telephone +852 2723 5660

Facsimile Project : TUEN MUN

Order number

C-O-C number

Address

Site

Laboratory

Address

E-mail

: ALS Technichem HK Pty Ltd

: Chan Kwok Fai, Godfrey Contact

: 11/F., Chung Shun Knitting Centre,

1 - 3 Wing Yip Street,

Kwai Chung, N.T., Hong Kong

: Godfrey.Chan@alsenviro.com

+852 2610 1044 Telephone

Facsimile +852 2610 2021 Quote number

· HK/1426c/2009\*\*

Date received

Page

Work Order

· 08-DEC-2009

: 1 of 5

HK0925812

· 12-DEC-2009

Date of issue No. of samples

Received

78 78

Analysed

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925812 supersedes any previous reports with this reference. The completion date of analysis is 11-DEC-2009. 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 HK0925812:

: ----

Sample(s) were collected by ALS Technichem (HK) staff on 08 December, 2009.

Water sample(s) analysed and reported on an as received basis.

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of Hong Kong, Chapter 553, Section 6. Signatory

Fung Lim Chee, Richard

Position

**General Manager** 

Authorised results for:-

Inorganics

: 2 of 5 Client : ERM HONG KONG

Work Order HK0925812



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[08-DEC-2009]	HK0925812-001	11		
MPB1 MID-EBB S DUP	[08-DEC-2009]	HK0925812-002	10		
MPB1 MID-EBB M	[08-DEC-2009]	HK0925812-003	9		
MPB1 MID-EBB M DUP	[08-DEC-2009]	HK0925812-004	9		
MPB1 MID-EBB B	[08-DEC-2009]	HK0925812-005	13		
MPB1 MID-EBB B DUP	[08-DEC-2009]	HK0925812-006	10		
MPB2 MID-EBB S	[08-DEC-2009]	HK0925812-007	11		
MPB2 MID-EBB S DUP	[08-DEC-2009]	HK0925812-008	13		
MPB2 MID-EBB M	[08-DEC-2009]	HK0925812-009	12		
MPB2 MID-EBB M DUP	[08-DEC-2009]	HK0925812-010	12		
MPB2 MID-EBB B	[08-DEC-2009]	HK0925812-011	13		
MPB2 MID-EBB B DUP	[08-DEC-2009]	HK0925812-012	13		
MP MID-EBB S	[08-DEC-2009]	HK0925812-013	12		
MP MID-EBB S DUP	[08-DEC-2009]	HK0925812-014	12		
MP MID-EBB M	[08-DEC-2009]	HK0925812-015	11		
MP MID-EBB M DUP	[08-DEC-2009]	HK0925812-016	11		
MP MID-EBB B	[08-DEC-2009]	HK0925812-017	12		
MP MID-EBB B DUP	[08-DEC-2009]	HK0925812-018	11		
IMO5 MID-EBB S	[08-DEC-2009]	HK0925812-043	11		
IMO5 MID-EBB S DUP	[08-DEC-2009]	HK0925812-044	11		
IMO5 MID-EBB M	[08-DEC-2009]	HK0925812-045	12		
IMO5 MID-EBB M DUP	[08-DEC-2009]	HK0925812-046	11		
IMO5 MID-EBB B	[08-DEC-2009]	HK0925812-047	9		
IMO5 MID-EBB B DUP	[08-DEC-2009]	HK0925812-048	10		
IMO6 MID-EBB S	[08-DEC-2009]	HK0925812-049	11		
IMO6 MID-EBB S DUP	[08-DEC-2009]	HK0925812-050	11		
IMO6 MID-EBB M	[08-DEC-2009]	HK0925812-051	12		
IMO6 MID-EBB M DUP	[08-DEC-2009]	HK0925812-052	12		
IMO6 MID-EBB B	[08-DEC-2009]	HK0925812-053	12		
IMO6 MID-EBB B DUP	[08-DEC-2009]	HK0925812-054	13		
C2 (NM5) MID-EBB S	[08-DEC-2009]	HK0925812-055	11		
C2 (NM5) MID-EBB S DUP	[08-DEC-2009]	HK0925812-056	10		
C2 (NM5) MID-EBB M	[08-DEC-2009]	HK0925812-057	10		
C2 (NM5) MID-EBB M DUP	[08-DEC-2009]	HK0925812-058	11		
C2 (NM5) MID-EBB B	[08-DEC-2009]	HK0925812-059	11		

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: ERM HONG KONG

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Sub-Matrix: SEAWATER		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[08-DEC-2009]	HK0925812-060	9		
MPB1 MID-FLOOD S	[08-DEC-2009]	HK0925812-061	11		
MPB1 MID-FLOOD S DUP	[08-DEC-2009]	HK0925812-062	11		
MPB1 MID-FLOOD M	[08-DEC-2009]	HK0925812-063	9		
MPB1 MID-FLOOD M DUP	[08-DEC-2009]	HK0925812-064	10		
MPB1 MID-FLOOD B	[08-DEC-2009]	HK0925812-065	11		
MPB1 MID-FLOOD B DUP	[08-DEC-2009]	HK0925812-066	9		
MPB2 MID-FLOOD S	[08-DEC-2009]	HK0925812-067	10		
MPB2 MID-FLOOD S DUP	[08-DEC-2009]	HK0925812-068	11		
MPB2 MID-FLOOD M	[08-DEC-2009]	HK0925812-069	11		
MPB2 MID-FLOOD M DUP	[08-DEC-2009]	HK0925812-070	11		
MPB2 MID-FLOOD B	[08-DEC-2009]	HK0925812-071	11		
MPB2 MID-FLOOD B DUP	[08-DEC-2009]	HK0925812-072	12		
MP MID-FLOOD S	[08-DEC-2009]	HK0925812-073	12		
MP MID-FLOOD S DUP	[08-DEC-2009]	HK0925812-074	12		
MP MID-FLOOD M	[08-DEC-2009]	HK0925812-075	14		
MP MID-FLOOD M DUP	[08-DEC-2009]	HK0925812-076	13		
MP MID-FLOOD B	[08-DEC-2009]	HK0925812-077	13		
MP MID-FLOOD B DUP	[08-DEC-2009]	HK0925812-078	11		
IMO5 MID-FLOOD S	[08-DEC-2009]	HK0925812-103	19		
IMO5 MID-FLOOD S DUP	[08-DEC-2009]	HK0925812-104	17		
IMO5 MID-FLOOD M	[08-DEC-2009]	HK0925812-105	15		
IMO5 MID-FLOOD M DUP	[08-DEC-2009]	HK0925812-106	14		
IMO5 MID-FLOOD B	[08-DEC-2009]	HK0925812-107	12		
IMO5 MID-FLOOD B DUP	[08-DEC-2009]	HK0925812-108	10		
IMO6 MID-FLOOD S	[08-DEC-2009]	HK0925812-109	11		
IMO6 MID-FLOOD S DUP	[08-DEC-2009]	HK0925812-110	13		
IMO6 MID-FLOOD M	[08-DEC-2009]	HK0925812-111	12		
IMO6 MID-FLOOD M DUP	[08-DEC-2009]	HK0925812-112	13		
IMO6 MID-FLOOD B	[08-DEC-2009]	HK0925812-113	12		
IMO6 MID-FLOOD B DUP	[08-DEC-2009]	HK0925812-114	14		
C1 (NM3) MID-FLOOD S	[08-DEC-2009]	HK0925812-115	11		
C1 (NM3) MID-FLOOD S DUP	[08-DEC-2009]	HK0925812-116	12		
C1 (NM3) MID-FLOOD M	[08-DEC-2009]	HK0925812-117	9		
C1 (NM3) MID-FLOOD M DUP	[08-DEC-2009]	HK0925812-118	10		

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Client

: ERM HONG KONG

Work Order



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[08-DEC-2009]	HK0925812-119	11		
C1 (NM3) MID-FLOOD B DUP	[08-DEC-2009]	HK0925812-120	10		
C3 (NM6) MID-FLOOD S	[08-DEC-2009]	HK0925812-121	9		
C3 (NM6) MID-FLOOD S DUP	[08-DEC-2009]	HK0925812-122	10		
C3 (NM6) MID-FLOOD M	[08-DEC-2009]	HK0925812-123	10		
C3 (NM6) MID-FLOOD M DUP	[08-DEC-2009]	HK0925812-124	12		
C3 (NM6) MID-FLOOD B	[08-DEC-2009]	HK0925812-125	9		
C3 (NM6) MID-FLOOD B DUP	[08-DEC-2009]	HK0925812-126	10		

Client : ERM HONG KONG

Work Order HK0925812



### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1190948)								
HK0925812-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	11	10	11.1		
HK0925812-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	13	12	8.7		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1190949)								
HK0925812-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	12	10	13.3		
HK0925812-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	11	11	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1190950)								
HK0925812-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	11	10	0.0		
HK0925812-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	14	13	10.6		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1190951)								
HK0925812-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	11	12	10.5		
HK0925812-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	11	10	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										
					Spike	Spike Re	covery (%)	Recovery	Limits (%)	RPD	s (%)
Method: Compound CA	S Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
A/ED: Physical and Aggregate Properties (QCLot: 1190948)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	104		85	115		
A/ED: Physical and Aggregate Properties (QCLot: 1190949)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	87.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1	1190950)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	108		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1190951)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	111		85	115		

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

# ALS Technichem (HK) Pty Ltd

### **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

Client : ERM HONG KONG
Contact : MS FRANCESCA ZINO

. ....

: 21/F, LINCOLN HOUSE, 979 KING'S ROAD,

 ${\bf TAIKOO\ PLACE,\ ISLAND\ EAST,}$ 

**QUARRY BAY, HONG KONG** 

E-mail ; francesca.zino@erm.com

Telephone : +852 2271 3000

Facsimile : +852 2723 5660

Project : TUEN MUN

Order number : ----

Address

C-O-C number : ----

Site : ----

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

: Godfrey.Chan@alsenviro.com

Telephone : +852 2610 1044

Facsimile : +852 2610 2021

· HK/1426c/2009\*\*

Date received

Page

Work Order

: 09-DEC-2009

HK0925964

: 1 of 5

Date of issue : 14-DEC-2009

No. of samples -

Received :

. . . . .

Analysed

78

78

### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925964 supersedes any previous reports with this reference. The completion date of analysis is 11-DEC-2009. 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 HK0925964:

Sample(s) were collected by ALS Technichem (HK) staff on 09 December, 2009.

Water sample(s) analysed and reported on an as received basis.

E-mail

Quote number

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Signatory

Position

Authorised results for:-

Fung Lim Chee, Richard

**General Manager** 

Inorganics

Page Number Client

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: ERM HONG KONG

Work Order HK0925964



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[09-DEC-2009]	HK0925964-001	6		
MPB1 MID-EBB S DUP	[09-DEC-2009]	HK0925964-002	8		
MPB1 MID-EBB M	[09-DEC-2009]	HK0925964-003	8		
MPB1 MID-EBB M DUP	[09-DEC-2009]	HK0925964-004	10		
MPB1 MID-EBB B	[09-DEC-2009]	HK0925964-005	8		
MPB1 MID-EBB B DUP	[09-DEC-2009]	HK0925964-006	7		
MPB2 MID-EBB S	[09-DEC-2009]	HK0925964-007	8		
MPB2 MID-EBB S DUP	[09-DEC-2009]	HK0925964-008	8		
MPB2 MID-EBB M	[09-DEC-2009]	HK0925964-009	6		
MPB2 MID-EBB M DUP	[09-DEC-2009]	HK0925964-010	7		
MPB2 MID-EBB B	[09-DEC-2009]	HK0925964-011	9		
MPB2 MID-EBB B DUP	[09-DEC-2009]	HK0925964-012	9		
MP MID-EBB S	[09-DEC-2009]	HK0925964-013	8		
MP MID-EBB S DUP	[09-DEC-2009]	HK0925964-014	8		
MP MID-EBB M	[09-DEC-2009]	HK0925964-015	7		
MP MID-EBB M DUP	[09-DEC-2009]	HK0925964-016	9		
MP MID-EBB B	[09-DEC-2009]	HK0925964-017	7		
MP MID-EBB B DUP	[09-DEC-2009]	HK0925964-018	8		
IMO5 MID-EBB S	[09-DEC-2009]	HK0925964-043	7		
IMO5 MID-EBB S DUP	[09-DEC-2009]	HK0925964-044	8		
IMO5 MID-EBB M	[09-DEC-2009]	HK0925964-045	7		
IMO5 MID-EBB M DUP	[09-DEC-2009]	HK0925964-046	8		
IMO5 MID-EBB B	[09-DEC-2009]	HK0925964-047	10		
IMO5 MID-EBB B DUP	[09-DEC-2009]	HK0925964-048	8		
IMO6 MID-EBB S	[09-DEC-2009]	HK0925964-049	6		
IMO6 MID-EBB S DUP	[09-DEC-2009]	HK0925964-050	8		
IMO6 MID-EBB M	[09-DEC-2009]	HK0925964-051	9		
IMO6 MID-EBB M DUP	[09-DEC-2009]	HK0925964-052	7		
IMO6 MID-EBB B	[09-DEC-2009]	HK0925964-053	7		
IMO6 MID-EBB B DUP	[09-DEC-2009]	HK0925964-054	7		
C2 (NM5) MID-EBB S	[09-DEC-2009]	HK0925964-055	8		
C2 (NM5) MID-EBB S DUP	[09-DEC-2009]	HK0925964-056	7		
C2 (NM5) MID-EBB M	[09-DEC-2009]	HK0925964-057	9		
C2 (NM5) MID-EBB M DUP	[09-DEC-2009]	HK0925964-058	7		
C2 (NM5) MID-EBB B	[09-DEC-2009]	HK0925964-059	7		

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: ERM HONG KONG

Work Order



Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[09-DEC-2009]	HK0925964-060	6		
MPB1 MID-FLOOD S	[09-DEC-2009]	HK0925964-061	14		
MPB1 MID-FLOOD S DUP	[09-DEC-2009]	HK0925964-062	12		
MPB1 MID-FLOOD M	[09-DEC-2009]	HK0925964-063	10		
MPB1 MID-FLOOD M DUP	[09-DEC-2009]	HK0925964-064	11		
MPB1 MID-FLOOD B	[09-DEC-2009]	HK0925964-065	10		
MPB1 MID-FLOOD B DUP	[09-DEC-2009]	HK0925964-066	9		
MPB2 MID-FLOOD S	[09-DEC-2009]	HK0925964-067	9		
MPB2 MID-FLOOD S DUP	[09-DEC-2009]	HK0925964-068	7		
MPB2 MID-FLOOD M	[09-DEC-2009]	HK0925964-069	8		
MPB2 MID-FLOOD M DUP	[09-DEC-2009]	HK0925964-070	8		
MPB2 MID-FLOOD B	[09-DEC-2009]	HK0925964-071	8		
MPB2 MID-FLOOD B DUP	[09-DEC-2009]	HK0925964-072	9		
MP MID-FLOOD S	[09-DEC-2009]	HK0925964-073	14		
MP MID-FLOOD S DUP	[09-DEC-2009]	HK0925964-074	14		
MP MID-FLOOD M	[09-DEC-2009]	HK0925964-075	9		
MP MID-FLOOD M DUP	[09-DEC-2009]	HK0925964-076	8		
MP MID-FLOOD B	[09-DEC-2009]	HK0925964-077	8		
MP MID-FLOOD B DUP	[09-DEC-2009]	HK0925964-078	9		
IMO5 MID-FLOOD S	[09-DEC-2009]	HK0925964-103	10		
IMO5 MID-FLOOD S DUP	[09-DEC-2009]	HK0925964-104	8		
IMO5 MID-FLOOD M	[09-DEC-2009]	HK0925964-105	12		
IMO5 MID-FLOOD M DUP	[09-DEC-2009]	HK0925964-106	14		
IMO5 MID-FLOOD B	[09-DEC-2009]	HK0925964-107	11		
IMO5 MID-FLOOD B DUP	[09-DEC-2009]	HK0925964-108	10		
IMO6 MID-FLOOD S	[09-DEC-2009]	HK0925964-109	11		
IMO6 MID-FLOOD S DUP	[09-DEC-2009]	HK0925964-110	9		
IMO6 MID-FLOOD M	[09-DEC-2009]	HK0925964-111	9		
IMO6 MID-FLOOD M DUP	[09-DEC-2009]	HK0925964-112	10		
IMO6 MID-FLOOD B	[09-DEC-2009]	HK0925964-113	12		
IMO6 MID-FLOOD B DUP	[09-DEC-2009]	HK0925964-114	10		
C1 (NM3) MID-FLOOD S	[09-DEC-2009]	HK0925964-115	12		
C1 (NM3) MID-FLOOD S DUP	[09-DEC-2009]	HK0925964-116	12		
C1 (NM3) MID-FLOOD M	[09-DEC-2009]	HK0925964-117	9		
C1 (NM3) MID-FLOOD M DUP	[09-DEC-2009]	HK0925964-118	8		

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Client

: ERM HONG KONG

Work Order HK0925964



Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[09-DEC-2009]	HK0925964-119	16		
C1 (NM3) MID-FLOOD B DUP	[09-DEC-2009]	HK0925964-120	12		
C3 (NM6) MID-FLOOD S	[09-DEC-2009]	HK0925964-121	10		
C3 (NM6) MID-FLOOD S DUP	[09-DEC-2009]	HK0925964-122	10		
C3 (NM6) MID-FLOOD M	[09-DEC-2009]	HK0925964-123	6		
C3 (NM6) MID-FLOOD M DUP	[09-DEC-2009]	HK0925964-124	6		
C3 (NM6) MID-FLOOD B	[09-DEC-2009]	HK0925964-125	8		
C3 (NM6) MID-FLOOD B DUP	[09-DEC-2009]	HK0925964-126	9		

Client : ERM HONG KONG

Work Order HK0925964



### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1192853)								
HK0925964-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	6	8	14.3		
HK0925964-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	9	8	11.8		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1192854)								
HK0925964-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	7	7	0.0		
HK0925964-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1192855)								
HK0925964-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	10	9	11.6		
HK0925964-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	9	10	0.0		
EA/ED: Physical and	d Aggregate Properties (Q0	C Lot: 1192856)								
HK0925964-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	11	10	0.0		
HK0925964-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	16	14	14.9		

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

Matrix: WATER		Method Blank (Mi	B) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
				Spike	Spike Red	covery (%)	Recovery	Limits (%)	RPD	s (%)
Method: Compound CAS Numb	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 11928	/ED: Physical and Aggregate Properties (QCLot: 1192853)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	112		85	115		
A/ED: Physical and Aggregate Properties (QCLot: 1192854)										
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	110		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11928	5)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	106		85	115		
VED: Physical and Aggregate Properties (QCLot: 1192856)										
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	108		85	115		

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

# ALS Technichem (HK) Pty Ltd

### **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

Client : ERM HONG KONG Laboratory : ALS Technichem HK Pty Ltd

Contact : MS KAREN LUI Contact : Chan Kwok Fai, Godfrey

: MS KAREN LUI : Contact : Chan Kwok Fai, Godfrey : Work Order : HK0925995 : 21/F, LINCOLN HOUSE, 979 KING'S ROAD, Address : 11/F., Chung Shun Knitting Centre,

TAIKOO PLACE, ISLAND EAST, 1 - 3 Wing Yip Street,

QUARRY BAY, HONG KONG

Kwai Chung, N.T., Hong Kong

Karen.Lui@erm.com

E-mail

Godfrey.Chan@alsenviro.com

 E-mail
 : Karen.Lui@erm.com
 E-mail
 : Godfrey.Chan@alser

 Telephone
 : +852 2271 3000
 Telephone
 : +852 2610 1044

Facsimile : +852 2723 5660 Facsimile : +852 2610 2021

Project: TUEN MUN

Quote number: HK/1426c/2009\*\*

Date received: 10-DEC-2009

Order number : ---- Date of issue : 15-DEC-2009

**Report Comments** 

Address

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925995 supersedes any previous reports with this reference. The completion date of analysis is 14-DEC-2009. 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 HK0925995: Sample(s) were collected by ALS Technichem (HK) staff on 10 December, 2009.

Water sample(s) analysed and reported on an as received basis.

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of Hong Kong, Chapter 553, Section 6.

Signatory Position Authorised results for:-

Page

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Fung Lim Chee, Richard General Manager Inorganics

: 2 of 5

Client : ERM HONG KONG

Work Order HK0925995



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[10-DEC-2009]	HK0925995-001	9		
MPB1 MID-EBB S DUP	[10-DEC-2009]	HK0925995-002	9		
MPB1 MID-EBB M	[10-DEC-2009]	HK0925995-003	8		
MPB1 MID-EBB M DUP	[10-DEC-2009]	HK0925995-004	10		
MPB1 MID-EBB B	[10-DEC-2009]	HK0925995-005	12		
MPB1 MID-EBB B DUP	[10-DEC-2009]	HK0925995-006	10		
MPB2 MID-EBB S	[10-DEC-2009]	HK0925995-007	9		
MPB2 MID-EBB S DUP	[10-DEC-2009]	HK0925995-008	11		
MPB2 MID-EBB M	[10-DEC-2009]	HK0925995-009	9		
MPB2 MID-EBB M DUP	[10-DEC-2009]	HK0925995-010	10		
MPB2 MID-EBB B	[10-DEC-2009]	HK0925995-011	11		
MPB2 MID-EBB B DUP	[10-DEC-2009]	HK0925995-012	10		
MP MID-EBB S	[10-DEC-2009]	HK0925995-013	10		
MP MID-EBB S DUP	[10-DEC-2009]	HK0925995-014	9		
MP MID-EBB M	[10-DEC-2009]	HK0925995-015	9		
MP MID-EBB M DUP	[10-DEC-2009]	HK0925995-016	8		
MP MID-EBB B	[10-DEC-2009]	HK0925995-017	10		
MP MID-EBB B DUP	[10-DEC-2009]	HK0925995-018	9		
IMO5 MID-EBB S	[10-DEC-2009]	HK0925995-043	9		
IMO5 MID-EBB S DUP	[10-DEC-2009]	HK0925995-044	8		
IMO5 MID-EBB M	[10-DEC-2009]	HK0925995-045	7		
IMO5 MID-EBB M DUP	[10-DEC-2009]	HK0925995-046	7		
IMO5 MID-EBB B	[10-DEC-2009]	HK0925995-047	9		
IMO5 MID-EBB B DUP	[10-DEC-2009]	HK0925995-048	8		
IMO6 MID-EBB S	[10-DEC-2009]	HK0925995-049	8		
IMO6 MID-EBB S DUP	[10-DEC-2009]	HK0925995-050	10		
IMO6 MID-EBB M	[10-DEC-2009]	HK0925995-051	9		
IMO6 MID-EBB M DUP	[10-DEC-2009]	HK0925995-052	8		
IMO6 MID-EBB B	[10-DEC-2009]	HK0925995-053	9		
IMO6 MID-EBB B DUP	[10-DEC-2009]	HK0925995-054	9		
C2 (NM5) MID-EBB S	[10-DEC-2009]	HK0925995-055	8		
C2 (NM5) MID-EBB S DUP	[10-DEC-2009]	HK0925995-056	9		
C2 (NM5) MID-EBB M	[10-DEC-2009]	HK0925995-057	11		
C2 (NM5) MID-EBB M DUP	[10-DEC-2009]	HK0925995-058	9		
C2 (NM5) MID-EBB B	[10-DEC-2009]	HK0925995-059	9		

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Client : ERM HONG KONG

Work Order HK0925995



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Olient semale ID					
Client sample ID	Client sampling date /	Laboratory sample ID	EA/ED: Physical and		
C2 (NM5) MID-EBB B DUP	time [10-DEC-2009]	HK0925995-060	Aggregate Properties  10		
MPB1 MID-FLOOD S	[10-DEC-2009]	HK0925995-061	10		
MPB1 MID-FLOOD S DUP	[10-DEC-2009]	HK0925995-062	9		
MPB1 MID-FLOOD S DOP	[10-DEC-2009]	HK0925995-063	9		
MPB1 MID-FLOOD M DUP	[10-DEC-2009]	HK0925995-064	8		
MPB1 MID-FLOOD M DOP	[10-DEC-2009]	HK0925995-065	9		
MPB1 MID-FLOOD B DUP	[10-DEC-2009]	HK0925995-066	7		
	[10-DEC-2009]	HK0925995-067	9		
MPB2 MID-FLOOD S	[10-DEC-2009]	HK0925995-067	11		
MPB2 MID-FLOOD S DUP MPB2 MID-FLOOD M	[10-DEC-2009]	HK0925995-068	7		
MPB2 MID-FLOOD M MPB2 MID-FLOOD M DUP	[10-DEC-2009]	HK0925995-069	8		
	[10-DEC-2009]	HK0925995-070	9		
MPB2 MID-FLOOD B MPB2 MID-FLOOD B DUP	[10-DEC-2009]	HK0925995-071	9		
		HK0925995-072	8		
MP MID-FLOOD S MP MID-FLOOD S DUP	[10-DEC-2009] [10-DEC-2009]	HK0925995-073	9		
	[10-DEC-2009]	HK0925995-075	7		
MP MID-FLOOD M MP MID-FLOOD M DUP	[10-DEC-2009]	HK0925995-076	9		
MP MID-FLOOD M DOP	[10-DEC-2009]	HK0925995-077	8		
MP MID-FLOOD B DUP	[10-DEC-2009]	HK0925995-077	7		
IMO5 MID-FLOOD S	[10-DEC-2009]	HK0925995-078	13		
IMO5 MID-FLOOD S	[10-DEC-2009]	HK0925995-104	12		
IMO5 MID-FLOOD S DOP	[10-DEC-2009]	HK0925995-104	8		
IMO5 MID-FLOOD M	[10-DEC-2009]	HK0925995-106	7		
IMO5 MID-FLOOD M DOP	[10-DEC-2009]	HK0925995-107	9		
IMO5 MID-FLOOD B	[10-DEC-2009]	HK0925995-107	8		
IMO6 MID-FLOOD S	[10-DEC-2009]	HK0925995-109	8		
IMO6 MID-FLOOD S DUP	[10-DEC-2009]	HK0925995-110	10		
IMO6 MID-FLOOD M	[10-DEC-2009]	HK0925995-111	8		
IMO6 MID-FLOOD M DUP	[10-DEC-2009]	HK0925995-112	8		
IMO6 MID-FLOOD B	[10-DEC-2009]	HK0925995-113	9		
IMO6 MID-FLOOD B DUP	[10-DEC-2009]	HK0925995-114	11		
C1 (NM3) MID-FLOOD S	[10-DEC-2009]	HK0925995-115	10		
C1 (NM3) MID-FLOOD S DUP	[10-DEC-2009]	HK0925995-116	10		
C1 (NM3) MID-FLOOD M	[10-DEC-2009]	HK0925995-117	10		
C1 (NM3) MID-FLOOD M DUP	[10-DEC-2009]	HK0925995-118	10		
OT (MINO) MID-I LOOD M DOP	[10-020-2009]	111002000-110	14		

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Client

: ERM HONG KONG

Work Order



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[10-DEC-2009]	HK0925995-119	9		
C1 (NM3) MID-FLOOD B DUP	[10-DEC-2009]	HK0925995-120	10		
C3 (NM6) MID-FLOOD S	[10-DEC-2009]	HK0925995-121	8		
C3 (NM6) MID-FLOOD S DUP	[10-DEC-2009]	HK0925995-122	8		
C3 (NM6) MID-FLOOD M	[10-DEC-2009]	HK0925995-123	8		
C3 (NM6) MID-FLOOD M DUP	[10-DEC-2009]	HK0925995-124	9		
C3 (NM6) MID-FLOOD B	[10-DEC-2009]	HK0925995-125	10		
C3 (NM6) MID-FLOOD B DUP	[10-DEC-2009]	HK0925995-126	8		

Client : ERM HONG KONG

Work Order HK0925995



### Laboratory Duplicate (DUP) Report

Matrix: WATER			Laboratory Duplicate (DUP) Report							
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1194656)								
HK0925995-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	9	9	0.0		
HK0925995-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	11	11	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1194657)								
HK0925995-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	7	8	13.1		
HK0925995-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	8	9	12.0		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1194658)								
HK0925995-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	9	8	0.0		
HK0925995-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	7	8	13.2		
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1194659)								
HK0925995-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	8	7	13.2		
HK0925995-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	9	9	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							
					Spike	Spike Re	covery (%)	Recovery	Limits (%)	RPD	s (%)
Method: Compound	AS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1194656)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	95.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot	: 1194657)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	99.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot	: 1194658)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot	EA/ED: Physical and Aggregate Properties (QCLot: 1194659)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	110		85	115		

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

# ALS Technichem (HK) Pty Ltd

### **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

Client: ERM HONG KONG Laboratory: ALS Technichem HK Pty Ltd Page: 1 of 5

Contact : MS FRANCESCA ZINO Contact : Chan Kwok Fai, Godfrey Work Order : HK0926179

Address : 21/F, LINCOLN HOUSE, 979 KING'S ROAD, Address : 11/F,, Chung Shun Knitting Centre,

TAIKOO PLACE, ISLAND EAST, 1 - 3 Wing Yip Street,

QUARRY BAY, HONG KONG Kwai Chung, N.T., Hong Kong

Telephone : +852 2271 3000 Telephone : +852 2610 1044

Facsimile : +852 2723 5660 Facsimile : +852 2610 2021

Project: TUEN MUN

Quote number: HK/1426c/2009\*\*

Date received: 11-DEC-2009

Order number : --- Date of issue : 16-DEC-2009

C-O-C number : ---- No. of samples - Received : 78

Site : --- - Analysed : 78

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0926179 supersedes any previous reports with this reference. The completion date of analysis is 15-DEC-2009. 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 HK0926179: Sample(s) were collected by ALS Technichem (HK) staff on 11 December, 2009.

Water sample(s) analysed and reported on an as received 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.

Signatory Position Authorised results for:-

Fung Lim Chee, Richard General Manager Inorganics

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Work Order HK0926179



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[11-DEC-2009]	HK0926179-001	8		
MPB1 MID-EBB S DUP	[11-DEC-2009]	HK0926179-002	6		
MPB1 MID-EBB M	[11-DEC-2009]	HK0926179-003	8		
MPB1 MID-EBB M DUP	[11-DEC-2009]	HK0926179-004	6		
MPB1 MID-EBB B	[11-DEC-2009]	HK0926179-005	8		
MPB1 MID-EBB B DUP	[11-DEC-2009]	HK0926179-006	10		
MPB2 MID-EBB S	[11-DEC-2009]	HK0926179-007	7		
MPB2 MID-EBB S DUP	[11-DEC-2009]	HK0926179-008	6		
MPB2 MID-EBB M	[11-DEC-2009]	HK0926179-009	8		
MPB2 MID-EBB M DUP	[11-DEC-2009]	HK0926179-010	8		
MPB2 MID-EBB B	[11-DEC-2009]	HK0926179-011	8		
MPB2 MID-EBB B DUP	[11-DEC-2009]	HK0926179-012	8		
MP MID-EBB S	[11-DEC-2009]	HK0926179-013	8		
MP MID-EBB S DUP	[11-DEC-2009]	HK0926179-014	8		
MP MID-EBB M	[11-DEC-2009]	HK0926179-015	7		
MP MID-EBB M DUP	[11-DEC-2009]	HK0926179-016	8		
MP MID-EBB B	[11-DEC-2009]	HK0926179-017	10		
MP MID-EBB B DUP	[11-DEC-2009]	HK0926179-018	8		
IMO5 MID-EBB S	[11-DEC-2009]	HK0926179-043	9		
IMO5 MID-EBB S DUP	[11-DEC-2009]	HK0926179-044	8		
IMO5 MID-EBB M	[11-DEC-2009]	HK0926179-045	8		
IMO5 MID-EBB M DUP	[11-DEC-2009]	HK0926179-046	9		
IMO5 MID-EBB B	[11-DEC-2009]	HK0926179-047	8		
IMO5 MID-EBB B DUP	[11-DEC-2009]	HK0926179-048	7		
IMO6 MID-EBB S	[11-DEC-2009]	HK0926179-049	10		
IMO6 MID-EBB S DUP	[11-DEC-2009]	HK0926179-050	8		
IMO6 MID-EBB M	[11-DEC-2009]	HK0926179-051	8		
IMO6 MID-EBB M DUP	[11-DEC-2009]	HK0926179-052	10		
IMO6 MID-EBB B	[11-DEC-2009]	HK0926179-053	9		
IMO6 MID-EBB B DUP	[11-DEC-2009]	HK0926179-054	7		
C2 (NM5) MID-EBB S	[11-DEC-2009]	HK0926179-055	9		
C2 (NM5) MID-EBB S DUP	[11-DEC-2009]	HK0926179-056	11		
C2 (NM5) MID-EBB M	[11-DEC-2009]	HK0926179-057	7		
C2 (NM5) MID-EBB M DUP	[11-DEC-2009]	HK0926179-058	9		
C2 (NM5) MID-EBB B	[11-DEC-2009]	HK0926179-059	6		

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Client : ERM HONG KONG

Work Order HK0926179



Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties		
C2 (NM5) MID-EBB B DUP	[11-DEC-2009]	HK0926179-060	8		
MPB1 MID-FLOOD S	[11-DEC-2009]	HK0926179-061	8		
MPB1 MID-FLOOD S DUP	[11-DEC-2009]	HK0926179-062	8		
MPB1 MID-FLOOD M	[11-DEC-2009]	HK0926179-063	9		
MPB1 MID-FLOOD M DUP	[11-DEC-2009]	HK0926179-064	7		
MPB1 MID-FLOOD B	[11-DEC-2009]	HK0926179-065	13		
MPB1 MID-FLOOD B DUP	[11-DEC-2009]	HK0926179-066	11		
MPB2 MID-FLOOD S	[11-DEC-2009]	HK0926179-067	9		
MPB2 MID-FLOOD S DUP	[11-DEC-2009]	HK0926179-068	9		
MPB2 MID-FLOOD M	[11-DEC-2009]	HK0926179-069	10		
MPB2 MID-FLOOD M DUP	[11-DEC-2009]	HK0926179-070	10		
MPB2 MID-FLOOD B	[11-DEC-2009]	HK0926179-071	8		
MPB2 MID-FLOOD B DUP	[11-DEC-2009]	HK0926179-072	9		
MP MID-FLOOD S	[11-DEC-2009]	HK0926179-073	7		
MP MID-FLOOD S DUP	[11-DEC-2009]	HK0926179-074	9		
MP MID-FLOOD M	[11-DEC-2009]	HK0926179-075	9		
MP MID-FLOOD M DUP	[11-DEC-2009]	HK0926179-076	9		
MP MID-FLOOD B	[11-DEC-2009]	HK0926179-077	9		
MP MID-FLOOD B DUP	[11-DEC-2009]	HK0926179-078	9		
IMO5 MID-FLOOD S	[11-DEC-2009]	HK0926179-103	8		
IMO5 MID-FLOOD S DUP	[11-DEC-2009]	HK0926179-104	9		
IMO5 MID-FLOOD M	[11-DEC-2009]	HK0926179-105	10		
IMO5 MID-FLOOD M DUP	[11-DEC-2009]	HK0926179-106	9		
IMO5 MID-FLOOD B	[11-DEC-2009]	HK0926179-107	10		
IMO5 MID-FLOOD B DUP	[11-DEC-2009]	HK0926179-108	8		
IMO6 MID-FLOOD S	[11-DEC-2009]	HK0926179-109	8		
IMO6 MID-FLOOD S DUP	[11-DEC-2009]	HK0926179-110	7		
IMO6 MID-FLOOD M	[11-DEC-2009]	HK0926179-111	6		
IMO6 MID-FLOOD M DUP	[11-DEC-2009]	HK0926179-112	8		
IMO6 MID-FLOOD B	[11-DEC-2009]	HK0926179-113	7		
IMO6 MID-FLOOD B DUP	[11-DEC-2009]	HK0926179-114	6		
C1 (NM3) MID-FLOOD S	[11-DEC-2009]	HK0926179-115	6		
C1 (NM3) MID-FLOOD S DUP	[11-DEC-2009]	HK0926179-116	7		
C1 (NM3) MID-FLOOD M	[11-DEC-2009]	HK0926179-117	7		
C1 (NM3) MID-FLOOD M DUP	[11-DEC-2009]	HK0926179-118	9		

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Client

: ERM HONG KONG

Work Order



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
			Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
C1 (NM3) MID-FLOOD B	[11-DEC-2009]	HK0926179-119	10		
C1 (NM3) MID-FLOOD B DUP	[11-DEC-2009]	HK0926179-120	9		
C3 (NM6) MID-FLOOD S	[11-DEC-2009]	HK0926179-121	8		
C3 (NM6) MID-FLOOD S DUP	[11-DEC-2009]	HK0926179-122	7		
C3 (NM6) MID-FLOOD M	[11-DEC-2009]	HK0926179-123	7		
C3 (NM6) MID-FLOOD M DUP	[11-DEC-2009]	HK0926179-124	9		
C3 (NM6) MID-FLOOD B	[11-DEC-2009]	HK0926179-125	8		
C3 (NM6) MID-FLOOD B DUP	[11-DEC-2009]	HK0926179-126	7		

Client : ERM HONG KONG

Work Order HK0926179



### Laboratory Duplicate (DUP) Report

Matrix: WATER					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)			
EA/ED: Physical and	Aggregate Properties (QC	Lot: 1196055)									
HK0926179-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	8	9	12.3			
HK0926179-013	MP MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	8	9	0.0			
EA/ED: Physical and	Aggregate Properties (QC	Lot: 1196056)									
HK0926179-046	IMO5 MID-EBB M DUP	EA025: Suspended Solids (SS)		2	mg/L	9	9	0.0			
HK0926179-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	9	10	0.0			
EA/ED: Physical and	Aggregate Properties (QC	Lot: 1196057)									
HK0926179-068	MPB2 MID-FLOOD S DUP	EA025: Suspended Solids (SS)		2	mg/L	9	8	12.0			
HK0926179-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	9	10	0.0			
EA/ED: Physical and	EA/ED: Physical and Aggregate Properties (QC Lot: 1196058)										
HK0926179-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	8	6	14.2			
HK0926179-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	10	10	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							te (DCS) Report		
					Spike	Spike Red	covery (%)	Recovery	Limits (%)	RPD	s (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCI	A/ED: Physical and Aggregate Properties (QCLot: 1196055)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	85.5		85	115		
EA/ED: Physical and Aggregate Properties (QCI	_ot: 1196056)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	96.0		85	115		
EA/ED: Physical and Aggregate Properties (QCI	_ot: 1196057)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	103		85	115		
EA/ED: Physical and Aggregate Properties (QCI	EA/ED: Physical and Aggregate Properties (QCLot: 1196058)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	106		85	115		

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