





# Permanent Aviation Fuel Facility (EP-262/2007/B)

Thirty-Seventh Monthly Environmental Monitoring and Audit Report – November 2009

24 December 2009

#### **Environmental Resources Management**

21/F Lincoln House Taikoo Place, 979 King's Road Island East, Hong Kong Telephone 2271 3000 Facsimile 2723 5660

www.erm.com





### Permanent Aviation Fuel Facility for Hong Kong International Airport

# Environmental Certification Sheet EP-262/2007/B

#### Reference Document/Plan

Document/Plan to be Certified/ Verified:

37th Monthly EM&A Report - November 2009

Date of Report:

24 December 2009

Date prepared by ET:

24 December 2009

Date received by IEC:

24 December 2009

#### Reference EP Condition

**Environmental Permit Condition:** 

Condition No.: 5.3

Content:

Environmental Monitoring and Audit (EM&A) for the Project

5.3 Four hard copies and one electronic copy of the monthly EM&A Report for the Project shall be submitted to the Director within 2 weeks after the end of the reporting month. The submissions shall be certified by the ET Leader and verified by the IEC before submission to the Director. Additional copies of the submission shall be provided upon request by the Director.

#### **ET Certification**

I hereby certify that the above referenced document/<del>plan</del> complies with the above referenced condition of EP-262/2007/B

Craig A Reid, Environmental

Team Leader:

Date:

24 December 2009

#### **IEC Verification**

I hereby verify that the above referenced document/ $\frac{plan}{plan}$  complies with the above referenced condition of EP-262/2007/B

Dr Guiyi Li, Independent Environmental Checker:

/ /

te:

28 Dec 2009

PY

Notes: EP-262/2007/B has replaced the former EP-262/2007/A, EP-262/2007 and EP-139-2002/A for the PAFF project after the resubmission of revised EM&A Manual and revised EIA Report respectively.

#### REPORT

## **Permanent Aviation Fuel Facility (EP-262/2007/B)**

Thirty-Seventh Monthly Environmental Monitoring and Audit Report – November 2009

24 December 2009

Prepared by: Francesca Zino/ Karen Lui/ Craig A Reid

Document Code: 0018105\_EMAR\_Nov 09\_v0.doc

For and on behalf of

**Environmental Resources Management** 

Approved by: Craig A Reid

Signed:

Position: Environmental Team Leader

Date: 24 December 2009

This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



#### **CONTENTS**

	EXECUTIVE SUMMARY	1
1	INTRODUCTION	1
1.1	PURPOSE OF THE REPORT	1
2	ENVIRONMENTAL STATUS	2
2.1	Project Area	2
2.2	Environmental Sensitive Receivers	2
2.3	MAJOR CONSTRUCTION ACTIVITIES	2
2.4	MONITORING SCHEDULE OF THE REPORTING MONTH	
2.5	STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS	3
2.6	COMMUNITY LIAISON GROUP MEETING	6
2.7	SUMMARY OF NON-COMPLIANCE WITH THE ENVIRONMENTAL QUALITY	
	PERFORMANCE LIMITS	6
2.8	SUMMARY OF ENVIRONMENTAL COMPLAINTS	7
2.9	SUMMARY OF ENVIRONMENTAL SUMMONS	7
3	ENVIRONMENTAL ISSUES AND ACTIONS	8
3.1	PREVIOUS ENVIRONMENTAL DEFICIENCIES AND FOLLOW-UP ACTIONS	8
3.2	DESCRIPTION OF ACTIONS TAKEN IN EVENT OF NON-COMPLIANCE AND	
	DEFICIENCY REPORTING	9
3.3	IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREME	NTS 10
4	ENVIRONMENTAL MONITORING	11
4.1	AIR AND NOISE	11
4.2	WATER QUALITY	11
4.3	POPs Monitoring	11
4.4	WASTE MANAGEMENT	11
4.5	CULTURAL HERITAGE	11
4.6	LANDSCAPE AND VISUAL	12
4.7	LAND CONTAMINATION, HAZARD TO LIFE AND FUEL SPILL RISK	12
4.8	ECOLOGY	12
4.9	EM&A MANUAL	12
4.10	BASELINE WATER QUALITY MONITORING	13
5	FUTURE KEY ISSUES	14
5.1	KEY ISSUES FOR THE NEXT MONTH	14
5.2	IMPACT PREDICTION FOR THE NEXT MONTH	14
5.3	WORKS AND MONITORING SCHEDIILE FOR THE NEXT MONTH	14

#### LIST OF TABLES

Table 2.1	Summary of Works Undertaken During the Reporting Period
Table 2.2	Cumulative Quantity of Excavated Marine Sediments
Table 2.3	Summary of Environmental Licensing, Notification and Permit
	Status
Table 2.4	Summary of Exceedances of Action and Limit Levels Recorded
	during the Reporting Period

### LIST OF ANNEXES

Annex A	Project Location
Annex B	Water Quality and Ecological Sensitive Receivers
Annex C	Water Quality Monitoring Schedule for the Reporting Period
Annex D	Cumulative Complaints Statistics
Annex E	Implementation Programme of Mitigation Measures
Annex F	QA/QC Results for Laboratory Testing of Suspended Solids
Annex G	Impact Water Quality Monitoring Results
Annex H	Monitoring Results and QA/QC Reports of Laboratory Testing for
	POPs
Annex I	Dolphin Sighting Records

#### **EXECUTIVE SUMMARY**

The construction works for the Permanent Aviation Fuel Facility resumed on 9 July 2007. This **thirty-seventh** monthly Environmental Monitoring and Audit (EM&A) report presents the EM&A work carried out during the period from **1 November** to **30 November 2009** in accordance with the EM&A Manual.

Breaches of all Action and Limit Levels

Water quality monitoring during dredging activities recorded no exceedance of Action or Limit Levels for bottom Dissolved Oxygen (DO). Exceedances of Depth-averaged DO were recorded on 13, 14, 15, 17, 21 and 23 November and of Depth-averaged Suspended Solids on 15, 17, 18 and 19 November. There were no exceedances of Limit levels for Depth-averaged Turbidity during the reporting period but on 18 November there were four exceedances of Action Levels for Depth-averaged Turbidity. Following review of data in accordance with the procedures specified in the *EM&A Manual*, all these exceedances were considered to be due to natural fluctuation rather than the Project Works.

Complaint Log

No environmental complaints were received during the reporting period.

Notifications of any Summons and Successful Prosecutions

No environmental summons or prosecutions were received in this reporting period.

Reporting Changes

There were no reporting changes in the reporting period.

Future Key Issues

- Dust release and suppression;
- Backfilling of rock armour over the pipelines;
- Dredging operation for the repair of pipeline; and
- Water quality monitoring and dolphin monitoring during the dredging activities.

#### 1 INTRODUCTION

Leighton Contractors (Asia) Limited (LCAL) has appointed ERM-Hong Kong, Limited (ERM) as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme for the Permanent Aviation Fuel Facility (the Project) during construction works.

The construction works for PAFF commenced in November 2005 based upon the previous EIA (*EIAO Register Number AEIAR-062-2002*) conducted and the Environmental Permit *EP-139/2002* granted on the 28<sup>th</sup> August 2002. Due to minor changes to the detailed layout of the site and the site boundary, application for Variation to the Environmental Permit (VEP) (*VEP-133/2004*) was submitted to the Director of Environmental Protection (DEP) for approval. The variation to the EP (*EP-139/2002/A*) was granted by the EPD in February 2004.

The decision by the EPD to grant the above Environmental Permit was, however, subject to a Judicial Review. The Judicial Review sided in the favour of the DEP, as did the subsequent Judgement from the Court of Appeal from the High Court for Judicial Review in March 2005. However, the DEP's decision to grant the EP was quashed by the Judgement of the Court of Final Appeal of July 2006.

The construction works were stopped following the Judgement of the Court of Final Appeal of July 2006. As such, in order to continue with the construction of the project, the project went through the statutory procedures under the EIAO again with a new design in order to obtain an environmental permit. The revised EIA was submitted in 2007 and the environmental permit (*EP-262/2007*) was granted in May 2007. *EP-262/2007* has been amended to *EP-262/2007/A* and issued by the EPD on 30 November 2007. A further Variation to the Environmental Permit was approved to allow dredging works to continue until March 2008. As such, *EP-262/2007/A* has been amended to *EP-262/2007/B* and was issued by the EPD on 27 February 2008.

The construction works and EM&A requirements were resumed on 9 July 2007 following the latest requirements of the *EP-262/2007/B* and *EM&A Manual*. Details regarding the EM&A requirements and changes should refer to the updated *EM&A Manual*. For the marine works, all piling activities were completed before the previous suspension of construction works in 2006.

#### 1.1 PURPOSE OF THE REPORT

This is the **thirty-seventh** EM&A Report which summarizes the monitoring results and audit findings for the EM&A programme during the reporting period from **1 November** to **30 November 2009**.

#### 2 ENVIRONMENTAL STATUS

#### 2.1 PROJECT AREA

The project area is in Area 38 of Tuen Mun and the pipelines are located in Urmston Road between Tuen Mun Area 38 and Sha Chau. The site is illustrated in *Annex A*.

#### 2.2 ENVIRONMENTAL SENSITIVE RECEIVERS

No air and noise sensitive receivers were identified close to the project area. However, water sensitive receivers and ecological sensitive receivers were identified in the EIA study, and are shown in *Annex B*.

#### 2.3 MAJOR CONSTRUCTION ACTIVITIES

A summary of the major works undertaken in this reporting period is shown in *Table 2.1*. Initial marine dredging operations were completed on 23 January 2009 but due to pipeline repairs, dredging works were resumed on 13 November 2009. *Table 2.2* presents the cumulative quantity of excavated materials from September 2008 up to 30 November 2009. Daily and cumulative dredging production rates are illustrated in *Figure 2.1*.

#### Table 2.1 Summary of Works Undertaken During the Reporting Period

Area	Works undertaken
Tuen Mun Area 38	<ul> <li>Tank Farm, Roof Truss and Bund Wall Construction</li> <li>Permanent Drainage Construction</li> <li>Operational &amp; Fire Services Buildings Construction</li> <li>Jetty Works (Non-piling)</li> <li>Pre-Commission and Commissioning Activities for Phase 1A (the first four tanks)</li> </ul>
Submarine Pipeline Route	<ul> <li>Riser connections at Sha Chau</li> <li>Backfilling and placing of rock armour over the pipelines</li> <li>Dredging operations</li> </ul>

#### Table 2.2 Cumulative Quantity of Excavated Marine Sediments

Type of Excavated Materials	Cumulative Bulk Volume (m³)				
From 17 December 2007 to 31 March 2008					
Contaminated Mud 105,974					
Uncontaminated Mud	97,815				
From 1 September 2008 to 23 January 2009	9				
Contaminated Mud	0				
Uncontaminated Mud	149,147				

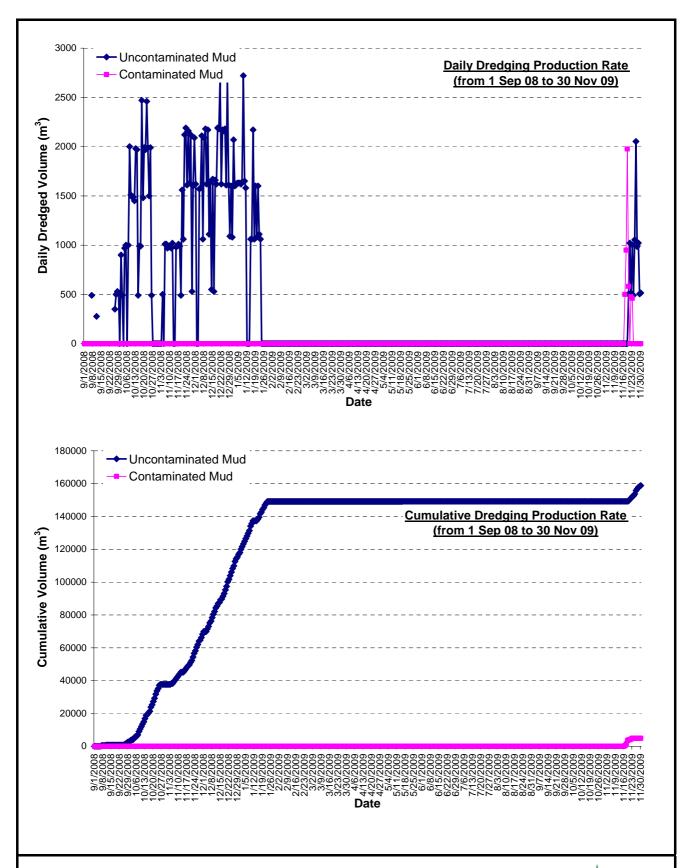


Figure 2.1 Daily and cumulative volumes (m³) of excavated materials (both contaminated and uncontaminated mud) from 1 September 2008 to 30 November 2009.



Type of Excavated Materials	Cumulative Bulk Volume (m³)					
From 13 November 2009 to 30 November 2009						
Contaminated Mud	4,944					
Uncontaminated Mud	9,664					

#### 2.4 MONITORING SCHEDULE OF THE REPORTING MONTH

Daily water quality monitoring during dredging activities commenced on 13 November 2009. The monitoring schedule for November 2009 is presented in *Annex C*.

#### 2.5 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since July 2007 is presented in *Table* **2.3**.

Table 2.3 Summary of Environmental Licensing, Notification and Permit Status

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-262/2007/B	Throughout Project	Issued on 27 February 2008 ( <i>EP</i> -262/2007/A on 30 November 2007, <i>EP</i> -262/2007 issued on 31 May 2007, <i>EP</i> -139/2002 originally granted on 28 August 2002 and <i>EP</i> -139/2002/A granted on 24 February 2004 were superseded)
Chemical Waste Producer Registration	WPN 5111-421-L2174- 25	Throughout Project	Issued on 10 November 2005
Notification of Construction Works under Air Pollution Control (Construction Dust) Regulation	H2104/U1D/5542/DG/ DH/PL	Throughout Project	Notification on 6 July 2007
Construction Noise Permit	GW-RW0676-07	21 December 2007 to 19 June 2008	For land-based works including air compressors, breakers, excavators, wheeled loaders, mobile cranes, concrete lorry mixers, hand-held pokers, bar benders/cutters, wood saws, grinders, submarine water pump, lorries with crane, dump trucks, rollers, ventilation fans and generators

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
	GW-RW0677-07	21 December 2007 to 29 February 2008	For marine dredging operation including grab dredger, tug boat, split hopper barge and motor sampan
	GW-RW0678-07	21 December 2007 to 18 June 2008	For marine jetty works including concrete pump derrick barges, hand-held grinders, generators, air compressors, boring machines, water pumps, tug boat, grout mixers and grout pumps
	GW-RW0094-08	1 March to 31 March 2008	For marine dredging operation including grab dredger, tug boat, split hopper barge and motor sampan
	GW-RW0312-08	04 July 2008 to 22 December 2008	For marine jetty works including concrete pump derrick barges, hand-held grinders, generators, air compressors, boring machines, water pumps, tug boat, grout mixers and grout pumps
	GW-RW0313-08	04 July 2008 to 19 December 2008	For land-based works including air compressors, breakers, excavators, wheeled loaders, mobile cranes, concrete lorry mixers, hand-held pokers, bar benders/cutters, wood saws, grinders, submarine water pump, lorries with crane, dump trucks, rollers, ventilation fans and generators
	GW-RW0373-08	1 August 2008 to 20 January 2009	For land-based works including air compressors, breakers, excavators, wheeled loaders, mobile cranes, concrete lorry mixers, hand-held pokers, bar benders/cutters, wood saws, grinders, submarine water pump, lorries with crane, dump trucks, rollers, ventilation fans, generators, stirrer, jet chisel, water jet machine and dehumidifier

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
Notification	GW-RW0368-08	1 September to 30 November 2008	For marine dredging operation including grab dredger, tug boat, split hopper barge and motor sampan
	GW-RW0054-09	16 February 2009 to 5 August 2009	For land-based and marine works including passenger launch, winch, welding machine, grinder, generator, power pack, tug boat, crane, air compressor, roller, hoist and derrick barge
	GW-RW0261-09	3 July 2009 to 3 November 2009	For land-based and marine works including derrick barge, grinder, crane, tug boat, drill, welding machine, hopper barge, motor sampan, air compressor
	GW-RW0299-09	21 July 2009 to 20 January 2010	For land-based works including air compressors, breakers, excavators, wheeled loaders, mobile cranes, concrete lorry mixers, hand-held pokers, bar benders/cutters, wood saws, grinders, submarine water pump, lorries with crane, dump trucks, rollers, ventilation fans, generators, stirrer, jet chisel, water jet machine and dehumidifier etc
	GW-RW0459-09	26 October 2009 to 28 February 2010	For marine dredging operation including air compressors, derrick barge, tug boat, mobile crane, hand-held grinder, generator, hand-held drill, winch, welding machine, motor sampan, grab dredger hopper barge etc
Marine Dumping Permit	EP/MD/08-064	13 December 2007 to 29 February 2008	For Type 1 – Open Sea Disposal
	EP/MD/08-065	13 December 2007 to 12 January 2008	For Type 1d & Type 2 marine disposal
	EP/MD/08-071	13 January 2008 to 12 February 2008	For Type 1d & Type 2 marine disposal
	EP/MD/08-090	3 March to 31 March 2008	For Type 1d & Type 2 marine disposal

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
	EP/MD/08-091	3 March to 31 March 2008	For Type 1 – Open Sea Disposal
	EP/MD/09-018	1 September to 30 September 2008	For Type 1d & Type 2 marine disposal
	EP/MD/09-032	1 October to 31 October 2008	For Type 1d & Type 2 marine disposal
	EP/MD/09-017	1 September to 30 November 2008	For Type 1 – Open Sea Disposal
	EP/MD/09-039	1 December 2008 to 31 January 2009	For Type 1 – Open Sea Disposal
	EP/MD/10-041	11 November 2009 to 31 December 2009	For Type 1 – Open Sea Disposal
	EP/MD/10-042	11 November 2009 to 10 December 2009	For Type 1 - Open Sea Disposal (Dedicated Site) & Type 2 - Confined Marine Disposal
Wastewater Discharge License	EP760/421/011399/l	15 March 2006 to 31 March 2011	Issued on 15 March 2006

#### 2.6 COMMUNITY LIAISON GROUP MEETING

According to the EP requirements, a Community Liaison Group (CLG) was established within three months of commencement of construction of the Project. The major duty of the CLG is to advise on and monitor the proper design, construction and operation of the Project. The CLG comprises representatives from Airport Authority, members of Tuen Mun community and academics. During the reporting period, no meetings were organised by the CLG. The details of the CLG (including Membership and its Terms of Reference) and the minutes of previous meetings can be found on the Project website (http://www.paffhk.com).

# 2.7 SUMMARY OF NON-COMPLIANCE WITH THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS

Water quality monitoring during dredging activities recorded no exceedance of Action or Limit Levels for DO Bottom. Exceedances of Depth-averaged DO were recorded on 13, 14, 15, 17, 21 and 23 November and of Depth-averaged Suspended Solids on 13, 15, 17, 18, 19 and 21 November. There were no exceedances of Limit levels for Depth-averaged Turbidity during the reporting period but on 18 November there were four exceedances of Action Levels for Depth-averaged Turbidity. A summary of the exceedances occurring during the reporting period is shown in *Table 2.4* and a description of the actions taken following these non-compliances is discussed in *Section 3.2*.

Table 2.4 Summary of Exceedances of Action and Limit Levels Recorded during the Reporting Period

Date	Parameter	<b>Monitoring Stations</b>			
		Mid-Ebb Tide	Mid-Flood Tide		
13 Nov 2009	DO (Depth-averaged)		IMO1*, IMO3*, IMO4*		
	SS (Depth-averaged)		IMO4*		
14 Nov 2009	DO (Depth-averaged)	IMO1, MPB1, MPB2	IMO1, IMO2, IMO3,		
			IMO4, MPB1*, MPB2*,		
			MP*		
15 Nov 2009	DO (Depth-averaged)	MPB1, MPB2, MP	IMO1*, IMO2, IMO3,		
			IMO4, MPB2		
	SS (Depth-averaged)	MP	IMO2*, IMO3, IMO4*		
17 Nov 2009	DO (Depth-averaged)	MPB1	IMO1*, IMO2*, MP		
	SS (Depth-averaged)	MPB1*, MPB2, MP*	IMO1*, MPB1*, MPB2*,		
			MP*		
18 Nov 2009	Turbidity (Depth-averaged)	IMO5*, MPB2*	IMO5*, MPB2*		
	SS (Depth-averaged)	MPB1*, MPB2	MPB1*		
19 Nov 2009	SS (Depth-averaged)	MPB2*	IMO1*, IMO6*, MPB2*		
21 Nov 2009	DO (Depth-averaged)	IMO5*, IMO6*	IMO6		
	SS (Depth-averaged)	MPB1*			
23 Nov 2009	DO (Depth-averaged)		IMO5*		

\*Note: Action Level but not Limit Level exceedance

As per the requirements of the *EM&A Manual*, incidents were notified to the Franchisee's Site Representative, the Contractor and the Independent Environmental Checker upon identification of an exceedance.

#### 2.8 SUMMARY OF ENVIRONMENTAL COMPLAINTS

No environmental complaints were received during the reporting period. A summary of environmental complaints since project commencement is presented in *Annex D*.

#### 2.9 SUMMARY OF ENVIRONMENTAL SUMMONS

No summons was received in this reporting period. A summary of legal proceeding since project commencement is presented in *Annex D* 

#### ENVIRONMENTAL ISSUES AND ACTIONS

#### 3.1 Previous Environmental Deficiencies and Follow-up Actions

As no environmental complaints were received over the last reporting period, no follow-up actions were required.

Site inspections were carried out by the ET on 6, 12, 19 and 26 November 2009. Overall, the site was in good orderly manner and no non-compliance was found. Environmental deficiencies and follow-up actions/mitigation measures were identified during the inspections, as follows:

#### Air Quality

3

 On 26 November, the air compressor near the Jetty area was found without a label or drip tray. The air compressor was evidently not yet in operation, but the Contractor was advised to ensure it had the correct label and a drip tray before starting operation.

#### Noise

• On 12 November, the CNP permit showing at the main site entrance showed an expiry date of 3 November 2009. The Contractor was advised to put up the new permit that had been obtained.

#### Water Quality

- On 6, 12 and 19 November, the sediment tanks near the middle, main entrance were left uncovered and a possible breeding ground for mosquitoes. The Contractor was advised to cover the sediment tanks as soon as possible.
- On 6 November, a pipe connection on the path leading from the main to the middle entrance was found to be leaking. The Contractor was asked to fix the connection as soon as possible.
- On 6 November, water was observed in the bunding around the generator in the Workshop area and on 19 November in the drip tray of the diesel drum near the Workshop area. The Contractor was advised to clear this immediately.
- On 12 November, a thin oil film was observed on the seawater by the
  jetty. Water coming out of the drainage system appeared clean and it
  was concluded that the oil film was probably not resulting from the PAFF
  site.
- On 19 November, dirty water was found behind the painting area by Tank 8. The Contractor was advised to clear the water as soon as

possible.

#### Waste/Chemical Management

- On 6, 12 and 19 November, scattered pieces of debris were found around the Tank Farm areas, on 12 November a stockpile of debris and construction waste was found just inside the middle entrance to the site and on 19 November wire debris was found behind a lorry by Tank 10. The Contractor was advised to collect all debris and dispose of it appropriately.
- On 6 and 12 November, black plastic bags and hosepipes were found deposited in the chemical waster storage area by Tank 10. The Contractor was advised to clear these to the appropriate place as soon as possible.
- On 19 November, the Contractor was advised to check the set-up of the paint area near Tank 8 to ensure it was safe and there was no contamination of the surrounding area. They were also advised to ensure that all empty paint cans were stored in the chemical waste facility.
- On 26 November, the dredging barge was inspected and there were insufficient waste receptacles. The Contractor was advised to ensure rubbish bins were provided on all levels of the barge and that they were of adequate capacity.
- On 26 November, oil was identified in the drip tray around the generator aboard the grab dredger and there was an open plastic bucket of oil near the generator. The Contractor was advised to clear the drip tray immediately and cover the plastic bucket.

#### General Housekeeping

• On 26 November, the electric hazard label on the generator aboard the grab dredger was illegible. The Contractor was advised to arrange for a new sign to be put in place.

The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

# 3.2 DESCRIPTION OF ACTIONS TAKEN IN EVENT OF NON-COMPLIANCE AND DEFICIENCY REPORTING

Water quality monitoring during dredging activities recorded no exceedance of Action or Limit Levels for DO Bottom. Exceedances of Depth-averaged DO were recorded on 13, 14, 15, 17, 21 and 23 November and of Depth-averaged Suspended Solids on 13, 15, 17, 18, 19 and 21 November. There were no exceedances of Limit levels for Depth-averaged Turbidity during the

reporting period but on 18 November there were four exceedances of Action Levels for Depth-averaged Turbidity. A summary of the exceedances recorded during the reporting period is shown in *Section 2.7, Table 2.4* and graphical representations of the results are presented in *Annex G*. Descriptions of the actions taken following identification of non-compliance are discussed below.

Although dredging operations were undertaken during the reporting period, on examination of the results, it was concluded that all the exceedances described above were unlikely to be caused by the Project for the following reasons:

- Exceedances were found at monitoring stations upstream and downstream of dredging vessels that were not in operation (e.g. exceedance of Action Level of depth-averaged DO on 13 November 2009 at IMO3 and IMO4). The values were comparable to exceedances found at stations upstream and downstream of operational dredging vessels on the same day (eg exceedance of Action Level of depth-averaged DO on 13 November 2009 at IMO1).
- Not all parameters showed same trend of exceedances (e.g. on 14
   November there were exceedances of Depth-averaged DO at various
   stations, but there were no exceedances of Bottom DO, Depth-averaged
   Turbidity and Depth-averaged Suspended Solid (SS) results at the same
   stations at the same tide)
- There have also been exceedances recorded from previous monitoring periods when dredging was not undertaken (e.g. 8 September 2008 with exceedances in DO values; 10 February 2008 with exceedances in Depthaveraged Turbidity and in SS).

As per the requirements of the *EM&A Manual*, incidents were notified to the Franchisee's Site Representative, the Contractor and the Independent Environmental Checker upon identification of an exceedance.

#### 3.3 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The implementation status of environmental mitigation measures and requirements as stated in the *EIA Report, Environmental Permits* and *EM&A Manual* during the reporting period is summarized in *Annex E*.

#### 4 ENVIRONMENTAL MONITORING

#### 4.1 AIR AND NOISE

Air and Noise monitoring is not required for the project.

#### 4.2 WATER QUALITY

In accordance to the EM&A Manual, during dredging activities, water quality monitoring commenced on 13 November 2009. QA/QC reports for Suspended Solids testing are presented in *Annex F*. Monitoring data and graphical presentations of the results are included in *Annex G*.

Results of the monitoring demonstrated that all measured Bottom dissolved oxygen (DO) levels at all Impact Stations were compliant with the Action and Limit Levels specified in the *EM&A Manual*. Concentrations of Depthaveraged Turbidity were also compliant with Action and Limit levels with the exception of 18 November. Exceedances for Depthaveraged DO and Suspended Solids were more frequent during the reporting period with exceedances in 13, 14, 15, 17, 21 and 23 November for Depthaveraged DO and in 13, 15, 17, 18, 19 and 21 November for Depthaveraged SS. A review of the above exceedances concluded that they were not attributable to Project works and were likely due to natural variation (see *Section 3.2* for further details).

#### 4.3 POPS MONITORING

Biweekly monitoring of water samples was conducted for Persistent Organic Pollutants (POPs) analysis on 25 November. Total PCBs, PAHs and DDTs were all below detection limits. Monitoring results and QA/QC reports for the available POPs testing are presented in *Annex H*. The remaining results will be presented in the next Monthly Report.

#### 4.4 WASTE MANAGEMENT

According to EP *Condition 3.3*, the Contractor's revised Waste Management Plan (Revision 5) (WMP), which has been certified by the ET and IEC, was submitted to the EPD on 5 November 2008.

#### 4.5 CULTURAL HERITAGE

The *Watching Brief Report*, verified by the Independent Environmental Checker, was submitted to the EPD and AMO on 9 May 2008.

#### 4.6 LANDSCAPE AND VISUAL

According to the *EIA report* and *EM&A Manual*, mitigation measures and site inspection are required during the landscaping/planting works. The berm/landscaping bund was habilitated by vegetation which was grown during the project suspension period.

The weekly site inspections included general audits on landscape and visual issues to ensure that the site was in an orderly and acceptable manner.

#### 4.7 LAND CONTAMINATION, HAZARD TO LIFE AND FUEL SPILL RISK

According to the *EIA report* and *EM&A Manual*, mitigation measures and design phase audit are required to minimise the risk of fuel spill and hazards. In 2007, the Contractor submitted an updated design audit plan according to the EP requirements. These were certified and verified by the ET and IEC respectively and submitted to the EPD on 7 November 2007.

Pursuant to *Condition 3.5* of the EP, the Contractor submitted design drawings and supporting information according to the EP requirements. The ET certified the documents and submitted to the IEC for verification on 24 and 25 November 2009.

Weekly site inspection covered the waste management aspects which included measures to prevent land contamination by chemical wastes.

#### 4.8 ECOLOGY

Dolphin Visual Monitoring

In accordance to *EM&A Manual*, dolphin monitoring was undertaken during dredging activities from when they started on 13 November 2009.

During the reporting period, a total of four dolphin sightings were recorded. Since no dolphin sightings were recorded within the exclusion zone, no action was considered necessary according to the *EM&A Manual*. The sighting locations and field records are presented in *Annex I*.

#### 4.9 EM&A MANUAL

The *EM&A Manual* for the Project was updated by the ET to include the detailed arrangements of setting up a CLG, carrying out design audit, and monitoring of Persistent Organic Pollutants during the dredging phase of construction of the Project. The revised *EM&A Manual*, which was verified by the IEC, was submitted to the EPD on 1 April 2009.

### 4.10 BASELINE WATER QUALITY MONITORING

The *Final Baseline Monitoring Report* was submitted to the EPD on 20 February 2008 and placed under the EIAO register.

#### 5 FUTURE KEY ISSUES

#### 5.1 KEY ISSUES FOR THE NEXT MONTH

Key issue to be considered in the next month will be:

- dust release and suppression;
- backfilling of rock armour over pipeline;
- dredging operation for the repair of pipeline; and,
- Water quality monitoring and dolphin monitoring during the dredging activities.

#### 5.2 IMPACT PREDICTION FOR THE NEXT MONTH

Provided that environmental mitigation measures including good on-site practises are properly implemented, it is not expected that unacceptable adverse impacts will arise.

Based on the water quality monitoring results recorded to date, it may be expected that further exceedances in Depth-averaged Dissolved Oxygen, Suspended Solids and possibly Turbidity may be recorded. However, as with those recorded so far, it is not expected that such exceedances would be attributable to Project Works.

#### 5.3 WORKS AND MONITORING SCHEDULE FOR THE NEXT MONTH

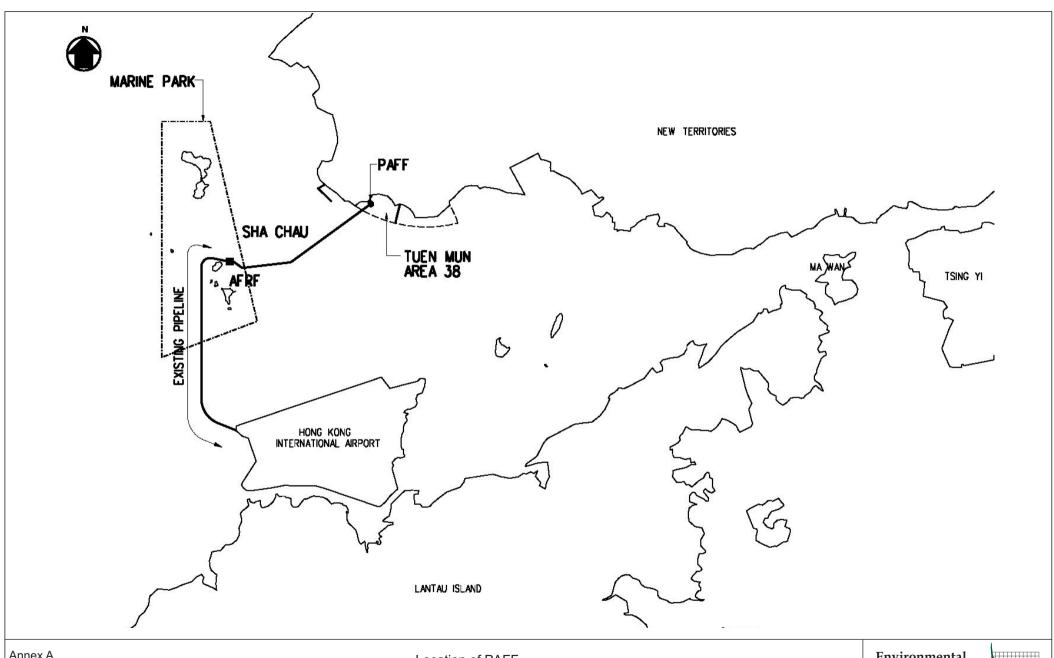
Work programme for the next month includes:

- backfilling and placing of rock armour works;
- dredging operation for the repair of pipeline;
- riser connections at Sha Chau;
- jetty platform works (non-piling);
- site works (construction works for tank farm, roof truss, drainages, bund wall, security wall and emergency vehicle access road etc); and,
- pre-commission and commissioning activities for Phase 1A (the first four tanks).

Weekly site inspections, water quality and dolphin monitoring will be undertaken in accordance with the *EM&A Manual*.

#### Annex A

# Project Location



Annex A

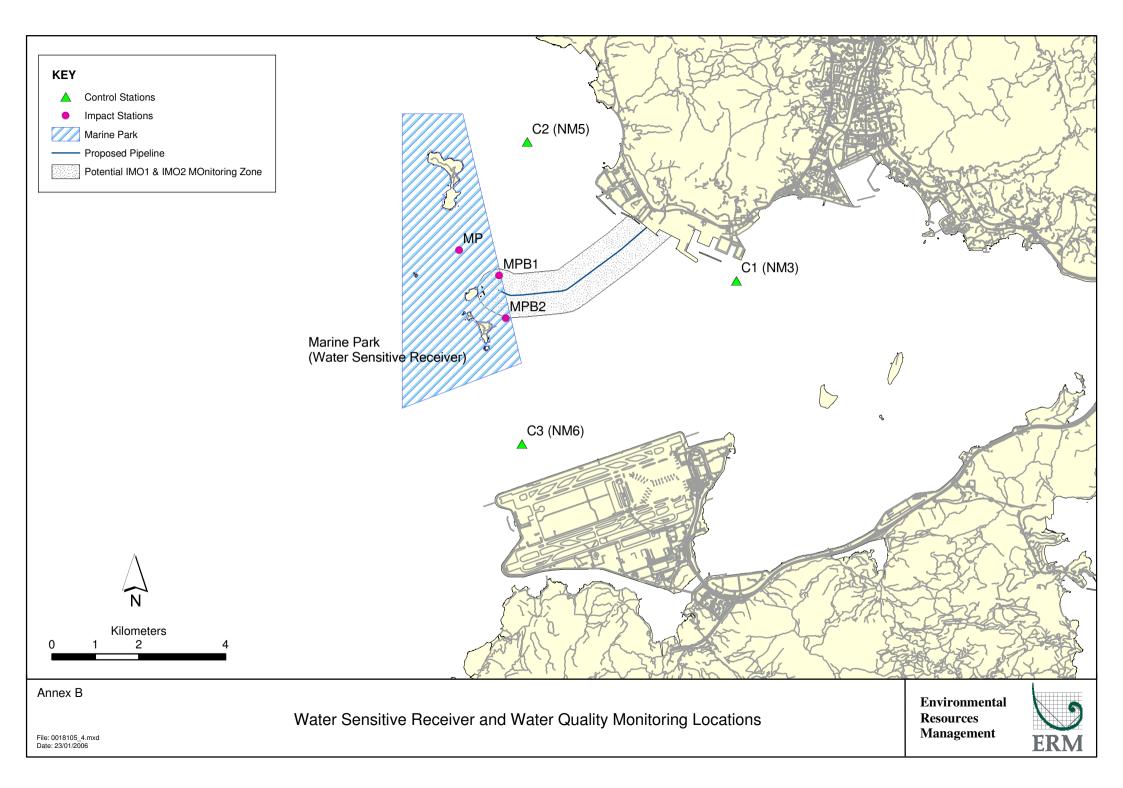
Location of PAFF

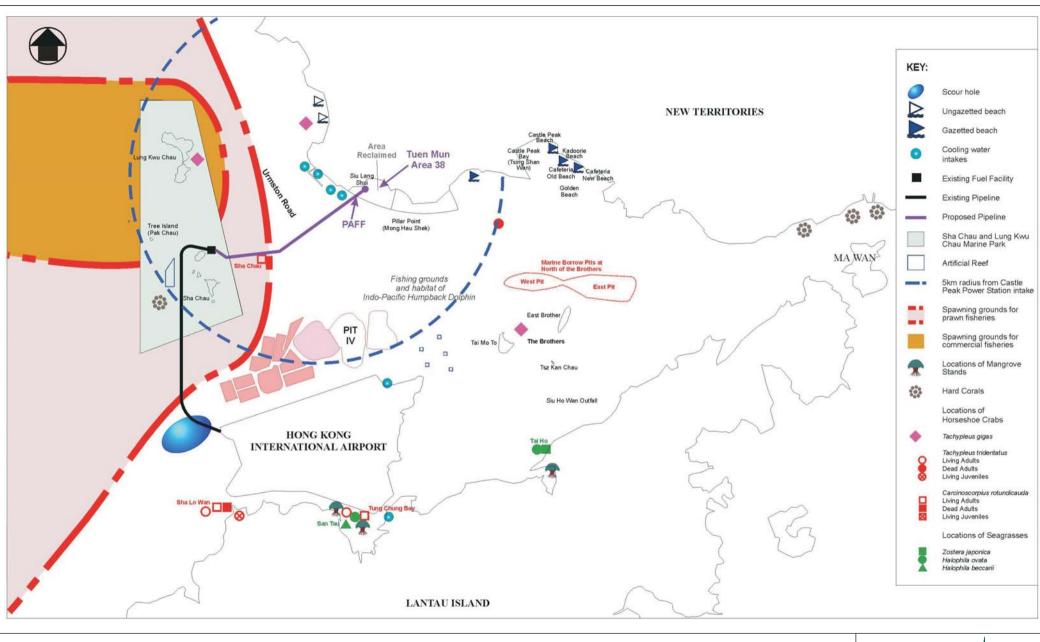
**Environmental** Resources Management



#### Annex B

Water Quality and Ecological Sensitive Receivers





Annex B

FILE: C2475aa

DATE: 12/11/2007

Water Quality and Ecological Sensitive Receivers

(Soure: PAFF for Hong Kong International Airport EIA, Mouchel 2002)

Environmental Resources Management



#### Annex C

Water Quality Monitoring Schedule for the Reporting Period

# Impact Water Quality Monitoring Schedule for November 2009

Sund	lay	Monda	.y	Tuesda	ay	Wedne	sday	Thurs	day	Frida	ay	Satu	rday
	1-Nov		2-Nov		3-Nov		4-Nov		5-Nov		6-Nov		7-Nov
	8-Nov		9-Nov		10-Nov		11-Nov		12-Nov		13-Nov		14-Nov
	0-1107		9-1101		10-1107		11-1100		12-1100		13-1107		14-1100
										Mid-Ebb	10:08	Mid-Ebb	11:00
										Mid-Flood		Mid-Flood	16:54
	15-Nov		16-Nov		17-Nov		18-Nov		19-Nov		20-Nov		21-Nov
Mid-Ebb		Mid-Flood		Mid-Flood		Mid-Flood		Mid-Flood		Mid-Flood		Mid-Flood	10:48
Mid-Flood	17:24	Mid-Ebb	12:34	Mid-Ebb	13:14	Mid-Ebb	13:52	Mid-Ebb	14:28	Mid-Ebb	15:02	Mid-Ebb	15:33
	22-Nov		23-Nov		24-Nov		25-Nov		26-Nov		27-Nov		28-Nov
Mid-Flood	11:36	Mid-Ebb	4:28	Mid-Ebb		Mid-Ebb		Mid-Ebb		Mid-Ebb	8:10	Mid-Ebb	9:16
Mid-Ebb	15:57	Mid-Flood	16:48	Mid-Flood	17:33	Mid-Flood		Mid-Flood	14:48	Mid-Flood	15:16	Mid-Flood	15:42
						(POP SAM	(IPLING)						
	29-Nov		30-Nov										
N. 1. E. 1.	40.40	NA: 1 E 1 1	44.07										
Mid-Ebb		Mid-Ebb	11:07										
Mid-Flood	16:11	Mid-Flood	16:42										

#### Annex D

# Cumulative Complaints Statistics

# Summary of Environmental Complaints

Reporting Period	Complaint Statistics								
_	Frequency	Cumulative	Complaint Nature						
Before construction	1	1	Dust						
works									
18/11/05 - 15/12/05	1	2	Dust						
15/12/05 - 14/01/06	0	2	Nil						
15/01/06 - 14/02/06	0	2	Nil						
15/02/06 - 14/03/06	0	2	Nil						
15/03/06 - 14/04/06	0	2	Nil						
15/04/06 - 14/05/06	0	2	Nil						
15/05/06 – 14/06/06	0	2	Nil						
15/06/06 – 14/07/06	0	2	Nil						
Re-commencement of con	struction works on 9th	July 2007							
09/07/07 - 31/07/07	0	2	Nil						
01/08/07 - 31/08/07	0	2	Nil						
01/09/07 - 30/09/07	0	2	Nil						
01/10/07 - 31/10/07	0	2	Nil						
01/11/07 - 30/11/07	0	2	Nil						
01/12/07 - 31/12/07	0	2	Nil						
01/01/08 - 31/01/08	0	2	Nil						
01/02/08 - 29/02/08	0	2	Nil						
01/03/08 - 31/03/08	0	2	Nil						
01/04/08 - 30/04/08	0	2	Nil						
01/05/08 - 31/05/08	0	2	Nil						
01/06/08 - 30/06/08	0	2	Nil						
01/07/08 - 31/07/08	0	2	Nil						
01/08/08 - 31/08/08	0	2	Nil						
01/09/08 - 30/09/08	0	2	Nil						
01/10/08 - 31/10/08	0	2	Nil						
01/11/08 - 30/11/08	0	2	Nil						
01/12/08 - 31/12/08	0	2	Nil						
01/01/09 – 31/01/09	0	2	Nil						
01/02/09 - 28/02/09	0	2	Nil						
01/03/09 - 31/03/09	0	2	Nil						
01/04/09 - 30/04/09	0	2	Nil						
01/05/09 – 31/05/09	0	2	Nil						
01/06/09 - 30/06/09	0	2	Nil						
01/07/09 - 31/07/09	0	2	Nil						
01/08/09 - 31/08/09	0	2	Nil						
01/09/09 – 30/09/09	0	2	Nil						
01/10/09 – 31/10/09	0	2	Nil						
01/11/09 – 30/11/09	0	2	Nil						

### Summary of Environmental Summons

Reporting Period		Environmental Summo	ns
_	Frequency	Cumulative	Summon Nature
18/11/05 - 15/12/05	0	0	Nil
16/12/05 - 14/01/06	0	0	Nil
15/01/06 - 14/02/06	0	0	Nil
15/02/06 - 14/03/06	0	0	Nil
15/03/06 - 14/04/06	0	0	Nil
15/04/06 - 14/05/06	0	0	Nil
15/05/06 - 14/06/06	0	0	Nil
15/06/06 - 14/07/06	0	0	Nil
Re-commencement of cor	nstruction works on 9th	July 2007	
09/07/07 - 31/07/07	0	0	Nil
01/08/07 - 31/08/07	0	0	Nil
01/09/07 - 30/09/07	0	0	Nil
01/10/07 - 31/10/07	0	0	Nil
01/11/07 - 30/11/07	0	0	Nil
01/12/07 - 31/12/07	0	0	Nil
01/01/08 - 31/01/08	0	0	Nil
01/02/08 - 29/02/08	0	0	Nil
01/03/08 - 31/03/08	0	0	Nil
01/04/08 - 30/04/08	0	0	Nil
01/05/08 - 31/05/08	0	0	Nil
01/06/08 - 30/06/08	0	0	Nil
01/07/08 - 31/07/08	0	0	Nil
01/08/08 - 31/08/08	0	0	Nil
01/09/08 - 30/09/08	0	0	Nil
01/10/08 - 31/10/08	0	0	Nil
01/11/08 - 30/11/08	0	0	Nil
01/12/08 - 31/12/08	0	0	Nil
01/01/09 - 31/01/09	0	0	Nil
01/02/09 - 28/02/09	0	0	Nil
01/03/09 - 31/03/09	0	0	Nil
01/04/09 - 30/04/09	0	0	Nil
01/05/09 - 31/05/09	0	0	Nil
01/06/09 - 30/06/09	0	0	Nil
01/07/09 - 31/07/09	0	0	Nil
01/08/09 - 31/08/09	0	0	Nil
01/09/09 - 30/09/09	0	0	Nil
01/10/09 - 31/10/09	0	0	Nil
01/11/09 - 31/11/09	0	0	Nil

### Annex E

Implementation
Programme of Mitigation
Measures

#### ANNEX E IMPLEMENTATION SCHEDULE

EIA Reference	EM&A Manual Reference	<b>Environmental Protection Measures</b>	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Im D	plemer Sched	Maintenance Agency	Implementation Status
Water Qua							•		
6.7	6.8.1	There should be no access to the shore or working from land within the Marine Park. No marine anchors shall be used within the Marine Park.	Marine Park / Pipeline Dredging	Contractor	TMEIA		Y	N/A	Complete
6.7	6.8.1	No hydraulic dredging within Marine Park.	Marine Park / Pipeline Dredging	Contractor	TMEIA		Y	N/A	Completed
6.7	6.8.1	Dredging for pipeline trench should be timed to coincide with maintenance dredging for Sha Chau AFRF marine access channel if relevant.	Sha Chau ARFR Marine access channel	Airport Authority	TMEIA		Y	N/A	Completed
6.4		The work rate for dredging should not exceed 4,000 m <sup>3</sup> /hr for the TSHD and 7,000 m <sup>3</sup> /day for the grab dredger.	Marine Park / Pipeline Dredging	Contractor	TMEIA		Y	N/A	Completed
6.7	6.8.1	Standard good dredging practice measures shall be written in the dredging contract.	Marine Park / Pipeline Dredging	Franchisee	TMEIA		Y	N/A	Completed
6.7	6.8.1	Use of Lean Material Overboard (LMOB) systems shall be prohibited. No mud overflow is to be permitted for dredging using TSHD.	0 0	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y	N/A	Not applicable
6.7	6.8.1	Mechanical grabs shall be designed and maintained to avoid spillage and should seal tightly while being lifted.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y	N/A	Completed
6.7	6.8.1	Barges and hopper dredgers shall have tight fittings seals to their bottom openings to prevent leakage of material.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y	N/A	Completed

EIA Reference	EM&A Manual	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or	Implementation Schedule				Implementation
Kererence	Reference		Timing		Requirement	D	Sched	O	Agency	Status
6.7	6.8.1	Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Not applicable
6.7	6.8.1	Loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Completed
6.7	6.8.1	Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.	O	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Completed
6.7	6.8.1	Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Completed
6.7	6.8.1	All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Completed
6.7	6.8.1	The works shall not cause foam, oil, grease, letter or other objectionable matter to be present in the water within and adjacent to the works site.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Completed

EIA	EM&A	<b>Environmental Protection Measures</b>	Location /	Implementation	Relevant	In	_	mentat			Implementation
Reference	Manual Reference	2	Timing	Agent	Standard or Requirement	D	Sc	hedule C	o	Agency	Status
6.7	6.8.1	Placement of pipeline trench backfill should be undertaken in a controlled manner to minimise impacts.  Backfilling with rock should be undertaken either down pipe or by a reverse grab operation or other controlled technique to ensure that this material does not mound on the seabed	Pipeline trench/ Pipeline Dredging	Contractor	TMEIA Minimise disturbance			Y		N/A	Ongoing
6.7	6.8.1	Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards			Y		N/A	Ongoing
6.7	6.8.1	Sewage effluent and discharges from onsite kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards			Y		N/A	Ongoing
6.7	6.8.1	Storm drainage should be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sandbag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards			Y		N/A	Ongoing
6.7	6.8.1	Silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards			Y		N/A	Ongoing

EIA Reference	EM&A Manual	<b>Environmental Protection Measures</b>	Location / Timing	Implementation Agent	Relevant Standard or		Scl	menta	e	Maintenance Agency	Implementation Status
6.7	Reference 6.8.1	Temporary access roads should be	Land site/	Contractor	Requirement TMEIA	D		C Y	0	N/A	Ongoing
	0.0.2	surfaced with crushed stone or gravel.	Throughout		ProPECC Note			_	11,11	01.601.6	
		0	construction		1/94. WPCO						
			period		TM on Effluent						
			-		Standards						
6.7	6.8.1	Rainwater pumped out from trenches or	Land site/	Contractor	TMEIA			Y		N/A	Ongoing
		foundation excavations should be	Throughout		ProPECC Note						0 0
		discharged into storm drains via silt	construction		1/94. WPCO						
		removal facilities.	period		TM on Effluent						
					Standards						
6.7	6.8.1	washout of construction materials, soil, silt or debris into any drainage system.  Open stockpiles of construction materials (e.g. aggregates and sand) onsite should	Throughout construction period  Land site/ Throughout	Contractor	TMEIA		Y	N/A	Ongoing		
				Contractor	ProPECC Note						
					1/94. WPCO						
					TM on Effluent						
. <del>.</del>	601				Standards			NT / A	On main		
6.7	6.8.1				TMEIA		Y	N/A	Ongoing		
	be covered with tarpaulin or similar co				ProPECC Note						
		construction period		1/94. WPCO TM on Effluent							
		fabric during rainstorms.  1 Manholes (including any newly	Land site/	Contractor	Standards		Y	N/A			
6.7	6.8.1				TMEIA				Ongoing		
0.7	0.0.1	constructed ones) should always be	Throughout construction	Contractor	ProPECC Note			1		IV/A	Origonia
		adequately covered and temporarily sealed so as to prevent silt, construction			1/94. WPCO						
			period		TM on Effluent						
		materials or debris from getting into the	L		Standards						
		drainage system, and to prevent storm									
		run-off from getting into foul sewers.									
6.7	6.8.1	Discharges of surface run-off into foul	Land site/	Contractor	TMEIA			Y		N/A	Ongoing
		sewers must always be prevented in	Throughout construction		ProPECC Note				0 0		
		order not to unduly overload the foul			1/94. WPCO						
		sewerage system.	period		TM on Effluent						
					Standards						

EIA	EM&A	<b>Environmental Protection Measures</b>	Location /	Implementation	Relevant	In	-	ementati	on	Maintenance	Implementation
Reference	Manual Reference		Timing	Agent	Standard or	D	Sc	hedule C (	O	Agency	Status
6.7	6.8.1	All vehicles and plant should be cleaned	Land site/	Contractor	Requirement TMEIA	ע		Y	<u> </u>	N/A	Ongoing
0.7	0.0.1	before they leave the construction site to	Throughout	Contractor	ProPECC Note			1		N/A	Ongoing
		ensure that no earth, mud or debris is	construction		1/94. WPCO						
		deposited by them on roads. A wheel	period		TM on Effluent						
		washing bay should be provided at	period		Standards						
		every site exit.									
6.7	6.8.1	Wheel wash overflow shall be directed to	Land site/	Contractor	TMEIA			Y		N/A	Ongoing
		silt removal facilities before being	Throughout		ProPECC Note						
		discharged to the storm drain.	construction		1/94. WPCO						
			period		TM on Effluent						
					Standards						
6.7	6.8.1	The section of construction road between	Land site/	Contractor	TMEIA			Y		N/A	Ongoing
		the wheel washing bay and the public	Throughout		ProPECC Note						
		road should be surfaced with crushed	construction		1/94. WPCO						
		stone or coarse gravel.	period		TM on Effluent						
					Standards						
6.7	6.8.1	Wastewater generated from concreting,	Land site/	Contractor	TMEIA			Y		N/A	Ongoing
		plastering, internal decoration, cleaning	Throughout		ProPECC Note						
		work and other similar activities, shall be			1/94. WPCO						
		screened to remove large objects.	period		TM on Effluent						
					Standards						
6.7	6.8.1	Vehicle and plant servicing areas, vehicle		Contractor	TMEIA			Y		N/A	Ongoing
		wash bays and lubrication facilities shall	Throughout		ProPECC Note						
		be located under roofed areas. The	construction		1/94. WPCO						
		drainage in these covered areas shall be	period		TM on Effluent						
		connected to foul sewers via a petrol			Standards						
		interceptor in accordance with the									
		requirements of the WPCO or collected									
		for off site disposal.									
6.7	6.8.1	The contractors shall prepare	Land site/	Contractor	TMEIA			Y		N/A	Ongoing
		oil/chemical cleanup plan and ensure	Throughout		ProPECC Note						
		that leakages or spillages are contained	construction		1/94. WPCO						
		and cleaned up immediately.	period		TM on Effluent						
					Standards						

EIA	EM&A	<b>Environmental Protection Measures</b>	Location /	Implementation	Relevant	In		nentatio	Maintenance	•
Reference	Manual Reference		Timing	Agent	Standard or Requirement	D		eaule C O	Agency	Status
6.7	6.8.1	Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		•	Y	N/A	Ongoing
6.7	6.8.1	All fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		,	Y	N/A	Ongoing
6.7	6.8.1	Surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		•	Y	N/A	Ongoing
6.7	6.8.1	Wastewater from pipe commissioning dewatering exercises shall be stored on site and for chemical analysis and safe disposal in accordance with the WPCO.	Tank Farm/Tank farm commissioning	Franchisee	TMEIA WPCO TM on Effluent Standards		,	Y	N/A	Ongoing
6.7	Section 6	All construction works shall be subject to routine audit to ensure implementation of all EIA recommendations and good working practice.	Land site/ Throughout construction period	Contractor	EM&A Manual		,	Y	N/A	Ongoing
6.7	Section 6	Submarine section of aviation fuel pipeline shall be covered with rock armour protection which shall not protrude above the level of the adjacent natural seabed.	Submarine pipeline	Franchisee	TMEIA Rock armour to minimum thickness of 1m	Y	,	Y	Franchisee	Ongoing
6.7	Section 6	Detailed emergency response procedures shall be drawn up. These will include requirements to maintain floating oil booms, absorbent materials and skimmers on site at all times.	All facilities	Franchisee	TMEIA Industry Standards e.g. Oil Companies International Marine Forum			Y	Franchisee	Pending

EIA Reference	EM&A Manual	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or	In	-	ement chedu		Maintenance Agency	Implementation Status
	Reference			8	Requirement	D		С	О	8)	
6.7	Section 6	Coupling points on the jetty will be protected with slop collection utilities.	Jetty	Franchisee	TMEIA Rock armour to minimum thickness of 1m			Y		Franchisee	On going
6.7	Section 6	Auxiliary tanks shall be permanently maintained at the tank farm for recovered fuel and slops.	Tank farm	Franchisee	TMEIA				Y	Franchisee	Pending
6.7	Section 6	Oily drainage systems and slop collection systems will connect to an oil/water separator.	Tank farm	Franchisee	TMEIA Industry Standards e.g. Oil Companies International Marine Forum			Y		Franchisee	On going
6.7	Section 6	All tanks shall be bunded to a capacity of at least 150% of the largest individual tank in each compound by 2040. Tank pits shall be protected by an impermeable bed (e.g. geotextile sheeting) to prevent seepage of aviation fuel to ground. A leak detection system shall be installed beneath the containment membrane.	Tank farm	Franchisee	TMEIA Hong Kong Code of Practice for Oil Installations, 1992			Y		Franchisee	On going
6.7	Section 6	There shall be no direct outlet from the bund. A collection pump shall be included in the base. Removal of accumulated rainwater shall be activated manually and discharged to storm drain via an oil/water separator.	Tank farm	Franchisee	TMEIA			Y		Franchisee	On going
6.7	Section 6	Contingency procedures shall be drawn up to ensure containment and safe disposal of any fuel lost from tanks or pipework. Suitable absorbent materials (e.g. sand or earth) shall be kept on site to deal with spillages.	Tank farm	Franchisee	TMEIA Hong Kong Code of Practice for Oil Installations, 1992				Y	Franchisee	Pending
6.7	Section 6	Valves shall be installed within the storm drainage system to facilitate the retention of spillages.	Tank farm	Franchisee	TMEIA			Y		Franchisee	On going

EIA Reference	EM&A Manual	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or	In	-	emer ched	itation ule	Maintenance Agency	Implementation Status
	Reference		Ü	o .	Requirement	D		C	O	0 ,	
6.10	Section 6	Water quality monitoring shall be undertaken for suspended solids, turbidity, and dissolved oxygen.	Design monitoring stations as defined in EM&A Manual, section 6. Construction period when dredging takes place within 1000m of Marine Park and along entire length of the pipeline	Contractor	EM&A Manual			Y		N/A	Completed
6.10	Section 6	Routine water quality monitoring in the vicinity of the PAFF site to check the effectiveness of the proposed precautionary measures implemented for on-site spill control. The details of the monitoring to be undertaken will be prepared by the Franchisee as part of the PAFF Operations Manual and the details will be agreed with the relevant authorities prior to the commencement of operation of the PAFF. Monitoring should include but not be limited to the parameters of TPH and PAH and reference should be made to the existing monitoring programme undertaken for the fuel tank farm on the HKIA platform.	Operational phase. Location and frequency to be determined and agreed with relevant	Franchisee	EM&A Manual				Y	N/A	Pending
Ecology 7.8	5.3	Undertake post construction dolphin abundance monitoring.	Construction	Contractor	TMEIA			Y		N/A	Pending

EIA Reference	EM&A Manual	<b>Environmental Protection Measures</b>	Location / Timing	Implementation Agent	Relevant Standard or	In	-	nentat iedule		Maintenance Agency	Implementation Status
11010101100	Reference			1.801.0	Requirement	D		C	o	1180110)	3 <b>444</b> 3
7.8	5.3	A 500m dolphin exclusion zone shall be implemented and dredging shall not begin until the observer has confirmed that the area has been clear for 30 minutes.	250m around dredger/throug hout dredging in Marine Park and along the length of pipeline	Contractor	TMEIA			Y		N/A	Completed
7.8	5.3	Avoidance of dolphin main calving season between March and August.	Throughout dredging in Marine Park and along the length of the pipeline	Contractor	TMEIA		-	Y		N/A	Completed
Landscape	& Visual										
8.10	7.2.1	The construction programme for the PAFF should be reduced to the shortest possible period.	PAFF site / throughout construction period	Contractor	TMEIA	Y	•	Y		N/A	Ongoing
8.10	7.2.1	The extent and periphery of the works areas should be managed so that they are as small as possible and do not appear cluttered, untidy and unattractive, particularly to road traffic along Lung Mun Road.	PAFF site / throughout construction period	Contractor	TMEIA			Y	Y	N/A	Ongoing
8.10	7.2.1	Temporary hoarding barriers should be of a recessive visual appearance in both colour and form.	PAFF site / throughout construction period	Contractor	TMEIA	Y		Y		N/A	Ongoing
8.10	7.2.1	Materials should be stored in areas with the least obstruction to residents, pedestrians and traffic.	PAFF site / throughout construction period	Contractor	TMEIA			Y	Y	N/A	Ongoing
8.10	7.2.1	All material stockpiles should be covered with an impermeable material and sandbagging diversions should be placed around exposed soil.	*	Contractor	TMEIA			Y	Y	N/A	Ongoing

EIA	EM&A	Environmental Protection Measures	Location /	Implementation	Relevant	-	lement		Maintenance	Implementation
Reference	Manual		Timing	Agent	Standard or		Schedu		Agency	Status
	Reference				Requirement	D	С	0		
8.10	7.2.1	Conservation of existing and imported soil resources.	PAFF site / throughout construction period of fuel tank expansion	Contractor	TMEIA			Y	N/A	Ongoing
8.10	7.2.1	A landscape perimeter bund comprising containment bund-wall, access road and planting buffer shall be built and maintained around the tank farm.	PAFF site / throughout construction period	Project Proponent	TMEIA	Y	Y	Y	Franchisee	Ongoing
8.10	7.2.1	The design of the PAFF should incorporate materials, details and textures which are visually recessive.	PAFF site / design	Project Proponent	TMEIA	Y	Y		N/A	Ongoing
8.10	7.2.1	Colours should be of low chromatic intensity to reduce the potential contrast between the structure and their background.	PAFF site tanks / design	Project Proponent	TMEIA	Y	Y		N/A	Ongoing
8.10	7.2.1	Visually recessive security fencing should be used around the perimeter.	Site perimeter	Project Proponent	TMEIA	Y	Y	Y	N/A	Ongoing
8.10	7.2.1	Minimum amount of lighting for the tanks shall be used, only applied for safety at the key access points and staircases.	Tanks / Operational phase	Project Proponent	TMEIA	Y	Y	Y	N/A	Ongoing
8.10	7.2.1	Limited lighting intensity on the site.	PAFF site / Operational phase	Project Proponent	TMEIA	Y	Y	Y	N/A	Ongoing
8.10	7.2.1	Directional down lighting is suggested to minimise light spill to the surrounding area.	PAFF site / Operational phase	Project Proponent	TMEIA	Y	Y	Y	N/A	Ongoing

# Cultural Heritage

EIA	EM&A	<b>Environmental Protection Measures</b>	Location /	Implementation	Relevant	Im			Maintenance	Implementation
Reference	Manual		Timing	Agent	Standard or		Schedu		Agency	Status
	Reference				Requirement	D	C	0		
9.8.1	9.2.1	Undertake a watching brief during dredging of the pipeline within 25m either side of anomalies SS1 and SS2. This should comprise:	Within vicinity of SS1 and SS2	Franchisee	TMEIA		Y		N/A	Completed
		Dredge operators to be made aware of the potential presence of cultural heritage material. The operators would be required to report to the AMO any unusual resistance and/or recovery of timbers, anchors or other wreck related material. Any obstacles encountered during the dredging that are of timber should be reported to the marine archaeologist. The obstacle should be avoided and not removed until it has been assessed by the marine archaeologist as to whether the obstacle is of cultural heritage importance;								
		• A marine archaeologist shall be on board the dredging barge during dredging within 25m either side of SS1 and SS2 in the event of any unusual resistance occurring or blockages which requires the dredge head to be bought on deck for cleaning and examination; and,								

• Dredging to cease in the nominated area SS1 after 3 meters of sediment removal and after 1 metre for SS2. A dive survey will then be

possible cultural remains.

undertaken to examine the trench for

EIA Reference	EM&A Manual	<b>Environmental Protection Measures</b>	Location /	Implementation	Relevant Standard or	Im	-	entation dule	Maintenance	Implementation Status
Kererence	Reference		Timing	Agent	Requirement	D	Sche		Agency	Status
9.8.2	9.2.1	During the course of the watching brief, if the targets are identified as being potentially archaeologically important, then an immediate marine archaeological impact assessment in accordance with EIAO TM Annex 19 will be required to be undertaken by a qualified marine archaeologist.	With vicinity of SS1 and SS2	Franchisee	TMEIA		Y		N/A	Not applicable
9.8.4	9.2.1	Any changes, additions or alterations to the dredging method and alignment should be further assessed by marine archaeologist to determine if any further assessment is required.	Pipeline alignment	Franchisee	TMEIA		Y		N/A	Not applicable
Fuel Spill I										
11.4.1	10.2	Tank farms will be constructed in a bunded area surrounding the tanks which will have collection capacity of 150% of the maximum content of the largest tank.	Tank farm / Design Phase	Franchisee	TMEIA	Y			N/A	On going
11.4.1	10.2	Emergency shut down valves shall be installed within the wider site storm drainage system.	Tank farm / Design Phase	Franchisee	TMEIA	Y			N/A	On going
11.4.1	10.2	An impermeable membrane shall be installed in the tank foundation beneath the tank bottom.	Tank farm / Design Phase	Franchisee	TMEIA	Y			N/A	On going
11.4.1	10.2	Pipeline to be covered with a protective rock armour layer.	Pipelines/ Design Phase	Franchisee	TMEIA	Y			Franchisee	On going
11.4.1	10.2	An integrated leak detection system shall be installed to all pipelines to provide early detection of any leak.	0	Franchisee	TMEIA	Y			N/A	On going
11.4.1	10.2	An automatic shut-off system shall be implemented for pipelines.	Pipelines/ Design Phase	Franchisee	TMEIA	Y			N/A	On going
11.4.1	10.2	A workboat shall be on standby at the jetty during tanker berthing.	Jetty/ During Tanker Berth	Franchisee	TMEIA	Y		Y	N/A	Pending
11.4.1	10.2	Skimmers shall be available for quick deployment in case of a spill.	Jetty/ During Tanker Berth	Franchisee	TMEIA	Y		Y	N/A	Pending

EIA Reference	EM&A Manual	<b>Environmental Protection Measures</b>	Location / Timing	Implementation Agent	Relevant Standard or	Im	plement Schedu		Maintenance Agency	Implementation Status
	Reference				Requirement	D	C	O		
11.4.1	10.2	An emergency response plan shall be prepared prior to the operation of the PAFF.	Jetty/ During Tanker Berth	Franchisee	TMEIA	Y		Y	N/A	Pending
11.4.1	10.2	Operator-training programme shall be implemented.	Jetty/ During Tanker Berth	Franchisee	TMEIA	Y		Y	N/A	Pending
11.6	10.4	During the planning of the later phase of the tank farm development, in order to ensure that the required mitigation measures are undertaken at that time, review the EIA report only if the latest technology, industrial standards and statutory requirements have changed by that time.	During planning stage for future tank construction	Franchisee	TMEIA			Y	N/A	Pending
11.6	10.4	Regular inspections and audits will be undertaken by the Franchisee during the operational phase of the facility:	Operation	Franchisee	TMEIA			Y	N/A	Pending
		<ul> <li>Two inspections every year of the tank farm, jetty and pipelines including one undertaken pursuant to the Joint Inspection Group (JIG) explained above;</li> </ul>								
		• Inspection of the whole sub sea pipelines every 5 to 10 years;								
		<ul> <li>Health, Safety and Environmental audit of the facility once every 3 years; and,</li> </ul>								
		• Inspection of the structural integrity of the tanks once per year.								
		<ul> <li>Health, Safety and Environmental audit of the facility once every 3 years; and,</li> <li>Inspection of the structural integrity</li> </ul>								

EIA Reference	EM&A Manual	<b>Environmental Protection Measures</b>	Location / Timing	Implementation Agent	Relevant Standard or		lement Schedul		Maintenance Agency	Implementation Status
	Reference			8	Requirement	D	С	О	8)	
11.6	10.4	Prepare an Environmental Management Plan to ensure the on-going adequacy of the fuel spill contingency plan and that it is being implemented as required and that the above mitigation measures have been incorporated and are effective.	audits every 12	Franchisee	TMEIA			Y	N/A	Pending
<b>Land Conta</b>	amination									
13.5.1	10.2	Bunding shall be provided by all fuel storage areas to at least 150% of largest individual tank in each compound.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	On going
13.5.1	10.2	Relevant design standards for storage tanks, pipework, containment and drainage shall be adhered to.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	On going
13.5.1	10.2	Plant inspections and maintenance shall be undertaken once per month.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	On going
13.5.1	10.2	Impermeable lining shall be provided for all tank pits.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	On going
13.5.1	10.2	Leak detection systems shall be provided to all valves.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	On going
13.5.1	10.2	Surface drainage shall be contained and treated prior to discharge.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	On going
13.5.1	10.2	Emergency spill response plans shall be prepared.	Tank farm / Design	Franchisee	TMEIA	Y		Y	N/A	Pending
13.5.1	10.2	Spill control materials and equipment shall be provided on site.	Tank farm / Design	Franchisee	TMEIA	Y		Y	N/A	Pending
13.5.1	10.2	Runoff from the rood of site buildings and landscaped areas shall be conveyed in closed drains to the nearest storm water drain to prevent the generation of excessive quantities of surface water which may be polluted.	Tank farm / Design	Franchisee	TMEIA	Y		Y	N/A	On going
13.5.5	10.2	Suitable absorbent materials (e.g. sand or earth) shall be kept on site to deal with spills. Chemical dispersants shall not be employed.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	Pending

EIA Reference	EM&A Manual	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or	-	olement Schedu		Maintenance Agency	Implementation Status
	Reference		J	· ·	Requirement	D	C	О		
13.5.5	10.2	The facility shall be designed, constructed, operated and maintained in full accordance with the Code of Practice for Oil Installations, 1992.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	On going
13.5.5	10.2	Tank pressure testing shall be carried out routinely to check for possible tank leaks. Product inventory monitoring shall be integrated into site management procedures to check for any abnormal or unexpected product loss.		Franchisee	TMEIA	Y	Y	Y	N/A	On going
13.5.5	10.2	Tank overfill monitoring systems shall be installed and regularly tested. Inlet valves shall be designed to automatically shutdown on exceedance of "high-high level" to prevent over-filling.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	On going
13.5.5	10.2	Pipe leakages shall be routinely checked for by means of a pressure sensitive leak detection system and routine inventory control.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	On going
13.5.5	10.2	Drainage from areas of hardstanding shall be treated by means of oil/water separators prior to discharge to storm drain. All surface drainage shall be fitted with closure valves to provide additional containment and facilitate clean up of any leaks.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	On going
13.5.5	10.2	The delivery pipeline from the jetty and the supply line to the airport shall be fitted with pressure sensitive leak detectors.	Tank farm / Design	Franchisee	TMEIA	Y	Y		N/A	On going
Waste Man	agement									
14.7.2	8.3.1	The Contractor shall identify a coordinator for the management of waste.	Contract mobilisation	Contractor	TMEIA		Y		N/A	Ongoing

EIA Reference	EM&A Manual	<b>Environmental Protection Measures</b>	Location / Timing	Implementation Agent	Relevant Standard or		-	hedu		Maintenance Agency	Implementation Status
14.7.2	Reference 8.3.1	The waste coordinator shall prepare and implement a Waste Management Plan which specifies procedures such as ticketing system, to facilitate tracking of loads and to ensure that illegal disposal of waste does not occur, and protocols for the maintenance of records of the quantities of wastes generated, recycled and disposal.	Contract mobilisation	Contractor	Requirement  TMEIA, Works Branch Technical Circular No. 5/99 for the Trip-ticket System for Disposal of Construction and Demolition Material	D		C Y	0	N/A	Ongoing
14.7.2	8.3.1	The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges.	Contract mobilisation	Contractor	TMEIA, Land (Miscellaneous Provisions) Ordinance (Cap 28); Waste Disposal Ordinance (Cap 354); Dumping at Sea Ordinance (Cap 466); Water Pollution Control Ordinance.			Y		N/A	Ongoing
14.7.2	8.3.1	No waste shall be burnt on site.	PAFF Site throughout construction period	Contractor	TMEIA			Y		N/A	Ongoing
14.7.2	8.3.1	Excavated material shall be used on site for purposes of landscaping or formation of bund walls as far as possible.	All site /	Contractor	TMEIA			Y		N/A	Ongoing

EIA Reference	EM&A Manual	<b>Environmental Protection Measures</b>	Location / Timing	Implementation Agent	Relevant Standard or	Im		nentat edule		Maintenance Agency	Implementation Status
	Reference				Requirement	D			О		
14.7.2	8.3.1	All material shall be reused on site as far as practicable, including formwork plywood, topsoil and excavated material.	throughout	Contractor	TMEIA		`	Y		N/A	Ongoing
14.7.2	8.3.1	Suitable provisions shall be included in the construction contract to ensure that the Contractor sorts and recycles waste.	period Contract preparation stage	HyD	TMEIA	Y				N/A	Ongoing
14.7.2	8.3.1	Re-use and recycling of waste must always be considered first. Waste disposal shall only be undertaken in the last resort. Any surplus material generated shall be sorted on site into construction and demolition (C&D) waste and the public fill fraction. A sorting facility shall be set up on the site.	All areas / throughout construction period	Contractor	TMEIA		•	Y		N/A	Ongoing
14.7.2	8.3.1	The site and surroundings shall be kept tidy and litter free.	All areas / throughout construction period	Contractor	TMEIA		,	Y		N/A	Ongoing
14.7.2	8.3.1	The C&D waste shall be disposed of at a licensed landfill or deposited at an authorised waste transfer facility and the material suitable for public fill delivered to a public filling area, public filling barging point or public fill stockpile area after obtaining the appropriate licence.	CEDD pubic fill stockpile in Mui	Contractor	TMEIA		•	Y		N/A	Ongoing
14.7.2	8.3.1	Stockpile material shall avoid vegetated areas.	All areas / throughout construction period	Contractor	TMEIA		•	Y		N/A	Ongoing

EIA Reference	EM&A Manual	<b>Environmental Protection Measures</b>	Location / Timing	Implementation Agent	Relevant Standard or	In	-	emen chedu	tation le	Maintenance Agency	Implementation Status
	Reference				Requirement	D		C	Ο		
14.7.2	8.3.1	Stockpiles shall be covered by tarpaulin and/or watered as required.	All areas / throughout construction period, particularly during dry season	Contractor	TMEIA, Public Health and Municipal Services Ordinance (Cap 132) and the Public Cleansing and Prevention of Nuisances (Regional Council) By- laws			Y		N/A	Ongoing
14.7.2	8.3.1	Storage of material on site should be kept to a minimum.	All areas / throughout construction period	Contractor	TMEIA, Public Cleansing and Prevention of Nuisances (Regional Council) By- laws			Y		N/A	Ongoing

EIA Reference	EM&A Manual	<b>Environmental Protection Measures</b>	Location / Timing	Implementation Agent	Relevant Standard or	Im	menta nedul		Maintenance Agency	Implementation Status
reference	Reference			ngent	Requirement	D	C	o	rigency	Status
14.7.2	8.3.1	Excavated material in trucks shall be covered by tarpaulins.	All areas, particularly at site exits / throughout construction period	Contractor	TMEIA, Reduce the potential for spillage and dust. Public Health and Municipal Services Ordinance (Cap 132) and the Public Cleansing and Prevention of Nuisances (Regional Council) Bylaws		Y		N/A	Ongoing
14.7.2	8.3.1	Wheel washing facilities shall be used by all trucks leaving the site to prevent the transfer of mud onto public roads.	Site entrances and exits/ throughout construction period	Contractor	TMEIA, Public Cleansing and Prevention of Nuisances (Regional Council) By- laws		Y		N/A	Ongoing
14.7.2	8.3.1	Suitable chemical waste storage areas should be formed at the works site for temporary storage pending collection.	Works site/ throughout construction period	Contractor	TMEIA, Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. A Guide to the Chemical Waste Control Scheme		Y		N/A	Ongoing

EIA	EM&A	<b>Environmental Protection Measures</b>	Location /	Implementation	Relevant	Im		ation		Implementation
Reference	Manual		Timing	Agent	Standard or	D	nedul	le O	Agency	Status
14.7.2	Reference 8.3.1	A licensed contractor shall be employed	Chemical waste	Contractor	Requirement TMEIA, Code of		C Y	U	N/A	Ongoing
14.7.2	0.3.1	to collect chemical waste for delivery to a		Contractor	Practice on the		1		IN/A	Origonig
		licensed treatment facility.	facility at Tsing		Packaging,					
		ncensed treatment facility.	Yi / throughout		Labelling and					
			construction		Storage of					
			period		Chemical					
			period		Wastes. A					
					Guide to the					
					Chemical Waste					
					Control Scheme					
14.7.2	8.3.1	Temporary storage areas for general	All areas/	Contractor	TMEIA, Public		Y		N/A	Ongoing
		refuse should be enclosed to avoid	throughout		Health and				,	
		environmental impacts.	construction		Municipal					
		1	period		Services					
			1		Ordinance					
14.7.2 8.3	8.3.1	Sufficient dustbins should be provided	All areas/	Contractor	TMEIA, Public		Y		N/A	Ongoing
		1	throughout		Cleansing and					0 0
			construction		Prevention of					
			period		Nuisances					
					Ordinance					
					(Regional					
					Council) By-					
					laws, Public					
					Health and					
					Municipal					
					Services					
					Ordinance					
14.7.2	8.3.1	General refuse should be cleared daily	All areas,	Contractor	TMEIA,		Y		N/A	Ongoing
		and should be disposed of to the nearest	WENT landfill		Sanitation and					
		licensed facility.	or NWNT		Conservancy					
			refuse transfer		(Regional					
			stations/		Council) By-					
			throughout		laws					
			construction							
			period							

EIA	EM&A	<b>Environmental Protection Measures</b>	Location /	Implementation	Relevant	In		mentati		Maintenance	Implementation
Reference	Manual Reference		Timing	Agent	Standard or Requirement	D	Sc	hedule C	o	Agency	Status
14.7.2	8.3.1	Waste oils, chemicals or solvents shall not be disposed of to drain.	PAFF site/ throughout construction period	Contractor	TMEIA			Y	<u> </u>	N/A	Ongoing
14.7.2	8.3.1	Good site practice shall be implemented to avoid waste generation and promote waste minimisation.	PAFF site/ throughout construction period	Contractor	TMEIA			Y			Ongoing
14.7.2	8.3.1	Waste materials such as paper, metal, timber and waste oil shall be recycled as far as practicable.	PAFF site/ throughout construction period	Contractor	TMEIA			Y		N/A	Ongoing
14.7.2	8.3.1	Temporary structures used during construction shall be provided in the form of proprietary Protakabin type units sited on areas of permanent hard paving units as far as practicable.	PAFF site/ throughout construction period	Contractor	TMEIA			Y		N/A	Ongoing
14.7.2	8.3.1	Dredged marine mud shall be disposed of in a gazetted marine disposal ground under the requirements of the Dumping at Sea Ordinance.	PAFF site/ throughout construction period					Y		N/A	Completed
14.7.2	8.3.1	All waste containers shall be in good condition and fitted with lids or covers to prevent waste from escaping or the ingress of water.	PAFF site/ throughout construction period	Contractor	TMEIA			Y		N/A	Ongoing
14.7.2	8.3.1	All waste containers shall be in a secure area on hardstanding.	PAFF site/ throughout construction period	Contractor	TMEIA			Y		N/A	Ongoing
14.7.2	8.3.1	Emergency equipment to deal with any spillage or fire shall be kept on site.	PAFF site/ throughout construction period		TMEIA			Y		N/A	Ongoing
14.7.2	8.3.1	All containers used for storage of chemical waste shall be maintained in good condition and clearly labelled in both English and Chinese.	PAFF site/ throughout construction period	Contractor	TMEIA			Y		N/A	Ongoing

EIA	EM&A	<b>Environmental Protection Measures</b>	Location /	Implementation	Relevant	In	plemen		Maintenance	Implementation
Reference	Manual Reference		Timing	Agent	Standard or Requirement	D	Schedi C	ale O	Agency	Status
14.7.2	8.3.1	<ul> <li>All storage areas for chemical waste shall be:</li> <li>Clearly labelled;</li> <li>Enclosed on at least 3 sides;</li> <li>Have impermeable floor and bunding sufficient to fully retain any spillage or leakages;</li> <li>Ventilated; and,</li> <li>Covered to prevent rainfall from entering.</li> </ul>	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	All types of asbestos including sources (such as clutch linings) shall be treated as chemical waste. Asbestos containing wastes shall be kept separate from other wastes.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1		PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2 Section 5	8.3.1	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.	All areas/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing

## Annex F

QA/QC Results for Laboratory Testing of Suspended Solids

# **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 : LIVE

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: 13-NOV-2009

Order number : ---- Date of issue : 18-NOV-2009

C-O-C number : ---- No. of samples - Received : 86

Site : --- - Analysed : 86

### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0923817 supersedes any previous reports with this reference. The completion date of analysis is 17-NOV-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 HK0923817: Sample(s) were collected by ALS Technichem (HK) staff on 13 November, 2009.

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

This report may not be reproduced except with prior written
approval from ALS Technichem (HK) Pty Ltd.

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:-

Page Number : 2 of 5

Client : ERM HONG KONG

Work Order HK0923817



Sub-Matrix: WATER		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	[13-NOV-2009]	HK0923817-001	8		
MPB1 MID-EBB S DUP	[13-NOV-2009]	HK0923817-002	7		
MPB1 MID-EBB M	[13-NOV-2009]	HK0923817-003	9		
MPB1 MID-EBB M DUP	[13-NOV-2009]	HK0923817-004	9		
MPB1 MID-EBB B	[13-NOV-2009]	HK0923817-005	8		
MPB1 MID-EBB B DUP	[13-NOV-2009]	HK0923817-006	9		
MPB2 MID-EBB S	[13-NOV-2009]	HK0923817-007	12		
MPB2 MID-EBB S DUP	[13-NOV-2009]	HK0923817-008	12		
MPB2 MID-EBB M	[13-NOV-2009]	HK0923817-009	12		
MPB2 MID-EBB M DUP	[13-NOV-2009]	HK0923817-010	14		
MPB2 MID-EBB B	[13-NOV-2009]	HK0923817-011	19		
MPB2 MID-EBB B DUP	[13-NOV-2009]	HK0923817-012	19		
MP MID-EBB S	[13-NOV-2009]	HK0923817-013	13		
MP MID-EBB S DUP	[13-NOV-2009]	HK0923817-014	12		
MP MID-EBB B	[13-NOV-2009]	HK0923817-017	13		
MP MID-EBB B DUP	[13-NOV-2009]	HK0923817-018	13		
IMO1 MID-EBB S	[13-NOV-2009]	HK0923817-019	19		
IMO1 MID-EBB S DUP	[13-NOV-2009]	HK0923817-020	19		
IMO1 MID-EBB M	[13-NOV-2009]	HK0923817-021	17		
IMO1 MID-EBB M DUP	[13-NOV-2009]	HK0923817-022	18		
IMO1 MID-EBB B	[13-NOV-2009]	HK0923817-023	20		
IMO1 MID-EBB B DUP	[13-NOV-2009]	HK0923817-024	24		
IMO2 MID-EBB S	[13-NOV-2009]	HK0923817-025	16		
IMO2 MID-EBB S DUP	[13-NOV-2009]	HK0923817-026	18		
IMO2 MID-EBB M	[13-NOV-2009]	HK0923817-027	11		
IMO2 MID-EBB M DUP	[13-NOV-2009]	HK0923817-028	9		
IMO2 MID-EBB B	[13-NOV-2009]	HK0923817-029	13		
IMO2 MID-EBB B DUP	[13-NOV-2009]	HK0923817-030	12		
C2 (NM5) MID-EBB S	[13-NOV-2009]	HK0923817-043	12		
C2 (NM5) MID-EBB S DUP	[13-NOV-2009]	HK0923817-044	12		
C2 (NM5) MID-EBB M	[13-NOV-2009]	HK0923817-045	9		
C2 (NM5) MID-EBB M DUP	[13-NOV-2009]	HK0923817-046	11		
C2 (NM5) MID-EBB B	[13-NOV-2009]	HK0923817-047	9		
C2 (NM5) MID-EBB B DUP	[13-NOV-2009]	HK0923817-048	9		
MPB1 MID-FLOOD S	[13-NOV-2009]	HK0923817-049	13		

Page Number : 3 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
MPB1 MID-FLOOD S DUP	[13-NOV-2009]	HK0923817-050	13		
MPB1 MID-FLOOD M	[13-NOV-2009]	HK0923817-051	9		
MPB1 MID-FLOOD M DUP	[13-NOV-2009]	HK0923817-052	8		
MPB1 MID-FLOOD B	[13-NOV-2009]	HK0923817-053	9		
MPB1 MID-FLOOD B DUP	[13-NOV-2009]	HK0923817-054	9		
MPB2 MID-FLOOD S	[13-NOV-2009]	HK0923817-055	9		
MPB2 MID-FLOOD S DUP	[13-NOV-2009]	HK0923817-056	10		
MPB2 MID-FLOOD M	[13-NOV-2009]	HK0923817-057	8		
MPB2 MID-FLOOD M DUP	[13-NOV-2009]	HK0923817-058	9		
MPB2 MID-FLOOD B	[13-NOV-2009]	HK0923817-059	10		
MPB2 MID-FLOOD B DUP	[13-NOV-2009]	HK0923817-060	8		
MP MID-FLOOD S	[13-NOV-2009]	HK0923817-061	11		
MP MID-FLOOD S DUP	[13-NOV-2009]	HK0923817-062	13		
MP MID-FLOOD B	[13-NOV-2009]	HK0923817-065	10		
MP MID-FLOOD B DUP	[13-NOV-2009]	HK0923817-066	11		
IMO1 MID-FLOOD S	[13-NOV-2009]	HK0923817-067	22		
IMO1 MID-FLOOD S DUP	[13-NOV-2009]	HK0923817-068	24		
IMO1 MID-FLOOD M	[13-NOV-2009]	HK0923817-069	22		
IMO1 MID-FLOOD M DUP	[13-NOV-2009]	HK0923817-070	20		
IMO1 MID-FLOOD B	[13-NOV-2009]	HK0923817-071	27		
IMO1 MID-FLOOD B DUP	[13-NOV-2009]	HK0923817-072	24		
IMO2 MID-FLOOD S	[13-NOV-2009]	HK0923817-073	16		
IMO2 MID-FLOOD S DUP	[13-NOV-2009]	HK0923817-074	12		
IMO2 MID-FLOOD M	[13-NOV-2009]	HK0923817-075	17		
IMO2 MID-FLOOD M DUP	[13-NOV-2009]	HK0923817-076	21		
IMO2 MID-FLOOD B	[13-NOV-2009]	HK0923817-077	13		
IMO2 MID-FLOOD B DUP	[13-NOV-2009]	HK0923817-078	12		
IMO3 MID-FLOOD S	[13-NOV-2009]	HK0923817-079	9		
IMO3 MID-FLOOD S DUP	[13-NOV-2009]	HK0923817-080	9		
IMO3 MID-FLOOD M	[13-NOV-2009]	HK0923817-081	18		
IMO3 MID-FLOOD M DUP	[13-NOV-2009]	HK0923817-082	18		
IMO3 MID-FLOOD B	[13-NOV-2009]	HK0923817-083	20		
IMO3 MID-FLOOD B DUP	[13-NOV-2009]	HK0923817-084	17		
IMO4 MID-FLOOD S	[13-NOV-2009]	HK0923817-085	27		
IMO4 MID-FLOOD S DUP	[13-NOV-2009]	HK0923817-086	27		

: 4 of 5

Client

: ERM HONG KONG

Work Order

HK0923817



Sub-Matrix: WATER		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		
IMO4 MID-FLOOD M	[13-NOV-2009]	HK0923817-087	34		
IMO4 MID-FLOOD M DUP	[13-NOV-2009]	HK0923817-088	29		
IMO4 MID-FLOOD B	[13-NOV-2009]	HK0923817-089	30		
IMO4 MID-FLOOD B DUP	[13-NOV-2009]	HK0923817-090	33		
C1 (NM3) MID-FLOOD S	[13-NOV-2009]	HK0923817-091	5		
C1 (NM3) MID-FLOOD S DUP	[13-NOV-2009]	HK0923817-092	5		
C1 (NM3) MID-FLOOD M	[13-NOV-2009]	HK0923817-093	5		
C1 (NM3) MID-FLOOD M DUP	[13-NOV-2009]	HK0923817-094	5		
C1 (NM3) MID-FLOOD B	[13-NOV-2009]	HK0923817-095	26		
C1 (NM3) MID-FLOOD B DUP	[13-NOV-2009]	HK0923817-096	24		
C3 (NM6) MID-FLOOD S	[13-NOV-2009]	HK0923817-097	14		
C3 (NM6) MID-FLOOD S DUP	[13-NOV-2009]	HK0923817-098	15		
C3 (NM6) MID-FLOOD M	[13-NOV-2009]	HK0923817-099	15		
C3 (NM6) MID-FLOOD M DUP	[13-NOV-2009]	HK0923817-100	16		
C3 (NM6) MID-FLOOD B	[13-NOV-2009]	HK0923817-101	22		
C3 (NM6) MID-FLOOD B DUP	[13-NOV-2009]	HK0923817-102	23		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0923817



# 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	C Lot: 1165451)						
HK0923817-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0
HK0923817-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	19	19	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1165452)						
HK0923817-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	17	18	0.0
HK0923817-045	C2 (NM5) MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	9	10	13.1
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1165453)						
HK0923817-055	MPB2 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	9	9	0.0
HK0923817-067	IMO1 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	22	24	7.2
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1165454)						
HK0923817-077	IMO2 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	13	13	0.0
HK0923817-087	IMO4 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	34	30	10.8
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1165455)						
HK0923817-097	C3 (NM6) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	14	14	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 R	ecovery (%)	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 (Q	CLot: 1165451)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	87.5		85	115			
EA/ED: Physical and Aggregate Properties (Q	CLot: 1165452)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115			
EA/ED: Physical and Aggregate Properties (Q	CLot: 1165453)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115			
EA/ED: Physical and Aggregate Properties (Q	CLot: 1165454)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	104		85	115			
EA/ED: Physical and Aggregate Properties (Q	CLot: 1165455)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	94.0		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 : HK0923858

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: 14-NOV-2009

Order number : --- Date of issue : 18-NOV-2009

C-O-C number : ---- No. of samples - Received : 98

Site : --- - Analysed : 98

### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0923858 supersedes any previous reports with this reference. The completion date of analysis is 17-NOV-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 HK0923858: Sample(s) were collected by ALS Technichem (HK) staff on 14 November, 2009...

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

This report may not be reproduced except with prior written
approval from ALS Technichem (HK) Pty Ltd.

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:-

: 2 of 5

Client : ERM HONG KONG

Work Order HK0923858



Sub-Matrix: WATER		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[14-NOV-2009]	HK0923858-001	10		
MPB1 MID-EBB S DUP	[14-NOV-2009]	HK0923858-002	10		
MPB1 MID-EBB M	[14-NOV-2009]	HK0923858-003	9		
MPB1 MID-EBB M DUP	[14-NOV-2009]	HK0923858-004	11		
MPB1 MID-EBB B	[14-NOV-2009]	HK0923858-005	9		
MPB1 MID-EBB B DUP	[14-NOV-2009]	HK0923858-006	9		
MPB2 MID-EBB S	[14-NOV-2009]	HK0923858-007	14		
MPB2 MID-EBB S DUP	[14-NOV-2009]	HK0923858-008	14		
MPB2 MID-EBB M	[14-NOV-2009]	HK0923858-009	11		
MPB2 MID-EBB M DUP	[14-NOV-2009]	HK0923858-010	12		
MPB2 MID-EBB B	[14-NOV-2009]	HK0923858-011	12		
MPB2 MID-EBB B DUP	[14-NOV-2009]	HK0923858-012	12		
MP MID-EBB S	[14-NOV-2009]	HK0923858-013	14		
MP MID-EBB S DUP	[14-NOV-2009]	HK0923858-014	14		
MP MID-EBB B	[14-NOV-2009]	HK0923858-017	18		
MP MID-EBB B DUP	[14-NOV-2009]	HK0923858-018	20		
IMO1 MID-EBB S	[14-NOV-2009]	HK0923858-019	20		
IMO1 MID-EBB S DUP	[14-NOV-2009]	HK0923858-020	18		
IMO1 MID-EBB M	[14-NOV-2009]	HK0923858-021	20		
IMO1 MID-EBB M DUP	[14-NOV-2009]	HK0923858-022	17		
IMO1 MID-EBB B	[14-NOV-2009]	HK0923858-023	17		
IMO1 MID-EBB B DUP	[14-NOV-2009]	HK0923858-024	16		
IMO2 MID-EBB S	[14-NOV-2009]	HK0923858-025	10		
IMO2 MID-EBB S DUP	[14-NOV-2009]	HK0923858-026	8		
IMO2 MID-EBB M	[14-NOV-2009]	HK0923858-027	10		
IMO2 MID-EBB M DUP	[14-NOV-2009]	HK0923858-028	8		
IMO2 MID-EBB B	[14-NOV-2009]	HK0923858-029	9		
IMO2 MID-EBB B DUP	[14-NOV-2009]	HK0923858-030	8		
IMO3 MID-EBB S	[14-NOV-2009]	HK0923858-031	11		
IMO3 MID-EBB S DUP	[14-NOV-2009]	HK0923858-032	13		
IMO3 MID-EBB M	[14-NOV-2009]	HK0923858-033	11		
IMO3 MID-EBB M DUP	[14-NOV-2009]	HK0923858-034	13		
IMO3 MID-EBB B	[14-NOV-2009]	HK0923858-035	11		
IMO3 MID-EBB B DUP	[14-NOV-2009]	HK0923858-036	14		
IMO4 MID-EBB S	[14-NOV-2009]	HK0923858-037	7		

Page Number Client : 3 of 5

: ERM HONG KONG

Work Order

HK0923858



Sub-Matrix: WATER		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		
IMO4 MID-EBB S DUP	[14-NOV-2009]	HK0923858-038	5		
IMO4 MID-EBB M	[14-NOV-2009]	HK0923858-039	9		
IMO4 MID-EBB M DUP	[14-NOV-2009]	HK0923858-040	8		
IMO4 MID-EBB B	[14-NOV-2009]	HK0923858-041	8		
IMO4 MID-EBB B DUP	[14-NOV-2009]	HK0923858-042	8		
C2 (NM5) MID-EBB S	[14-NOV-2009]	HK0923858-043	7		
C2 (NM5) MID-EBB S DUP	[14-NOV-2009]	HK0923858-044	7		
C2 (NM5) MID-EBB M	[14-NOV-2009]	HK0923858-045	12		
C2 (NM5) MID-EBB M DUP	[14-NOV-2009]	HK0923858-046	12		
C2 (NM5) MID-EBB B	[14-NOV-2009]	HK0923858-047	8		
C2 (NM5) MID-EBB B DUP	[14-NOV-2009]	HK0923858-048	9		
MPB1 MID-FLOOD S	[14-NOV-2009]	HK0923858-049	10		
MPB1 MID-FLOOD S DUP	[14-NOV-2009]	HK0923858-050	9		
MPB1 MID-FLOOD M	[14-NOV-2009]	HK0923858-051	9		
MPB1 MID-FLOOD M DUP	[14-NOV-2009]	HK0923858-052	8		
MPB1 MID-FLOOD B	[14-NOV-2009]	HK0923858-053	9		
MPB1 MID-FLOOD B DUP	[14-NOV-2009]	HK0923858-054	7		
MPB2 MID-FLOOD S	[14-NOV-2009]	HK0923858-055	8		
MPB2 MID-FLOOD S DUP	[14-NOV-2009]	HK0923858-056	9		
MPB2 MID-FLOOD M	[14-NOV-2009]	HK0923858-057	8		
MPB2 MID-FLOOD M DUP	[14-NOV-2009]	HK0923858-058	8		
MPB2 MID-FLOOD B	[14-NOV-2009]	HK0923858-059	7		
MPB2 MID-FLOOD B DUP	[14-NOV-2009]	HK0923858-060	8		
MP MID-FLOOD S	[14-NOV-2009]	HK0923858-061	7		
MP MID-FLOOD S DUP	[14-NOV-2009]	HK0923858-062	8		
MP MID-FLOOD B	[14-NOV-2009]	HK0923858-065	8		
MP MID-FLOOD B DUP	[14-NOV-2009]	HK0923858-066	7		
IMO1 MID-FLOOD S	[14-NOV-2009]	HK0923858-067	6		
IMO1 MID-FLOOD S DUP	[14-NOV-2009]	HK0923858-068	6		
IMO1 MID-FLOOD M	[14-NOV-2009]	HK0923858-069	8		
IMO1 MID-FLOOD M DUP	[14-NOV-2009]	HK0923858-070	7		
IMO1 MID-FLOOD B	[14-NOV-2009]	HK0923858-071	7		
IMO1 MID-FLOOD B DUP	[14-NOV-2009]	HK0923858-072	9		
IMO2 MID-FLOOD S	[14-NOV-2009]	HK0923858-073	9		
IMO2 MID-FLOOD S DUP	[14-NOV-2009]	HK0923858-074	7		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		Compound	EA025: Suspended		
		100.11-7	Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
IMO2 MID-FLOOD M	[14-NOV-2009]	HK0923858-075	9		
IMO2 MID-FLOOD M DUP	[14-NOV-2009]	HK0923858-076	8		
IMO2 MID-FLOOD B	[14-NOV-2009]	HK0923858-077	7		
IMO2 MID-FLOOD B DUP	[14-NOV-2009]	HK0923858-078	6		
IMO3 MID-FLOOD S	[14-NOV-2009]	HK0923858-079	7		
IMO3 MID-FLOOD S DUP	[14-NOV-2009]	HK0923858-080	8		
IMO3 MID-FLOOD M	[14-NOV-2009]	HK0923858-081	8		
IMO3 MID-FLOOD M DUP	[14-NOV-2009]	HK0923858-082	7		
IMO3 MID-FLOOD B	[14-NOV-2009]	HK0923858-083	7		
IMO3 MID-FLOOD B DUP	[14-NOV-2009]	HK0923858-084	9		
IMO4 MID-FLOOD S	[14-NOV-2009]	HK0923858-085	7		
IMO4 MID-FLOOD S DUP	[14-NOV-2009]	HK0923858-086	8		
IMO4 MID-FLOOD M	[14-NOV-2009]	HK0923858-087	8		
IMO4 MID-FLOOD M DUP	[14-NOV-2009]	HK0923858-088	6		
IMO4 MID-FLOOD B	[14-NOV-2009]	HK0923858-089	6		
IMO4 MID-FLOOD B DUP	[14-NOV-2009]	HK0923858-090	7		
C1 (NM3) MID-FLOOD S	[14-NOV-2009]	HK0923858-091	8		
C1 (NM3) MID-FLOOD S DUP	[14-NOV-2009]	HK0923858-092	7		
C1 (NM3) MID-FLOOD M	[14-NOV-2009]	HK0923858-093	7		
C1 (NM3) MID-FLOOD M DUP	[14-NOV-2009]	HK0923858-094	6		
C1 (NM3) MID-FLOOD B	[14-NOV-2009]	HK0923858-095	7		
C1 (NM3) MID-FLOOD B DUP	[14-NOV-2009]	HK0923858-096	6		
C3 (NM6) MID-FLOOD S	[14-NOV-2009]	HK0923858-097	7		
C3 (NM6) MID-FLOOD S DUP	[14-NOV-2009]	HK0923858-098	6		
C3 (NM6) MID-FLOOD M	[14-NOV-2009]	HK0923858-099	6		
C3 (NM6) MID-FLOOD M DUP	[14-NOV-2009]	HK0923858-100	7		
C3 (NM6) MID-FLOOD B	[14-NOV-2009]	HK0923858-101	7		
C3 (NM6) MID-FLOOD B DUP	[14-NOV-2009]	HK0923858-102	8		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0923858



## 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	Lot: 1165479)								
HK0923858-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	10	10	0.0		
HK0923858-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	12	13	7.9		
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1165482)								
HK0923858-023	IMO1 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	17	19	9.2		
HK0923858-033	IMO3 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	11	12	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1165483)								
HK0923858-043	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	7	8	13.2		
HK0923858-053	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	9	8	12.7		
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1165484)								
HK0923858-065	MP MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	8	9	0.0		
HK0923858-075	IMO2 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	9	8	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1165485)								
HK0923858-085	IMO4 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	7	7	0.0		
HK0923858-095	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	7	7	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 Red	overy (%)	Recovery	Limits (%)	RPDs	s (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLc	EA/ED: Physical and Aggregate Properties (QCLot: 1165479)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	106		85	115		
EA/ED: Physical and Aggregate Properties (QCLc	ot: 1165482)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	111		85	115		
EA/ED: Physical and Aggregate Properties (QCLc	ot: 1165483)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	104		85	115		
EA/ED: Physical and Aggregate Properties (QCLc	ot: 1165484)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	101		85	115		
EA/ED: Physical and Aggregate Properties (QCLc	EA/ED: Physical and Aggregate Properties (QCLot: 1165485)										
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 : HK0923860

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

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

 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: 16-NOV-2009

Order number : --- Date of issue : 19-NOV-2009

C-O-C number : ---- No. of samples - Received : 98

Site : ---- - Analysed : 98

### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0923860 supersedes any previous reports with this reference. The completion date of analysis is 17-NOV-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 HK0923860: Sample(s) were collected by ALS Technichem (HK) staff on 15 November, 2009.

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

This report may not be reproduced except with prior written
approval from ALS Technichem (HK) Pty Ltd.

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:-

Page Number :
Client :

ber : 2 of 5 : ERM HONG KONG

Work Order HK0923860



Sub-Matrix: WATER		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	[15-NOV-2009]	HK0923860-001	14		
MPB1 MID-EBB S DUP	[15-NOV-2009]	HK0923860-002	14		
MPB1 MID-EBB M	[15-NOV-2009]	HK0923860-003	19		
MPB1 MID-EBB M DUP	[15-NOV-2009]	HK0923860-004	17		
MPB1 MID-EBB B	[15-NOV-2009]	HK0923860-005	32		
MPB1 MID-EBB B DUP	[15-NOV-2009]	HK0923860-006	29		
MPB2 MID-EBB S	[15-NOV-2009]	HK0923860-007	17		
MPB2 MID-EBB S DUP	[15-NOV-2009]	HK0923860-008	18		
MPB2 MID-EBB M	[15-NOV-2009]	HK0923860-009	20		
MPB2 MID-EBB M DUP	[15-NOV-2009]	HK0923860-010	18		
MPB2 MID-EBB B	[15-NOV-2009]	HK0923860-011	21		
MPB2 MID-EBB B DUP	[15-NOV-2009]	HK0923860-012	22		
MP MID-EBB S	[15-NOV-2009]	HK0923860-013	32		
MP MID-EBB S DUP	[15-NOV-2009]	HK0923860-014	31		
MP MID-EBB B	[15-NOV-2009]	HK0923860-017	46		
MP MID-EBB B DUP	[15-NOV-2009]	HK0923860-018	41		
IMO1 MID-EBB S	[15-NOV-2009]	HK0923860-019	11		
IMO1 MID-EBB S DUP	[15-NOV-2009]	HK0923860-020	11		
IMO1 MID-EBB M	[15-NOV-2009]	HK0923860-021	11		
IMO1 MID-EBB M DUP	[15-NOV-2009]	HK0923860-022	13		
IMO1 MID-EBB B	[15-NOV-2009]	HK0923860-023	10		
IMO1 MID-EBB B DUP	[15-NOV-2009]	HK0923860-024	9		
IMO2 MID-EBB S	[15-NOV-2009]	HK0923860-025	9		
IMO2 MID-EBB S DUP	[15-NOV-2009]	HK0923860-026	11		
IMO2 MID-EBB M	[15-NOV-2009]	HK0923860-027	20		
IMO2 MID-EBB M DUP	[15-NOV-2009]	HK0923860-028	17		
IMO2 MID-EBB B	[15-NOV-2009]	HK0923860-029	10		
IMO2 MID-EBB B DUP	[15-NOV-2009]	HK0923860-030	8		
IMO3 MID-EBB S	[15-NOV-2009]	HK0923860-031	9		
IMO3 MID-EBB S DUP	[15-NOV-2009]	HK0923860-032	9		
IMO3 MID-EBB M	[15-NOV-2009]	HK0923860-033	11		
IMO3 MID-EBB M DUP	[15-NOV-2009]	HK0923860-034	9		
IMO3 MID-EBB B	[15-NOV-2009]	HK0923860-035	14		
IMO3 MID-EBB B DUP	[15-NOV-2009]	HK0923860-036	17		
IMO4 MID-EBB S	[15-NOV-2009]	HK0923860-037	10		

: 3 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
IMO4 MID-EBB S DUP	[15-NOV-2009]	HK0923860-038	12		
IMO4 MID-EBB M	[15-NOV-2009]	HK0923860-039	11		
IMO4 MID-EBB M DUP	[15-NOV-2009]	HK0923860-040	11		
IMO4 MID-EBB B	[15-NOV-2009]	HK0923860-041	14		
IMO4 MID-EBB B DUP	[15-NOV-2009]	HK0923860-042	14		
C2 (NM5) MID-EBB S	[15-NOV-2009]	HK0923860-055	9		
C2 (NM5) MID-EBB S DUP	[15-NOV-2009]	HK0923860-056	10		
C2 (NM5) MID-EBB M	[15-NOV-2009]	HK0923860-057	11		
C2 (NM5) MID-EBB M DUP	[15-NOV-2009]	HK0923860-058	10		
C2 (NM5) MID-EBB B	[15-NOV-2009]	HK0923860-059	16		
C2 (NM5) MID-EBB B DUP	[15-NOV-2009]	HK0923860-060	14		
MPB1 MID-FLOOD S	[15-NOV-2009]	HK0923860-061	8		
MPB1 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-062	9		
MPB1 MID-FLOOD M	[15-NOV-2009]	HK0923860-063	8		
MPB1 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-064	10		
MPB1 MID-FLOOD B	[15-NOV-2009]	HK0923860-065	8		
MPB1 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-066	10		
MPB2 MID-FLOOD S	[15-NOV-2009]	HK0923860-067	10		
MPB2 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-068	12		
MPB2 MID-FLOOD M	[15-NOV-2009]	HK0923860-069	8		
MPB2 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-070	9		
MPB2 MID-FLOOD B	[15-NOV-2009]	HK0923860-071	11		
MPB2 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-072	11		
MP MID-FLOOD S	[15-NOV-2009]	HK0923860-073	13		
MP MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-074	12		
MP MID-FLOOD B	[15-NOV-2009]	HK0923860-077	14		
MP MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-078	14		
IMO1 MID-FLOOD S	[15-NOV-2009]	HK0923860-079	9		
IMO1 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-080	11		
IMO1 MID-FLOOD M	[15-NOV-2009]	HK0923860-081	12		
IMO1 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-082	14		
IMO1 MID-FLOOD B	[15-NOV-2009]	HK0923860-083	27		
IMO1 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-084	26		
IMO2 MID-FLOOD S	[15-NOV-2009]	HK0923860-085	12		
IMO2 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-086	12		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		Compound	EA025: Suspended		
			Solids (SS)		
Г.		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
IMO2 MID-FLOOD M	[15-NOV-2009]	HK0923860-087	9		
IMO2 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-088	10		
IMO2 MID-FLOOD B	[15-NOV-2009]	HK0923860-089	70		
IMO2 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-090	68		
IMO3 MID-FLOOD S	[15-NOV-2009]	HK0923860-091	41		
IMO3 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-092	39		
IMO3 MID-FLOOD M	[15-NOV-2009]	HK0923860-093	44		
IMO3 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-094	40		
IMO3 MID-FLOOD B	[15-NOV-2009]	HK0923860-095	48		
IMO3 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-096	53		
IMO4 MID-FLOOD S	[15-NOV-2009]	HK0923860-097	22		
IMO4 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-098	21		
IMO4 MID-FLOOD M	[15-NOV-2009]	HK0923860-099	25		
IMO4 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-100	23		
IMO4 MID-FLOOD B	[15-NOV-2009]	HK0923860-101	31		
IMO4 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-102	34		
C1 (NM3) MID-FLOOD S	[15-NOV-2009]	HK0923860-115	28		
C1 (NM3) MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-116	25		
C1 (NM3) MID-FLOOD M	[15-NOV-2009]	HK0923860-117	25		
C1 (NM3) MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-118	22		
C1 (NM3) MID-FLOOD B	[15-NOV-2009]	HK0923860-119	38		
C1 (NM3) MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-120	35		
C3 (NM6) MID-FLOOD S	[15-NOV-2009]	HK0923860-121	9		
C3 (NM6) MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-122	11		
C3 (NM6) MID-FLOOD M	[15-NOV-2009]	HK0923860-123	8		
C3 (NM6) MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-124	10		
C3 (NM6) MID-FLOOD B	[15-NOV-2009]	HK0923860-125	14		
C3 (NM6) MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-126	13		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0923860



## Laboratory Duplicate (DUP) Report

Matrix: WATER	. , .		Г		l aho	ratory Duplicate (DUP) I	?enort	
	Oliant a annula ID		040 Mount ou	100				222 (44)
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: 1165487)						
HK0923860-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	14	15	0.0
HK0923860-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	21	19	7.2
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1165488)						
HK0923860-023	IMO1 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	10	11	12.3
HK0923860-033	IMO3 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	11	11	0.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1165489)						
HK0923860-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	9	10	13.4
HK0923860-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1165490)						
HK0923860-077	MP MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	14	13	9.2
HK0923860-087	IMO2 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	9	10	10.9
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1165491)						
HK0923860-097	IMO4 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	22	23	4.9
HK0923860-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	38	36	5.3

# 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	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLo	t: 1165487)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	86.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLo	t: 1165488)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	109		85	115		
EA/ED: Physical and Aggregate Properties (QCLo	t: 1165489)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	98.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLo	t: 1165490)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	87.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLo	EA/ED: Physical and Aggregate Properties (QCLot: 1165491)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	114		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 : HK0923860

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

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

 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: 16-NOV-2009

Order number : --- Date of issue : 19-NOV-2009

C-O-C number : ---- No. of samples - Received : 98

Site : ---- - Analysed : 98

### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0923860 supersedes any previous reports with this reference. The completion date of analysis is 17-NOV-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 HK0923860: Sample(s) were collected by ALS Technichem (HK) staff on 15 November, 2009.

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

This report may not be reproduced except with prior written
approval from ALS Technichem (HK) Pty Ltd.

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:-

Page Number : 2 of 5

Client : ERM HONG KONG

Work Order HK0923860



Sub-Matrix: WATER		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	[15-NOV-2009]	HK0923860-001	14		
MPB1 MID-EBB S DUP	[15-NOV-2009]	HK0923860-002	14		
MPB1 MID-EBB M	[15-NOV-2009]	HK0923860-003	19		
MPB1 MID-EBB M DUP	[15-NOV-2009]	HK0923860-004	17		
MPB1 MID-EBB B	[15-NOV-2009]	HK0923860-005	32		
MPB1 MID-EBB B DUP	[15-NOV-2009]	HK0923860-006	29		
MPB2 MID-EBB S	[15-NOV-2009]	HK0923860-007	17		
MPB2 MID-EBB S DUP	[15-NOV-2009]	HK0923860-008	18		
MPB2 MID-EBB M	[15-NOV-2009]	HK0923860-009	20		
MPB2 MID-EBB M DUP	[15-NOV-2009]	HK0923860-010	18		
MPB2 MID-EBB B	[15-NOV-2009]	HK0923860-011	21		
MPB2 MID-EBB B DUP	[15-NOV-2009]	HK0923860-012	22		
MP MID-EBB S	[15-NOV-2009]	HK0923860-013	32		
MP MID-EBB S DUP	[15-NOV-2009]	HK0923860-014	31		
MP MID-EBB B	[15-NOV-2009]	HK0923860-017	46		
MP MID-EBB B DUP	[15-NOV-2009]	HK0923860-018	41		
IMO1 MID-EBB S	[15-NOV-2009]	HK0923860-019	11		
IMO1 MID-EBB S DUP	[15-NOV-2009]	HK0923860-020	11		
IMO1 MID-EBB M	[15-NOV-2009]	HK0923860-021	11		
IMO1 MID-EBB M DUP	[15-NOV-2009]	HK0923860-022	13		
IMO1 MID-EBB B	[15-NOV-2009]	HK0923860-023	10		
IMO1 MID-EBB B DUP	[15-NOV-2009]	HK0923860-024	9		
IMO2 MID-EBB S	[15-NOV-2009]	HK0923860-025	9		
IMO2 MID-EBB S DUP	[15-NOV-2009]	HK0923860-026	11		
IMO2 MID-EBB M	[15-NOV-2009]	HK0923860-027	20		
IMO2 MID-EBB M DUP	[15-NOV-2009]	HK0923860-028	17		
IMO2 MID-EBB B	[15-NOV-2009]	HK0923860-029	10		
IMO2 MID-EBB B DUP	[15-NOV-2009]	HK0923860-030	8		
IMO3 MID-EBB S	[15-NOV-2009]	HK0923860-031	9		
IMO3 MID-EBB S DUP	[15-NOV-2009]	HK0923860-032	9		
IMO3 MID-EBB M	[15-NOV-2009]	HK0923860-033	11		
IMO3 MID-EBB M DUP	[15-NOV-2009]	HK0923860-034	9		
IMO3 MID-EBB B	[15-NOV-2009]	HK0923860-035	14		
IMO3 MID-EBB B DUP	[15-NOV-2009]	HK0923860-036	17		
IMO4 MID-EBB S	[15-NOV-2009]	HK0923860-037	10		

: 3 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
IMO4 MID-EBB S DUP	[15-NOV-2009]	HK0923860-038	12		
IMO4 MID-EBB M	[15-NOV-2009]	HK0923860-039	11		
IMO4 MID-EBB M DUP	[15-NOV-2009]	HK0923860-040	11		
IMO4 MID-EBB B	[15-NOV-2009]	HK0923860-041	14		
IMO4 MID-EBB B DUP	[15-NOV-2009]	HK0923860-042	14		
C2 (NM5) MID-EBB S	[15-NOV-2009]	HK0923860-055	9		
C2 (NM5) MID-EBB S DUP	[15-NOV-2009]	HK0923860-056	10		
C2 (NM5) MID-EBB M	[15-NOV-2009]	HK0923860-057	11		
C2 (NM5) MID-EBB M DUP	[15-NOV-2009]	HK0923860-058	10		
C2 (NM5) MID-EBB B	[15-NOV-2009]	HK0923860-059	16		
C2 (NM5) MID-EBB B DUP	[15-NOV-2009]	HK0923860-060	14		
MPB1 MID-FLOOD S	[15-NOV-2009]	HK0923860-061	8		
MPB1 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-062	9		
MPB1 MID-FLOOD M	[15-NOV-2009]	HK0923860-063	8		
MPB1 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-064	10		
MPB1 MID-FLOOD B	[15-NOV-2009]	HK0923860-065	8		
MPB1 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-066	10		
MPB2 MID-FLOOD S	[15-NOV-2009]	HK0923860-067	10		
MPB2 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-068	12		
MPB2 MID-FLOOD M	[15-NOV-2009]	HK0923860-069	8		
MPB2 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-070	9		
MPB2 MID-FLOOD B	[15-NOV-2009]	HK0923860-071	11		
MPB2 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-072	11		
MP MID-FLOOD S	[15-NOV-2009]	HK0923860-073	13		
MP MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-074	12		
MP MID-FLOOD B	[15-NOV-2009]	HK0923860-077	14		
MP MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-078	14		
IMO1 MID-FLOOD S	[15-NOV-2009]	HK0923860-079	9		
IMO1 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-080	11		
IMO1 MID-FLOOD M	[15-NOV-2009]	HK0923860-081	12		
IMO1 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-082	14		
IMO1 MID-FLOOD B	[15-NOV-2009]	HK0923860-083	27		
IMO1 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-084	26		
IMO2 MID-FLOOD S	[15-NOV-2009]	HK0923860-085	12		
IMO2 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-086	12		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		Compound	EA025: Suspended		
			Solids (SS)		
Г.		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
IMO2 MID-FLOOD M	[15-NOV-2009]	HK0923860-087	9		
IMO2 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-088	10		
IMO2 MID-FLOOD B	[15-NOV-2009]	HK0923860-089	70		
IMO2 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-090	68		
IMO3 MID-FLOOD S	[15-NOV-2009]	HK0923860-091	41		
IMO3 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-092	39		
IMO3 MID-FLOOD M	[15-NOV-2009]	HK0923860-093	44		
IMO3 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-094	40		
IMO3 MID-FLOOD B	[15-NOV-2009]	HK0923860-095	48		
IMO3 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-096	53		
IMO4 MID-FLOOD S	[15-NOV-2009]	HK0923860-097	22		
IMO4 MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-098	21		
IMO4 MID-FLOOD M	[15-NOV-2009]	HK0923860-099	25		
IMO4 MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-100	23		
IMO4 MID-FLOOD B	[15-NOV-2009]	HK0923860-101	31		
IMO4 MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-102	34		
C1 (NM3) MID-FLOOD S	[15-NOV-2009]	HK0923860-115	28		
C1 (NM3) MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-116	25		
C1 (NM3) MID-FLOOD M	[15-NOV-2009]	HK0923860-117	25		
C1 (NM3) MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-118	22		
C1 (NM3) MID-FLOOD B	[15-NOV-2009]	HK0923860-119	38		
C1 (NM3) MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-120	35		
C3 (NM6) MID-FLOOD S	[15-NOV-2009]	HK0923860-121	9		
C3 (NM6) MID-FLOOD S DUP	[15-NOV-2009]	HK0923860-122	11		
C3 (NM6) MID-FLOOD M	[15-NOV-2009]	HK0923860-123	8		
C3 (NM6) MID-FLOOD M DUP	[15-NOV-2009]	HK0923860-124	10		
C3 (NM6) MID-FLOOD B	[15-NOV-2009]	HK0923860-125	14		
C3 (NM6) MID-FLOOD B DUP	[15-NOV-2009]	HK0923860-126	13		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0923860



### Laboratory Duplicate (DUP) Report

Matrix: WATER	. , .		Г		Labo	oratory Duplicate (DUP) i	Report	
	Client comple ID		CAS Number	LOR	Unit		•	BBD (6/1)
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LUR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and	Aggregate Properties (QC	Lot: 1165487)						
HK0923860-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	14	15	0.0
HK0923860-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	21	19	7.2
EA/ED: Physical and	Aggregate Properties (QC	Lot: 1165488)						
HK0923860-023	IMO1 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	10	11	12.3
HK0923860-033	IMO3 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	11	11	0.0
EA/ED: Physical and	Aggregate Properties (QC	Lot: 1165489)						
HK0923860-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	9	10	13.4
HK0923860-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0
EA/ED: Physical and	Aggregate Properties (QC	Lot: 1165490)						
HK0923860-077	MP MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	14	13	9.2
HK0923860-087	IMO2 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	9	10	10.9
EA/ED: Physical and	Aggregate Properties (QC	Lot: 1165491)						
HK0923860-097	IMO4 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	22	23	4.9
HK0923860-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	38	36	5.3

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

Matrix: WATER			Method Blank (MI	3) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Red	overy (%)	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:	1165487)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	86.5		85	115		
A/ED: Physical and Aggregate Properties (QCLot: 1165488)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	109		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1165489)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	98.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1165490)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	87.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1165491)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	114		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 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 : HK0923915

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: 17-NOV-2009

Order number : ---- Date of issue : 21-NOV-2009

C-O-C number : ---- No. of samples - Received : 74

Site : ---- - Analysed : 74

### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0923915 supersedes any previous reports with this reference. The completion date of analysis is 19-NOV-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 HK0923915: Sample(s) were collected by ALS Technichem (HK) staff on 17 November, 2009.

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

This report may not be reproduced except with prior written

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

: 2 of 5

Client : ERM HONG KONG

Work Order HK0923915



# Analytical Results

Sub-Matrix: WATER		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	[17-NOV-2009]	HK0923915-001	26		
MPB1 MID-EBB S DUP	[17-NOV-2009]	HK0923915-002	31		
MPB1 MID-EBB M	[17-NOV-2009]	HK0923915-003	27		
MPB1 MID-EBB M DUP	[17-NOV-2009]	HK0923915-004	28		
MPB1 MID-EBB B	[17-NOV-2009]	HK0923915-005	38		
MPB1 MID-EBB B DUP	[17-NOV-2009]	HK0923915-006	34		
MPB2 MID-EBB S	[17-NOV-2009]	HK0923915-007	33		
MPB2 MID-EBB S DUP	[17-NOV-2009]	HK0923915-008	38		
MPB2 MID-EBB M	[17-NOV-2009]	HK0923915-009	40		
MPB2 MID-EBB M DUP	[17-NOV-2009]	HK0923915-010	39		
MPB2 MID-EBB B	[17-NOV-2009]	HK0923915-011	40		
MPB2 MID-EBB B DUP	[17-NOV-2009]	HK0923915-012	42		
MP MID-EBB S	[17-NOV-2009]	HK0923915-013	34		
MP MID-EBB S DUP	[17-NOV-2009]	HK0923915-014	34		
MP MID-EBB B	[17-NOV-2009]	HK0923915-017	32		
MP MID-EBB B DUP	[17-NOV-2009]	HK0923915-018	35		
IMO1 MID-EBB S	[17-NOV-2009]	HK0923915-019	26		
IMO1 MID-EBB S DUP	[17-NOV-2009]	HK0923915-020	22		
IMO1 MID-EBB M	[17-NOV-2009]	HK0923915-021	23		
IMO1 MID-EBB M DUP	[17-NOV-2009]	HK0923915-022	23		
IMO1 MID-EBB B	[17-NOV-2009]	HK0923915-023	24		
IMO1 MID-EBB B DUP	[17-NOV-2009]	HK0923915-024	23		
IMO2 MID-EBB S	[17-NOV-2009]	HK0923915-025	24		
IMO2 MID-EBB S DUP	[17-NOV-2009]	HK0923915-026	25		
IMO2 MID-EBB M	[17-NOV-2009]	HK0923915-027	22		
IMO2 MID-EBB M DUP	[17-NOV-2009]	HK0923915-028	22		
IMO2 MID-EBB B	[17-NOV-2009]	HK0923915-029	23		
IMO2 MID-EBB B DUP	[17-NOV-2009]	HK0923915-030	22		
C2 (NM5) MID-EBB S	[17-NOV-2009]	HK0923915-055	30		
C2 (NM5) MID-EBB S DUP	[17-NOV-2009]	HK0923915-056	20		
C2 (NM5) MID-EBB M	[17-NOV-2009]	HK0923915-057	17		
C2 (NM5) MID-EBB M DUP	[17-NOV-2009]	HK0923915-058	16		
C2 (NM5) MID-EBB B	[17-NOV-2009]	HK0923915-059	16		
C2 (NM5) MID-EBB B DUP	[17-NOV-2009]	HK0923915-060	18		
MPB1 MID-FLOOD S	[17-NOV-2009]	HK0923915-061	28		

Page Number Client

: 3 of 5

: ERM HONG KONG

Work Order

HK0923915



Sub-Matrix: WATER		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-FLOOD S DUP	[17-NOV-2009]	HK0923915-062	28		
MPB1 MID-FLOOD M	[17-NOV-2009]	HK0923915-063	28		
MPB1 MID-FLOOD M DUP	[17-NOV-2009]	HK0923915-064	33		
MPB1 MID-FLOOD B	[17-NOV-2009]	HK0923915-065	30		
MPB1 MID-FLOOD B DUP	[17-NOV-2009]	HK0923915-066	31		
MPB2 MID-FLOOD S	[17-NOV-2009]	HK0923915-067	30		
MPB2 MID-FLOOD S DUP	[17-NOV-2009]	HK0923915-068	30		
MPB2 MID-FLOOD M	[17-NOV-2009]	HK0923915-069	28		
MPB2 MID-FLOOD M DUP	[17-NOV-2009]	HK0923915-070	35		
MPB2 MID-FLOOD B	[17-NOV-2009]	HK0923915-071	41		
MPB2 MID-FLOOD B DUP	[17-NOV-2009]	HK0923915-072	39		
MP MID-FLOOD S	[17-NOV-2009]	HK0923915-073	34		
MP MID-FLOOD S DUP	[17-NOV-2009]	HK0923915-074	31		
MP MID-FLOOD B	[17-NOV-2009]	HK0923915-077	30		
MP MID-FLOOD B DUP	[17-NOV-2009]	HK0923915-078	46		
IMO1 MID-FLOOD S	[17-NOV-2009]	HK0923915-079	25		
IMO1 MID-FLOOD S DUP	[17-NOV-2009]	HK0923915-080	29		
IMO1 MID-FLOOD M	[17-NOV-2009]	HK0923915-081	27		
IMO1 MID-FLOOD M DUP	[17-NOV-2009]	HK0923915-082	32		
IMO1 MID-FLOOD B	[17-NOV-2009]	HK0923915-083	33		
IMO1 MID-FLOOD B DUP	[17-NOV-2009]	HK0923915-084	27		
IMO2 MID-FLOOD S	[17-NOV-2009]	HK0923915-085	23		
IMO2 MID-FLOOD S DUP	[17-NOV-2009]	HK0923915-086	27		
IMO2 MID-FLOOD M	[17-NOV-2009]	HK0923915-087	24		
IMO2 MID-FLOOD M DUP	[17-NOV-2009]	HK0923915-088	25		
IMO2 MID-FLOOD B	[17-NOV-2009]	HK0923915-089	19		
IMO2 MID-FLOOD B DUP	[17-NOV-2009]	HK0923915-090	20		
C1 (NM3) MID-FLOOD S	[17-NOV-2009]	HK0923915-115	14		
C1 (NM3) MID-FLOOD S DUP	[17-NOV-2009]	HK0923915-116	16		
C1 (NM3) MID-FLOOD M	[17-NOV-2009]	HK0923915-117	17		
C1 (NM3) MID-FLOOD M DUP	[17-NOV-2009]	HK0923915-118	18		
C1 (NM3) MID-FLOOD B	[17-NOV-2009]	HK0923915-119	13		
C1 (NM3) MID-FLOOD B DUP	[17-NOV-2009]	HK0923915-120	16		
C3 (NM6) MID-FLOOD S	[17-NOV-2009]	HK0923915-121	32		
C3 (NM6) MID-FLOOD S DUP	[17-NOV-2009]	HK0923915-122	28		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
C3 (NM6) MID-FLOOD M	[17-NOV-2009]	HK0923915-123	27		
C3 (NM6) MID-FLOOD M DUP	[17-NOV-2009]	HK0923915-124	26		
C3 (NM6) MID-FLOOD B	[17-NOV-2009]	HK0923915-125	26		
C3 (NM6) MID-FLOOD B DUP	[17-NOV-2009]	HK0923915-126	23		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0923915



### 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: 1168155)									
HK0923915-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	26	30	13.2			
HK0923915-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	40	40	0.0			
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1168156)									
HK0923915-023	IMO1 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	24	24	0.0			
HK0923915-057	C2 (NM5) MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	17	18	8.6			
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1168157)									
HK0923915-067	MPB2 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	30	32	4.8			
HK0923915-079	IMO1 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	25	29	13.3			
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1168158)									
HK0923915-089	IMO2 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	19	19	0.0			
HK0923915-123	C3 (NM6) MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	27	26	0.0			

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

					· · · ·					
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 Numb	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
/ED: Physical and Aggregate Properties (QCLot: 1168155)										
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	104		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11681	/ED: Physical and Aggregate Properties (QCLot: 1168156)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	102		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11681	7)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	108		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11681)	/ED: Physical and Aggregate Properties (QCLot: 1168158)									
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 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 : HK0923916

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: 18-NOV-2009

Order number : ---- Date of issue : 23-NOV-2009

C-O-C number : ---- No. of samples - Received : 98

Site : --- - Analysed : 98

### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0923916 supersedes any previous reports with this reference. The completion date of analysis is 20-NOV-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 HK0923916: Sample(s) were collected by ALS Technichem (HK) staff on 18 November, 2009.

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

This report may not be reproduced except with prior written
approval from ALS Technichem (HK) Pty Ltd.

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

: 2 of 5 Client : ERM HONG KONG

Work Order HK0923916



# Analytical Results

Sub-Matrix: WATER		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	[18-NOV-2009]	HK0923916-001	21		
MPB1 MID-EBB S DUP	[18-NOV-2009]	HK0923916-002	24		
MPB1 MID-EBB M	[18-NOV-2009]	HK0923916-003	28		
MPB1 MID-EBB M DUP	[18-NOV-2009]	HK0923916-004	23		
MPB1 MID-EBB B	[18-NOV-2009]	HK0923916-005	27		
MPB1 MID-EBB B DUP	[18-NOV-2009]	HK0923916-006	29		
MPB2 MID-EBB S	[18-NOV-2009]	HK0923916-007	55		
MPB2 MID-EBB S DUP	[18-NOV-2009]	HK0923916-008	50		
MPB2 MID-EBB M	[18-NOV-2009]	HK0923916-009	41		
MPB2 MID-EBB M DUP	[18-NOV-2009]	HK0923916-010	46		
MPB2 MID-EBB B	[18-NOV-2009]	HK0923916-011	55		
MPB2 MID-EBB B DUP	[18-NOV-2009]	HK0923916-012	48		
MP MID-EBB S	[18-NOV-2009]	HK0923916-013	21		
MP MID-EBB S DUP	[18-NOV-2009]	HK0923916-014	18		
MP MID-EBB B	[18-NOV-2009]	HK0923916-017	14		
MP MID-EBB B DUP	[18-NOV-2009]	HK0923916-018	16		
IMO1 MID-EBB S	[18-NOV-2009]	HK0923916-019	14		
IMO1 MID-EBB S DUP	[18-NOV-2009]	HK0923916-020	11		
IMO1 MID-EBB M	[18-NOV-2009]	HK0923916-021	15		
IMO1 MID-EBB M DUP	[18-NOV-2009]	HK0923916-022	16		
IMO1 MID-EBB B	[18-NOV-2009]	HK0923916-023	17		
IMO1 MID-EBB B DUP	[18-NOV-2009]	HK0923916-024	17		
IMO2 MID-EBB S	[18-NOV-2009]	HK0923916-025	14		
IMO2 MID-EBB S DUP	[18-NOV-2009]	HK0923916-026	12		
IMO2 MID-EBB M	[18-NOV-2009]	HK0923916-027	13		
IMO2 MID-EBB M DUP	[18-NOV-2009]	HK0923916-028	14		
IMO2 MID-EBB B	[18-NOV-2009]	HK0923916-029	16		
IMO2 MID-EBB B DUP	[18-NOV-2009]	HK0923916-030	19		
IMO5 MID-EBB S	[18-NOV-2009]	HK0923916-043	21		
IMO5 MID-EBB S DUP	[18-NOV-2009]	HK0923916-044	22		
IMO5 MID-EBB M	[18-NOV-2009]	HK0923916-045	17		
IMO5 MID-EBB M DUP	[18-NOV-2009]	HK0923916-046	14		
IMO5 MID-EBB B	[18-NOV-2009]	HK0923916-047	15		
IMO5 MID-EBB B DUP	[18-NOV-2009]	HK0923916-048	16		
IMO6 MID-EBB S	[18-NOV-2009]	HK0923916-049	17		

Page Number Client : 3 of 5

: ERM HONG KONG

Work Order

HK0923916



Sub-Matrix: WATER		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		
IMO6 MID-EBB S DUP	[18-NOV-2009]	HK0923916-050	16		
IMO6 MID-EBB M	[18-NOV-2009]	HK0923916-051	14		
IMO6 MID-EBB M DUP	[18-NOV-2009]	HK0923916-052	15		
IMO6 MID-EBB B	[18-NOV-2009]	HK0923916-053	12		
IMO6 MID-EBB B DUP	[18-NOV-2009]	HK0923916-054	14		
C2 (NM5) MID-EBB S	[18-NOV-2009]	HK0923916-055	10		
C2 (NM5) MID-EBB S DUP	[18-NOV-2009]	HK0923916-056	9		
C2 (NM5) MID-EBB M	[18-NOV-2009]	HK0923916-057	11		
C2 (NM5) MID-EBB M DUP	[18-NOV-2009]	HK0923916-058	10		
C2 (NM5) MID-EBB B	[18-NOV-2009]	HK0923916-059	11		
C2 (NM5) MID-EBB B DUP	[18-NOV-2009]	HK0923916-060	10		
MPB1 MID-FLOOD S	[18-NOV-2009]	HK0923916-061	32		
MPB1 MID-FLOOD S DUP	[18-NOV-2009]	HK0923916-062	37		
MPB1 MID-FLOOD M	[18-NOV-2009]	HK0923916-063	20		
MPB1 MID-FLOOD M DUP	[18-NOV-2009]	HK0923916-064	23		
MPB1 MID-FLOOD B	[18-NOV-2009]	HK0923916-065	24		
MPB1 MID-FLOOD B DUP	[18-NOV-2009]	HK0923916-066	24		
MPB2 MID-FLOOD S	[18-NOV-2009]	HK0923916-067	24		
MPB2 MID-FLOOD S DUP	[18-NOV-2009]	HK0923916-068	27		
MPB2 MID-FLOOD M	[18-NOV-2009]	HK0923916-069	18		
MPB2 MID-FLOOD M DUP	[18-NOV-2009]	HK0923916-070	21		
MPB2 MID-FLOOD B	[18-NOV-2009]	HK0923916-071	18		
MPB2 MID-FLOOD B DUP	[18-NOV-2009]	HK0923916-072	20		
MP MID-FLOOD S	[18-NOV-2009]	HK0923916-073	18		
MP MID-FLOOD S DUP	[18-NOV-2009]	HK0923916-074	20		
MP MID-FLOOD B	[18-NOV-2009]	HK0923916-077	12		
MP MID-FLOOD B DUP	[18-NOV-2009]	HK0923916-078	13		
IMO1 MID-FLOOD S	[18-NOV-2009]	HK0923916-079	18		
IMO1 MID-FLOOD S DUP	[18-NOV-2009]	HK0923916-080	20		
IMO1 MID-FLOOD M	[18-NOV-2009]	HK0923916-081	18		
IMO1 MID-FLOOD M DUP	[18-NOV-2009]	HK0923916-082	15		
IMO1 MID-FLOOD B	[18-NOV-2009]	HK0923916-083	15		
IMO1 MID-FLOOD B DUP	[18-NOV-2009]	HK0923916-084	17		
IMO2 MID-FLOOD S	[18-NOV-2009]	HK0923916-085	12		
IMO2 MID-FLOOD S DUP	[18-NOV-2009]	HK0923916-086	16		

Page Number Client : 4 of 5

: ERM HONG KONG

Work Order

HK0923916



Sub-Matrix: WATER		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		
IMO2 MID-FLOOD M	[18-NOV-2009]	HK0923916-087	24		
IMO2 MID-FLOOD M DUP	[18-NOV-2009]	HK0923916-088	22		
IMO2 MID-FLOOD B	[18-NOV-2009]	HK0923916-089	17		
IMO2 MID-FLOOD B DUP	[18-NOV-2009]	HK0923916-090	14		
IMO5 MID-FLOOD S	[18-NOV-2009]	HK0923916-103	17		
IMO5 MID-FLOOD S DUP	[18-NOV-2009]	HK0923916-104	18		
IMO5 MID-FLOOD M	[18-NOV-2009]	HK0923916-105	26		
IMO5 MID-FLOOD M DUP	[18-NOV-2009]	HK0923916-106	23		
IMO5 MID-FLOOD B	[18-NOV-2009]	HK0923916-107	22		
IMO5 MID-FLOOD B DUP	[18-NOV-2009]	HK0923916-108	20		
IMO6 MID-FLOOD S	[18-NOV-2009]	HK0923916-109	17		
IMO6 MID-FLOOD S DUP	[18-NOV-2009]	HK0923916-110	20		
IMO6 MID-FLOOD M	[18-NOV-2009]	HK0923916-111	17		
IMO6 MID-FLOOD M DUP	[18-NOV-2009]	HK0923916-112	18		
IMO6 MID-FLOOD B	[18-NOV-2009]	HK0923916-113	21		
IMO6 MID-FLOOD B DUP	[18-NOV-2009]	HK0923916-114	25		
C1 (NM3) MID-FLOOD S	[18-NOV-2009]	HK0923916-115	18		
C1 (NM3) MID-FLOOD S DUP	[18-NOV-2009]	HK0923916-116	15		
C1 (NM3) MID-FLOOD M	[18-NOV-2009]	HK0923916-117	17		
C1 (NM3) MID-FLOOD M DUP	[18-NOV-2009]	HK0923916-118	16		
C1 (NM3) MID-FLOOD B	[18-NOV-2009]	HK0923916-119	24		
C1 (NM3) MID-FLOOD B DUP	[18-NOV-2009]	HK0923916-120	25		
C3 (NM6) MID-FLOOD S	[18-NOV-2009]	HK0923916-121	16		
C3 (NM6) MID-FLOOD S DUP	[18-NOV-2009]	HK0923916-122	14		
C3 (NM6) MID-FLOOD M	[18-NOV-2009]	HK0923916-123	18		
C3 (NM6) MID-FLOOD M DUP	[18-NOV-2009]	HK0923916-124	20		
C3 (NM6) MID-FLOOD B	[18-NOV-2009]	HK0923916-125	16		
C3 (NM6) MID-FLOOD B DUP	[18-NOV-2009]	HK0923916-126	14		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0923916



### 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	Lot: 1169471)									
HK0923916-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	21	23	7.7			
HK0923916-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	55	56	2.6			
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1169472)									
HK0923916-023	IMO1 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	17	17	0.0			
HK0923916-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	17	16	0.0			
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1169473)									
HK0923916-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	10	12	13.7			
HK0923916-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	24	25	4.4			
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1169474)									
HK0923916-077	MP MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	12	14	13.6			
HK0923916-086	IMO2 MID-FLOOD S DUP	EA025: Suspended Solids (SS)		2	mg/L	16	17	9.8			
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1169475)									
HK0923916-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	17	16	10.3			
HK0923916-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	24	23	0.0			

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

Matrix: WATER			Method Blank (MI	B) Report		Laboratory Control S	pike (LCS) and Laborate	ory Control S	pike Duplica	te (DCS) Report	
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
Method: Compound	AS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1169471)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	85.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1169472)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1169473)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	114		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1169474)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	110		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1169475)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	99.0		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 Technichem (HK) Pty Ltd

## **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES

+852 2723 5660



#### **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 : HK0923917

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

francesca.zino@erm.com

E-mail

Kwai Chung, N.T., Hong Kong

Codfrey.Chan@alsenviro.com

Facsimile

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

Project : TUEN MUN Quote number : HK/1426c/2009\*\* Date received : 19-NOV-2009

Order number : ---- Date of issue : 24-NOV-2009

C-O-C number : ---- No. of samples - Received : 98

+852 2610 2021

Site : --- - Analysed : 98

#### **Report Comments**

E-mail

Facsimile

This report for ALS Technichem (HK) Pty Ltd work order reference HK0923917 supersedes any previous reports with this reference. The completion date of analysis is 23-NOV-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 HK0923917: Sample(s) were collected by ALS Technichem (HK) staff on 19 November, 2009.

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

This report may not be reproduced except with prior written
approval from ALS Technichem (HK) Pty Ltd.

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

Page Number : 2 of 5

Client : ERM HONG KONG

Work Order HK0923917



# Analytical Results

Sub-Matrix: WATER		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	[19-NOV-2009]	HK0923917-001	17		
MPB1 MID-EBB S DUP	[19-NOV-2009]	HK0923917-002	19		
MPB1 MID-EBB M	[19-NOV-2009]	HK0923917-003	23		
MPB1 MID-EBB M DUP	[19-NOV-2009]	HK0923917-004	25		
MPB1 MID-EBB B	[19-NOV-2009]	HK0923917-005	25		
MPB1 MID-EBB B DUP	[19-NOV-2009]	HK0923917-006	21		
MPB2 MID-EBB S	[19-NOV-2009]	HK0923917-007	25		
MPB2 MID-EBB S DUP	[19-NOV-2009]	HK0923917-008	26		
MPB2 MID-EBB M	[19-NOV-2009]	HK0923917-009	24		
MPB2 MID-EBB M DUP	[19-NOV-2009]	HK0923917-010	23		
MPB2 MID-EBB B	[19-NOV-2009]	HK0923917-011	22		
MPB2 MID-EBB B DUP	[19-NOV-2009]	HK0923917-012	26		
MP MID-EBB S	[19-NOV-2009]	HK0923917-013	24		
MP MID-EBB S DUP	[19-NOV-2009]	HK0923917-014	28		
MP MID-EBB B	[19-NOV-2009]	HK0923917-017	21		
MP MID-EBB B DUP	[19-NOV-2009]	HK0923917-018	20		
IMO1 MID-EBB S	[19-NOV-2009]	HK0923917-019	26		
IMO1 MID-EBB S DUP	[19-NOV-2009]	HK0923917-020	23		
IMO1 MID-EBB M	[19-NOV-2009]	HK0923917-021	20		
IMO1 MID-EBB M DUP	[19-NOV-2009]	HK0923917-022	22		
IMO1 MID-EBB B	[19-NOV-2009]	HK0923917-023	19		
IMO1 MID-EBB B DUP	[19-NOV-2009]	HK0923917-024	22		
IMO2 MID-EBB S	[19-NOV-2009]	HK0923917-025	19		
IMO2 MID-EBB S DUP	[19-NOV-2009]	HK0923917-026	22		
IMO2 MID-EBB M	[19-NOV-2009]	HK0923917-027	18		
IMO2 MID-EBB M DUP	[19-NOV-2009]	HK0923917-028	17		
IMO2 MID-EBB B	[19-NOV-2009]	HK0923917-029	18		
IMO2 MID-EBB B DUP	[19-NOV-2009]	HK0923917-030	18		
IMO5 MID-EBB S	[19-NOV-2009]	HK0923917-043	23		
IMO5 MID-EBB S DUP	[19-NOV-2009]	HK0923917-044	23		
IMO5 MID-EBB M	[19-NOV-2009]	HK0923917-045	24		
IMO5 MID-EBB M DUP	[19-NOV-2009]	HK0923917-046	26		
IMO5 MID-EBB B	[19-NOV-2009]	HK0923917-047	23		
IMO5 MID-EBB B DUP	[19-NOV-2009]	HK0923917-048	23		
IMO6 MID-EBB S	[19-NOV-2009]	HK0923917-049	19		

: 3 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
IMO6 MID-EBB S DUP	[19-NOV-2009]	HK0923917-050	15		
IMO6 MID-EBB M	[19-NOV-2009]	HK0923917-051	15		
IMO6 MID-EBB M DUP	[19-NOV-2009]	HK0923917-052	18		
IMO6 MID-EBB B	[19-NOV-2009]	HK0923917-053	21		
IMO6 MID-EBB B DUP	[19-NOV-2009]	HK0923917-054	20		
C2 (NM5) MID-EBB S	[19-NOV-2009]	HK0923917-055	12		
C2 (NM5) MID-EBB S DUP	[19-NOV-2009]	HK0923917-056	14		
C2 (NM5) MID-EBB M	[19-NOV-2009]	HK0923917-057	11		
C2 (NM5) MID-EBB M DUP	[19-NOV-2009]	HK0923917-058	13		
C2 (NM5) MID-EBB B	[19-NOV-2009]	HK0923917-059	12		
C2 (NM5) MID-EBB B DUP	[19-NOV-2009]	HK0923917-060	12		
MPB1 MID-FLOOD S	[19-NOV-2009]	HK0923917-061	22		
MPB1 MID-FLOOD S DUP	[19-NOV-2009]	HK0923917-062	27		
MPB1 MID-FLOOD M	[19-NOV-2009]	HK0923917-063	19		
MPB1 MID-FLOOD M DUP	[19-NOV-2009]	HK0923917-064	23		
MPB1 MID-FLOOD B	[19-NOV-2009]	HK0923917-065	17		
MPB1 MID-FLOOD B DUP	[19-NOV-2009]	HK0923917-066	17		
MPB2 MID-FLOOD S	[19-NOV-2009]	HK0923917-067	31		
MPB2 MID-FLOOD S DUP	[19-NOV-2009]	HK0923917-068	27		
MPB2 MID-FLOOD M	[19-NOV-2009]	HK0923917-069	24		
MPB2 MID-FLOOD M DUP	[19-NOV-2009]	HK0923917-070	19		
MPB2 MID-FLOOD B	[19-NOV-2009]	HK0923917-071	24		
MPB2 MID-FLOOD B DUP	[19-NOV-2009]	HK0923917-072	24		
MP MID-FLOOD S	[19-NOV-2009]	HK0923917-073	16		
MP MID-FLOOD S DUP	[19-NOV-2009]	HK0923917-074	15		
MP MID-FLOOD B	[19-NOV-2009]	HK0923917-077	16		
MP MID-FLOOD B DUP	[19-NOV-2009]	HK0923917-078	14		
IMO1 MID-FLOOD S	[19-NOV-2009]	HK0923917-079	26		
IMO1 MID-FLOOD S DUP	[19-NOV-2009]	HK0923917-080	31		
IMO1 MID-FLOOD M	[19-NOV-2009]	HK0923917-081	18		
IMO1 MID-FLOOD M DUP	[19-NOV-2009]	HK0923917-082	21		
IMO1 MID-FLOOD B	[19-NOV-2009]	HK0923917-083	33		
IMO1 MID-FLOOD B DUP	[19-NOV-2009]	HK0923917-084	29		
IMO2 MID-FLOOD S	[19-NOV-2009]	HK0923917-085	19		
IMO2 MID-FLOOD S DUP	[19-NOV-2009]	HK0923917-086	19		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
IMO2 MID-FLOOD M	[19-NOV-2009]	HK0923917-087	24		
IMO2 MID-FLOOD M DUP	[19-NOV-2009]	HK0923917-088	25		
IMO2 MID-FLOOD B	[19-NOV-2009]	HK0923917-089	24		
IMO2 MID-FLOOD B DUP	[19-NOV-2009]	HK0923917-090	20		
IMO5 MID-FLOOD S	[19-NOV-2009]	HK0923917-103	17		
IMO5 MID-FLOOD S DUP	[19-NOV-2009]	HK0923917-104	20		
IMO5 MID-FLOOD M	[19-NOV-2009]	HK0923917-105	19		
IMO5 MID-FLOOD M DUP	[19-NOV-2009]	HK0923917-106	20		
IMO5 MID-FLOOD B	[19-NOV-2009]	HK0923917-107	21		
IMO5 MID-FLOOD B DUP	[19-NOV-2009]	HK0923917-108	24		
IMO6 MID-FLOOD S	[19-NOV-2009]	HK0923917-109	21		
IMO6 MID-FLOOD S DUP	[19-NOV-2009]	HK0923917-110	26		
IMO6 MID-FLOOD M	[19-NOV-2009]	HK0923917-111	24		
IMO6 MID-FLOOD M DUP	[19-NOV-2009]	HK0923917-112	28		
IMO6 MID-FLOOD B	[19-NOV-2009]	HK0923917-113	26		
IMO6 MID-FLOOD B DUP	[19-NOV-2009]	HK0923917-114	23		
C1 (NM3) MID-FLOOD S	[19-NOV-2009]	HK0923917-115	22		
C1 (NM3) MID-FLOOD S DUP	[19-NOV-2009]	HK0923917-116	21		
C1 (NM3) MID-FLOOD M	[19-NOV-2009]	HK0923917-117	17		
C1 (NM3) MID-FLOOD M DUP	[19-NOV-2009]	HK0923917-118	16		
C1 (NM3) MID-FLOOD B	[19-NOV-2009]	HK0923917-119	19		
C1 (NM3) MID-FLOOD B DUP	[19-NOV-2009]	HK0923917-120	18		
C3 (NM6) MID-FLOOD S	[19-NOV-2009]	HK0923917-121	20		
C3 (NM6) MID-FLOOD S DUP	[19-NOV-2009]	HK0923917-122	17		
C3 (NM6) MID-FLOOD M	[19-NOV-2009]	HK0923917-123	17		
C3 (NM6) MID-FLOOD M DUP	[19-NOV-2009]	HK0923917-124	14		
C3 (NM6) MID-FLOOD B	[19-NOV-2009]	HK0923917-125	18		
C3 (NM6) MID-FLOOD B DUP	[19-NOV-2009]	HK0923917-126	15		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0923917



### 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	Lot: 1169627)									
HK0923917-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	17	18	0.0			
HK0923917-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	22	23	5.7			
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1169628)									
HK0923917-023	IMO1 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	19	21	10.6			
HK0923917-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	24	25	5.4			
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1169629)									
HK0923917-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	12	11	13.1			
HK0923917-066	MPB1 MID-FLOOD B DUP	EA025: Suspended Solids (SS)		2	mg/L	17	19	12.6			
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1169630)									
HK0923917-077	MP MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	16	17	0.0			
HK0923917-087	IMO2 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	24	26	8.7			
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1169631)									
HK0923917-109	IMO6 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	21	22	8.0			
HK0923917-119	C1 (NM3) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	19	20	8.5			

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

Matrix: WATER			Method Blank (MI	B) Report		Laboratory Control S	pike (LCS) and Laborate	ory Control S	pike Duplica	te (DCS) Report	
				Spike	Spike Red	overy (%)	Recovery Limits (%)		RPDs (%)		
Method: Compound CA	S Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1169627)											
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	86.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1169628)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1169629)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	89.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1169630)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	89.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot:	1169631)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	108		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 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 : HK0923918

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

francesca.zino@erm.com

E-mail

Kwai Chung, N.T., Hong Kong

Codfrey.Chan@alsenviro.com

 E-mail
 : francesca.zino@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: 20-NOV-2009

Order number : ---- 25-NOV-2009

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0923918 supersedes any previous reports with this reference. The completion date of analysis is 23-NOV-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 HK0923918 : Sample(s) were collected by ALS Technichem (HK) staff on 20 November, 2009.

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

This report may not be reproduced except with prior written

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

: 2 of 5

Client : ERM HONG KONG

Work Order HK0923918



# Analytical Results

Sub-Matrix: WATER		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	[20-NOV-2009]	HK0923918-001	17		
MPB1 MID-EBB S DUP	[20-NOV-2009]	HK0923918-002	15		
MPB1 MID-EBB M	[20-NOV-2009]	HK0923918-003	19		
MPB1 MID-EBB M DUP	[20-NOV-2009]	HK0923918-004	22		
MPB1 MID-EBB B	[20-NOV-2009]	HK0923918-005	17		
MPB1 MID-EBB B DUP	[20-NOV-2009]	HK0923918-006	20		
MPB2 MID-EBB S	[20-NOV-2009]	HK0923918-007	17		
MPB2 MID-EBB S DUP	[20-NOV-2009]	HK0923918-008	19		
MPB2 MID-EBB M	[20-NOV-2009]	HK0923918-009	14		
MPB2 MID-EBB M DUP	[20-NOV-2009]	HK0923918-010	15		
MPB2 MID-EBB B	[20-NOV-2009]	HK0923918-011	14		
MPB2 MID-EBB B DUP	[20-NOV-2009]	HK0923918-012	12		
MP MID-EBB S	[20-NOV-2009]	HK0923918-013	20		
MP MID-EBB S DUP	[20-NOV-2009]	HK0923918-014	21		
MP MID-EBB M	[20-NOV-2009]	HK0923918-015	20		
MP MID-EBB M DUP	[20-NOV-2009]	HK0923918-016	20		
MP MID-EBB B	[20-NOV-2009]	HK0923918-017	25		
MP MID-EBB B DUP	[20-NOV-2009]	HK0923918-018	21		
IMO1 MID-EBB S	[20-NOV-2009]	HK0923918-019	14		
IMO1 MID-EBB S DUP	[20-NOV-2009]	HK0923918-020	15		
IMO1 MID-EBB M	[20-NOV-2009]	HK0923918-021	16		
IMO1 MID-EBB M DUP	[20-NOV-2009]	HK0923918-022	15		
IMO1 MID-EBB B	[20-NOV-2009]	HK0923918-023	16		
IMO1 MID-EBB B DUP	[20-NOV-2009]	HK0923918-024	17		
IMO2 MID-EBB S	[20-NOV-2009]	HK0923918-025	21		
IMO2 MID-EBB S DUP	[20-NOV-2009]	HK0923918-026	18		
IMO2 MID-EBB M	[20-NOV-2009]	HK0923918-027	19		
IMO2 MID-EBB M DUP	[20-NOV-2009]	HK0923918-028	19		
IMO2 MID-EBB B	[20-NOV-2009]	HK0923918-029	22		
IMO2 MID-EBB B DUP	[20-NOV-2009]	HK0923918-030	19		
IMO5 MID-EBB S	[20-NOV-2009]	HK0923918-043	15		
IMO5 MID-EBB S DUP	[20-NOV-2009]	HK0923918-044	16		
IMO5 MID-EBB M	[20-NOV-2009]	HK0923918-045	20		
IMO5 MID-EBB M DUP	[20-NOV-2009]	HK0923918-046	23		
IMO5 MID-EBB B	[20-NOV-2009]	HK0923918-047	18		

Page Number Client

: 3 of 5

: ERM HONG KONG

Work Order

HK0923918



Sub-Matrix: WATER		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		
IMO5 MID-EBB B DUP	[20-NOV-2009]	HK0923918-048	14		
IMO6 MID-EBB S	[20-NOV-2009]	HK0923918-049	21		
IMO6 MID-EBB S DUP	[20-NOV-2009]	HK0923918-050	20		
IMO6 MID-EBB M	[20-NOV-2009]	HK0923918-051	20		
IMO6 MID-EBB M DUP	[20-NOV-2009]	HK0923918-052	20		
IMO6 MID-EBB B	[20-NOV-2009]	HK0923918-053	17		
IMO6 MID-EBB B DUP	[20-NOV-2009]	HK0923918-054	20		
C2 (NM5) MID-EBB S	[20-NOV-2009]	HK0923918-055	13		
C2 (NM5) MID-EBB S DUP	[20-NOV-2009]	HK0923918-056	15		
C2 (NM5) MID-EBB M	[20-NOV-2009]	HK0923918-057	15		
C2 (NM5) MID-EBB M DUP	[20-NOV-2009]	HK0923918-058	18		
C2 (NM5) MID-EBB B	[20-NOV-2009]	HK0923918-059	17		
C2 (NM5) MID-EBB B DUP	[20-NOV-2009]	HK0923918-060	17		
MPB1 MID-FLOOD S	[20-NOV-2009]	HK0923918-061	16		
MPB1 MID-FLOOD S DUP	[20-NOV-2009]	HK0923918-062	16		
MPB1 MID-FLOOD M	[20-NOV-2009]	HK0923918-063	16		
MPB1 MID-FLOOD M DUP	[20-NOV-2009]	HK0923918-064	17		
MPB1 MID-FLOOD B	[20-NOV-2009]	HK0923918-065	17		
MPB1 MID-FLOOD B DUP	[20-NOV-2009]	HK0923918-066	18		
MPB2 MID-FLOOD S	[20-NOV-2009]	HK0923918-067	16		
MPB2 MID-FLOOD S DUP	[20-NOV-2009]	HK0923918-068	16		
MPB2 MID-FLOOD M	[20-NOV-2009]	HK0923918-069	17		
MPB2 MID-FLOOD M DUP	[20-NOV-2009]	HK0923918-070	15		
MPB2 MID-FLOOD B	[20-NOV-2009]	HK0923918-071	14		
MPB2 MID-FLOOD B DUP	[20-NOV-2009]	HK0923918-072	13		
MP MID-FLOOD S	[20-NOV-2009]	HK0923918-073	20		
MP MID-FLOOD S DUP	[20-NOV-2009]	HK0923918-074	18		
MP MID-FLOOD M	[20-NOV-2009]	HK0923918-075	22		
MP MID-FLOOD M DUP	[20-NOV-2009]	HK0923918-076	19		
MP MID-FLOOD B	[20-NOV-2009]	HK0923918-077	22		
MP MID-FLOOD B DUP	[20-NOV-2009]	HK0923918-078	19		
IMO1 MID-FLOOD S	[20-NOV-2009]	HK0923918-079	22		
IMO1 MID-FLOOD S DUP	[20-NOV-2009]	HK0923918-080	19		
IMO1 MID-FLOOD M	[20-NOV-2009]	HK0923918-081	18		
IMO1 MID-FLOOD M DUP	[20-NOV-2009]	HK0923918-082	16		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
IMO1 MID-FLOOD B	[20-NOV-2009]	HK0923918-083	14		
IMO1 MID-FLOOD B DUP	[20-NOV-2009]	HK0923918-084	14		
IMO2 MID-FLOOD S	[20-NOV-2009]	HK0923918-085	24		
IMO2 MID-FLOOD S DUP	[20-NOV-2009]	HK0923918-086	20		
IMO2 MID-FLOOD M	[20-NOV-2009]	HK0923918-087	19		
IMO2 MID-FLOOD M DUP	[20-NOV-2009]	HK0923918-088	17		
IMO2 MID-FLOOD B	[20-NOV-2009]	HK0923918-089	14		
IMO2 MID-FLOOD B DUP	[20-NOV-2009]	HK0923918-090	17		
IMO5 MID-FLOOD S	[20-NOV-2009]	HK0923918-103	19		
IMO5 MID-FLOOD S DUP	[20-NOV-2009]	HK0923918-104	19		
IMO5 MID-FLOOD M	[20-NOV-2009]	HK0923918-105	17		
IMO5 MID-FLOOD M DUP	[20-NOV-2009]	HK0923918-106	20		
IMO5 MID-FLOOD B	[20-NOV-2009]	HK0923918-107	18		
IMO5 MID-FLOOD B DUP	[20-NOV-2009]	HK0923918-108	18		
IMO6 MID-FLOOD S	[20-NOV-2009]	HK0923918-109	23		
IMO6 MID-FLOOD S DUP	[20-NOV-2009]	HK0923918-110	25		
IMO6 MID-FLOOD M	[20-NOV-2009]	HK0923918-111	22		
IMO6 MID-FLOOD M DUP	[20-NOV-2009]	HK0923918-112	22		
IMO6 MID-FLOOD B	[20-NOV-2009]	HK0923918-113	23		
IMO6 MID-FLOOD B DUP	[20-NOV-2009]	HK0923918-114	27		
C1 (NM3) MID-FLOOD S	[20-NOV-2009]	HK0923918-115	14		
C1 (NM3) MID-FLOOD S DUP	[20-NOV-2009]	HK0923918-116	11		
C1 (NM3) MID-FLOOD M	[20-NOV-2009]	HK0923918-117	12		
C1 (NM3) MID-FLOOD M DUP	[20-NOV-2009]	HK0923918-118	12		
C1 (NM3) MID-FLOOD B	[20-NOV-2009]	HK0923918-119	13		
C1 (NM3) MID-FLOOD B DUP	[20-NOV-2009]	HK0923918-120	15		
C3 (NM6) MID-FLOOD S	[20-NOV-2009]	HK0923918-121	16		
C3 (NM6) MID-FLOOD S DUP	[20-NOV-2009]	HK0923918-122	14		
C3 (NM6) MID-FLOOD M	[20-NOV-2009]	HK0923918-123	18		
C3 (NM6) MID-FLOOD M DUP	[20-NOV-2009]	HK0923918-124	16		
C3 (NM6) MID-FLOOD B	[20-NOV-2009]	HK0923918-125	15		
C3 (NM6) MID-FLOOD B DUP	[20-NOV-2009]	HK0923918-126	18		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0923918



### 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	Lot: 1171594)								
HK0923918-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	17	15	10.2		
HK0923918-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	14	14	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1171595)								
HK0923918-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	16	18	11.0		
HK0923918-043	IMO5 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	15	17	9.6		
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1171596)								
HK0923918-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	17	18	10.4		
HK0923918-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	16	16	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1171597)								
HK0923918-072	MPB2 MID-FLOOD B DUP	EA025: Suspended Solids (SS)		2	mg/L	13	14	10.6		
HK0923918-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	14	14	0.0		
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1171598)								
HK0923918-105	IMO5 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	17	18	5.6		
HK0923918-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	14	12	10.5		
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1171599)								
HK0923918-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	15	15	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 Labo	ratory Control Sp	ike Duplicat	e (DCS) Report	
				Spike	Spike R	ecovery (%)	Recovery L	imits (%)	RPL	Os (%)
Method: Compound CAS Numb	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 11715	4)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	113		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11715	5)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	104		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11715)	6)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	86.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11715	7)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	114		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11715	8)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	103		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11715	9)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	103		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 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 : HK0923919

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 : 21-NOV-2009

C-O-C number : ---- No. of samples - Received : 102

Site : ---- - Analysed : 102

### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0923919 supersedes any previous reports with this reference. The completion date of analysis is 24-NOV-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 HK0923919: Sample(s) were collected by ALS Technichem (HK) staff on 21 November, 2009.

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

This report may not be reproduced except with prior written

approval from ALS Technichem (HK) Pty Ltd.

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

: 2 of 5 Client : ERM HONG KONG

Work Order HK0923919



# Analytical Results

Sub-Matrix: WATER		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
	time	ID	Aggregate Properties		
MPB1 MID-EBB S	[21-NOV-2009]	HK0923919-001	27		
MPB1 MID-EBB S DUP	[21-NOV-2009]	HK0923919-002	29		
MPB1 MID-EBB M	[21-NOV-2009]	HK0923919-003	29		
MPB1 MID-EBB M DUP	[21-NOV-2009]	HK0923919-004	34		
MPB1 MID-EBB B	[21-NOV-2009]	HK0923919-005	30		
MPB1 MID-EBB B DUP	[21-NOV-2009]	HK0923919-006	27		
MPB2 MID-EBB S	[21-NOV-2009]	HK0923919-007	26		
MPB2 MID-EBB S DUP	[21-NOV-2009]	HK0923919-008	25		
MPB2 MID-EBB M	[21-NOV-2009]	HK0923919-009	22		
MPB2 MID-EBB M DUP	[21-NOV-2009]	HK0923919-010	23		
MPB2 MID-EBB B	[21-NOV-2009]	HK0923919-011	27		
MPB2 MID-EBB B DUP	[21-NOV-2009]	HK0923919-012	29		
MP MID-EBB S	[21-NOV-2009]	HK0923919-013	14		
MP MID-EBB S DUP	[21-NOV-2009]	HK0923919-014	12		
MP MID-EBB M	[21-NOV-2009]	HK0923919-015	12		
MP MID-EBB M DUP	[21-NOV-2009]	HK0923919-016	14		
MP MID-EBB B	[21-NOV-2009]	HK0923919-017	16		
MP MID-EBB B DUP	[21-NOV-2009]	HK0923919-018	14		
IMO1 MID-EBB S	[21-NOV-2009]	HK0923919-019	13		
IMO1 MID-EBB S DUP	[21-NOV-2009]	HK0923919-020	11		
IMO1 MID-EBB M	[21-NOV-2009]	HK0923919-021	13		
IMO1 MID-EBB M DUP	[21-NOV-2009]	HK0923919-022	14		
IMO1 MID-EBB B	[21-NOV-2009]	HK0923919-023	17		
IMO1 MID-EBB B DUP	[21-NOV-2009]	HK0923919-024	19		
IMO2 MID-EBB S	[21-NOV-2009]	HK0923919-025	12		
IMO2 MID-EBB S DUP	[21-NOV-2009]	HK0923919-026	13		
IMO2 MID-EBB M	[21-NOV-2009]	HK0923919-027	10		
IMO2 MID-EBB M DUP	[21-NOV-2009]	HK0923919-028	10		
IMO2 MID-EBB B	[21-NOV-2009]	HK0923919-029	12		
IMO2 MID-EBB B DUP	[21-NOV-2009]	HK0923919-030	11		
IMO5 MID-EBB S	[21-NOV-2009]	HK0923919-043	14		
IMO5 MID-EBB S DUP	[21-NOV-2009]	HK0923919-044	16		
IMO5 MID-EBB M	[21-NOV-2009]	HK0923919-045	14		
IMO5 MID-EBB M DUP	[21-NOV-2009]	HK0923919-046	15		
IMO5 MID-EBB B	[21-NOV-2009]	HK0923919-047	15		

Page Number Client : 3 of 5

: ERM HONG KONG

Work Order

HK0923919



Sub-Matrix: WATER		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		
IMO5 MID-EBB B DUP	[21-NOV-2009]	HK0923919-048	15		
IMO6 MID-EBB S	[21-NOV-2009]	HK0923919-049	16		
IMO6 MID-EBB S DUP	[21-NOV-2009]	HK0923919-050	16		
IMO6 MID-EBB M	[21-NOV-2009]	HK0923919-051	18		
IMO6 MID-EBB M DUP	[21-NOV-2009]	HK0923919-052	17		
IMO6 MID-EBB B	[21-NOV-2009]	HK0923919-053	18		
IMO6 MID-EBB B DUP	[21-NOV-2009]	HK0923919-054	18		
C2 (NM5) MID-EBB S	[21-NOV-2009]	HK0923919-055	21		
C2 (NM5) MID-EBB S DUP	[21-NOV-2009]	HK0923919-056	18		
C2 (NM5) MID-EBB M	[21-NOV-2009]	HK0923919-057	23		
C2 (NM5) MID-EBB M DUP	[21-NOV-2009]	HK0923919-058	26		
C2 (NM5) MID-EBB B	[21-NOV-2009]	HK0923919-059	25		
C2 (NM5) MID-EBB B DUP	[21-NOV-2009]	HK0923919-060	22		
MPB1 MID-FLOOD S	[21-NOV-2009]	HK0923919-061	20		
MPB1 MID-FLOOD S DUP	[21-NOV-2009]	HK0923919-062	20		
MPB1 MID-FLOOD M	[21-NOV-2009]	HK0923919-063	19		
MPB1 MID-FLOOD M DUP	[21-NOV-2009]	HK0923919-064	20		
MPB1 MID-FLOOD B	[21-NOV-2009]	HK0923919-065	22		
MPB1 MID-FLOOD B DUP	[21-NOV-2009]	HK0923919-066	19		
MPB2 MID-FLOOD S	[21-NOV-2009]	HK0923919-067	21		
MPB2 MID-FLOOD S DUP	[21-NOV-2009]	HK0923919-068	23		
MPB2 MID-FLOOD M	[21-NOV-2009]	HK0923919-069	23		
MPB2 MID-FLOOD M DUP	[21-NOV-2009]	HK0923919-070	26		
MPB2 MID-FLOOD B	[21-NOV-2009]	HK0923919-071	19		
MPB2 MID-FLOOD B DUP	[21-NOV-2009]	HK0923919-072	21		
MP MID-FLOOD S	[21-NOV-2009]	HK0923919-073	18		
MP MID-FLOOD S DUP	[21-NOV-2009]	HK0923919-074	19		
MP MID-FLOOD M	[21-NOV-2009]	HK0923919-075	21		
MP MID-FLOOD M DUP	[21-NOV-2009]	HK0923919-076	18		
MP MID-FLOOD B	[21-NOV-2009]	HK0923919-077	16		
MP MID-FLOOD B DUP	[21-NOV-2009]	HK0923919-078	19		
IMO1 MID-FLOOD S	[21-NOV-2009]	HK0923919-079	16		
IMO1 MID-FLOOD S DUP	[21-NOV-2009]	HK0923919-080	18		
IMO1 MID-FLOOD M	[21-NOV-2009]	HK0923919-081	14		
IMO1 MID-FLOOD M DUP	[21-NOV-2009]	HK0923919-082	17		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
IMO1 MID-FLOOD B	[21-NOV-2009]	HK0923919-083	15		
IMO1 MID-FLOOD B DUP	[21-NOV-2009]	HK0923919-084	18		
IMO2 MID-FLOOD S	[21-NOV-2009]	HK0923919-085	10		
IMO2 MID-FLOOD S DUP	[21-NOV-2009]	HK0923919-086	12		
IMO2 MID-FLOOD M	[21-NOV-2009]	HK0923919-087	11		
IMO2 MID-FLOOD M DUP	[21-NOV-2009]	HK0923919-088	13		
IMO2 MID-FLOOD B	[21-NOV-2009]	HK0923919-089	10		
IMO2 MID-FLOOD B DUP	[21-NOV-2009]	HK0923919-090	9		
IMO5 MID-FLOOD S	[21-NOV-2009]	HK0923919-103	19		
IMO5 MID-FLOOD S DUP	[21-NOV-2009]	HK0923919-104	22		
IMO5 MID-FLOOD M	[21-NOV-2009]	HK0923919-105	18		
IMO5 MID-FLOOD M DUP	[21-NOV-2009]	HK0923919-106	22		
IMO5 MID-FLOOD B	[21-NOV-2009]	HK0923919-107	20		
IMO5 MID-FLOOD B DUP	[21-NOV-2009]	HK0923919-108	18		
IMO6 MID-FLOOD S	[21-NOV-2009]	HK0923919-109	16		
IMO6 MID-FLOOD S DUP	[21-NOV-2009]	HK0923919-110	15		
IMO6 MID-FLOOD M	[21-NOV-2009]	HK0923919-111	17		
IMO6 MID-FLOOD M DUP	[21-NOV-2009]	HK0923919-112	17		
IMO6 MID-FLOOD B	[21-NOV-2009]	HK0923919-113	19		
IMO6 MID-FLOOD B DUP	[21-NOV-2009]	HK0923919-114	18		
C1 (NM3) MID-FLOOD S	[21-NOV-2009]	HK0923919-115	21		
C1 (NM3) MID-FLOOD S DUP	[21-NOV-2009]	HK0923919-116	23		
C1 (NM3) MID-FLOOD M	[21-NOV-2009]	HK0923919-117	26		
C1 (NM3) MID-FLOOD M DUP	[21-NOV-2009]	HK0923919-118	28		
C1 (NM3) MID-FLOOD B	[21-NOV-2009]	HK0923919-119	22		
C1 (NM3) MID-FLOOD B DUP	[21-NOV-2009]	HK0923919-120	21		
C3 (NM6) MID-FLOOD S	[21-NOV-2009]	HK0923919-121	20		
C3 (NM6) MID-FLOOD S DUP	[21-NOV-2009]	HK0923919-122	19		
C3 (NM6) MID-FLOOD M	[21-NOV-2009]	HK0923919-123	19		
C3 (NM6) MID-FLOOD M DUP	[21-NOV-2009]	HK0923919-124	17		
C3 (NM6) MID-FLOOD B	[21-NOV-2009]	HK0923919-125	18		
C3 (NM6) MID-FLOOD B DUP	[21-NOV-2009]	HK0923919-126	18		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0923919



### Laboratory Duplicate (DUP) Report

Matrix: WATER					Lab	oratory Duplicate (DUP)	Report	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical an	d Aggregate Properties (Q	C Lot: 1173265)						
HK0923919-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	27	26	4.2
HK0923919-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	27	29	8.0
EA/ED: Physical and	d Aggregate Properties (Q	C Lot: 1173266)						
HK0923919-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	13	15	12.1
HK0923919-044	IMO5 MID-EBB S DUP	EA025: Suspended Solids (SS)		2	mg/L	16	16	0.0
EA/ED: Physical and	d Aggregate Properties (Q	C Lot: 1173267)						
HK0923919-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	18	20	11.2
HK0923919-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	19	19	0.0
EA/ED: Physical and	d Aggregate Properties (Q	C Lot: 1173268)						
HK0923919-073	MP MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	18	17	8.9
HK0923919-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	15	16	9.3
EA/ED: Physical and	d Aggregate Properties (Q	C Lot: 1173269)						
HK0923919-105	IMO5 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	18	19	6.4
HK0923919-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	21	22	6.0
EA/ED: Physical and	d Aggregate Properties (Q	C Lot: 1173270)						
HK0923919-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	18	18	0.0

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

Matrix: WATER		Method Blank (M	IB) Report		Laboratory Control	Spike (LCS) and Labo	ratory Control Spike	Duplicate	(DCS) Report	
				Spike	Spike R	ecovery (%)	Recovery Limits (%)		RPDs (%)	
Method: Compound CAS Nu	nber LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1173	265)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	97.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1173	266)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1173	267)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	108		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1173	268)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	111		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1173	269)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	111		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1173	270)									
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 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 : HK0924586

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

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

 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: 22-NOV-2009

C-O-C number : ---- No. of samples - Received : 102

Site : ---- - Analysed : 102

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0924586 supersedes any previous reports with this reference. The completion date of analysis is 24-NOV-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 HK0924586: Sample(s) were collected by ALS Technichem (HK) staff on 22 November, 2009.

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

This report may not be reproduced except with prior written
approval from ALS Technichem (HK) Pty Ltd.

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

Page Number : 2 of 5

Client : ERM HONG KONG

Work Order HK0924586



# Analytical Results

Sub-Matrix: WATER		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Client sample ID	Olivert a constitue of data /		-		
Client Sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties		
MPB1 MID-EBB S	[22-NOV-2009]	HK0924586-001	10		
MPB1 MID-EBB S DUP	[22-NOV-2009]	HK0924586-002	11		
MPB1 MID-EBB M	[22-NOV-2009]	HK0924586-003	12		
MPB1 MID-EBB M DUP	[22-NOV-2009]	HK0924586-004	13		
MPB1 MID-EBB B	[22-NOV-2009]	HK0924586-005	13		
MPB1 MID-EBB B DUP	[22-NOV-2009]	HK0924586-006	15		
MPB2 MID-EBB S	[22-NOV-2009]	HK0924586-007	11		
MPB2 MID-EBB S DUP	[22-NOV-2009]	HK0924586-008	13		
MPB2 MID-EBB M	[22-NOV-2009]	HK0924586-009	14		
MPB2 MID-EBB M DUP	[22-NOV-2009]	HK0924586-010	18		
MPB2 MID-EBB B	[22-NOV-2009]	HK0924586-011	13		
MPB2 MID-EBB B DUP	[22-NOV-2009]	HK0924586-012	10		
MP MID-EBB S	[22-NOV-2009]	HK0924586-013	12		
MP MID-EBB S DUP	[22-NOV-2009]	HK0924586-014	12		
MP MID-EBB M	[22-NOV-2009]	HK0924586-015	14		
MP MID-EBB M DUP	[22-NOV-2009]	HK0924586-016	14		
MP MID-EBB B	[22-NOV-2009]	HK0924586-017	10		
MP MID-EBB B DUP	[22-NOV-2009]	HK0924586-018	10		
IMO1 MID-EBB S	[22-NOV-2009]	HK0924586-019	12		
IMO1 MID-EBB S DUP	[22-NOV-2009]	HK0924586-020	14		
IMO1 MID-EBB M	[22-NOV-2009]	HK0924586-021	12		
IMO1 MID-EBB M DUP	[22-NOV-2009]	HK0924586-022	12		
IMO1 MID-EBB B	[22-NOV-2009]	HK0924586-023	13		
IMO1 MID-EBB B DUP	[22-NOV-2009]	HK0924586-024	13		
IMO2 MID-EBB S	[22-NOV-2009]	HK0924586-025	9		
IMO2 MID-EBB S DUP	[22-NOV-2009]	HK0924586-026	9		
IMO2 MID-EBB M	[22-NOV-2009]	HK0924586-027	9		
IMO2 MID-EBB M DUP	[22-NOV-2009]	HK0924586-028	11		
IMO2 MID-EBB B	[22-NOV-2009]	HK0924586-029	9		
IMO2 MID-EBB B DUP	[22-NOV-2009]	HK0924586-030	11		
IMO5 MID-EBB S	[22-NOV-2009]	HK0924586-043	15		
IMO5 MID-EBB S DUP	[22-NOV-2009]	HK0924586-044	14		
IMO5 MID-EBB M	[22-NOV-2009]	HK0924586-045	14		
IMO5 MID-EBB M DUP	[22-NOV-2009]	HK0924586-046	18		
IMO5 MID-EBB B	[22-NOV-2009]	HK0924586-047	15		

Page Number Client : 3 of 5

: ERM HONG KONG

Work Order

HK0924586



Sub-Matrix: WATER		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		
IMO5 MID-EBB B DUP	[22-NOV-2009]	HK0924586-048	14		
IMO6 MID-EBB S	[22-NOV-2009]	HK0924586-049	12		
IMO6 MID-EBB S DUP	[22-NOV-2009]	HK0924586-050	14		
IMO6 MID-EBB M	[22-NOV-2009]	HK0924586-051	14		
IMO6 MID-EBB M DUP	[22-NOV-2009]	HK0924586-052	12		
IMO6 MID-EBB B	[22-NOV-2009]	HK0924586-053	14		
IMO6 MID-EBB B DUP	[22-NOV-2009]	HK0924586-054	16		
C2 (NM5) MID-EBB S	[22-NOV-2009]	HK0924586-055	18		
C2 (NM5) MID-EBB S DUP	[22-NOV-2009]	HK0924586-056	18		
C2 (NM5) MID-EBB M	[22-NOV-2009]	HK0924586-057	18		
C2 (NM5) MID-EBB M DUP	[22-NOV-2009]	HK0924586-058	21		
C2 (NM5) MID-EBB B	[22-NOV-2009]	HK0924586-059	20		
C2 (NM5) MID-EBB B DUP	[22-NOV-2009]	HK0924586-060	19		
MPB1 MID-FLOOD S	[22-NOV-2009]	HK0924586-061	12		
MPB1 MID-FLOOD S DUP	[22-NOV-2009]	HK0924586-062	10		
MPB1 MID-FLOOD M	[22-NOV-2009]	HK0924586-063	11		
MPB1 MID-FLOOD M DUP	[22-NOV-2009]	HK0924586-064	14		
MPB1 MID-FLOOD B	[22-NOV-2009]	HK0924586-065	9		
MPB1 MID-FLOOD B DUP	[22-NOV-2009]	HK0924586-066	10		
MPB2 MID-FLOOD S	[22-NOV-2009]	HK0924586-067	10		
MPB2 MID-FLOOD S DUP	[22-NOV-2009]	HK0924586-068	11		
MPB2 MID-FLOOD M	[22-NOV-2009]	HK0924586-069	10		
MPB2 MID-FLOOD M DUP	[22-NOV-2009]	HK0924586-070	12		
MPB2 MID-FLOOD B	[22-NOV-2009]	HK0924586-071	10		
MPB2 MID-FLOOD B DUP	[22-NOV-2009]	HK0924586-072	10		
MP MID-FLOOD S	[22-NOV-2009]	HK0924586-073	11		
MP MID-FLOOD S DUP	[22-NOV-2009]	HK0924586-074	12		
MP MID-FLOOD M	[22-NOV-2009]	HK0924586-075	13		
MP MID-FLOOD M DUP	[22-NOV-2009]	HK0924586-076	14		
MP MID-FLOOD B	[22-NOV-2009]	HK0924586-077	9		
MP MID-FLOOD B DUP	[22-NOV-2009]	HK0924586-078	11		
IMO1 MID-FLOOD S	[22-NOV-2009]	HK0924586-079	11		
IMO1 MID-FLOOD S DUP	[22-NOV-2009]	HK0924586-080	12		
IMO1 MID-FLOOD M	[22-NOV-2009]	HK0924586-081	12		
IMO1 MID-FLOOD M DUP	[22-NOV-2009]	HK0924586-082	15		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
IMO1 MID-FLOOD B	[22-NOV-2009]	HK0924586-083	12		
IMO1 MID-FLOOD B DUP	[22-NOV-2009]	HK0924586-084	11		
IMO2 MID-FLOOD S	[22-NOV-2009]	HK0924586-085	10		
IMO2 MID-FLOOD S DUP	[22-NOV-2009]	HK0924586-086	13		
IMO2 MID-FLOOD M	[22-NOV-2009]	HK0924586-087	10		
IMO2 MID-FLOOD M DUP	[22-NOV-2009]	HK0924586-088	11		
IMO2 MID-FLOOD B	[22-NOV-2009]	HK0924586-089	11		
IMO2 MID-FLOOD B DUP	[22-NOV-2009]	HK0924586-090	10		
IMO5 MID-FLOOD S	[22-NOV-2009]	HK0924586-103	16		
IMO5 MID-FLOOD S DUP	[22-NOV-2009]	HK0924586-104	13		
IMO5 MID-FLOOD M	[22-NOV-2009]	HK0924586-105	16		
IMO5 MID-FLOOD M DUP	[22-NOV-2009]	HK0924586-106	15		
IMO5 MID-FLOOD B	[22-NOV-2009]	HK0924586-107	16		
IMO5 MID-FLOOD B DUP	[22-NOV-2009]	HK0924586-108	16		
IMO6 MID-FLOOD S	[22-NOV-2009]	HK0924586-109	15		
IMO6 MID-FLOOD S DUP	[22-NOV-2009]	HK0924586-110	14		
IMO6 MID-FLOOD M	[22-NOV-2009]	HK0924586-111	15		
IMO6 MID-FLOOD M DUP	[22-NOV-2009]	HK0924586-112	18		
IMO6 MID-FLOOD B	[22-NOV-2009]	HK0924586-113	17		
IMO6 MID-FLOOD B DUP	[22-NOV-2009]	HK0924586-114	18		
C1 (NM3) MID-FLOOD S	[22-NOV-2009]	HK0924586-115	10		
C1 (NM3) MID-FLOOD S DUP	[22-NOV-2009]	HK0924586-116	10		
C1 (NM3) MID-FLOOD M	[22-NOV-2009]	HK0924586-117	12		
C1 (NM3) MID-FLOOD M DUP	[22-NOV-2009]	HK0924586-118	12		
C1 (NM3) MID-FLOOD B	[22-NOV-2009]	HK0924586-119	17		
C1 (NM3) MID-FLOOD B DUP	[22-NOV-2009]	HK0924586-120	19		
C3 (NM6) MID-FLOOD S	[22-NOV-2009]	HK0924586-121	14		
C3 (NM6) MID-FLOOD S DUP	[22-NOV-2009]	HK0924586-122	14		
C3 (NM6) MID-FLOOD M	[22-NOV-2009]	HK0924586-123	14		
C3 (NM6) MID-FLOOD M DUP	[22-NOV-2009]	HK0924586-124	13		
C3 (NM6) MID-FLOOD B	[22-NOV-2009]	HK0924586-125	13		
C3 (NM6) MID-FLOOD B DUP	[22-NOV-2009]	HK0924586-126	13		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0924586



### 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: 1173272)						
HK0924586-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	10	12	11.9
HK0924586-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	13	15	16.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173273)						
HK0924586-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	12	13	11.5
HK0924586-043	IMO5 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	15	13	12.7
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173274)						
HK0924586-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	14	16	9.6
HK0924586-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	11	11	0.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173275)						
HK0924586-073	MP MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	11	10	11.4
HK0924586-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	12	12	0.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173276)						
HK0924586-105	IMO5 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	16	16	0.0
HK0924586-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	10	11	9.5
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173278)						
HK0924586-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	13	12	0.0

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

Matrix: WATER		Method Blank (M	B) Report		Laboratory Control	Spike (LCS) and Labo	ratory Control Sp.	ike Duplicat	e (DCS) Report	
				Spike	Spike R	ecovery (%)	Recovery L	imits (%)	RPI	Os (%)
Method: Compound CAS Num	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 11732	<b>'2</b> )									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	86.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11732	'3)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	102		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11732	<b>'</b> 4)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	107		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11732	'5)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	104		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11732	<b>'</b> 6)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	104		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11732	<b>'</b> 8)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	111		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 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 : HK0924550

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: 23-NOV-2009

C-O-C number : ---- No. of samples - Received : 102

Site : ---- - Analysed : 102

### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0924550 supersedes any previous reports with this reference. The completion date of analysis is 26-NOV-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 HK0924550: Sample(s) were collected by ALS Technichem (HK) staff on 23 November, 2009.

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

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.

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

: 2 of 5

Client : ERM HONG KONG

Work Order HK0924550



# Analytical Results

Sub-Matrix: WATER		Compound	EA025: Suspended			
		1.00.11=#	Solids (SS)			
01: / / 12		LOR Unit	2 mg/L			
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and			
MDD4 MID EDD 0	time [23-NOV-2009]	<i>ID</i> HK0924550-001	Aggregate Properties 8	 	<u> </u>	
MPB1 MID-EBB \$			9			
MPB1 MID-EBB S DUP	[23-NOV-2009]	HK0924550-002	8			
MPB1 MID-EBB M	[23-NOV-2009]	HK0924550-003	9			
MPB1 MID-EBB M DUP	[23-NOV-2009]	HK0924550-004				
MPB1 MID-EBB B	[23-NOV-2009]	HK0924550-005	10			
MPB1 MID-EBB B DUP	[23-NOV-2009]	HK0924550-006	11			
MPB2 MID-EBB S	[23-NOV-2009]	HK0924550-007	8			
MPB2 MID-EBB S DUP	[23-NOV-2009]	HK0924550-008	9			
MPB2 MID-EBB M	[23-NOV-2009]	HK0924550-009	11			
MPB2 MID-EBB M DUP	[23-NOV-2009]	HK0924550-010	10			
MPB2 MID-EBB B	[23-NOV-2009]	HK0924550-011	10			
MPB2 MID-EBB B DUP	[23-NOV-2009]	HK0924550-012	9			
MP MID-EBB S	[23-NOV-2009]	HK0924550-013	11			
MP MID-EBB S DUP	[23-NOV-2009]	HK0924550-014	11			
MP MID-EBB M	[23-NOV-2009]	HK0924550-015	10			
MP MID-EBB M DUP	[23-NOV-2009]	HK0924550-016	10			
MP MID-EBB B	[23-NOV-2009]	HK0924550-017	9			
MP MID-EBB B DUP	[23-NOV-2009]	HK0924550-018	10			
IMO1 MID-EBB S	[23-NOV-2009]	HK0924550-019	10			
IMO1 MID-EBB S DUP	[23-NOV-2009]	HK0924550-020	9			
IMO1 MID-EBB M	[23-NOV-2009]	HK0924550-021	8			
IMO1 MID-EBB M DUP	[23-NOV-2009]	HK0924550-022	6			
IMO1 MID-EBB B	[23-NOV-2009]	HK0924550-023	8			
IMO1 MID-EBB B DUP	[23-NOV-2009]	HK0924550-024	9			
IMO2 MID-EBB S	[23-NOV-2009]	HK0924550-025	10			
IMO2 MID-EBB S DUP	[23-NOV-2009]	HK0924550-026	9			
IMO2 MID-EBB M	[23-NOV-2009]	HK0924550-027	9			
IMO2 MID-EBB M DUP	[23-NOV-2009]	HK0924550-028	8			
IMO2 MID-EBB B	[23-NOV-2009]	HK0924550-029	9			
IMO2 MID-EBB B DUP	[23-NOV-2009]	HK0924550-030	8			
IMO5 MID-EBB S	[23-NOV-2009]	HK0924550-043	8			
IMO5 MID-EBB S DUP	[23-NOV-2009]	HK0924550-044	8			
IMO5 MID-EBB M	[23-NOV-2009]	HK0924550-045	8			
IMO5 MID-EBB M DUP	[23-NOV-2009]	HK0924550-046	9			
IMO5 MID-EBB B	[23-NOV-2009]	HK0924550-047	12			

: 3 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
IMO5 MID-EBB B DUP	[23-NOV-2009]	HK0924550-048	11		
IMO6 MID-EBB S	[23-NOV-2009]	HK0924550-049	11		
IMO6 MID-EBB S DUP	[23-NOV-2009]	HK0924550-050	10		
IMO6 MID-EBB M	[23-NOV-2009]	HK0924550-051	11		
IMO6 MID-EBB M DUP	[23-NOV-2009]	HK0924550-052	12		
IMO6 MID-EBB B	[23-NOV-2009]	HK0924550-053	11		
IMO6 MID-EBB B DUP	[23-NOV-2009]	HK0924550-054	14		
C2 (NM5) MID-EBB S	[23-NOV-2009]	HK0924550-055	12		
C2 (NM5) MID-EBB S DUP	[23-NOV-2009]	HK0924550-056	13		
C2 (NM5) MID-EBB M	[23-NOV-2009]	HK0924550-057	19		
C2 (NM5) MID-EBB M DUP	[23-NOV-2009]	HK0924550-058	16		
C2 (NM5) MID-EBB B	[23-NOV-2009]	HK0924550-059	14		
C2 (NM5) MID-EBB B DUP	[23-NOV-2009]	HK0924550-060	15		
MPB1 MID-FLOOD S	[23-NOV-2009]	HK0924550-061	10		
MPB1 MID-FLOOD S DUP	[23-NOV-2009]	HK0924550-062	9		
MPB1 MID-FLOOD M	[23-NOV-2009]	HK0924550-063	11		
MPB1 MID-FLOOD M DUP	[23-NOV-2009]	HK0924550-064	9		
MPB1 MID-FLOOD B	[23-NOV-2009]	HK0924550-065	13		
MPB1 MID-FLOOD B DUP	[23-NOV-2009]	HK0924550-066	14		
MPB2 MID-FLOOD S	[23-NOV-2009]	HK0924550-067	10		
MPB2 MID-FLOOD S DUP	[23-NOV-2009]	HK0924550-068	10		
MPB2 MID-FLOOD M	[23-NOV-2009]	HK0924550-069	9		
MPB2 MID-FLOOD M DUP	[23-NOV-2009]	HK0924550-070	11		
MPB2 MID-FLOOD B	[23-NOV-2009]	HK0924550-071	13		
MPB2 MID-FLOOD B DUP	[23-NOV-2009]	HK0924550-072	15		
MP MID-FLOOD S	[23-NOV-2009]	HK0924550-073	12		
MP MID-FLOOD S DUP	[23-NOV-2009]	HK0924550-074	12		
MP MID-FLOOD M	[23-NOV-2009]	HK0924550-075	13		
MP MID-FLOOD M DUP	[23-NOV-2009]	HK0924550-076	13		
MP MID-FLOOD B	[23-NOV-2009]	HK0924550-077	16		
MP MID-FLOOD B DUP	[23-NOV-2009]	HK0924550-078	18		
IMO1 MID-FLOOD S	[23-NOV-2009]	HK0924550-079	15		
IMO1 MID-FLOOD S DUP	[23-NOV-2009]	HK0924550-080	12		
IMO1 MID-FLOOD M	[23-NOV-2009]	HK0924550-081	14		
IMO1 MID-FLOOD M DUP	[23-NOV-2009]	HK0924550-082	15		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: WATER		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		
IMO1 MID-FLOOD B	[23-NOV-2009]	HK0924550-083	13		
IMO1 MID-FLOOD B DUP	[23-NOV-2009]	HK0924550-084	13		
IMO2 MID-FLOOD S	[23-NOV-2009]	HK0924550-085	9		
IMO2 MID-FLOOD S DUP	[23-NOV-2009]	HK0924550-086	7		
IMO2 MID-FLOOD M	[23-NOV-2009]	HK0924550-087	11		
IMO2 MID-FLOOD M DUP	[23-NOV-2009]	HK0924550-088	10		
IMO2 MID-FLOOD B	[23-NOV-2009]	HK0924550-089	12		
IMO2 MID-FLOOD B DUP	[23-NOV-2009]	HK0924550-090	13		
IMO5 MID-FLOOD S	[23-NOV-2009]	HK0924550-103	10		
IMO5 MID-FLOOD S DUP	[23-NOV-2009]	HK0924550-104	12		
IMO5 MID-FLOOD M	[23-NOV-2009]	HK0924550-105	13		
IMO5 MID-FLOOD M DUP	[23-NOV-2009]	HK0924550-106	12		
IMO5 MID-FLOOD B	[23-NOV-2009]	HK0924550-107	16		
IMO5 MID-FLOOD B DUP	[23-NOV-2009]	HK0924550-108	13		
IMO6 MID-FLOOD S	[23-NOV-2009]	HK0924550-109	9		
IMO6 MID-FLOOD S DUP	[23-NOV-2009]	HK0924550-110	8		
IMO6 MID-FLOOD M	[23-NOV-2009]	HK0924550-111	10		
IMO6 MID-FLOOD M DUP	[23-NOV-2009]	HK0924550-112	12		
IMO6 MID-FLOOD B	[23-NOV-2009]	HK0924550-113	16		
IMO6 MID-FLOOD B DUP	[23-NOV-2009]	HK0924550-114	16		
C1 (NM3) MID-FLOOD S	[23-NOV-2009]	HK0924550-115	9		
C1 (NM3) MID-FLOOD S DUP	[23-NOV-2009]	HK0924550-116	9		
C1 (NM3) MID-FLOOD M	[23-NOV-2009]	HK0924550-117	9		
C1 (NM3) MID-FLOOD M DUP	[23-NOV-2009]	HK0924550-118	10		
C1 (NM3) MID-FLOOD B	[23-NOV-2009]	HK0924550-119	10		
C1 (NM3) MID-FLOOD B DUP	[23-NOV-2009]	HK0924550-120	9		
C3 (NM6) MID-FLOOD S	[23-NOV-2009]	HK0924550-121	11		
C3 (NM6) MID-FLOOD S DUP	[23-NOV-2009]	HK0924550-122	10		
C3 (NM6) MID-FLOOD M	[23-NOV-2009]	HK0924550-123	12		
C3 (NM6) MID-FLOOD M DUP	[23-NOV-2009]	HK0924550-124	11		
C3 (NM6) MID-FLOOD B	[23-NOV-2009]	HK0924550-125	9		
C3 (NM6) MID-FLOOD B DUP	[23-NOV-2009]	HK0924550-126	8		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0924550



## 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: 1173313)						
HK0924550-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	8	10	12.2
HK0924550-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	10	8	12.9
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173316)						
HK0924550-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0
HK0924550-043	IMO5 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	8	10	15.2
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173317)						
HK0924550-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	11	12	10.2
HK0924550-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	11	10	10.8
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173318)						
HK0924550-073	MP MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	12	12	0.0
HK0924550-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	13	15	11.7
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173319)						
HK0924550-105	IMO5 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	13	13	0.0
HK0924550-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	9	9	0.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1173320)						
HK0924550-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	9	10	12.0

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

Matrix: WATER		Method Blank (M	B) Report		Laboratory Control	Spike (LCS) and Labo	ratory Control S	pike Duplica	te (DCS) Report	
				Spike	Spike R	ecovery (%)	Recovery	Limits (%)	RPI	Os (%)
Method: Compound CAS Numb	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 11733	3)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	110		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11733	6)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	103		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11733	7)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	114		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11733	8)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	95.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11733	9)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	110		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11733)	0)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	99.5		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 Technichem (HK) Pty Ltd

## **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

· ERM HONG KONG Client Contact

: MS KAREN LUI

Address : 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

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

Quote number · HK/1426c/2009\*\*

Date received

Date of issue · 27-NOV-2009

Page

Work Order

90 No. of samples Received

· 24-NOV-2009

: 1 of 5

HK0924587

90 Analysed

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0924587 supersedes any previous reports with this reference. The completion date of analysis is 26-NOV-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 HK0924587:

Sample(s) were collected by ALS Technichem (HK) staff on 24 November, 2009.

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

E-mail

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance'

of Hong Kong, Chapter 553, Section 6.

Signatory Fung Lim Chee, Richard Position

**General Manager** 

Authorised results for:-

Inorganics

Page Number Client

: 2 of 5 : ERM HONG KONG

Work Order HK0924587



# 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	[24-NOV-2009]	HK0924587-001	12		
MPB1 MID-EBB S DUP	[24-NOV-2009]	HK0924587-002	10		
MPB1 MID-EBB M	[24-NOV-2009]	HK0924587-003	11		
MPB1 MID-EBB M DUP	[24-NOV-2009]	HK0924587-004	9		
MPB1 MID-EBB B	[24-NOV-2009]	HK0924587-005	12		
MPB1 MID-EBB B DUP	[24-NOV-2009]	HK0924587-006	11		
MPB2 MID-EBB S	[24-NOV-2009]	HK0924587-007	9		
MPB2 MID-EBB S DUP	[24-NOV-2009]	HK0924587-008	8		
MPB2 MID-EBB M	[24-NOV-2009]	HK0924587-009	11		
MPB2 MID-EBB M DUP	[24-NOV-2009]	HK0924587-010	9		
MPB2 MID-EBB B	[24-NOV-2009]	HK0924587-011	11		
MPB2 MID-EBB B DUP	[24-NOV-2009]	HK0924587-012	10		
MP MID-EBB S	[24-NOV-2009]	HK0924587-013	9		
MP MID-EBB S DUP	[24-NOV-2009]	HK0924587-014	10		
MP MID-EBB M	[24-NOV-2009]	HK0924587-015	12		
MP MID-EBB M DUP	[24-NOV-2009]	HK0924587-016	13		
MP MID-EBB B	[24-NOV-2009]	HK0924587-017	10		
MP MID-EBB B DUP	[24-NOV-2009]	HK0924587-018	12		
IMO5 MID-EBB S	[24-NOV-2009]	HK0924587-043	12		
IMO5 MID-EBB S DUP	[24-NOV-2009]	HK0924587-044	10		
IMO5 MID-EBB M	[24-NOV-2009]	HK0924587-045	10		
IMO5 MID-EBB M DUP	[24-NOV-2009]	HK0924587-046	8		
IMO5 MID-EBB B	[24-NOV-2009]	HK0924587-047	12		
IMO5 MID-EBB B DUP	[24-NOV-2009]	HK0924587-048	10		
IMO6 MID-EBB S	[24-NOV-2009]	HK0924587-049	8		
IMO6 MID-EBB S DUP	[24-NOV-2009]	HK0924587-050	10		
IMO6 MID-EBB M	[24-NOV-2009]	HK0924587-051	12		
IMO6 MID-EBB M DUP	[24-NOV-2009]	HK0924587-052	11		
IMO6 MID-EBB B	[24-NOV-2009]	HK0924587-053	10		
IMO6 MID-EBB B DUP	[24-NOV-2009]	HK0924587-054	11		
C2 (NM5) MID-EBB S	[24-NOV-2009]	HK0924587-055	12		
C2 (NM5) MID-EBB S DUP	[24-NOV-2009]	HK0924587-056	13		
C2 (NM5) MID-EBB M	[24-NOV-2009]	HK0924587-057	12		
C2 (NM5) MID-EBB M DUP	[24-NOV-2009]	HK0924587-058	14		
C2 (NM5) MID-EBB B	[24-NOV-2009]	HK0924587-059	9		

Page Number : 3 of 5

Client : ERM HONG KONG



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	[24-NOV-2009]	HK0924587-060	10		
MPB1 MID-FLOOD S	[24-NOV-2009]	HK0924587-061	8		
MPB1 MID-FLOOD S DUP	[24-NOV-2009]	HK0924587-062	7		
MPB1 MID-FLOOD M	[24-NOV-2009]	HK0924587-063	10		
MPB1 MID-FLOOD M DUP	[24-NOV-2009]	HK0924587-064	8		
MPB1 MID-FLOOD B	[24-NOV-2009]	HK0924587-065	8		
MPB1 MID-FLOOD B DUP	[24-NOV-2009]	HK0924587-066	9		
MPB2 MID-FLOOD S	[24-NOV-2009]	HK0924587-067	7		
MPB2 MID-FLOOD S DUP	[24-NOV-2009]	HK0924587-068	7		
MPB2 MID-FLOOD M	[24-NOV-2009]	HK0924587-069	7		
MPB2 MID-FLOOD M DUP	[24-NOV-2009]	HK0924587-070	6		
MPB2 MID-FLOOD B	[24-NOV-2009]	HK0924587-071	8		
MPB2 MID-FLOOD B DUP	[24-NOV-2009]	HK0924587-072	10		
MP MID-FLOOD S	[24-NOV-2009]	HK0924587-073	6		
MP MID-FLOOD S DUP	[24-NOV-2009]	HK0924587-074	7		
MP MID-FLOOD M	[24-NOV-2009]	HK0924587-075	5		
MP MID-FLOOD M DUP	[24-NOV-2009]	HK0924587-076	6		
MP MID-FLOOD B	[24-NOV-2009]	HK0924587-077	10		
MP MID-FLOOD B DUP	[24-NOV-2009]	HK0924587-078	9		
IMO1 MID-FLOOD S	[24-NOV-2009]	HK0924587-079	13		
IMO1 MID-FLOOD S DUP	[24-NOV-2009]	HK0924587-080	10		
IMO1 MID-FLOOD M	[24-NOV-2009]	HK0924587-081	10		
IMO1 MID-FLOOD M DUP	[24-NOV-2009]	HK0924587-082	10		
IMO1 MID-FLOOD B	[24-NOV-2009]	HK0924587-083	10		
IMO1 MID-FLOOD B DUP	[24-NOV-2009]	HK0924587-084	10		
IMO2 MID-FLOOD S	[24-NOV-2009]	HK0924587-085	8		
IMO2 MID-FLOOD S DUP	[24-NOV-2009]	HK0924587-086	8		
IMO2 MID-FLOOD M	[24-NOV-2009]	HK0924587-087	10		
IMO2 MID-FLOOD M DUP	[24-NOV-2009]	HK0924587-088	11		
IMO2 MID-FLOOD B	[24-NOV-2009]	HK0924587-089	14		
IMO2 MID-FLOOD B DUP	[24-NOV-2009]	HK0924587-090	12		
IMO5 MID-FLOOD S	[24-NOV-2009]	HK0924587-103	9		
IMO5 MID-FLOOD S DUP	[24-NOV-2009]	HK0924587-104	8		
IMO5 MID-FLOOD M	[24-NOV-2009]	HK0924587-105	6		
IMO5 MID-FLOOD M DUP	[24-NOV-2009]	HK0924587-106	8		

: 4 of 5

Client

: ERM HONG KONG

Work Order

HK0924587



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		
IMO5 MID-FLOOD B	[24-NOV-2009]	HK0924587-107	7		
IMO5 MID-FLOOD B DUP	[24-NOV-2009]	HK0924587-108	6		
IMO6 MID-FLOOD S	[24-NOV-2009]	HK0924587-109	7		
IMO6 MID-FLOOD S DUP	[24-NOV-2009]	HK0924587-110	8		
IMO6 MID-FLOOD M	[24-NOV-2009]	HK0924587-111	7		
IMO6 MID-FLOOD M DUP	[24-NOV-2009]	HK0924587-112	8		
IMO6 MID-FLOOD B	[24-NOV-2009]	HK0924587-113	7		
IMO6 MID-FLOOD B DUP	[24-NOV-2009]	HK0924587-114	8		
C1 (NM3) MID-FLOOD S	[24-NOV-2009]	HK0924587-115	6		
C1 (NM3) MID-FLOOD S DUP	[24-NOV-2009]	HK0924587-116	5		
C1 (NM3) MID-FLOOD M	[24-NOV-2009]	HK0924587-117	7		
C1 (NM3) MID-FLOOD M DUP	[24-NOV-2009]	HK0924587-118	8		
C1 (NM3) MID-FLOOD B	[24-NOV-2009]	HK0924587-119	9		
C1 (NM3) MID-FLOOD B DUP	[24-NOV-2009]	HK0924587-120	10		
C3 (NM6) MID-FLOOD S	[24-NOV-2009]	HK0924587-121	10		
C3 (NM6) MID-FLOOD S DUP	[24-NOV-2009]	HK0924587-122	11		
C3 (NM6) MID-FLOOD M	[24-NOV-2009]	HK0924587-123	8		
C3 (NM6) MID-FLOOD M DUP	[24-NOV-2009]	HK0924587-124	9		
C3 (NM6) MID-FLOOD B	[24-NOV-2009]	HK0924587-125	9		
C3 (NM6) MID-FLOOD B DUP	[24-NOV-2009]	HK0924587-126	7		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0924587



## 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	C Lot: 1175409)						
HK0924587-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	12	14	13.0
HK0924587-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	11	9	16.7
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1175410)						
HK0924587-045	IMO5 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	10	9	0.0
HK0924587-055	C2 (NM5) MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	12	10	12.4
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1175411)						
HK0924587-065	MPB1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	8	10	15.0
HK0924587-075	MP MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	5	6	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1175412)						
HK0924587-085	IMO2 MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	8	7	0.0
HK0924587-107	IMO5 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	7	8	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1175413)						
HK0924587-117	C1 (NM3) MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	7	8	13.0

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

Matrix: WATER			Method Blank (MI	3) Report	Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (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	Lot: 1175409)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	108		85	115		
EA/ED: Physical and Aggregate Properties (QCI	Lot: 1175410)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	111		85	115		
EA/ED: Physical and Aggregate Properties (QCI	Lot: 1175411)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	99.0		85	115		
EA/ED: Physical and Aggregate Properties (QCI	Lot: 1175412)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	114		85	115		
EA/ED: Physical and Aggregate Properties (QCI	Lot: 1175413)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	105		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 Technichem (HK) Pty Ltd

## **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 KAREN LUI Contact : Chan Kwok Fai, Godfrey Work

: MS KAREN LUI Contact : Chan Kwok Fai, Godfrey Work Order : HK0924726 : 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
 : Karen.Lui@erm.com
 E-mail
 : Godfrey.Chan@alsenviro.com

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

 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: 25-NOV-2009

Order number : --- Date of issue : 30-NOV-2009

#### **Report Comments**

Address

This report for ALS Technichem (HK) Pty Ltd work order reference HK0924726 supersedes any previous reports with this reference. The completion date of analysis is 30-NOV-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 HK0924726: Sample(s) were collected by ALS Technichem (HK) staff on 25 November, 2009 pm.

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

This report may not be reproduced except with prior written

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

: 2 of 5 Client : ERM HONG KONG

Work Order HK0924726



# Analytical Results

Sub-Matrix: <b>SEAWATER</b>		Compound	EA025: Suspended		
		100.00	Solids (SS)		
		LOR Unit	2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
MDD 4 MID 500 0	time	ID	Aggregate Properties  12		
MPB1 MID-EBB S	[25-NOV-2009]	HK0924726-001			
MPB1 MID-EBB S DUP	[25-NOV-2009]	HK0924726-002	11		
MPB1 MID-EBB M	[25-NOV-2009]	HK0924726-003	13		
MPB1 MID-EBB M DUP	[25-NOV-2009]	HK0924726-004	10		
MPB1 MID-EBB B	[25-NOV-2009]	HK0924726-005	11		
MPB1 MID-EBB B DUP	[25-NOV-2009]	HK0924726-006	12		
MPB2 MID-EBB S	[25-NOV-2009]	HK0924726-007	11		
MPB2 MID-EBB S DUP	[25-NOV-2009]	HK0924726-008	10		
MPB2 MID-EBB M	[25-NOV-2009]	HK0924726-009	11		
MPB2 MID-EBB M DUP	[25-NOV-2009]	HK0924726-010	10		
MPB2 MID-EBB B	[25-NOV-2009]	HK0924726-011	17		
MPB2 MID-EBB B DUP	[25-NOV-2009]	HK0924726-012	16		
MP MID-EBB S	[25-NOV-2009]	HK0924726-013	14		
MP MID-EBB S DUP	[25-NOV-2009]	HK0924726-014	16		
MP MID-EBB M	[25-NOV-2009]	HK0924726-015	12		
MP MID-EBB M DUP	[25-NOV-2009]	HK0924726-016	15		
MP MID-EBB B	[25-NOV-2009]	HK0924726-017	15		
MP MID-EBB B DUP	[25-NOV-2009]	HK0924726-018	13		
IMO1 MID-EBB S	[25-NOV-2009]	HK0924726-019	10		
IMO1 MID-EBB S DUP	[25-NOV-2009]	HK0924726-020	9		
IMO1 MID-EBB M	[25-NOV-2009]	HK0924726-021	10		
IMO1 MID-EBB M DUP	[25-NOV-2009]	HK0924726-022	9		
IMO1 MID-EBB B	[25-NOV-2009]	HK0924726-023	10		
IMO1 MID-EBB B DUP	[25-NOV-2009]	HK0924726-024	12		
IMO2 MID-EBB S	[25-NOV-2009]	HK0924726-025	10		
IMO2 MID-EBB S DUP	[25-NOV-2009]	HK0924726-026	12		
IMO2 MID-EBB M	[25-NOV-2009]	HK0924726-027	13		
IMO2 MID-EBB M DUP	[25-NOV-2009]	HK0924726-028	11		
IMO2 MID-EBB B	[25-NOV-2009]	HK0924726-029	11		
IMO2 MID-EBB B DUP	[25-NOV-2009]	HK0924726-030	13		
IMO5 MID-EBB S	[25-NOV-2009]	HK0924726-043	18		
IMO5 MID-EBB S DUP	[25-NOV-2009]	HK0924726-044	22		
IMO5 MID-EBB M	[25-NOV-2009]	HK0924726-045	15		
IMO5 MID-EBB M DUP	[25-NOV-2009]	HK0924726-046	16		
IMO5 MID-EBB B	[25-NOV-2009]	HK0924726-047	16		

Page Number Client : 3 of 5

: ERM HONG KONG



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		
IMO5 MID-EBB B DUP	[25-NOV-2009]	HK0924726-048	14		
IMO6 MID-EBB S	[25-NOV-2009]	HK0924726-049	9		
IMO6 MID-EBB S DUP	[25-NOV-2009]	HK0924726-050	10		
IMO6 MID-EBB M	[25-NOV-2009]	HK0924726-051	13		
IMO6 MID-EBB M DUP	[25-NOV-2009]	HK0924726-052	10		
IMO6 MID-EBB B	[25-NOV-2009]	HK0924726-053	13		
IMO6 MID-EBB B DUP	[25-NOV-2009]	HK0924726-054	11		
C2 (NM5) MID-EBB S	[25-NOV-2009]	HK0924726-055	8		
C2 (NM5) MID-EBB S DUP	[25-NOV-2009]	HK0924726-056	9		
C2 (NM5) MID-EBB M	[25-NOV-2009]	HK0924726-057	15		
C2 (NM5) MID-EBB M DUP	[25-NOV-2009]	HK0924726-058	16		
C2 (NM5) MID-EBB B	[25-NOV-2009]	HK0924726-059	12		
C2 (NM5) MID-EBB B DUP	[25-NOV-2009]	HK0924726-060	12		
MPB1 MID-FLOOD S	[25-NOV-2009]	HK0924726-061	11		
MPB1 MID-FLOOD S DUP	[25-NOV-2009]	HK0924726-062	11		
MPB1 MID-FLOOD M	[25-NOV-2009]	HK0924726-063	11		
MPB1 MID-FLOOD M DUP	[25-NOV-2009]	HK0924726-064	11		
MPB1 MID-FLOOD B	[25-NOV-2009]	HK0924726-065	9		
MPB1 MID-FLOOD B DUP	[25-NOV-2009]	HK0924726-066	10		
MPB2 MID-FLOOD S	[25-NOV-2009]	HK0924726-067	12		
MPB2 MID-FLOOD S DUP	[25-NOV-2009]	HK0924726-068	13		
MPB2 MID-FLOOD M	[25-NOV-2009]	HK0924726-069	10		
MPB2 MID-FLOOD M DUP	[25-NOV-2009]	HK0924726-070	11		
MPB2 MID-FLOOD B	[25-NOV-2009]	HK0924726-071	10		
MPB2 MID-FLOOD B DUP	[25-NOV-2009]	HK0924726-072	8		
MP MID-FLOOD S	[25-NOV-2009]	HK0924726-073	8		
MP MID-FLOOD S DUP	[25-NOV-2009]	HK0924726-074	10		
MP MID-FLOOD M	[25-NOV-2009]	HK0924726-075	13		
MP MID-FLOOD M DUP	[25-NOV-2009]	HK0924726-076	11		
MP MID-FLOOD B	[25-NOV-2009]	HK0924726-077	12		
MP MID-FLOOD B DUP	[25-NOV-2009]	HK0924726-078	10		
IMO1 MID-FLOOD S	[25-NOV-2009]	HK0924726-079	18		
IMO1 MID-FLOOD S DUP	[25-NOV-2009]	HK0924726-080	16		
IMO1 MID-FLOOD M	[25-NOV-2009]	HK0924726-081	16		
IMO1 MID-FLOOD M DUP	[25-NOV-2009]	HK0924726-082	15		

: 4 of 5

Client : ERM HONG KONG

Work Order

HK0924726



Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and		
enem campio 12	time	ID	Aggregate Properties		
IMO1 MID-FLOOD B	[25-NOV-2009]	HK0924726-083	16		
IMO1 MID-FLOOD B DUP	[25-NOV-2009]	HK0924726-084	17		
IMO2 MID-FLOOD S	[25-NOV-2009]	HK0924726-085	8		
IMO2 MID-FLOOD S DUP	[25-NOV-2009]	HK0924726-086	8		
IMO2 MID-FLOOD M	[25-NOV-2009]	HK0924726-087	8		
IMO2 MID-FLOOD M DUP	[25-NOV-2009]	HK0924726-088	9		
IMO2 MID-FLOOD B	[25-NOV-2009]	HK0924726-089	14		
IMO2 MID-FLOOD B DUP	[25-NOV-2009]	HK0924726-090	16		
IMO5 MID-FLOOD S	[25-NOV-2009]	HK0924726-103	14		
IMO5 MID-FLOOD S DUP	[25-NOV-2009]	HK0924726-104	13		
IMO5 MID-FLOOD M	[25-NOV-2009]	HK0924726-105	14		
IMO5 MID-FLOOD M DUP	[25-NOV-2009]	HK0924726-106	13		
IMO5 MID-FLOOD B	[25-NOV-2009]	HK0924726-107	16		
IMO5 MID-FLOOD B DUP	[25-NOV-2009]	HK0924726-108	17		
IMO6 MID-FLOOD S	[25-NOV-2009]	HK0924726-109	10		
IMO6 MID-FLOOD S DUP	[25-NOV-2009]	HK0924726-110	10		
IMO6 MID-FLOOD M	[25-NOV-2009]	HK0924726-111	13		
IMO6 MID-FLOOD M DUP	[25-NOV-2009]	HK0924726-112	11		
IMO6 MID-FLOOD B	[25-NOV-2009]	HK0924726-113	9		
IMO6 MID-FLOOD B DUP	[25-NOV-2009]	HK0924726-114	11		
C1 (NM3) MID-FLOOD S	[25-NOV-2009]	HK0924726-115	9		
C1 (NM3) MID-FLOOD S DUP	[25-NOV-2009]	HK0924726-116	8		
C1 (NM3) MID-FLOOD M	[25-NOV-2009]	HK0924726-117	7		
C1 (NM3) MID-FLOOD M DUP	[25-NOV-2009]	HK0924726-118	7		
C1 (NM3) MID-FLOOD B	[25-NOV-2009]	HK0924726-119	8		
C1 (NM3) MID-FLOOD B DUP	[25-NOV-2009]	HK0924726-120	7		
C3 (NM6) MID-FLOOD S	[25-NOV-2009]	HK0924726-121	7		
C3 (NM6) MID-FLOOD S DUP	[25-NOV-2009]	HK0924726-122	6		
C3 (NM6) MID-FLOOD M	[25-NOV-2009]	HK0924726-123	8		
C3 (NM6) MID-FLOOD M DUP	[25-NOV-2009]	HK0924726-124	8		
C3 (NM6) MID-FLOOD B	[25-NOV-2009]	HK0924726-125	7		
C3 (NM6) MID-FLOOD B DUP	[25-NOV-2009]	HK0924726-126	6		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0924726



## Laboratory Duplicate (DUP) Report

Matrix: WATER					Lak	ooratory 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	Lot: 1176872)						
HK0924726-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	12	10	12.9
HK0924726-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	17	16	9.2
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1176873)						
HK0924726-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	10	12	12.0
HK0924726-043	IMO5 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	18	20	10.6
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1176874)						
HK0924726-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	13	12	10.0
HK0924726-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	11	11	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1176875)						
HK0924726-073	MP MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	8	9	0.0
HK0924726-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	16	17	6.1
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1176876)						
HK0924726-105	IMO5 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	14	13	0.0
HK0924726-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	9	9	0.0
EA/ED: Physical an	d Aggregate Properties (QC	Lot: 1176877)						
HK0924726-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	7	8	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 R	ecovery (%)	Recovery L	imits (%)	RPI	Os (%)
Method: Compound CAS Numb	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 11768	'2)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	108		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11768	'3)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11768	'4)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	114		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11768	'5)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	103		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11768	'6)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	111		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11768	7)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	91.0		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 Technichem (HK) Pty Ltd

## **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

· ERM HONG KONG Client Contact

: 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

Address

C-O-C number 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 Quote number

· HK/1426c/2009\*\*

Date received

Page

Work Order

· 26-NOV-2009

: 1 of 5

Date of issue · 01-DEC-2009

No. of samples

Received

HK0924841

102 102

Analysed

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0924841 supersedes any previous reports with this reference. The completion date of analysis is 30-NOV-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 HK0924841:

: ----

Sample(s) were collected by ALS Technichem (HK) staff on 26 November, 2009.

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

E-mail

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance'

of Hong Kong, Chapter 553, Section 6. Signatory

Fung Lim Chee, Richard

Position

**General Manager** 

Authorised results for:-

Inorganics

: 2 of 5

Client : ERM HONG KONG

Work Order HK0924841



# 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	[26-NOV-2009]	HK0924841-001	10		
MPB1 MID-EBB S DUP	[26-NOV-2009]	HK0924841-002	9		
MPB1 MID-EBB M	[26-NOV-2009]	HK0924841-003	12		
MPB1 MID-EBB M DUP	[26-NOV-2009]	HK0924841-004	10		
MPB1 MID-EBB B	[26-NOV-2009]	HK0924841-005	9		
MPB1 MID-EBB B DUP	[26-NOV-2009]	HK0924841-006	8		
MPB2 MID-EBB S	[26-NOV-2009]	HK0924841-007	8		
MPB2 MID-EBB S DUP	[26-NOV-2009]	HK0924841-008	9		
MPB2 MID-EBB M	[26-NOV-2009]	HK0924841-009	10		
MPB2 MID-EBB M DUP	[26-NOV-2009]	HK0924841-010	12		
MPB2 MID-EBB B	[26-NOV-2009]	HK0924841-011	12		
MPB2 MID-EBB B DUP	[26-NOV-2009]	HK0924841-012	10		
MP MID-EBB S	[26-NOV-2009]	HK0924841-013	12		
MP MID-EBB S DUP	[26-NOV-2009]	HK0924841-014	10		
MP MID-EBB M	[26-NOV-2009]	HK0924841-015	9		
MP MID-EBB M DUP	[26-NOV-2009]	HK0924841-016	7		
MP MID-EBB B	[26-NOV-2009]	HK0924841-017	13		
MP MID-EBB B DUP	[26-NOV-2009]	HK0924841-018	15		
IMO1 MID-EBB S	[26-NOV-2009]	HK0924841-019	7		
IMO1 MID-EBB S DUP	[26-NOV-2009]	HK0924841-020	6		
IMO1 MID-EBB M	[26-NOV-2009]	HK0924841-021	9		
IMO1 MID-EBB M DUP	[26-NOV-2009]	HK0924841-022	9		
IMO1 MID-EBB B	[26-NOV-2009]	HK0924841-023	7		
IMO1 MID-EBB B DUP	[26-NOV-2009]	HK0924841-024	9		
IMO2 MID-EBB S	[26-NOV-2009]	HK0924841-025	14		
IMO2 MID-EBB S DUP	[26-NOV-2009]	HK0924841-026	16		
IMO2 MID-EBB M	[26-NOV-2009]	HK0924841-027	10		
IMO2 MID-EBB M DUP	[26-NOV-2009]	HK0924841-028	14		
IMO2 MID-EBB B	[26-NOV-2009]	HK0924841-029	8		
IMO2 MID-EBB B DUP	[26-NOV-2009]	HK0924841-030	10		
IMO5 MID-EBB S	[26-NOV-2009]	HK0924841-043	11		
IMO5 MID-EBB S DUP	[26-NOV-2009]	HK0924841-044	10		
IMO5 MID-EBB M	[26-NOV-2009]	HK0924841-045	12		
IMO5 MID-EBB M DUP	[26-NOV-2009]	HK0924841-046	15		
IMO5 MID-EBB B	[26-NOV-2009]	HK0924841-047	7		

Page Number Client : 3 of 5

: ERM HONG KONG

Work Order

HK0924841



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		
IMO5 MID-EBB B DUP	[26-NOV-2009]	HK0924841-048	5		
IMO6 MID-EBB S	[26-NOV-2009]	HK0924841-049	10		
IMO6 MID-EBB S DUP	[26-NOV-2009]	HK0924841-050	12		
IMO6 MID-EBB M	[26-NOV-2009]	HK0924841-051	12		
IMO6 MID-EBB M DUP	[26-NOV-2009]	HK0924841-052	12		
IMO6 MID-EBB B	[26-NOV-2009]	HK0924841-053	9		
IMO6 MID-EBB B DUP	[26-NOV-2009]	HK0924841-054	11		
C2 (NM5) MID-EBB S	[26-NOV-2009]	HK0924841-055	14		
C2 (NM5) MID-EBB S DUP	[26-NOV-2009]	HK0924841-056	13		
C2 (NM5) MID-EBB M	[26-NOV-2009]	HK0924841-057	9		
C2 (NM5) MID-EBB M DUP	[26-NOV-2009]	HK0924841-058	7		
C2 (NM5) MID-EBB B	[26-NOV-2009]	HK0924841-059	7		
C2 (NM5) MID-EBB B DUP	[26-NOV-2009]	HK0924841-060	9		
MPB1 MID-FLOOD S	[26-NOV-2009]	HK0924841-061	10		
MPB1 MID-FLOOD S DUP	[26-NOV-2009]	HK0924841-062	9		
MPB1 MID-FLOOD M	[26-NOV-2009]	HK0924841-063	12		
MPB1 MID-FLOOD M DUP	[26-NOV-2009]	HK0924841-064	12		
MPB1 MID-FLOOD B	[26-NOV-2009]	HK0924841-065	11		
MPB1 MID-FLOOD B DUP	[26-NOV-2009]	HK0924841-066	10		
MPB2 MID-FLOOD S	[26-NOV-2009]	HK0924841-067	8		
MPB2 MID-FLOOD S DUP	[26-NOV-2009]	HK0924841-068	10		
MPB2 MID-FLOOD M	[26-NOV-2009]	HK0924841-069	9		
MPB2 MID-FLOOD M DUP	[26-NOV-2009]	HK0924841-070	7		
MPB2 MID-FLOOD B	[26-NOV-2009]	HK0924841-071	8		
MPB2 MID-FLOOD B DUP	[26-NOV-2009]	HK0924841-072	10		
MP MID-FLOOD S	[26-NOV-2009]	HK0924841-073	12		
MP MID-FLOOD S DUP	[26-NOV-2009]	HK0924841-074	11		
MP MID-FLOOD M	[26-NOV-2009]	HK0924841-075	11		
MP MID-FLOOD M DUP	[26-NOV-2009]	HK0924841-076	13		
MP MID-FLOOD B	[26-NOV-2009]	HK0924841-077	11		
MP MID-FLOOD B DUP	[26-NOV-2009]	HK0924841-078	12		
IMO1 MID-FLOOD S	[26-NOV-2009]	HK0924841-079	10		
IMO1 MID-FLOOD S DUP	[26-NOV-2009]	HK0924841-080	10		
IMO1 MID-FLOOD M	[26-NOV-2009]	HK0924841-081	6		
IMO1 MID-FLOOD M DUP	[26-NOV-2009]	HK0924841-082	7		

: 4 of 5

Client : ERM HONG KONG



Sub-Matrix: SEAWATER		Compound	EA025: Suspended				
		1.00.11=#	Solids (SS)				
		LOR Unit	2 mg/L				
Client sample ID	Client sampling date /	Laboratory sample	EA/ED: Physical and				
	time	ID	Aggregate Properties				
IMO1 MID-FLOOD B	[26-NOV-2009]	HK0924841-083	8				
IMO1 MID-FLOOD B DUP	[26-NOV-2009]	HK0924841-084	7				
IMO2 MID-FLOOD S	[26-NOV-2009]	HK0924841-085	8				
IMO2 MID-FLOOD S DUP	[26-NOV-2009]	HK0924841-086	6				
IMO2 MID-FLOOD M	[26-NOV-2009]	HK0924841-087	9				
IMO2 MID-FLOOD M DUP	[26-NOV-2009]	HK0924841-088	7				
IMO2 MID-FLOOD B	[26-NOV-2009]	HK0924841-089	7				
IMO2 MID-FLOOD B DUP	[26-NOV-2009]	HK0924841-090	6				
IMO5 MID-FLOOD S	[26-NOV-2009]	HK0924841-103	8				
IMO5 MID-FLOOD S DUP	[26-NOV-2009]	HK0924841-104	10				
IMO5 MID-FLOOD M	[26-NOV-2009]	HK0924841-105	8				
IMO5 MID-FLOOD M DUP	[26-NOV-2009]	HK0924841-106	6				
IMO5 MID-FLOOD B	[26-NOV-2009]	HK0924841-107	8				
IMO5 MID-FLOOD B DUP	[26-NOV-2009]	HK0924841-108	8				
IMO6 MID-FLOOD S	[26-NOV-2009]	HK0924841-109	10				
IMO6 MID-FLOOD S DUP	[26-NOV-2009]	HK0924841-110	12				
IMO6 MID-FLOOD M	[26-NOV-2009]	HK0924841-111	9				
IMO6 MID-FLOOD M DUP	[26-NOV-2009]	HK0924841-112	9				
IMO6 MID-FLOOD B	[26-NOV-2009]	HK0924841-113	10				
IMO6 MID-FLOOD B DUP	[26-NOV-2009]	HK0924841-114	9				
C1 (NM3) MID-FLOOD S	[26-NOV-2009]	HK0924841-115	9				
C1 (NM3) MID-FLOOD S DUP	[26-NOV-2009]	HK0924841-116	8				
C1 (NM3) MID-FLOOD M	[26-NOV-2009]	HK0924841-117	8				
C1 (NM3) MID-FLOOD M DUP	[26-NOV-2009]	HK0924841-118	8				
C1 (NM3) MID-FLOOD B	[26-NOV-2009]	HK0924841-119	9				
C1 (NM3) MID-FLOOD B DUP	[26-NOV-2009]	HK0924841-120	10				
C3 (NM6) MID-FLOOD S	[26-NOV-2009]	HK0924841-121	12				
C3 (NM6) MID-FLOOD S DUP	[26-NOV-2009]	HK0924841-122	11				
C3 (NM6) MID-FLOOD M	[26-NOV-2009]	HK0924841-123	6				
C3 (NM6) MID-FLOOD M DUP	[26-NOV-2009]	HK0924841-124	8				
C3 (NM6) MID-FLOOD B	[26-NOV-2009]	HK0924841-125	10				
C3 (NM6) MID-FLOOD B DUP	[26-NOV-2009]	HK0924841-126	6				
	[== :: 5 : 2000]		•	1	-1	-	1

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0924841



## Laboratory Duplicate (DUP) Report

Matrix: WATER					Labo	oratory 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: 1177040)						
HK0924841-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	10	11	0.0
HK0924841-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	12	13	11.4
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1177041)						
HK0924841-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	9	8	13.8
HK0924841-043	IMO5 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	11	12	10.2
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1177042)						
HK0924841-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	9	10	11.7
HK0924841-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	12	10	14.2
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1177043)						
HK0924841-073	MP MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	12	10	12.1
HK0924841-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1177044)						
HK0924841-105	IMO5 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0
HK0924841-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	9	10	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1177045)						
HK0924841-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	10	9	12.0

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

Matrix: WATER		Method Blank (M	IB) Report	t Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
				Spike	Spike R	ecovery (%)	Recovery	Limits (%)	RPI	Os (%)
Method: Compound CAS Nur.	ber LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1177	40)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	98.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1177	<b>141</b> )									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	101		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1177	142)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	114		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1177	143)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	91.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1177	144)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	102		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1177	<b>(45)</b>									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	109		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 Technichem (HK) Pty Ltd

## **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

· ERM HONG KONG Client Contact

: 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

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 Quote number

· HK/1426c/2009\*\*

Date of issue No. of samples

Date received

Page

Work Order

Received

: 1 of 5

HK0924842

· 27-NOV-2009

· 02-DEC-2009

Analysed

102 102

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0924842 supersedes any previous reports with this reference. The completion date of analysis is 01-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 HK0924842:

: ----

Sample(s) were collected by ALS Technichem (HK) staff on 27 November, 2009.

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

E-mail

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance'

of Hong Kong, Chapter 553, Section 6. Signatory

Fung Lim Chee, Richard

Position

**General Manager** 

Authorised results for:-

Inorganics

Page Number : 2 of 5

Client : ERM HONG KONG

Work Order HK0924842



# Analytical Results

Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Client comple ID					
Client sample ID	Client sampling date /	Laboratory sample ID	EA/ED: Physical and Aggregate Properties		
MPB1 MID-EBB S	[27-NOV-2009]	HK0924842-001	Aggregate Properties  9		
MPB1 MID-EBB S DUP	[27-NOV-2009]	HK0924842-001	9		
MPB1 MID-EBB M	[27-NOV-2009]	HK0924842-003	12		
MPB1 MID-EBB M DUP	[27-NOV-2009]	HK0924842-004	10		
MPB1 MID-EBB B	[27-NOV-2009]	HK0924842-005	10		
MPB1 MID-EBB B DUP	[27-NOV-2009]	HK0924842-006	9		
MPB2 MID-EBB S	[27-NOV-2009]	HK0924842-006	8		
			5		
MPB2 MID-EBB S DUP	[27-NOV-2009] [27-NOV-2009]	HK0924842-008 HK0924842-009	8		
MPB2 MID-EBB M			8		
MPB2 MID-EBB M DUP	[27-NOV-2009]	HK0924842-010	7		
MPB2 MID-EBB B	[27-NOV-2009]	HK0924842-011	<u> </u>		
MPB2 MID-EBB B DUP	[27-NOV-2009]	HK0924842-012	9		
MP MID-EBB S	[27-NOV-2009]	HK0924842-013	5		
MP MID-EBB S DUP	[27-NOV-2009]	HK0924842-014	8		
MP MID-EBB M	[27-NOV-2009]	HK0924842-015	13		
MP MID-EBB M DUP	[27-NOV-2009]	HK0924842-016	11		
MP MID-EBB B	[27-NOV-2009]	HK0924842-017	13		
MP MID-EBB B DUP	[27-NOV-2009]	HK0924842-018	7		
IMO1 MID-EBB S	[27-NOV-2009]	HK0924842-019	14		
IMO1 MID-EBB S DUP	[27-NOV-2009]	HK0924842-020	10		
IMO1 MID-EBB M	[27-NOV-2009]	HK0924842-021	12		
IMO1 MID-EBB M DUP	[27-NOV-2009]	HK0924842-022	18		
IMO1 MID-EBB B	[27-NOV-2009]	HK0924842-023	13		
IMO1 MID-EBB B DUP	[27-NOV-2009]	HK0924842-024	19		
IMO2 MID-EBB S	[27-NOV-2009]	HK0924842-025	14		
IMO2 MID-EBB S DUP	[27-NOV-2009]	HK0924842-026	12		
IMO2 MID-EBB M	[27-NOV-2009]	HK0924842-027	10		
IMO2 MID-EBB M DUP	[27-NOV-2009]	HK0924842-028	14		
IMO2 MID-EBB B	[27-NOV-2009]	HK0924842-029	12		
IMO2 MID-EBB B DUP	[27-NOV-2009]	HK0924842-030	7		
IMO5 MID-EBB S	[27-NOV-2009]	HK0924842-043	11		
IMO5 MID-EBB S DUP	[27-NOV-2009]	HK0924842-044	9		
IMO5 MID-EBB M	[27-NOV-2009]	HK0924842-045	12		
IMO5 MID-EBB M DUP	[27-NOV-2009]	HK0924842-046	13		
IMO5 MID-EBB B	[27-NOV-2009]	HK0924842-047	10		

Page Number Client

: 3 of 5

: ERM HONG KONG

Work Order

HK0924842



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		
IMO5 MID-EBB B DUP	[27-NOV-2009]	HK0924842-048	11		
IMO6 MID-EBB S	[27-NOV-2009]	HK0924842-049	8		
IMO6 MID-EBB S DUP	[27-NOV-2009]	HK0924842-050	12		
IMO6 MID-EBB M	[27-NOV-2009]	HK0924842-051	9		
IMO6 MID-EBB M DUP	[27-NOV-2009]	HK0924842-052	9		
IMO6 MID-EBB B	[27-NOV-2009]	HK0924842-053	7		
IMO6 MID-EBB B DUP	[27-NOV-2009]	HK0924842-054	8		
C2 (NM5) MID-EBB S	[27-NOV-2009]	HK0924842-055	8		
C2 (NM5) MID-EBB S DUP	[27-NOV-2009]	HK0924842-056	10		
C2 (NM5) MID-EBB M	[27-NOV-2009]	HK0924842-057	12		
C2 (NM5) MID-EBB M DUP	[27-NOV-2009]	HK0924842-058	11		
C2 (NM5) MID-EBB B	[27-NOV-2009]	HK0924842-059	8		
C2 (NM5) MID-EBB B DUP	[27-NOV-2009]	HK0924842-060	10		
MPB1 MID-FLOOD S	[27-NOV-2009]	HK0924842-061	14		
MPB1 MID-FLOOD S DUP	[27-NOV-2009]	HK0924842-062	13		
MPB1 MID-FLOOD M	[27-NOV-2009]	HK0924842-063	13		
MPB1 MID-FLOOD M DUP	[27-NOV-2009]	HK0924842-064	11		
MPB1 MID-FLOOD B	[27-NOV-2009]	HK0924842-065	9		
MPB1 MID-FLOOD B DUP	[27-NOV-2009]	HK0924842-066	11		
MPB2 MID-FLOOD S	[27-NOV-2009]	HK0924842-067	8		
MPB2 MID-FLOOD S DUP	[27-NOV-2009]	HK0924842-068	7		
MPB2 MID-FLOOD M	[27-NOV-2009]	HK0924842-069	10		
MPB2 MID-FLOOD M DUP	[27-NOV-2009]	HK0924842-070	6		
MPB2 MID-FLOOD B	[27-NOV-2009]	HK0924842-071	7		
MPB2 MID-FLOOD B DUP	[27-NOV-2009]	HK0924842-072	7		
MP MID-FLOOD S	[27-NOV-2009]	HK0924842-073	6		
MP MID-FLOOD S DUP	[27-NOV-2009]	HK0924842-074	8		
MP MID-FLOOD M	[27-NOV-2009]	HK0924842-075	12		
MP MID-FLOOD M DUP	[27-NOV-2009]	HK0924842-076	8		
MP MID-FLOOD B	[27-NOV-2009]	HK0924842-077	12		
MP MID-FLOOD B DUP	[27-NOV-2009]	HK0924842-078	12		
IMO1 MID-FLOOD S	[27-NOV-2009]	HK0924842-079	10		
IMO1 MID-FLOOD S DUP	[27-NOV-2009]	HK0924842-080	10		
IMO1 MID-FLOOD M	[27-NOV-2009]	HK0924842-081	11		
IMO1 MID-FLOOD M DUP	[27-NOV-2009]	HK0924842-082	11		

: 4 of 5

Client : ERM HONG KONG



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		
IMO1 MID-FLOOD B	[27-NOV-2009]	HK0924842-083	10		
IMO1 MID-FLOOD B DUP	[27-NOV-2009]	HK0924842-084	12		
IMO2 MID-FLOOD S	[27-NOV-2009]	HK0924842-085	10		
IMO2 MID-FLOOD S DUP	[27-NOV-2009]	HK0924842-086	10		
IMO2 MID-FLOOD M	[27-NOV-2009]	HK0924842-087	14		
IMO2 MID-FLOOD M DUP	[27-NOV-2009]	HK0924842-088	10		
IMO2 MID-FLOOD B	[27-NOV-2009]	HK0924842-089	11		
IMO2 MID-FLOOD B DUP	[27-NOV-2009]	HK0924842-090	10		
IMO5 MID-FLOOD S	[27-NOV-2009]	HK0924842-103	10		
IMO5 MID-FLOOD S DUP	[27-NOV-2009]	HK0924842-104	8		
IMO5 MID-FLOOD M	[27-NOV-2009]	HK0924842-105	9		
IMO5 MID-FLOOD M DUP	[27-NOV-2009]	HK0924842-106	10		
IMO5 MID-FLOOD B	[27-NOV-2009]	HK0924842-107	15		
IMO5 MID-FLOOD B DUP	[27-NOV-2009]	HK0924842-108	10		
IMO6 MID-FLOOD S	[27-NOV-2009]	HK0924842-109	9		
IMO6 MID-FLOOD S DUP	[27-NOV-2009]	HK0924842-110	8		
IMO6 MID-FLOOD M	[27-NOV-2009]	HK0924842-111	5		
IMO6 MID-FLOOD M DUP	[27-NOV-2009]	HK0924842-112	8		
IMO6 MID-FLOOD B	[27-NOV-2009]	HK0924842-113	7		
IMO6 MID-FLOOD B DUP	[27-NOV-2009]	HK0924842-114	8		
C1 (NM3) MID-FLOOD S	[27-NOV-2009]	HK0924842-115	7		
C1 (NM3) MID-FLOOD S DUP	[27-NOV-2009]	HK0924842-116	8		
C1 (NM3) MID-FLOOD M	[27-NOV-2009]	HK0924842-117	7		
C1 (NM3) MID-FLOOD M DUP	[27-NOV-2009]	HK0924842-118	6		
C1 (NM3) MID-FLOOD B	[27-NOV-2009]	HK0924842-119	7		
C1 (NM3) MID-FLOOD B DUP	[27-NOV-2009]	HK0924842-120	7		
C3 (NM6) MID-FLOOD S	[27-NOV-2009]	HK0924842-121	14		
C3 (NM6) MID-FLOOD S DUP	[27-NOV-2009]	HK0924842-122	8		
C3 (NM6) MID-FLOOD M	[27-NOV-2009]	HK0924842-123	8		
C3 (NM6) MID-FLOOD M DUP	[27-NOV-2009]	HK0924842-124	9		
C3 (NM6) MID-FLOOD B	[27-NOV-2009]	HK0924842-125	7		
C3 (NM6) MID-FLOOD B DUP	[27-NOV-2009]	HK0924842-126	6		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0924842



## 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	Lot: 1178711)							
HK0924842-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	9	9	0.0	
HK0924842-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	7	9	18.8	
EA/ED: Physical and	EA/ED: Physical and Aggregate Properties (QC Lot: 1178712)								
HK0924842-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	12	12	0.0	
HK0924842-043	IMO5 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	11	13	18.6	
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1178713)							
HK0924842-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	7	9	# 25.9	
HK0924842-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	13	12	8.4	
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1178714)							
HK0924842-073	MP MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	6	8	18.3	
HK0924842-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	10	10	0.0	
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1178715)							
HK0924842-106	IMO5 MID-FLOOD M DUP	EA025: Suspended Solids (SS)		2	mg/L	10	8	# 26.2	
HK0924842-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	7	8	0.0	
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1178716)							
HK0924842-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	7	8	14.8	

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

Matrix: WATER		Method Blank (M	IB) Report	ort Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
				Spike	Spike R	ecovery (%)	Recovery L	Limits (%)	RPI	Ds (%)
Method: Compound CAS Nui	ber LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1178	'11)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	105		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1178	'12)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	108		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1178	'13)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	104		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1178	<b>'14</b> )									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	100		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1178	'15)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	102		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 1178	'16)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	100		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 Technichem (HK) Pty Ltd

## **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

· ERM HONG KONG Client Contact

: MS KAREN LUI

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

Address

Site

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

Contact Address

Quote number

E-mail

Laboratory

: ALS Technichem HK Pty Ltd

: Chan Kwok Fai, Godfrey

: 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

· 28-NOV-2009

HK0924843

: 1 of 5

Date of issue · 03-DEC-2009

No. of samples Received 102

102

Analysed

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0924843 supersedes any previous reports with this reference. The completion date of analysis is 02-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 HK0924843:

: ----

Sample(s) were collected by ALS Technichem (HK) staff on 28 November, 2009.

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

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.

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.

Position Signatory

Fung Lim Chee, Richard

**General Manager** 

Inorganics

Authorised results for:-

Page Number : 2 of 5 Client

: ERM HONG KONG

Work Order HK0924843



# 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	[28-NOV-2009]	HK0924843-001	8		
MPB1 MID-EBB S DUP	[28-NOV-2009]	HK0924843-002	10		
MPB1 MID-EBB M	[28-NOV-2009]	HK0924843-003	8		
MPB1 MID-EBB M DUP	[28-NOV-2009]	HK0924843-004	8		
MPB1 MID-EBB B	[28-NOV-2009]	HK0924843-005	7		
MPB1 MID-EBB B DUP	[28-NOV-2009]	HK0924843-006	9		
MPB2 MID-EBB S	[28-NOV-2009]	HK0924843-007	8		
MPB2 MID-EBB S DUP	[28-NOV-2009]	HK0924843-008	8		
MPB2 MID-EBB M	[28-NOV-2009]	HK0924843-009	8		
MPB2 MID-EBB M DUP	[28-NOV-2009]	HK0924843-010	9		
MPB2 MID-EBB B	[28-NOV-2009]	HK0924843-011	7		
MPB2 MID-EBB B DUP	[28-NOV-2009]	HK0924843-012	9		
MP MID-EBB S	[28-NOV-2009]	HK0924843-013	13		
MP MID-EBB S DUP	[28-NOV-2009]	HK0924843-014	10		
MP MID-EBB M	[28-NOV-2009]	HK0924843-015	7		
MP MID-EBB M DUP	[28-NOV-2009]	HK0924843-016	9		
MP MID-EBB B	[28-NOV-2009]	HK0924843-017	8		
MP MID-EBB B DUP	[28-NOV-2009]	HK0924843-018	8		
IMO1 MID-EBB S	[28-NOV-2009]	HK0924843-019	9		
IMO1 MID-EBB S DUP	[28-NOV-2009]	HK0924843-020	6		
IMO1 MID-EBB M	[28-NOV-2009]	HK0924843-021	9		
IMO1 MID-EBB M DUP	[28-NOV-2009]	HK0924843-022	8		
IMO1 MID-EBB B	[28-NOV-2009]	HK0924843-023	9		
IMO1 MID-EBB B DUP	[28-NOV-2009]	HK0924843-024	9		
IMO2 MID-EBB S	[28-NOV-2009]	HK0924843-025	8		
IMO2 MID-EBB S DUP	[28-NOV-2009]	HK0924843-026	8		
IMO2 MID-EBB M	[28-NOV-2009]	HK0924843-027	9		
IMO2 MID-EBB M DUP	[28-NOV-2009]	HK0924843-028	8		
IMO2 MID-EBB B	[28-NOV-2009]	HK0924843-029	12		
IMO2 MID-EBB B DUP	[28-NOV-2009]	HK0924843-030	10		
IMO5 MID-EBB S	[28-NOV-2009]	HK0924843-043	12		
IMO5 MID-EBB S DUP	[28-NOV-2009]	HK0924843-044	14		
IMO5 MID-EBB M	[28-NOV-2009]	HK0924843-045	10		
IMO5 MID-EBB M DUP	[28-NOV-2009]	HK0924843-046	12		
IMO5 MID-EBB B	[28-NOV-2009]	HK0924843-047	11		

Page Number Client : 3 of 5

: ERM HONG KONG

Work Order

HK0924843



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		
IMO5 MID-EBB B DUP	[28-NOV-2009]	HK0924843-048	12		
IMO6 MID-EBB S	[28-NOV-2009]	HK0924843-049	11		
IMO6 MID-EBB S DUP	[28-NOV-2009]	HK0924843-050	9		
IMO6 MID-EBB M	[28-NOV-2009]	HK0924843-051	10		
IMO6 MID-EBB M DUP	[28-NOV-2009]	HK0924843-052	11		
IMO6 MID-EBB B	[28-NOV-2009]	HK0924843-053	10		
IMO6 MID-EBB B DUP	[28-NOV-2009]	HK0924843-054	9		
C2 (NM5) MID-EBB S	[28-NOV-2009]	HK0924843-055	10		
C2 (NM5) MID-EBB S DUP	[28-NOV-2009]	HK0924843-056	9		
C2 (NM5) MID-EBB M	[28-NOV-2009]	HK0924843-057	11		
C2 (NM5) MID-EBB M DUP	[28-NOV-2009]	HK0924843-058	8		
C2 (NM5) MID-EBB B	[28-NOV-2009]	HK0924843-059	8		
C2 (NM5) MID-EBB B DUP	[28-NOV-2009]	HK0924843-060	10		
MPB1 MID-FLOOD S	[28-NOV-2009]	HK0924843-061	8		
MPB1 MID-FLOOD S DUP	[28-NOV-2009]	HK0924843-062	10		
MPB1 MID-FLOOD M	[28-NOV-2009]	HK0924843-063	8		
MPB1 MID-FLOOD M DUP	[28-NOV-2009]	HK0924843-064	9		
MPB1 MID-FLOOD B	[28-NOV-2009]	HK0924843-065	8		
MPB1 MID-FLOOD B DUP	[28-NOV-2009]	HK0924843-066	10		
MPB2 MID-FLOOD S	[28-NOV-2009]	HK0924843-067	10		
MPB2 MID-FLOOD S DUP	[28-NOV-2009]	HK0924843-068	8		
MPB2 MID-FLOOD M	[28-NOV-2009]	HK0924843-069	11		
MPB2 MID-FLOOD M DUP	[28-NOV-2009]	HK0924843-070	9		
MPB2 MID-FLOOD B	[28-NOV-2009]	HK0924843-071	7		
MPB2 MID-FLOOD B DUP	[28-NOV-2009]	HK0924843-072	6		
MP MID-FLOOD S	[28-NOV-2009]	HK0924843-073	10		
MP MID-FLOOD S DUP	[28-NOV-2009]	HK0924843-074	10		
MP MID-FLOOD M	[28-NOV-2009]	HK0924843-075	8		
MP MID-FLOOD M DUP	[28-NOV-2009]	HK0924843-076	6		
MP MID-FLOOD B	[28-NOV-2009]	HK0924843-077	8		
MP MID-FLOOD B DUP	[28-NOV-2009]	HK0924843-078	9		
IMO1 MID-FLOOD S	[28-NOV-2009]	HK0924843-079	9		
IMO1 MID-FLOOD S DUP	[28-NOV-2009]	HK0924843-080	8		
IMO1 MID-FLOOD M	[28-NOV-2009]	HK0924843-081	11		
IMO1 MID-FLOOD M DUP	[28-NOV-2009]	HK0924843-082	10		

: 4 of 5

Client : ERM HONG KONG



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		
IMO1 MID-FLOOD B	[28-NOV-2009]	HK0924843-083	9		
IMO1 MID-FLOOD B DUP	[28-NOV-2009]	HK0924843-084	7		
IMO2 MID-FLOOD S	[28-NOV-2009]	HK0924843-085	8		
IMO2 MID-FLOOD S DUP	[28-NOV-2009]	HK0924843-086	8		
IMO2 MID-FLOOD M	[28-NOV-2009]	HK0924843-087	10		
IMO2 MID-FLOOD M DUP	[28-NOV-2009]	HK0924843-088	10		
IMO2 MID-FLOOD B	[28-NOV-2009]	HK0924843-089	8		
IMO2 MID-FLOOD B DUP	[28-NOV-2009]	HK0924843-090	9		
IMO5 MID-FLOOD S	[28-NOV-2009]	HK0924843-103	8		
IMO5 MID-FLOOD S DUP	[28-NOV-2009]	HK0924843-104	8		
IMO5 MID-FLOOD M	[28-NOV-2009]	HK0924843-105	10		
IMO5 MID-FLOOD M DUP	[28-NOV-2009]	HK0924843-106	10		
IMO5 MID-FLOOD B	[28-NOV-2009]	HK0924843-107	8		
IMO5 MID-FLOOD B DUP	[28-NOV-2009]	HK0924843-108	10		
IMO6 MID-FLOOD S	[28-NOV-2009]	HK0924843-109	15		
IMO6 MID-FLOOD S DUP	[28-NOV-2009]	HK0924843-110	6		
IMO6 MID-FLOOD M	[28-NOV-2009]	HK0924843-111	7		
IMO6 MID-FLOOD M DUP	[28-NOV-2009]	HK0924843-112	10		
IMO6 MID-FLOOD B	[28-NOV-2009]	HK0924843-113	7		
IMO6 MID-FLOOD B DUP	[28-NOV-2009]	HK0924843-114	8		
C1 (NM3) MID-FLOOD S	[28-NOV-2009]	HK0924843-115	7		
C1 (NM3) MID-FLOOD S DUP	[28-NOV-2009]	HK0924843-116	6		
C1 (NM3) MID-FLOOD M	[28-NOV-2009]	HK0924843-117	8		
C1 (NM3) MID-FLOOD M DUP	[28-NOV-2009]	HK0924843-118	7		
C1 (NM3) MID-FLOOD B	[28-NOV-2009]	HK0924843-119	8		
C1 (NM3) MID-FLOOD B DUP	[28-NOV-2009]	HK0924843-120	10		
C3 (NM6) MID-FLOOD S	[28-NOV-2009]	HK0924843-121	11		
C3 (NM6) MID-FLOOD S DUP	[28-NOV-2009]	HK0924843-122	14		
C3 (NM6) MID-FLOOD M	[28-NOV-2009]	HK0924843-123	8		
C3 (NM6) MID-FLOOD M DUP	[28-NOV-2009]	HK0924843-124	8		
C3 (NM6) MID-FLOOD B	[28-NOV-2009]	HK0924843-125	8		
C3 (NM6) MID-FLOOD B DUP	[28-NOV-2009]	HK0924843-126	6		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0924843



## 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: 1180315)						
HK0924843-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	8	9	0.0
HK0924843-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	7	8	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1180316)						
HK0924843-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	9	9	0.0
HK0924843-043	IMO5 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	12	13	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1180317)						
HK0924843-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	10	9	13.5
HK0924843-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1180318)						
HK0924843-073	MP MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	10	9	11.5
HK0924843-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	9	8	12.3
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1180320)						
HK0924843-105	IMO5 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	10	10	0.0
HK0924843-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	7	8	0.0
EA/ED: Physical and	d Aggregate Properties (QC	C Lot: 1180321)						
HK0924843-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0

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

Matrix: WATER		Method Blank (M	B) Report		Laboratory Control	Spike (LCS) and Labo	ratory Control S	pike Duplica	te (DCS) Report	
				Spike	Spike R	ecovery (%)	Recovery	Limits (%)	RPI	Ds (%)
Method: Compound CAS Numb	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 11803	5)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11803	6)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11803	7)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	114		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11803	8)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	114		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 11803)	0)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	110		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118032	1)									
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 Technichem (HK) Pty Ltd

## **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

· ERM HONG KONG Client Contact

: 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

Address

C-O-C number Site : ---- Laboratory Contact

Address

E-mail

Quote number

: ALS Technichem HK Pty Ltd

: Chan Kwok Fai, Godfrey

: 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

No. of samples

Page

Work Order

· 29-NOV-2009

HK0925051

: 1 of 5

Date of issue 04-DEC-2009

> Received Analysed

102

102

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925051 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 HK0925051:

Sample(s) were collected by ALS Technichem (HK) staff on 29 November, 2009.

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

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.

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

Page Number
Client

: 2 of 5

: ERM HONG KONG

Work Order HK0925051



# Analytical Results

Sub-Matrix: SEAWATER		Compound	EA025: Suspended		
		LOR Unit	Solids (SS) 2 mg/L		
Client sample ID	Oliant assessina data /				
Onem sample 1D	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties		
MPB1 MID-EBB S	[29-NOV-2009]	HK0925051-001	10		
MPB1 MID-EBB S DUP	[29-NOV-2009]	HK0925051-002	10		
MPB1 MID-EBB M	[29-NOV-2009]	HK0925051-003	9		
MPB1 MID-EBB M DUP	[29-NOV-2009]	HK0925051-004	9		
MPB1 MID-EBB B	[29-NOV-2009]	HK0925051-005	12		
MPB1 MID-EBB B DUP	[29-NOV-2009]	HK0925051-006	12		
MPB2 MID-EBB S	[29-NOV-2009]	HK0925051-007	9		
MPB2 MID-EBB S DUP	[29-NOV-2009]	HK0925051-008	8		
MPB2 MID-EBB M	[29-NOV-2009]	HK0925051-009	7		
MPB2 MID-EBB M DUP	[29-NOV-2009]	HK0925051-010	10		
MPB2 MID-EBB B	[29-NOV-2009]	HK0925051-011	9		
MPB2 MID-EBB B DUP	[29-NOV-2009]	HK0925051-012	10		
MP MID-EBB S	[29-NOV-2009]	HK0925051-013	8		
MP MID-EBB S DUP	[29-NOV-2009]	HK0925051-014	9		
MP MID-EBB M	[29-NOV-2009]	HK0925051-015	9		
MP MID-EBB M DUP	[29-NOV-2009]	HK0925051-016	8		
MP MID-EBB B	[29-NOV-2009]	HK0925051-017	7		
MP MID-EBB B DUP	[29-NOV-2009]	HK0925051-018	9		
IMO1 MID-EBB S	[29-NOV-2009]	HK0925051-019	8		
IMO1 MID-EBB S DUP	[29-NOV-2009]	HK0925051-020	9		
IMO1 MID-EBB M	[29-NOV-2009]	HK0925051-021	8		
IMO1 MID-EBB M DUP	[29-NOV-2009]	HK0925051-022	8		
IMO1 MID-EBB B	[29-NOV-2009]	HK0925051-023	8		
IMO1 MID-EBB B DUP	[29-NOV-2009]	HK0925051-024	9		
IMO2 MID-EBB S	[29-NOV-2009]	HK0925051-025	8		
IMO2 MID-EBB S DUP	[29-NOV-2009]	HK0925051-026	8		
IMO2 MID-EBB M	[29-NOV-2009]	HK0925051-027	6		
IMO2 MID-EBB M DUP	[29-NOV-2009]	HK0925051-028	6		
IMO2 MID-EBB B	[29-NOV-2009]	HK0925051-029	7		
IMO2 MID-EBB B DUP	[29-NOV-2009]	HK0925051-030	8		
IMO5 MID-EBB S	[29-NOV-2009]	HK0925051-043	11		
IMO5 MID-EBB S DUP	[29-NOV-2009]	HK0925051-044	11		
IMO5 MID-EBB M	[29-NOV-2009]	HK0925051-045	11		
IMO5 MID-EBB M DUP	[29-NOV-2009]	HK0925051-046	10		
IMO5 MID-EBB B	[29-NOV-2009]	HK0925051-047	9		

: 3 of 5

Client : ERM HONG KONG



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		
IMO5 MID-EBB B DUP	[29-NOV-2009]	HK0925051-048	7		
IMO6 MID-EBB S	[29-NOV-2009]	HK0925051-049	14		
IMO6 MID-EBB S DUP	[29-NOV-2009]	HK0925051-050	15		
IMO6 MID-EBB M	[29-NOV-2009]	HK0925051-051	13		
IMO6 MID-EBB M DUP	[29-NOV-2009]	HK0925051-052	15		
IMO6 MID-EBB B	[29-NOV-2009]	HK0925051-053	11		
IMO6 MID-EBB B DUP	[29-NOV-2009]	HK0925051-054	11		
C2 (NM5) MID-EBB S	[29-NOV-2009]	HK0925051-055	4		
C2 (NM5) MID-EBB S DUP	[29-NOV-2009]	HK0925051-056	6		
C2 (NM5) MID-EBB M	[29-NOV-2009]	HK0925051-057	6		
C2 (NM5) MID-EBB M DUP	[29-NOV-2009]	HK0925051-058	7		
C2 (NM5) MID-EBB B	[29-NOV-2009]	HK0925051-059	7		
C2 (NM5) MID-EBB B DUP	[29-NOV-2009]	HK0925051-060	7		
MPB1 MID-FLOOD S	[29-NOV-2009]	HK0925051-061	12		
MPB1 MID-FLOOD S DUP	[29-NOV-2009]	HK0925051-062	10		
MPB1 MID-FLOOD M	[29-NOV-2009]	HK0925051-063	8		
MPB1 MID-FLOOD M DUP	[29-NOV-2009]	HK0925051-064	10		
MPB1 MID-FLOOD B	[29-NOV-2009]	HK0925051-065	8		
MPB1 MID-FLOOD B DUP	[29-NOV-2009]	HK0925051-066	8		
MPB2 MID-FLOOD S	[29-NOV-2009]	HK0925051-067	10		
MPB2 MID-FLOOD S DUP	[29-NOV-2009]	HK0925051-068	8		
MPB2 MID-FLOOD M	[29-NOV-2009]	HK0925051-069	8		
MPB2 MID-FLOOD M DUP	[29-NOV-2009]	HK0925051-070	11		
MPB2 MID-FLOOD B	[29-NOV-2009]	HK0925051-071	8		
MPB2 MID-FLOOD B DUP	[29-NOV-2009]	HK0925051-072	7		
MP MID-FLOOD S	[29-NOV-2009]	HK0925051-073	9		
MP MID-FLOOD S DUP	[29-NOV-2009]	HK0925051-074	10		
MP MID-FLOOD M	[29-NOV-2009]	HK0925051-075	11		
MP MID-FLOOD M DUP	[29-NOV-2009]	HK0925051-076	10		
MP MID-FLOOD B	[29-NOV-2009]	HK0925051-077	8		
MP MID-FLOOD B DUP	[29-NOV-2009]	HK0925051-078	9		
IMO1 MID-FLOOD S	[29-NOV-2009]	HK0925051-079	5		
IMO1 MID-FLOOD S DUP	[29-NOV-2009]	HK0925051-080	8		
IMO1 MID-FLOOD M	[29-NOV-2009]	HK0925051-081	10		
IMO1 MID-FLOOD M DUP	[29-NOV-2009]	HK0925051-082	6		

: 4 of 5

Client : ERM HONG KONG



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		
IMO1 MID-FLOOD B	[29-NOV-2009]	HK0925051-083	9		
IMO1 MID-FLOOD B DUP	[29-NOV-2009]	HK0925051-084	13		
IMO2 MID-FLOOD S	[29-NOV-2009]	HK0925051-085	6		
IMO2 MID-FLOOD S DUP	[29-NOV-2009]	HK0925051-086	5		
IMO2 MID-FLOOD M	[29-NOV-2009]	HK0925051-087	7		
IMO2 MID-FLOOD M DUP	[29-NOV-2009]	HK0925051-088	6		
IMO2 MID-FLOOD B	[29-NOV-2009]	HK0925051-089	9		
IMO2 MID-FLOOD B DUP	[29-NOV-2009]	HK0925051-090	7		
IMO5 MID-FLOOD S	[29-NOV-2009]	HK0925051-103	9		
IMO5 MID-FLOOD S DUP	[29-NOV-2009]	HK0925051-104	9		
IMO5 MID-FLOOD M	[29-NOV-2009]	HK0925051-105	8		
IMO5 MID-FLOOD M DUP	[29-NOV-2009]	HK0925051-106	8		
IMO5 MID-FLOOD B	[29-NOV-2009]	HK0925051-107	6		
IMO5 MID-FLOOD B DUP	[29-NOV-2009]	HK0925051-108	6		
IMO6 MID-FLOOD S	[29-NOV-2009]	HK0925051-109	14		
IMO6 MID-FLOOD S DUP	[29-NOV-2009]	HK0925051-110	12		
IMO6 MID-FLOOD M	[29-NOV-2009]	HK0925051-111	14		
IMO6 MID-FLOOD M DUP	[29-NOV-2009]	HK0925051-112	14		
IMO6 MID-FLOOD B	[29-NOV-2009]	HK0925051-113	12		
IMO6 MID-FLOOD B DUP	[29-NOV-2009]	HK0925051-114	10		
C1 (NM3) MID-FLOOD S	[29-NOV-2009]	HK0925051-115	6		
C1 (NM3) MID-FLOOD S DUP	[29-NOV-2009]	HK0925051-116	6		
C1 (NM3) MID-FLOOD M	[29-NOV-2009]	HK0925051-117	6		
C1 (NM3) MID-FLOOD M DUP	[29-NOV-2009]	HK0925051-118	7		
C1 (NM3) MID-FLOOD B	[29-NOV-2009]	HK0925051-119	8		
C1 (NM3) MID-FLOOD B DUP	[29-NOV-2009]	HK0925051-120	6		
C3 (NM6) MID-FLOOD S	[29-NOV-2009]	HK0925051-121	10		
C3 (NM6) MID-FLOOD S DUP	[29-NOV-2009]	HK0925051-122	8		
C3 (NM6) MID-FLOOD M	[29-NOV-2009]	HK0925051-123	6		
C3 (NM6) MID-FLOOD M DUP	[29-NOV-2009]	HK0925051-124	6		
C3 (NM6) MID-FLOOD B	[29-NOV-2009]	HK0925051-125	7		
C3 (NM6) MID-FLOOD B DUP	[29-NOV-2009]	HK0925051-126	6		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0925051



## 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	Lot: 1180323)						
HK0925051-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	10	9	12.1
HK0925051-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	9	10	13.2
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1180324)						
HK0925051-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	8	6	21.9
HK0925051-043	IMO5 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	11	10	10.7
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1180325)						
HK0925051-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	11	11	0.0
HK0925051-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	8	8	0.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1180326)						
HK0925051-073	MP MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	9	9	0.0
HK0925051-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	9	8	19.3
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1180327)						
HK0925051-105	IMO5 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	8	10	21.5
HK0925051-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	6	6	0.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1180328)						
HK0925051-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	7	8	0.0

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

Matrix: WATER		Method Blank (M	B) Report		Laboratory Control	Spike (LCS) and Labo	ratory Control S	pike Duplica	te (DCS) Report	
				Spike	Spike R	ecovery (%)	Recovery	Limits (%)	RPI	Os (%)
Method: Compound CAS Numb	er LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 118032	3)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	105		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118032	4)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	107		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118032	5)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	110		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118032	6)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	99.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118032	7)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	91.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118032	8)									
EA025: Suspended Solids (SS)	2	mg/L	<2	20 mg/L	108		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 Technichem (HK) Pty Ltd

## **ALS Laboratory Group**

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **CERTIFICATE OF ANALYSIS**

· ERM HONG KONG Client Contact

: 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

Address

Site

: ALS Technichem HK Pty Ltd Laboratory

: 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

· HK/1426c/2009\*\*

Date received Date of issue

Page

Work Order

04-DEC-2009

· 30-NOV-2009

No. of samples Received

: 1 of 5

HK0925052

Analysed

102

102

#### **Report Comments**

This report for ALS Technichem (HK) Pty Ltd work order reference HK0925052 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 HK0925052:

Sample(s) were collected by ALS Technichem (HK) staff on 30 November, 2009.

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

Address

E-mail

Quote number

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.

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.

Position Signatory

Fung Lim Chee, Richard

**General Manager** 

Inorganics

Authorised results for:-

Page Number : 2 of 5

Client : ERM HONG KONG

Work Order HK0925052

# 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	[30-NOV-2009]	HK0925052-001	12		
MPB1 MID-EBB S DUP	[30-NOV-2009]	HK0925052-002	13		
MPB1 MID-EBB M	[30-NOV-2009]	HK0925052-003	11		
MPB1 MID-EBB M DUP	[30-NOV-2009]	HK0925052-004	10		
MPB1 MID-EBB B	[30-NOV-2009]	HK0925052-005	9		
MPB1 MID-EBB B DUP	[30-NOV-2009]	HK0925052-006	10		
MPB2 MID-EBB S	[30-NOV-2009]	HK0925052-007	13		
MPB2 MID-EBB S DUP	[30-NOV-2009]	HK0925052-008	13		
MPB2 MID-EBB M	[30-NOV-2009]	HK0925052-009	12		
MPB2 MID-EBB M DUP	[30-NOV-2009]	HK0925052-010	15		
MPB2 MID-EBB B	[30-NOV-2009]	HK0925052-011	11		
MPB2 MID-EBB B DUP	[30-NOV-2009]	HK0925052-012	13		
MP MID-EBB S	[30-NOV-2009]	HK0925052-013	11		
MP MID-EBB S DUP	[30-NOV-2009]	HK0925052-014	11		
MP MID-EBB M	[30-NOV-2009]	HK0925052-015	14		
MP MID-EBB M DUP	[30-NOV-2009]	HK0925052-016	14		
MP MID-EBB B	[30-NOV-2009]	HK0925052-017	12		
MP MID-EBB B DUP	[30-NOV-2009]	HK0925052-018	14		
IMO1 MID-EBB S	[30-NOV-2009]	HK0925052-019	12		
IMO1 MID-EBB S DUP	[30-NOV-2009]	HK0925052-020	10		
IMO1 MID-EBB M	[30-NOV-2009]	HK0925052-021	12		
IMO1 MID-EBB M DUP	[30-NOV-2009]	HK0925052-022	12		
IMO1 MID-EBB B	[30-NOV-2009]	HK0925052-023	19		
IMO1 MID-EBB B DUP	[30-NOV-2009]	HK0925052-024	17		
IMO2 MID-EBB S	[30-NOV-2009]	HK0925052-025	14		
IMO2 MID-EBB S DUP	[30-NOV-2009]	HK0925052-026	11		
IMO2 MID-EBB M	[30-NOV-2009]	HK0925052-027	13		
IMO2 MID-EBB M DUP	[30-NOV-2009]	HK0925052-028	10		
IMO2 MID-EBB B	[30-NOV-2009]	HK0925052-029	9		
IMO2 MID-EBB B DUP	[30-NOV-2009]	HK0925052-030	8		
IMO5 MID-EBB S	[30-NOV-2009]	HK0925052-043	12		
IMO5 MID-EBB S DUP	[30-NOV-2009]	HK0925052-044	13		
IMO5 MID-EBB M	[30-NOV-2009]	HK0925052-045	12		
IMO5 MID-EBB M DUP	[30-NOV-2009]	HK0925052-046	11		
IMO5 MID-EBB B	[30-NOV-2009]	HK0925052-047	12		

Page Number Client : 3 of 5

: ERM HONG KONG

Work Order

HK0925052



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			
IMO5 MID-EBB B DUP	[30-NOV-2009]	HK0925052-048	Aggregate Properties  15	<u> </u>		
IMO6 MID-EBB S	[30-NOV-2009]	HK0925052-049	12			
IMO6 MID-EBB S DUP	[30-NOV-2009]	HK0925052-050	13			
IMO6 MID-EBB M	[30-NOV-2009]	HK0925052-051	11			
IMO6 MID-EBB M DUP	[30-NOV-2009]	HK0925052-052	11			
IMO6 MID-EBB B	[30-NOV-2009]	HK0925052-053	14			
IMO6 MID-EBB B DUP	[30-NOV-2009]	HK0925052-054	13			
C2 (NM5) MID-EBB S	[30-NOV-2009]	HK0925052-055	7			
C2 (NM5) MID-EBB S DUP	[30-NOV-2009]	HK0925052-056	7			
C2 (NM5) MID-EBB M	[30-NOV-2009]	HK0925052-057	8			
C2 (NM5) MID-EBB M DUP	[30-NOV-2009]	HK0925052-058	10			
C2 (NM5) MID-EBB B	[30-NOV-2009]	HK0925052-059	6			
C2 (NM5) MID-EBB B DUP	[30-NOV-2009]	HK0925052-060	8			
MPB1 MID-FLOOD S	[30-NOV-2009]	HK0925052-061	11			
MPB1 MID-FLOOD S DUP	[30-NOV-2009]	HK0925052-062	14			
MPB1 MID-FLOOD M	[30-NOV-2009]	HK0925052-063	13			
MPB1 MID-FLOOD M DUP	[30-NOV-2009]	HK0925052-064	12			
MPB1 MID-FLOOD B	[30-NOV-2009]	HK0925052-065	12			
MPB1 MID-FLOOD B DUP	[30-NOV-2009]	HK0925052-066	12			
MPB2 MID-FLOOD S	[30-NOV-2009]	HK0925052-067	14			
MPB2 MID-FLOOD S DUP	[30-NOV-2009]	HK0925052-068	11			
MPB2 MID-FLOOD M	[30-NOV-2009]	HK0925052-069	18			
MPB2 MID-FLOOD M DUP	[30-NOV-2009]	HK0925052-070	16			
MPB2 MID-FLOOD B	[30-NOV-2009]	HK0925052-071	15			
MPB2 MID-FLOOD B DUP	[30-NOV-2009]	HK0925052-072	12			
MP MID-FLOOD S	[30-NOV-2009]	HK0925052-073	13			
MP MID-FLOOD S DUP	[30-NOV-2009]	HK0925052-074	12			
MP MID-FLOOD M	[30-NOV-2009]	HK0925052-075	11			
MP MID-FLOOD M DUP	[30-NOV-2009]	HK0925052-076	10			
MP MID-FLOOD B	[30-NOV-2009]	HK0925052-077	13			
MP MID-FLOOD B DUP	[30-NOV-2009]	HK0925052-078	14			
IMO1 MID-FLOOD S	[30-NOV-2009]	HK0925052-079	12			
IMO1 MID-FLOOD S DUP	[30-NOV-2009]	HK0925052-080	15			
IMO1 MID-FLOOD M	[30-NOV-2009]	HK0925052-081	12			
IMO1 MID-FLOOD M DUP	[30-NOV-2009]	HK0925052-082	12			

: 4 of 5

Client : ERM HONG KONG



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		
IMO1 MID-FLOOD B	[30-NOV-2009]	HK0925052-083	12		
IMO1 MID-FLOOD B DUP	[30-NOV-2009]	HK0925052-084	12		
IMO2 MID-FLOOD S	[30-NOV-2009]	HK0925052-085	11		
IMO2 MID-FLOOD S DUP	[30-NOV-2009]	HK0925052-086	10		
IMO2 MID-FLOOD M	[30-NOV-2009]	HK0925052-087	10		
IMO2 MID-FLOOD M DUP	[30-NOV-2009]	HK0925052-088	9		
IMO2 MID-FLOOD B	[30-NOV-2009]	HK0925052-089	10		
IMO2 MID-FLOOD B DUP	[30-NOV-2009]	HK0925052-090	10		
IMO5 MID-FLOOD S	[30-NOV-2009]	HK0925052-103	10		
IMO5 MID-FLOOD S DUP	[30-NOV-2009]	HK0925052-104	11		
IMO5 MID-FLOOD M	[30-NOV-2009]	HK0925052-105	13		
IMO5 MID-FLOOD M DUP	[30-NOV-2009]	HK0925052-106	14		
IMO5 MID-FLOOD B	[30-NOV-2009]	HK0925052-107	10		
IMO5 MID-FLOOD B DUP	[30-NOV-2009]	HK0925052-108	13		
IMO6 MID-FLOOD S	[30-NOV-2009]	HK0925052-109	13		
IMO6 MID-FLOOD S DUP	[30-NOV-2009]	HK0925052-110	12		
IMO6 MID-FLOOD M	[30-NOV-2009]	HK0925052-111	14		
IMO6 MID-FLOOD M DUP	[30-NOV-2009]	HK0925052-112	13		
IMO6 MID-FLOOD B	[30-NOV-2009]	HK0925052-113	13		
IMO6 MID-FLOOD B DUP	[30-NOV-2009]	HK0925052-114	11		
C1 (NM3) MID-FLOOD S	[30-NOV-2009]	HK0925052-115	7		
C1 (NM3) MID-FLOOD S DUP	[30-NOV-2009]	HK0925052-116	9		
C1 (NM3) MID-FLOOD M	[30-NOV-2009]	HK0925052-117	10		
C1 (NM3) MID-FLOOD M DUP	[30-NOV-2009]	HK0925052-118	8		
C1 (NM3) MID-FLOOD B	[30-NOV-2009]	HK0925052-119	10		
C1 (NM3) MID-FLOOD B DUP	[30-NOV-2009]	HK0925052-120	9		
C3 (NM6) MID-FLOOD S	[30-NOV-2009]	HK0925052-121	12		
C3 (NM6) MID-FLOOD S DUP	[30-NOV-2009]	HK0925052-122	11		
C3 (NM6) MID-FLOOD M	[30-NOV-2009]	HK0925052-123	12		
C3 (NM6) MID-FLOOD M DUP	[30-NOV-2009]	HK0925052-124	11		
C3 (NM6) MID-FLOOD B	[30-NOV-2009]	HK0925052-125	10		
C3 (NM6) MID-FLOOD B DUP	[30-NOV-2009]	HK0925052-126	10		

Page Number : 5 of 5

Client : ERM HONG KONG

Work Order HK0925052



# Laboratory Duplicate (DUP) Report

Matrix: WATER					Labo	ratory 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: 1184137)						
HK0925052-001	MPB1 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	12	10	14.5
HK0925052-011	MPB2 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	11	11	0.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1184138)						
HK0925052-021	IMO1 MID-EBB M	EA025: Suspended Solids (SS)		2	mg/L	12	12	0.0
HK0925052-043	IMO5 MID-EBB S	EA025: Suspended Solids (SS)		2	mg/L	12	13	12.3
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1184139)						
HK0925052-053	IMO6 MID-EBB B	EA025: Suspended Solids (SS)		2	mg/L	14	12	14.1
HK0925052-063	MPB1 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	13	15	12.4
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1184140)						
HK0925052-073	MP MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	13	11	16.0
HK0925052-083	IMO1 MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	12	13	12.5
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1184141)						
HK0925052-105	IMO5 MID-FLOOD M	EA025: Suspended Solids (SS)		2	mg/L	13	11	15.1
HK0925052-115	C1 (NM3) MID-FLOOD S	EA025: Suspended Solids (SS)		2	mg/L	7	6	0.0
EA/ED: Physical and	d Aggregate Properties (QC	Lot: 1184142)						
HK0925052-125	C3 (NM6) MID-FLOOD B	EA025: Suspended Solids (SS)		2	mg/L	10	11	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	ecovery (%)	Recovery	Limits (%)	RPI	Os (%)
Method: Compound CAS N	ımber	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 118	4137)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	92.0		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118	4138)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	93.5		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118	4139)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	106		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118	4140)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	112		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118	4141)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	109		85	115		
EA/ED: Physical and Aggregate Properties (QCLot: 118	4142)										
EA025: Suspended Solids (SS)		2	mg/L	<2	20 mg/L	109		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.

# Annex G

Impact Water Quality Monitoring Results

Sampling Date	11/13/2009
Weather & Ambient Temperature	Cloudy, 27C

Station			C2 (	NM5)							
Time (hh:mm)											
Water Depth (m)											
Monitoring Depth (m)	1	.0	9	0.6	18	3.2					
Trial	Trial 1	Trial 2	Depth- averaged	Bottom							
Water Temperature (°C)	25.7	25.7	25.8	25.9	25.8	25.9	25.81	-			
Salinity (ppt)	28.5	29.8	31.8	31.6	31.8	31.8	30.88	-			
pH	8.0	8.1	8.0	8.1	8.0	8.1	8.05				
D.O. Saturation (%)	77.6	77.1	77.5	74.8	80.8	75.3	77.18	-			
D.O. (mg/L)	5.4	5.3	5.3	5.1	5.5	5.1	5.28	5.31			
Turbidity (NTU)	9.0	8.8	8.75	-							
SS (mg/L)	12.0	12.0	9.0	11.0	9.0	9.0	10.33	-			
Remarks		Dredging works was observed.									

Station				Co-ordinates							
Time (hh:mm)			Northing	Easting							
Water Depth (m)			16	3.2			22.21.912	113.55.457			
Monitoring Depth (m)	1	.0	8	.1	15	5.2					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	25.6	25.5	26.4	26.4	26.2	25.9	26.00	-			
Salinity (ppt)	30.6	30.4	32.1	32.0	32.2	32.3	31.61	-			
pH	8.0	8.1	8.1	8.1	8.1	8.1	8.10				
D.O. Saturation (%)	84.8	82.2	78.8	80.6	77.4	82.3	81.02	-			
D.O. (mg/L)	6.2	6.0	5.6	5.7	5.5	5.89	5.82	5.71			
Turbidity (NTU)	15.8	15.0	12.6	13.6	9.6	10.5	12.85	-			
SS (mg/L)	19.0	19.0	24.0	19.50	-						
Remarks		19.0   19.0   17.0   18.0   20.0   24.0   19.50   -  Dredging works was observed.									

Station			IM	02			Co-ord	inates	
Time (hh:mm)				Northing	Easting				
Water Depth (m)			20	0.8			22.21.795	113.55.133	
Monitoring Depth (m)	1	.0	10	0.4	19	9.8			
Trial	Trial 1							Bottom	
Water Temperature (°C)	25.7	25.7 25.6 26.0 25.8 25.8 25.9						-	
Salinity (ppt)	30.3	30.3 30.1 31.9 31.9 2					30.78	-	
pH	8.1	8.0	8.1	8.1	8.1	8.1	8.09		
D.O. Saturation (%)	81.6	84.6	75.4	75.9	74.6	75.0	77.85	-	
D.O. (mg/L)	5.6	5.8	5.1	5.2	5.2	5.09	5.33	5.14	
Turbidity (NTU)	13.5	13.6	10.48	-					
SS (mg/L)	16.0	18.0	12.0	13.17	-				
Remarks		Dredging works was observed.							

Station			IM	O3			Co-ordinates		
Time (hh:mm)							Northing	Easting	
Water Depth (m)									
Monitoring Depth (m)									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	-	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-	=	-	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	-	-	-	-	-	-	=	-	
SS (mg/L)	-	-	-	-	-	-	-	-	
Remarks	No dredger relating to this station in operation								

# Mid-Ebb

Station				Co-ordinates					
Time (hh:mm)							Northing	Easting	
Water Depth (m)									
Monitoring Depth (m)									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	-	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-	-	-	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	-	-	-	-	-	-	-	-	
SS (mg/L)	-	-	-	-	-	-	-	-	
Remarks	No dredger relating to this station in operation								

Station			ME	PB1							
Time (hh:mm)											
Water Depth (m)			7	.4							
Monitoring Depth (m)	1	.0	3	.7	6	.4					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	25.6	25.6	25.7	25.7	25.6	25.7	25.64	-			
Salinity (ppt)	30.0	29.4	31.0	30.7	30.9	31.3	30.53	-			
pH	8.0	8.0	8.0	8.1	8.0	8.0	8.02				
D.O. Saturation (%)	80.4	78.8	77.2	79.0	78.8	81.2	79.23	-			
D.O. (mg/L)	5.6	5.5	5.4	5.4	5.4	5.7	5.49	5.54			
Turbidity (NTU)	7.4	7.6	7.4	7.4	7.6	7.6	7.50	-			
SS (mg/L)	8.0	7.0	9.0	9.0	8.0	9.0	8.33	-			
Remarks		Dredging works was observed.									

Station			ME	PB2						
Time (hh:mm)										
Water Depth (m)			8	3.8						
Monitoring Depth (m)	1	.0	4	.4	7	'.8				
Trial	Trial 1	Trial 2	Depth- averaged	Bottom						
Water Temperature (°C)	25.6	25.6	25.62	-						
Salinity (ppt)	31.1	29.6	31.0	31.0	30.9	31.0	30.78	=		
pH	8.1	8.0	8.1	8.0	8.0	8.1	8.04			
D.O. Saturation (%)	77.9	77.2	77.1	77.4	77.2	76.6	77.23	=		
D.O. (mg/L)	5.3	5.3	5.3	5.3	5.3	5.2	5.30	5.27		
Turbidity (NTU)	10.3	10.3	11.7	11.1	11.1	11.6	11.02	=		
SS (mg/L)	12.0	12.0	12.0	14.0	19.0	19.0	14.67	-		
Remarks		Dredging works was observed.								

Station			N	/IP							
Time (hh:mm)											
Water Depth (m)			5	5.2							
Monitoring Depth (m)	1	.0	2	2.6	4	.2					
Trial	Trial 1	Trial 1 Trial 2 Trial 1 Trial 2 Trial 1 Trial 2									
Water Temperature (°C)	25.6	25.6 25.6 25.6 25.6						-			
Salinity (ppt)	30.2	30.4	-	-	30.4	30.6	30.39	-			
pH	8.0	8.0	-	-	8.0	8.0	8.01				
D.O. Saturation (%)	76.1	76.2	-	-	75.4	76.7	76.10	-			
D.O. (mg/L)	5.3	5.3	-	-	5.2	5.3	5.24	5.23			
Turbidity (NTU)	14.4	14.3	-	-	14.6	15.3	14.65	-			
SS (mg/L)	13.0	12.0	-	-	13.0	13.0	12.75	-			
Remarks		Dredging works was observed.									

Compliance	with	Action	and I	_imit Le	evel

Compliance with Action an	a Limit Lev	<u>eı</u>																
Parameter	As in	EM&A	C2**	130%	IIV	101	IMO2			IMO3		IMO4		MPB1		MPB2		/IP
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of	Exceedance	Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance	Exceedance
	Level	Level	Level	Level	ce of	ce of Limit	Action Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	of Action	of Limit
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level	Level	Level
DO (Bottom)	3.3	2.5	5.3	5.3	N	N	N	N	-	-	-	-	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.3	5.3	N	N	N	N	-	-	-	-	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	11.4	11.4	N	N	N	N	-	-	-	-	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	13.4	13.4	N	N	N	N	-	-	-	-	N	N	N	N	N	N

Sampling Date	11/13/2009
Weather & Ambient Temperature	Fine, 26C

Station			C1 (					
Time (hh:mm)			17:03	-17:04				
Water Depth (m)			10	6.0				
Monitoring Depth (m)	1	.0	8	5.0				
Trial	Trial 1	Trial 2	Trial 1	Depth-averaged	Bottom			
Water Temperature (°C)	25.2	25.2	25.3	25.3 25.3		25.3	25.28	-
Salinity (ppt)	31.6	32.0	32.6	32.7	32.8	32.8	32.41	-
pH	8.2	8.1	8.1	8.1	8.1	8.1	8.12	
D.O. Saturation (%)	65.0	63.8	64.6	62.3	65.8	62.9	64.07	-
D.O. (mg/L)	4.5	4.4	4.4	4.3	4.5	4.3	4.38	4.39
Turbidity (NTU)	9.6	9.1	15.2	13.37	-			
SS (mg/L)	5.0	5.0	5.0	5.0	26.0	24.0	11.67	-
Remarks				as observed.				

Station			C3 (	NM6)				
Time (hh:mm)			15:26	-15:27				
Water Depth (m)			6	i.4				
Monitoring Depth (m)	1	.0	3	.2	5	5.4		
Trial	Trial 1	Trial 2	Trial 1	Depth-averaged	Bottom			
Water Temperature (°C)	25.2	25.2	25.2 25.2		25.2	25.2	25.22	-
Salinity (ppt)	30.0	29.8	30.1	30.0	30.1	30.1	30.00	-
pH	8.1	8.1	8.1	8.1	8.1	8.0	8.06	
D.O. Saturation (%)	79.1	79.5	79.6	79.7	78.3	80.0	79.37	-
D.O. (mg/L)	5.7	5.7	5.7	5.7	5.6	5.8	5.72	5.70
Turbidity (NTU)	13.6	14.5	14.4	15.4	14.72	-		
SS (mg/L)	14.0	15.0	15.0	16.0	22.0	23.0	17.50	-
Remarks				as observed.				

Station			IM	101			Co-ordinate	s
Time (hh:mm)			16:47	-16:49			Northing	Easting
Water Depth (m)			11	7.0			22.21.798	113.55.565
Monitoring Depth (m)	1	.0	8	6.0				
Trial	Trial 1	Trial 2	Trial 1	Depth-averaged	Bottom			
Water Temperature (°C)	25.4	25.4	25.4	25.4 25.4		25.4	25.38	-
Salinity (ppt)	32.6	32.6	32.8	32.8	32.9	32.8	32.73	-
pH	8.2	8.1	8.1	8.2	8.2	8.1	8.14	
D.O. Saturation (%)	61.6	61.3	60.6	61.3	62.2	60.5	61.25	-
D.O. (mg/L)	4.2	4.2	4.1	4.2	4.2	4.1	4.18	4.18
Turbidity (NTU)	18.8	19.5	28.1	28.5	28.3	25.30	-	
SS (mg/L)	22.0	24.0	22.0	24.0	23.17	-		
Remarks				as observed.	ed.			

Station			IM	102		Co-ordinates				
Time (hh:mm)			16:23	-16:25			Northing	Easting		
Water Depth (m)			2	1.2			22.21.934	113.55.107		
Monitoring Depth (m)	1	.0	10	0.2						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	25.3	25.3	25.4 25.4		25.4	25.4	25.36	-		
Salinity (ppt)	32.5	32.4	32.6	32.5	32.9 33.0		32.64	-		
pH	8.2	8.1	8.2	8.1	8.2 8.1		8.13			
D.O. Saturation (%)	63.9	63.5	60.8	60.6	64.3	58.9	62.00	-		
D.O. (mg/L)	4.4	4.3	4.2	4.1	4.4	4.0	4.23	4.19		
Turbidity (NTU)	10.1	10.8	17.6	17.1	18.8	18.2	15.43	-		
SS (mg/L)	16.0	12.0	17.0	12.0	15.17	-				
Remarks				as observed.						

Station			IM	103			Co-ordinate	es					
Time (hh:mm)			16:42	-16:43			Northing	Easting					
Water Depth (m)			19	9.8			22.21.739	113.55.478					
Monitoring Depth (m)	1	.0	9	1.9	18	3.8							
Trial	Trial 1	Trial 2	Trial 1	Depth-averaged	Bottom								
Water Temperature (°C)	25.3	25.3	25.4 25.4		25.4	25.4	25.35	-					
Salinity (ppt)	32.2	32.1	32.8	32.6	32.1	32.9	32.46	-					
pH	8.1	8.2	8.1	8.2	8.1	8.1	8.13						
D.O. Saturation (%)	60.6	62.2	57.4	61.0	58.3	62.9	60.40	-					
D.O. (mg/L)	4.2	4.3	3.9	4.2	4.0	4.3	4.13	4.14					
Turbidity (NTU)	12.7	12.7	17.2	17.1	18.1	18.5	16.05	-					
SS (mg/L)	9.0	9.0	18.0	17.0	15.17	-							
Remarks		No dredging works were observed.											

Station			IM	04			Co-ordinal	es					
Time (hh:mm)			16:31	-16:32			Northing	Easting					
Water Depth (m)			16	6.4			22.21.090	113.55.281					
Monitoring Depth (m)	1	.0	8	.2	15	5.4							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom							
Water Temperature (°C)	25.4	25.4	25.4	25.40	-								
Salinity (ppt)	32.6	32.5	32.6	32.6 32.6		32.6	32.60	-					
pH	8.1	8.2	8.1	8.2	8.2	8.1	8.14						
D.O. Saturation (%)	61.2	61.9	60.6	61.7	62.0	60.9	61.38	-					
D.O. (mg/L)	4.2	4.2	4.1	4.2	4.2	4.2	4.19	4.19					
Turbidity (NTU)	22.1	22.3	27.6	27.2	28.7	28.1	26.00	-					
SS (mg/L)	27.0	27.0	30.00	-									
Remarks		No dredging works were observed.											

Station			MF	PB1				
Time (hh:mm)			15:50	-15:51				
Water Depth (m)			8	.2				
Monitoring Depth (m)	1	.0	4					
Trial	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	25.3	25.2	25.3	25.3	25.2	25.3	25.25	-
Salinity (ppt)	30.0	29.9	30.1	30.1 30.1		30.5	30.14	-
pH	8.1	8.1	8.1	8.0	8.0	8.1	8.04	
D.O. Saturation (%)	68.8	68.4	68.9	68.3	70.6	69.1	69.02	-
D.O. (mg/L)	4.8	4.8	4.8	4.7	4.9	4.8	4.78	4.84
Turbidity (NTU)	13.7	13.1	23.2	23.3	26.5	27.1	21.15	-
SS (mg/L)	13.0	13.0	9.0	8.0	9.0	9.0	10.17	-
Remarks				observed.				

Station			MF	PB2				
Time (hh:mm)			15:42	-15:43				
Water Depth (m)			8	1.3				
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	25.2	25.2	25.3	25.2	25.3	25.2	25.22	-
Salinity (ppt)	29.4	29.5	29.7	29.7 29.7		30.7	29.89	-
pH	8.0	8.1	8.1	8.0	8.0	8.1	8.04	
D.O. Saturation (%)	69.0	69.4	69.6	68.1	68.5	69.5	69.02	-
D.O. (mg/L)	4.8	4.8	4.8	4.7	4.7	4.8	4.80	4.78
Turbidity (NTU)	7.0	6.9	6.9	7.2	8.5	7.9	7.40	-
SS (mg/L)	9.0	10.0	8.0	9.0	10.0	8.0	9.00	-
Remarks			observed.					

Station			IV					
Time (hh:mm)			15:58	-15:59				
Water Depth (m)			5	.6				
Monitoring Depth (m)	1	.0	2	.6				
Trial	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	25.2	25.2	25.22	-				
Salinity (ppt)	29.7	29.7	29.73	-				
pH	8.1	8.0	-	-	8.1	8.0	8.05	
D.O. Saturation (%)	67.6	67.4	-	-	67.5	68.3	67.70	-
D.O. (mg/L)	4.7	4.7	-	-	4.7	4.8	4.71	4.72
Turbidity (NTU)	11.2	11.6	-	-	13.9	13.1	12.45	-
SS (mg/L)	11.0	13.0	-	11.0	11.25	-		
Remarks				observed.				

Compliance with Action an	d Limit Lev	<u>rel</u>							-									
Parameter	As in	EM&A	Mean (C1-	+C3)*130%	IIV	101	IMO2			IMO3	IM	04	MF	B1	MF	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	Exceedanc	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	<b>Exceedance of Action</b>	Exceedanc
	Level	Level	Level	Level	ce of	ce of Limit	Level	e of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	e of Limit
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level
DO (Bottom)	3.3	2.5	5.0	5.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.0	5.0	Υ	N	Z	N	Υ	N	Υ	N	N	Ν	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	18.3	18.3	N	N	Ν	N	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	19.0	19.0	N	N	N	N	N	N	Y	N	N	N	N	N	N	N

Sampling Date	11/14/09
Weather & Ambient Temperature	Cloudy, 26C

Station			C2 (	NM5)			1	
Time (hh:mm)			11:26	-11:28				
Water Depth (m)			19	9.2				
Monitoring Depth (m)	1	.0	9	.6	18	8.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (℃)	24.4	24.3	24.8	24.8	24.8	24.8	24.66	-
Salinity (ppt)	31.2	31.2	32.4	32.3	32.4	32.3	31.96	-
pH	8.2	8.1	8.2	8.1	8.1	8.1	8.12	
D.O. Saturation (%)	63.5	65.5	63.7	69.8	64.4	74.1	66.83	-
D.O. (mg/L)	4.7	4.9	4.7	5.1	4.7	5.4	4.90	5.05
Turbidity (NTU)	6.1	6.0	6.95	-				
SS (mg/L)	7.0	7.0	9.17	-				
Remarks		Derrick li	ghters CM38	8 & CM83 (B2	21601V & B2	21784V) wer	e in operation.	

Station			IM	01			Co-ord	linates			
Time (hh:mm)				Northing	Easting						
Water Depth (m)			20	0.6			22.21.964	113.55.178			
Monitoring Depth (m)	1	.0	10	0.3	19	9.6					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	25.0	25.0	25.0	25.0	25.2	25.2	25.07	-			
Salinity (ppt)	32.2	32.3	32.3	32.4	33.4	33.5	32.68	-			
pH	8.2	8.2	8.1	8.2	8.1	8.2	8.16				
D.O. Saturation (%)	55.6	54.9	53.1	54.8	53.3	55.6	54.55	-			
D.O. (mg/L)	3.8	3.8	3.7	3.8	3.6	3.8	3.74	3.71			
Turbidity (NTU)	13.4	13.4	12.8	12.7	10.1	9.9	12.05	-			
SS (mg/L)	20.0	18.0	18.00	-							
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.									

Station			IM	02			Co-ord	linates
Time (hh:mm)				Northing	Easting			
Water Depth (m)			20	).2			22.21.724	113.55.389
Monitoring Depth (m)	1	.0	10	).1	19	9.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	24.4	24.4	24.9	24.9	25.2	25.2	24.84	-
Salinity (ppt)	31.7	31.8	33.0	32.8	33.4	33.5	32.67	-
pH	8.2	8.2	8.2	8.2	8.1	8.2	8.17	
D.O. Saturation (%)	61.8	64.3	60.5	65.6	72.2	62.5	64.48	-
D.O. (mg/L)	4.7	4.9	4.5	4.9	5.3	4.7	4.84	4.98
Turbidity (NTU)	5.6	5.8	6.4	6.2	6.1	6.9	6.17	-
SS (mg/L)	10.0	8.0	8.0	8.83	-			
Remarks		Derrick li	ghters CM38	& CM83 (B	21601V & B2	21784V) were	e in operation.	

Station			IM	O3			Co-ord	linates		
Time (hh:mm)			11:03	-11:04			Northing	Easting		
Water Depth (m)			17	7.4			22.22.061	113.55.274		
Monitoring Depth (m)	1	.0	8	.7	16	6.4				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom		
Water Temperature (°C)	25.4	25.6	25.3	25.4	25.3	25.4	25.39	-		
Salinity (ppt)	32.8	32.6	32.9	33.1	33.1	33.2	32.96	-		
pH	8.2	8.1	8.1	8.2	8.1	8.2	8.15			
D.O. Saturation (%)	61.7	64.5	62.1	62.2	62.7	63.2	62.73	-		
D.O. (mg/L)	4.2	4.4	4.2	4.2	4.3	4.3	4.27	4.29		
Turbidity (NTU)	8.4	8.1	9.1	9.0	9.9	9.7	9.03	-		
SS (mg/L)	11.0	13.0	12.17	-						
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.								

## Mid-Ebb

Station			IM	04			Co-ord	linates
Time (hh:mm)			10:49	-10:51			Northing	Easting
Water Depth (m)				22.21.798	113.55.549			
Monitoring Depth (m)	1	.0	8	.6	16	6.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	24.4	24.3	24.7	24.7	25.2	25.2	24.74	-
Salinity (ppt)	31.7	31.3	32.6	32.6	33.2	33.3	32.44	-
pH	8.1	8.2	8.1	8.2	8.1	8.1	8.13	
D.O. Saturation (%)	69.3	69.0	67.7	68.2	70.2	65.6	68.33	-
D.O. (mg/L)	5.3	5.3	5.1	5.1	5.2	4.9	5.12	5.02
Turbidity (NTU)	5.7	5.5	7.98	-				
SS (mg/L)	7.0	5.0	8.0	7.50	-			
Remarks		Derrick lig	hters CM38	& CM83 (B2	1601V & B2	1784V) were	in operation.	•

Station			MF	PB1							
Time (hh:mm)											
Water Depth (m)			7	.2							
Monitoring Depth (m)	1	.0	3	.6	6	.2					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	24.4	24.4	24.7	24.6	24.7	24.3	24.52	-			
Salinity (ppt)	31.0	31.0	30.9	30.3	32.6	32.8	31.46	-			
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.11				
D.O. Saturation (%)	54.2	52.7	52.9	54.6	52.7	54.3	53.57	-			
D.O. (mg/L)	3.8	3.7	3.7	3.8	3.6	3.8	3.73	3.70			
Turbidity (NTU)	10.2	10.5	10.9	10.9	11.4	11.1	10.83	-			
SS (mg/L)	10.0	10.0	9.0	11.0	9.0	9.0	9.67	-			
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.									

Station			MF	PB2					
Time (hh:mm)			11:51	-11:52					
Water Depth (m)									
Monitoring Depth (m)	1	.0	3	.7	6	.4			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	24.1	24.1	24.1	24.1	24.1	24.1	24.12	-	
Salinity (ppt)	31.2	31.2	31.2	31.2	31.2	31.2	31.19	-	
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.10		
D.O. Saturation (%)	49.4	51.4	49.3	51.1	50.5	50.7	50.40	-	
D.O. (mg/L)	3.5	3.6	3.5	3.6	3.6	3.6	3.54	3.56	
Turbidity (NTU)	10.1	10.1	10.2	10.6	10.7	10.6	10.38	-	
SS (mg/L)	14.0	14.0	11.0	12.0	12.0	12.0	12.50	-	
Remarks	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.								

Station			N	IP			1	
Time (hh:mm)			11:39	-11:40				
Water Depth (m)			4	.9				
Monitoring Depth (m)	1	.0	2	.4	3	.9		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	24.0	24.0	-	-	24.0	24.0	23.96	-
Salinity (ppt)	30.9	30.9	-	-	30.9	30.9	30.89	-
pH	8.1	8.0	-	-	8.0	8.0	8.03	
D.O. Saturation (%)	58.3	64.1	-	-	64.5	60.8	61.93	-
D.O. (mg/L)	4.1	4.4	-	-	4.4	4.3	4.30	4.35
Turbidity (NTU)	14.6	14.2	-	-	15.2	14.6	14.65	-
SS (mg/L)	14.0	14.0	20.0	16.50	-			
Remarks		Derrick lig	hters CM38	& CM83 (B2	1601V & B2	1784V) were	in operation.	

Compliance with Action and Limit Level

Compliance with Action an	IG EIIIII ECV	<u> </u>																
Parameter	As in	EM&A	C2*1	30%	IM	01	IMO	02		IMO3	IM	04	MF	PB1	MF	PB2	IV	IP .
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance	Exceedance	Exceedanc	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance	Exceedance
	Level	Level	Level	Level	ce of	ce of Limit	of Action	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	of Action	of Limit
					Action	Level	Level	Level	Level		Action	Level	Action	Level	Action	Level	Level	Level
DO (Bottom)	3.3	2.5	5.0	5.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	4.9	4.9	Υ	Υ	N	N	N	N	N	N	Υ	Υ	Υ	Υ	N	N
Turbidity (Depth-averaged)	29.0	49.0	9.0	9.0	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	11.9	11.9	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Sampling Date	11/14/09
Weather & Ambient Temperature	Cloudy, 26C

Station			C1 (	NM3)				
Time (hh:mm)			17:29					
Water Depth (m)			16	3.1				
Monitoring Depth (m)	1	.0	8	.1	15	5.1		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	25.2	25.2	25.3	25.3	25.3	25.4	25.28	-
Salinity (ppt)	33.1	32.7	33.7	33.8	33.9	33.9	33.50	-
pH	8.1	8.2	8.2	8.1	8.1	8.2	8.14	
D.O. Saturation (%)	57.2	58.4	58.0	55.7	56.3	59.2	57.47	-
D.O. (mg/L)	4.1	4.2	4.1	3.9	4.0	4.2	4.06	4.07
Turbidity (NTU)	7.0	7.5	13.1	13.4	13.5	13.1	11.27	-
SS (mg/L)	8.0	7.0	7.0	6.0	6.0	6.83	-	
Remarks		De	errick lighters	s CM38 & CI	M83 (B2160	IV & B21784	IV) were in operation.	

Station			C3 (	NM6)			Ì						
Time (hh:mm)			15:53	-15:54									
Water Depth (m)			6										
Monitoring Depth (m)	1	.0	3										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom					
Water Temperature (°C)	25.2	25.2	25.2	25.2	25.2	25.2	25.22	-					
Salinity (ppt)	31.1	30.9	31.2	31.1	31.1	31.2	31.09	-					
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.08						
D.O. Saturation (%)	65.9	66.3	66.4	66.5	65.1	66.8	66.17	-					
D.O. (mg/L)	5.1	5.1	5.1	5.1	5.0	5.1	5.08	5.06					
Turbidity (NTU)	11.5	12.4	12.3	12.8	13.4	13.3	12.62	-					
SS (mg/L)	7.0	6.0	6.0	8.0	6.83	-							
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.											

Station			IM	101			Co-ordinate	es				
Time (hh:mm)			17:14	-17:15			Northing	Easting				
Water Depth (m)			20	0.8			22.21.981	113.55.382				
Monitoring Depth (m)	1.0 10.4 19.8											
Trial	Trial 1	Trial 2	Trial 1	Trial 1 Trial 2 Trial 1 Trial 2		Depth-averaged	Bottom					
Water Temperature (°C)	25.4	25.4	25.4	25.4	25.4	25.4	25.38	-				
Salinity (ppt)	33.7	33.7	33.9	33.9	34.0	33.9	33.82	-				
pH	8.2	8.2	8.2	8.2	8.2	8.1	8.16					
D.O. Saturation (%)	55.0	54.7	54.0	54.7	55.6	53.9	54.65	-				
D.O. (mg/L)	3.9	3.9	3.8	3.9	3.9	3.8	3.86	3.86				
Turbidity (NTU)	6.4	7.1	15.7	16.1	16.2	15.9	12.90	-				
SS (mg/L)	6.0	6.0	8.0	7.0	7.0	9.0	7.17	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.										

Station			IM	102			Co-ordinate	es		
Time (hh:mm)			16:49	-16:51			Northing	Easting		
Water Depth (m)			2	1.1			22.21.721	113.55.377		
Monitoring Depth (m)	1.0 10.6 20.1									
Trial	Trial 1		Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	25.3	25.3	25.4	25.4	25.4	25.4	25.36	-		
Salinity (ppt)	33.6	33.5	33.7	33.6	34.0	34.1	33.73	-		
pH	8.2	8.2	8.2	8.1	8.2	8.1	8.15			
D.O. Saturation (%)	57.3	56.9	54.2	54.0	57.7	52.3	55.40	-		
D.O. (mg/L)	4.1	4.0	3.8	3.8	4.1	3.7	3.91	3.87		
Turbidity (NTU)	8.0	8.7	15.5	15.0	16.7	16.1	13.33	-		
SS (mg/L)	9.0	7.0	9.0	8.0	7.0	6.0	7.67	-		
Remarks	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.									

Station			IM	O3			Co-ordinate	es			
Time (hh:mm)			17:08	-17:09			Northing	Easting			
Water Depth (m)			18		22.22.060	113.55.260					
Monitoring Depth (m)	1	.0	9								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	25.3	25.3	25.4	25.4	25.4	25.4	25.35	-			
Salinity (ppt)	33.3	33.2	33.7	33.9	34.0	33.2	33.55	-			
pH	8.1	8.2	8.2	8.1	8.2	8.1	8.15				
D.O. Saturation (%)	54.0	55.6	54.4	50.8	56.3	51.7	53.80	-			
D.O. (mg/L)	3.8	3.9	3.8	3.6	4.0	3.7	3.81	3.82			
Turbidity (NTU)	10.6	10.6 10.6 15.0 15.1 16.4 16.0		16.0	13.95	-					
SS (mg/L)	7.0 8.0 8.0			7.0	7.0	9.0	7.67	-			
Remarks	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.										

Station			IM	04			Co-ordinat	es				
Time (hh:mm)			16:57	-16:58			Northing	Easting				
Water Depth (m)			17	7.9			22.21.799	113.55.541				
Monitoring Depth (m)	1	.0	9									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	25.4	25.4	25.4	25.4	25.4	25.4	25.40	-				
Salinity (ppt)	33.6	33.7	33.7	33.7	33.7	33.7	33.69	-				
pH	8.2	8.2	8.1	8.2	8.2	8.1	8.16					
D.O. Saturation (%)	55.3	54.6	54.0	55.1	55.4	54.3	54.78	-				
D.O. (mg/L)	3.9	3.9	3.8	3.9	3.9	3.8	3.87	3.87				
Turbidity (NTU)	9.9	9.7	15.2	14.8	16.3	15.7	13.60	-				
SS (mg/L)	7.0	8.0	8.0	6.0	6.0	7.0	7.00	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.										

Station			MF	PB1			]	
Time (hh:mm)	Ĭ		16:16	-16:17				
Water Depth (m)			6					
Monitoring Depth (m)	1	.0	3					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	25.3	25.2	25.3	25.3	25.3	25.2	25.25	-
Salinity (ppt)	31.1	31.0	31.2	31.1	31.6	31.4	31.23	-
pH	8.1	8.1	8.1	8.1	8.1	8.0	8.06	
D.O. Saturation (%)	55.6	55.2	55.7	55.1	55.9	57.4	55.82	-
D.O. (mg/L)	4.1	4.1	4.1	4.1	4.1	4.3	4.14	4.20
Turbidity (NTU)	11.6	11.0	11.1	11.1	14.1	14.4	12.22	-
SS (mg/L)	10.0	9.0	9.0	8.0	9.0	7.0	8.67	-
Remarks		Derri	ick lighters C	& B21784V)	were in operation.			

Station			MF	PB2				
Time (hh:mm)			16:09	-16:10				
Water Depth (m)								
Monitoring Depth (m)	1	.0	3					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	25.2	25.2	25.3	25.2	25.3	25.2	25.22	-
Salinity (ppt)	30.5	30.6	30.8	30.8	31.6	31.8	30.98	-
pH	8.1	8.1	8.1	8.0	8.0	8.1	8.06	
D.O. Saturation (%)	55.8	56.2	56.4	54.9	55.3	56.3	55.82	-
D.O. (mg/L)	4.2	4.2	4.2	4.1	4.1	4.2	4.16	4.14
Turbidity (NTU)	4.9	4.8	4.8	5.1	6.4	5.8	5.30	-
SS (mg/L)	8.0	9.0	8.0	8.0	7.0	8.0	8.00	-
Remarks		Derr	& B21784V)	were in operation.				

Station			N	IP.								
Time (hh:mm)			16:24	-16:25								
Water Depth (m)												
Monitoring Depth (m)	1	.0	2									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (℃)	25.2	25.2	-	-	25.2	25.2	25.22	-				
Salinity (ppt)	30.8	30.8	-	-	30.9	30.8	30.82	-				
pΗ	8.1	8.1	-	-	8.1	8.1	8.07					
D.O. Saturation (%)	54.4	54.2	-	-	54.3	55.1	54.50	-				
D.O. (mg/L)	4.1	4.0	-	-	4.1	4.1	4.07	4.08				
Turbidity (NTU)	9.1	9.5	-	-	11.8	11.0	10.35	-				
SS (mg/L)	7.0	8.0	-	-	8.0	7.0	7.50	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.										

Compliance with Action an	d Limit Lev	<u>el</u>																
Parameter	As in	EM&A	Mean (C1-	+C3)*130%	IIV	101	IMO2			IMO3	IMO4		MPB1		MPB2		MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedanc
	Level	Level	Level	Level	ce of	ce of Limit	Level	e of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	e of Limit
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level
DO (Bottom)	3.3	2.5	4.6	4.6	N	N	N	N	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	4.6	4.6	Υ	Υ	Υ	Υ	Υ	Y	Υ	Υ	Υ	N	Υ	N	Υ	N
Turbidity (Depth-averaged)	29.0	49.0	15.5	15.5	N	N	N	N	N	N	N	N	N	N	Ν	N	N	N
SS (Depth-averaged)	24.0	37.0	8.9	8.9	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Sampling Date	11/15/09
Weather & Amhient Temperature	Cloudy 25C

Station			C2 (I	NM5)								
Time (hh:mm)			12:17	-12:18								
Water Depth (m)												
Monitoring Depth (m)	1	.0	10	0.0	19	9.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom				
							averaged					
Water Temperature (°C)	24.0	24.0	24.1	24.2	24.2	24.2	24.10	-				
Salinity (ppt)	32.3	32.3	32.9	32.9	33.0	33.0	32.74	-				
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.11					
D.O. Saturation (%)	60.7	60.7	60.4	59.5	63.3	61.0	60.93	-				
D.O. (mg/L)	4.3	4.3	4.2	4.1	4.4	4.2	4.25	4.32				
Turbidity (NTU)	7.7	7.8	8.0	7.9	7.9	8.1	7.90	-				
SS (mg/L)	9.0	10.0	11.0	10.0	16.0	14.0	11.67	-				
Remarks	Derrick lic	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation. Red-tide was observed.										

Station			IM	01			Co-ore	dinates				
Time (hh:mm)			11:49	-11:51			Northing	Easting				
Water Depth (m)			22.21.952	113.55.065								
Monitoring Depth (m)	1	.0	10	0.8	20	0.5						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom				
Water Temperature (°C)	23.7	23.7	24.1	24.1	24.4	24.4	24.07	-				
Salinity (ppt)	32.4	32.4	32.9	32.9	33.6	33.5	32.95	-				
pH	8.1	8.2	8.1	8.2	8.1	8.1	8.14					
D.O. Saturation (%)	68.0	68.8	65.3	66.8	66.8	68.2	67.32	-				
D.O. (mg/L)	4.8	4.8	4.6	4.7	4.6	4.7	4.69	4.65				
Turbidity (NTU)	7.8	7.8	6.9	7.2	6.4	6.7	7.13	-				
SS (mg/L)	11.0	11.0	11.0	13.0	10.0	9.0	10.83	-				
Remarks	Derrick lig	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation. Red-tide was observed.										

Station		-	IM	02		-	Co-ord	dinates			
Time (hh:mm)			11;30	-11:32			Northing	Easting			
Water Depth (m)				22.21.692	113.55.502						
Monitoring Depth (m)	1	.0	10	0.0	18	3.9					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	23.9	23.9	24.2	24.3	24.6	24.5	24.23	-			
Salinity (ppt)	32.8	32.7	33.3	33.3	33.7	33.8	33.25	-			
pH	8.2	8.2	8.1	8.2	8.1	8.2	8.14				
D.O. Saturation (%)	70.0	68.7	67.2	67.1	65.7	69.1	67.97	-			
D.O. (mg/L)	4.9	4.8	4.7	4.7	4.5	4.8	4.71	4.64			
Turbidity (NTU)	5.3	5.2	6.0	5.8	6.6	6.4	5.88	-			
SS (mg/L)	9.0	11.0	20.0	17.0	10.0	8.0	12.50	-			
Remarks	Derrick lic	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation. Red-tide was observed.									

Station			IM	O3			Co-ore	dinates				
Time (hh:mm)			11:42	-11:44			Northing	Easting				
Water Depth (m)			22.22.100	113.55.254								
Monitoring Depth (m)	1	.0	8	.8	16	6.5						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom				
Water Temperature (°C)	24.6	24.5	24.8	24.6	24.6	24.7	24.62	-				
Salinity (ppt)	33.0	33.0	33.5	33.5	33.6	33.6	33.35	-				
pH	8.2	8.1	8.1	8.2	8.2	8.1	8.14					
D.O. Saturation (%)	69.9	70.5	69.3	68.4	69.7	68.0	69.30	-				
D.O. (mg/L)	4.8	4.9	4.8	4.7	4.8	4.7	4.77	4.74				
Turbidity (NTU)	7.8	7.1	8.2	8.8	16.6	16.7	10.87	-				
SS (mg/L)	9.0	9.0	11.50	-								
Remarks	Derrick lig	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation. Red-tide was observed.										

# Mid-Ebb

Station			IM	04			Co-ord	dinates
Time (hh:mm)			11:20	-11:22			Northing	Easting
Water Depth (m)				22.21.812	113.55.690			
Monitoring Depth (m)	1	.0	7	.6	14	1.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1 Trial 2		Depth- averaged	Bottom
Water Temperature (°C)	24.5	24.4	24.8	24.9	24.9	24.9	24.74	-
Salinity (ppt)	33.0	33.0	33.4	33.4	33.7	33.6	33.37	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.11	
D.O. Saturation (%)	85.1	87.5	84.8	87.9	85.7	89.7	86.78	-
D.O. (mg/L)	5.9	6.1	5.8	6.0	5.9	6.1	5.96	6.00
Turbidity (NTU)	7.6	8.0	10.5	10.7	12.1	12.8	10.28	-
SS (mg/L)	10.0	12.0	12.00	-				
Remarks	Derrick lig	hters CM38	& CM83 (B2	1601V & B2	1784V) were	in operation	n. Red-tide wa	s observed.

Station			MF	PB1							
Time (hh:mm)			12:40	-12:41							
Water Depth (m)											
Monitoring Depth (m)	1	.0	4	.1	7	'.2					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	23.7	23.7	23.7	23.7	23.7	23.7	23.70	-			
Salinity (ppt)	32.1	32.2	32.2	32.2	32.3	32.2	32.18	-			
pH	8.1	8.1	8.1	8.1	8.1	8.0	8.08				
D.O. Saturation (%)	49.6	51.4	51.3	49.0	51.0	50.2	50.42	-			
D.O. (mg/L)	3.5	3.6	3.6	3.5	3.6	3.5	3.55	3.57			
Turbidity (NTU)	13.5	13.9	16.3	16.7	17.4	17.4	15.87	-			
SS (mg/L)	14.0	14.0	19.0	17.0	32.0	29.0	20.83	-			
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.									

Station			MF	PB2			1	
Time (hh:mm)			12:47	-12:48				
Water Depth (m)								
Monitoring Depth (m)	1	.0	4	.2	7	'.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	23.6	23.6	23.6	23.6	23.6	23.6	23.58	-
Salinity (ppt)	32.8	32.7	32.8	32.8	32.7	32.8	32.76	-
pH	8.2	8.1	8.2	8.1	8.1	8.1	8.13	
D.O. Saturation (%)	53.0	51.5	52.9	51.2	50.8	52.5	51.98	-
D.O. (mg/L)	3.7	3.6	3.7	3.6	3.6	3.7	3.65	3.63
Turbidity (NTU)	13.9	13.5	15.3	15.4	16.5	16.0	15.10	-
SS (mg/L)	17.0	18.0	19.33	-				
Remarks	Derrick lig	hters CM38	& CM83 (B2	1601V & B2	1784V) were	e in operation	n. Red-tide was	observed.

Station			IV	IP			1	
Time (hh:mm)			12:33	-12:34				
Water Depth (m)								
Monitoring Depth (m)	1	.0	2	.8	4	.7		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	23.6	23.6	1	-	23.6	23.6	23.59	-
Salinity (ppt)	31.9	32.0	-	-	31.9	32.0	31.95	-
pH	8.0	8.1	-	-	8.0	8.1	8.04	
D.O. Saturation (%)	52.4	52.6	-	-	52.8	52.5	52.58	-
D.O. (mg/L)	3.7	3.7	-	-	3.7	3.7	3.71	3.72
Turbidity (NTU)	22.1	22.0	-	-	23.3	23.6	22.75	-
SS (mg/L)	32.0	31.0	37.50	-				
Remarks	Derrick lig	hters CM38	& CM83 (B2	1601V & B2	1784V) were	e in operation	n. Red-tide was	s observed.

Compliance	with	Action	and	Limit	Lovol	
Jombiiance	with	ACTION	and	Limit	Level	

Compliance with Action an	d Limit Leve	<u>el</u>																
Parameter	As in	EM&A	C2*1	130%	IM	101	IM	O2		IMO3	IM	104	MF	PB1	M	PB2	IV	IP.
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance	Exceedance	Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance	Exceedance
	Level	Level	Level	Level	ce of	ce of Limit	of Action	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	of Action	of Limit
					Action	Level	Level	Level	Level		Action	Level	Action	Level	Action	Level	Level	Level
DO (Bottom)	3.3	2.5	4.3	4.3	N	N	N	N	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	4.2	4.2	N	N	N	N	N	N	N	N	Υ	Υ	Υ	Υ	Υ	Υ
Turbidity (Depth-averaged)	29.0	49.0	10.3	10.3	N	N	N	N	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	15.2	15.2	N	N	N	N	N	N	N	N	N	N	N	N	Y	Υ

Sampling Date	11/15/09
Weather & Ambient Temperature	Cloudy, 25C

Station			C1 (	NM3)									
Time (hh:mm)			17:29	-17:31									
Water Depth (m)			17										
Monitoring Depth (m)	1	.0	8										
Trial	Trial 1	Trial 2	Trial 1	Depth-averaged	Bottom								
Water Temperature (°C)	24.2	24.2	24.2	24.2	24.2	24.2	24.22	-					
Salinity (ppt)	33.3	33.4	33.3	33.4	33.4	33.3	33.33	-					
pH	8.2	8.2	8.1	8.2	8.2	8.2	8.16						
D.O. Saturation (%)	78.6	74.6	79.2	74.8	76.0	87.4	78.43	-					
D.O. (mg/L)	5.4	5.2	5.5	5.2	5.3	6.1	5.43	5.66					
Turbidity (NTU)	13.8	13.2	14.8	14.9	18.6	18.8	15.68	-					
SS (mg/L)	28.0	25.0	25.0	35.0	28.83	-							
Remarks		28.0 25.0 25.0 22.0 38.0 35.0 28.83 -  Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.											

Station			C3 (	NM6)									
Time (hh:mm)			16:17	-16:18									
Water Depth (m)			7										
Monitoring Depth (m)	1	.0	3										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom					
Water Temperature (°C)	23.5	23.5	23.5	23.6	23.5	23.5	23.53	-					
Salinity (ppt)	32.4	32.5	32.4	32.6	32.4	32.7	32.52	-					
pH	8.1	8.1	8.1	8.1	8.0	8.1	8.08						
D.O. Saturation (%)	50.8	51.5	51.3	51.3	52.7	51.0	51.43	-					
D.O. (mg/L)	3.6	3.6	3.6	3.6	3.7	3.6	3.63	3.66					
Turbidity (NTU)	7.8	7.9	8.6	8.3	10.1	10.2	8.82	-					
SS (mg/L)	9.0	11.0	8.0	10.0	14.0	13.0	10.83	-					
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.											

Station			IIV	101			Co-ordinate:	S			
Time (hh:mm)			16:43	3-16:45			Northing	Easting			
Water Depth (m)			2		22.21.939	113.55.141					
Monitoring Depth (m)	1	.0	1								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	24.3	24.3	24.4	24.4	24.4	24.3	24.35	-			
Salinity (ppt)	33.3	33.3	33.5	33.5	33.5	33.4	33.41	-			
pH	8.2	8.2	8.2	8.2	8.2	8.1	8.16				
D.O. Saturation (%)	59.0	58.8	58.1	57.8	60.3	58.2	58.70	-			
D.O. (mg/L)	4.1	4.1	4.0	4.0	4.2	4.0	4.06	4.09			
Turbidity (NTU)	13.1	13.3	23.3	22.9	25.1	25.9	20.60	-			
SS (mg/L)	9.0	11.0	12.0	14.0	27.0	26.0	16.50	-			
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.									

Station			IM	102			Co-ordinate	s				
Time (hh:mm)			17:09	-17:10			Northing	Easting				
Water Depth (m)			20	0.4			22.21.662	113.55.409				
Monitoring Depth (m)	1	.0	10									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	24.2	24.2	24.1	24.1	24.0	24.1	24.14	-				
Salinity (ppt)	33.3	33.3	33.3	33.4	33.4	33.5	33.36	-				
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.17					
D.O. Saturation (%)	49.8	48.5	48.1	49.3	47.9	49.1	48.78	-				
D.O. (mg/L)	3.5	3.4	3.3	3.4	3.3	3.4	3.39	3.37				
Turbidity (NTU)	10.9	11.0	22.8	22.2	24.3	24.9	19.35	-				
SS (mg/L)	12.0	12.0	9.0	10.0	70.0	68.0	30.17	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.										

Station			IM	03			Co-ordinate	es				
Time (hh:mm)			16:50	-16;52			Northing	Easting				
Water Depth (m)			18	3.9			22.22.071	113.55.257				
Monitoring Depth (m)	1	.0	9									
Trial	Trial 1	Trial 2	Trial 1 Trial 2 Trial 1 Trial 2		Trial 2	Depth-averaged	Bottom					
Water Temperature (°C)	24.3	24.3	24.3	24.3	24.3	24.3	24.28	-				
Salinity (ppt)	33.5	33.5	33.5	33.5	33.4	33.5	33.48	-				
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18					
D.O. Saturation (%)	58.4	57.3	51.0	56.1	52.4	58.5	55.62	-				
D.O. (mg/L)	4.0	4.0	3.5	3.9	3.6	4.1	3.85	3.84				
Turbidity (NTU)	18.6	18.4	26.2	25.9	27.6	27.3	24.00	-				
SS (mg/L)	41.0	39.0	44.0	40.0	48.0	53.0	44.17	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.										

Station			IM	04			Co-ordinate	es				
Time (hh:mm)			17:00	-17:01			Northing	Easting				
Water Depth (m)			14									
Monitoring Depth (m)	1	.0	7	3.3								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	24.3	24.3	24.3	24.3	24.3	24.2	24.25	-				
Salinity (ppt)	33.4	33.4	33.3	33.4	33.4	33.3	33.38	-				
pH	8.2	8.1	8.1	8.2	8.1	8.1	8.13					
D.O. Saturation (%)	49.4	48.5	48.9	49.4	49.3	51.0	49.42	-				
D.O. (mg/L)	3.4	3.4	3.4	3.4	3.4	3.5	3.42	3.47				
Turbidity (NTU)	15.2	15.1	16.4	16.5	16.7	16.6	16.08	-				
SS (mg/L)	22.0	21.0	25.0	23.0	31.0	34.0	26.00	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.										

Station			MF	PB1				
Time (hh:mm)			15:52	-15:53				
Water Depth (m)			8	.2				
Monitoring Depth (m)	1	.0	4					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	24.0	24.0	24.1	24.2	24.0	24.2	24.11	-
Salinity (ppt)	32.5	32.4	32.8	32.8	32.8	32.9	32.71	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.08	
D.O. Saturation (%)	60.9	60.8	61.4	61.7	61.4	64.4	61.77	-
D.O. (mg/L)	4.3	4.3	4.3	4.3	4.3	4.5	4.30	4.38
Turbidity (NTU)	6.4	6.5	7.4	7.3	7.2	7.4	7.03	-
SS (mg/L)	8.0	9.0	8.0	10.0	8.0	10.0	8.83	-
Remarks		Derri	ck lighters C	M38 & CM8	3 (B21601V	& B21784V)	were in operation.	

Station			MF	PB2				
Time (hh:mm)			16:01	-16:02				
Water Depth (m)			8					
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	23.9	23.9	24.0	24.0	24.0	24.0	23.99	-
Salinity (ppt)	32.5	32.6	32.6	32.7	32.6	32.7	32.61	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.10	
D.O. Saturation (%)	50.8	51.4	50.3	51.4	51.4	51.4	51.12	-
D.O. (mg/L)	3.6	3.6	3.5	3.6	3.6	3.6	3.57	3.59
Turbidity (NTU)	5.5	5.7	6.3	6.3	6.7	6.2	6.12	-
SS (mg/L)	10.0	12.0	8.0	9.0	11.0	11.0	10.17	-
Remarks		Derr	ck lighters C	M38 & CM8	3 (B21601V	& B21784V)	were in operation.	

Station			IV	IP .								
Time (hh:mm)			15:44	-15:45								
Water Depth (m)	Ĭ		5	.5								
Monitoring Depth (m)	1	.0	2									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (℃)	24.3	24.2	-	-	24.2	24.2	24.22	-				
Salinity (ppt)	32.2	32.2	-	-	32.4	32.3	32.25	-				
pH	8.0	8.0	-	-	8.0	8.0	8.03					
D.O. Saturation (%)	84.9	89.3	-	-	94.0	88.8	89.25	-				
D.O. (mg/L)	5.9	6.2	-	-	6.6	6.2	6.23	6.38				
Turbidity (NTU)	10.4	10.4			11.0	11.3	10.78	-				
SS (mg/L)	13.0	12.0	-	-	14.0	14.0	13.25	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation.										

Compliance with Action an	d Limit Lev	<u>el</u>																
Parameter	As in	EM&A	Mean (C1+	-C3)*130%	IM	01	IMO2			IMO3	IMO4		MPB1		MPB2		MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	Exceedanc	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	<b>Exceedance of Action</b>	Exceedanc
	Level	Level	Level	Level	ce of	ce of Limit	Level	e of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	e of Limit
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level
DO (Bottom)	3.3	2.5	4.7	4.7	N	N	N	N	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	4.5	4.5	Υ	N	Υ	Υ	Y	Υ	Υ	Y	N	N	Υ	Υ	N	N
Turbidity (Depth-averaged)	29.0	49.0	15.9	15.9	N	Ň	Ň	N	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	25.8	25.8	N	N	Υ	N	Y	Υ	Υ	N	N	N	N	N	N	N

Sampling Date	11/16/09
Weather & Ambient Temperature	Cloudy 24C

Station			C2 (	NM5)			1					
Time (hh:mm)			12:43	-12:45								
Water Depth (m)												
Monitoring Depth (m)	1	.0	9	.7	18	3.4						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom				
							averaged					
Water Temperature (°C)	23.6	23.6	23.6	23.7	23.8	23.8	23.68	-				
Salinity (ppt)	33.3	33.4	33.4	33.4	33.5	33.6	33.45	-				
pH	8.1	8.2	8.3	8.2	8.3	8.2	8.21					
D.O. Saturation (%)	65.9	65.2	63.3	62.4	65.6	65.1	64.58	-				
D.O. (mg/L)	4.8	4.7	4.5	4.4	4.6	4.6	4.61	4.63				
Turbidity (NTU)	8.5	8.7	9.6	10.0	16.6	16.8	11.70	-				
SS (mg/L)	13.0	12.0	12.0	11.0	12.0	15.0	12.50	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation										

Station			IM	01			Co-ord	dinates				
Time (hh:mm)			11:53	-11:55			Northing	Easting				
Water Depth (m)			22.21.694	113.54.555								
Monitoring Depth (m)	1	.0										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom				
Water Temperature (°C)	23.5	23.5	23.6	23.6	23.7	23.7	23.58	-				
Salinity (ppt)	33.4	33.5	33.4	33.5	33.6	33.5	33.47	-				
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27					
D.O. Saturation (%)	74.2	72.7	70.3	70.1	71.6	72.0	71.82	-				
D.O. (mg/L)	5.2	5.2	4.9	4.9	5.1	5.1	5.06	5.09				
Turbidity (NTU)	9.9	9.8	10.2	9.9	10.7	10.9	10.23	-				
SS (mg/L)	14.0	13.0	13.0	10.0	12.0	11.0	12.17	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation										

Station			IM	02			Co-ord	dinates			
Time (hh:mm)			11:42	-11:44			Northing	Easting			
Water Depth (m)				22.21.363	113.54.961						
Monitoring Depth (m)	1	.0									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	23.2	23.2	23.4	23.4	23.5	23.5	23.38	-			
Salinity (ppt)	33.3	33.3	33.5	33.4	33.5	33.6	33.41	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.22				
D.O. Saturation (%)	73.9	73.3	71.5	71.9	73.8	72.5	72.82	-			
D.O. (mg/L)	5.2	5.2	5.1	5.1	5.2	5.2	5.16	5.19			
Turbidity (NTU)	10.5	10.3	11.2	11.1	11.8	11.4	11.05	-			
SS (mg/L)	12.0	10.0	10.0	13.0	13.0	12.0	11.67	-			
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation									

Station			IM	O3			Co-ore	dinates		
Time (hh:mm)			13:07	-13:09			Northing	Easting		
Water Depth (m)			22.22.055	113.55.237						
Monitoring Depth (m)	1	.0								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom		
Water Temperature (°C)	24.0	24.0	24.0	24.0	23.9	23.9	23.96	-		
Salinity (ppt)	33.8	33.7	33.8	33.8	33.8	33.7	33.76	-		
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.25			
D.O. Saturation (%)	76.9	78.4	74.3	74.1	75.7	76.1	75.92	-		
D.O. (mg/L)	5.4	5.5	5.1	5.2	5.4	5.4	5.34	5.38		
Turbidity (NTU)	9.2	9.4	12.8	13.0	18.1	17.3	13.30	-		
SS (mg/L)	11.0	11.0	13.0	11.0	12.0	13.0	11.83	-		
Remarks	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation									

# Mid-Ebb

Station			IM	04			Co-ord	dinates
Time (hh:mm)			13:16	-13:18			Northing	Easting
Water Depth (m)				22.21.788	113.55.506			
Monitoring Depth (m)	1	.0	9	.1	17	7.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	24.0	24.0	24.0	24.0	24.0	24.0	23.99	-
Salinity (ppt)	33.7	33.7	33.6	33.8	33.8	33.8	33.71	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19	
D.O. Saturation (%)	76.3	75.4	72.6	72.0	75.4	75.5	74.53	-
D.O. (mg/L)	5.5	5.4	5.3	5.2	5.4	5.5	5.38	5.45
Turbidity (NTU)	8.5	8.6	11.1	11.2	13.1	12.9	10.90	-
SS (mg/L)	13.0	12.0	12.0	12.50	-			
Remarks		Derrick lig	hters CM38	& CM83 (B2	21601V & B2	1784V) were	in operation	

Station			MF	PB1						
Time (hh:mm)			12:16	-12:18						
Water Depth (m)										
Monitoring Depth (m)	1	.0	3	.9	6	5.8				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom		
Water Temperature (°C)	23.5	23.5	23.4	23.4	23.3	23.3	23.41	-		
Salinity (ppt)	32.8	32.8	33.0	33.0	33.3	33.2	33.00	-		
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20			
D.O. Saturation (%)	59.0	59.3	58.5	58.7	59.9	60.7	59.35	-		
D.O. (mg/L)	4.3	4.3	4.2	4.2	4.3	4.3	4.26	4.30		
Turbidity (NTU)	9.2	9.0	17.9	17.4	22.3	21.6	16.23	-		
SS (mg/L)	12.0	13.0	12.0	14.0	12.0	14.0	12.83	-		
Remarks	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation									

Station			MF	PB2			1	
Time (hh:mm)			12:07	-12:10				
Water Depth (m)								
Monitoring Depth (m)	1	.0	4	.0	7	.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	23.1	23.1	23.2	23.2	23.2	23.2	23.15	-
Salinity (ppt)	33.6	33.6	33.8	34.0	33.9	34.0	33.81	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20	
D.O. Saturation (%)	63.4	62.8	63.6	63.8	64.2	63.7	63.58	-
D.O. (mg/L)	4.6	4.5	4.6	4.6	4.6	4.6	4.57	4.59
Turbidity (NTU)	9.6	9.7	14.1	14.3	18.9	18.7	14.22	-
SS (mg/L)	12.0	13.0	14.0	12.33	-			
Remarks		Derrick lig	hters CM38	& CM83 (B2	1601V & B2	1784V) were	in operation	

Station			M	P								
Time (hh:mm)			12:25	-12:26								
Water Depth (m)												
Monitoring Depth (m)	1	.0	2	.4	3	.8						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom				
Water Temperature (°C)	23.4	23.4	-	-	23.4	23.4	23.40	-				
Salinity (ppt)	32.5	32.5	-	-	32.6	32.5	32.53	-				
pH	8.1	8.1	-	-	8.2	8.1	8.13					
D.O. Saturation (%)	63.5	63.8	-	-	64.3	64.2	63.95	-				
D.O. (mg/L)	4.5	4.5	-	-	4.6	4.6	4.55	4.57				
Turbidity (NTU)	18.9	19.0			19.6	19.8	19.33	-				
SS (mg/L)	23.0	21.0	-	-	20.0	22.0	21.50	-				
Remarks	Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation											

Compliance	with	Action	and	I imit	Laval	
Compliance	WILLI	ACTION	anu	LIIIIII	Level	

Compliance with Action an	d Limit Lev	<u>el</u>																
Parameter	As in	EM&A	C2**	130%	III	101	IM	02		IMO3	IM	104	M	PB1	M	PB2	IV	/IP
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance	Exceedance	Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance	Exceedance
	Level	Level	Level	Level	ce of	ce of Limit	of Action	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	of Action	of Limit
					Action	Level	Level	Level	Level		Action	Level	Action	Level	Action	Level	Level	Level
DO (Bottom)	3.3	2.5	4.6	4.6	N	N	N	N	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	4.6	4.6	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	15.2	15.2	N	N	N	N	N	N	N	N	N	N	Ν	N	N	N
SS (Depth-averaged)	24.0	37.0	16.3	16.3	N	N	N	N	N	N	N	N	Ν	N	N	N	N	N

Sampling Date	11/16/09
Weather & Ambient Temperature	Rainy, 24C

Station			C1 (	NM3)								
Time (hh:mm)			6:56	-6:58								
Water Depth (m)			16									
Monitoring Depth (m)	1	.0	8									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	23.9	23.9	24.1	24.1	24.2	24.2	24.07	-				
Salinity (ppt)	33.6	33.6	33.8	33.7	33.8	34.0	33.73	-				
pH	8.2	8.3	8.3	8.2	8.2	8.2	8.23					
D.O. Saturation (%)	62.4	63.4	62.7	61.3	61.8	63.2	62.47	-				
D.O. (mg/L)	4.3	4.4	4.3	4.2	4.3	4.4	4.33	4.32				
Turbidity (NTU)	7.2	6.8	9.9	9.7	10.7	11.2	9.25	-				
SS (mg/L)	16.0	14.0	10.0	11.0	11.0	12.0	12.33	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation										

Station			C3 (	NM6)								
Time (hh:mm)			8:10	-8:12								
Water Depth (m)			6									
Monitoring Depth (m)	1	.0	3									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	23.1	23.1	23.1	23.1	23.1	23.1	23.08	-				
Salinity (ppt)	33.5	33.5	33.6	33.6	33.9	33.9	33.65	-				
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.28					
D.O. Saturation (%)	60.0	59.9	61.1	62.1	61.8	62.8	61.28	-				
D.O. (mg/L)	4.2	4.2	4.3	4.4	4.3	4.4	4.32	4.38				
Turbidity (NTU)	10.4	10.0	13.1	13.0	16.7	17.2	13.40	-				
SS (mg/L)	12.0	10.0	11.0	12.0	14.0	16.0	12.50	-				
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation										

Station			IM	101			Co-ordinates	3			
Time (hh:mm)			8:32	!-8:34			Northing	Easting			
Water Depth (m)			17		22.21.690	113.54.552					
Monitoring Depth (m)	1	.0	8								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	23.4	23.4	23.5	23.5	23.6	23.6	23.50	-			
Salinity (ppt)	33.4	33.4	33.3	33.4	33.6	33.4	33.41	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20				
D.O. Saturation (%)	82.2	81.7	82.4	81.7	82.1	85.2	82.55	-			
D.O. (mg/L)	5.8	5.7	5.8	5.7	5.7	6.0	5.78	5.85			
Turbidity (NTU)	8.8	8.8	9.9	9.6	9.3	9.0	9.23	-			
SS (mg/L)	23.0	20.0	14.0	14.0	16.0	13.0	16.67	-			
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation									

Station			IM	102			Co-ordinate	es			
Time (hh:mm)			8:41	-8:43			Northing	Easting			
Water Depth (m)			15	22.21.366	113.54.965						
Monitoring Depth (m)	1	.0	7								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	23.2	23.2	23.4	23.4	23.4	23.4	23.31	-			
Salinity (ppt)	33.2	33.2	33.3	33.4	33.4	33.5	33.35	-			
pH	8.2	8.3	8.2	8.2	8.2	8.2	8.23				
D.O. Saturation (%)	73.1	73.2	72.4	73.0	73.3	73.7	73.12	-			
D.O. (mg/L)	5.2	5.2	5.1	5.1	5.1	5.2	5.14	5.16			
Turbidity (NTU)	8.8	9.0	9.8	10.1	10.2	10.0	9.65	-			
SS (mg/L)	14.0	11.0	14.0	12.0	10.0	13.0	12.33	-			
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation									

Station			IM	03			Co-ordinate:	s				
Time (hh:mm)			7:15	-7:17			Northing	Easting				
Water Depth (m)			20		22.22.055	113.55.235						
Monitoring Depth (m)	1	.0	10									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	23.9	23.9	23.9	23.9	23.9	23.9	23.89	-				
Salinity (ppt)	33.6	33.6	33.7	33.6	33.6	33.7	33.63	-				
pH	8.2	8.2	8.2	8.2	8.1	8.1	8.17					
D.O. Saturation (%)	79.8	80.3	80.1	80.4	82.2	80.7	80.58	-				
D.O. (mg/L)	5.6	5.6	5.6	5.6	5.7	5.6	5.60	5.67				
Turbidity (NTU)	8.7	8.3	14.3	14.3	19.8	19.3	14.12	-				
SS (mg/L)	15.0	14.0	14.0	14.0	13.67	-						
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation										

Station			IM	04			Co-ordinat	es
Time (hh:mm)			7:05	-7:07			Northing	Easting
Water Depth (m)			18		22.21.785	113.55.501		
Monitoring Depth (m)	1	.0	9	7.6		•		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	23.9	23.9	23.9	23.9	23.9	24.0	23.92	-
Salinity (ppt)	33.6	33.5	33.5	33.6	33.6	33.6	33.58	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19	
D.O. Saturation (%)	84.4	84.9	84.4	84.7	84.2	84.7	84.55	-
D.O. (mg/L)	5.9	5.9	5.9	5.9	5.9	5.9	5.88	5.87
Turbidity (NTU)	8.2	8.0	12.4	11.9	14.2	13.8	11.42	-
SS (mg/L)	13.0	12.0	12.0	10.0	11.0	12.0	11.67	-
Remarks		Derr	ick lighters C	M38 & CM8	3 (B21601V	& B21784V)	were in operation	

Station			MF	PB1				
Time (hh:mm)	Ĭ .		7:45	-7:47				
Water Depth (m)			8					
Monitoring Depth (m)	1	.0	4	.0	7	.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	23.4	23.4	23.4	23.4	23.3	23.2	23.34	-
Salinity (ppt)	32.7	32.6	32.9	32.8	33.1	33.1	32.87	-
pH	8.2	8.2	8.2	8.2	8.1	8.1	8.16	
D.O. Saturation (%)	66.0	65.5	64.9	65.9	65.5	66.5	65.72	-
D.O. (mg/L)	4.7	4.6	4.6	4.6	4.6	4.7	4.63	4.65
Turbidity (NTU)	10.8	10.3	16.7	16.5	24.0	23.4	16.95	-
SS (mg/L)	11.0	13.0	12.0	14.0	14.0	11.0	12.50	-
Remarks		Derr	ick lighters (	CM38 & CM8	3 (B21601V	& B21784V	were in operation	

Station			MF	PB2				
Time (hh:mm)			7:55					
Water Depth (m)			8	.4				
Monitoring Depth (m)	1	.0	4	.2	7	.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (℃)	23.1	23.1	23.1	23.1	23.1	23.1	23.08	-
Salinity (ppt)	33.4	33.5	33.8	33.7	33.9	33.8	33.68	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20	
D.O. Saturation (%)	65.9	65.0	66.3	65.1	65.9	67.0	65.87	-
D.O. (mg/L)	4.7	4.6	4.7	4.6	4.6	4.7	4.64	4.68
Turbidity (NTU)	9.5	9.6	15.0	15.4	21.3	20.9	15.28	-
SS (mg/L)	19.0	18.0	10.0	11.0	13.0	13.0	14.00	-
Remarks		Derr	ick lighters (	CM38 & CM8	3 (B21601V	& B21784V	) were in operation	

Station			N	IP.									
Time (hh:mm)			7:33	-7:35									
Water Depth (m)			5										
Monitoring Depth (m)	1	.0	2	.6	4	.1							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom					
Water Temperature (°C)	23.3	23.3	-	-	23.3	23.3	23.33	-					
Salinity (ppt)	32.5	32.5	-	-	32.5	32.4	32.47	-					
pH	8.1	8.1	-	-	8.1	8.1	8.08						
D.O. Saturation (%)	66.5	66.8	-	-	67.0	68.4	67.18	-					
D.O. (mg/L)	4.7	4.7	-	-	4.7	4.8	4.74	4.78					
Turbidity (NTU)	17.0	16.3	-	-	20.5	19.7	18.38	-					
SS (mg/L)	24.0	22.0	-	-	22.0	23.0	22.75	-					
Remarks		Derrick lighters CM38 & CM83 (B21601V & B21784V) were in operation											

Compliance with Action an	d Limit Lev	<u>el</u>																
Parameter	As in	EM&A	Mean (C1-	C3)*130%	IM	01	IMO2			IMO3	IMO4		MPB1		MPB2		MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	Exceedanc	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedanc
	Level	Level	Level	Level	ce of	ce of Limit	Level	e of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	e of Limit
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level	'	Level
DO (Bottom)	3.3	2.5	4.3	4.3	N	N	N	N	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	4.3	4.3	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	14.7	14.7	Ň	Ň	Ň	N	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	16.1	16.1	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Sampling Date	11/17/09
Weather & Ambient Temperature	Cloudy, 24C

Station			C2 (	NM5)			1				
Time (hh:mm)											
Water Depth (m)			19	9.4							
Monitoring Depth (m)	1	.0	9	.7	18	3.4					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	22.1	22.1	22.1	22.1	22.1	22.1	22.09	-			
Salinity (ppt)	33.6	33.6	33.6	33.6	33.7	33.7	33.63	-			
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.31				
D.O. Saturation (%)	66.7	66.8	67.3	67.3	68.1	67.5	67.28	-			
D.O. (mg/L)	4.8	4.8	4.8	4.8	4.9	4.9	4.83	4.87			
Turbidity (NTU)	13.1	12.8	14.9	14.6	16.8	16.6	14.80	-			
SS (mg/L)	30.0	20.0	18.0	19.50	-						
Remarks	Derrick lighter CM38 (B21601V) was in operation										

Station			IM	01			Co-ore	dinates
Time (hh:mm)			13:13	-13:15			Northing	Easting
Water Depth (m)			18	3.0			22.21.713	113.54.592
Monitoring Depth (m)	1	.0	9	.0	17	7.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	23.0	23.0	23.0	23.0	23.0	23.0	23.00	-
Salinity (ppt)	34.0	34.0	33.9	34.0	33.9	33.9	33.93	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	
D.O. Saturation (%)	60.3	60.4	59.8	60.2	60.4	60.9	60.33	-
D.O. (mg/L)	4.3	4.3	4.2	4.3	4.3	4.3	4.26	4.28
Turbidity (NTU)	21.8	21.4	23.5	23.8	28.4	28.6	24.58	-
SS (mg/L)	26.0	22.0	23.0	23.0	24.0	23.0	23.50	-
Remarks		•	Derrick lig	s in operation	on	•		

Station			IM	02			Co-ore	dinates		
Time (hh:mm)			Northing	Easting						
Water Depth (m)			16	6.6			22.21.450	113.54.911		
Monitoring Depth (m)	1	.0	8	.3	15	5.6		•		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom		
Water Temperature (°C)	23.6	23.7	23.7	23.7	23.7	23.7	23.67	-		
Salinity (ppt)	34.3	34.3	34.2	34.2	34.2	34.2	34.23	-		
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.33			
D.O. Saturation (%)	60.8	60.7	61.3	60.9	61.1	61.4	61.03	-		
D.O. (mg/L)	4.2	4.2	4.3	4.2	4.3	4.3	4.24	4.26		
Turbidity (NTU)	12.2	12.4	16.2	16.1	22.9	23.4	17.20	-		
SS (mg/L)	24.0	25.0	22.0	22.0	23.0	22.0	23.00	-		
Remarks	Derrick lighter CM38 (B21601V) was in operation									

Station				Co-ordinates				
Time (hh:mm)			Northing	Easting				
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)	-	-	-	-	-	-	-	-
Remarks								

# Mid-Ebb

Station			IM	104			Co-ord	dinates
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)	-	-	-	-	-	-	-	-
Remarks								

Station			MF	PB1								
Time (hh:mm)			12:58	-13:00								
Water Depth (m)			7	.4								
Monitoring Depth (m)	1	.0	3	.7	6	.4						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom				
							averaged					
Water Temperature (°C)	23.3	23.4	23.1	23.1	22.8	22.8	23.08	-				
Salinity (ppt)	34.1	34.1	34.0	34.0	33.9	33.9	33.99	-				
pH	8.2	8.3	8.2	8.2	8.2	8.2	8.22					
D.O. Saturation (%)	53.4	52.9	53.0	53.4	53.6	53.8	53.35	-				
D.O. (mg/L)	3.7	3.7	3.7	3.8	3.8	3.8	3.76	3.80				
Turbidity (NTU)	11.0	10.6	11.8	12.5	14.7	15.0	12.60	-				
SS (mg/L)	26.0	31.0	27.0	28.0	38.0	34.0	30.67	-				
Remarks		Derrick lighter CM38 (B21601V) was in operation										

Station			MF	PB2							
Time (hh:mm)			12:23	-12:25							
Water Depth (m)											
Monitoring Depth (m)	1	.0	4	.0	7	.0					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	21.9	21.9	21.9	21.9	22.0	22.0	21.94	-			
Salinity (ppt)	33.5	33.5	33.5	33.5	33.4	33.4	33.47	-			
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29				
D.O. Saturation (%)	69.8	68.7	69.4	70.2	71.3	72.0	70.23	-			
D.O. (mg/L)	5.0	5.0	5.0	5.1	5.1	5.2	5.06	5.16			
Turbidity (NTU)	12.2	12.6	15.85	-							
SS (mg/L)	33.0	38.0	42.0	38.67	-						
Remarks	Derrick lighter CM38 (B21601V) was in operation										

Station			N	IP							
Time (hh:mm)											
Water Depth (m)			4	.6							
Monitoring Depth (m)	1	.0	2	.3	3	.6					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
Water Temperature (°C)	22.1	22.1	-	-	22.1	22.1	22.12	-			
Salinity (ppt)	33.6	33.6	-	-	33.6	33.5	33.59	-			
pH	8.3	8.3	-	-	8.3	8.3	8.28				
D.O. Saturation (%)	59.5	59.3	-	-	58.8	58.8	59.10	-			
D.O. (mg/L)	4.3	4.3	-	-	4.2	4.2	4.25	4.23			
Turbidity (NTU)	23.9	23.8	-	-	24.6	25.1	24.35	-			
SS (mg/L)	34.0	34.0	33.75	-							
Remarks	Derrick lighter CM38 (B21601V) was in operation										

# Compliance with Action and Limit Level

Parameter	As in	EM&A	C2*1	30%	IM	01	IMO2			IMO3		IMO4		PB1	MPB2		MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance	Exceedance	Exceedanc	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance	Exceedance
	Level	Level	Level	Level	ce of	ce of Limit	of Action	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	of Action	of Limit
					Action	Level	Level	Level	Level		Action	Level	Action	Level	Action	Level	Level	Level
DO (Bottom)	3.3	2.5	4.9	4.9	N	N	N	N	-	-	-	-	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	4.8	4.8	N	N	N	N	-	-	-	-	Υ	Υ	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	19.2	19.2	N	N	N	Ν	-	ı	,	-	Ζ	N	Ν	Ν	N	N
SS (Depth-averaged)	24.0	37.0	25.4	25.4	N	N	N	Ν	-	1	-	-	Υ	N	Υ	Υ	Υ	N

Sampling Date	11/17/09
Weather & Ambient Temperature	Cloudy, 24C

Station			C1 (	NM3)				
Time (hh:mm)			7:50	-7:53				
Water Depth (m)			16					
Monitoring Depth (m)	1	.0	8					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	23.7	23.7	23.7	23.8	23.7	23.8	23.74	-
Salinity (ppt)	34.2	34.2	34.2	34.2	34.2	34.2	34.20	-
pH	8.3	8.3	8.2	8.3	8.2	8.3	8.27	
D.O. Saturation (%)	75.7	75.4	75.9	75.2	76.4	76.3	75.82	-
D.O. (mg/L)	5.3	5.2	5.3	5.2	5.3	5.3	5.27	5.31
Turbidity (NTU)	6.1	6.2	7.2	7.2	8.3	8.6	7.27	-
SS (mg/L)	14.0	16.0	17.0	16.0	15.67	-		
Remarks			De	01V) was in	operation			

Station			C3 (	NM6)				
Time (hh:mm)			9:19					
Water Depth (m)			6	.2				
Monitoring Depth (m)	1	.0	3					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.7	21.7	21.7	21.7	21.7	21.7	21.69	-
Salinity (ppt)	33.9	33.9	33.9	33.9	33.8	33.8	33.85	-
pH	8.3	8.3	8.3	8.3	8.3	8.2	8.27	
D.O. Saturation (%)	79.2	78.4	78.0	77.8	76.0	76.7	77.68	-
D.O. (mg/L)	5.7	5.7	5.6	5.6	5.5	5.5	5.60	5.50
Turbidity (NTU)	17.0	16.8	20.2	19.8	22.8	22.8	19.90	-
SS (mg/L)	32.0	28.0	27.0	26.0	26.0	23.0	27.00	-
Remarks			De	errick lighter	CM38 (B216	01V) was in	operation	

Station			IM	101			Co-ordinate	es			
Time (hh:mm)			8:27	-8:29			Northing	Easting			
Water Depth (m)			18	22.21.705	113.54.590						
Monitoring Depth (m)	1	.0	9								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	23.0	23.0	22.9	22.9	23.0	23.0	22.98	-			
Salinity (ppt)	33.9	33.9	33.9	33.8	33.8	33.8	33.85	-			
pH	8.3	8.3	8.3	8.2	8.2	8.2	8.25				
D.O. Saturation (%)	57.9	58.0	58.2	58.1	58.7	58.5	58.23	-			
D.O. (mg/L)	4.1	4.1	4.1	4.1	4.1	4.1	4.11	4.14			
Turbidity (NTU)	17.1	16.7	19.8	20.5	24.1	23.7	20.32	-			
SS (mg/L)	25.0	29.0	27.0	32.0	33.0	27.0	28.83	-			
Remarks	Derrick lighter CM38 (B21601V) was in operation										

Station			IM	102			Co-ordinate	es			
Time (hh:mm)			8:15	-8:18			Northing	Easting			
Water Depth (m)			16	22.21.441	113.54.903						
Monitoring Depth (m)	1	.0	8								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	23.6	23.6	23.7	23.7	23.7	23.7	23.67	-			
Salinity (ppt)	34.1	34.2	34.2	34.2	34.2	34.2	34.17	-			
pH	8.3	8.3	8.3	8.3	8.3	8.2	8.27				
D.O. Saturation (%)	57.8	57.5	58.0	57.7	58.6	58.1	57.95	-			
D.O. (mg/L)	4.0	4.0	4.0	4.0	4.1	4.0	4.03	4.06			
Turbidity (NTU)	13.3	13.9	18.4	18.8	25.8	25.4	19.27	-			
SS (mg/L)	23.0	27.0	24.0	25.0	19.0	20.0	23.00	-			
Remarks	Derrick lighter CM38 (B21601V) was in operation										

Station			IM	O3			Co-ordinate:	s
Time (hh:mm)				-	•	•	Northing	Easting
Water Depth (m)								
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)	-	-	-	-	-	-	-	-
Remarks								

Station			IM	04			Co-ordinate	es
Time (hh:mm)					Northing	Easting		
Water Depth (m)								
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)	-	-	-	-	-	-	-	-
Remarks			•	•	•			

Station			MF	PB1							
Time (hh:mm)			8:52								
Water Depth (m)			7								
Monitoring Depth (m)	1	.0	3	.9	6	.8					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.0	22.0	22.0	22.1	22.1	22.1	22.05	-			
Salinity (ppt)	33.6	33.6	33.6	33.6	33.5	33.5	33.53	-			
pH	8.3	8.3	8.3	8.3	8.2	8.2	8.26				
D.O. Saturation (%)	64.3	64.1	62.5	62.6	61.7	62.0	62.87	-			
D.O. (mg/L)	4.6	4.6	4.5	4.5	4.4	4.5	4.51	4.44			
Turbidity (NTU)	18.8	18.1	18.7	18.5	19.4	19.1	18.77	-			
SS (mg/L)	28.0	28.0	28.0	31.0	29.67	-					
Remarks		Derrick lighter CM38 (B21601V) was in operation									

Station			MF	PB2								
Time (hh:mm)			9:01									
Water Depth (m)			8									
Monitoring Depth (m)	1	.0	4	.1	7	.2						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	21.9	21.9	21.9	21.9	21.9	22.0	21.91	-				
Salinity (ppt)	33.4	33.5	33.4	33.4	33.4	33.3	33.39	-				
pH	8.3	8.3	8.2	8.2	8.2	8.2	8.24					
D.O. Saturation (%)	67.1	67.2	66.4	66.2	67.5	67.2	66.93	-				
D.O. (mg/L)	4.8	4.8	4.8	4.8	4.9	4.8	4.82	4.86				
Turbidity (NTU)	11.3	11.1	15.8	15.5	18.7	19.1	15.25	-				
SS (mg/L)	30.0	30.0	28.0	39.0	33.83	-						
Remarks		Derrick lighter CM38 (B21601V) was in operation										

Station			N	IP				
Time (hh:mm)			8:42	-8:44				
Water Depth (m)			4					
Monitoring Depth (m)	1	.0	2	.9				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.1	22.1	-	-	22.1	22.1	22.09	-
Salinity (ppt)	33.4	33.5	-	-	33.4	33.4	33.44	-
pH	8.3	8.2	-	-	8.3	8.2	8.24	
D.O. Saturation (%)	54.7	54.0	-	-	54.0	53.6	54.08	-
D.O. (mg/L)	3.9	3.9	-	-	3.9	3.9	3.89	3.87
Turbidity (NTU)	23.1	22.2	-	-	26.7	27.8	24.95	-
SS (mg/L)	34.0	31.0	-	-	30.0	46.0	35.25	-
Remarks			Derri	V) was in op	eration			

Compliance	with	Antion	and	I imit	1 01/0

Compliance with Action an	d Limit Leve	<u>el</u>																
Parameter	As in I	EM&A	Mean (C1-	C3)*130%	IM	01	IMO2			IMO3	IM	04	M	PB1	M	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	Exceedanc	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedanc
	Level	Level	Level	Level	ce of	ce of Limit	Level	e of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	e of Limit
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level	<b>i</b> '	Level
DO (Bottom)	3.3	2.5	5.4	5.4	N	N	N	N	-	-	-	,	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.4	5.4	Υ	N	Υ	N	-	-		,	N	N	N	N	Υ	Υ
Turbidity (Depth-averaged)	29.0	49.0	17.7	17.7	N	N	N	N	-	-		-	N	N	Ν	N	N	N
SS (Depth-averaged)	24.0	37.0	27.7	27.7	Y	N	N	N	-	-	-	-	Y	Ν	Υ	N	Υ	N

Station			C2 (	NM5)									
Time (hh:mm)													
Water Depth (m)			20	0.1									
Monitoring Depth (m)	1	.0	10	).1	19	9.1							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom					
							averaged						
Water Temperature (°C)	23.1	23.1	23.1	23.1	23.1	23.1	23.11	-					
Salinity (ppt)	34.5	34.5	34.6	34.5	34.4	34.5	34.50	-					
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20	-					
D.O. Saturation (%)	104.7	101.3	101.9	107.2	112.2	103.3	105.10	-					
D.O. (mg/L)	7.4	7.1	7.2	7.5	7.9	7.3	7.38	7.57					
Turbidity (NTU)	16.5	15.5	18.8	20.8	20.0	19.4	18.50	-					
SS (mg/L)	10.0	9.0	11.0	10.0	11.0	10.0	10.17	-					
Remarks		Derric	Derrick lighter CM38 (B21601V) and dredger were in operation.										

Sampling Date
Weather & Ambient Temperature

Station			IM	101			Co-ord	dinates
Time (hh:mm)			13:37	-13:38			Northing	Easting
Water Depth (m)			18	3.6			22.21.700	113.54.479
Monitoring Depth (m)	1	.0	9	.3	17	7.6		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	23.0	23.0	22.7	22.7	22.6	22.8	22.82	-
Salinity (ppt)	34.6	34.6	34.5	34.5	34.5	34.5	34.53	-
pH	8.3	8.3	8.3	8.3	8.3	8.2	8.26	-
D.O. Saturation (%)	78.3	78.5	78.0	78.5	78.1	77.9	78.22	-
D.O. (mg/L)	5.5	5.5	5.5	5.6	5.5	5.5	5.52	5.52
Turbidity (NTU)	18.8	18.8	19.1	19.9	19.2	19.6	19.23	-
SS (mg/L)	14.0	11.0	15.0	16.0	17.0	17.0	15.00	-
Remarks		Derric	k lighter CM	138 (B21601)	V) and dredg	ger were in o	peration.	

Station			IM	02			Co-ord	dinates
Time (hh:mm)			Northing	Easting				
Water Depth (m)			13	3.2			22.21.306	113.54.869
Monitoring Depth (m)	1	.0	6	.6	12	2.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.9	23.0	22.5	22.5	22.5	22.3	22.60	-
Salinity (ppt)	34.7	30.9	34.7	34.7	34.3	34.4	33.94	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	-
D.O. Saturation (%)	78.8	76.3	79.0	78.2	78.0	84.1	79.07	-
D.O. (mg/L)	5.5	5.5	5.6	5.6	5.5	6.0	5.62	5.76
Turbidity (NTU)	19.0	19.4	21.9	21.3	22.7	22.3	21.10	-
SS (mg/L)	14.0	12.0	13.0	14.0	16.0	19.0	14.67	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and dred	ger were in c	peration.	

Station			IM	103			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-		
pH	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	=		
D.O. (mg/L)	-	-	-	-	-	-		
Turbidity (NTU)	-	-	-	-	-	-		
SS (mg/L)	-	-	-	-	-	-		
Remarks			•				•	

Station			IM	04			Co-ordinates		
Time (hh:mm)							Northing	Easting	
Water Depth (m)									
Monitoring Depth (m)									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-			
Salinity (ppt)	-	-	-	-	-	-			
pH	-	-	-	-	-	-			
D.O. Saturation (%)	-	-	-	-	-	-			
D.O. (mg/L)	-	-	-	-	-	-			
Turbidity (NTU)	-	-	-	-	-	-			
SS (mg/L)	-	-	-	-	-	-			
Remarks									

Station			IM	105			Co-ord	dinates		
Time (hh:mm)				Northing	Easting					
Water Depth (m)			19	9.7			22.21.060	113.55.099		
Monitoring Depth (m)	1	.0	9	1.9	1	8.7				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom		
Water Temperature (°C)	23.0	23.0	23.0	23.0	23.0	23.0	23.00	-		
Salinity (ppt)	34.5	34.5	34.4	33.1	34.5	34.6	34.26	-		
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	-		
D.O. Saturation (%)	79.3	79.2	79.3	79.2	79.3	79.4	79.28	-		
D.O. (mg/L)	5.6	5.6	5.6	5.6	5.6	5.6	5.58	5.58		
Turbidity (NTU)	24.1	23.5	30.9	30.4	32.9	32.7	29.08	-		
SS (mg/L)	21.0	22.0	17.0	14.0	15.0	16.0	17.50	-		
Remarks	Derrick lighter CM38 (B21601V) and dredger were in operation.									

Station			IM	06			Co-ord	dinates
Time (hh:mm)			14:16	-14:17			Northing	Easting
Water Depth (m)			22.21.680	113.55.722				
Monitoring Depth (m)	1	.0						
Trial Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	23.0	23.0	23.0	23.0	23.0	23.0	23.01	-
Salinity (ppt)	34.5	34.5	34.0	34.4	34.5	34.5	34.40	-
Н	8.3	8.3	8.3	8.3	8.3	8.3	8.29	-
D.O. Saturation (%)	83.6	83.2	83.3	83.6	83.7	83.3	83.45	-
D.O. (mg/L)	5.9	5.9	5.9	5.9	5.9	5.9	5.87	5.87
Furbidity (NTU)	21.6	20.6	23.9	24.6	25.1	24.6	23.40	-
SS (mg/L)	17.0	16.0	14.0	15.0	12.0	14.0	14.67	-
Remarks		Derric	k lighter CN	38 (B21601)	V) and dredg	ger were in c	peration.	

							-	
Station			MF	PB1			]	
Time (hh:mm)								
Water Depth (m)			8	.3				
Monitoring Depth (m)	1	.0	4	.2	7	.3		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.4	21.3	21.3	21.3	21.3	21.3	21.32	-
Salinity (ppt)	34.2	34.2	34.1	30.6	34.2	34.2	33.58	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.31	-
D.O. Saturation (%)	80.6	80.9	81.2	81.0	81.1	80.9	80.95	-
D.O. (mg/L)	5.8	5.9	5.9	6.0	5.9	5.9	5.89	5.88
Turbidity (NTU)	20.4	20.9	28.7	28.3	28.2	27.4	25.65	-
SS (mg/L)	21.0	24.0	28.0	23.0	27.0	29.0	25.33	-
Remarks		Derric	k lighter CN	38 (B21601)	V) and dred	ger were in o	peration.	

Station			M	PB2				
Time (hh:mm)			12:45	-12:46				
Water Depth (m)			8	1.5				
Monitoring Depth (m)	1	.0	4	.3	7	.5		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (℃)	21.3	21.3	21.3	21.3	21.3	21.3	21.30	-
Salinity (ppt)	33.1	34.2	34.2	32.3	34.2	34.2	33.69	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.31	-
D.O. Saturation (%)	81.3	81.6	82.0	81.3	82.1	81.5	81.63	-
D.O. (mg/L)	5.9	5.9	6.0	6.0	6.0	5.9	5.94	5.94
Turbidity (NTU)	34.7	34.7	34.4	34.7	37.9	37.1	35.58	-
SS (mg/L)	55.0	50.0	41.0	46.0	55.0	48.0	49.17	-
Remarks		Derric	k lighter CN	138 (B21601)	V) and dred	ger were in o	operation.	

Station			N	IP.				
Time (hh:mm)			13:05	-13:06			1	
Water Depth (m)								
Monitoring Depth (m)	1	.0	2	1.5	4	.1		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.7	21.6	-	-	21.7	21.6	21.64	-
Salinity (ppt)	33.8	33.8	-	-	33.8	33.8	33.80	-
pH	8.2	8.2	-	-	8.2	8.1	8.15	-
D.O. Saturation (%)	80.5	80.8	-	-	80.7	81.5	80.88	-
D.O. (mg/L)	5.8	5.9	-	-	5.8	5.9	5.85	5.87
Turbidity (NTU)	17.0	17.4	-	-	17.1	17.8	17.33	-
SS (mg/L)	21.0	18.0	17.25	-				
Remarks		Derric	k lighter CN	138 (B21601	V) and dred	ger were in o	operation.	

Compliance with Action ar	d Limit Lev	<u>el</u>																				
Parameter	As in I	A&ME	C2*1	30%	IM	101	IM	02		IMO3	IM	104	IM	O5	IM	06	MF	PB1	ME	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	7.6	7.6	N	N	N	N	-	=	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.4	7.4	N	N	N	N	-	-		-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	24.1	24.1	N	N	N	N	-	-		-	Υ	N	N	N	N	N	Υ	N	N	N
SS (Depth-averaged)	24.0	37.0	13.2	13.2	N	N	N	N	-	-	-	-	Ν	Ν	Ν	N	Υ	Ν	Υ	Υ	N	N

11/18/09
Cloudy, 12C

Station			C1 (	NM3)							
Time (hh:mm)			8:25	-8:26							
Water Depth (m)			10								
Monitoring Depth (m)	1	.0	8								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	23.0	23.0	23.0	23.0	23.1	23.0	23.03	-			
Salinity (ppt)	34.5	34.4	34.5	34.4	34.5	34.4	34.46	-			
pH	8.3	8.2	8.3	8.2	8.2	8.2	8.22	-			
D.O. Saturation (%)	100.5	100.3	101.5	100.3	100.3	100.4	100.55	-			
D.O. (mg/L)	7.1	7.1	7.1	7.1	7.1	7.1	7.07	7.05			
Turbidity (NTU)	18.6	18.9	22.0	21.4	22.3	22.7	20.98	-			
SS (mg/L)	18.0	15.0	17.0	16.0	24.0	25.0	19.17	-			
Remarks		Derrick lighter CM38 (B21601V) and dredger were in operation.									

Station			C3 (	NM6)				
Time (hh:mm)			10:09	-10:10				
Water Depth (m)			6					
Monitoring Depth (m)	1	.0	3					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.2	21.2	21.2	21.1	21.2	21.19	-
Salinity (ppt)	34.3	34.4	34.3	34.4	34.3	34.4	34.36	-
pH	8.3	8.3	8.2	8.3	8.2	8.3	8.24	-
D.O. Saturation (%)	95.5	92.2	96.8	92.5	99.2	93.8	95.00	-
D.O. (mg/L)	6.9	6.7	7.0	6.7	7.2	6.8	6.90	7.02
Turbidity (NTU)	18.5	18.2	20.7	20.6	23.6	23.8	20.90	-
SS (mg/L)	16.0	14.0	18.0	20.0	16.0	14.0	16.33	-
Remarks			Derrick lic	hter CM38 (	B21601V) a	nd dredaer w	ere in operation.	

Station			IM	101			Co-ordinate	s			
Time (hh:mm)			9:04	-9:05			Northing	Easting			
Water Depth (m)			19	22.21.731	113.54.582						
Monitoring Depth (m)	1	.0	9		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	23.1	23.0	22.6	22.8	22.9	22.9	22.90	-			
Salinity (ppt)	34.5	30.4	34.5	34.0	33.5	34.1	33.50	-			
pH	8.2	8.2	8.2	8.2	8.2	8.1	8.18	-			
D.O. Saturation (%)	79.0	78.5	78.4	81.4	78.7	84.2	80.03	-			
D.O. (mg/L)	5.6	5.7	5.6	5.8	5.6	5.9	5.67	5.76			
Turbidity (NTU)	18.0	18.5	20.1	20.0	21.3	21.1	19.83	-			
SS (mg/L)	18.0	20.0	18.0	15.0	15.0	17.0	17.17	-			
Remarks		Derrick lighter CM38 (B21601V) and dredger were in operation.									

Station			IM	102			Co-ordinate	s
Time (hh:mm)			9:14		Northing	Easting		
Water Depth (m)			1-	22.21.331	113.54.843			
Monitoring Depth (m)	1	.0	7					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	23.0	23.0	22.5	22.4	22.6	22.3	22.64	-
Salinity (ppt)	34.5	34.5	34.6	34.4	34.3	34.4	34.44	-
pH	8.2	8.3	8.3	8.2	8.3	8.2	8.25	-
D.O. Saturation (%)	79.2	78.6	78.4	81.0	78.4	82.2	79.63	-
D.O. (mg/L)	5.6	5.5	5.6	5.8	5.6	5.9	5.64	5.71
Turbidity (NTU)	18.4	18.3	19.1	19.4	20.5	20.8	19.42	-
SS (mg/L)	12.0	16.0	24.0	22.0	17.0	14.0	17.50	-
Remarks			Derrick lig	nd dredger w	ere in operation.			

Station			IM	O3			Co-ordinate:	S
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)								•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-		
pH	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-		
D.O. (mg/L)	-	-	-	-	-	-		
Turbidity (NTU)	-	-	-	-	-	-		
SS (mg/L)	-	-	-	-	-	-		
Remarks								

Station			IM	04			Co-ordinates	3
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-		
pH	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-		
D.O. (mg/L)	-	-	-	-	-	-		
Turbidity (NTU)	-		-	-	-	-		
SS (mg/L)	-	-	-	-	-	-		
Remarks								

Station			IM	O5			Co-ordinat	tes			
Time (hh:mm)			8:52	-8:54			Northing	Easting			
Water Depth (m)			20	22.21.041	113.55.156						
Monitoring Depth (m)	1	.0	10		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	23.0	23.0	23.0	23.0	23.0	23.0	22.99	-			
Salinity (ppt)	34.5	34.4	34.5	34.4	34.4	34.5	34.46	-			
pH	8.3	8.2	8.3	8.2	8.2	8.2	8.22	-			
D.O. Saturation (%)	79.4	80.0	79.4	80.9	83.1	79.4	80.37	-			
D.O. (mg/L)	5.6	5.6	5.6	5.7	5.9	5.6	5.65	5.72			
Turbidity (NTU)	26.3	26.7	35.1	34.1	35.6	33.9	31.95	-			
SS (mg/L)	17.0	18.0	26.0	23.0	22.0	20.0	21.00	-			
Remarks		Derrick lighter CM38 (B21601V) and dredger were in operation.									

Station			IM	O6			Co-ordinat	tes			
Time (hh:mm)			8:41	-8:43			Northing	Easting			
Water Depth (m)			19		22.21.723	113.55.505					
Monitoring Depth (m)	1	.0	9		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	23.0	23.0	23.0	23.0	23.0	23.0	23.00	-			
Salinity (ppt)	34.4	34.5	34.5	34.5	34.4	34.5	34.45	-			
pH	8.2	8.3	8.2	8.3	8.1	8.2	8.21	-			
D.O. Saturation (%)	84.9	84.1	85.8	84.3	89.9	84.4	85.57	-			
D.O. (mg/L)	6.0	5.9	6.0	5.9	6.3	5.9	6.02	6.13			
Turbidity (NTU)	19.9	19.7	21.8	21.5	23.3	24.2	21.73	-			
SS (mg/L)	17.0	20.0	17.0	18.0	21.0	25.0	19.67	-			
Remarks		Derrick lighter CM38 (B21601V) and dredger were in operation.									

Station			ME	PB1				
Time (hh:mm)			9:45	-9:46				
Water Depth (m)			9	.4				
Monitoring Depth (m)	1	.0	4	.7	8	.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.4	21.4	21.3	21.3	21.4	21.3	21.35	-
Salinity (ppt)	34.1	34.2	33.9	34.1	34.0	33.9	34.04	-
pH	8.2	8.3	8.2	8.2	8.2	8.2	8.23	-
D.O. Saturation (%)	85.0	83.5	84.0	86.3	84.6	88.7	85.35	-
D.O. (mg/L)	6.2	6.1	6.1	6.3	6.1	6.5	6.20	6.30
Turbidity (NTU)	26.0	26.1	29.4	29.3	26.5	26.2	27.25	-
SS (mg/L)	32.0	37.0	20.0	23.0	24.0	24.0	26.67	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	dredger were	e in operation.	•

Station			MI	PB2			Ī				
Time (hh:mm)			9:55								
Water Depth (m)			9								
Monitoring Depth (m)	1	.0	4								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.3	21.3	21.3	21.3	21.3	21.4	21.32	-			
Salinity (ppt)	31.9	34.1	34.2	34.2	34.2	34.2	33.79	-			
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	-			
D.O. Saturation (%)	82.7	82.2	82.4	83.1	82.7	83.2	82.72	-			
D.O. (mg/L)	6.1	6.0	6.0	6.0	6.0	6.0	6.02	6.02			
Turbidity (NTU)	29.3	30.3	32.4	31.1	31.7	31.1	30.98	-			
SS (mg/L)	24.0	27.0	18.0	21.0	18.0	20.0	21.33	-			
Remarks		Derrick lighter CM38 (B21601V) and dredger were in operation.									

Station			M	IP								
Time (hh:mm)			9:32	-9:33								
Water Depth (m)			5									
Monitoring Depth (m)	1	.0	2									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	21.7	21.6	-	-	21.5	21.6	21.61	-				
Salinity (ppt)	33.6	33.8	-	-	33.7	33.8	33.71	-				
pH	8.1	8.1	-	-	8.0	8.1	8.08	-				
D.O. Saturation (%)	84.6	82.0	-	-	84.1	83.1	83.45	-				
D.O. (mg/L)	6.1	5.9	-	-	6.1	6.0	6.04	6.06				
Turbidity (NTU)	17.0	17.0	-	-	17.5	17.0	17.13	-				
SS (mg/L)	18.0	20.0	-	-	12.0	13.0	15.75	-				
Remarks		Derrick lighter CM38 (B21601V) and dredger were in operation.										

Compliance with Action an	d Limit Leve	<u>el</u>																				
Parameter	As in I	EM&A	Mean (C1+	+C3)*130%	IM	101	IMO2			IMO3	II.	104	IIV	105	IM	106	MPB1		MP	B2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	e Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	7.0	7.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.0	7.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	27.2	27.2	N	N	N	N	-	-	-	-	Y	N	N	N	N	N	Υ	N	N	N
SS (Depth-averaged)	24.0	37.0	23.1	23.1	N	N	N	N	-	-	-	-	Ν	N	Z	N	Y	N	Ν	N	N	N

Sampling Date	11/19/09
Weather & Ambient Temperature	Fine, 18C
Station	C2 (NME)

Station			C2 (	NM5)							
Time (hh:mm)											
Water Depth (m)			20	).2							
Monitoring Depth (m)	1	.0	10	).1	19	9.2					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	22.1	22.1	21.9	22.0	21.9	21.9	21.97	-			
Salinity (ppt)	34.4	34.4	34.5	34.5	34.5	34.5	34.48	-			
pH	8.3	8.3	8.3	8.3	8.2	8.3	8.26				
D.O. Saturation (%)	77.7	77.9	77.1	77.2	76.2	76.2	77.05	-			
D.O. (mg/L)	5.6	5.6	5.5	5.5	5.5	5.5	5.52	5.47			
Turbidity (NTU)	5.8	5.6	7.9	7.6	12.4	11.8	8.52	-			
SS (mg/L)	12.0	14.0	11.0	13.0	12.0	12.0	12.33	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	01			Co-ord	dinates
Time (hh:mm)			Northing	Easting				
Water Depth (m)			19	9.0			22.21.714	113.54.522
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.0	22.0	22.0	22.0	22.0	22.0	22.01	-
Salinity (ppt)	34.5	34.5	34.5	34.6	34.6	34.6	34.56	-
pH	8.3	8.3	8.3	8.3	8.2	8.2	8.26	
D.O. Saturation (%)	78.5	78.3	77.9	78.2	78.1	78.4	78.23	-
D.O. (mg/L)	5.6	5.6	5.6	5.6	5.6	5.6	5.61	5.61
Turbidity (NTU)	10.8	10.3	12.8	13.2	14.9	15.4	12.90	-
SS (mg/L)	26.0	23.0	20.0	22.0	19.0	22.0	22.00	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			IM	02			Co-ord	dinates
Time (hh:mm)			Northing	Easting				
Water Depth (m)			14	1.8			22.21.381	113.54.843
Monitoring Depth (m)	1.0 7.4 13.8							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.8	21.8	21.8	21.8	21.7	21.7	21.78	-
Salinity (ppt)	34.5	34.5	34.6	34.6	34.7	34.7	34.59	-
pH	8.3	8.3	8.3	8.3	8.2	8.2	8.27	
D.O. Saturation (%)	75.0	74.5	75.2	75.3	75.5	75.9	75.23	-
D.O. (mg/L)	5.4	5.4	5.4	5.4	5.4	5.5	5.41	5.45
Turbidity (NTU)	7.6	7.4	8.6	8.4	9.5	9.9	8.57	-
SS (mg/L)	19.0	22.0	18.0	17.0	18.0	18.0	18.67	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

Station			IM	103			Co-ordinates		
Time (hh:mm)							Northing	Easting	
Water Depth (m)				-					
Monitoring Depth (m)		-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-			
Salinity (ppt)	-	-	-	-	-	-			
pH	-	-	-	-	-	-			
D.O. Saturation (%)	-	-	-	-	-	-			
D.O. (mg/L)	-	-	-	-	-	-			
Turbidity (NTU)	-	-	-	-	-	-			
SS (mg/L)	-	-	-	-	-	-			
Remarks									

Station			IM	104			Co-ordinates		
Time (hh:mm)							Northing	Easting	
Water Depth (m)				-					
Monitoring Depth (m)		-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-			
Salinity (ppt)	-	-	-	-	-	-			
pH	-	-	-	-	-	-			
D.O. Saturation (%)	-	-	-	-	-	-			
D.O. (mg/L)	-	-	-	-	-	-			
Turbidity (NTU)	-	-	-	-	-	-			
SS (mg/L)	-	-	-	-	-	-			
Remarks									

Station			IM	05			Co-ordinates				
Time (hh:mm)			Northing	Easting							
Water Depth (m)			2	0.8			22.22.024	113.55.031			
Monitoring Depth (m)	1	.0	10	).4	1	9.8					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	22.3	22.3	22.1	22.1	22.1	22.1	22.15	-			
Salinity (ppt)	34.5	34.5	34.5	34.5	34.6	34.6	34.53	-			
pH	8.4	8.4	8.3	8.3	8.3	8.3	8.33				
D.O. Saturation (%)	76.3	75.6	75.3	75.6	76.3	76.3	75.90	-			
D.O. (mg/L)	5.4	5.4	5.4	5.4	5.5	5.5	5.43	5.47			
Turbidity (NTU)	10.5	10.7	12.4	12.5	16.4	16.6	13.18	-			
SS (mg/L)	23.0	23.0	24.0	26.0	23.0	23.0	23.67	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	06			Co-ore	dinates
Time (hh:mm)				Northing	Easting			
Water Depth (m)				22.21.677	113.55.585			
Monitoring Depth (m)	1	.0	9	.2	17	7.4		
Trial Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.4	22.4	22.2	22.2	22.1	22.1	22.22	-
Salinity (ppt)	34.5	34.6	34.6	34.6	34.7	34.6	34.58	-
oH .	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	91.7	92.5	94.2	94.5	95.6	95.3	93.97	-
D.O. (mg/L)	6.5	6.6	6.7	6.7	6.8	6.8	6.71	6.83
Furbidity (NTU)	11.4	11.1	14.5	15.1	18.3	17.8	14.70	-
SS (mg/L)	19.0	15.0	15.0	18.0	21.0	20.0	18.00	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

							-	
Station			MF	PB1			]	
Time (hh:mm)			13:19	-13:21				
Water Depth (m)			7	.4				
Monitoring Depth (m)	1	.0	3	.7	6	.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.9	21.9	21.8	21.7	21.7	21.6	21.75	-
Salinity (ppt)	34.3	34.3	34.3	34.3	34.4	34.4	34.32	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	77.0	77.4	78.1	77.7	79.8	78.8	78.13	-
D.O. (mg/L)	5.5	5.6	5.6	5.6	5.8	5.7	5.63	5.73
Turbidity (NTU)	11.6	11.8	14.0	14.6	15.4	15.8	13.87	-
SS (mg/L)	17.0	19.0	23.0	25.0	25.0	21.0	21.67	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

Station			ME	PB2			1	
Time (hh:mm)								
Water Depth (m)								
Monitoring Depth (m)	1	.0	4	.0	7	.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.3	21.3	21.0	21.0	20.8	20.8	21.03	-
Salinity (ppt)	34.4	34.4	34.5	34.5	34.5	34.5	34.46	-
pH	8.3	8.3	8.3	8.3	8.3	8.2	8.27	
D.O. Saturation (%)	81.5	81.3	82.0	81.3	83.1	82.2	81.90	-
D.O. (mg/L)	5.9	5.9	6.0	5.9	6.1	6.0	5.98	6.05
Turbidity (NTU)	13.5	13.6	14.1	14.6	17.3	17.6	15.12	-
SS (mg/L)	25.0	26.0	24.0	23.0	22.0	26.0	24.33	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

-							7	
Station			N.	IP				
Time (hh:mm)								
Water Depth (m)								
Monitoring Depth (m)	1	.0	2	.5	4	.1		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.0	22.0	-	-	22.0	22.0	21.96	-
Salinity (ppt)	34.2	34.2	-	-	34.1	34.1	34.16	-
pH	8.3	8.3	-	-	8.3	8.3	8.26	
D.O. Saturation (%)	76.2	75.4	-	-	76.8	77.3	76.43	-
D.O. (mg/L)	5.5	5.4	-	-	5.5	5.6	5.49	5.54
Turbidity (NTU)	9.9	10.1	-	-	11.5	11.3	10.70	-
SS (mg/L)	24.0	28.0	-	-	21.0	20.0	23.25	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Compliance with Action ar	nd Limit Lev	el																				
Parameter	As in	EM&A	C2*1	30%	IM	101	IM	102		IMO3	II.	104	IM	O5	IM	06	MF	PB1	MF	2B2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	5.5	5.5	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.5	5.5	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	11.1	11.1	N	N	N	N	-	-	-	-	N	N	N	N	N	Ν	N	N	N	N
SS (Depth-averaged)	24.0	37.0	16.0	16.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	Y	N	N	N

11/19/09
Fine, 15C

Station			C1 (	NM3)							
Time (hh:mm)			9:11	-9:14							
Water Depth (m)			10								
Monitoring Depth (m)	1	.0	8								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.3	22.3	22.3	22.3	22.2	22.2	22.28				
Salinity (ppt)	34.4	34.4	34.3	34.4	34.3	34.3	34.35				
pH	8.2	8.2	8.2	8.2	8.1	8.1	8.17				
D.O. Saturation (%)	102.6	103.9	103.1	103.9	103.5	104.7	103.62	-			
D.O. (mg/L)	7.3	7.4	7.3	7.4	7.4	7.5	7.38	7.42			
Turbidity (NTU)	6.3	5.9	7.2	7.5	9.6	9.4	7.65	-			
SS (mg/L)	22.0	21.0	17.0	16.0	19.0	18.0	18.83	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			C3 (	NM6)							
Time (hh:mm)			10:55	-10:57							
Water Depth (m)			6	i.2							
Monitoring Depth (m)	1	.0	3	1.1	5	.2					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.8	21.8	21.8	21.8	21.8	21.8	21.79	-			
Salinity (ppt)	34.4	34.4	34.5	34.5	34.6	34.6	34.51	-			
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.28				
D.O. Saturation (%)	90.5	91.4	91.8	90.9	92.1	92.1	91.47	-			
D.O. (mg/L)	6.5	6.6	6.6	6.5	6.6	6.6	6.57	6.62			
Turbidity (NTU)	3.9	3.8	4.0	4.0	4.9	4.8	4.23	-			
SS (mg/L)	20.0	17.0	17.0	14.0	18.0	15.0	16.83	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	101			Co-ordinates				
Time (hh:mm)			10:02	-10:04			Northing	Easting			
Water Depth (m)			18	22.21.709	113.54.520						
Monitoring Depth (m)	1	.0	9		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.9	21.9	21.9	21.9	21.8	21.8	21.88	-			
Salinity (ppt)	34.5	34.5	34.5	34.5	34.4	34.4	34.44	-			
pH	8.3	8.3	8.3	8.3	8.2	8.2	8.26				
D.O. Saturation (%)	77.2	77.9	76.4	76.6	76.9	77.1	77.02	-			
D.O. (mg/L)	5.5	5.6	5.5	5.5	5.5	5.6	5.52	5.54			
Turbidity (NTU)	10.8	11.2	15.9	15.7	19.2	18.1	15.15	-			
SS (mg/L)	26.0	31.0	18.0	21.0	33.0	29.0	26.33	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	102			Co-ordinate	s			
Time (hh:mm)			9:50	9:53			Northing	Easting			
Water Depth (m)			1-		22.21.378	113.54.840					
Monitoring Depth (m)	1	.0	7		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.9	21.9	21.6	21.6	21.6	21.6	21.71	-			
Salinity (ppt)	34.5	34.5	34.6	34.6	34.6	34.6	34.56	-			
pH	8.3	8.3	8.3	8.3	8.2	8.2	8.25				
D.O. Saturation (%)	74.8	75.2	74.3	74.7	75.1	75.2	74.88	-			
D.O. (mg/L)	5.4	5.4	5.4	5.4	5.4	5.4	5.38	5.41			
Turbidity (NTU)	5.5	5.6	7.4	7.1	8.4	8.2	7.03	-			
SS (mg/L)	19.0	19.0	24.0	25.0	24.0	20.0	21.83	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	O3			Co-ordinate:	S
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)		-		-				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-		
pH	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-		
D.O. (mg/L)	-	-	-	-	-	-		
Turbidity (NTU)	-	-	-	-	-	-		
SS (mg/L)	-	-	-	-	-	-		
Remarks								

Station			IM	04			Co-ordinates	
Time (hh:mm)					Northing	Easting		
Water Depth (m)								
Monitoring Depth (m)				-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-		
pH	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-		
D.O. (mg/L)	-	-	-	-	-	-		
Turbidity (NTU)	-	-	-	-	-	-		
SS (mg/L)	-		-	-	-	-		
Remarks		·'					,	

Station			IM	05			Co-ordinat	tes				
Time (hh:mm)			9:35	-9:38			Northing	Easting				
Water Depth (m)			21		22.22.030	113.55.035						
Monitoring Depth (m)	1	.0	10	).4		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	22.2	22.2	22.0	22.0	21.9	22.0	22.04	-				
Salinity (ppt)	34.6	34.6	34.5	34.5	34.4	34.4	34.50	-				
pH	8.3	8.3	8.3	8.2	8.2	8.2	8.24					
D.O. Saturation (%)	77.4	78.0	76.8	77.1	76.1	76.3	76.95	-				
D.O. (mg/L)	5.5	5.6	5.5	5.5	5.5	5.5	5.50	5.47				
Turbidity (NTU)	8.8	9.1	10.4	11.1	14.5	15.1	11.50	-				
SS (mg/L)	17.0	20.0	19.0	20.0	21.0	24.0	20.17	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	<b>O</b> 6			Co-ordinat	es				
Time (hh:mm)			9:23	-9:25			Northing	Easting				
Water Depth (m)			18		22.21.676	113.55.580						
Monitoring Depth (m)	1	.0	9	7.8		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	22.2	22.3	22.1	22.0	22.0	22.0	22.10	-				
Salinity (ppt)	34.5	34.6	34.5	34.5	34.4	34.4	34.47	-				
pH	8.2	8.3	8.2	8.2	8.2	8.2	8.21					
D.O. Saturation (%)	97.5	97.5	98.6	98.3	98.3	99.1	98.22	-				
D.O. (mg/L)	7.0	6.9	7.1	7.0	7.0	7.1	7.01	7.06				
Turbidity (NTU)	9.8	9.7	11.2	11.8	13.5	13.6	11.60	-				
SS (mg/L)	21.0	26.0	24.0	28.0	26.0	23.0	24.67	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			ME	PB1				
Time (hh:mm)			10:24	-10:27				
Water Depth (m)								
Monitoring Depth (m)	1	.0	3	.9	6	.8		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.8	21.8	21.6	21.6	21.6	21.6	21.64	-
Salinity (ppt)	34.2	34.2	34.3	34.3	34.3	34.3	34.27	-
pH	8.3	8.3	8.3	8.3	8.3	8.2	8.26	
D.O. Saturation (%)	78.0	78.1	78.3	78.1	79.2	78.4	78.35	-
D.O. (mg/L)	5.6	5.6	5.7	5.6	5.7	5.7	5.65	5.68
Turbidity (NTU)	10.7	10.3	13.5	13.7	16.6	16.9	13.62	-
SS (mg/L)	22.0	27.0	19.0	23.0	17.0	17.0	20.83	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			M	PB2				
Time (hh:mm)			10:36	i-10:38				
Water Depth (m)			8	1.2				
Monitoring Depth (m)	1	.0	4	.1	7	'.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.2	20.9	20.8	20.7	20.7	20.92	-
Salinity (ppt)	34.3	34.4	34.4	34.4	34.4	34.4	34.39	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	84.8	84.9	85.2	85.4	86.6	85.7	85.43	-
D.O. (mg/L)	6.2	6.2	6.2	6.3	6.3	6.3	6.24	6.31
Turbidity (NTU)	11.2	11.5	14.6	14.3	16.8	17.0	14.23	-
SS (mg/L)	31.0	27.0	24.0	19.0	24.0	24.0	24.83	-
Remarks			Derrick light	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			M	IP				
Time (hh:mm)			10:15	-10:16				
Water Depth (m)								
Monitoring Depth (m)	1	.0	2	.6	4.	.1		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.8	21.8	-	-	21.8	21.8	21.82	-
Salinity (ppt)	34.1	34.2	-	-	34.0	34.0	34.06	-
pH	8.2	8.2	-	-	8.2	8.2	8.22	
D.O. Saturation (%)	74.3	74.8	-	-	75.1	74.6	74.70	-
D.O. (mg/L)	5.3	5.4	-	-	5.4	5.4	5.38	5.39
Turbidity (NTU)	8.7	8.9	-	-	10.6	10.2	9.60	-
SS (mg/L)	16.0	15.0	-	-	16.0	14.0	15.25	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and I	Dredger wer	e in operation.	

Compliance with Action an	d Limit Leve	<u>el</u>																				
Parameter	As in I	EM&A	Mean (C1+	-C3)*130%	IM	101	IMO2			IMO3	II.	104	IIV	105	IN	106	MPB1		MF	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	e Exceedance	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	7.0	7.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.0	7.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	7.7	7.7	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	23.2	23.2	Υ	N	N	N	-	-	-	-	N	N	Y	N	N	N	Υ	N	N	N

Sampling Date	11/20/09
Weather & Ambient Temperature	Fine, 17C
	-, -

Station			C2 (	NM5)				
Time (hh:mm)								
Water Depth (m)								
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	21.9	21.9	21.9	21.9	21.9	21.8	21.88	-
Salinity (ppt)	34.3	34.4	34.5	34.4	34.4	34.4	34.40	-
pH	8.2	8.2	8.2	8.1	8.2	8.1	8.16	
D.O. Saturation (%)	113.6	111.0	112.0	115.8	112.6	120.9	114.32	-
D.O. (mg/L)	8.2	8.0	8.0	8.3	8.1	8.7	8.20	8.39
Turbidity (NTU)	13.5	13.5	14.6	14.8	17.7	17.3	15.23	-
SS (mg/L)	13.0	15.0	15.0	18.0	17.0	17.0	15.83	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

Station			IM	101			Co-ord	dinates
Time (hh:mm)			14:41	-14:43			Northing	Easting
Water Depth (m)			17	7.0			22.21.702	113.54.590
Monitoring Depth (m)	1	.0	6.0					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.6	21.6	21.5	21.5	21.5	21.5	21.54	-
Salinity (ppt)	34.5	34.4	34.5	34.4	34.5	34.5	34.49	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	
D.O. Saturation (%)	85.4	86.3	85.8	88.9	86.4	92.2	87.50	-
D.O. (mg/L)	6.2	6.2	6.2	6.4	6.2	6.7	6.31	6.44
Turbidity (NTU)	17.5	17.8	24.6	24.0	26.5	26.8	22.87	-
SS (mg/L)	14.0	15.0	16.0	15.0	16.0	17.0	15.50	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Station			IM	02			Co-ore	dinates
Time (hh:mm)			Northing	Easting				
Water Depth (m)			14	1.7			22.21.312	113.54.922
Monitoring Depth (m)	1	.0	7	.4	13	3.7		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.6	21.6	21.6	21.6	21.6	21.6	21.59	-
Salinity (ppt)	34.5	34.5	34.5	34.6	34.5	34.5	34.52	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	90.8	92.0	92.2	90.8	91.2	92.1	91.52	-
D.O. (mg/L)	6.6	6.6	6.6	6.6	6.6	6.6	6.60	6.61
Turbidity (NTU)	16.7	16.1	17.0	17.3	20.2	20.0	17.88	-
SS (mg/L)	21.0	18.0	19.0	19.0	22.0	19.0	19.67	-
Remarks		Derric	operation.					

Station			IM	103			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-		
pH	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-		
D.O. (mg/L)	-	-	-	-	-	-		
Turbidity (NTU)	-	-	-	-	-	-		
SS (mg/L)	-	-	-	-	-	-		
Remarks								

Station			IM	104			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-		
pH	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-		
D.O. (mg/L)	-	-	-	-	-	-		
Turbidity (NTU)	-	-	-	-	-	-		
SS (mg/L)	-	-	-	-	-	-		
Remarks								

Station			IM	105			Co-ore	dinates	
Time (hh:mm)			15:15	-15:16			Northing	Easting	
Water Depth (m)			18	8.9			22.21.992	113.55.206	
Monitoring Depth (m)	1	.0	9	1.5	1	7.9			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	21.8	21.8	21.7	21.7	21.7	21.7	21.74	-	
Salinity (ppt)	34.6	34.5	34.5	34.4	34.4	34.6	34.50	-	
pH	8.3	8.3	8.2	8.3	8.2	8.3	8.26		
D.O. Saturation (%)	92.0	95.1	96.5	92.9	98.1	93.6	94.70	-	
D.O. (mg/L)	6.6	6.8	6.9	6.7	7.1	6.7	6.81	6.90	
Turbidity (NTU)	17.5	17.3	21.3	22.1	25.7	24.9	21.47	-	
SS (mg/L)	15.0	16.0	20.0	23.0	18.0	14.0	17.67	-	
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.								

Station			IM	06			Co-ord	dinates
Time (hh:mm)			15:01	-15:02			Northing	Easting
Water Depth (m)			22.21.644	113.55.606				
Monitoring Depth (m)	1	.0						
Trial Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.9	21.9	21.8	21.8	21.8	21.8	21.82	-
Salinity (ppt)	34.5	34.6	34.6	34.4	34.5	34.6	34.54	-
Н	8.3	8.3	8.3	8.3	8.3	8.3	8.28	
D.O. Saturation (%)	94.0	92.5	88.9	102.2	92.4	97.4	94.57	-
D.O. (mg/L)	6.7	6.6	6.4	7.4	6.6	7.0	6.79	6.81
Furbidity (NTU)	21.6	21.9	26.1	26.4	27.6	27.3	25.15	-
SS (mg/L)	21.0	20.0	20.0	20.0	17.0	20.0	19.67	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

							_	
Station			MF	PB1				
Time (hh:mm)								
Water Depth (m)			8	.9				
Monitoring Depth (m)	1	.0	4	.5	7	.9		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.4	21.4	21.4	21.4	21.4	21.4	21.37	-
Salinity (ppt)	34.2	34.2	34.2	34.0	34.2	34.2	34.17	
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	88.2	88.9	89.2	88.3	89.4	88.7	88.78	
D.O. (mg/L)	6.4	6.4	6.5	6.4	6.5	6.4	6.44	6.46
Turbidity (NTU)	16.3	16.3	16.8	16.5	17.2	16.9	16.67	-
SS (mg/L)	17.0	15.0	19.0	22.0	17.0	20.0	18.33	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			ME	PB2			1	
Time (hh:mm)								
Water Depth (m)								
Monitoring Depth (m)	1	.0	4	.3	7	.6		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.4	21.4	21.4	21.4	21.4	21.4	21.40	-
Salinity (ppt)	34.3	34.2	34.2	34.2	34.3	34.3	34.25	
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	88.5	88.2	88.2	88.7	88.3	88.8	88.45	
D.O. (mg/L)	6.4	6.4	6.4	6.4	6.4	6.4	6.41	6.41
Turbidity (NTU)	15.2	15.2	15.1	15.3	15.5	15.8	15.35	-
SS (mg/L)	17.0	19.0	14.0	15.0	14.0	12.0	15.17	
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Station				IP.			1	
				-13:42				
Time (hh:mm)								
Water Depth (m)			5	.2				
Monitoring Depth (m)	1	.0	2	.6	4	.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.6	21.6	21.6	21.6	21.6	21.4	21.57	-
Salinity (ppt)	34.2	33.8	34.2	34.2	34.2	34.2	34.12	
pH	8.3	8.2	8.2	8.2	8.2	8.2	8.22	
D.O. Saturation (%)	87.0	88.5	91.7	86.5	86.7	98.2	89.77	
D.O. (mg/L)	6.3	6.4	6.6	6.3	6.3	7.1	6.49	6.69
Turbidity (NTU)	19.7	19.0	22.2	22.2	22.8	22.7	21.43	-
SS (mg/L)	20.0	21.0	20.0	20.0	25.0	21.0	21.17	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Compliance with Action ar	nd Limit Lev	el																				
Parameter	As in	EM&A	C2*1	30%	IM	101	IM	102		IMO3	IIV	104	IM	05	IM	O6	MF	PB1	ME	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	8.4	8.4	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	8.2	8.2	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	19.8	19.8	N	N	N	N	-	-	-	-	N	N	N	N	N	Ν	Ν	N	N	N
SS (Depth-averaged)	24.0	37.0	20.6	20.6	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N

11/20/09
Sunny, 15C

Station			C1 (	NM3)								
Time (hh:mm)			9:44									
Water Depth (m)			16									
Monitoring Depth (m)	1	.0	8	1.0	15	5.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	22.0	22.0	22.0	21.9	21.9	22.0	21.96	-				
Salinity (ppt)	34.5	34.5	34.5	34.4	34.4	34.4	34.44	-				
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.22					
D.O. Saturation (%)	107.9	106.0	107.1	108.5	109.6	106.7	107.63	-				
D.O. (mg/L)	7.7	7.6	7.7	7.8	7.9	7.6	7.71	7.75				
Turbidity (NTU)	17.1	17.6	22.1	22.1	24.7	23.0	21.10	-				
SS (mg/L)	14.0	11.0	12.0	12.0	13.0	15.0	12.83	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			C3 (	NM6)				
Time (hh:mm)			11:17					
Water Depth (m)			7					
Monitoring Depth (m)	1	.0	3					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.3	21.3	21.3	21.3	21.3	21.3	21.33	-
Salinity (ppt)	34.5	34.6	33.0	34.5	34.5	34.5	34.26	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.26	
D.O. Saturation (%)	96.0	95.6	99.4	95.1	101.2	95.9	97.20	-
D.O. (mg/L)	7.0	6.9	7.3	6.9	7.3	6.9	7.05	7.14
Turbidity (NTU)	16.5	16.8	17.1	17.2	18.2	18.7	17.42	-
SS (mg/L)	16.0	14.0	18.0	16.0	15.0	18.0	16.17	-
Remarks			ere in operation.					

Station			IM	101			Co-ordinate	es				
Time (hh:mm)			10:29	-10:31			Northing	Easting				
Water Depth (m)			1	22.21.622	113.54.588							
Monitoring Depth (m)	1.0 8.6 16.2							•				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	21.5	21.6	21.5	21.5	21.5	21.5	21.53	-				
Salinity (ppt)	34.6	34.5	34.5	33.6	34.5	34.6	34.38	-				
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.30					
D.O. Saturation (%)	85.1	85.0	87.7	85.6	85.8	89.0	86.37	-				
D.O. (mg/L)	6.1	6.1	6.3	6.2	6.2	6.4	6.24	6.31				
Turbidity (NTU)	20.3	20.7	24.6	24.0	24.2	23.3	22.85	-				
SS (mg/L)	22.0	19.0	18.0	16.0	14.0	14.0	17.17	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	102			Co-ordinate	s		
Time (hh:mm)			10:19		Northing	Easting				
Water Depth (m)			15	5.4			22.21.362	113.54.927		
Monitoring Depth (m)	1	.0	7							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	21.6	21.6	21.6	21.6	21.6	21.6	21.58	-		
Salinity (ppt)	34.5	34.5	34.4	34.4	34.5	34.3	34.43	-		
pH	8.2	8.3	8.3	8.2	8.3	8.2	8.24			
D.O. Saturation (%)	93.9	94.2	94.0	95.4	93.6	96.5	94.60	-		
D.O. (mg/L)	6.8	6.8	6.8	6.9	6.8	7.0	6.82	6.86		
Turbidity (NTU)	19.1	19.8	20.5	21.6	22.0	22.7	20.95	-		
SS (mg/L)	24.0	20.0	19.0	17.0	14.0	17.0	18.50	-		
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.								

Station			IM	O3			Co-ordinate:	S
Time (hh:mm)					Northing	Easting		
Water Depth (m)								
Monitoring Depth (m)		-		-		-		•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-		
pH	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-		
D.O. (mg/L)	-	-	-	-	-	-		
Turbidity (NTU)	-	-	-	-	-	-		
SS (mg/L)	-	-	-	-	-	-		
Remarks								

Station			IM	04			Co-ordinate:	S
Time (hh:mm)					Northing	Easting		
Water Depth (m)				-				
Monitoring Depth (m)				-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-		
pH	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-		
D.O. (mg/L)	-	-	-	-	-	-		
Turbidity (NTU)	-	-	-	-	-	-		
SS (mg/L)	-	-	-	-	-	-		
Remarks								

Station			IM	O5			Co-ordinat	tes			
Time (hh:mm)			10:09	-10:10			Northing	Easting			
Water Depth (m)			19		22.21.989	113.55.229					
Monitoring Depth (m)	1	.0	9	3.8		•					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.8	21.8	21.7	21.7	21.7	21.7	21.72	-			
Salinity (ppt)	34.6	34.6	34.5	34.6	34.6	34.6	34.57	-			
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.30				
D.O. Saturation (%)	90.2	88.8	91.1	89.1	91.7	89.4	90.05	-			
D.O. (mg/L)	6.5	6.4	6.6	6.4	6.6	6.4	6.48	6.52			
Turbidity (NTU)	21.8	21.2	26.2	26.5	27.5	26.4	24.93	-			
SS (mg/L)	19.0	19.0	17.0	20.0	18.0	18.0	18.50	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	06			Co-ordinat	tes
Time (hh:mm)							Northing	Easting
Water Depth (m)			17	7.6			22.21.698	113.55.611
Monitoring Depth (m)	1	.0	8	6.6		•		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.4	21.9	21.8	21.8	21.8	21.7	21.73	-
Salinity (ppt)	34.6	34.5	34.3	34.5	34.4	34.3	34.45	-
pH	8.1	8.2	8.2	8.2	8.2	8.2	8.19	
D.O. Saturation (%)	107.7	102.6	106.7	104.7	106.5	108.6	106.13	-
D.O. (mg/L)	7.8	7.4	7.7	7.5	7.7	7.8	7.63	7.74
Turbidity (NTU)	21.1	21.5	25.0	25.0	26.6	26.6	24.30	-
SS (mg/L)	23.0	25.0	22.0	22.0	23.0	27.0	23.67	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			ME	PB1				
Time (hh:mm)			10:53	-10:54				
Water Depth (m)			9	.2				
Monitoring Depth (m)	1	.0	4	.2				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.4	21.4	21.4	21.4	21.4	21.3	21.36	-
Salinity (ppt)	34.2	34.2	34.2	33.8	34.2	34.2	34.14	-
pH	8.3	8.3	8.2	8.3	8.3	8.2	8.25	
D.O. Saturation (%)	89.5	93.9	97.4	90.3	91.2	102.5	94.13	-
D.O. (mg/L)	6.5	6.8	7.1	6.6	6.6	7.4	6.83	7.03
Turbidity (NTU)	17.1	17.0	18.6	18.7	19.8	19.7	18.48	-
SS (mg/L)	16.0	16.0	16.0	17.0	17.0	18.0	16.67	-
Remarks			Derrick lighte	Dredaer wer	e in operation.			

Station			M	PB2				
Time (hh:mm)			11:02	-11:03				
Water Depth (m)			8	1.8				
Monitoring Depth (m)	1	.0	4	'.8				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.4	21.4	21.4	21.4	21.4	21.4	21.41	-
Salinity (ppt)	34.2	34.2	34.2	34.3	34.3	34.3	34.26	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.26	
D.O. Saturation (%)	88.7	91.2	89.3	92.7	89.6	95.5	91.17	-
D.O. (mg/L)	6.4	6.6	6.5	6.7	6.5	6.9	6.60	6.70
Turbidity (NTU)	16.4	16.2	17.1	17.6	18.1	18.6	17.33	-
SS (mg/L)	16.0	16.0	17.0	15.0	14.0	13.0	15.17	-
Remarks			Derrick light	Dredger wer	e in operation.			

Station			N	IP.				
Time (hh:mm)			10:45	-10:46				
Water Depth (m)			5	.6				
Monitoring Depth (m)	1	.0	2	.6				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.6	21.6	21.5	21.6	21.6	21.6	21.56	-
Salinity (ppt)	34.2	34.1	34.1	34.3	34.3	34.1	34.18	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.26	
D.O. Saturation (%)	87.4	86.5	86.5	88.1	86.5	86.6	86.93	-
D.O. (mg/L)	6.3	6.3	6.3	6.4	6.3	6.3	6.28	6.26
Turbidity (NTU)	21.0	21.5	22.4	22.3	22.5	22.5	22.03	-
SS (mg/L)	20.0	18.0	22.0	19.0	22.0	19.0	20.00	-
Remarks			Derrick lighte	Dredger wer	e in operation.	•		

Compliance with Action an	d Limit Lev	<u>el</u>																				
Parameter	As in	EM&A	Mean (C1-	+C3)*130%	IIV	101	IMO2			IMO3	II.	104	IIV	105	IN	106	MPB1		MF	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	e Exceedance	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	7.4	7.4	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.4	7.4	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	25.0	25.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	18.9	18.9	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N

Station			C2 (I	NM5)				
Time (hh:mm)			15:22	-15:24				
Water Depth (m)								
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.2	22.2	22.2	22.2	22.2	22.2	22.20	-
Salinity (ppt)	34.4	34.5	34.5	34.4	34.5	34.5	34.47	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.24	
D.O. Saturation (%)	70.5	65.0	66.6	71.1	67.1	71.5	68.63	-
D.O. (mg/L)	5.0	4.6	4.8	5.1	4.8	5.1	4.89	4.94
Turbidity (NTU)	13.2	12.9	20.6	20.0	20.8	21.7	18.20	-
SS (mg/L)	21	18	23	26	25	22	22.50	-
Remarks		Derric	k lighter CM	38 (B21601)	<ul><li>I) and Dred</li></ul>	ger were in o	operation.	

Sampling Date
Weather & Ambient Temperature

Station			IM	01			Co-ord	dinates			
Time (hh:mm)			15:41	-15:42			Northing	Easting			
Water Depth (m)			22.21.283	113.54.883							
Monitoring Depth (m)	1	.0									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	21.4	21.4	21.2	21.2	21.2	21.2	21.26	-			
Salinity (ppt)	34.5	34.6	34.6	34.5	34.6	34.4	34.55	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.22				
D.O. Saturation (%)	63.7	62.4	63.0	62.4	65.0	63.8	63.38	-			
D.O. (mg/L)	4.6	4.5	4.6	4.5	4.7	4.6	4.60	4.68			
Turbidity (NTU)	10.1	10.3	18.6	14.60	-						
SS (mg/L)	13	11	19	14.50	-						
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	02			Co-ord	dinates
Time (hh:mm)			15:52	-15:53			Northing	Easting
Water Depth (m)			22.21.470	113.54.462				
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.1	21.1	21.1	21.1	21.0	21.0	21.06	-
Salinity (ppt)	34.6	34.6	34.7	34.6	34.6	34.6	34.63	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.26	
D.O. Saturation (%)	67.2	68.6	68.0	68.8	72.5	68.7	68.97	-
D.O. (mg/L)	4.9	5.0	4.9	5.0	5.3	5.0	5.02	5.14
Turbidity (NTU)	10.7	10.5	18.9	18.6	20.2	20.7	16.60	-
SS (mg/L)	12	13	11	11.33	-			
Remarks		Derric	ger were in o	operation.				

Station			IM	103			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)	-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	104			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)	-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	05			Co-ord	dinates
Time (hh:mm)			16:03	-16:05			Northing	Easting
Water Depth (m)			22.21.977	113.55.202				
Monitoring Depth (m)	1	.0						
Trial	Trial 1							Bottom
Water Temperature (°C)	21.6	21.6	21.5	21.5	21.4	21.4	21.50	-
Salinity (ppt)	34.6	34.5	34.7	34.6	34.6	34.7	34.61	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	55.1	55.5	54.9	54.3	57.7	56.1	55.60	-
D.O. (mg/L)	4.0	4.0	4.0	3.9	4.2	4.1	4.01	4.11
Turbidity (NTU)	10.8	10.6	17.4	17.9	20.5	20.8	16.33	-
SS (mg/L)	14	16	15	14.83	-			
Remarks		Derric	ger were in	operation.				

Station			IM	06			Co-ord	dinates
Time (hh:mm)			16:14	-16:16			Northing	Easting
Water Depth (m)				22.21.678	113.55.648			
Monitoring Depth (m)	1	.0	7.0					
Trial Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.6	21.6	21.7	21.7	21.7	21.7	21.65	-
Salinity (ppt)	34.5	34.6	34.6	34.5	34.5	34.6	34.54	-
Н	8.3	8.3	8.3	8.2	8.2	8.3	8.26	
D.O. Saturation (%)	55.6	54.6	55.4	57.9	58.6	56.9	56.50	-
D.O. (mg/L)	4.0	3.9	4.0	4.2	4.2	4.1	4.07	4.16
Furbidity (NTU)	10.4	10.6	17.7	17.5	20.3	20.8	16.22	-
SS (mg/L)	16	16	18	17.17	-			
Remarks		Derric	k lighter CN	38 (B21601)	V) and Dred	ger were in o	peration.	

							_	
Station			MF	PB1				
Time (hh:mm)								
Water Depth (m)			7	.6				
Monitoring Depth (m)	1	.0	3	1.8	6	.6		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.0	21.0	21.1	21.0	21.1	21.1	21.05	-
Salinity (ppt)	34.3	34.1	34.3	34.1	34.2	34.2	34.19	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	
D.O. Saturation (%)	62.5	62.1	62.1	62.4	62.4	62.3	62.30	-
D.O. (mg/L)	4.6	4.5	4.5	4.6	4.6	4.5	4.54	4.55
Turbidity (NTU)	16.1	15.7	18.5	19.0	20.8	20.4	18.42	-
SS (mg/L)	27.0	29.0	29.0	34.0	30.0	27.0	29.33	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Station			M	PB2											
Time (hh:mm)															
Water Depth (m)															
Monitoring Depth (m)	1	.0	4	.4	7	'.8									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom							
							averaged								
Water Temperature (°C)	21.1	21.0	21.1	21.1	21.1	21.1	21.05	-							
Salinity (ppt)	34.2	34.3	34.2	34.2	32.6	34.3	33.95	-							
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29								
D.O. Saturation (%)	61.5	62.1	61.6	61.9	61.6	61.9	61.77	-							
D.O. (mg/L)	4.5	4.5	4.5	4.5	4.5	4.5	4.51	4.52							
Turbidity (NTU)	13.1	13.5	17.2	16.8	22.5	23.1	17.70	-							
SS (mg/L)	26	25	22	23	27	29	25.33	-							
Remarks		Derric	k lighter CM	38 (B21601)	Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			N	IP.								
Time (hh:mm)												
Water Depth (m)												
Monitoring Depth (m)	1	.0	2	.7	4	.5						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom				
							averaged					
Water Temperature (°C)	21.1	21.1	21.1	21.1	21.1	21.1	21.09	-				
Salinity (ppt)	34.3	34.2	34.3	34.1	34.1	34.2	34.19	-				
pH	8.2	8.2	8.2	8.1	8.1	8.2	8.15					
D.O. Saturation (%)	65.3	66.4	65.7	68.3	70.1	66.0	66.97	-				
D.O. (mg/L)	4.8	4.8	4.8	5.0	5.1	4.8	4.88	4.96				
Turbidity (NTU)	10.5	10.6	11.2	10.9	13.2	12.6	11.50	-				
SS (mg/L)	14	12	12	14	16	14	13.67	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Compliance with Action ar	nd Limit Lev	el																				
Parameter	As in	EM&A	C2*1	30%	IM	101	IM	102		IMO3	II.	104	IM	O5	IM	06	MF	PB1	ME	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	4.9	4.9	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	4.9	4.9	N	N	N	N	-	-	-	-	Υ	N	Υ	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	23.7	23.7	N	N	N	N	-	-	-	-	N	N	Ν	N	N	Ν	Ν	N	N	N
SS (Depth-averaged)	24.0	37.0	29.3	29.3	N	N	N	N	-	-	-	-	N	N	N	N	Υ	N	N	N	N	N

Sampling Date	11/21/09
Weather & Ambient Temperature	Cloudy, 20C

Station			C1 (	NM3)						
Time (hh:mm)			10:47							
Water Depth (m)			10							
Monitoring Depth (m)	1	.0	8	3.2	15	5.4				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	22.2	22.2	22.2	22.2	22.2	22.1	22.15	-		
Salinity (ppt)	34.5	34.5	34.4	34.4	34.5	34.5	34.46			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21			
D.O. Saturation (%)	74.9	73.4	74.0	75.1	74.0	75.2	74.43	-		
D.O. (mg/L)	5.4	5.2	5.3	5.4	5.3	5.4	5.32	5.34		
Turbidity (NTU)	10.7	10.6	20.3	20.7	25.0	28.0	19.22	-		
SS (mg/L)	21	23	26	28	22	21	23.50	-		
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			C3 (	NM6)					
Time (hh:mm)			12:29						
Water Depth (m)			6						
Monitoring Depth (m)	1	.0	3						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	21.4	21.4	21.4	21.4	21.4	21.3	21.36	-	
Salinity (ppt)	34.6	34.6	34.6	34.6	34.6	34.5	34.57	-	
pH	8.3	8.2	8.2	8.3	8.2	8.2	8.23		
D.O. Saturation (%)	62.7	62.0	62.0	62.4	62.3	63.0	62.40	-	
D.O. (mg/L)	4.5	4.5	4.5	4.5	4.5	4.6	4.52	4.54	
Turbidity (NTU)	11.3	11.8	12.7	12.4	15.3	15.0	13.08	-	
SS (mg/L)	20	19	19	17	18	18	18.50	-	
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.								

Station			IM	101			Co-ordinate	es			
Time (hh:mm)			11:23	-11:24			Northing	Easting			
Water Depth (m)			1-	22.21.285	113.54.885						
Monitoring Depth (m)	1	.0	7		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.4	21.4	21.3	21.2	21.1	21.2	21.25	-			
Salinity (ppt)	34.6	34.6	34.6	34.7	34.6	34.7	34.62	-			
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.26				
D.O. Saturation (%)	62.2	61.8	62.5	62.6	64.2	63.2	62.75	-			
D.O. (mg/L)	4.5	4.5	4.5	4.5	4.7	4.6	4.55	4.63			
Turbidity (NTU)	12.3	12.5	15.7	15.4	18.9	18.8	15.60	-			
SS (mg/L)	16	18	14	17	15	18	16.33	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	102			Co-ordinate	s	
Time (hh:mm)			11:33		Northing	Easting			
Water Depth (m)			10		22.21.473	113.54.460			
Monitoring Depth (m)	1	.0	6	i.7	1:	2.4		•	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	21.2	21.1	21.1	21.1	21.1	21.0	21.09	-	
Salinity (ppt)	34.6	34.6	34.5	34.6	34.6	34.5	34.56	-	
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20		
D.O. Saturation (%)	70.1	69.1	71.2	70.0	73.4	74.4	71.37	-	
D.O. (mg/L)	5.1	5.0	5.2	5.1	5.3	5.4	5.19	5.38	
Turbidity (NTU)	10.5	10.7	16.8	16.1	19.3	19.7	15.52	-	
SS (mg/L)	10	12	11	13	10	9	10.83	-	
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.								

Station			IM	O3			Co-ordinates	1
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)	-		-		-			•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-		-	-
Salinity (ppt)	-	-	-	-	-		-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-		-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	104			Co-ordinate:	S
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)	-		-		-			•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	O5			Co-ordinat	tes			
Time (hh:mm)			11:12	-11:14			Northing	Easting			
Water Depth (m)			20		22.21.979	113.55.204					
Monitoring Depth (m)	1	.0	10	9.2		•					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.6	21.6	21.6	21.5	21.4	21.5	21.52	-			
Salinity (ppt)	34.6	34.6	34.6	34.6	34.6	34.4	34.56	-			
pH	8.3	8.2	8.2	8.2	8.2	8.2	8.21				
D.O. Saturation (%)	56.2	59.5	59.8	57.7	58.7	61.2	58.85	-			
D.O. (mg/L)	4.1	4.3	4.3	4.2	4.2	4.4	4.25	4.33			
Turbidity (NTU)	10.4	10.1	15.9	16.4	18.9	19.1	15.13	-			
SS (mg/L)	19	22	18	22	20	18	19.83	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	06			Co-ordinat	tes
Time (hh:mm)			11:00	-11:02			Northing	Easting
Water Depth (m)			17	7.8			22.21.678	113.55.648
Monitoring Depth (m)	1	.0	8	.9	16	6.8		•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.6	21.7	21.7	21.7	21.7	21.7	21.66	-
Salinity (ppt)	34.6	34.6	34.6	34.6	34.6	34.5	34.59	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.31	
D.O. Saturation (%)	51.0	52.7	53.1	51.9	54.6	53.1	52.73	-
D.O. (mg/L)	3.7	3.8	3.8	3.7	3.9	3.8	3.79	3.87
Turbidity (NTU)	10.3	10.5	17.1	17.5	18.4	18.5	15.38	-
SS (mg/L)	16	15	17	17	19	18	17.00	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			MF	PB1				
Time (hh:mm)			11:54	-11:55				
Water Depth (m)			7	.2				
Monitoring Depth (m)	1	.0	3	.6	6	.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.0	21.0	21.1	21.0	21.0	21.1	21.04	-
Salinity (ppt)	34.2	34.1	34.2	34.1	34.0	34.2	34.15	-
pH	8.3	8.2	8.3	8.2	8.2	8.3	8.23	
D.O. Saturation (%)	59.8	58.1	59.5	58.6	61.0	59.3	59.38	-
D.O. (mg/L)	4.4	4.2	4.3	4.3	4.5	4.3	4.33	4.39
Turbidity (NTU)	18.9	18.7	23.8	23.5	24.4	24.1	22.23	-
SS (mg/L)	20.0	20.0	19.0	20.0	22.0	19.0	20.00	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			ME	PB2				
Time (hh:mm)			12:04	-12:06				
Water Depth (m)			8	.4				
Monitoring Depth (m)	1	.0	4	.2	7	.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.1	21.1	21.1	21.1	21.1	21.1	21.06	-
Salinity (ppt)	34.2	34.3	34.2	34.2	34.2	34.3	34.22	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.28	
D.O. Saturation (%)	61.1	61.1	61.0	61.2	60.5	61.3	61.03	-
D.O. (mg/L)	4.5	4.5	4.4	4.5	4.4	4.5	4.45	4.44
Turbidity (NTU)	15.9	15.5	20.5	20.3	26.8	26.6	20.93	-
SS (mg/L)	21	23	23	26	19	21	22.17	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			N	IP				
Time (hh:mm)			11:45	-11:46				
Water Depth (m)			5	.0				
Monitoring Depth (m)	1	.0	2	.5	4	.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.1	21.1	21.1	21.1	21.1	21.1	21.11	-
Salinity (ppt)	34.3	34.3	34.3	34.3	34.2	34.3	34.28	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.22	
D.O. Saturation (%)	65.6	65.3	65.3	65.5	65.6	65.5	65.47	-
D.O. (mg/L)	4.8	4.8	4.8	4.8	4.8	4.8	4.77	4.78
Turbidity (NTU)	7.6	8.2	10.6	10.8	11.2	11.7	10.02	-
SS (mg/L)	18	19	21	18	16	19	18.50	-
Remarks			Derrick lighte	Dredger wer	e in operation.	•		

Compliance with Action an	d Limit Leve	el																				
Parameter	As in I	EM&A	Mean (C1-	+C3)*130%	IM	101	IMO2			IMO3	IIV	104	IIV	105	IM	106	MPB1		MP	B2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	4.9	4.9	N	Ν	N	N	-	-	-	-	N	N	N	N	N	N	N	N	Z	N
DO (Depth-averaged)	4.2	4.0	4.9	4.9	N	Ν	N	N	-	-	-	-	N	N	Y	Y	N	N	N	N	Z	N
Turbidity (Depth-averaged)	29.0	49.0	21.0	21.0	N	Ν	N	N	-	-	-	-	N	N	N	N	N	N	N	N	Z	N
SS (Depth-averaged)	24.0	37.0	27.3	27.3	N	Ν	N	N	-	-	-	-	N	N	N	N	N	N	N	N	Z	N

Station			C2 (	NM5)				
Time (hh:mm)			15:11	-15:13				
Water Depth (m)			2	0.2			1	
Monitoring Depth (m)	1	.0	1	0.1	19	9.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	20.9	20.9	20.8	20.8	20.7	20.7	20.80	-
Salinity (ppt)	34.6	34.6	34.5	34.5	34.5	34.5	34.53	-
pH	8.4	8.4	8.3	8.4	8.3	8.3	8.35	
D.O. Saturation (%)	70.5	72.4	73.4	73.0	74.6	74.8	73.12	-
D.O. (mg/L)	5.3	5.3	5.4	5.3	5.5	5.5	5.36	5.46
Turbidity (NTU)	8.6	8.9	11.2	10.9	14.6	14.8	11.50	-
SS (mg/L)	18	18	18	21	20	19	19.00	-
Remarks		Derric	k lighter CN	38 (B21601)	V) and Dredo	ger were in	operation.	

Sampling Date
Weather & Ambient Temperature

Station			IM	01			Co-ore	dinates
Time (hh:mm)			15:25	-15:27			Northing	Easting
Water Depth (m)			12	2.2			22.21.527	113.54.636
Monitoring Depth (m)	1	.0	6	.1	11	1.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.0	21.0	21.0	21.0	21.0	21.0	20.99	-
Salinity (ppt)	34.4	34.4	34.4	34.4	34.5	34.5	34.44	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	
D.O. Saturation (%)	69.0	69.2	69.5	69.3	69.5	70.1	69.43	-
D.O. (mg/L)	5.0	5.0	5.1	5.1	5.1	5.1	5.07	5.11
Turbidity (NTU)	6.6	6.3	9.5	9.6	12.3	11.9	9.37	-
SS (mg/L)	12	14	12	12	13	13	12.67	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			IM	02			Co-ord	dinates
Time (hh:mm)			15:35	-15:37			Northing	Easting
Water Depth (m)			22.21.311	113.54.827				
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.0	21.0	20.9	20.9	20.9	20.9	20.94	-
Salinity (ppt)	34.5	34.5	34.5	34.5	34.5	34.4	34.49	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	79.6	80.3	80.6	80.0	81.2	81.2	80.48	-
D.O. (mg/L)	5.8	5.9	5.9	5.9	5.9	5.9	5.88	5.94
Turbidity (NTU)	3.8	3.5	4.3	4.1	6.6	6.3	4.77	-
SS (mg/L)	9	9	9	11	9	11	9.67	-
Remarks		Derric	ger were in o	operation.				

Station			IM	O3			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	÷
Salinity (ppt)	-	-	-	-	-	-	,	-
pH	-	-	-	-	-	-	,	-
D.O. Saturation (%)	-	-	-	-	-	-	,	-
D.O. (mg/L)	-	-	-	-	-	-	,	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks		Derric	ger were in o	operation.				

Station			IM	104			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	05			Co-ore	dinates
Time (hh:mm)			15:49	-15:51			Northing	Easting
Water Depth (m)				22.21.960	113.55.214			
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	21.0	21.0	20.9	20.9	20.8	20.8	20.90	-
Salinity (ppt)	34.7	34.7	34.6	34.6	34.6	34.6	34.65	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	
D.O. Saturation (%)	76.3	75.3	76.8	75.8	77.2	76.3	76.28	-
D.O. (mg/L)	5.6	5.5	5.6	5.5	5.6	5.6	5.57	5.61
Turbidity (NTU)	8.2	7.9	10.1	9.8	12.1	12.4	10.08	-
SS (mg/L)	15	14	14	18	15	14	15.00	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Station			IM	106			Co-ord	dinates			
Time (hh:mm)			16:01	-16:03			Northing	Easting			
Water Depth (m)				22.21.671	113.55.660						
Monitoring Depth (m)	1	.0									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	21.2	21.1	20.9	20.9	20.9	20.9	20.97	-			
Salinity (ppt)	34.6	34.6	34.6	34.6	34.7	34.6	34.61	-			
pH	8.3	8.3	8.2	8.3	8.2	8.2	8.25				
D.O. Saturation (%)	83.7	83.5	85.0	85.6	86.7	87.5	85.33	-			
D.O. (mg/L)	6.1	6.1	6.2	6.3	6.3	6.4	6.23	6.36			
Turbidity (NTU)	7.2	7.4	9.7	9.4	12.0	11.5	9.53	-			
SS (mg/L)	12	14	16	13.67	-						
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			ME	PB1			1					
Time (hh:mm)												
Water Depth (m)			7	.8								
Monitoring Depth (m)	1	.0	3	.9	6	.8						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom				
Water Temperature (°C)	21.3	21.3	21.3	21.3	21.4	21.4	21.32	-				
Salinity (ppt)	34.5	34.5	34.6	34.6	34.6	34.6	34.59	-				
pH	8.3	8.3	8.3	8.3	8.2	8.3	8.27					
D.O. Saturation (%)	65.1	65.0	64.9	64.8	66.0	65.2	65.17	-				
D.O. (mg/L)	4.7	4.7	4.7	4.7	4.8	4.7	4.73	4.75				
Turbidity (NTU)	5.7	5.9	7.3	7.7	9.0	9.4	7.50	-				
SS (mg/L)	10	11	12	13	13	15	12.33	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			M	PB2				
Time (hh:mm)								
Water Depth (m)								
Monitoring Depth (m)	1	.0	4	.2	7	'.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.2	21.2	21.2	21.2	21.3	21.3	21.24	-
Salinity (ppt)	34.4	34.5	34.5	34.5	34.6	34.6	34.51	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	63.1	63.2	64.0	63.1	64.5	63.8	63.62	-
D.O. (mg/L)	4.6	4.6	4.7	4.6	4.7	4.6	4.62	4.66
Turbidity (NTU)	5.6	5.5	6.1	6.2	7.8	7.6	6.47	-
SS (mg/L)	11	13	14	18	13	10	13.17	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

-								
Station			N.	IP			1	
Time (hh:mm)								
Water Depth (m)			4	.9				
Monitoring Depth (m)	1	.0	2	.5	3	1.9		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.4	21.4	21.3	21.4	21.3	21.3	21.35	-
Salinity (ppt)	34.4	34.4	34.5	34.5	34.5	34.5	34.46	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	66.4	66.3	67.4	67.9	68.5	68.8	67.55	-
D.O. (mg/L)	4.8	4.8	4.9	4.9	5.0	5.0	4.90	4.98
Turbidity (NTU)	5.6	5.5	7.5	7.4	8.7	8.6	7.22	
SS (mg/L)	12	12	14	14	10	10	7.22	
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	peration.	

Compliance with Action an	nd Limit Lev	<u>rel</u>																				
Parameter	As in I	EM&A	C2*1	30%	IM	01	IM	02		IMO3	IM	04	IM	O5	IM	06	MF	PB1	M	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	5.5	5.5	N	N	N	N	-	=	-	-	N	N	N	N	N	N	Ν	N	N	N
DO (Depth-averaged)	4.2	4.0	5.4	5.4	N	N	N	N	-	-	-		N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	15.0	15.0	N	N	N	N	-	-	-	,	N	N	Ν	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	24.7	24.7	N	N	N	N	-	-	-	-	N	N	N	N	N	N	Ν	N	N	N

11/22/09
Fine, 17C

Station			C1 (	NM3)								
Time (hh:mm)			11:07	-11:06								
Water Depth (m)			16									
Monitoring Depth (m)	1	.0	8									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	21.3	21.3	21.0	21.0	20.8	20.9	21.04	-				
Salinity (ppt)	34.5	34.5	34.5	34.4	34.4	34.4	34.45	-				
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20					
D.O. Saturation (%)	107.6	107.9	108.3	109.1	109.9	109.2	108.67	-				
D.O. (mg/L)	7.8	7.8	7.9	7.9	8.0	8.0	7.91	8.00				
Turbidity (NTU)	3.9	4.0	10.0	10.1	13.3	13.3	9.10	-				
SS (mg/L)	10	10	12	12	17	19	13.33	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			C3 (	NM6)				
Time (hh:mm)			12:48	-12:50				
Water Depth (m)			6	i.4				
Monitoring Depth (m)	1	.0	3	1.2	5	.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	20.9	20.9	20.8	20.8	20.8	20.8	20.82	-
Salinity (ppt)	34.7	34.7	34.5	34.5	34.6	34.6	34.60	-
pH	8.3	8.2	8.2	8.2	8.2	8.2	8.23	
D.O. Saturation (%)	67.3	66.9	67.9	67.2	68.3	69.0	67.77	-
D.O. (mg/L)	4.9	4.9	5.0	4.9	5.0	5.0	4.94	5.01
Turbidity (NTU)	6.3	6.1	8.1	7.9	8.7	8.9	7.67	-
SS (mg/L)	14	14	14	13	13	13		-
Remarks			Derrick lic	hter CM38 (	B21601V) ai	nd Dredger w	ere in operation.	

Station			IM	101			Co-ordinate	s			
Time (hh:mm)			11:51	-11:53			Northing	Easting			
Water Depth (m)			1:	22.21.475	113.54.471						
Monitoring Depth (m)	1	.0	6								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	20.9	20.9	20.9	20.9	20.9	20.9	20.90	-			
Salinity (ppt)	34.5	34.5	34.4	34.4	34.4	34.4	34.41	-			
pH	8.3	8.3	8.3	8.3	8.2	8.2	8.25				
D.O. Saturation (%)	70.9	71.5	71.8	71.9	72.7	72.7	71.92	-			
D.O. (mg/L)	5.2	5.2	5.2	5.3	5.3	5.3	5.25	5.31			
Turbidity (NTU)	5.4	5.5	8.2	7.8	10.3	9.8	7.83	-			
SS (mg/L)	11	12	12	15	12	11	12.17	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	02			Co-ordinate	es			
Time (hh:mm)			11:41	-11:44			Northing	Easting			
Water Depth (m)			13		22.21.313	113.54.822					
Monitoring Depth (m)	1	.0	6		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	20.9	20.9	20.9	20.9	20.9	20.8	20.88	-			
Salinity (ppt)	34.4	34.4	34.4	34.4	34.4	34.4	34.41	-			
pH	8.3	8.2	8.2	8.2	8.2	8.2	8.22				
D.O. Saturation (%)	86.1	86.8	87.2	87.5	88.4	88.3	87.38	-			
D.O. (mg/L)	6.3	6.3	6.4	6.4	6.5	6.5	6.38	6.45			
Turbidity (NTU)	2.6	2.8	3.8	3.5	5.3	5.6	3.93	-			
SS (mg/L)	10	13	10	11	11	10	10.83	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	103			Co-ordinates	;
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)		-		-		-		•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	04			Co-ordinates	}
Time (hh:mm)					Northing	Easting		
Water Depth (m)				-				
Monitoring Depth (m)								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-		-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	O5			Co-ordinat	tes		
Time (hh:mm)			11:26	-11:28			Northing	Easting		
Water Depth (m)			20		22.21.958	113.55.216				
Monitoring Depth (m)	1	.0	10	9.0		•				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	20.9	20.9	20.8	20.8	20.8	20.8	20.82	-		
Salinity (ppt)	34.6	34.6	34.6	34.6	34.6	34.5	34.59	-		
pH	8.3	8.3	8.2	8.3	8.2	8.2	8.25			
D.O. Saturation (%)	79.6	80.2	80.1	81.3	80.8	81.8	80.63	-		
D.O. (mg/L)	5.8	5.9	5.9	5.9	5.9	6.0	5.89	5.95		
Turbidity (NTU)	7.1	7.5	8.9	8.5	10.6	10.4	8.83	-		
SS (mg/L)	16	13	16	15	16	16	15.33	-		
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.								

Station			IM	106			Co-ordina	tes
Time (hh:mm)			11:16	i-11:19			Northing	Easting
Water Depth (m)			17	7.6			22.21.669	113.55.654
Monitoring Depth (m)	1	.0	8	1.8	16	5.6		•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.1	21.0	20.8	20.9	20.8	20.8	20.88	-
Salinity (ppt)	34.6	34.6	34.6	34.5	34.5	34.5	34.54	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	103.9	104.5	106.1	105.1	106.6	106.5	105.45	-
D.O. (mg/L)	7.6	7.6	7.8	7.7	7.8	7.8	7.70	7.80
Turbidity (NTU)	6.3	6.4	10.4	10.4	12.6	12.3	9.73	-
SS (mg/L)	15	14	15	18	17	18	16.17	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			ME	PB1				
Time (hh:mm)			12:16	-12:18				
Water Depth (m)			8	.2				
Monitoring Depth (m)	1	.0	4	.1	7	.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.2	21.2	21.2	21.3	21.3	21.25	-
Salinity (ppt)	34.4	34.4	34.5	34.5	34.5	34.5	34.48	-
pH	8.3	8.2	8.2	8.2	8.2	8.2	8.23	
D.O. Saturation (%)	66.3	66.3	66.9	66.8	67.8	67.4	66.92	-
D.O. (mg/L)	4.8	4.8	4.9	4.8	4.9	4.9	4.85	4.90
Turbidity (NTU)	4.4	4.1	6.7	6.9	7.8	8.2	6.35	-
SS (mg/L)	12	10	11	14	9	10	11.00	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			M	PB2				
Time (hh:mm)			12:27	-12:30				
Water Depth (m)			8	1.6				
Monitoring Depth (m)	1	.0	4	.3	7	.6		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.2	21.1	21.1	21.2	21.2	21.17	-
Salinity (ppt)	34.4	34.4	34.4	34.4	34.4	34.4	34.38	-
pH	8.3	8.3	8.2	8.2	8.2	8.2	8.24	
D.O. Saturation (%)	68.3	68.2	66.7	67.1	67.3	68.0	67.60	-
D.O. (mg/L)	5.0	5.0	4.9	4.9	4.9	4.9	4.91	4.92
Turbidity (NTU)	4.2	4.3	5.3	5.1	6.7	6.6	5.37	-
SS (mg/L)	10	11	10	12	10	10	10.50	-
Remarks			Derrick light	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			N	IP				
Time (hh:mm)			12:06	-12:08				
Water Depth (m)			5	.4				
Monitoring Depth (m)	1	.0	2	.7	4	.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.3	21.3	21.3	21.3	21.2	21.2	21.26	-
Salinity (ppt)	34.4	34.3	34.4	34.4	34.3	34.3	34.35	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	68.5	68.1	69.1	68.7	70.5	69.7	69.10	-
D.O. (mg/L)	5.0	4.9	5.0	5.0	5.1	5.1	5.01	5.09
Turbidity (NTU)	6.1	6.1	7.4	7.7	8.9	9.0	7.53	-
SS (mg/L)	11	12	13	14	9	11	7.53	-
Remarks			Derrick lighte	Dredger wer	e in operation.	•		

Compliance with Action an	d Limit Leve	el																				
Parameter	As in I	EM&A	Mean (C1-	+C3)*130%	IIV	101	IMO2			IMO3	IM	04	IIV	105	IM	106	MPB1		MP	B2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	6.5	6.5	N	Ν	N	N	-	-	-	-	N	N	N	Ν	N	N	N	N	Z	N
DO (Depth-averaged)	4.2	4.0	6.4	6.4	N	Ν	N	N	-	-	-	-	N	N	N	Ν	N	N	N	N	Z	N
Turbidity (Depth-averaged)	29.0	49.0	10.9	10.9	N	Ν	N	N	-	-	-	-	N	N	N	Ν	N	N	N	N	Z	N
SS (Depth-averaged)	24.0	37.0	17.3	17.3	N	N	N	N	-	-	-	-	N	N	N	Ν	N	N	N	N	Ν	N

- · ·	
Weather & Ambient Temperature	Fine, 14C
Sampling Date	11/23/09

Station			C2 (I	NM5)				
Time (hh:mm)								
Water Depth (m)			20	0.0				
Monitoring Depth (m)	1	.0	10	0.0	19	9.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.2	21.2	20.9	20.9	20.5	20.5	20.85	1
Salinity (ppt)	34.6	34.6	34.7	34.7	34.8	34.8	34.69	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27	
D.O. Saturation (%)	79.7	80.1	81.7	81.9	83.0	82.7	81.52	-
D.O. (mg/L)	5.8	5.8	6.0	6.0	6.1	6.1	5.94	6.08
Turbidity (NTU)	2.4	2.3	3.7	3.8	4.9	4.8	3.65	-
SS (mg/L)	12	13	19	16	14	15	14.83	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			IN	101			Co-ore	dinates
Time (hh:mm)			4:42	-4:45			Northing	Easting
Water Depth (m)			1	1.8			22.21.493	113.54.434
Monitoring Depth (m)	1.0 5.9 10.8							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.3	21.3	21.2	21.2	21.0	21.0	21.16	-
Salinity (ppt)	34.7	34.6	34.6	34.6	34.6	34.6	34.63	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.23	
D.O. Saturation (%)	79.0	79.2	79.6	80.5	80.4	81.5	80.03	-
D.O. (mg/L)	5.7	5.7	5.8	5.8	5.9	5.9	5.81	5.90
Turbidity (NTU)	1.4	1.3	2.1	1.8	2.5	2.3	1.90	-
SS (mg/L)	10	9	8	6	8	9	8.33	-
Remarks		Derric	k lighter CN	38 (B21601)	V) and Dred	ger were in	operation.	

Station			IM	02			Co-ore	dinates
Time (hh:mm)			Northing	Easting				
Water Depth (m)			10	).4			22.21.222	113.54.666
Monitoring Depth (m)	1	.0	5	.2	9	.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	21.4	21.4	21.3	21.3	20.3	20.3	21.01	-
Salinity (ppt)	34.6	34.6	34.7	34.7	34.7	34.7	34.66	-
pH	8.3	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	81.1	81.1	82.1	81.9	82.2	81.7	81.68	-
D.O. (mg/L)	5.9	5.9	5.9	6.0	6.1	6.0	5.95	6.04
Turbidity (NTU)	1.3	1.2	1.6	1.5	2.5	2.7	1.80	-
SS (mg/L)	10	9	9	8	9	8	8.83	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			IM	103			Co-ordinates		
Time (hh:mm)							Northing	Easting	
Water Depth (m)				-					
Monitoring Depth (m)		-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	-	-	
Salinity (ppt)	-	-	-	-	-	-	-	=	
pH	-	-	-	-	-	-	,	-	
D.O. Saturation (%)	-	-	-	-	-	-	,	-	
D.O. (mg/L)	-	-	-	-	-	-	,	-	
Turbidity (NTU)	-	-	-	-	-	-	-	-	
SS (mg/L)								-	
Remarks									

Station			IM	104			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	105			Co-ore	dinates
Time (hh:mm)			4:19	-4:21			Northing	Easting
Water Depth (m)			2	1.0			22.22.997	113.55.170
Monitoring Depth (m)	1	.0	10	0.5	2	0.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.3	21.3	20.8	20.8	20.5	20.5	20.84	-
Salinity (ppt)	34.5	34.5	34.6	34.6	34.7	34.7	34.59	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20	
D.O. Saturation (%)	87.7	87.1	87.6	88.4	89.2	88.6	88.10	-
D.O. (mg/L)	6.4	6.3	6.4	6.5	6.6	6.5	6.43	6.53
Turbidity (NTU)	3.7	3.4	5.1	5.5	6.2	6.5	5.07	-
SS (mg/L)	8	8	8	9	12	11	9.33	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Station			IM	06			Co-ore	dinates
Time (hh:mm)			4:06	-4:09			Northing	Easting
Water Depth (m)				22.21.714	113.55.641			
Monitoring Depth (m)	1.	.0	9	.0	17	'.O		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.6	21.6	20.9	20.8	20.4	20.4	20.95	-
Salinity (ppt)	34.6	34.5	34.6	34.6	34.6	34.6	34.59	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20	
D.O. Saturation (%)	93.3	93.1	93.9	93.9	94.1	94.6	93.82	-
D.O. (mg/L)	6.7	6.7	6.9	6.9	6.9	7.0	6.84	6.95
Turbidity (NTU)	3.0	2.9	4.9	4.8	5.6	5.3	4.42	-
SS (mg/L)	11	10	11	12	11	14	11.50	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			MF	PB1			1				
Time (hh:mm)			5:24	-5:27							
Water Depth (m)											
Monitoring Depth (m)	1	.0									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	20.8	20.8	20.8	20.8	20.7	20.7	20.75	-			
Salinity (ppt)	34.5	34.5	34.6	34.6	34.6	34.6	34.55	-			
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27				
D.O. Saturation (%)	75.8	76.0	76.6	76.1	77.3	75.9	76.28	-			
D.O. (mg/L)	5.5	5.6	5.6	5.6	5.7	5.7	5.60	5.66			
Turbidity (NTU)	3.3	3.4	4.1	4.0	5.5	5.7	4.33	-			
SS (mg/L)	8	9	8	9	10	11	9.17	-			
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			ME	B2				
Time (hh:mm)			5:36	-5:38				
Water Depth (m)			8	.0				
Monitoring Depth (m)	1							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	20.9	20.9	20.8	20.8	20.8	20.8	20.82	-
Salinity (ppt)	34.7	34.7	34.6	34.7	34.6	34.6	34.66	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.30	
D.O. Saturation (%)	72.7	73.0	74.9	74.4	75.3	75.9	74.37	-
D.O. (mg/L)	5.4	5.3	5.5	5.4	5.5	5.6	5.45	5.53
Turbidity (NTU)	3.0	3.2	4.2	4.1	5.4	5.2	4.18	-
SS (mg/L)	8	9	11	10	10	9	9.50	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

							-	
Station			IV.	IP				
Time (hh:mm)								
Water Depth (m)								
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	20.9	20.9	20.9	20.9	20.9	20.9	20.88	-
Salinity (ppt)	34.4	34.4	34.5	34.5	34.6	34.6	34.52	-
pH	8.2	8.3	8.2	8.2	8.2	8.2	8.23	
D.O. Saturation (%)	79.2	78.5	78.8	80.3	79.3	81.2	79.55	-
D.O. (mg/L)	5.8	5.8	5.8	5.9	5.9	5.9	5.84	5.90
Turbidity (NTU)	3.4	3.3	3.6	3.7	4.1	3.9	3.67	-
SS (mg/L)	11	11	10	10	9	10	10.17	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Compliance with Action ar	d Limit Lev	<u>el</u>																				
Parameter	As in I	EM&A	C2*1	30%	IM	101	IM	02		IMO3	IM	104	IM	O5	IM	06	MF	PB1	MF	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	6.1	6.1	N	N	N	N	-	=	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.9	5.9	N	N	N	N	-	-		-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	4.7	4.7	N	N	N	N	-	=	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	19.3	19.3	N	N	N	N	-	-	-	-	N	N	N	N	Ν	Ν	Ν	N	N	N

9
C
_

Station			C1 (	NM3)							
Time (hh:mm)			16:58								
Water Depth (m)			7								
Monitoring Depth (m)	1	.0	3								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.7	21.7	21.7	21.7	21.6	21.6	21.69	-			
Salinity (ppt)	34.6	34.6	34.6	34.7	34.6	33.1	34.37	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21				
D.O. Saturation (%)	65.8	67.4	66.0	65.8	68.6	65.7	66.55	-			
D.O. (mg/L)	4.7	4.8	4.8	4.7	4.9	4.8	4.79	4.86			
Turbidity (NTU)	11.8	11.7	12.9	12.5	14.7	14.8	13.07	-			
SS (mg/L)	9	9	9	10	10	9	9.33	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			C3 (	NM6)				
Time (hh:mm)			15:14					
Water Depth (m)			7					
Monitoring Depth (m)	1	.0	3					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	20.5	20.5	20.5	20.5	20.5	20.5	20.48	-
Salinity (ppt)	34.7	34.3	34.7	34.2	34.7	34.6	34.52	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.12	
D.O. Saturation (%)	91.3	94.8	93.0	95.3	94.0	97.8	94.37	-
D.O. (mg/L)	6.7	7.0	6.8	7.0	6.9	7.2	6.94	7.06
Turbidity (NTU)	12.6	12.6	12.8	12.8	13.0	12.7	12.75	-
SS (mg/L)	11	10	12	11	9	8	10.17	-
Remarks			Derrick lic	hter CM38 (	B21601V) ai	nd Dredaer v	vere in operation.	

Station			IM	101			Co-ordinate	es				
Time (hh:mm)			15:59	-16:01			Northing	Easting				
Water Depth (m)			10	0.3			22.21.377	113.54.330				
Monitoring Depth (m)	1	.0		.2	9	.3						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	21.1	21.2	20.9	21.1	20.8	21.0	21.04	-				
Salinity (ppt)	34.7	34.3	34.9	34.7	34.6	34.7	34.63	-				
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19					
D.O. Saturation (%)	69.4	71.2	70.6	70.7	74.7	71.8	71.40	-				
D.O. (mg/L)	5.0	5.2	5.1	5.1	5.5	5.2	5.20	5.34				
Turbidity (NTU)	13.8	13.5	13.2	13.8	13.7	13.8	13.63	-				
SS (mg/L)	15	12	14	15	13	13	13.67	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	102			Co-ordinate	s			
Time (hh:mm)			16:08	3-16:09			Northing	Easting			
Water Depth (m)			1:	22.21.153	113.54.885						
Monitoring Depth (m)	1	.0	6								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.2	21.2	21.0	21.0	20.9	21.0	21.04	-			
Salinity (ppt)	34.6	32.8	34.8	34.9	34.6	34.6	34.36	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20				
D.O. Saturation (%)	61.7	61.8	62.0	61.9	62.8	62.9	62.18	-			
D.O. (mg/L)	4.5	4.5	4.5	4.5	4.6	4.6	4.53	4.58			
Turbidity (NTU)	13.5	13.4	14.1	15.0	15.6	15.0	14.43	-			
SS (mg/L)	9	7	11	10	12	13	10.33	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	O3			Co-ordinates	
Time (hh:mm)				Northing	Easting			
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	04			Co-ordinates			
Time (hh:mm)					Northing	Easting				
Water Depth (m)										
Monitoring Depth (m)										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	-	-	-	-	-	-	-	-		
Salinity (ppt)	-	-	-	-	-	-	-	-		
pH	-	-	-	-	-	-	-	-		
D.O. Saturation (%)	-	-	-	-	-	-	-	-		
D.O. (mg/L)	-	-	-	-	-	-	-	-		
Turbidity (NTU)	-		-	-	-	-	-	-		
SS (mg/L)								-		
Remarks										

Station			IM	O5			Co-ordinat	tes			
Time (hh:mm)			16:21	-16:22			Northing	Easting			
Water Depth (m)			20	0.0			22.21.980	113.55.251			
Monitoring Depth (m)	1	.0	10		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.2	21.3	20.9	20.9	20.8	20.9	20.99	-			
Salinity (ppt)	34.7	34.7	34.8	34.7	34.7	34.7	34.71	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19				
D.O. Saturation (%)	57.3	57.2	57.7	57.3	58.2	58.1	57.63	-			
D.O. (mg/L)	4.2	4.1	4.2	4.2	4.3	4.2	4.19	4.25			
Turbidity (NTU)	15.1	14.7	15.9	15.7	16.7	16.6	15.78	-			
SS (mg/L)	10	12	13	12	16	13	12.67	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	06			Co-ordinat	tes			
Time (hh:mm)			16:31	-16:33			Northing	Easting			
Water Depth (m)			18		22.21.761	113.55.251					
Monitoring Depth (m)	1	.0	9	7.0		•					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.5	21.5	21.1	21.2	20.9	20.9	21.17	-			
Salinity (ppt)	34.7	34.7	34.8	34.8	34.7	34.5	34.71	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.22				
D.O. Saturation (%)	61.4	62.6	64.4	62.1	62.1	74.8	64.57	-			
D.O. (mg/L)	4.4	4.5	4.7	4.5	4.5	5.5	4.69	5.00			
Turbidity (NTU)	12.6	13.0	13.6	13.9	14.4	14.6	13.68	-			
SS (mg/L)	9	8	10	12	16	16	11.83	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			ME	PB1				
Time (hh:mm)			15:38	-15:39				
Water Depth (m)			8	.6				
Monitoring Depth (m)	1	.0	4	.3	7	.6		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.2	21.0	20.9	21.0	20.9	21.03	-
Salinity (ppt)	34.6	34.6	34.7	34.6	34.5	34.6	34.58	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18	
D.O. Saturation (%)	94.3	95.1	100.6	92.9	93.2	107.9	97.33	-
D.O. (mg/L)	6.8	6.9	7.3	6.8	6.8	7.9	7.08	7.33
Turbidity (NTU)	13.8	13.9	17.4	17.0	18.4	18.7	16.53	-
SS (mg/L)	10	9	11	9	13	14	11.00	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			ME	PB2				
Time (hh:mm)			15:29	-15:30				
Water Depth (m)			9					
Monitoring Depth (m)	1	.0	4	.5	8	.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.1	21.1	20.9	21.0	21.0	21.0	21.01	-
Salinity (ppt)	34.7	34.6	34.7	34.6	34.3	34.6	34.57	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.16	
D.O. Saturation (%)	94.3	102.0	95.8	105.8	113.1	100.7	101.95	-
D.O. (mg/L)	6.9	7.4	7.0	7.7	8.3	7.3	7.42	7.80
Turbidity (NTU)	14.1	14.1	15.0	15.6	16.5	16.6	15.32	-
SS (mg/L)	10	10	9	11	13	15	11.33	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			N	IP.							
Time (hh:mm)			15:47	-15:48							
Water Depth (m)			5	.9							
Monitoring Depth (m)	1	.0	3	.0	4	.9					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.0	21.0	21.0	21.0	20.8	20.8	20.94	-			
Salinity (ppt)	34.6	34.6	34.6	34.6	34.5	34.6	34.57	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18				
D.O. Saturation (%)	91.0	92.8	95.2	89.7	95.1	86.7	91.75	-			
D.O. (mg/L)	6.6	6.8	6.9	6.5	6.9	6.3	6.68	6.62			
Turbidity (NTU)	16.7	17.1	16.9	16.8	16.7	16.8	16.83	-			
SS (mg/L)	12	12	13	13	16	18	14.00	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Compliance with Action an	d Limit Lev	el																				
Parameter	As in	EM&A	Mean (C1+	C3)*130%	IM	101	IMO2			IMO3	IIV	104	IM	105	IM	106	MPB1		MP	B2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	e Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	<b>Exceedance of Action</b>	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	6.0	6.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.9	5.9	N	N	N	N	-	-	-	-	Υ	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	16.8	16.8	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	12.7	12.7	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N

Sampling Date	11/24/2009
Weather & Ambient Temperature	Cloudy, 17C
Ctation	CO (NIME)

Station			C2 (	NM5)				
Time (hh:mm)			5:41	-5:42				
Water Depth (m)								
Monitoring Depth (m)	1	.0	10	).1	19	9.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	22.4	22.3	22.3	22.3	22.3	22.3	22.34	-
Salinity (ppt)	34.5	34.4	34.4	34.5	34.4	34.3	34.41	-
pH	8.0	8.0	8.0	8.0	8.0	7.9	7.98	
D.O. Saturation (%)	98.0	101.4	103.9	98.6	100.0	108.9	101.80	-
D.O. (mg/L)	6.9	7.2	7.4	7.0	7.1	7.7	7.22	7.41
Turbidity (NTU)	7.4	8.4	12.7	10.7	11.3	11.9	10.40	-
SS (mg/L)	12	13	12	14	9	10	11.67	
Remarks			on.					

Station			IM	101			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	102			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	=
SS (mg/L)								-
Remarks								

Station			IM	103			Co-ordinates		
Time (hh:mm)							Northing	Easting	
Water Depth (m)				-					
Monitoring Depth (m)		-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	-	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	-	-	-	-	-	-	-	-	
SS (mg/L)								-	
Remarks									

Station			IM	104			Co-ordinates		
Time (hh:mm)							Northing	Easting	
Water Depth (m)				-					
Monitoring Depth (m)		-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	,	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-	
D.O. (mg/L)	-	-	-	-	-	-	,	-	
Turbidity (NTU)	-	-	-	-	-	-	,	-	
SS (mg/L)								-	
Remarks									

Station			IM	105			Co-ore	dinates		
Time (hh:mm)			6:20	-6:22			Northing	Easting		
Water Depth (m)			22.22.112	113.55.179						
Monitoring Depth (m)	1	.0	9	1.5	1	7.9				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom		
Water Temperature (°C)	22.2	22.2	22.2	22.3	22.3	22.3	22.23	-		
Salinity (ppt)	34.4	34.4	34.3	33.0	34.5	34.5	34.17	-		
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.07			
D.O. Saturation (%)	76.0	75.9	76.0	75.9	76.0	76.1	75.98	-		
D.O. (mg/L)	5.4	5.4	5.4	5.5	5.4	5.4	5.42	5.42		
Turbidity (NTU)	7.2	6.6	14.0	13.5	16.0	15.8	12.18	-		
SS (mg/L)	12	10	10	8	12	10	10.33	-		
Remarks	Dredger was in operation.									

Station			IM	06			Co-ore	dinates			
Time (hh:mm)				-6:35			Northing	Easting			
Water Depth (m)				22.21.811	113.55.679						
Monitoring Depth (m)	1	.0	5.5								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	22.2	22.2	22.2	22.3	22.3	22.3	22.24	-			
Salinity (ppt)	34.4	34.4	34.0	34.3	34.4	34.5	34.31	-			
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.07				
D.O. Saturation (%)	80.3	79.9	80.0	80.3	80.4	80.0	80.15	-			
D.O. (mg/L)	5.7	5.7	5.7	5.7	5.7	5.7	5.71	5.71			
Turbidity (NTU)	13.5	12.5	15.8	16.5	17.0	16.5	15.30	-			
SS (mg/L)	8	10	12	11	10	11	10.33	-			
Remarks		Dredger was in operation.									

							-				
Station			MF	PB1							
Time (hh:mm)											
Water Depth (m)			7	.8							
Monitoring Depth (m)	1	.0	3	.9	6	.8					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	20.6	20.5	20.5	20.5	20.5	20.5	20.55	-			
Salinity (ppt)	34.1	34.1	34.0	30.5	34.1	34.1	33.49	-			
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.09				
D.O. Saturation (%)	77.3	77.6	77.9	77.7	77.8	77.6	77.65	-			
D.O. (mg/L)	5.7	5.7	5.7	5.8	5.7	5.7	5.73	5.72			
Turbidity (NTU)	12.3	12.8	11.8	11.4	11.3	10.5	11.68	-			
SS (mg/L)	12	10	11	9	12	11	10.83	-			
Remarks		Dredger was in operation.									

Station			M	PB2			1				
Time (hh:mm)				1							
Water Depth (m)				1							
Monitoring Depth (m)	1	.0	4	.2	7	`.3					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	20.6	20.5	20.5	20.5	20.5	20.5	20.53	-			
Salinity (ppt)	33.0	34.1	34.1	32.2	34.1	34.1	33.60				
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.09				
D.O. Saturation (%)	78.0	78.3	78.7	78.0	78.2	78.8	78.33				
D.O. (mg/L)	5.8	5.8	5.8	5.8	5.8	5.8	5.78	5.78			
Turbidity (NTU)	17.8	17.8	17.5	17.8	20.2	21.0	18.68	-			
SS (mg/L)	9	8	11	9	11	10	9.67	-			
Remarks		Dredger was in operation.									

Station				IP.			1	
Time (hh:mm)			5:23	-5:25				
Water Depth (m)			4	.9				
Monitoring Depth (m)	1	.0	2	.4		.9		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	20.9	20.9	20.8	20.9	20.9	20.8	20.86	-
Salinity (ppt)	33.8	33.7	33.7	33.6	33.7	33.7	33.69	
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.93	
D.O. Saturation (%)	77.2	77.5	78.2	78.2	77.4	78.2	77.78	-
D.O. (mg/L)	5.7	5.7	5.7	5.7	5.7	5.7	5.71	5.71
Turbidity (NTU)	8.9	9.3	9.7	9.7	9.0	9.7	9.38	-
SS (mg/L)	9	10	12	13	10	12	11.00	-
Remarks				Dredger wa	s in operation	on.		

Compliance with Action an	d Limit Lev	<u>el</u>																				
Parameter	As in E	EM&A	C2*1	30%	IM	01	IM	02		IMO3	IM	104	IM	O5	IM	06	M	PB1	M	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	7.4	7.4	-	-	-		-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.2	7.2	-		-	-		-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	13.5	13.5	-		-	-	,	-	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	15.2	15.2	-	-	-	-	-	-	-	-	N	N	N	N	N	N	N	N	N	N

11/24/2009
Fine, 23C

Station			C1 (	NM3)		,					
Time (hh:mm)			17:44								
Water Depth (m)			10								
Monitoring Depth (m)	1	.0	8								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.5	22.5	22.5	22.5	22.4	22.4	22.46	-			
Salinity (ppt)	34.1	34.2	34.2	34.2	34.1	32.7	33.91	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21				
D.O. Saturation (%)	88.9	90.5	89.1	88.9	91.7	88.8	89.65	-			
D.O. (mg/L)	5.9	6.0	5.9	5.9	6.1	5.9	5.91	5.98			
Turbidity (NTU)	14.0	13.9	15.1	14.7	16.9	16.6	15.20	-			
SS (mg/L)	6	5	7	8	9	10	7.50	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			C3 (	NM6)						
Time (hh:mm)			15:44							
Vater Depth (m)			7							
Monitoring Depth (m)	1	.0	3	1.6	6	.2				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	21.3	21.3	21.2	21.2	21.2	21.2	21.25	-		
Salinity (ppt)	34.3	33.8	33.8	34.2	34.2	34.1	34.06	-		
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.12			
D.O. Saturation (%)	88.0	91.5	92.0	89.7	90.7	94.5	91.07	-		
D.O. (mg/L)	6.6	6.8	6.9	6.7	6.8	7.0	6.78	6.90		
Turbidity (NTU)	15.3	14.8	15.0	16.0	18.2	14.9	15.70	-		
SS (mg/L)	10	11	8	9	9	7	9.00	-		
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.								

Station			IM	101			Co-ordinate	es		
Time (hh:mm)			16:46	i-16:47			Northing	Easting		
Water Depth (m)			2:	22.22.048	113.55.046					
Monitoring Depth (m)	1	1.0 11.0 21.0								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	21.9	22.0	21.7	21.9	21.6	21.8	21.81	-		
Salinity (ppt)	34.2	33.8	34.4	34.2	34.2	34.2	34.17	-		
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19			
D.O. Saturation (%)	76.0	77.2	61.3	60.8	64.8	68.4	68.08	-		
D.O. (mg/L)	5.4	5.5	4.7	4.7	5.0	4.9	5.00	4.93		
Turbidity (NTU)	16.0	15.7	16.4	16.0	17.9	18.0	16.67	-		
SS (mg/L)	13	10	10	10	10	10	10.50	-		
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.								

Station			IM	102			Co-ordinate	s			
Time (hh:mm)			17:07	-17:09			Northing	Easting			
Water Depth (m)			18		22.21.617	113.55.639					
Monitoring Depth (m)	1	.0	9		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.0	22.0	21.7	21.7	21.6	21.6	21.76	-			
Salinity (ppt)	34.2	34.2	34.4	34.3	34.3	34.2	34.25	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19				
D.O. Saturation (%)	63.9	63.8	64.3	63.9	64.7	64.8	64.23	-			
D.O. (mg/L)	4.5	4.5	4.5	4.5	4.6	4.6	4.51	4.57			
Turbidity (NTU)	17.3	16.9	18.1	17.9	18.8	18.9	17.98	-			
SS (mg/L)	8	8	10	11	14	12	10.50	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	O3			Co-ordinates	
Time (hh:mm)					Northing	Easting		
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	04			Co-ordinates		
Time (hh:mm)							Northing	Easting	
Water Depth (m)									
Monitoring Depth (m)		-		-					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	-	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	-	-	-	-	-	-	-	-	
SS (mg/L)								-	
Remarks									

Station			IM	O5			Co-ordinat	es			
Time (hh:mm)			16:54	-16:55			Northing	Easting			
Water Depth (m)			20	).5			22.22.062	113.55.174			
Monitoring Depth (m)	1	.0	10	0.3	19	9.5		•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.0	22.0	21.8	21.7	21.6	21.8	21.81	-			
Salinity (ppt)	34.2	32.3	34.4	34.3	34.1	34.2	33.90	-			
pH	8.2	8.2	8.2 8.2		8.2 8.2		8.20				
D.O. Saturation (%)	68.3	68.4	68.5	68.6	69.4	69.5	68.78	-			
D.O. (mg/L)	4.8	4.9	4.8	4.8	4.9	4.9	4.85	4.90			
Turbidity (NTU)	16.7	15.6	17.2	17.3	17.2	17.2	16.87	-			
SS (mg/L)	9	8	6	6	7.33	-					
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	06			Co-ordinat	tes
Time (hh:mm)			17:17	-17:19			Northing	Easting
Water Depth (m)			17		22.21.704	113.55.672		
Monitoring Depth (m)	1	.0	8	6.3		•		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.3	22.2	21.9	21.9	21.6	21.7	21.94	-
Salinity (ppt)	34.3	34.2	34.4	34.4	34.2	34.0	34.25	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.22	
D.O. Saturation (%)	68.0	69.2	71.0	68.7	68.7	71.4	69.50	-
D.O. (mg/L)	4.8	4.8	5.0	4.8	4.9	5.0	4.88	4.93
Turbidity (NTU)	14.8	15.2	16.8	16.1	16.6	16.8	16.05	-
SS (mg/L)	7	8	7	8	7	8	7.50	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			ME	PB1				
Time (hh:mm)			16:08	-16:09				
Water Depth (m)			8					
Monitoring Depth (m)	1	.0	4					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.0	22.0	21.7	21.7	21.7	21.7	21.80	-
Salinity (ppt)	34.2	34.1	34.1	34.2	34.1	34.0	34.12	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18	
D.O. Saturation (%)	81.1	81.9	79.7	87.4	94.7	80.0	84.13	-
D.O. (mg/L)	6.2	6.3	6.1	6.7	7.2	6.2	6.44	6.69
Turbidity (NTU)	16.0	16.1	19.2	19.6	20.9	18.6	18.40	-
SS (mg/L)	8	7	10	8	8	9	8.33	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			ME	PB2				
Time (hh:mm)			15:59	-16:00				
Water Depth (m)			8	.6				
Monitoring Depth (m)	1	.0	4	.3	7	.6		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.9	21.9	21.7	21.7	21.7	21.8	21.78	-
Salinity (ppt)	34.2	34.2	34.2	34.1	33.8	34.1	34.11	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.16	
D.O. Saturation (%)	81.1	88.8	82.6	92.6	99.9	87.5	88.75	-
D.O. (mg/L)	6.2	6.8	6.3	7.1	7.6	6.7	6.78	7.16
Turbidity (NTU)	16.3	16.3	17.2	17.8	18.7	16.8	17.18	-
SS (mg/L)	7	7	7	6	8	10	7.50	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			N	IP				
Time (hh:mm)			16:17	-16:18				
Water Depth (m)			5	.2				
Monitoring Depth (m)	1	.0	2	.2				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.8	21.8	21.7	21.8	21.6	21.6	21.71	-
Salinity (ppt)	34.1	34.1	34.1	34.1	34.1	34.2	34.11	-
pH	8.2	8.2	8.2	8.2	8.2 8.2		8.18	
D.O. Saturation (%)	77.8	79.6	82.0	76.5	75.7	73.5	77.52	-
D.O. (mg/L)	6.0	6.1	6.3	5.9	6.7	5.7	6.12	6.21
Turbidity (NTU)	18.9	19.3	19.1	19.0	18.9	19.0	19.03	-
SS (mg/L)	6	7	5	9	7.17	-		
Remarks			Derrick lighte	Dredger wer	e in operation.			

mpliance	with	Action	and	Limit	Level	

Compliance with Action an	d Limit Lev	<u>el</u>																				
Parameter	As in	EM&A	Mean (C1-	+C3)*130%	IIV	MO1	IMO2			IMO3	II.	104	IIV	105	IM	106	MPB1		MF	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	e Exceedance	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	6.4	6.4	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.3	6.3	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	20.1	20.1	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	10.7	10.7	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N

Station			C2 (	NM5)				
Time (hh:mm)								
Water Depth (m)								
Monitoring Depth (m)	1	.0	9.0					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	20.9	20.9	21.3	21.3	21.0	21.0	21.08	-
Salinity (ppt)	34.4	34.4	34.5	34.4	34.5	34.5	34.43	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18	
D.O. Saturation (%)	71.6	72.0	73.8	73.3	75.1	75.2	73.50	-
D.O. (mg/L)	5.3	5.3	5.3	5.3	5.5	5.5	5.36	5.47
Turbidity (NTU)	4.5	4.4	6.3	6.1	8.3	8.5	6.35	=
SS (mg/L)	8	9	15	16	12	12	12.00	=
Remarks		Derric	k liahter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

11/25/2009 Fine, 18C

Sampling Date
Weather & Ambient Temperature

Station			IM	01			Co-ord	dinates			
Time (hh:mm)				Northing	Easting						
Water Depth (m)			2.	1.8			22.22.174	113.54.822			
Monitoring Depth (m)	1	.0									
Trial	Trial 1							Bottom			
							averaged				
Water Temperature (°C)	21.4	21.4	21.3	21.2	21.2	21.2	21.26	-			
Salinity (ppt)	34.8	34.8	34.7	34.7	34.7	34.7	34.72	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20				
D.O. Saturation (%)	72.6	73.1	74.5	73.8	75.4	75.7	74.18	-			
D.O. (mg/L)	5.2	5.3	5.4	5.3	5.5	5.5	5.36	5.46			
Turbidity (NTU)	4.0	4.2	6.7	6.4	9.3	9.1	6.62	-			
SS (mg/L)	10	9	10	9	10	12	10.00	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	02			Co-ord	dinates
Time (hh:mm)			6:02	-6:05			Northing	Easting
Water Depth (m)			20	).2			22.21.578	113.55.537
Monitoring Depth (m)	1	.0	10	).1	19	9.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.6	21.6	21.5	21.5	21.4	21.4	21.50	-
Salinity (ppt)	34.4	34.4	34.4	34.5	34.5	34.5	34.46	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.13	
D.O. Saturation (%)	72.7	73.1	74.6	73.7	75.8	75.4	74.22	-
D.O. (mg/L)	5.2	5.3	5.4	5.3	5.5	5.4	5.35	5.47
Turbidity (NTU)	2.8	2.7	3.8	3.9	5.8	6.1	4.18	-
SS (mg/L)	10	12	13	11	11	13	11.67	-
Remarks		Derric	k lighter CM	38 (B21601)	<ul><li>I) and Dred</li></ul>	ger were in o	operation.	

Station			IM	103			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	104			Co-ord	linates
Time (hh:mm)				Northing	Easting			
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	,	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	,	-
Turbidity (NTU)	-	-	-	-	-	-	,	-
SS (mg/L)								-
Remarks								

Station			IM	105			Co-ore	dinates			
Time (hh:mm)							Northing	Easting			
Water Depth (m)			22.22.258	113.54.936							
Monitoring Depth (m)	1	.0	10	0.5	2	0.0					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
					l		averaged	l			
Water Temperature (°C)	21.6	21.6	21.4	21.4	21.3	21.3	21.46	-			
Salinity (ppt)	34.7	34.7	34.7	34.6	34.6	34.6	34.63	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18				
D.O. Saturation (%)	73.1	73.2	75.0	75.5	75.5	76.3	74.77	-			
D.O. (mg/L)	5.3	5.3	5.4	5.4	5.5	5.5	5.39	5.49			
Turbidity (NTU)	6.6	6.3	8.4	8.0	10.3	10.2	8.30	-			
SS (mg/L)	18	22	15	16	16	14	16.83	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	106			Co-ore	dinates		
Time (hh:mm)				Northing	Easting					
Water Depth (m)			22.21.569	113.55.768						
Monitoring Depth (m)	1	.0	9	.0	1	7.0				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom		
Water Temperature (°C)	21.4	21.4	21.4	21.4	21.3	21.3	21.35	-		
Salinity (ppt)	34.4	34.5	34.6	34.6	34.6	34.6	34.57	-		
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.11			
D.O. Saturation (%)	74.0	76.7	74.7	75.3	77.2	77.7	75.93	-		
D.O. (mg/L)	5.5	5.5	5.4	5.4	5.6	5.6	5.52	5.60		
Turbidity (NTU)	3.8	4.2	6.4	6.6	8.1	7.8	6.15	-		
SS (mg/L)	9	10	13	10	13	11	11.00	-		
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station	1		ME	PB1			1	
Time (hh:mm)								
Water Depth (m)			1					
Monitoring Depth (m)	1	.0	1					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.0	21.0	20.8	20.8	20.8	20.8	20.89	-
Salinity (ppt)	33.2	33.2	34.1	34.1	34.3	34.3	33.87	
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.17	
D.O. Saturation (%)	76.0	75.7	74.6	74.6	73.9	73.2	74.67	-
D.O. (mg/L)	5.6	5.6	5.5	5.5	5.4	5.4	5.46	5.38
Turbidity (NTU)	4.3	4.5	6.1	6.2	6.6	6.8	5.75	
SS (mg/L)	12	11	13	10	11	12	11.50	
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

Station			MF	PB2			1	
Time (hh:mm)			7:15	-7:18				
Water Depth (m)								
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	21.2	21.2	21.1	21.1	21.1	21.1	21.14	-
Salinity (ppt)	33.7	33.7	34.2	34.3	34.5	34.6	34.18	
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	72.4	71.6	73.3	73.1	74.6	74.2	73.20	
D.O. (mg/L)	5.3	5.2	5.3	5.3	5.4	5.4	5.33	5.41
Turbidity (NTU)	3.9	4.0	4.1	4.3	4.9	5.2	4.40	-
SS (mg/L)	11	10	12.50	-				
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			N	IP .							
Time (hh:mm)											
Water Depth (m)											
Monitoring Depth (m)	1	.0	2	.4	3	.7					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	20.7	20.7	20.5	20.5	20.7	20.6	20.62	-			
Salinity (ppt)	33.3	33.3	33.8	33.8	34.0	33.9	33.69	-			
pH	8.2	8.2	8.1	8.1	8.2	8.2	8.15				
D.O. Saturation (%)	74.0	74.8	71.9	71.6	75.3	74.5	73.68	-			
D.O. (mg/L)	5.5	5.5	5.3	5.3	5.5	5.5	5.44	5.51			
Turbidity (NTU)	5.3	5.5	6.2	6.3	7.5	7.3	6.35	-			
SS (mg/L)	14	16	12	15	15	13	14.17	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Compliance with Action ar	nd Limit Lev	<u>rel</u>																				
Parameter	As in I	EM&A	C2*1	30%	IIV	101	IM	02		IMO3	IM	04	IM	O5	IM	06	MP	B1	M	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	5.5	5.5	N	N	N	N		÷		-	Ν	N	N	N	Ν	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.4	5.4	N	N	N	N	-	i)	-	,	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	8.3	8.3	N	N	N	N	-	i	-	,	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	15.6	15.6	N	N	N	N	-	i)	-	,	N	Ν	Ν	N	N	N	N	N	N	N

Sampling Date	11/25/2009
Weather & Ambient Temperature	Sunny, 23C

Station			C1 (	NM3)							
Time (hh:mm)			14:37								
Water Depth (m)			16								
Monitoring Depth (m)	1	.0	8	1.4	15	5.8					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.5	21.4	21.3	21.3	21.3	21.3	21.36	-			
Salinity (ppt)	34.4	34.4	34.5	34.4	34.6	34.6	34.47	-			
pH	8.1	8.1	8.1	8.1	8.2	8.1	8.11				
D.O. Saturation (%)	76.5	77.8	78.6	78.8	80.3	80.2	78.70	-			
D.O. (mg/L)	5.7	5.7	5.7	5.7	5.8	5.8	5.72	5.81			
Turbidity (NTU)	3.7	3.9	5.2	5.0	6.5	6.1	5.07	-			
SS (mg/L)	9	8	7	7	8	7	7.67	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			C3 (	NM6)						
Time (hh:mm)			12:53							
Water Depth (m)			6	.6						
Monitoring Depth (m)	1	.0	3	.3	5	i.6				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	21.3	21.3	21.2	21.2	21.1	21.1	21.18	-		
Salinity (ppt)	34.8	34.8	34.8	34.8	34.7	34.7	34.75	-		
pH	8.2	8.3	8.3	8.3	8.3	8.3	8.26			
D.O. Saturation (%)	81.1	81.8	79.3	79.9	77.7	78.4	79.70	-		
D.O. (mg/L)	5.9	5.9	5.8	5.8	5.7	5.7	5.79	5.68		
Turbidity (NTU)	5.6	5.3	8.4	8.4	9.8	10.2	7.95	-		
SS (mg/L)	7	6	8	8	7	6	7.00	-		
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.								

Station			IM	101			Co-ordinate	es				
Time (hh:mm)			13:50	-13:52			Northing	Easting				
Water Depth (m)			2	1.6			22.22.177	113.54.825				
Monitoring Depth (m)	1	.0		0.8	20	0.6						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	21.6	21.6	21.3	21.3	21.2	21.2	21.37	-				
Salinity (ppt)	34.6	34.7	34.7	34.7	34.7	34.7	34.69	-				
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.17					
D.O. Saturation (%)	74.0	73.8	75.2	74.9	76.1	76.7	75.12	-				
D.O. (mg/L)	5.4	5.3	5.5	5.4	5.5	5.6	5.44	5.54				
Turbidity (NTU)	3.9	4.2	8.8	9.0	12.1	11.6	8.27	-				
SS (mg/L)	18	16	16	15	16	17	16.33	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	102			Co-ordinate	s			
Time (hh:mm)			14:12	-14:14			Northing	Easting			
Water Depth (m)			21		22.21.580	113.55.540					
Monitoring Depth (m)	1	.0	10	0.2	19	9.4		•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.6	21.6	21.5	21.5	21.4	21.4	21.49	-			
Salinity (ppt)	34.6	34.5	34.5	34.5	34.4	34.4	34.49	-			
pH	8.2	8.2	8.2	8.1	8.1	8.1	8.14				
D.O. Saturation (%)	71.6	71.4	72.7	72.7	73.7	73.8	72.65	-			
D.O. (mg/L)	5.2	5.2	5.3	5.2	5.3	5.3	5.24	5.33			
Turbidity (NTU)	3.6	3.4	4.8	5.1	7.1	7.4	5.23	-			
SS (mg/L)	8	8	8	9	14	16	10.50	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	103			Co-ordinates	;
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	104			Co-ordinate:	S
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1 Trial 2 Trial 1 Trial 2 Trial 1 Trial 2						Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	O5			Co-ordinat	tes			
Time (hh:mm)			13:59	-14:02			Northing	Easting			
Water Depth (m)			21	1.0			22.22.261	113.54.940			
Monitoring Depth (m)	1	.0	10	).5	20	0.0		•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.6	21.6	21.4	21.4	21.3	21.3	21.45	-			
Salinity (ppt)	34.7	34.7	34.7	34.7	34.8	34.7	34.71	-			
pH	8.1	8.1	8.2	8.1	8.2	8.2	8.15				
D.O. Saturation (%)	75.6	74.9	71.3	72.9	74.9	76.3	74.32	-			
D.O. (mg/L)	5.4	5.4	5.2	5.3	5.4	5.5	5.37	5.47			
Turbidity (NTU)	7.4	7.1	9.2	9.5	13.8	14.2	10.20	-			
SS (mg/L)	14	13	14	17	14.50	-					
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	106			Co-ordina	tes
Time (hh:mm)			14:22	-14:25			Northing	Easting
Water Depth (m)			18	8.4			22.21.570	113.55.771
Monitoring Depth (m)	1	.0	9	1.2	17	7.4		•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.5	21.5	21.5	21.5	21.4	21.5	21.49	-
Salinity (ppt)	34.4	34.4	34.4	34.4	34.5	34.5	34.43	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.11	
D.O. Saturation (%)	72.7	72.6	74.2	72.9	74.7	75.7	73.80	-
D.O. (mg/L)	5.3	5.2	5.4	5.3	5.4	5.5	5.34	5.44
Turbidity (NTU)	3.9	4.0	5.2	5.1	6.5	6.5	5.20	-
SS (mg/L)	10	10	13	11	9	11	10.67	-
Remarks		•	Derrick lights	Dredger wer	e in operation.			

Station			MF	PB1				
Time (hh:mm)			13:22	-13:24				
Water Depth (m)			8	.0				
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.1	21.0	21.0	20.9	20.9	21.02	-
Salinity (ppt)	33.7	33.7	34.1	34.1	34.4	34.4	34.06	-
pH	8.2	8.1	8.2	8.2	8.2	8.2	8.16	
D.O. Saturation (%)	75.2	74.9	71.8	72.1	74.9	75.6	74.08	-
D.O. (mg/L)	5.5	5.5	5.3	5.3	5.5	5.5	5.43	5.50
Turbidity (NTU)	3.9	4.2	5.5	5.7	7.8	8.0	5.85	-
SS (mg/L)	11	11	11	11	9	10	10.50	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			M	PB2				
Time (hh:mm)			13:10	-13:12				
Water Depth (m)			8	.2				
Monitoring Depth (m)	1	.0	4	.2				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.3	21.3	21.3	21.3	21.2	21.2	21.25	-
Salinity (ppt)	33.8	33.9	34.3	34.4	34.6	34.6	34.29	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	77.5	76.5	74.1	75.2	75.6	76.1	75.83	-
D.O. (mg/L)	5.6	5.6	5.4	5.5	5.5	5.5	5.50	5.50
Turbidity (NTU)	4.6	4.8	5.4	5.2	6.5	6.4	5.48	-
SS (mg/L)	12	13	10	11	10	8	10.67	-
Remarks			e in operation.					

Station			N	IP.				
Time (hh:mm)			13:32	-13:34				
Water Depth (m)			5	.0				
Monitoring Depth (m)	1	.0	.0					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	20.7	20.8	20.7	20.7	20.6	20.7	20.69	-
Salinity (ppt)	33.4	33.4	33.7	33.6	33.8	33.9	33.63	-
pH	8.2	8.2	8.2	8.2	8.2 8.2		8.16	
D.O. Saturation (%)	71.6	71.0	72.1	73.1	72.9	73.6	72.38	-
D.O. (mg/L)	5.3	5.2	5.3	5.4	5.4	5.4	5.33	5.39
Turbidity (NTU)	4.5	4.6	5.5	5.5	6.4	6.5	5.50	-
SS (mg/L)	8	10	13	11	12	10	10.67	-
Remarks			Derrick lighte	Dredger wer	e in operation.	•		

Compliance with Action an	a Limit Lev	eı																				
Parameter	As in	EM&A	Mean (C1-	+C3)*130%	II.	101	IMO2			IMO3	II.	104	IM	05	IM	O6	MPB1		ME	B2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	5.7	5.7	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.8	5.8	N	N	N	N	-	-	-	-	N	Ν	N	N	N	Ν	N	Ν	N	N
Turbidity (Depth-averaged)	29.0	49.0	8.5	8.5	N	N	N	N	-	-	-	-	N	Ν	N	N	N	Ν	N	Ν	N	N
SS (Denth-averaged)	24 0	37.0	9.5	9.5	N	N	N	N					N	Z	N	N	N	И	N	Z	Z	N

Station			00./	NM5)			1				
Time (hh:mm)			7:23	-7:25							
Water Depth (m)			20	0.1							
Monitoring Depth (m)	1	.0	9.1								
Trial	Trial 1	Trial 2	Depth-	Bottom							
							averaged				
Water Temperature (°C)	21.8	21.8	21.7	21.7	21.8	21.7	21.74	-			
Salinity (ppt)	34.5	34.6	34.6	34.6	34.6	34.5	34.55	-			
pH	8.1	8.2	8.2	8.1	8.1	8.1	8.13				
D.O. Saturation (%)	116.9	114.3	115.3	119.1	115.9	124.2	117.62	-			
D.O. (mg/L)	8.3	8.1	8.2	8.5	8.2	8.9	8.36	8.55			
Turbidity (NTU)	6.4	6.4	7.5	10.2	8.13	-					
SS (mg/L)	14.0	13.0	9.0	7.0	7.0	9.0	9.83	-			
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Sampling Date
Weather & Ambient Temperature

Station			IM	01			Co-ord	dinates					
Time (hh:mm)			7:02	-7:03			Northing	Easting					
Water Depth (m)				22.22.053	113.54.993								
Monitoring Depth (m)	1	.0	10	).1	19	9.2							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom					
							averaged						
Water Temperature (°C)	21.4	21.4	21.4	21.4	21.4	21.4	21.39	-					
Salinity (ppt)	34.7	34.7	34.7	33.8	34.7	34.7	34.53	-					
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27						
D.O. Saturation (%)	88.4	88.3	91.0	88.9	89.1	92.3	89.67	-					
D.O. (mg/L)	6.3	6.3	6.5	6.4	6.4	6.6	6.40	6.47					
Turbidity (NTU)	13.2	13.6	17.2	15.92	-								
SS (mg/L)	7.0	6.0	9.0	9.0	7.0	9.0	7.83	-					
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.											

Station			IM	02			Co-ord	dinates
Time (hh:mm)			6:51	-6:53			Northing	Easting
Water Depth (m)				22.21.688	113.55.455			
Monitoring Depth (m)	1	.0	3.1					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.5	21.5	21.4	21.4	21.4	21.4	21.44	-
Salinity (ppt)	34.6	34.6	34.6	34.5	34.5	34.6	34.58	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	97.2	97.5	97.3	98.7	99.8	96.9	97.90	-
D.O. (mg/L)	6.9	7.0	6.9	7.1	7.1	6.9	6.98	7.02
Turbidity (NTU)	12.0	12.7	14.4	14.5	15.6	15.9	14.18	-
SS (mg/L)	14.0	16.0	10.0	14.0	8.0	10.0	12.00	-
Remarks		Derric	ger were in o	operation.				

Station			IM	103			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks				•	•			

Station			IIV	104			Co-ord	linates
Time (hh:mm)				Northing	Easting			
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	=
SS (mg/L)								-
Remarks								

Station			IM	05			Co-ore	dinates			
Time (hh:mm)			6:41	-6:43			Northing	Easting			
Water Depth (m)			22.22.092	113.55.037							
Monitoring Depth (m)	1	.0	9	.7	18	3.3					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	21.6	21.6	21.6	21.6	21.6	21.6	21.58	-			
Salinity (ppt)	34.7	34.7	34.6	34.8	34.7	34.7	34.72	-			
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.27				
D.O. Saturation (%)	93.5	92.1	94.4	92.4	95.0	92.7	93.35	-			
D.O. (mg/L)	6.6	6.5	6.7	6.6	6.8	6.6	6.64	6.68			
Turbidity (NTU)	14.7	14.1	19.1	19.4	20.4	19.3	17.83	-			
SS (mg/L)	11.0	10.0	12.0	15.0	7.0	5.0	10.00	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	106			Co-ore	dinates		
Time (hh:mm)			6:30	-6:32			Northing	Easting		
Water Depth (m)			22.21.734	113.55.502						
Monitoring Depth (m)	1	.0	7	<b>'</b> .9	1-	4.8				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom		
							averaged			
Water Temperature (°C)	21.3	21.8	21.6	21.7	21.6	21.6	21.59	-		
Salinity (ppt)	34.8	34.7	34.5	34.7	34.6	34.5	34.60	-		
pH	8.1	8.2	8.2	8.2	8.2	8.1	8.16			
D.O. Saturation (%)	111.0	105.9	110.0	108.0	109.8	111.9	109.43	-		
D.O. (mg/L)	8.0	7.5	7.8	7.7	7.8	8.0	7.79	7.90		
Turbidity (NTU)	14.0	14.4	17.9	17.9	19.5	19.5	17.20	-		
SS (mg/L)	10.0	12.0	12.0	12.0	9.0	11.0	11.00	-		
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.									

							_	
Station			MF	PB1				
Time (hh:mm)								
Water Depth (m)			9	.2				
Monitoring Depth (m)	1	.0	4	.6	8	.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.2	21.2	21.2	21.2	21.2	21.2	21.22	-
Salinity (ppt)	34.4	34.3	34.4	33.9	34.4	34.4	34.29	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.22	
D.O. Saturation (%)	92.8	97.2	100.7	93.6	94.5	105.8	97.43	-
D.O. (mg/L)	6.6	7.0	7.2	6.7	6.8	7.6	6.99	7.19
Turbidity (NTU)	10.0	9.9	11.5	11.6	12.7	12.6	11.38	-
SS (mg/L)	10.0	9.0	12.0	10.0	9.0	8.0	9.67	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Station			ME	PB2			1	
Time (hh:mm)								
Water Depth (m)			8	.8				
Monitoring Depth (m)	1	.0	4	.4	7	'.8		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	21.3	21.3	21.3	21.3	21.3	21.3	21.27	-
Salinity (ppt)	34.4	34.4	34.3	34.4	34.4	34.5	34.41	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.23	
D.O. Saturation (%)	92.0	94.5	92.6	96.0	92.9	98.8	94.47	-
D.O. (mg/L)	6.6	6.8	6.6	6.9	6.6	7.1	6.76	6.86
Turbidity (NTU)	9.3	9.1	10.0	10.5	11.0	11.5	10.23	-
SS (mg/L)	8.0	9.0	10.0	12.0	12.0	10.0	10.17	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

o:							1	
Station				1P i-7:47				
Time (hh:mm)								
Water Depth (m)			5	i.1				
Monitoring Depth (m)	1	.0	2	.6	4	.1		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.5	21.4	21.4	21.4	21.4	21.5	21.42	-
Salinity (ppt)	34.3	34.3	34.4	34.2	34.4	34.3	34.33	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.23	
D.O. Saturation (%)	90.7	89.8	91.4	89.8	89.8	89.9	90.23	-
D.O. (mg/L)	6.5	6.4	6.5	6.4	6.4	6.4	6.44	6.42
Turbidity (NTU)	13.9	14.4	15.2	15.3	15.4	15.4	14.93	-
SS (mg/L)	12.0	10.0	9.0	7.0	13.0	15.0	11.00	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Compliance with Action an	nd Limit Lev	<u>rel</u>																				
Parameter	As in I	EM&A	C2*1	30%	IM	01	IM	02		IMO3	IM	04	IM	O5	IM	106	MF	PB1	M	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	8.5	8.5	N	N	N	N	-	=	-	-	N	N	N	N	N	N	Ν	N	N	N
DO (Depth-averaged)	4.2	4.0	8.4	8.4	N	N	N	N	-	-	-		N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	10.6	10.6	N	N	N	N	-	-	-	,	N	N	Ν	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	12.8	12.8	N	N	N	N	-	-	-	-	N	N	N	N	N	N	Ν	N	N	N

Sampling Date	11/26/09
Weather & Ambient Temperature	Fine, 24C

Station			C1 (	NM3)							
Time (hh:mm)			15:00	-15:01							
Water Depth (m)			10	6.0							
Monitoring Depth (m)	1	.0	8	1.0	15	5.0					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.8	21.9	21.8	21.8	21.8	21.8	21.82	-			
Salinity (ppt)	34.6	34.6	34.6	34.6	34.6	34.6	34.59	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19				
D.O. Saturation (%)	111.2	109.3	110.4	111.8	112.9	110.0	110.93	-			
D.O. (mg/L)	7.9	7.8	7.8	7.9	8.0	7.8	7.87	7.91			
Turbidity (NTU)	10.0	10.5	15.0	15.0	17.6	17.9	14.33	-			
SS (mg/L)	9.0	8.0	8.0	8.0	9.0	10.0	8.67	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			C3 (	NM6)				
Time (hh:mm)			13:04	-13:05				
Water Depth (m)			7					
Monitoring Depth (m)	1	.0	3	1.5	6	i.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.2	21.2	21.2	21.2	21.2	21.19	-
Salinity (ppt)	34.7	34.7	33.1	34.7	34.7	34.7	34.41	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.23	
D.O. Saturation (%)	99.3	98.9	102.7	98.4	104.5	99.2	100.50	-
D.O. (mg/L)	7.1	7.1	7.4	7.0	7.5	7.1	7.21	7.30
Turbidity (NTU)	9.4	9.7	10.0	10.1	11.1	11.6	10.32	-
SS (mg/L)	12.0	11.0	6.0	8.0	10.0	6.0	8.83	-
Remarks			Derrick lic	hter CM38 (	B21601V) ai	nd Dredger w	ere in operation.	

Station			IM	101			Co-ordinate	es			
Time (hh:mm)			14:12	-14:13			Northing	Easting			
Water Depth (m)			2	22.22.063	113.54.987						
Monitoring Depth (m)	1	.0	11	1.0	21	0.9		•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.4	21.4	21.4	21.4	21.4	21.4	21.40	-			
Salinity (ppt)	34.7	34.6	34.7	34.6	34.7	34.7	34.64				
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.26				
D.O. Saturation (%)	88.7	89.6	89.1	92.2	95.5	89.7	90.80	-			
D.O. (mg/L)	6.3	6.4	6.4	6.6	6.8	6.4	6.47	6.60			
Turbidity (NTU)	10.4	10.7	17.5	16.9	19.7	19.4	15.77				
SS (mg/L)	10.0	10.0	6.0	7.0	8.0	7.0	8.00	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	102			Co-ordinate	es			
Time (hh:mm)			14:01	-14:02			Northing	Easting			
Water Depth (m)			18		22.21.700	113.55.456					
Monitoring Depth (m)	1	.0	9	1.2	1	7.4					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.5	21.5	21.5	21.4	21.4	21.4	21.45	-			
Salinity (ppt)	34.7	34.6	34.7	34.7	34.7	34.7	34.67	-			
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.24				
D.O. Saturation (%)	94.1	95.3	95.5	94.1	94.5	95.4	94.82	-			
D.O. (mg/L)	6.7	6.8	6.8	6.7	6.7	6.8	6.76	6.77			
Turbidity (NTU)	9.6	9.0	9.9	10.2	13.1	12.9	10.78				
SS (mg/L)	8.0	6.0	9.0	7.0	7.0	6.0	7.17	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	103			Co-ordinates	
Time (hh:mm)							Northing	Easting
Water Depth (m)				-			-	
Monitoring Depth (m)		-		-				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-		-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-		-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	04			Co-ordinates	}
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)				-			•	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-		-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	O5			Co-ordinat	tes				
Time (hh:mm)			14:45	-14:46			Northing	Easting				
Water Depth (m)			20	).2			22.22.090	113.55.039				
Monitoring Depth (m)	1	1.0 10.1 19.2						•				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	21.6	21.6	21.6	21.6	21.6	21.6	21.60	-				
Salinity (ppt)	34.7	34.7	34.6	34.7	34.6	34.7	34.65	-				
pH	8.3	8.2	8.2	8.2	8.2	8.2	8.23					
D.O. Saturation (%)	95.3	98.4	96.2	99.8	101.4	96.9	98.00	-				
D.O. (mg/L)	6.8	7.0	6.8	7.1	7.2	6.9	6.97	7.06				
Turbidity (NTU)	10.4	10.2	14.0	14.2	18.6	18.8	14.37	-				
SS (mg/L)	8.0	10.0	8.0	6.0	8.0	8.0	8.00	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	106			Co-ordinates				
Time (hh:mm)			14:31	-14:33			Northing	Easting			
Water Depth (m)			16	6.8			22.21.731	113.55.500			
Monitoring Depth (m)	1	.0	8	3.4	15	5.8		•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.8	21.8	21.6	21.7	21.7	21.6	21.68	-			
Salinity (ppt)	34.7	34.7	34.7	34.6	34.7	34.7	34.69	-			
pH	8.3	8.3	8.2	8.3	8.2	8.3	8.25				
D.O. Saturation (%)	97.3	95.8	92.2	105.5	91.6	100.7	97.18	-			
D.O. (mg/L)	6.9	6.8	6.6	7.5	6.5	7.2	6.89	6.81			
Turbidity (NTU)	14.5	14.8	19.0	19.3	20.5	20.2	18.05	-			
SS (mg/L)	10.0	12.0	9.0	9.0	10.0	9.0	9.83	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			ME	PB1				
Time (hh:mm)								
Water Depth (m)								
Monitoring Depth (m)	1	.0	4	.5	8	.0	7	
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.2	21.2	21.2	21.2	21.2	21.23	-
Salinity (ppt)	34.4	34.4	34.3	34.2	34.3	34.4	34.32	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.24	
D.O. Saturation (%)	91.5	92.2	92.5	91.6	92.7	92.0	92.08	-
D.O. (mg/L)	6.6	6.6	6.6	6.6	6.6	6.6	6.60	6.62
Turbidity (NTU)	9.2	9.2	9.7	9.4	10.1	9.8	9.57	-
SS (mg/L)	10.0	9.0	12.0	12.0	11.0	10.0	10.67	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			M	PB2						
Time (hh:mm)			13:21	-13:22						
Water Depth (m)			8							
Monitoring Depth (m)	1	.0								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	21.3	21.3	21.3	21.3	21.3	21.3	21.26	-		
Salinity (ppt)	34.4	34.4	34.3	34.4	34.5	34.5	34.40	-		
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.24			
D.O. Saturation (%)	91.8	91.5	91.5	92.0	91.6	92.1	91.75	-		
D.O. (mg/L)	6.6	6.6	6.6	6.6	6.6	6.6	6.57	6.57		
Turbidity (NTU)	8.1	8.1	8.0	8.2	8.4	8.7	8.25	-		
SS (mg/L)	8.0	10.0	9.0	7.0	8.0	10.0	8.67	-		
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			N	IP							
Time (hh:mm)			13:44	-13:45							
Water Depth (m)											
Monitoring Depth (m)	1	.0									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.5	21.5	21.4	21.4	21.3	21.5	21.43	-			
Salinity (ppt)	34.4	33.9	34.3	34.3	34.3	34.4	34.27	-			
pH	8.2	8.2	8.2	8.2	8.1	8.2	8.19				
D.O. Saturation (%)	90.3	91.8	95.0	89.8	101.5	90.0	93.07	-			
D.O. (mg/L)	6.4	6.6	6.8	6.4	7.3	6.4	6.65	6.85			
Turbidity (NTU)	11.6	11.9	15.1	15.1	15.6	15.7	14.17	-			
SS (mg/L)	12.0	11.0	11.0	13.0	11.0	12.0	11.67	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Compliance with Action an	d Limit Lev	<u>el</u>																				
Parameter	As in	EM&A	Mean (C1+	-C3)*130%	IIV	101	IMO2	IMO2		IMO3	II.	104	IMO5		IMO6		MPB1		MPB2		MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	e Exceedance	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	7.6	7.6	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.5	7.5	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	16.0	16.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	11.4	11.4	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N

Sampling Date	11/27/2009
Weather & Ambient Temperature	Fine, 21C
D	00 (1995)

Station			C2 (	NM5)			1	
Time (hh:mm)			8:53	-8:56				
Water Depth (m)								
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	21.5	21.6	21.3	21.3	21.4	21.4	21.44	-
Salinity (ppt)	32.9	32.9	34.3	34.3	34.4	34.5	33.89	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19	
D.O. Saturation (%)	92.9	93.7	79.0	79.7	82.4	81.8	84.92	-
D.O. (mg/L)	6.8	6.8	5.7	5.8	6.0	5.9	6.15	5.93
Turbidity (NTU)	4.0	3.9	4.7	4.4	6.0	6.2	4.87	-
SS (mg/L)	8.0	10.0	12.0	11.0	8.0	10.0	9.83	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			IM	01			Co-ord	dinates
Time (hh:mm)			8:38	-8:41			Northing	Easting
Water Depth (m)			2.	1.8			22.22.398	113.54.871
Monitoring Depth (m)	1	.0	0.8					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.4	22.4	21.4	21.4	21.5	21.5	21.77	-
Salinity (ppt)	34.0	34.1	34.5	34.5	34.6	34.6	34.37	-
pH	8.2	8.2	8.1	8.1	8.2	8.2	8.15	
D.O. Saturation (%)	85.7	84.6	79.5	79.5	81.7	81.3	82.05	-
D.O. (mg/L)	6.1	6.0	5.7	5.7	5.9	5.9	5.89	5.87
Turbidity (NTU)	4.9	5.2	3.6	3.9	7.2	7.0	5.30	-
SS (mg/L)	14.0	10.0	12.0	18.0	13.0	19.0	14.33	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

Station			IM	02			Co-ore	dinates			
Time (hh:mm)				Northing	Easting						
Water Depth (m)				22.21.495	113.55.674						
Monitoring Depth (m)	1	.0									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom			
							averaged				
Water Temperature (°C)	22.4	22.3	21.4	21.4	21.5	21.5	21.73	-			
Salinity (ppt)	34.3	34.3	34.6	34.6	34.6	34.7	34.51	-			
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.12				
D.O. Saturation (%)	83.1	82.2	79.6	79.3	80.6	80.8	80.93	-			
D.O. (mg/L)	5.9	5.9	5.7	5.7	5.8	5.8	5.81	5.81			
Turbidity (NTU)	6.3	6.0	4.9	5.0	6.5	6.7	5.90	-			
SS (mg/L)	14.0	12.0	10.0	14.0	12.0	7.0	11.50	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	103			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								
Remarks								

Station			IM	104			Co-ordinates		
Time (hh:mm)				Northing	Easting				
Water Depth (m)				-					
Monitoring Depth (m)		-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	-	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	-	-	-	-	-	-	-	-	
SS (mg/L)									
Remarks									

Station			IM	05			Co-ore	dinates			
Time (hh:mm)			8:28	-8:30			Northing	Easting			
Water Depth (m)			22.22.455	113.54.930							
Monitoring Depth (m)	1	.0	9.6								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	22.6	22.6	21.6	21.6	21.5	21.5	21.90	-			
Salinity (ppt)	34.2	34.1	34.6	34.5	34.6	34.6	34.45	-			
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.10				
D.O. Saturation (%)	84.2	84.5	79.2	79.1	80.6	81.3	81.48	-			
D.O. (mg/L)	6.0	6.0	5.7	5.7	5.8	5.9	5.83	5.83			
Turbidity (NTU)	5.7	5.5	7.3	7.0	7.9	8.2	6.93	-			
SS (mg/L)	11	9	12	13	10	11	11.00	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	06			Co-ord	dinates
Time (hh:mm)			8:04	-8:07			Northing	Easting
Water Depth (m)				22.21.566	113.55.894			
Monitoring Depth (m)	1	.0	5.0					
Trial Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.7	22.7	21.6	21.6	21.6	21.6	21.96	-
Salinity (ppt)	34.4	34.4	34.6	34.5	34.6	34.6	34.51	-
Н	8.0	8.0	8.0	8.0	8.0	8.0	8.01	
D.O. Saturation (%)	82.6	83.0	80.3	80.4	82.5	81.7	81.75	-
D.O. (mg/L)	5.8	5.9	5.8	5.8	5.9	5.9	5.84	5.91
Turbidity (NTU)	3.5	3.6	4.5	4.4	5.3	5.6	4.48	-
SS (mg/L)	8.0	12.0	9.0	9.0	7.0	8.0	8.83	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

							-	
Station			MF	PB1			]	
Time (hh:mm)								
Water Depth (m)			7	.4				
Monitoring Depth (m)	1	.0	3	.7	6	.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.8	21.7	21.2	21.2	21.2	21.2	21.36	-
Salinity (ppt)	32.8	32.8	33.7	33.7	33.7	33.8	33.40	-
pH	8.3	8.3	8.2	8.2	8.2	8.2	8.22	
D.O. Saturation (%)	94.7	94.6	83.3	82.7	85.1	85.7	87.68	-
D.O. (mg/L)	6.9	6.9	6.1	6.0	6.2	6.2	6.38	6.22
Turbidity (NTU)	3.7	3.8	4.2	4.1	4.2	4.2	4.03	-
SS (mg/L)	9.0	9.0	12.0	10.0	10.0	9.0	9.83	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

Station			M	PB2				
Time (hh:mm)								
Water Depth (m)								
Monitoring Depth (m)	1	.0	3	.9	6	.8		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.7	21.7	21.2	21.2	21.2	21.2	21.37	-
Salinity (ppt)	32.9	32.9	33.8	33.7	34.2	34.2	33.62	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	90.5	90.5	85.3	84.7	84.0	84.5	86.58	-
D.O. (mg/L)	6.6	6.5	6.2	6.2	6.2	6.1	6.30	6.16
Turbidity (NTU)	2.4	2.6	3.2	3.4	4.5	4.4	3.42	-
SS (mg/L)	8.0	5.0	8.0	8.0	7.0	9.0	7.50	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

							-	
Station			IV.	IP				
Time (hh:mm)								
Water Depth (m)			4	.8				
Monitoring Depth (m)	1	.0	2	.4	3	.8		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.2	21.3	21.2	21.2	21.2	21.2	21.21	-
Salinity (ppt)	32.5	32.5	32.8	32.8	33.4	33.4	32.90	-
pH	8.3	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	90.8	90.9	89.8	89.7	88.3	88.0	89.58	-
D.O. (mg/L)	6.6	6.7	6.6	6.6	6.4	6.4	6.55	6.43
Turbidity (NTU)	4.7	4.6	4.8	4.8	5.3	5.0	4.87	
SS (mg/L)	5.0	8.0	13.0	11.0	13.0	7.0	9.50	
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Compliance with Action ar	nd Limit Lev	<u>rel</u>																				
Parameter	As in	EM&A	C2*1	30%	IM	101	IM	102		IMO3	II.	104	IM	O5	IM	06	MF	PB1	ME	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	5.9	5.9	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.2	6.2	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	6.3	6.3	N	N	N	N	-	-	-	-	N	N	N	N	N	Ν	Ν	N	N	N
SS (Depth-averaged)	24.0	37.0	12.8	12.8	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N

11/27/2009
Sunny, 25C

Station			C1 (	NM3)							
Time (hh:mm)			15:14	-15:16							
Water Depth (m)			16								
Monitoring Depth (m)	1	.0	8								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.1	22.1	21.7	21.7	21.7	21.7	21.84	-			
Salinity (ppt)	34.3	34.3	34.4	34.4	34.5	34.4	34.37	-			
pH	7.9	7.8	7.9	7.9	7.9	7.9	7.86				
D.O. Saturation (%)	76.1	75.6	76.6	77.5	78.7	79.5	77.33	-			
D.O. (mg/L)	5.5	5.4	5.5	5.6	5.7	5.7	5.56	5.70			
Turbidity (NTU)	2.7	2.5	3.3	3.1	3.6	3.7	3.15	-			
SS (mg/L)	7.0	8.0	7.0	6.0	7.0	7.0	7.00	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			C3 (	NM6)				
Time (hh:mm)			13:23					
Water Depth (m)			6	i.6				
Monitoring Depth (m)	1	.0	3	1.3	5	.6		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.2	22.2	21.6	21.6	21.6	21.6	21.78	-
Salinity (ppt)	33.8	33.8	34.1	34.2	34.2	34.2	34.07	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.23	
D.O. Saturation (%)	90.1	89.5	87.8	88.3	88.9	89.5	89.02	-
D.O. (mg/L)	6.5	6.4	6.4	6.4	6.4	6.5	6.42	6.46
Turbidity (NTU)	3.5	3.5	4.2	4.1	3.9	4.0	3.87	-
SS (mg/L)	14.0	8.0	8.0	9.0	7.0	6.0	8.67	-
Remarks			Derrick lic	hter CM38 (	B21601V) ai	nd Dredger w	ere in operation.	

Station			IM	101			Co-ordinate	es			
Time (hh:mm)			14:28	-14:31			Northing	Easting			
Water Depth (m)			2		22.22.406	113.54.874					
Monitoring Depth (m)	1	.0	10		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.7	22.8	21.7	21.6	21.5	21.5	21.97	-			
Salinity (ppt)	34.2	34.2	34.3	34.3	34.5	34.5	34.34	-			
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.12				
D.O. Saturation (%)	82.7	82.5	79.6	78.8	80.4	80.2	80.70	-			
D.O. (mg/L)	5.9	5.8	5.7	5.7	5.9	5.8	5.80	5.82			
Turbidity (NTU)	3.7	3.5	5.2	4.9	5.8	6.1	4.87	-			
SS (mg/L)	10.0	10.0	11.0	11.0	10.0	12.0	10.67	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	102			Co-ordinate	s
Time (hh:mm)			14:51	-14:54			Northing	Easting
Water Depth (m)			21	0.4			22.21.497	113.55.680
Monitoring Depth (m)	1	.0	10	0.2	19	9.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.3	22.3	21.7	21.6	21.6	21.6	21.84	-
Salinity (ppt)	34.2	34.2	34.4	34.4	34.5	34.5	34.37	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.11	
D.O. Saturation (%)	83.1	82.8	81.3	81.7	82.5	83.4	82.47	-
D.O. (mg/L)	5.9	5.9	5.9	5.9	6.0	6.0	5.93	5.98
Turbidity (NTU)	4.5	4.3	5.4	5.2	5.9	5.7	5.17	-
SS (mg/L)	10.0	10.0	14.0 10.0		11.0	10.0	10.83	-
Remarks			Derrick lig	hter CM38 (	nd Dredger w	ere in operation.		

Station			IM	O3			Co-ordinates	
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-		-
Salinity (ppt)	-	-	-	-	-	-		-
pH	-	-	-	-	-			-
D.O. Saturation (%)	-	-	-	-	-	-		-
D.O. (mg/L)	-	-	-	-	-	-		-
Turbidity (NTU)	-	-	-	-	-	-		-
SS (mg/L)								
Remarks		•						

Station			IM	04			Co-ordinates	3
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)				-		-		
Trial	Trial 1	Trial 2	Trial 1	Depth-averaged	Bottom			
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-			-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								
Remarks						·		

Station			IM	O5			Co-ordinat	tes
Time (hh:mm)			14:38	-14:41			Northing	Easting
Water Depth (m)			21	1.0			22.22.412	113.54.937
Monitoring Depth (m)	1	.0	10	0.5	20	0.0		•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.8	22.9	21.8	21.8	21.7	21.7	22.09	-
Salinity (ppt)	33.9	34.0	.0 34.4 34.4		34.5	34.5	34.25	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.09	
D.O. Saturation (%)	86.5	87.4	80.5	80.8	82.6	82.5	83.38	-
D.O. (mg/L)	6.1	6.2	5.8	5.8	5.9	5.9	5.97	5.94
Turbidity (NTU)	4.4	4.5	5.7	5.9	6.7	6.4	5.60	-
SS (mg/L)	10.0	8.0	9.0	10.0	15.0	10.0	10.33	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			IM	06			Co-ordinat	tes			
Time (hh:mm)			15:02	-15:05			Northing	Easting			
Water Depth (m)			18	3.4			22.21.562	113.55.890			
Monitoring Depth (m)	1	.0	9	.2	17	7.4		•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.8	22.7	21.8	21.8	21.8	21.8	22.11	-			
Salinity (ppt)	34.3	34.3	34.5	34.4	34.5	34.5	34.39	-			
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.06				
D.O. Saturation (%)	82.3	82.2	79.6	79.7	80.4	80.7	80.82	-			
D.O. (mg/L)	5.8	5.8	5.7	5.7	5.8	5.8	5.79	5.80			
Turbidity (NTU)	3.8	3.9	4.5	4.7	5.6	5.4	4.65	-			
SS (mg/L)	9.0	8.0	5.0	8.0	7.0	8.0	7.50	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			ME	PB1				
Time (hh:mm)			13:51	-13:53				
Water Depth (m)			8	.0				
Monitoring Depth (m)	1	.0	.0					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.0	22.0	21.6	21.6	21.5	21.5	21.70	-
Salinity (ppt)	32.3	32.2	33.5	33.5	33.6	33.6	33.12	-
pH	8.3	8.3	8.3	8.2	8.2	8.2	8.24	
D.O. Saturation (%)	96.5	96.6	88.3	87.6	90.7	91.6	91.88	-
D.O. (mg/L)	7.0	7.0	6.4	6.4	6.6	6.7	6.68	6.64
Turbidity (NTU)	4.5	4.2	4.8	5.0	5.7	5.5	4.95	-
SS (mg/L)	14.0	13.0	13.0	11.0	9.0	11.0	11.83	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	•

Station			ME	PB2				
Time (hh:mm)			13:39	-13:41				
Water Depth (m)			8	1.2				
Monitoring Depth (m)	1	.0						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.9	21.8	21.4	21.4	21.4	21.4	21.56	-
Salinity (ppt)	32.8	32.8	33.6	33.6	34.2	34.2	33.56	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20	
D.O. Saturation (%)	87.4	87.7	84.5	84.7	86.9	86.4	86.27	-
D.O. (mg/L)	6.3	6.4	6.1	6.2	6.3	6.3	6.26	6.29
Turbidity (NTU)	3.7	3.6	4.6	4.8	5.4	5.1	4.53	-
SS (mg/L)	8.0	7.0	10.0	6.0	7.0	7.0	7.50	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			N					
Time (hh:mm)			14:02	-14:04				
Water Depth (m)			5	.0				
Monitoring Depth (m)	1.0 2.5 4.0							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.6	21.6	21.5	21.5	21.5	21.5	21.52	-
Salinity (ppt)	32.3	32.3	32.8	32.8	33.4	33.4	32.81	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	90.0	89.0	86.5	86.0	89.0	89.3	88.30	-
D.O. (mg/L)	6.6	6.5	6.3	6.3	6.5	6.5	6.45	6.50
Turbidity (NTU)	4.7	4.8	5.7	5.5	6.3	6.5	5.58	-
SS (mg/L)	6.0	8.0	12.0	8.0	12.0	12.0	9.67	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Compliance with Action an	ompliance with Action and Limit Level																					
Parameter	As in I	EM&A	Mean (C1+	·C3)*130%	IM	101	IMO2			IMO3	IIV	104	IM	05	IN	106	MPB1		MP	B2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	e Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	6.1	6.1	N	N	N	N	-	-	-	-	N	Ν	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.0	6.0	N	N	N	N	-	-	-	-	N	Ν	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	4.6	4.6	N	N	N	N	-	-	-	-	N	Ν	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	10.2	10.2	N	N	N	N	-	-	-	-	N	Ν	N	N	N	N	N	N	N	N

weather & Ambient Tempe	rature		Suring, 200		J							
Station			C2 (I	NM5)								
Time (hh:mm)		10:34-10:35										
Water Depth (m)	19.2											
Monitoring Depth (m)	1	.0	9	.6	18	3.2						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-					
							averaged					
Water Temperature (°C)	21.9	22.0	21.9	21.9	21.9	21.9	21.92					

Sampling Date 11/28/2009

Water Depth (m)			19	).2				
Monitoring Depth (m)	1	.0	9	.6	18	3.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.9	22.0	21.9	21.9	21.9	21.9	21.92	-
Salinity (ppt)	34.4	34.3	34.4	34.4	34.4	34.5	34.39	-
pH	7.9	7.9	7.9	7.8	7.9	7.8	7.85	
D.O. Saturation (%)	83.7	84.2	82.2	82.0	85.0	84.4	83.58	-
D.O. (mg/L)	6.0	6.0	5.9	5.9	6.1	6.1	6.00	6.08
Turbidity (NTU)	10.7	11.1	11.1	11.0	11.2	11.4	11.08	-
SS (mg/L)	10	9	11	8	8	10	9.33	1
Remarks		Derric	ger were in o	peration.				

Station			IM	101			Co-ore	dinates			
Time (hh:mm)			9:45	-9:46			Northing	Easting			
Water Depth (m)			2	1.2			22.22.421	113.54.920			
Monitoring Depth (m)	1	.0	10	0.6	20	0.2					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	21.9	21.8	21.7	21.7	21.7	21.6	21.74	-			
Salinity (ppt)	33.4	33.4	33.5	33.4	34.3	33.9	33.62	-			
pH	8.2	8.3	8.2	8.2	8.2	8.2	8.23				
D.O. Saturation (%)	91.6	89.4	87.2	86.2	87.4	88.7	88.42	-			
D.O. (mg/L)	6.6	6.5	6.3	6.2	6.3	6.4	6.39	6.36			
Turbidity (NTU)	11.3	11.9	12.9	12.25	-						
SS (mg/L)	9	6	9	8.33	-						
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	02			Co-ord	dinates
Time (hh:mm)				Northing	Easting			
Water Depth (m)			20	0.6			22.21.493	113.55.455
Monitoring Depth (m)	1	.0	10	0.3	19	9.6		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.1	22.2	21.7	21.7	21.7	21.7	21.85	-
Salinity (ppt)	34.0	34.0	34.4	34.3	34.4	34.5	34.25	-
pH	8.4	8.2	8.2	8.4	8.2	8.2	8.27	
D.O. Saturation (%)	83.0	83.6	81.8	81.6	84.3	84.1	83.07	-
D.O. (mg/L)	5.9	6.0	5.9	5.9	6.1	6.1	5.97	6.06
Turbidity (NTU)	12.5	11.9	13.1	13.3	15.4	15.3	13.58	-
SS (mg/L)	8.0	8.0	9.0	8.0	12.0	10.0	9.17	-
Remarks		Derric	ger were in o	operation.				

Station			IM	103			Co-ordinates		
Time (hh:mm)							Northing	Easting	
Water Depth (m)				-					
Monitoring Depth (m)		-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	-	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	,	-	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	-	-	-	-	-	-	-	-	
SS (mg/L)								-	
Remarks		•							

Station			IM	104			Co-ordinates		
Time (hh:mm)			Northing	Easting					
Water Depth (m)				-					
Monitoring Depth (m)		-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	-	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	-	-	-	-	-	-	-	-	
SS (mg/L)								-	
Remarks									

Station			IM	O5			Co-ore	dinates				
Time (hh:mm)			9:23	-9:24			Northing	Easting				
Water Depth (m)			22.22.503	113.55.052								
Monitoring Depth (m)	1	.0	11	1.1	2	1.2						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom				
Water Temperature (°C)	22.3	22.2	22.0	22.0	21.8	21.9	22.02	-				
Salinity (ppt)	33.5	33.5	34.1	34.1	34.1	34.2	33.91	-				
pH	8.3	8.2	8.4	8.2	8.2	8.2	8.25					
D.O. Saturation (%)	86.7	85.8	83.9	84.7	83.8	87.0	85.32	-				
D.O. (mg/L)	6.2	6.2	6.0	6.1	6.0	6.3	6.13	6.14				
Turbidity (NTU)	13.5	13.4	13.4	13.8	13.6	13.6	13.55	-				
SS (mg/L)	12.0	14.0	10.0	12.0	11.0	12.0	11.83	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	06			Co-ord	dinates
Time (hh:mm)			9:12	-9:13			Northing	Easting
Vater Depth (m)				22.21.530	113.55.055			
Monitoring Depth (m)	1	.0	9.2					
Trial Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Vater Temperature (°C)	22.4	22.4	21.8	21.8	21.8	21.8	21.98	-
Salinity (ppt)	33.9	33.9	33.9	34.2	34.3	34.3	34.09	-
Н	8.0	8.0	8.0	8.0	8.1	8.0	8.02	
0.0. Saturation (%)	86.7	85.1	83.8	84.3	85.0	85.7	85.10	-
D.O. (mg/L)	6.2	6.1	6.0	6.1	6.1	6.2	6.11	6.14
urbidity (NTU)	11.8	11.8	12.1	12.3	12.4	12.9	12.22	-
SS (mg/L)	11.0	9.0	10.0	11.0	10.0	9.0	10.00	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			ME	PB1			1	
Time (hh:mm)				1				
Water Depth (m)								
Monitoring Depth (m)	1	.0	3	.7	6	.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
						l	averaged	
Water Temperature (°C)	21.7	21.6	21.6	21.6	21.5	21.6	21.59	-
Salinity (ppt)	32.1	32.1	32.2	32.3	34.1	34.2	32.81	-
pH	8.3	8.3	8.3	8.2	8.2	8.2	8.24	
D.O. Saturation (%)	88.3	87.8	84.6	85.3	89.3	91.8	87.85	-
D.O. (mg/L)	6.5	6.4	6.2	6.2	6.5	6.6	6.40	6.55
Turbidity (NTU)	12.7	12.7	13.8	13.5	14.6	14.3	13.60	-
SS (mg/L)	8.0	10.0	8.0	7.0	9.0	8.33	-	
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Station			ME	PB2							
Time (hh:mm)			9:57	-9:58							
Water Depth (m)											
Monitoring Depth (m)	1	.0									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	21.7	21.7	21.6	21.6	21.5	21.5	21.62	-			
Salinity (ppt)	33.3	33.4	33.4	33.4	34.1	33.6	33.52	-			
pH	8.3	8.3	8.3	8.3	8.2	8.3	8.26				
D.O. Saturation (%)	90.5	89.2	86.5	86.7	88.7	87.5	88.18	-			
D.O. (mg/L)	6.6	6.5	6.3	6.3	6.4	6.4	6.39	6.39			
Turbidity (NTU)	12.2	11.9	13.5	13.1	14.8	15.2	13.45	-			
SS (mg/L)	8.0	8.0	8.0	9.0	7.0	9.0	8.17	-			
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			N	IP.			1	
Time (hh:mm)								
Water Depth (m)			5	.5				
Monitoring Depth (m)	1	.0	2	.7	4	.5		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	21.7	21.6	21.6	21.6	21.5	21.5	21.59	-
Salinity (ppt)	32.1	32.1	32.1	32.1	32.8	33.0	32.35	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18	
D.O. Saturation (%)	91.2	91.3	90.5	89.9	89.8	91.2	90.65	-
D.O. (mg/L)	6.7	6.7	6.6	6.6	6.6	6.6	6.62	6.60
Turbidity (NTU)	11.8	12.0	11.9	12.4	13.0	13.6	12.45	-
SS (mg/L)	13.0	10.0	8.0	9.17	-			
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Compliance with Action ar	nd Limit Lev	<u>el</u>																				
Parameter	As in I	EM&A	C2*1	30%	IM	101	IM	102		IMO3	IM	104	IM	O5	IM	06	MF	PB1	MF	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	6.1	6.1	N	N	N	N	-	i i	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.0	6.0	N	N	N	N	-	i i		-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	14.4	14.4	N	N	N	N	-	i i	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	12.1	12.1	N	N	N	N	-	ù	-	-	Ν	Ν	Ν	N	N	Ν	Ν	N	N	N

a.	
Sampling Date	11/28/2009
Weather & Ambient Temperature	Sunny, 23C

Station			C1 (	NM3)							
Time (hh:mm)			16:00	-16:01							
Water Depth (m)			10								
Monitoring Depth (m)	1	.0	8								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.9	21.9	21.9	21.9	21.8	21.9	21.88	-			
Salinity (ppt)	34.3	34.4	34.4	34.4	34.4	34.5	34.40	-			
pH	7.9	7.9	7.9	8.0	7.9	7.9	7.91				
D.O. Saturation (%)	83.4	82.9	81.4	81.6	82.3	83.6	82.53	-			
D.O. (mg/L)	6.0	6.0	5.8	5.9	5.9	6.0	5.92	5.96			
Turbidity (NTU)	10.8	10.8	11.2	11.5	11.5	11.4	11.20	-			
SS (mg/L)	7	6	8	7	8	10	7.67	-			
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			C3 (	NM6)					
Time (hh:mm)			16:19	-16:20					
Water Depth (m)			6	i.2					
Monitoring Depth (m)	1	.0							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	21.8	21.8	21.7	21.7	21.7	21.7	21.74	-	
Salinity (ppt)	33.3	33.3	33.3	33.4	33.3	33.4	33.32	-	
pH	8.2	8.3	8.2	8.3	8.3	8.2	8.25		
D.O. Saturation (%)	94.1	93.3	93.5	93.4	93.6	94.6	93.75	-	
D.O. (mg/L)	6.8	6.8	6.8	6.8	6.8	6.9	6.79	6.82	
Turbidity (NTU)	11.4	11.3	11.7	11.4	11.4	11.5	11.45	-	
SS (mg/L)	11.0	14.0	8.0	8.0	8.0	6.0	9.17	-	
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.								

Station			IM	101			Co-ordinate	s			
Time (hh:mm)			15:25	-15:26			Northing	Easting			
Water Depth (m)			1-	22.22.337	113.54.877						
Monitoring Depth (m)	1	.0	7		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	21.8	21.8	21.7	21.7	21.6	21.6	21.73	-			
Salinity (ppt)	33.4	33.4	33.4	33.4	34.3	34.2	33.68	-			
pH	8.2	8.2	8.2	8.3	8.2	8.2	8.23				
D.O. Saturation (%)	90.8	91.1	87.1	88.2	90.0	89.4	89.43	-			
D.O. (mg/L)	6.6	6.6	6.3	6.4	6.5	6.5	6.46	6.47			
Turbidity (NTU)	11.5			12.4	12.3	13.3	13.1	12.37	-		
SS (mg/L)	9.0	8.0	11.0	10.0	9.0	7.0	9.00	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	102			Co-ordinate	es					
Time (hh:mm)			15:14	-15:15			Northing	Easting					
Water Depth (m)			10		22.21.476	113.54.792							
Monitoring Depth (m)	1	.0	6	i.5	1:	2.0							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom					
Water Temperature (°C)	22.2	22.2	21.8	21.7	21.7	21.7	21.88	-					
Salinity (ppt)	34.0	34.0	34.2	34.4	34.5	34.5	34.25						
pH	8.1	8.1	8.1	8.2	8.2	8.1	8.15						
D.O. Saturation (%)	84.1 6.0		83.9	81.9	81.8	84.2	85.0	83.48	-				
D.O. (mg/L)									6.0	5.9	5.9	6.1	6.1
Turbidity (NTU)	12.1	11.8	12.7	12.9	13.1	13.1	12.62						
SS (mg/L)	8	8	10	10	8	9	8.83	-					
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.											

Station			IM	103			Co-ordinates	
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-		-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-		-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	04			Co-ordinates	3	
Time (hh:mm)							Northing	Easting	
Water Depth (m)									
Monitoring Depth (m)				-		•			
Trial	Trial 1 Trial 2 Trial 1 Trial 2 Trial 1 Trial 2					Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	-	-	-	-			-	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-		-	-	-	-		-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	-	-	-	-	-	-	-	-	
SS (mg/L)								-	
Remarks								•	

Station			IM	05			Co-ordinat	es							
Time (hh:mm)			15:36	-15:37			Northing	Easting							
Water Depth (m)			2		22.22.497	113.55.057									
Monitoring Depth (m)	1	.0	10		•										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom							
Water Temperature (°C)	22.2	22.2	22.0	22.0	21.8	21.8	22.02	-							
Salinity (ppt)	33.5	33.5	34.0	33.9	34.3	34.2	33.91	-							
pH	8.3	8.2	8.2	8.2	8.2	8.2	8.21								
D.O. Saturation (%)	85.4	86.1	84.1	83.9	83.8	85.1	84.73	-							
D.O. (mg/L)	6.1	6.2	6.0	6.0	6.0	6.1	6.08	6.07							
Turbidity (NTU)	11.8	11.4	12.4	12.9	13.1	13.0	12.43	-							
SS (mg/L)	8	8	10	10	8	10	9.00	-							
Remarks			Derrick lighte	er CM38 (B2	Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	06			Co-ordinat	tes						
Time (hh:mm)			15:47	-15:48			Northing	Easting						
Water Depth (m)			18	3.8			22.21.513	113.55.877						
Monitoring Depth (m)	1	.0	9	.4	17	7.8		•						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom						
Water Temperature (°C)	22.5	22.4	21.9	21.8	21.8	21.8	22.04	-						
Salinity (ppt)	34.0	34.0	34.1	34.2	34.4	34.3	34.19	-						
pH	8.0	8.0	8.0	8.0	8.0	8.0	8.01							
D.O. Saturation (%)	85.3 6.1		85.8	83.8	83.6	84.7	83.8	84.50	-					
D.O. (mg/L)						6.1	6.1	6.1	6.1	6.1	6.0	6.0	6.1	6.0
Turbidity (NTU)	11.7	11.7	11.7	11.7	12.4	11.9	11.85	-						
SS (mg/L)	15.0	6.0	7.0	10.0	7.0	8.0	8.83	-						
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.												

Station			MF	PB1				
Time (hh:mm)			14:55	-14:56				
Water Depth (m)			7					
Monitoring Depth (m)	1	.0	3	.5	6	.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.6	21.7	21.6	21.6	21.5	21.5	21.58	-
Salinity (ppt)	32.1	32.1	32.3	32.2	34.2	33.9	32.77	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20	
D.O. Saturation (%)	89.1	87.9	84.6	85.1	90.4	85.3	87.07	-
D.O. (mg/L)	6.5	6.4	6.2	6.2	6.5	6.2	6.34	6.36
Turbidity (NTU)	12.3	12.7	13.5	13.2	15.8	15.4	13.82	-
SS (mg/L)	8.0	10.0	8.0	9.0	8.0	10.0	8.83	-
Remarks			Derrick lighte	Dredger wer	e in operation.			

Station			M	PB2						
Time (hh:mm)			14:45	i-14:46						
Water Depth (m)			8							
Monitoring Depth (m)	1	.0	4	.1	7	.2				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom		
Water Temperature (°C)	21.7	21.7	21.7	21.7	21.6	21.6	21.67	-		
Salinity (ppt)	33.4	33.3	33.1	33.4	33.7	33.4	33.38	-		
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.26			
D.O. Saturation (%)	91.4	90.5	88.2	89.7	89.8	89.6	89.87	-		
D.O. (mg/L)	6.6	6.6	6.4	6.5	6.5	6.5	6.51	6.50		
Turbidity (NTU)	11.4	11.6	12.1	11.9	12.4	12.1	11.92	-		
SS (mg/L)	10.0	8.0	11.0	9.0	7.0	6.0	8.50	-		
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			N	IP				
Time (hh:mm)			15:04	-15:05				
Water Depth (m)			5					
Monitoring Depth (m)	1	.0	2					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.7	21.7	21.7	21.6	21.5	21.5	21.62	-
Salinity (ppt)	32.0	32.0	32.1	32.1	32.5	32.4	32.18	-
pH	8.2	8.2	8.3	8.2	8.2	8.2	8.22	
D.O. Saturation (%)	91.1	92.2	87.9	90.1	86.5	90.0	89.63	-
D.O. (mg/L)	6.7	6.7	6.4	6.6	6.3	6.6	6.55	6.45
Turbidity (NTU)	11.6	11.9	12.7	12.2	14.1	13.8	12.72	-
SS (mg/L)	10.0	10.0	8.0	6.0	8.0	9.0	8.50	-
Remarks			Derrick lighte	e in operation.	•			

Compliance with Action an	d Limit Leve	<u>el</u>																				
Parameter	As in I	EM&A	Mean (C1+	C3)*130%	IIV	101	IMO2			IMO3	IIV	104	IM	05	IM	106	MPB1		MP	B2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	e Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	<b>Exceedance of Action</b>	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	6.4	6.4	N	N	N	N	-	-	-	-	N	Ν	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.4	6.4	N	N	N	N	-	-	-	-	N	Ν	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	14.7	14.7	N	N	N	N	-	-	-	-	N	Ν	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	10.9	10.9	N	N	N	N	-	-	-	-	N	Ν	N	N	N	N	N	N	N	N

Sampling Date	11/29/09
Weather & Ambient Temperature	Sunny, 20C

Station			C2 (	NM5)								
Time (hh:mm)												
Water Depth (m)												
Monitoring Depth (m)	1	.0	9.2									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom				
Water Temperature (°C)	22.6	22.6	22.6	22.6	22.6	22.5	22.56	-				
Salinity (ppt)	33.6	33.7	33.7	33.7	33.7	33.6	33.67	-				
pH	8.5	8.5	8.5	8.5	8.5	8.5	8.51					
D.O. Saturation (%)	110.3	107.7	108.7	112.5	109.3	117.6	111.02	-				
D.O. (mg/L)	8.0	7.8	7.9	8.2	7.9	8.5	8.04	8.23				
Turbidity (NTU)	5.7	5.7	6.8	7.0	9.9	9.5	7.43	-				
SS (mg/L)	4.0	6.0	6.0	7.0	7.0	7.0	6.17	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	01			Co-ord	dinates				
Time (hh:mm)			10:28	-10:29			Northing	Easting				
Water Depth (m)			22.21.619	113.54.417								
Monitoring Depth (m)	1	.0	7	.4	13	3.7						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom				
Water Temperature (°C)	22.2	22.2	22.2	22.2	22.2	22.2	22.21	-				
Salinity (ppt)	33.8	33.8	33.8	32.9	33.8	33.8	33.65	-				
pH	8.7	8.7	8.7	8.7	8.7	8.7	8.65					
D.O. Saturation (%)	81.8	81.7	84.4	82.3	82.5	85.7	83.07	-				
D.O. (mg/L)	6.0	6.0	6.2	6.1	6.0	6.3	6.08	6.15				
Turbidity (NTU)	9.9	10.3	14.2	13.6	13.8	13.9	12.62	-				
SS (mg/L)	8.0	9.0	8.33	-								
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	02			Co-ord	dinates
Time (hh:mm)			10:17	-10:18			Northing	Easting
Water Depth (m)			12	2.4			22.21.270	113.54.875
Monitoring Depth (m)	1.0 6.2 11.4							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.3	22.3	22.3	22.2	22.2	22.3	22.26	-
Salinity (ppt)	33.8	33.8	33.7	33.7	33.6	33.8	33.70	-
pH	8.6	8.6	8.6	8.6	8.6	8.6	8.59	
D.O. Saturation (%)	90.6	90.9	92.1	90.7	93.2	90.3	91.30	-
D.O. (mg/L)	6.6	6.6	6.7	6.6	6.8	6.6	6.66	6.70
Turbidity (NTU)	8.7	9.4	11.2	11.1	12.3	12.6	10.88	-
SS (mg/L)	8.0	8.0	6.0	6.0	7.0	8.0	7.17	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			IM	103			Co-ord	linates
Time (hh:mm)			Northing	Easting				
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks								

Station			IM	104			Co-ordinates		
Time (hh:mm)			Northing	Easting					
Water Depth (m)				-					
Monitoring Depth (m)		-		-		-			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom	
Water Temperature (°C)	-	-	-	-	-	-	-	-	
Salinity (ppt)	-	-	-	-	-	-	-	-	
pH	-	-	-	-	-	-	-	-	
D.O. Saturation (%)	-	-	-	-	-	-	-	-	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	-	-	-	-	-	-	-	-	
SS (mg/L)								-	
Remarks									

Station			IM	105			Co-ore	dinates			
Time (hh:mm)			10:02	-10:03			Northing	Easting			
Water Depth (m)			22.22.015	113.55.249							
Monitoring Depth (m)	1	.0	9	1.8	1	8.5					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom			
Water Temperature (°C)	22.4	22.4	22.4	22.4	22.4	22.4	22.40	-			
Salinity (ppt)	33.8	33.9	33.7	33.9	33.9	33.9	33.84	-			
pH	8.7	8.7	8.6	8.7	8.6	8.7	8.65				
D.O. Saturation (%)	86.9	85.5	87.8	85.8	88.4	86.1	86.75	-			
D.O. (mg/L)	6.3	6.2	6.4	6.3	6.4	6.3	6.32	6.36			
Turbidity (NTU)	11.4	10.8	15.8	16.1	17.1	16.0	14.53	-			
SS (mg/L)	11.0	11.0	11.0	10.0	9.0	7.0	9.83	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	06			Co-ord	dinates
Time (hh:mm)			9:52	-9:55			Northing	Easting
Water Depth (m)				22.21.667	113.55.714			
Monitoring Depth (m)	1	.0	6.0					
Trial Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.1	22.6	22.5	22.5	22.4	22.4	22.41	-
Salinity (ppt)	33.9	33.8	33.8	33.6	33.7	33.6	33.72	-
oH .	8.5	8.6	8.6	8.5	8.6	8.5	8.54	
D.O. Saturation (%)	104.4	99.3	101.4	103.4	103.2	105.3	102.83	-
D.O. (mg/L)	7.6	7.2	7.4	7.5	7.5	7.7	7.47	7.58
Furbidity (NTU)	10.7	11.1	14.6	14.6	16.2	16.2	13.90	-
SS (mg/L)	14.0	15.0	13.0	15.0	11.0	11.0	13.17	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

Station			MI	PB1			1					
Time (hh:mm)			1									
Water Depth (m)			8	1.7								
Monitoring Depth (m)	1	.0	4	.4	7	.7						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom				
							averaged					
Water Temperature (°C)	22.0	22.1	22.1	22.0	22.0	22.1	22.04	-				
Salinity (ppt)	33.5	33.5	33.0	33.5	33.5	33.5	33.41	-				
pH	8.6	8.6	8.6	8.6	8.6	8.6	8.60					
D.O. Saturation (%)	90.6	86.2	87.0	94.1	99.2	87.9	90.83	-				
D.O. (mg/L)	6.7	6.3	6.4	6.9	7.3	6.5	6.67	6.87				
Turbidity (NTU)	9.2	9.3	10.9	10.8	11.9	12.0	10.68	-				
SS (mg/L)	10.0	10.0	9.0	9.0	12.0	12.0	10.33	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			M	PB2						
Time (hh:mm)			11:19	-11:20						
Water Depth (m)			9	.0						
Monitoring Depth (m)	1	.0	4	.5	8	.0				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom		
Water Temperature (℃)	22.1	22.1	22.1	22.1	22.1	22.1	22.09	-		
Salinity (ppt)	33.5	33.5	33.5	33.5	33.6	33.6	33.53	-		
pH	8.6	8.6	8.6	8.6	8.6	8.6	8.61			
D.O. Saturation (%)	85.4	87.9	89.4	86.0	92.2	86.3	87.87	-		
D.O. (mg/L)	6.3	6.5	6.6	6.3	6.8	6.3	6.44	6.54		
Turbidity (NTU)	8.6	8.4	9.8	9.3	10.8	10.3	9.53	-		
SS (mg/L)	9.0	8.0	7.0	10.0	9.0	10.0	8.83	-		
Remarks	Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			N	IP.			1					
Time (hh:mm)			1									
Water Depth (m)			5	.3								
Monitoring Depth (m)	1	.0	2	.6	4	.3						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom				
							averaged					
Water Temperature (°C)	22.3	22.2	22.2	22.2	22.2	22.3	22.24	-				
Salinity (ppt)	33.5	33.4	33.6	33.4	33.5	33.4	33.45	-				
pH	8.6	8.6	8.6	8.6	8.6	8.6	8.61					
D.O. Saturation (%)	84.1	83.2	84.8	83.2	83.2	83.3	83.63	-				
D.O. (mg/L)	6.2	6.1	6.2	6.1	6.1	6.1	6.12	6.10				
Turbidity (NTU)	10.6	11.1	11.9	12.0	12.1	12.1	11.63	-				
SS (mg/L)	8.0	9.0	9.0	8.0	7.0	9.0	8.33	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Compliance with Action an	d Limit Lev	<u>el</u>																				
Parameter	As in l	EM&A	C2*1	30%	IIV	101	IM	02		IMO3	IM	04	IM	O5	IM	106	MF	PB1	MI	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	8.2	8.2	N	N	N	N		-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	8.0	8.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	9.7	9.7	N	N	N	N	-	,	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	8.0	8.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N

11/29/09
Fine, 24C

Station			C1 (	NM3)									
Time (hh:mm)			16:37										
Water Depth (m)			16										
Monitoring Depth (m)	1	.0	8										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom					
Water Temperature (°C)	22.6	22.7	22.6	22.6	22.6	22.7	22.64	-					
Salinity (ppt)	33.8	33.7	33.7	33.7	33.7	33.7	33.71	-					
pH	8.6	8.6	8.6	8.6	8.6	8.6	8.57						
D.O. Saturation (%)	104.6	102.7	103.8	105.2	106.3	103.4	104.33	-					
D.O. (mg/L)	7.6	7.4	7.5	7.6	7.7	7.5	7.55	7.59					
Turbidity (NTU)	6.7	7.2	11.7	11.7	14.3	14.6	11.03	-					
SS (mg/L)	6.0	6.0	6.0	7.0	8.0	6.0	6.50	-					
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.											

Station			C3 (	NM6)				
Time (hh:mm)			15:02	-15:03				
Water Depth (m)			7	'.O				
Monitoring Depth (m)	1	.0	3	1.5	6	i.0		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.0	22.0	22.0	22.0	22.0	22.0	22.01	-
Salinity (ppt)	33.8	33.8	32.2	33.8	33.8	33.8	33.53	-
pH	8.6	8.6	8.6	8.6	8.6	8.6	8.61	
D.O. Saturation (%)	92.7	92.3	96.1	91.8	92.6	97.9	93.90	-
D.O. (mg/L)	6.8	6.8	7.1	6.7	6.8	7.2	6.89	6.98
Turbidity (NTU)	8.7	9.0	9.3	9.4	10.9	10.4	9.62	-
SS (mg/L)	10.0	8.0	6.0	6.0	7.0	6.0	7.17	-
Remarks			Derrick lic	nd Dredaer v	vere in operation.			

Station			IM	101			Co-ordinates					
Time (hh:mm)			15:52	-15:53			Northing	Easting				
Water Depth (m)			10	3.6			22.21.609	113.54.413				
Monitoring Depth (m)	1.0 6.8 12.6											
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	22.3	22.3	22.3	22.3	22.2	22.3	22.27	-				
Salinity (ppt)	33.8	33.7	33.8	33.8	33.8	33.8	33.79	-				
pH	8.6	8.6	8.6	8.6 88.9	8.6	8.6	8.62					
D.O. Saturation (%)	87.5	88.7	87.5		87.9	88.8	88.22	-				
D.O. (mg/L)	6.4	6.5	6.4	6.5	6.4	6.5	6.44	6.45				
Turbidity (NTU)	7.6	7.0	8.2	7.9	11.1	10.9	8.78	-				
SS (mg/L)	5.0	8.0	10.0	6.0	9.0	13.0	8.50	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	102			Co-ordinate	s							
Time (hh:mm)			16:03	-16:04			Northing	Easting							
Water Depth (m)			1	1.7			22.21.275	113.54.877							
Monitoring Depth (m)	1	.0	5	i.9	10	0.7									
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom							
Water Temperature (°C)	22.2	22.3	22.2	22.2	22.2	22.2	22.22	-							
Salinity (ppt)	33.8	33.7	33.8	33.7	33.8	33.8	33.76	-							
pH	8.7	8.6	8.7	8.6	8.7	8.6	8.64								
D.O. Saturation (%)	82.1	83.0	82.5	85.6	83.1	88.9	84.20	-							
D.O. (mg/L)	6.0	6.1	6.0	6.3	6.1	6.5	6.15	6.28							
Turbidity (NTU)	7.1	7.4	14.2	13.6	16.1	16.4	12.47	-							
SS (mg/L)	6.0	5.0	7.0	6.0	9.0	7.0	6.67	-							
Remarks			Derrick lig	hter CM38 (	Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			IM	O3			Co-ordinates				
Time (hh:mm)							Northing	Easting			
Water Depth (m)											
Monitoring Depth (m)		-		-		-		•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	-	-	-	-	-	-	-	-			
Salinity (ppt)	-	-	-	-	-	-	-	-			
pH		-	-	-	-	-	-	-			
D.O. Saturation (%)	-	-	-	-	-	-	-	-			
D.O. (mg/L)	-	-	-	-	-	-	-	-			
Turbidity (NTU)	-	-	-	-	-	-	-	-			
SS (mg/L)								-			
Remarks											

Station			IM	04			Co-ordinates				
Time (hh:mm)							Northing	Easting			
Water Depth (m)											
Monitoring Depth (m)				-		-					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	-	-	-		-	-	-	-			
Salinity (ppt)	-	-	-	-	-	-	-	-			
pH	-	-	-	-	-	-	-	-			
D.O. Saturation (%)	-	-	-	-	-	-	-	-			
D.O. (mg/L)	-	-	-	-	-	-	-	-			
Turbidity (NTU)	-	-	-	-	-	-	-	-			
SS (mg/L)								-			
Remarks							·				

Station			IM	O5			Co-ordinat	tes			
Time (hh:mm)			16:14	-16:16			Northing	Easting			
Water Depth (m)			18	3.1			22.22.021	113.55.244			
Monitoring Depth (m)	1	.0		•							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.6	22.6	22.5	22.5	22.5	22.5	22.50	-			
Salinity (ppt)	33.8	33.8	33.8	33.7	33.8	33.8	33.81	-			
pH	8.6	8.6	8.6	8.6	8.6	8.6	8.63				
D.O. Saturation (%)	90.7	89.2	85.6	98.9	94.1	85.0	90.58	-			
D.O. (mg/L)	6.6	6.5	6.2	7.2	6.8	6.2	6.58	6.52			
Turbidity (NTU)	11.2	11.5	15.7	16.0	16.9	17.2	14.75	-			
SS (mg/L)	9.0	9.0 9.0		8.0	6.0	6.0	7.67	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			IM	06			Co-ordinat	tes			
Time (hh:mm)			16:24	-16:25			Northing	Easting			
Water Depth (m)			16		22.21.666	113.55.714					
Monitoring Depth (m)	1	.0	8	.2	15	5.4		•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.4	22.5 33.8 8.6	22.4	22.4	22.4	22.4	22.42	-			
Salinity (ppt)	33.8		33.7	33.8	33.7	33.8	33.77	-			
pH	8.6		8.6	8.6	8.6	8.6	8.61				
D.O. Saturation (%)	88.7	91.8	89.6	93.2	94.8	90.3	91.40	-			
D.O. (mg/L)	6.5	6.7	6.5	6.8	6.9	6.6	6.65	6.74			
Turbidity (NTU)	7.1	6.9	10.7	10.9	15.3	15.5	11.07	-			
SS (mg/L)	14.0	12.0	14.0	14.0	12.0	10.0	12.67	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			ME	PB1							
Time (hh:mm)			15:29	-15:30							
Water Depth (m)											
Monitoring Depth (m)	1	.0	4	.6	8	.2					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom			
Water Temperature (°C)	22.1	22.1	22.1	22.1	22.1	22.1	22.05	-			
Salinity (ppt)	33.5	33.5	33.4	33.3	33.5	33.5	33.44	-			
pH	8.6	8.6	8.6	8.6	8.6	8.6	8.62				
D.O. Saturation (%)	85.6	84.9	85.9	85.0	85.4	86.1	85.48	-			
D.O. (mg/L)	6.3	6.2	6.3	6.3	6.3	6.3	6.28	6.30			
Turbidity (NTU)	8.5	8.5	9.0	8.7	9.1	9.4	8.87	-			
SS (mg/L)	12.0	10.0	8.0	10.0	8.0	8.0	9.33	-			
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.									

Station			M	PB2								
Time (hh:mm)			15:19	-15:20								
Water Depth (m)			9									
Monitoring Depth (m)	1	.0										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	22.1	22.1	22.1	22.1	22.1	22.1	22.08	-				
Salinity (ppt)	33.5	33.5	33.5	33.4	33.6	33.6	33.52	-				
pH	8.6	8.6	8.6	8.6	8.6	8.6	8.62					
D.O. Saturation (%)	84.9	85.2	85.4	84.9	85.5	85.0	85.15	-				
D.O. (mg/L)	6.2	6.3	6.3	6.2	6.3	6.2	6.25	6.25				
Turbidity (NTU)	7.4	7.4	7.5	7.3	8.0	7.7	7.55	-				
SS (mg/L)	10.0	8.0	8.0	11.0	8.0	7.0	8.67	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Station			N	IP								
Time (hh:mm)			15:38	-15:39								
Water Depth (m)			5									
Monitoring Depth (m)	1	.0	2	.7	4.							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	22.3	22.3	22.3	22.3	22.3	22.1	22.25	-				
Salinity (ppt)	33.5	33.1	33.4	33.5	33.5	33.4	33.39	-				
pH	8.6	8.6	8.6	8.6	8.6	8.5	8.57					
D.O. Saturation (%)	83.7	85.2	83.2	88.4	83.4	94.9	86.47	-				
D.O. (mg/L)	6.1	6.2	6.1	6.5	6.1	7.0	6.33	6.53				
Turbidity (NTU)	8.3	8.6	11.8	11.8	12.4	12.3	10.87	-				
SS (mg/L)	9.0	10.0	11.0	10.0	8.0	9.0	9.50	-				
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

Compliance with Action an	d Limit Lev	<u>el</u>																				
Parameter	As in	EM&A	Mean (C1-	+C3)*130%	IM	101	IMO2	IMO3		IMO4		IMO5		IN	106	MPB1		MP	PB2	MP		
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedanc	e Exceedance	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	7.3	7.3	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.2	7.2	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	13.4	13.4	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	8.9	8.9	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N

Sampling Date	11/30/2009
Weather & Ambient Temperature	Sunny, 21C

Station			C2 (	NM5)				
Time (hh:mm)			11:39	-11:41				
Water Depth (m)			20	).2				
Monitoring Depth (m)	1							
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	22.1	22.0	22.5	22.5	22.5	22.5	22.35	-
Salinity (ppt)	31.9	32.0	33.0	33.1	33.1	33.0	32.67	-
pH	8.3	8.2	8.2	8.3	8.3	8.2	8.25	
D.O. Saturation (%)	89.9	91.9	96.2	90.1	90.8	100.5	93.23	-
D.O. (mg/L)	6.0	6.2	6.4	5.9	6.0	6.7	6.18	6.33
Turbidity (NTU)	10.0	9.9	11.0	11.1	11.6	11.5	10.85	-
SS (mg/L)	7.0	7.0	8.0	10.0	6.0	8.0	7.67	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			IM	01			Co-ord	dinates	
Time (hh:mm)			11:19	-11:20			Northing	Easting	
Water Depth (m)			17	7.2			22.21.979 113.55.		
Monitoring Depth (m)	1	.0	8	.6	16	5.2			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom	
							averaged		
Water Temperature (°C)	22.7	22.6	22.7	22.6	22.9	22.9	22.76	-	
Salinity (ppt)	32.9	33.0	33.0	33.1	34.1	34.2	33.39	-	
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29		
D.O. Saturation (%)	82.0	81.3	79.5	81.2	79.7	82.0	80.95	-	
D.O. (mg/L)	5.1	5.1	4.9	5.1	4.9	5.1	5.02	4.99	
Turbidity (NTU)	13.6	13.6	13.0	12.9	10.3	10.1	12.25	-	
SS (mg/L)	12.0	10.0	0.0 12.0		12.0 19.0		13.67	-	
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	•	

Station			IM	02			Co-ord	dinates
Time (hh:mm)			10:55	-10:57			Northing	Easting
Water Depth (m)			17	7.4			22.21.655	113.55.838
Monitoring Depth (m)	1	.0	8	.7	16	6.4		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.1	22.1	22.6	22.6	22.9	22.9	22.53	-
Salinity (ppt)	32.5	32.4	33.5	33.7	34.2	34.1	33.38	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.30	
D.O. Saturation (%)	90.7	88.2	92.0	86.9	88.9	98.6	90.88	-
D.O. (mg/L)	6.2	6.0	6.2	5.8	5.9	6.6	6.12	6.26
Turbidity (NTU)	9.7	9.5	10.1	10.3	10.8	10.0	10.07	-
SS (mg/L)	14.0	11.0	13.0	10.0	9.0	8.0	10.83	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	operation.	

Station			IM	O3			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)				-				
Monitoring Depth (m)		-		-		-		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-	-	-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								=
Remarks		Derric	peration.					

Station			IM	104			Co-ord	linates
Time (hh:mm)							Northing	Easting
Water Depth (m)								
Monitoring Depth (m)		-						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)	-	-	-	-	-	-		-
pH	-	-	-	-	-	-	-	-
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-	-	-	-
SS (mg/L)								-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

Station			IM	105			Co-ore	dinates
Time (hh:mm)			11:08	-11:09			Northing	Easting
Water Depth (m)			2	0.3			22.21.984	113.55.139
Monitoring Depth (m)	1	.0	10	0.2	19	9.3		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom
Water Temperature (°C)	23.3	23.1	23.0	23.0	23.0	23.1	23.08	-
Salinity (ppt)	33.3	33.5 8.3	33.6	33.8	33.8	34.0	33.67	-
pH	8.3		8.3	8.3	8.2	8.3	8.28	
D.O. Saturation (%)	90.9	88.1	88.5	88.6	89.1	89.6	89.13	-
D.O. (mg/L)	5.7	5.5	5.5	5.5	5.6	5.6	5.55	5.57
Turbidity (NTU)	8.3	8.6	9.3	9.2	10.1	9.9	9.23	-
SS (mg/L)	12.0	13.0	12.0	11.0	12.0	15.0	12.50	-
Remarks		Derric	k lighter CN	38 (B21601)	V) and Dred	ger were in	operation.	

Station			IM	06			Co-ore	dinates
Time (hh:mm)			10:45	-10:47			Northing	Easting
Water Depth (m)			18	3.0			22.21.677	113.55.615
Monitoring Depth (m)	1	.0	9	.0	17	7.0		
Trial Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
							averaged	
Water Temperature (°C)	22.0	22.0	22.4	22.4	22.8	22.9	22.43	-
Salinity (ppt)	32.0 8.3	32.4	33.3	33.3	34.0	34.0	33.15	-
Н		8.3	8.3	8.2	8.2	8.3	8.26	
D.O. Saturation (%)	95.4	95.7	94.6	94.1	92.0	96.6	94.73	-
D.O. (mg/L)	6.5	6.5	6.4	6.4	6.2	6.5	6.40	6.30
Turbidity (NTU)	9.4	9.6	9.8	10.2	16.1	16.2	11.88	-
SS (mg/L)	12.0	13.0	11.0	11.0	14.0	13.0	12.33	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.	

Station	1		ME	PB1			1									
Time (hh:mm)				-12:09												
Water Depth (m)			8	.4			1									
Monitoring Depth (m)	1	.0	.4	1												
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth- averaged	Bottom								
Water Temperature (°C)	22.1	22.1	22.4	22.3	22.4	22.0	22.21	-								
Salinity (ppt)	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.8	31.6	31.0	33.3	33.6	32.17	-
pH	8.3	8.2	8.2	8.3	8.2	8.2	8.24									
D.O. Saturation (%)	80.6	79.1	79.3	81.0	79.1	80.7	79.97	-								
D.O. (mg/L)	5.1	5.0	5.0	5.1	4.9	5.1	5.01	4.98								
Turbidity (NTU)	10.4	10.7	11.1	11.1	11.6	11.3	11.03	-								
SS (mg/L)	12.0	13.0	10.83	-												
Remarks		Derric	k lighter CM	38 (B21601)	<ul><li>V) and Dred</li></ul>	ger were in o	peration.									

			-													
Station			MF	PB2												
Time (hh:mm)			12:18	-12:19												
Water Depth (m)			8	.5												
Monitoring Depth (m)	1	.0	4	.3	7	.5										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom								
							averaged									
Water Temperature (°C)	21.8	21.8	21.8	21.8	21.8	21.8	21.81	-								
Salinity (ppt)	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.90	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.23									
D.O. Saturation (%)	75.8	77.8	75.7	77.5	76.9	77.1	76.80	-								
D.O. (mg/L)	4.8	4.9	4.7	4.9	4.8	4.9	4.82	4.84								
Turbidity (NTU)	10.3	10.3	10.4	10.8	10.9	10.8	10.58	-								
SS (mg/L)	13.0	13.0	12.83	-												
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in o	peration.									

Station				IP.			1	
							_	
Time (hh:mm)			11:57	-11:58				
Water Depth (m)			4	.9				
Monitoring Depth (m)	1	.0	2	3	1.9			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-	Bottom
					l		averaged	
Water Temperature (°C)	21.7	21.7	21.7	21.6	21.7	21.6	21.65	-
Salinity (ppt)	31.6	31.6	31.6	31.6	31.6	31.6	31.60	-
pH	8.2	8.2	8.2	8.1	8.2	8.1	8.16	
D.O. Saturation (%)	84.7	90.5	90.9	87.2	90.9	87.2	88.57	-
D.O. (mg/L)	5.4	5.7	5.7	5.6	5.7	5.6	5.60	5.63
Turbidity (NTU)	14.8	14.4	15.4	14.8	15.4	14.8	14.93	-
SS (mg/L)	11.0	11.0	14.0	14.0	12.0	14.0	12.67	-
Remarks		Derric	k lighter CM	38 (B21601)	V) and Dred	ger were in	operation.	

Compliance with Action an	nd Limit Lev	<u>rel</u>																				
Parameter	As in I	EM&A	C2*1	30%	IM	101	IM	IMO2		IMO3	IM	104	IM	05	IM	06	MPB1		MF	PB2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceedan	<b>Exceedance of Limit Level</b>	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedanc	Exceedanc	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	e of Action	e of Limit	ce of		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	e of Action	e of Limit	nce of	nce of	nce of	nce of
					Action	Level	Level	Level	Action		Action	Level	Action	Level	Action	Level	Level	Level	Action	Limit	Action	Limit
					Level				Level		Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	6.3	6.3	N	N	N	N		=	-		N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.2	6.2	N	N	N	N	-	-		-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	14.1	14.1	N	N	N	N		-	-	-	N	N	N	N	N	N	Ν	N	N	N
SS (Depth-averaged)	24.0	37.0	10.0	10.0	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N

11/30/2009
Fine, 23C

Station			C1 (	NM3)				
Time (hh:mm)			16:53					
Water Depth (m)			10					
Monitoring Depth (m)	1	.0	8	1.1	15	5.1		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.9	22.9	23.0	23.0	23.0	23.0	22.97	-
Salinity (ppt)	33.8 33.4 34.4 34.5 34.					34.6	34.21	-
pH	8.3	8.3	8.3	8.2	8.2	8.3	8.27	
D.O. Saturation (%)	83.6	84.8	84.4	82.1	82.7	85.6	83.87	-
D.O. (mg/L)	5.3	5.4	5.4	5.2	5.3	5.4	5.34	5.35
Turbidity (NTU)	7.2	7.7	13.3	11.47	-			
SS (mg/L)	7.0	9.0	10.0	8.0	9.0	8.83	-	
Remarks			Derrick lig	hter CM38 (	B21601V) ar	nd Dredger w	vere in operation.	

Station			C3 (					
Time (hh:mm)			14:51	-14:52				
Water Depth (m)			7					
Monitoring Depth (m)	1	.0	3					
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.9	22.9	22.9	22.9	22.9	22.9	22.91	-
Salinity (ppt)	31.8	31.6	31.8	31.9	31.9	31.9	31.80	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	
D.O. Saturation (%)	92.3	92.7	92.9	92.8	93.2	91.5	92.57	-
D.O. (mg/L)	6.3	6.4	6.4	6.4	6.4	6.3	6.36	6.34
Turbidity (NTU)	11.7	12.6	13.0	12.5	13.5	13.6	12.82	-
SS (mg/L)	12.0	11.0	12.0	11.00	-			
Remarks			Derrick lic	hter CM38 (	B21601V) ai	nd Dredaer w	ere in operation.	

Station			IM	Co-ordinates				
Time (hh:mm)			16:34	Northing	Easting			
Water Depth (m)			1	22.21.974	113.55.39			
Monitoring Depth (m)	1	.0	8	3.9	16	6.8		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	23.0	23.0	23.1	23.1	23.1	23.1	23.07	-
Salinity (ppt)	34.4	34.4	34.6	34.6	34.7	34.6	34.53	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	
D.O. Saturation (%)	81.4	81.1	80.4	81.1	82.0	80.3	81.05	-
D.O. (mg/L)	5.2	5.2	5.1	5.1	5.2	5.1	5.14	5.14
Turbidity (NTU)	6.6	7.3	15.9	16.3	16.4	16.1	13.10	-
SS (mg/L)	12.0	15.0	12.0	12.0	12.0	12.0	12.50	-
Remarks			Derrick lic	hter CM38 (	B21601V) ar	nd Dredger w	ere in operation.	

Station			IM	02			Co-ordinate	es
Time (hh:mm)			16:00	Northing	Easting			
Water Depth (m)			18	22.21.652	113.55.852			
Monitoring Depth (m)	1	.0	9		•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	23.0	23.0	23.1	23.0	23.1	23.1	23.05	-
Salinity (ppt)	34.3 34.2 34.4 34.3 34.7 34.8					34.8	34.44	-
pH	8.3	8.3	8.3	8.3	8.3	8.2	8.28	
D.O. Saturation (%)	83.7	83.3	80.6	80.4	84.1	78.7	81.80	-
D.O. (mg/L)	5.3	5.3	5.1	5.1	5.3	5.0	5.19	5.15
Turbidity (NTU)	8.2	8.9	15.7	16.3	13.53	-		
SS (mg/L)	11.0	10.0	10.0	9.0	10.0	10.00	-	
Remarks			Derrick lig	hter CM38 (	B21601V) ai	nd Dredger v	vere in operation.	

Station			IM	O3			Co-ordinates	}
Time (hh:mm)				Northing	Easting			
Water Depth (m)								
Monitoring Depth (m)		-			•			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	-	-	-	-	-	-	-	-
Salinity (ppt)						-	-	
pH	-	-	-	-	-			
D.O. Saturation (%)	-	-	-	-	-	-	-	-
D.O. (mg/L)	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	-	-	-			
SS (mg/L)								-
Remarks								

Station			IM		Co-ordinate:	s						
Time (hh:mm)					Northing	Easting						
Water Depth (m)				-								
Monitoring Depth (m)		-		-								
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom				
Water Temperature (°C)	-	-	-	-	-	-	-	-				
Salinity (ppt)	-	-	-	-	-	-	-	-				
pH	-	-	-	-	-	-	-	-				
D.O. Saturation (%)	-	-	-	-	-	-	-	-				
D.O. (mg/L)	-	-	-	-	-	-	-	-				
Turbidity (NTU)	-	-	-	-	-	-	-	-				
SS (mg/L)						-						
Remarks		Derrick lighter CM38 (B21601V) and Dredger were in operation.										

#### Mid-Flood

Station			IM	<b>O</b> 5			Co-ordinat	es
Time (hh:mm)			16:23		Northing	Easting		
Water Depth (m)			21	.2			22.22.001	113.55.142
Monitoring Depth (m)	1	.0	10	).6	20	).2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	23.0	23.0	23.1	23.1	23.1	23.1	23.04	-
Salinity (ppt)	34.0	33.9	34.4	34.26	-			
pH	8.3	8.3	8.3	8.3	8.3	8.2	8.28	
D.O. Saturation (%)	80.4	82.0	80.8	77.2	82.7	78.1	80.20	-
D.O. (mg/L)	5.1	5.2	5.1	4.9	5.2	5.0	5.09	5.10
Turbidity (NTU)	10.8	10.8	15.2	15.3	16.6	16.2	14.15	-
SS (mg/L)	10.0	11.0	13.0	14.0	10.0	13.0	11.83	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			IM	06			Co-ordinat	tes
Time (hh:mm)			16:12	Northing	Easting			
Water Depth (m)			18	3.2			22.21.001	113.55.620
Monitoring Depth (m)	1	.0	9	.1	17	7.2		•
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	23.1	23.1	23.1	23.1	23.1	23.1	23.09	-
Salinity (ppt)	34.3	34.4	34.4	34.4	34.4	34.4	34.40	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	
D.O. Saturation (%)	81.7	81.0	80.4	81.5	80.7	81.8	81.18	-
D.O. (mg/L)	5.2	5.1	5.1	5.2	5.1	5.2	5.15	5.15
Turbidity (NTU)	10.1	9.9	15.4	15.0	15.9	16.5	13.80	-
SS (mg/L)	13.0	12.0	14.0	13.0	13.0	11.0	12.67	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			ME	PB1				
Time (hh:mm)								
Water Depth (m)			8	.9				
Monitoring Depth (m)	1	.0	4	.5	7	.9		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.9	22.9	23.0	23.0	22.9	23.0	22.94	-
Salinity (ppt)	31.7	31.8	31.9	31.9	32.1	32.3	31.94	-
pH	8.2	8.2	8.2	8.2	8.1	8.2	8.19	
D.O. Saturation (%)	81.6	82.0	82.1	81.5	83.8	82.3	82.22	-
D.O. (mg/L)	5.4	5.4	5.4	5.4	5.5	5.4	5.42	5.48
Turbidity (NTU)	11.2	11.8	11.3	11.3	14.6	14.3	12.42	-
SS (mg/L)	11.0	14.0	13.0	12.0	12.0	12.0	12.33	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Station			M	PB2				
Time (hh:mm)			15:11	-15:12				
Water Depth (m)			9	1.2				
Monitoring Depth (m)	1	.0	4	6	8	.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.9	22.9	22.9	22.9	22.9	22.9	22.91	-
Salinity (ppt)	31.3	31.2	31.5	31.5	32.3	32.5	31.69	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19	
D.O. Saturation (%)	82.6	82.2	82.8	81.3	81.7	82.7	82.22	-
D.O. (mg/L)	5.5	5.5	5.5	5.4	5.4	5.5	5.44	5.42
Turbidity (NTU)	8.7	8.8	8.7	9.0	10.3	9.7	9.20	-
SS (mg/L)	14.0	11.0	18.0	16.0	15.0	12.0	14.33	-
Remarks			Derrick light	Dredger wer	e in operation.			

Station			N	IP				
Time (hh:mm)			15:35	-15:36				
Water Depth (m)			5	.2				
Monitoring Depth (m)	1	.0	2	.6	4	.2		
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.9	22.9	22.9	22.9	22.9	22.9	22.91	-
Salinity (ppt)	31.5	31.5	31.6	31.5	31.6	31.5	31.53	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.19	
D.O. Saturation (%)	80.8	80.6	80.7	81.5	80.7	81.5	80.97	-
D.O. (mg/L)	5.3	5.3	5.3	5.4	5.3	5.4	5.35	5.36
Turbidity (NTU)	9.3	9.7	12.0	11.2	12.0	11.2	10.90	-
SS (mg/L)	13.0	12.0	11.0	10.0	13.0	14.0	12.17	-
Remarks			Derrick lighte	er CM38 (B2	1601V) and	Dredger wer	e in operation.	

Compliance with Action an	d Limit Leve	<u>el</u>																				
Parameter	As in I	EM&A	Mean (C1+	+C3)*130%	IM	101	IMO2			IMO3	II.	104	IIV	105	IM	106	MPB1		MP	B2	MP	
	Action	Limit	Action	Limit	Exceedan	Exceedan	Exceedance of Action	Exceedance	e Exceedanc	Exceedance of Limit Level	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedan	Exceedance of Action	Exceedance	Exceeda	Exceeda	Exceeda	Exceeda
	Level	Level	Level	Level	ce of	ce of Limit	Level	of Limit	e of Action		ce of	ce of Limit	ce of	ce of Limit	ce of	ce of Limit	Level	of Limit	nce of	nce of	nce of	nce of
					Action	Level		Level	Level		Action	Level	Action	Level	Action	Level		Level	Action	Limit	Action	Limit
					Level						Level		Level		Level				Level	Level	Level	Level
DO (Bottom)	3.3	2.5	5.8	5.8	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.8	5.8	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	15.8	15.8	N	N	N	N	-	-	-	-	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	12.9	12.9	N	N	N	N	-	-	-	-	Ν	N	Z	N	N	N	Ν	N	N	N

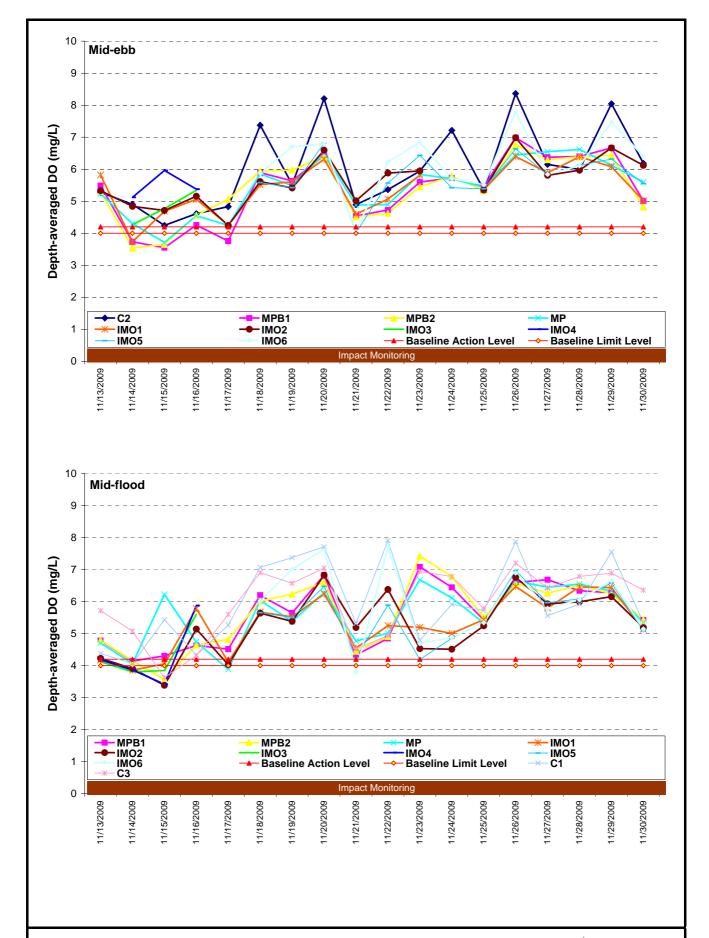


Figure G1 Dissolved oxygen concentration (depth-averaged) (mg/L) of water samples at mid-ebb and mid-flood between 13 and 30 November 2009



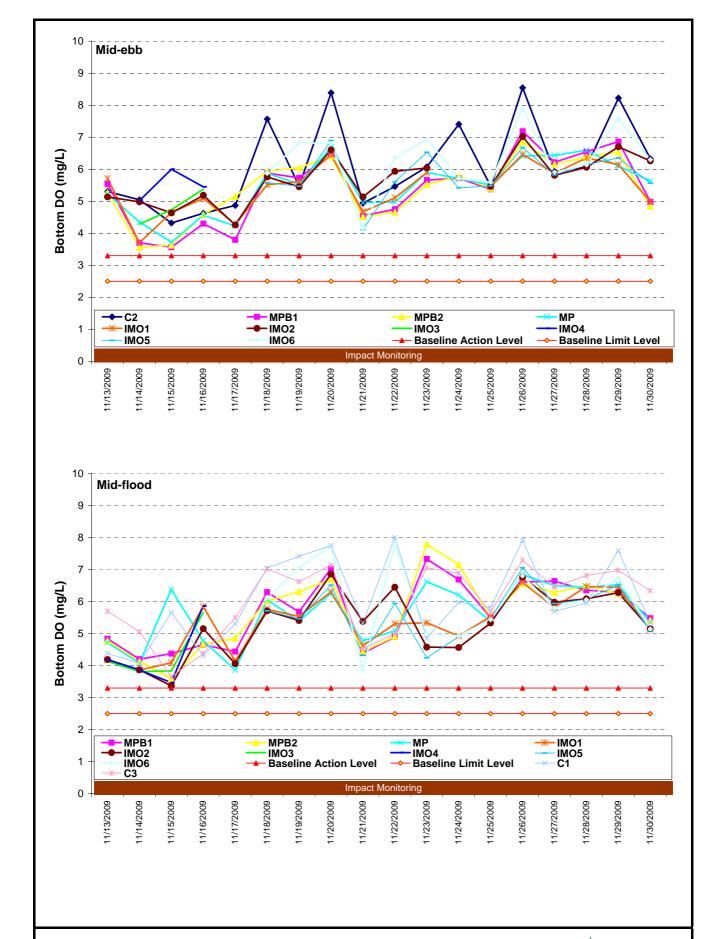


Figure G2 Dissolved oxygen concentration (bottom) (mg/L) of water samples at mid-ebb and mid-flood between 13 and 30 November 2009



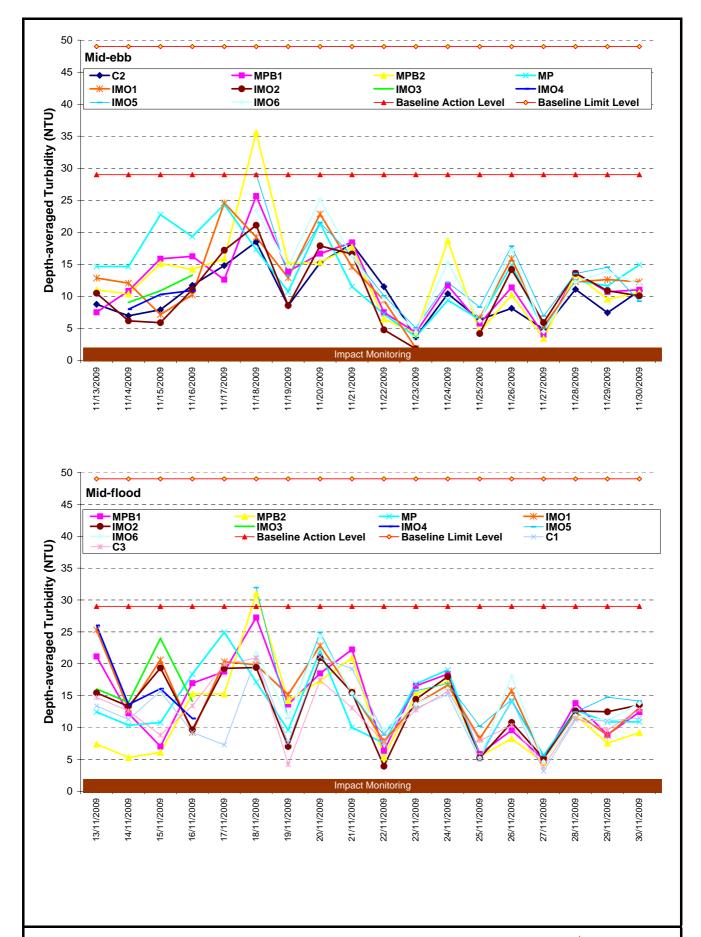


Figure G3 Depth-averaged turbidity (NTU) of water samples at mid-ebb and mid-flood between 13 and 30 November 2009

ERM

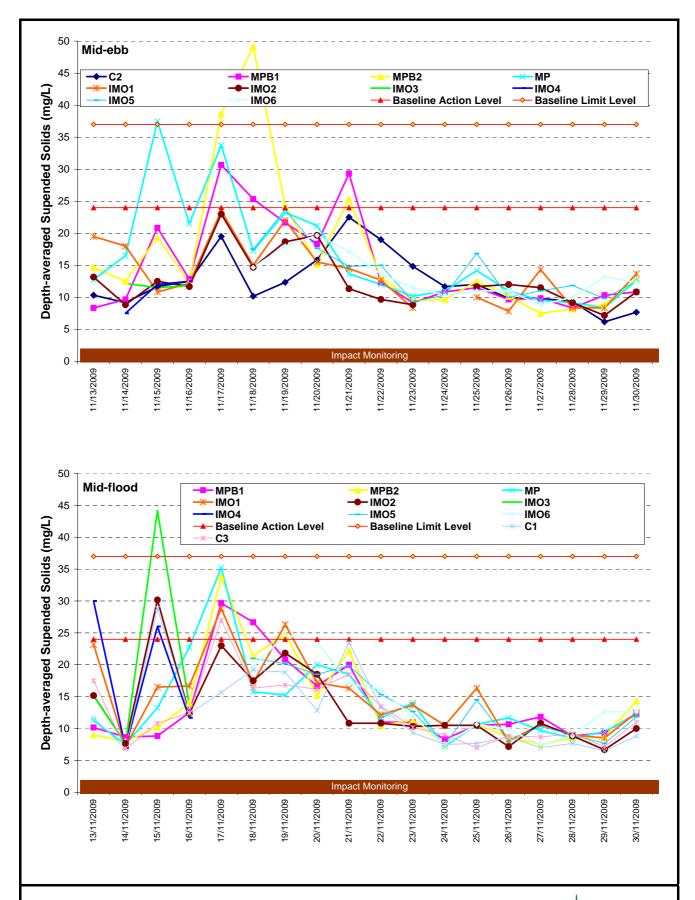


Figure G4 Depth-averaged suspended solids concentration (mg/L) of water samples at mid-ebb and mid-flood between 13 and 30 November 2009



#### Annex H

Monitoring Results and QA/QC Reports of Laboratory Testing for POPs

## 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 7

Contact : MS FRANCESCA ZINO Contact : Chan Kwok Fai, Godfrey Work Order : HK0924723

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 Samples Received : 25-NOV-2009

Order number : ---- Issue Date : 09-DEC-2009

C-O-C number : --- No. of samples received : 18

Site : --- No. of samples analysed : 18

#### General Comments

E-mail

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client. The completion date of analysis is:

02-DEC-2009

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society. Specific comments for Work Order: **HK0924723** 

Sample(s) were collected by ALS Technichem (HK) staff on 25 November, 2009.

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

This report may not be reproduced except with prior written approval from the testing laboratory.

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

 Signatories
 Position
 Authorised results for

 Anh Ngoc Huynh
 Senior Chemist
 Organics

Page Number : 2 of 7

Client : ERM HONG KONG

Work Order HK0924723



Sub-Matrix: WATER		Clie	nt sample ID	MPB1 MID-EBB	MPB1 MID-EBB DUP	MPB2 MID-EBB	MPB2 MID-EBB DUP	MP MID-EBB
	Cli	ent samplir	ng date / time	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]
Compound	CAS Number	LOR	Unit	HK0924723-001	HK0924723-002	HK0924723-003	HK0924723-004	HK0924723-005
EP-065A: PCB Single Congeners								
PCB 8	34883-43-7	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 18	37680-65-2	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 28	7012-37-5	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 52	35693-99-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 44	41464-39-5	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 66	32598-10-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 101	37680-73-2	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 77	32598-13-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 149	38380-04-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 118	31508-00-6	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 153	35065-27-1	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 105	32598-14-4	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 126	57465-28-8	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 187	52663-68-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 128	38380-07-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 156	38380-08-4	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 180	35065-29-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 169	60044-26-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 170	35065-30-6	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 195	52663-78-2	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP-065B: Organochlorine Pesticides	,	,			'			
4.4`-DDT	50-29-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
4.4`-DDE	72-55-9	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
4.4`-DDD	72-54-8	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP-065S: PCB Congeners and Organo	ochlorine Pesticides Surrog	ate	,		'		Surrogate control limit	s listed at end of this re
Decachlorobiphenyl	2051-24-3	0.1	%	87.6	91.0	92.6	94.2	86.2

Page Number : 3 of 7

Client : ERM HONG KONG

Work Order HK0924723



Sub-Matrix: WATER		Clie	ent sample ID	MP MID-EBB DUP	C2 (NM5) MID-EBB	C2 (NM5) MID-EBB DUP	MPB1 MID-FLOOD	MPB1 MID-FLOOD DUP
	Cli	ient sampli	ng date / time	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]
Compound	CAS Number	LOR	Unit	HK0924723-006	HK0924723-007	HK0924723-008	HK0924723-009	HK0924723-010
EP-065A: PCB Single Congeners								
PCB 8	34883-43-7	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 18	37680-65-2	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 28	7012-37-5	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 52	35693-99-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 44	41464-39-5	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 66	32598-10-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 101	37680-73-2	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 77	32598-13-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 149	38380-04-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 118	31508-00-6	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 153	35065-27-1	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 105	32598-14-4	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 126	57465-28-8	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 187	52663-68-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 128	38380-07-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 156	38380-08-4	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 180	35065-29-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 169	60044-26-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 170	35065-30-6	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 195	52663-78-2	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP-065B: Organochlorine Pesticides	3							
4.4`-DDT	50-29-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
4.4`-DDE	72-55-9	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
4.4`-DDD	72-54-8	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP-065S: PCB Congeners and Organ	nochlorine Pesticides Surrog	jate					Surrogate control li	mits listed at end of this report.
Decachlorobiphenyl	2051-24-3	0.1	%	87.0	99.8	90.5	84.9	88.4
					-	-		-

Page Number : 4 of 7

Client : ERM HONG KONG

Work Order HK0924723



Sub-Matrix: WATER		Clie	ent sample ID	MPB2 MID-FLOOD	MPB2 MID-FLOOD DUP	MP MID-FLOOD	MP MID-FLOOD DUP	C1 (NM3) MID-FLOOD
	Cli	ent samplii	ng date / time	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]
Compound	CAS Number	LOR	Unit	HK0924723-011	HK0924723-012	HK0924723-013	HK0924723-014	HK0924723-015
EP-065A: PCB Single Congeners								
PCB 8	34883-43-7	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 18	37680-65-2	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 28	7012-37-5	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 52	35693-99-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 44	41464-39-5	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 66	32598-10-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 101	37680-73-2	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 77	32598-13-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 149	38380-04-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 118	31508-00-6	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 153	35065-27-1	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 105	32598-14-4	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 126	57465-28-8	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 187	52663-68-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 128	38380-07-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 156	38380-08-4	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 180	35065-29-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 169	60044-26-0	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 170	35065-30-6	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
PCB 195	52663-78-2	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP-065B: Organochlorine Pesticides								
4.4`-DDT	50-29-3	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
4.4`-DDE	72-55-9	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
4.4`-DDD	72-54-8	0.01	μg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP-065S: PCB Congeners and Organoo	chlorine Pesticides Surrog	ate					Surrogate control lin	nits listed at end of this report.
Decachlorobiphenyl	2051-24-3	0.1	%	91.9	96.8	95.3	88.6	98.6

Page Number : 5 of 7

Client : ERM HONG KONG

Work Order HK0924723



Sub-Matrix: WATER		Clie	ent sample ID	C1 (NM3) MID-FLOOD DUP	C3 (NM6) MID-FLOOD	C3 (NM6) MID-FLOOD DUP		
	Cli	ient samplii	ng date / time	[25-NOV-2009]	[25-NOV-2009]	[25-NOV-2009]		
Compound	CAS Number	LOR	Unit	HK0924723-016	HK0924723-017	HK0924723-018		
EP-065A: PCB Single Congeners								
PCB 8	34883-43-7	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 18	37680-65-2	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 28	7012-37-5	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 52	35693-99-3	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 44	41464-39-5	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 66	32598-10-0	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 101	37680-73-2	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 77	32598-13-3	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 149	38380-04-0	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 118	31508-00-6	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 153	35065-27-1	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 105	32598-14-4	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 126	57465-28-8	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 187	52663-68-0	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 128	38380-07-3	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 156	38380-08-4	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 180	35065-29-3	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 169	60044-26-0	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 170	35065-30-6	0.01	μg/L	<0.01	<0.01	<0.01		
PCB 195	52663-78-2	0.01	μg/L	<0.01	<0.01	<0.01		
EP-065B: Organochlorine Pesticides								
4.4`-DDT	50-29-3	0.01	μg/L	<0.01	<0.01	<0.01		
4.4`-DDE	72-55-9	0.01	μg/L	<0.01	<0.01	<0.01		
4.4`-DDD	72-54-8	0.01	μg/L	<0.01	<0.01	<0.01		
EP-065S: PCB Congeners and Organochlorine	Pesticides Surrog	jate					Surrogate control li	mits listed at end of this report.
Decachlorobiphenyl	2051-24-3	0.1	%	89.9	97.4	93.0		

Page Number : 6 of 7

Client : ERM HONG KONG

Work Order HK0924723



#### 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 (%)			
P-065A: PCB Sing	le Congeners (QC Lot: 1	181857)				·	-				
HK0924723-011	MPB2 MID-FLOOD	PCB 8	34883-43-7	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 18	37680-65-2	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 28	7012-37-5	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 52	35693-99-3	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 44	41464-39-5	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 66	32598-10-0	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 101	37680-73-2	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 77	32598-13-3	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 149	38380-04-0	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 118	31508-00-6	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 153	35065-27-1	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 105	32598-14-4	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 126	57465-28-8	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 187	52663-68-0	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 128	38380-07-3	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 156	38380-08-4	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 180	35065-29-3	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 169	60044-26-0	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 170	35065-30-6	0.01	μg/L	<0.01	<0.01	0.0			
		PCB 195	52663-78-2	0.01	μg/L	<0.01	<0.01	0.0			
P-065B: Organoch	lorine Pesticides (QC Lo	ot: 1181857)	· ·								
lK0924723-011	MPB2 MID-FLOOD	4.4`-DDT	50-29-3	0.01	μg/L	<0.01	<0.01	0.0			
		4.4`-DDE	72-55-9	0.01	μg/L	<0.01	<0.01	0.0			
		4.4`-DDD	72-54-8	0.01	μg/L	<0.01	<0.01	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 Labo	ratory Control	Spike Duplicat	e (DCS) Report	
					Spike	Spike Re	covery (%)	Recovery	Limits (%)	RF	PD (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentratio	LCS	DCS	Low	High	Value	Control Limit
EP-065A: PCB Single Congeners (QC Lot	: 1181857)				n						
PCB 8	34883-43-7	0.01	μg/L	<0.01	100 μg/L	76.3		50	130		
PCB 18	37680-65-2	0.01	μg/L	<0.01	100 μg/L	88.7		50	130		
PCB 28	7012-37-5	0.01	μg/L	<0.01	100 μg/L	78.0		50	130		
PCB 52	35693-99-3	0.01	μg/L	<0.01	100 μg/L	78.2		50	130		
PCB 44	41464-39-5	0.01	μg/L	<0.01	100 μg/L	84.0		50	130		
PCB 66	32598-10-0	0.01	μg/L	<0.01	100 μg/L	83.8		50	130		
PCB 101	37680-73-2	0.01	μg/L	<0.01	100 μg/L	82.4		50	130		
PCB 77	32598-13-3	0.01	μg/L	<0.01	100 μg/L	95.8		50	130		
PCB 149	38380-04-0	0.01	μg/L	<0.01	100 μg/L	91.4		50	130		

Page Number : 7 of 7

Client : ERM HONG KONG

Work Order HK0924723



Matrix: WATER			Method Blank (MB	) Report		Laboratory Control S	oike (LCS) and Labor	atory Control	Spike Duplicat	te (DCS) Report	
					Spike	Spike Reco	very (%)	Recovery	Limits (%)	RF	PD (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentratio	LCS	DCS	Low	High	Value	Control Limit
EP-065A: PCB Single Congeners (QC Lot: 1181	857) - Contini	ued			n						
PCB 118	31508-00-6	0.01	μg/L	<0.01	100 μg/L	91.5		50	130		
PCB 153	35065-27-1	0.01	μg/L	<0.01	100 μg/L	91.4		50	130		
PCB 105	32598-14-4	0.01	μg/L	<0.01	100 μg/L	91.2		50	130		
PCB 126	57465-28-8	0.01	μg/L	<0.01	100 μg/L	94.8		50	130		
PCB 187	52663-68-0	0.01	μg/L	<0.01	100 μg/L	90.0		50	130		
PCB 128	38380-07-3	0.01	μg/L	<0.01	100 μg/L	89.7		50	130		
PCB 156	38380-08-4	0.01	μg/L	<0.01	100 μg/L	84.7		50	130		
PCB 180	35065-29-3	0.01	μg/L	<0.01	100 μg/L	85.4		50	130		
PCB 169	60044-26-0	0.01	μg/L	<0.01	100 μg/L	82.7		50	130		
PCB 170	35065-30-6	0.01	μg/L	<0.01	100 μg/L	86.3		50	130		
PCB 195	52663-78-2	0.01	μg/L	<0.01	100 μg/L	84.0		50	130		
EP-065B: Organochlorine Pesticides (QC Lot: 1	1181857)										
4.4`-DDT	50-29-3	0.01	μg/L	<0.01	25 μg/L	# Not Determined		50	130		
4.4`-DDE	72-55-9	0.01	μg/L	<0.01	100 μg/L	# Not Determined		50	130		
4.4`-DDD	72-54-8	0.01	μg/L	<0.01	100 μg/L	# Not Determined		50	130		

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

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

### **Surrogate Control Limits**

Sub-Matrix: WATER		Recovery	Limits (%)
Compound	CAS Number	Low	High
EP-065S: PCB Congeners and Organochlo	orine Pesticides Surrogate		
Decachlorobiphenyl	2051-24-3	50	130

### ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **Environmental Division**

#### CERTIFICATE OF ANALYSIS

Work Order : ES0918392 Page : 1 of 8 Client Laboratory ALS TECHNICHEM (HK) : Environmental Division Sydney Contact MR IVAN LEUNG Contact Charlie Pierce Address Address : 277-289 Woodpark Road Smithfield NSW Australia 2164 : 11/F CHUNG SHUN KNITTING CNTR 1-3 WING YIP STREET KWAI CHUNG, N.T HONG KONG HONG KONG E-mail : ivan.leung@alsenviro.com E-mail charlie.pierce@alsenviro.com Telephone : +852 001185226101044 Telephone +61-2-8784 8555 Facsimile +852 26102021 Facsimile : +61-2-8784 8500 Project QC Level : NEPM 1999 Schedule B(3) and ALS QCS3 requirement Order number C-O-C number Date Samples Received : 02-DEC-2009 Sampler Issue Date : 11-DEC-2009 Site No. of samples received : 18 Quote number SY/241/07 No. of samples analysed : 18

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits



NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories Position Accreditation Category

Edwardy Fadjar Senior Organic Chemist Organics

Page : 3 of 8 Work Order : ES0918392

Client : ALS TECHNICHEM (HK)

Project ---

## ALS

#### General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client.

Key: CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

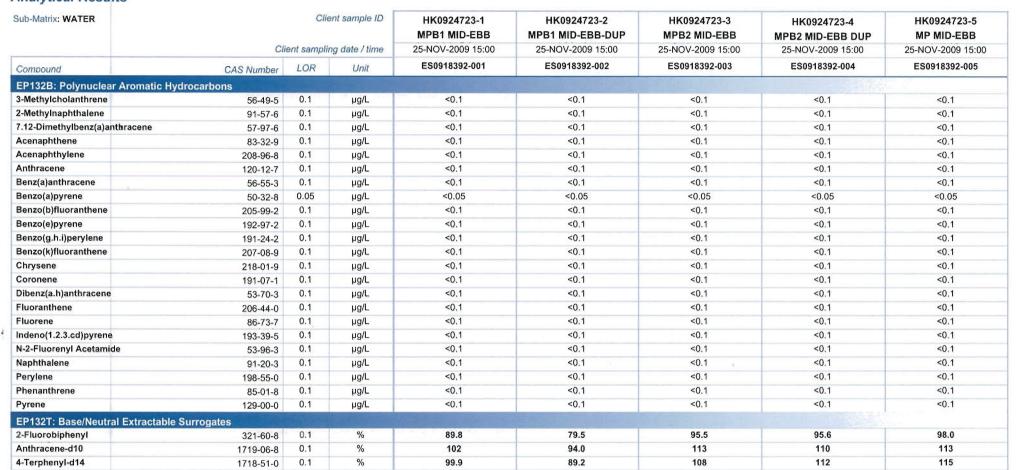
LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Page : 4 of 8 Work Order : ES0918392

Client : ALS TECHNICHEM (HK)

Project



Page Work Order : 5 of 8 : ES0918392

Client

: ALS TECHNICHEM (HK)

Project

: ----

## ALS

Sub-Matrix: WATER		Clie	nt sample ID	HK0924723-6 MP MID-EBB-DUP	HK0924723-7 C2 (NM5) MID-EBB	HK0924723-8 C2 (NM5) MID-EBB DUP	HK0924723-9 MPB1 MID-FLOOD	HK0924723-10 MPB1 MID-FLOOD-DUP
	Cli	ent samplin	g date / time	25-NOV-2009 15:00	25-NOV-2009 15:00	25-NOV-2009 15:00	25-NOV-2009 15:00	25-NOV-2009 15:00
Compound	CAS Number	LOR	Unit	ES0918392-006	ES0918392-007	ES0918392-008	ES0918392-009	ES0918392-010
EP132B: Polynuclear Aromatic Hyd	rocarbons	100						
3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	91-57-6	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	83-32-9	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	208-96-8	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	120-12-7	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	56-55-3	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	50-32-8	0.05	μg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	205-99-2	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(e)pyrene	192-97-2	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g.h.i)perylene	191-24-2	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	207-08-9	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	218-01-9	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Coronene	191-07-1	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a.h)anthracene	53-70-3	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	206-44-0	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	86-73-7	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-2-Fluorenyl Acetamide	53-96-3	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	91-20-3	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perylene	198-55-0	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	85-01-8	0,1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	129-00-0	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EP132T: Base/Neutral Extractable S	urrogates	FIG. 1		NAME OF TAXABLE PARTY.				299
2-Fluorobiphenyl	321-60-8	0.1	%	95.1	113	94.4	78.2	95.9
Anthracene-d10	1719-06-8	0.1	%	. 109	129	111	96.3	115
4-Terphenyl-d14	1718-51-0	0.1	%	107	127	109	93.3	113

 Page
 : 6 of 8

 Work Order
 : ES0918392

Client : ALS TECHNICHEM (HK)

Project



Sub-Matrix: WATER		Clie	ent sample ID	HK0924723-11 MPB2 MID-FLOOD	HK0924723-12 MPB2 MID-FLOOD-DUP	HK0924723-13 MP MID-FLOOD	HK0924723-14 MP MID-FLOOD-DUP	HK0924723-15 C1 (NM3) MID-FLOOD
	Cli	ent samplii	ng date / time	25-NOV-2009 15:00	25-NOV-2009 15:00	25-NOV-2009 15:00	25-NOV-2009 15:00	25-NOV-2009 15:00
Compound	CAS Number	LOR	Unit	ES0918392-011	ES0918392-012	ES0918392-013	ES0918392-014	ES0918392-015
EP132B: Polynuclear Aromatic Hy	ydrocarbons							
3-Methylcholanthrene	56-49-5	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	91-57-6	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	83-32-9	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	208-96-8	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	120-12-7	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benz(a)anthracene	56-55-3	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)pyrene	50-32-8	0.05	μg/L	< 0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	205-99-2	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(e)pyrene	192-97-2	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(g.h.i)perylene	191-24-2	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(k)fluoranthene	207-08-9	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	218-01-9	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Coronene	191-07-1	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenz(a.h)anthracene	53-70-3	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	206-44-0	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	86-73-7	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
N-2-Fluorenyl Acetamide	53-96-3	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	91-20-3	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Perylene	198-55-0	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	85-01-8	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	129-00-0	0.1	μg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EP132T: Base/Neutral Extractable	Surrogates	Bell.				REAL PROPERTY.		
2-Fluorobiphenyl	321-60-8	0.1	%	82.0	88.4	107	93.8	83.6
Anthracene-d10	1719-06-8	0.1	%	100	101	119	107	103
4-Terphenyl-d14	1718-51-0	0.1	%	95.8	97.9	116	103	97.1

Page : 7 of 8 Work Order : ES0918392

Client : ALS TECHNICHEM (HK)

Project : ---

#### Analytical Results

Anthracene-d10

4-Terphenyl-d14



115

111

112

108

----

0.1

0.1

1719-06-8

1718-51-0

%

%

106

101



----

Page : 8 of 8 Work Order : ES0918392

Client : ALS TECHNICHEM (HK)

Project : ---



#### Surrogate Control Limits

Sub-Matrix: WATER		Recovery	Limits (%)
Compound	CAS Number	Low	High
EP132T: Base/Neutral Extractable	e Surrogates		
2-Fluorobiphenyl	321-60-8	43	116
Anthracene-d10	1719-06-8	27	133
4-Terphenyl-d14	1718-51-0	33	141

## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



#### **Environmental Division**

## QUALITY CONTROL REPORT

Work Order	: ES0918392	Page	: 1 of 5
Client	: ALS TECHNICHEM (HK)	Laboratory	: Environmental Division Sydney
Contact	: MR IVAN LEUNG	Contact	: Charlie Pierce
Address	: 11/F CHUNG SHUN KNITTING CNTR 1-3 WING YIP STREET KWAI CHUNG, N.T HONG KONG HONG KONG	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: ivan.leung@alsenviro.com	E-mail	: charlie.pierce@alsenviro.com
Telephone	: +852 001185226101044	Telephone	: +61-2-8784 8555
acsimile	: +852 26102021	Facsimile	: +61-2-8784 8500
Project		QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site			
C-O-C number		Date Samples Received	: 02-DEC-2009
Sampler		Issue Date	: 11-DEC-2009
Order number			
		No. of samples received	: 18
Quote number	: SY/241/07	No. of samples analysed	: 18

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits



NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

#### Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories Position Accreditation Category

Edwandy Fadjar Senior Organic Chemist Organics

Page : 2 of 5 Work Order : ES0918392

Client : ALS TECHNICHEM (HK)

Project

# ALS

#### **General Comments**

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insuffient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key: Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot

CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

RPD = Relative Percentage Difference

# = Indicates failed QC

Page Work Order : 4 of 5

Work Order : ES0918392 Client : ALS TECHNICHEM (HK)

Project : --



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

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: WATER				Method Blank (MB)	Laboratory Control Spike (LCS) Report				
				Report	Spike	Spike Recovery (%)	Recovery	Limits (%)	
Method: Compound	CAS Number		Unit	Result	Concentration	LCS	Low	High	
EP132B: Polynuclear Aromatic Hydrocarbon	s (QCLot: 1182162)						Total No. 1		
EP132: 3-Methylcholanthrene	56-49-5	0.10	μg/L	<0.1	2 μg/L	90.6	65.8	121	
EP132: 2-Methylnaphthalene	91-57-6	0.10	μg/L	<0.1	2 µg/L	75.0	67.7	112	
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.10	μg/L	<0.1	2 μg/L	104	11.6	146	
EP132: Acenaphthene	83-32-9	0.10	μg/L	<0.1	2 μg/L	77.8	73.2	111	
EP132: Acenaphthylene	208-96-8	0.10	μg/L	<0.1	2 μg/L	79.8	72.4	112	
EP132: Anthracene	120-12-7	0.10	μg/L	<0.1	2 μg/L	83.1	73.4	113	
EP132: Benz(a)anthracene	56-55-3	0.10	μg/L	<0.1	2 μg/L	88.0	73.6	114	
EP132: Benzo(a)pyrene	50-32-8	0.05	μg/L	<0.05	2 µg/L	87.1	75.2	117	
EP132: Benzo(b)fluoranthene	205-99-2	0.10	μg/L	<0.1	2 μg/L	90.1	71.4	119	
EP132: Benzo(e)pyrene	192-97-2	0.10	μg/L	<0.1	2 µg/L	85.3	75.3	118	
EP132: Benzo(g.h.i)perylere	191-24-2	0.10	μg/L	<0.1	2 μg/L	87.2	66.6	121	
EP132: Benzo(k)fluoranthene 207-08-9		0.10	μg/L	<0.1	2 μg/L	# 70.4	74.8	118	
EP132: Chrysene	218-01-9	0.10	μg/L	<0.1	2 μg/L	85.6	69.6	120	
EP132: Coronene	191-07-1	0.10	μg/L	<0.1	2 μg/L	86.2	47.4	131	
EP132: Dibenz(a.h)anthracene	53-70-3	0.10	μg/L	<0.1	2 μg/L	85.5	71.5	117	
EP132: Fluoranthene	206-44-0	0.10	μg/L	<0.1	2 μg/L	88.2	74.8	117	
EP132: Fluorene	86-73-7	0.10	μg/L	<0.1	2 μg/L	79.7	72.9	114	
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.10	μg/L	<0.1	2 μg/L	85.3	67.8	119	
EP132: N-2-Fluorenyl Acetamide 53-96-3		0.10	μg/L	<0.1	20 μg/L	67.9	53.6	131	
EP132: Naphthalene	91-20-3	0.10	μg/L	<0.1	2 μg/L	76.7	68.3	116	
EP132: Perylene	198-55-0	0.10	μg/L	<0.1	2 μg/L	88.0	68	122	
EP132: Phenanthrene	85-01-8	0.10	μg/L	<0.1	2 μg/L	84.5	74.8	112	
EP132: Pyrene	129-00-0	0.10	μg/L	<0.1	2 μg/L	87.0	75.1	117	

Annex I

Dolphin Sighting Records

Project name: EM&A for Permanent Aviation Fuel Facility (PAFF)

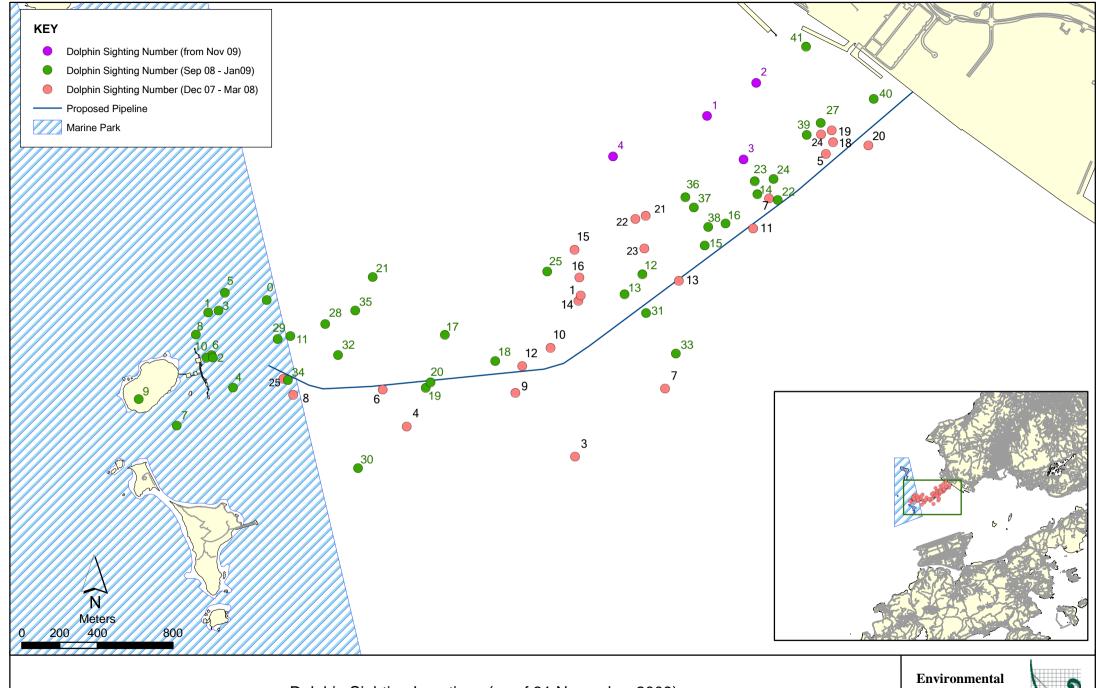
Activity: Dolphin Impact Monitoring - Tentative Schedule

\*Remark: Record the number of dolphin occurrence within the 500m exclusion (A) prior to dredging and (B) during dredging OR (C) outside the exculsion zone

			Derrick Lighters #38		Derrick Lighters #83		Grab d		
			No. of Dolphin	Sighting	No. of	Sighting	No. of Dolphin	Sighting Sheet	
Week	D	ate	Occurrence*	Sheet No.	Dolphin	Sheet No.	Occurence	No.	Observer's Name
1	Fri	13-Nov	0	-	Not in operation		Not in o	Alvin Lee	
	Sat	14-Nov	0	-	0 0		Not in operation		Richard Huang
	Sun	15-Nov	0	-	0	0 0 Not in op		peration	Richard Huang
2	Mon	16-Nov	0	-	2 (C)	1-2	Not in operation		Alvin Lee
	Tue	17-Nov	0	-	Not in o	operation	0	-	Richard Huang
	Wed	18-Nov	0	0	Not in operation		Not in operation		Francesca Zino
	Thu	19-Nov	1 (C)	3	Not in operation		0	-	Richard Huang
	Fri	20-Nov	0	-	Not in operation		0	-	Alvin Lee
	Sat	21-Nov	0	-	Not in operation		0	-	Richard Huang
	Sun	22-Nov	0	-	Not in operation		0	-	Alvin Lee
3	Mon	23-Nov	Not in ope	eration	Not in operation		0	-	Alvin Lee
	Tue	24-Nov	0	-	Not in operation		0	-	Richard Huang
	Wed	25-Nov	1 (C)	4	Not in operation		0	-	Alvin Lee
	Thu	26-Nov	0	-	Not in operation		0	-	Anson Chow
	Fri	27-Nov	0	-	Not in operation		0	-	Alvin Lee
	Sat	28-Nov	0	-	Not in operation		0	-	Richard Huang
	Sun	29-Nov	0	-	Not in o	operation	0	-	Alvin Lee
4	Mon	30-Nov	0		Not in o	operation	0	-	Anson Chow

#### Permanent Aviation Fuel Facility (PAFF) - Dolphin Sighting Records

			Dredger	Dredger	Sighting	#Sighting Angle						
Sighting			Coordinates (N	· Coordinates (E-	Distance	from Dredging	Group	Group		Boat		
No.	Date	Time	Lat)	Long)	(m)	Machine (o)	size	Composition*	Beaufort	Association	Behaviour	Other comments
1	16-Nov-09	0848	825063.045	810003.667	640	278	2	Undetermined	3	None	Undetermined	Sighting at 600m during dredging
2	16-Nov-09	0939	825223.562	810220.771	600	280	1	Undetermined	3	None	Undetermined	Sighting at 640m during dredging
3	19-Nov-09	1017	825098.716	810051.912	520	250	2	1SJ, 1UA	2	None	Travelling	One sighting at 520m during dredging
4	25-Nov-09	0849	825104.661	810059.953	>1200	262	2	Undetermined	2	Shrimp	Feeding	One sighting at >1.2km from vessel during dredging
*Key:  UC = Unspotted Calf  UJ = Unspotted Juvenile  SJ = Spotted Juvenile		# Compass be	earing is used (No	orth = 0 degree	e )							
SS = Spotted Sub-adult SA = Spotted Adult												
	UA = Unspotted Adult											



Dolphin Sighting Locations (as of 31 November 2009)

Environmental Resources Management

