



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

Twenty-Seventh Monthly Environmental Monitoring and Audit Report – January 2009

17 February 2009

**Environmental Resources Management**

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## Permanent Aviation Fuel Facility for Hong Kong International Airport

### Environmental Certification Sheet EP-262/2007/B

#### Reference Document/Plan

Document/ <del>Plan</del> to be Certified/ Verified:	27 <sup>th</sup> Monthly EM&A Report - January 2009
Date of Report:	17 February 2009
Date prepared by ET:	17 February 2009
Date received by IEC:	17 February 2009

#### Reference EP Condition

Environmental Permit Condition:	Condition No.: 5.3
Content:	<i>Environmental Monitoring and Audit (EM&amp;A) for the Project</i>
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: 17 February 2009

#### IEC Verification

I hereby verify that the above referenced document/ <del>plan</del> complies with the above referenced condition of EP-262/2007/B	
Dr Guiyi Li, Independent Environmental Checker:	Date: 19 Feb 2009


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.

# Permanent Aviation Fuel Facility (EP-262/2007/B) Twenty-Seventh Monthly Environmental Monitoring and Audit Report – January 2009

17 February 2009

Prepared by: Karen Lui/Craig A Reid

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For and on behalf of Environmental Resources Management	
Approved by:	Craig A Reid
Signed:	
Position:	Environmental Team Leader
Date:	17 February 2009

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## **EXECUTIVE SUMMARY**

The construction works for the Permanent Aviation Fuel Facility resumed on 9 July 2007. This **twenty-seventh** monthly Environmental Monitoring and Audit (EM&A) report presents the EM&A work carried out during the period from **1 January to 31 January 2009** in accordance with the *EM&A Manual*.

### *Breaches of all Action and Limit Levels*

No exceedances of any Action and Limit Levels applicable to the project were observed during the reporting period.

### *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 was no reporting changes in the reporting period.

### *Future Key Issues*

- Dust release and suppression.

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 (PAFF) (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 has been 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 issued by the EPD on 27 February 2008.

The construction works and EM&A requirements were resumed on 9<sup>th</sup> 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 **twenty-seventh** EM&A Report which summarizes the monitoring results and audit findings for the EM&A programme during the reporting period from **1 January to 31 January 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*. Dredging operation was suspended from 1 April to 31 August 2008 and resumed on 1 September 2008. *Table 2.2* presents the cumulative quantity of excavated materials up to 31 January 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	Tank Farm, Roof Truss and Bund Wall Construction Permanent Drainage Construction Operational & Fire Services Buildings Construction Jetty Works (Non-piling)
Submarine Pipeline Route	Dredging Operations

*Table 2.2 Cumulative Quantity of Excavated Marine Sediments up to 31 January 2009*

Type of Excavated Materials	Cumulative Bulk Volume (m <sup>3</sup> )
<i>From 17 December 2007 to 31 March 2008</i>	
Contaminated Mud	105,974
Uncontaminated Mud	97,815
<i>From 1 September 2008 to 31 January 2009</i>	
Contaminated Mud	0
Uncontaminated Mud	149,147

### 2.4 MONITORING SCHEDULE OF THE REPORTING MONTH

Daily water quality monitoring during dredging activities was recommenced on 1 September 2008. The monitoring schedule for January 2009 is presented in *Annex C*.



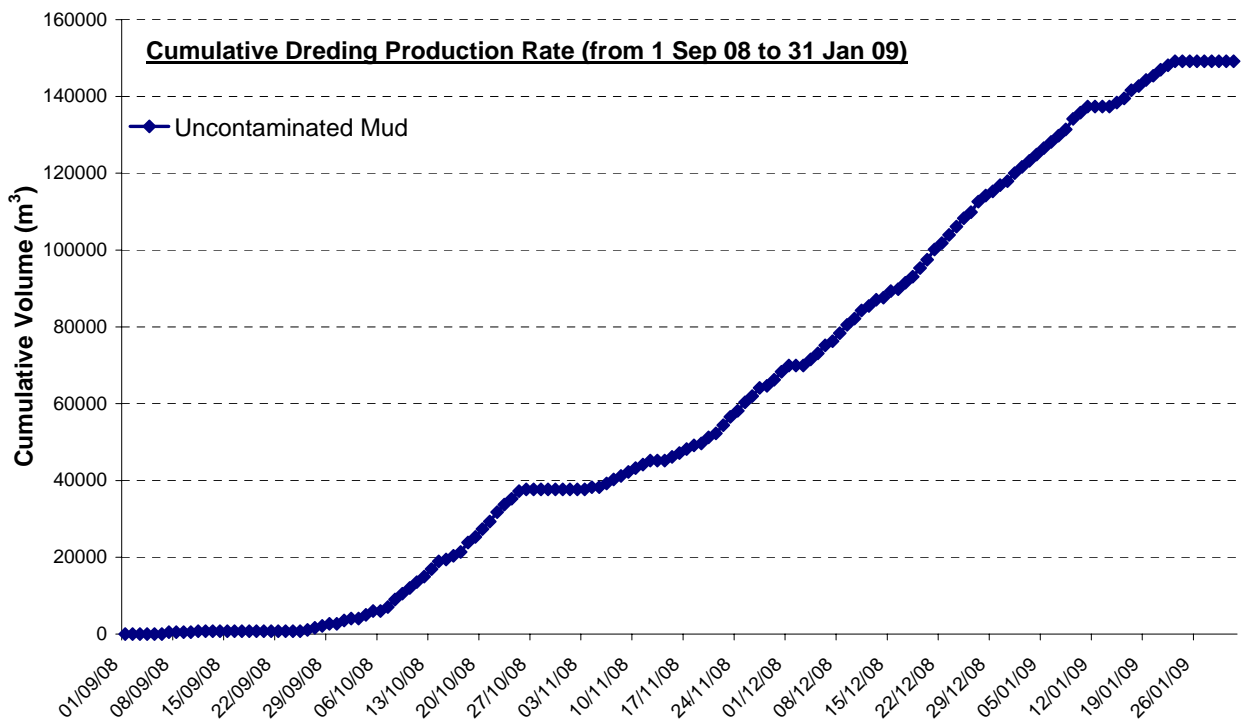
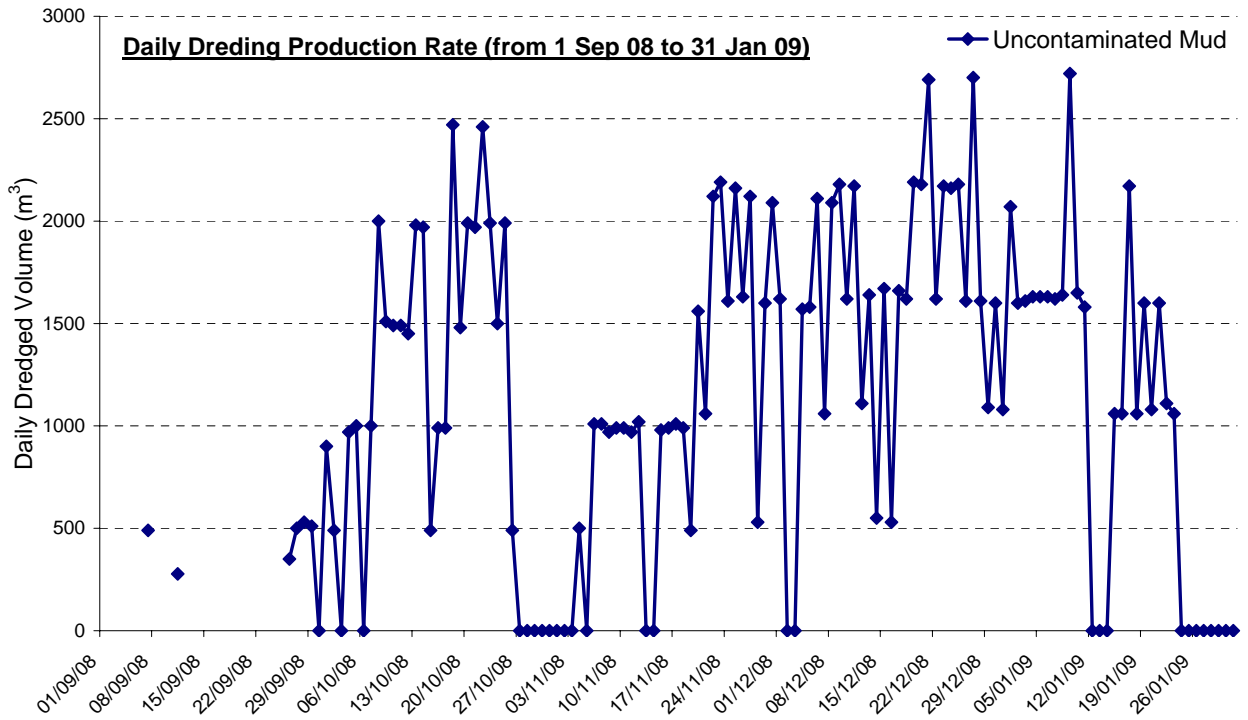


Figure 2.1 Daily and cumulative volumes (m<sup>3</sup>) of excavated materials from 1 September to 31 January 2009. Excavated materials contained uncontaminated mud only.



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 (EP-262/2007/A on 30 November 2007, EP-262/2007 issued on 31 May 2007, EP-139/2002 originally granted on 28 August 2002 and EP-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/UID/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
	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

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
	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
	GW-RW0368-08	1 September to 30 November 2008	For marine dredging operation including grab dredger, tug boat, split hopper barge and motor sampan
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
Wastewater Discharge License	EP760/421/011399/I	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) shall be established within three months after 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. Details of the CLG (including Membership and its Terms of Reference) can be found on the Project website (<http://www.paffhk.com>).

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

No environmental non-compliance was recorded during the reporting period.

## 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*.

### 3.1 PREVIOUS ENVIRONMENTAL DEFICIENCIES AND FOLLOW-UP ACTIONS

As no environmental complaint was received over the last reporting period, no follow-up action was required.

Weekly site inspections were carried out by the ET on 7, 15 and 20 January 2009. Site inspection was not conducted in the last week of January as the site was not in operation due to public holidays. Overall, the site was in good orderly manner and no non-compliances were found. Environmental deficiencies and follow-up actions/mitigation measures were identified during the inspections, as follows:

#### *Water Quality*

- On 7 January 2009, a stagnant water pool was observed inside the chemical storage area. The Contractor was reminded to arrange *ad hoc* water clearances as necessary.

#### *Waste Management*

- On 15 January 2009, general wastes near the operation building were observed to be full. The Contractor was recommended to arrange collection of general wastes by a licensed Contractor as soon as possible.
- On 20 January 2009, oil sheens were observed on the floor in the chemical storage area near the operational building. The Contractor was recommended to clear spillages and to provide suitable spillage control measures as soon as possible.
- On 15 and 20 January 2009, some lubricant oil containers were stored outside workshop without proper receptacle and not sealed. The Contractor was reminded to replace bins and lids for temporary storage as soon as possible.
- On 20 January 2009, construction waste and paper waste were piled up together without proper sorting and receptacle bins near the operation building. The Contractor was reminded to replace bins for temporary storage as soon as possible.

With the exception of the above observations, the site was in a good orderly manner. 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

#### ***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, water quality monitoring recommenced on 1 September 2008 alongside dredging activities. 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 turbidity, dissolved oxygen (DO) and suspended solids (SS) levels of all Impact Stations were compliant with the Action and Limit (AL) Levels specified in the *EM&A Manual*.

### 4.3 POPs MONITORING

Biweekly monitoring of POPs in water samples was conducted on 10 January 2009 for POPs analysis. All POPs parameters were below detection limits. Monitoring results and QA/QC reports for POPs testing are presented in *Annex H*.

### 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 05 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 appeared to be rehabilitated by vegetation which was grown during the project suspension period. The transplanted trees appeared to be in good and healthy condition.

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

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

The ET and IEC verified updated design audit plan was submitted to the EPD on 7 November 2007.

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 with *EM&A Manual*, dolphin monitoring has been undertaken during dredging activities since 1 September 2008. During the reporting period, a total of 3 dolphin sightings were recorded. Appropriate action was taken in accordance with 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 has been 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 construction of the Project. A revised *EM&A Manual* has been verified by the IEC and was submitted to EPD on 2 December 2008. Further comments were received from the EPD on 16 January 2009 and the ET will revise the *Manual* in the next reporting month.

#### **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 issues to be considered in the next month will be:

- Dust release and suppression.

### 5.2 *IMPACT PREDICTION FOR THE NEXT MONTH*

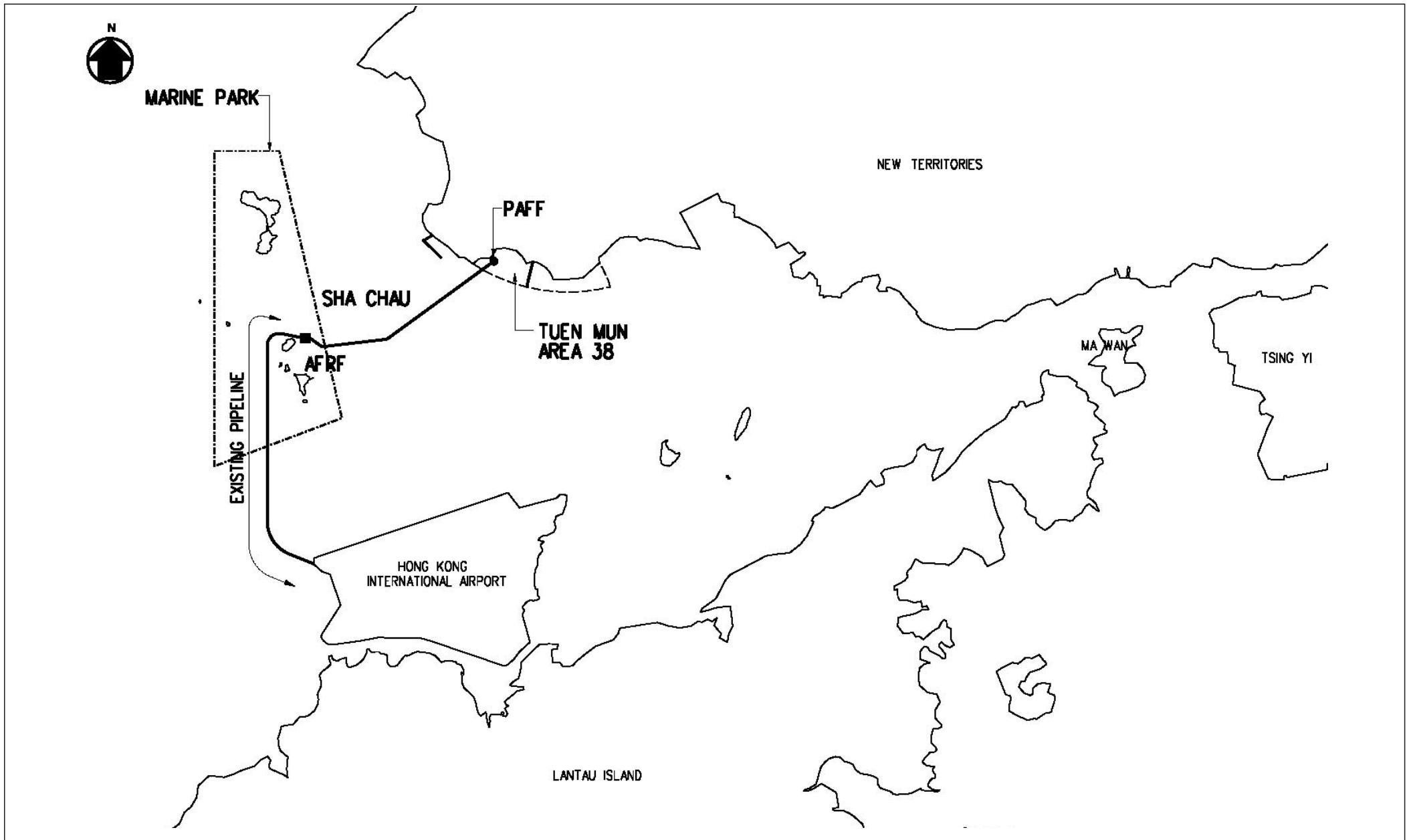
Provided that environmental mitigation measures including good on-site practises are properly implemented, it is not expected that unacceptable adverse impacts will arise.

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

Work programme for the next month includes jetty platform works (non-piling) and land-based site works (construction works for tank farm, operational and fire services buildings, pump platform, drainages, bund wall, security wall etc). Weekly site inspections will be undertaken.

Annex A

## Project Location



Annex A

Location of PAFF

FILE: 0018105bb1  
DATE: 12/11/2007






Environmental  
Resources  
Management



Annex B

Water Quality Monitoring  
Stations, Water Quality and  
Ecological Sensitive  
Receivers

**KEY**

-  Control Stations
-  Impact Stations
-  Marine Park
-  Proposed Pipeline
-  Potential IMO1 & IMO2 Monitoring Zone

Marine Park  
(Water Sensitive Receiver)

C2 (NM5)

C1 (NM3)

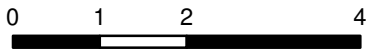
MPB1

MPB2

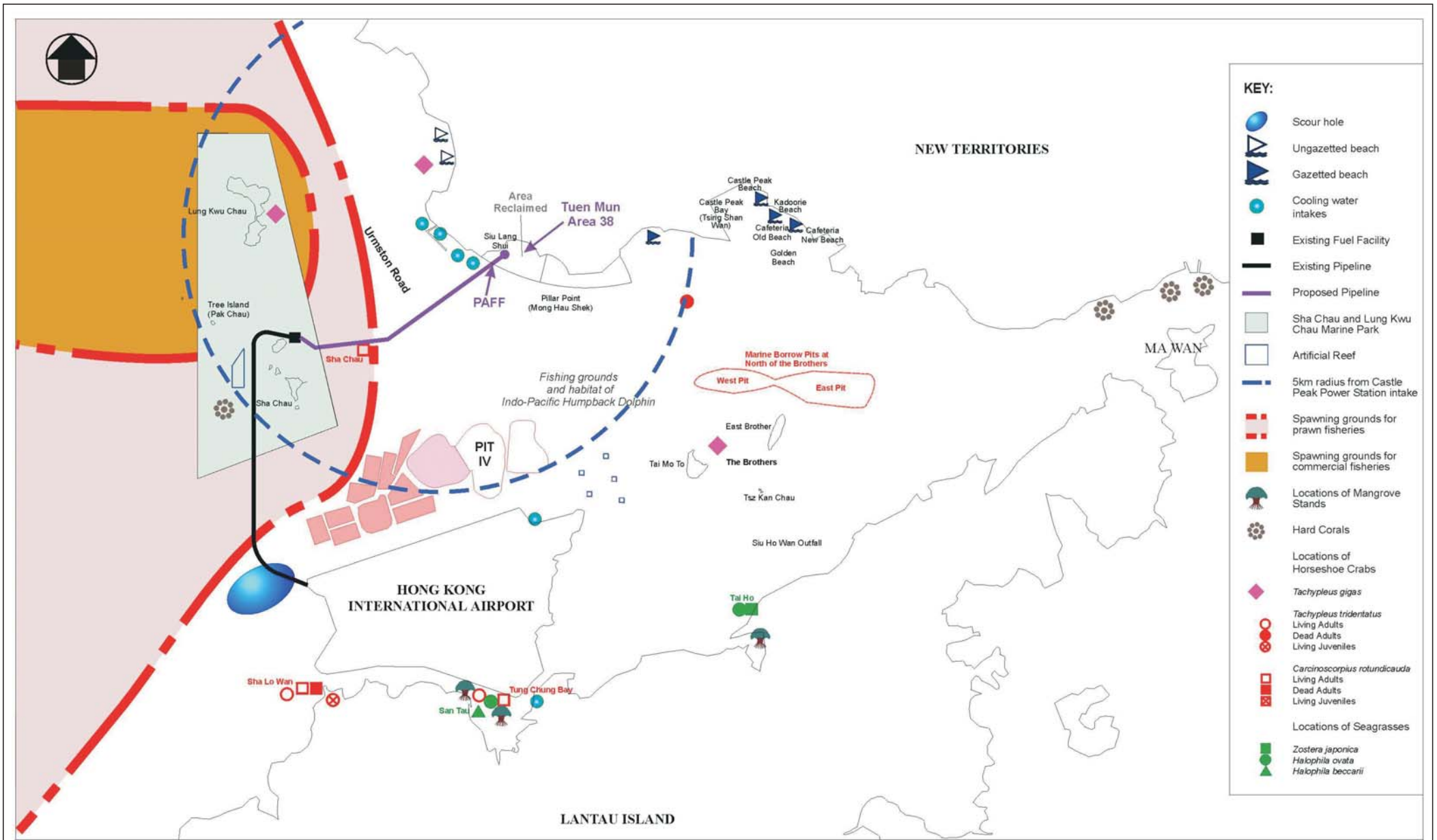
C3 (NM6)



Kilometers



### Water Sensitive Receiver and Water Quality Monitoring Locations



Annex B

Water Quality and Ecological Sensitive Receivers

FILE: C2475aa  
DATE: 12/11/2007

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

Environmental  
Resources  
Management



Annex C

## Monitoring Schedule for the Reporting Period

**PAFF**  
**Impact Water Quality Monitoring Schedule for January 2009**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				01-Jan	02-Jan	03-Jan
				Mid-Flood 10:38 Mid-Ebb 16:00	Mid-Flood 11:08 Mid-Ebb 16:44	Mid-Flood 11:41 Mid-Ebb 17:37
04-Jan	05-Jan	06-Jan	07-Jan	08-Jan	09-Jan	10-Jan
Mid-Flood 12:15 Mid-Ebb 18:47	Mid-Flood 12:52 Mid-Ebb 19:54	Mid-Ebb 07:18 Mid-Flood 13:33	Mid-Ebb 08:45 Mid-Flood 14:19	Mid-Ebb 10:14 Mid-Flood 15:14	Mid-Ebb 11:21 Mid-Flood 16:14	(POP sampling) Mid-Ebb 12:17 Mid-Flood 17:15
11-Jan	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan	17-Jan
Mid-Ebb 13:08 Mid-Flood 18:13	Mid-Ebb 13:55 Mid-Flood 19:07	Mid-Ebb 14:39 Mid-Flood 19:58	Mid-Flood 10:00 Mid-Ebb 15:22	Mid-Flood 10:35 Mid-Ebb 16:06	Mid-Flood 11:07 Mid-Ebb 16:52	Mid-Flood 11:38 Mid-Ebb 17:49
18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan
Mid-Flood 12:06 Mid-Ebb 19:01	Mid-Ebb 06:12 Mid-Flood 12:36	Mid-Flood 09:06 Mid-Ebb 21:48	Mid-Flood 10:15 Mid-Ebb 22:34	Mid-Flood 10:58 Mid-Ebb 23:14	Mid-Ebb 11:25 Mid-Flood 15:55	No WQ Monitoring*
25-Jan	26-Jan	27-Jan	28-Jan	29-Jan	30-Jan	31-Jan
No WQ Monitoring*						

\* Water quality monitoring will not be conducted since no dredging operation will be undertaken



Annex D

## Cumulative Complaints Statistics

*Summary of Environmental Complaints*

Reporting Period	Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
Before construction works	1	1	Dust
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 construction works on 9 <sup>th</sup> 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

### *Summary of Environmental Summons*

Reporting Period	Environmental Summons		
	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 construction works on 9<sup>th</sup> 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

Annex E

Implementation  
Programme of Mitigation  
Measures

## ANNEX E IMPLEMENTATION SCHEDULE

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
<b>Water Quality</b>										
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	On going
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.	Dredged areas/ Pipeline Dredging	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 Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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.	Dredged areas/ Pipeline Dredging	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 Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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	Pending
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 on-site 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 Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
6.7	6.8.1	Temporary access roads should be surfaced with crushed stone or gravel.	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	Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	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	Measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage 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	Open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms.	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	Manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers.	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	Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	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 Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
6.7	6.8.1	All vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit.	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	Wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain.	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	The section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel.	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 generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects.	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	Vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal.	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	The contractors shall prepare oil/chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately.	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 Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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	Pending
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 Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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 Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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 authorities	Franchisee	EM&A Manual			Y	N/A	Pending
<b>Ecology</b> 7.8	5.3	Undertake post construction dolphin abundance monitoring.	Construction	Contractor	TMEIA		Y		N/A	Pending

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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/throughout 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
<b>Landscape &amp; Visual</b>										
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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
8.10	7.2.1	All material stockpiles should be covered with an impermeable material and sandbagging diversions should be placed around exposed soil.	PAFF site / throughout construction period	Contractor	TMEIA		Y	Y	N/A	Ongoing
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 Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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: <ul style="list-style-type: none"> <li>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;</li> <li>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 brought on deck for cleaning and examination; and,</li> </ul>	Within vicinity of SS1 and SS2	Franchisee	TMEIA		Y		N/A	Completed

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
		<ul style="list-style-type: none"> <li>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 undertaken to examine the trench for possible cultural remains.</li> </ul>								
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
<b>Fuel Spill Risk</b>										
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.	Pipelines/ Design Phase	Franchisee	TMEIA		Y		N/A	On going



EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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
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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
11.6	10.4	Regular inspections and audits will be undertaken by the Franchisee during the operational phase of the facility: <ul style="list-style-type: none"> <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> <li>Inspection of the whole sub sea pipelines every 5 to 10 years;</li> <li>Health, Safety and Environmental audit of the facility once every 3 years; and,</li> <li>Inspection of the structural integrity of the tanks once per year.</li> </ul>	Operation	Franchisee	TMEIA			Y	N/A	Pending
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.	Prior to the start of operation of the PAFF with audits every 12 months	Franchisee	TMEIA			Y	N/A	Pending
<b>Land Contamination</b>										
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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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 roof 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
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.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	On going
13.5.5	10.2	Tank overflow 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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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 provided 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
<b>Waste Management</b>										
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
14.7.2	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	TMEIA, Works Branch Technical Circular No. 5/99 for the Trip-ticket System for Disposal of Construction and Demolition Material		Y		N/A	Ongoing

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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 / throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	All material shall be reused on site as far as practicable, including formwork plywood, topsoil and excavated material.	All site / throughout construction period	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.	Contract preparation stage	HyD	TMEIA		Y		N/A	Ongoing

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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 public fill stockpile in Mui Wo, North Lantau or Mui Wo refuse transfer stations / Throughout construction period	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
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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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
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) By-laws		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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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
14.7.2	8.3.1	A licensed contractor shall be employed to collect chemical waste for delivery to a licensed treatment facility.	Chemical waste treatment facility at Tsing Yi / 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
14.7.2	8.3.1	Temporary storage areas for general refuse should be enclosed to avoid environmental impacts.	All areas/ throughout construction period	Contractor	TMEIA, Public Health and Municipal Services Ordinance		Y		N/A	Ongoing
14.7.2	8.3.1	Sufficient dustbins should be provided for storage of waste.	All areas/ throughout construction period	Contractor	TMEIA, Public Cleansing and Prevention of Nuisances Ordinance (Regional Council) By-laws, Public Health and Municipal Services Ordinance		Y		N/A	Ongoing



EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
14.7.2	8.3.1	General refuse should be cleared daily and should be disposed of to the nearest licensed facility.	All areas, WENT landfill or NWNT refuse transfer stations/ throughout construction period	Contractor	TMEIA, Sanitation and Conservancy (Regional Council) By-laws		Y		N/A	Ongoing
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		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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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
14.7.2	8.3.1	All storage areas for chemical waste shall be: <ul style="list-style-type: none"> <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	All leaking containers shall be contained and removed from site as soon as is reasonably practicable.	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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
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



### CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0824185</b>
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<i>Order number</i>	: ---			<i>Date of issue</i>	: 06-JAN-2009
<i>C-O-C number</i>	: ---			<i>No. of samples</i>	- <i>Received</i> : 74
<i>Site</i>	: ---				- <i>Analysed</i> : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0824185 supersedes any previous reports with this reference. The completion date of analysis is 03-JAN-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 HK0824185 : **Sample(s) were collected by ALS Technichem (HK) staff on 01 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

#### ALS Laboratory Group

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 855588)</b>								
HK0824185-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0824185-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 855589)</b>								
HK0824185-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0824185-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	9	9	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 855590)</b>								
HK0824185-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	7	8	0.0
HK0824185-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	7	8	17.4
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 855591)</b>								
HK0824185-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0824185-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0

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

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 855588)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	97.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 855589)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	89.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 855590)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 855591)</b>											
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.



## CERTIFICATE OF ANALYSIS

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<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0824180</b>
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<i>Order number</i>	: ---			<i>Date of issue</i>	: 07-JAN-2009
<i>C-O-C number</i>	: ---			<i>No. of samples</i>	- Received : 74
<i>Site</i>	: ---				- Analysed : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0824180 supersedes any previous reports with this reference. The completion date of analysis is 06-JAN-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.

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

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856764)</b>								
HK0824180-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	7	0.0
HK0824180-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856765)</b>								
HK0824180-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	7	0.0
HK0824180-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856766)</b>								
HK0824180-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0824180-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856767)</b>								
HK0824180-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0824180-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856764)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856765)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856766)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856767)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	97.5	----	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.





## CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
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<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ---	<i>Date received</i>	: 03-JAN-2009
<i>Order number</i>	: ---			<i>Date of issue</i>	: 07-JAN-2009
<i>C-O-C number</i>	: ---			<i>No. of samples</i>	- Received : 74
<i>Site</i>	: ---				- Analysed : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0824178 supersedes any previous reports with this reference. The completion date of analysis is 06-JAN-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.

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

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

Trading Name: **ALS Technichem (HK) Pty Ltd**

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**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856757)</b>								
HK0824178-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	6	0.0
HK0824178-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856759)</b>								
HK0824178-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	7	14.0
HK0824178-047	C2 (NM5) B ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856762)</b>								
HK0824178-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0824178-074	IMO2 S DUP MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	6	22.5
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856763)</b>								
HK0824178-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0824178-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	6	0.0

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

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856757)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	106	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856759)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	95.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856762)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	96.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856763)</b>											
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.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0822951</b>
<i>Address</i>	: 21/F, LINCOLN HOUSE, 979 KING'S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY, HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: Karen.Lui@erm.com	<i>E-mail</i>	: Alice.Wong@alsenviro.com		
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<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ---	<i>Date received</i>	: 04-JAN-2009
<i>Order number</i>	: ---			<i>Date of issue</i>	: 07-JAN-2009
<i>C-O-C number</i>	: ---			<i>No. of samples</i>	- Received : 74
<i>Site</i>	: ---				- Analysed : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0822951 supersedes any previous reports with this reference. The completion date of analysis is 06-JAN-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 HK0822951 : **Sample(s) were collected by ALS Technichem (HK) staff on 04 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

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**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856853)</b>								
HK0822951-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0822951-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856854)</b>								
HK0822951-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	7	0.0
HK0822951-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856855)</b>								
HK0822951-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	4	5	0.0
HK0822951-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	7	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 856856)</b>								
HK0822951-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0822951-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	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					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856853)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	93.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856854)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856855)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	97.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 856856)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	97.5	----	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.



### CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0823728</b>
<i>Address</i>	: 21/F, LINCOLN HOUSE, 979 KING'S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY, HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ---	<i>Date received</i>	: 05-JAN-2009
<i>Order number</i>	: ---			<i>Date of issue</i>	: 08-JAN-2009
<i>C-O-C number</i>	: ---			<i>No. of samples</i>	- Received : 74
<i>Site</i>	: ---				- Analysed : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0823728 supersedes any previous reports with this reference. The completion date of analysis is 07-JAN-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 HK0823728 : **Sample(s) were collected by ALS Technichem (HK) staff on 05 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

#### ALS Laboratory Group

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 857370)</b>								
HK0823728-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0823728-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 857371)</b>								
HK0823728-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0823728-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 857372)</b>								
HK0823728-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	3	3	0.0
HK0823728-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 857373)</b>								
HK0823728-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0823728-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	4	0.0

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 857370)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 857371)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 857372)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	91.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 857373)</b>											
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.



### CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0823734</b>
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<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ---	<i>Date received</i>	: 06-JAN-2009
<i>Order number</i>	: ---			<i>Date of issue</i>	: 09-JAN-2009
<i>C-O-C number</i>	: ---			<i>No. of samples</i>	- Received : 74
<i>Site</i>	: ---				- Analysed : 74

### Report Comments

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

#### ALS Laboratory Group

Trading Name: **ALS Technichem (HK) Pty Ltd**

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 858398)</b>								
HK0823734-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
HK0823734-014	MPB2 S DUP ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 858399)</b>								
HK0823734-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	7	0.0
HK0823734-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 858400)</b>								
HK0823734-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0823734-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	4	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 858401)</b>								
HK0823734-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0823734-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	5	0.0

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 858398)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	87.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 858399)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	91.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 858400)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 858401)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	106	----	85	115	----	----

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

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





### CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0824184</b>
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<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ---	<i>Date received</i>	: 07-JAN-2009
<i>Order number</i>	: ---			<i>Date of issue</i>	: 12-JAN-2009
<i>C-O-C number</i>	: ---			<i>No. of samples</i>	- <i>Received</i> : 74
<i>Site</i>	: ---				- <i>Analysed</i> : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0824184 supersedes any previous reports with this reference. The completion date of analysis is 09-JAN-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 HK0824184 : **Sample(s) were collected by ALS Technichem (HK) staff on 07 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

Trading Name: **ALS Technichem (HK) Pty Ltd**

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**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 859382)</b>								
HK0824184-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0824184-014	MPB2 S DUP ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	6	16.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 859383)</b>								
HK0824184-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	7	0.0
HK0824184-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 859384)</b>								
HK0824184-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0824184-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 859385)</b>								
HK0824184-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	10	23.2
HK0824184-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	7	6	16.3

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

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 859382)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	96.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 859383)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	95.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 859384)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	93.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 859385)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	96.0	----	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.



### CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0824182</b>
<i>Address</i>	: 21/F, LINCOLN HOUSE, 979 KING'S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY, HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: Karen.Lui@erm.com	<i>E-mail</i>	: Alice.Wong@alsenviro.com		
<i>Telephone</i>	: +852 2271 3000	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ----	<i>Date received</i>	: 08-JAN-2009
<i>Order number</i>	: ----			<i>Date of issue</i>	: 13-JAN-2009
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 74
<i>Site</i>	: ----				- Analysed : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0824182 supersedes any previous reports with this reference. The completion date of analysis is 12-JAN-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 HK0824182 : **Sample(s) were collected by ALS Technichem (HK) staff on 08 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

Trading Name: **ALS Technichem (HK) Pty Ltd**

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 860008)</b>								
HK0824182-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
HK0824182-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 860009)</b>								
HK0824182-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0824182-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	7	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 860010)</b>								
HK0824182-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0824182-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 860011)</b>								
HK0824182-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0824182-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 860008)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	103	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 860009)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	94.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 860010)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 860011)</b>											
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.



## CERTIFICATE OF ANALYSIS

*Client* : ERM HONG KONG  
*Contact* : MS KAREN LUI  
*Address* : 21/F, LINCOLN HOUSE, 979 KING'S ROAD,  
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*Facsimile* : +852 2723 5660  
*Project* : EM&A FOR THE PERMANENT AVIATION FUEL  
FACILITY  
*Order number* : ----  
*C-O-C number* : ----  
*Site* : ----

*Laboratory* : ALS Technichem HK Pty Ltd  
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*Quote number* : ----

*Page* : 1 of 5  
*Work Order* : **HK0824179**

*Date received* : 09-JAN-2009

*Date of issue* : 14-JAN-2009

*No. of samples* - *Received* : 74  
- *Analysed* : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0824179 supersedes any previous reports with this reference. The completion date of analysis is 12-JAN-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 HK0824179 : **Sample(s) were collected by ALS Technichem (HK) staff on 09 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

Trading Name: **ALS Technichem (HK) Pty Ltd**

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 860048)</b>								
HK0824179-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	7	0.0
HK0824179-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 860049)</b>								
HK0824179-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	6	0.0
HK0824179-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	9	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 860050)</b>								
HK0824179-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	6	17.3
HK0824179-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	9	10	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 860051)</b>								
HK0824179-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	11	10	9.6
HK0824179-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	10	10	0.0

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

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 860048)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 860049)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 860050)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	94.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 860051)</b>											
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.



## CERTIFICATE OF ANALYSIS

<i>Client</i> : ERM HONG KONG	<i>Laboratory</i> : ALS Technichem HK Pty Ltd	<i>Page</i> : 1 of 5
<i>Contact</i> : MS KAREN LUI	<i>Contact</i> : Wong Wai Man, Alice	<i>Work Order</i> : <b>HK0900246</b>
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<i>Project</i> : EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i> : ----	<i>Date received</i> : 10-JAN-2009
<i>Order number</i> : ----		<i>Date of issue</i> : 14-JAN-2009
<i>C-O-C number</i> : ----		<i>No. of samples</i> - <i>Received</i> : 74
<i>Site</i> : ----		- <i>Analysed</i> : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900246 supersedes any previous reports with this reference. The completion date of analysis is 13-JAN-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 HK0900246 : **Sample(s) were collected by ALS Technichem (HK) staff on 10 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

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**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861502)</b>								
HK0900246-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	9	12.1
HK0900246-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861503)</b>								
HK0900246-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	7	0.0
HK0900246-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	7	15.6
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861504)</b>								
HK0900246-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
HK0900246-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	9	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861505)</b>								
HK0900246-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	9	12.0
HK0900246-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	9	10	0.0

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861502)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	95.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861503)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	108	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861504)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	97.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861505)</b>											
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.





## CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0900244</b>
<i>Address</i>	: 21/F, LINCOLN HOUSE, 979 KING'S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY, HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: Karen.Lui@erm.com	<i>E-mail</i>	: Alice.Wong@alsenviro.com		
<i>Telephone</i>	: +852 2271 3000	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ----	<i>Date received</i>	: 11-JAN-2009
<i>Order number</i>	: ----			<i>Date of issue</i>	: 14-JAN-2009
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 74
<i>Site</i>	: ----				- Analysed : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900244 supersedes any previous reports with this reference. The completion date of analysis is 13-JAN-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 HK0900244 : **Sample(s) were collected by ALS Technichem (HK) staff on 11 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics



### 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 (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861498)</b>								
HK0900244-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	9	8	16.1
HK0900244-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	9	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861499)</b>								
HK0900244-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	9	9	0.0
HK0900244-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861500)</b>								
HK0900244-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	7	8	0.0
HK0900244-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	7	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861501)</b>								
HK0900244-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	12	11	11.2
HK0900244-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	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						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861498)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	106	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861499)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861500)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861501)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	94.5	----	85	115	----	----

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

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



### CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0900245</b>
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<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ----	<i>Date received</i>	: 12-JAN-2009
<i>Order number</i>	: ----			<i>Date of issue</i>	: 15-JAN-2009
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 74
<i>Site</i>	: ----				- Analysed : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900245 supersedes any previous reports with this reference. The completion date of analysis is 13-JAN-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 HK0900245 : **Sample(s) were collected by ALS Technichem (HK) staff on 12 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics



### 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 (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861865)</b>								
HK0900245-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	7	0.0
HK0900245-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	9	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861866)</b>								
HK0900245-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	8	0.0
HK0900245-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	9	8	11.9
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861867)</b>								
HK0900245-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0900245-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	7	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 861868)</b>								
HK0900245-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	9	0.0
HK0900245-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	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						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861865)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	97.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861866)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861867)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 861868)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	95.0	----	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.



## CERTIFICATE OF ANALYSIS

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*Project* : EM&A FOR THE PERMANENT AVIATION FUEL  
FACILITY  
*Order number* : ----  
*C-O-C number* : ----  
*Site* : ----

*Laboratory* : ALS Technichem HK Pty Ltd  
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*Quote number* : ----

*Page* : 1 of 5  
*Work Order* : **HK0900248**

*Date received* : 13-JAN-2009

*Date of issue* : 16-JAN-2009

*No. of samples* - *Received* : 74  
- *Analysed* : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900248 supersedes any previous reports with this reference. The completion date of analysis is 15-JAN-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 HK0900248 : **Sample(s) were collected by ALS Technichem (HK) staff on 13 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

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**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 863084)</b>								
HK0900248-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	13	14	0.0
HK0900248-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	17	16	7.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 863085)</b>								
HK0900248-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	14	16	12.9
HK0900248-044	C2 (NM5) S DUP ME	EA025: Suspended Solids (SS)	----	1	mg/L	12	15	17.3
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 863086)</b>								
HK0900248-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	15	13	17.1
HK0900248-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	13	14	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 863087)</b>								
HK0900248-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	12	13	7.9
HK0900248-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	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					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 863084)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	106	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 863085)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	110	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 863086)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	91.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 863087)</b>											
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.



## CERTIFICATE OF ANALYSIS

<i>Client</i> : ERM HONG KONG	<i>Laboratory</i> : ALS Technichem HK Pty Ltd	<i>Page</i> : 1 of 5
<i>Contact</i> : MS KAREN LUI	<i>Contact</i> : Wong Wai Man, Alice	<i>Work Order</i> : <b>HK0900249</b>
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<i>Project</i> : EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i> : ----	<i>Date received</i> : 14-JAN-2009
<i>Order number</i> : ----		<i>Date of issue</i> : 19-JAN-2009
<i>C-O-C number</i> : ----		<i>No. of samples</i> - <i>Received</i> : 74
<i>Site</i> : ----		- <i>Analysed</i> : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900249 supersedes any previous reports with this reference. The completion date of analysis is 16-JAN-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 HK0900249 : **Sample(s) were collected by ALS Technichem (HK) staff on 14 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 864421)</b>								
HK0900249-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	9	9	0.0
HK0900249-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 864422)</b>								
HK0900249-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0900249-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 864425)</b>								
HK0900249-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
HK0900249-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 864429)</b>								
HK0900249-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0900249-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	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						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 864421)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	94.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 864422)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 864425)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 864429)</b>											
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.





## CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0824183</b>
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<i>Order number</i>	: ----			<i>Date of issue</i>	: 20-JAN-2009
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- <i>Received</i> : 98
<i>Site</i>	: ----				- <i>Analysed</i> : 98

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0824183 supersedes any previous reports with this reference. The completion date of analysis is 19-JAN-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 HK0824183 : **Sample(s) were collected by ALS Technichem (HK) staff on 15 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 866068)</b>								
HK0824183-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	13	13	0.0
HK0824183-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	16	16	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 866069)</b>								
HK0824183-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	18	17	0.0
HK0824183-033	IMO3 M ME	EA025: Suspended Solids (SS)	----	1	mg/L	12	12	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 866070)</b>								
HK0824183-043	C2 (NM5) S ME	EA025: Suspended Solids (SS)	----	1	mg/L	17	17	0.0
HK0824183-055	MPB1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	14	14	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 866071)</b>								
HK0824183-065	MPB2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	10	10	0.0
HK0824183-075	IMO2 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	12	12	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 866072)</b>								
HK0824183-085	IMO4 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	21	21	0.0
HK0824183-095	C1 (NM3) B MF	EA025: Suspended Solids (SS)	----	1	mg/L	13	13	0.0

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

Matrix: WATER				Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
						LCS	DCS	Low	High	Value	Control Limit	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 866068)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	92.5	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 866069)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 866070)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.0	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 866071)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 866072)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	96.5	----	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.



### CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: HK0823729
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<i>Order number</i>	: ---			<i>Date of issue</i>	: 21-JAN-2009
<i>C-O-C number</i>	: ---			<i>No. of samples</i>	- Received : 98
<i>Site</i>	: ---				- Analysed : 98

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0823729 supersedes any previous reports with this reference. The completion date of analysis is 20-JAN-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 HK0823729 : **Sample(s) were collected by ALS Technichem (HK) staff on 16 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867969)</b>								
HK0823729-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	15	15	0.0
HK0823729-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	14	14	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867970)</b>								
HK0823729-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	9	9	0.0
HK0823729-033	IMO3 M ME	EA025: Suspended Solids (SS)	----	1	mg/L	12	11	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867971)</b>								
HK0823729-043	C2 (NM5) S ME	EA025: Suspended Solids (SS)	----	1	mg/L	9	9	0.0
HK0823729-055	MPB1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	19	20	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867972)</b>								
HK0823729-065	MPB2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
HK0823729-075	IMO2 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	12	12	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867973)</b>								
HK0823729-085	IMO4 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	10	10	0.0
HK0823729-095	C1 (NM3) B MF	EA025: Suspended Solids (SS)	----	1	mg/L	17	18	0.0

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

Matrix: WATER				Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
						LCS	DCS	Low	High	Value	Control Limit	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867969)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	108	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867970)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.5	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867971)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867972)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867973)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	95.0	----	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.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0900600</b>
<i>Address</i>	: 21/F, LINCOLN HOUSE, 979 KING'S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY, HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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<i>Telephone</i>	: +852 2271 3000	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ---	<i>Date received</i>	: 17-JAN-2009
<i>Order number</i>	: ---			<i>Date of issue</i>	: 21-JAN-2009
<i>C-O-C number</i>	: ---			<i>No. of samples</i>	- <i>Received</i> : 98
<i>Site</i>	: ---				- <i>Analysed</i> : 98

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900600 supersedes any previous reports with this reference. The completion date of analysis is 20-JAN-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 HK0900600 : **Sample(s) were collected by ALS Technichem (HK) staff on 17 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

Trading Name: **ALS Technichem (HK) Pty Ltd**

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867983)</b>								
HK0900600-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
HK0900600-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	10	10	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867984)</b>								
HK0900600-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	11	11	0.0
HK0900600-033	IMO3 M ME	EA025: Suspended Solids (SS)	----	1	mg/L	11	11	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867985)</b>								
HK0900600-043	C2 (NM5) S ME	EA025: Suspended Solids (SS)	----	1	mg/L	10	10	0.0
HK0900600-055	MPB1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	10	10	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867986)</b>								
HK0900600-065	MPB2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	10	10	0.0
HK0900600-075	IMO2 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	10	10	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867987)</b>								
HK0900600-085	IMO4 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	11	11	0.0
HK0900600-095	C1 (NM3) B MF	EA025: Suspended Solids (SS)	----	1	mg/L	11	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						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867983)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	106	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867984)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867985)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	108	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867986)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	108	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867987)</b>											
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.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0900594</b>
<i>Address</i>	: 21/F, LINCOLN HOUSE, 979 KING'S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY, HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: Karen.Lui@erm.com	<i>E-mail</i>	: Alice.Wong@alsenviro.com		
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<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ----	<i>Date received</i>	: 18-JAN-2009
<i>Order number</i>	: ----			<i>Date of issue</i>	: 21-JAN-2009
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 98
<i>Site</i>	: ----				- Analysed : 98

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900594 supersedes any previous reports with this reference. The completion date of analysis is 20-JAN-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 HK0900594 : **Sample(s) were collected by ALS Technichem (HK) staff on 18 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics



### 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 (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867977)</b>								
HK0900594-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0900594-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867978)</b>								
HK0900594-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0900594-033	IMO3 M ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867979)</b>								
HK0900594-043	C2 (NM5) S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	9	0.0
HK0900594-055	MPB1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867980)</b>								
HK0900594-065	MPB2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	7	0.0
HK0900594-075	IMO2 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 867981)</b>								
HK0900594-085	IMO4 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	7	0.0
HK0900594-095	C1 (NM3) B MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	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					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)		
						LCS	DCS	Low	High	Value	Control Limit	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867977)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	92.5	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867978)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867979)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867980)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	110	----	85	115	----	----	
<b>EA/ED: Physical and Aggregate Properties (QCLot: 867981)</b>												
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	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.





## CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0900597</b>
<i>Address</i>	: 21/F, LINCOLN HOUSE, 979 KING'S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY, HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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<i>Telephone</i>	: +852 2271 3000	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ----	<i>Date received</i>	: 19-JAN-2009
<i>Order number</i>	: ----			<i>Date of issue</i>	: 22-JAN-2009
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 74
<i>Site</i>	: ----				- Analysed : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900597 supersedes any previous reports with this reference. The completion date of analysis is 21-JAN-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 HK0900597 : **Sample(s) were collected by ALS Technichem (HK) staff on 19 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

Trading Name: **ALS Technichem (HK) Pty Ltd**

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 869883)</b>								
HK0900597-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	6	0.0
HK0900597-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 869884)</b>								
HK0900597-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0900597-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	4	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 869885)</b>								
HK0900597-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0900597-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	4	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 869886)</b>								
HK0900597-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
HK0900597-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	4	5	0.0

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

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 869883)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	103	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 869884)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	91.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 869885)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 869886)</b>											
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.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: ERM HONG KONG	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 5
<i>Contact</i>	: MS KAREN LUI	<i>Contact</i>	: Wong Wai Man, Alice	<i>Work Order</i>	: <b>HK0900595</b>
<i>Address</i>	: 21/F, LINCOLN HOUSE, 979 KING'S ROAD, TAIKOO PLACE, ISLAND EAST, QUARRY BAY, HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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<i>Facsimile</i>	: +852 2723 5660	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i>	: ----	<i>Date received</i>	: 20-JAN-2009
<i>Order number</i>	: ----			<i>Date of issue</i>	: 23-JAN-2009
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- <i>Received</i> : 74
<i>Site</i>	: ----				- <i>Analysed</i> : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900595 supersedes any previous reports with this reference. The completion date of analysis is 21-JAN-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 HK0900595 : **Sample(s) were collected by ALS Technichem (HK) staff on 20 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

Trading Name: **ALS Technichem (HK) Pty Ltd**

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 870033)</b>								
HK0900595-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	6	0.0
HK0900595-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	9	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 870034)</b>								
HK0900595-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	7	0.0
HK0900595-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 870035)</b>								
HK0900595-058	MPB1 M DUP MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0900595-068	IMO1 S DUP MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 870036)</b>								
HK0900595-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	7	6	17.7
HK0900595-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	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						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 870033)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 870034)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	110	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 870035)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	110	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 870036)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	92.0	----	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.



## CERTIFICATE OF ANALYSIS

<i>Client</i> : ERM HONG KONG	<i>Laboratory</i> : ALS Technichem HK Pty Ltd	<i>Page</i> : 1 of 5
<i>Contact</i> : MS KAREN LUI	<i>Contact</i> : Wong Wai Man, Alice	<i>Work Order</i> : <b>HK0900251</b>
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<i>Facsimile</i> : +852 2723 5660	<i>Facsimile</i> : +852 2610 2021	
<i>Project</i> : EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i> : ----	<i>Date received</i> : 21-JAN-2009
<i>Order number</i> : ----		<i>Date of issue</i> : 29-JAN-2009
<i>C-O-C number</i> : ----		<i>No. of samples</i> - <i>Received</i> : 74
<i>Site</i> : ----		- <i>Analysed</i> : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900251 supersedes any previous reports with this reference. The completion date of analysis is 23-JAN-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 HK0900251 : **Sample(s) were collected by ALS Technichem (HK) staff on 21 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 871846)</b>								
HK0900251-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	7	0.0
HK0900251-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	7	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 871847)</b>								
HK0900251-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	6	17.3
HK0900251-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	8	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 871848)</b>								
HK0900251-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	8	7	0.0
HK0900251-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 871849)</b>								
HK0900251-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0900251-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	5	0.0

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 871846)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	96.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 871847)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 871848)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 871849)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.0	----	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.



## CERTIFICATE OF ANALYSIS

<i>Client</i> : ERM HONG KONG	<i>Laboratory</i> : ALS Technichem HK Pty Ltd	<i>Page</i> : 1 of 5
<i>Contact</i> : MS KAREN LUI	<i>Contact</i> : Wong Wai Man, Alice	<i>Work Order</i> : <b>HK0900250</b>
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<i>Project</i> : EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	<i>Quote number</i> : ----	<i>Date received</i> : 22-JAN-2009
<i>Order number</i> : ----		<i>Date of issue</i> : 30-JAN-2009
<i>C-O-C number</i> : ----		<i>No. of samples</i> - <i>Received</i> : 74
<i>Site</i> : ----		- <i>Analysed</i> : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900250 supersedes any previous reports with this reference. The completion date of analysis is 24-JAN-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 HK0900250 : **Sample(s) were collected by ALS Technichem (HK) staff on 22 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

### ALS Laboratory Group

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### Laboratory Duplicate (DUP) Report

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 872766)</b>								
HK0900250-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0900250-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 872767)</b>								
HK0900250-023	IMO1 B ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0900250-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 872768)</b>								
HK0900250-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
HK0900250-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 872769)</b>								
HK0900250-091	C1 (NM3) S MF	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
HK0900250-100	C3 (NM6) M DUP MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 872766)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 872767)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	108	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 872768)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 872769)</b>											
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.





### CERTIFICATE OF ANALYSIS

*Client* : ERM HONG KONG  
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*Quote number* : ----

*Page* : 1 of 5  
*Work Order* : HK0900596

*Date received* : 23-JAN-2009

*Date of issue* : 02-FEB-2009

*No. of samples* - *Received* : 74  
- *Analysed* : 74

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK0900596 supersedes any previous reports with this reference. The completion date of analysis is 24-JAN-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 HK0900596 : **Sample(s) were collected by ALS Technichem (HK) staff on 23 January, 2009.**  
**Water sample(s) analysed and reported on an as received basis.**

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<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics

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**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 872770)</b>								
HK0900596-001	MP S ME	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
HK0900596-013	MPB2 S ME	EA025: Suspended Solids (SS)	----	1	mg/L	8	7	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 872771)</b>								
HK0900596-024	IMO1 B DUP ME	EA025: Suspended Solids (SS)	----	1	mg/L	7	7	0.0
HK0900596-045	C2 (NM5) M ME	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 872772)</b>								
HK0900596-057	MPB1 M MF	EA025: Suspended Solids (SS)	----	1	mg/L	4	4	0.0
HK0900596-067	IMO1 S MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 872773)</b>								
HK0900596-077	IMO2 B MF	EA025: Suspended Solids (SS)	----	1	mg/L	5	5	0.0
HK0900596-099	C3 (NM6) M MF	EA025: Suspended Solids (SS)	----	1	mg/L	6	6	0.0

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

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 872770)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 872771)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 872772)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 872773)</b>											
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.

Annex G

## Impact Water Quality Monitoring Results

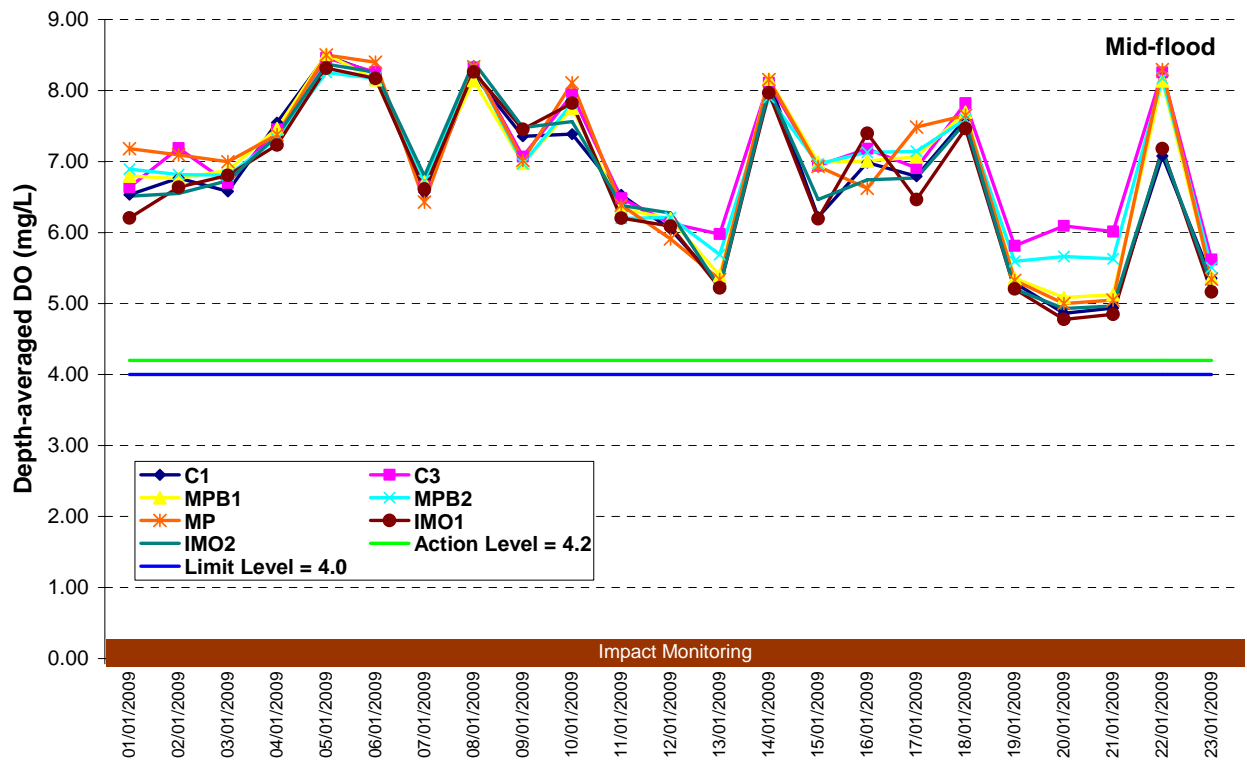
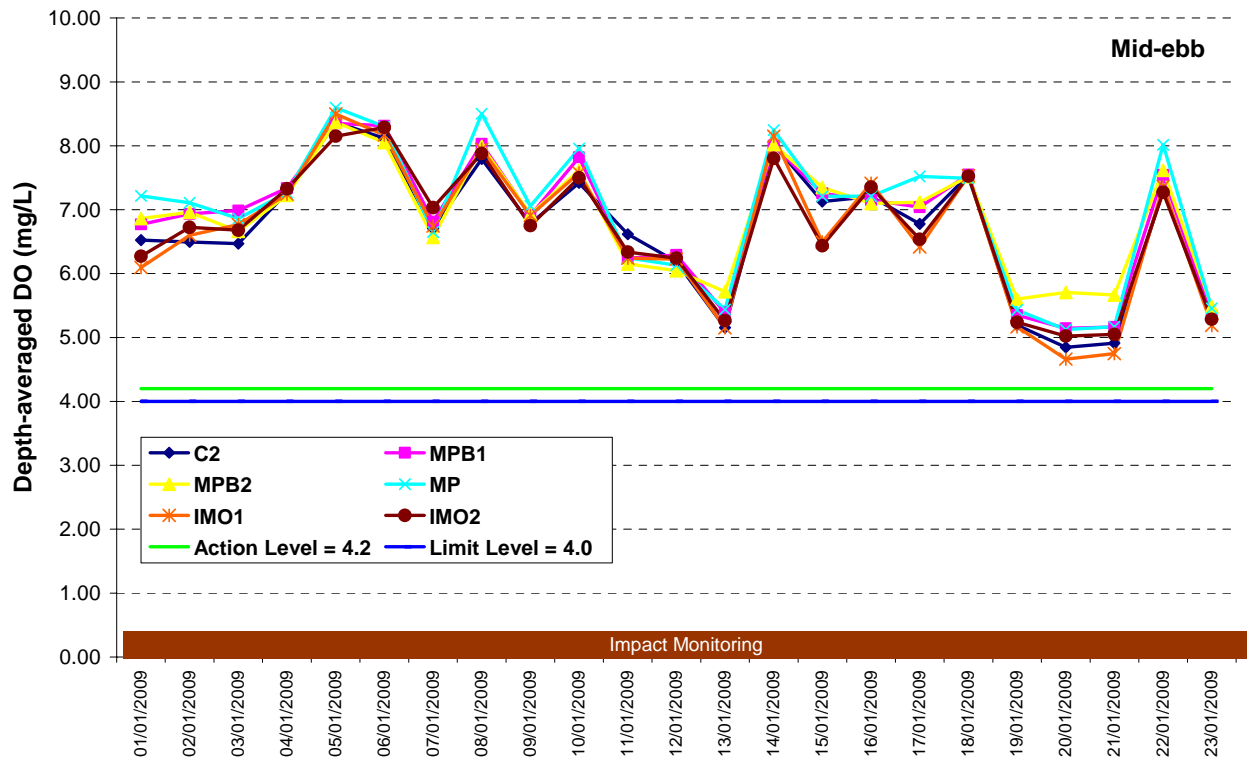


Figure G1 Dissolved oxygen concentration (depth-averaged) (mg/L) of water samples from the eight sampling locations at mid-ebb and mid-flood between 1 Jan to 31 Jan 09. No monitoring was conducted in from 24 Jan to 31 Jan since no dredging operation was undertaken.



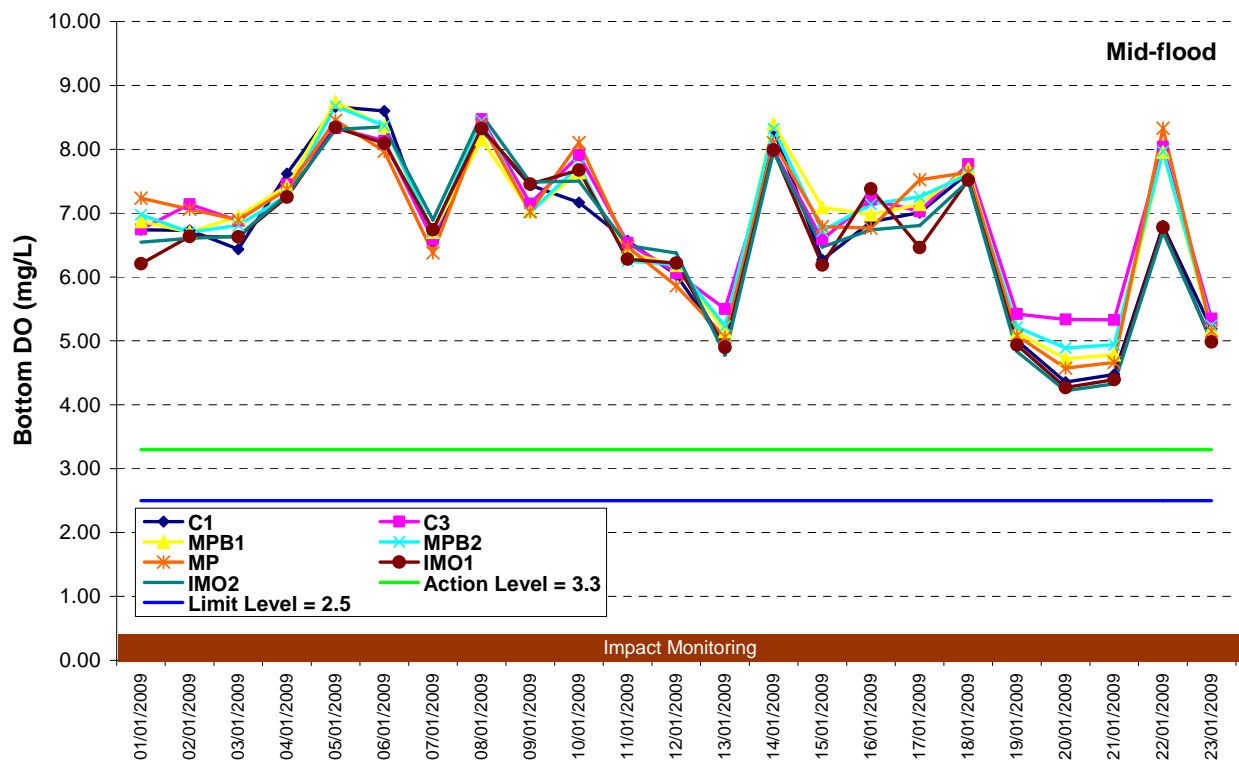
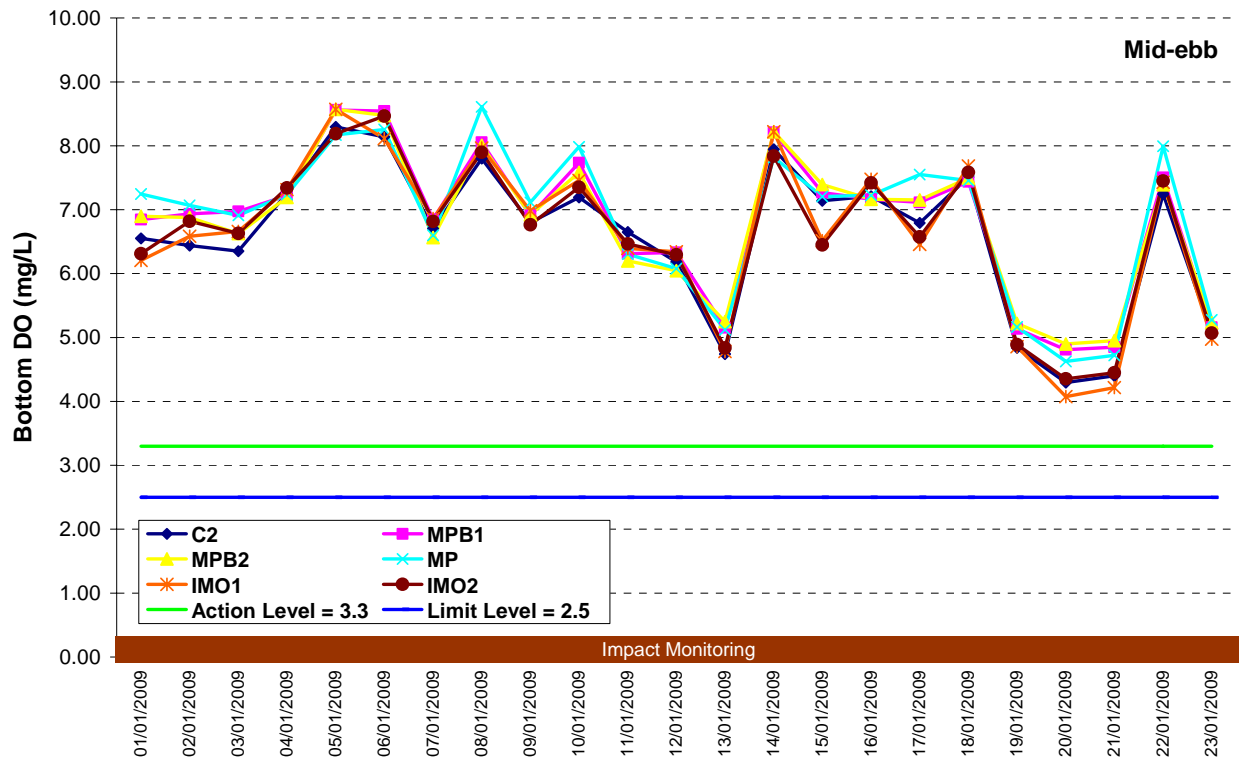


Figure G2 Dissolved oxygen concentration (bottom) (mg/L) of water samples from the eight sampling locations at mid-ebb and mid-flood between 1 Jan to 31 Jan 09. No monitoring was conducted in from 24 Jan to 31 Jan since no dredging operation was undertaken.



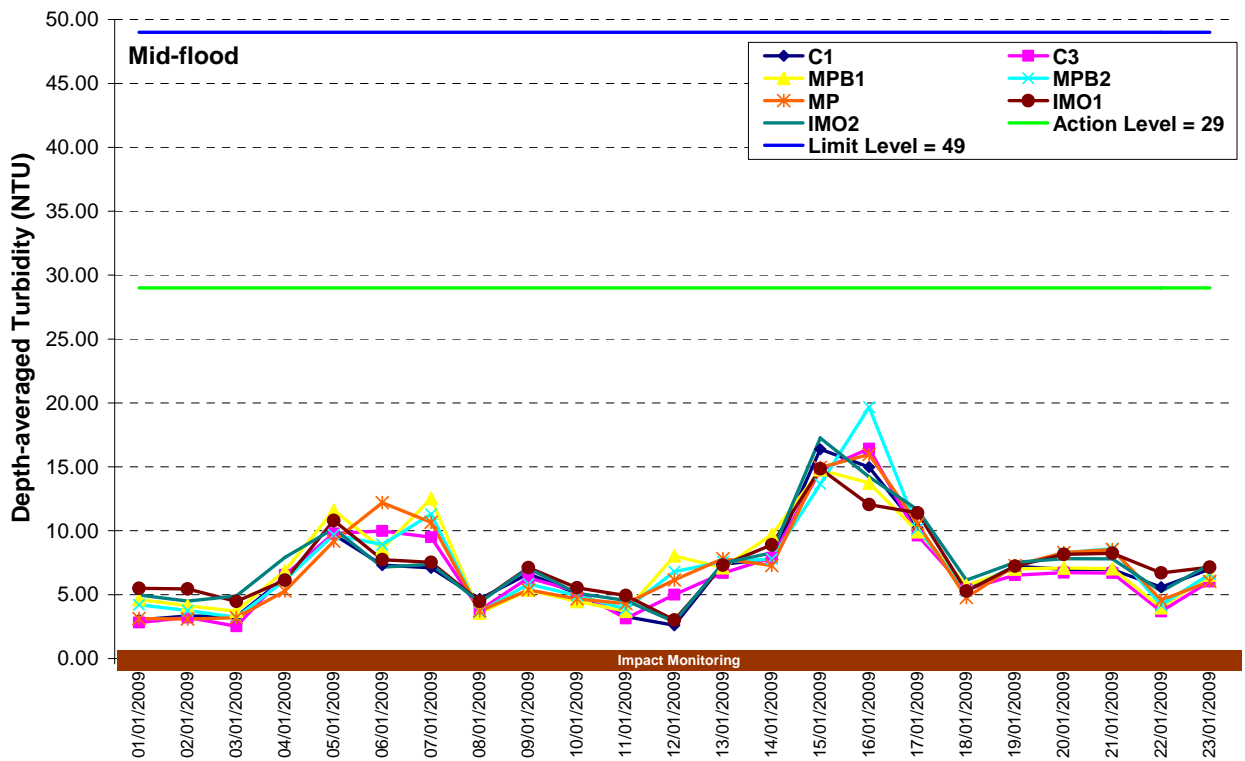
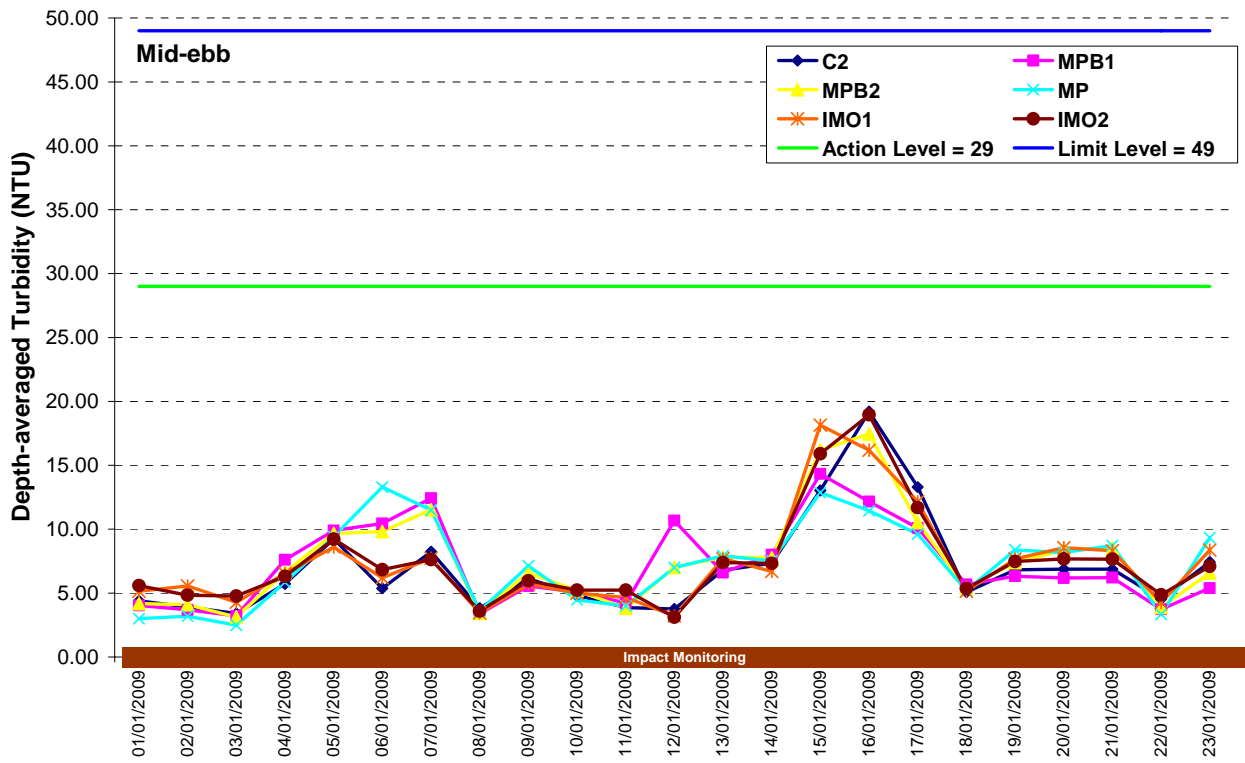


Figure G3 Depth-averaged turbidity (NTU) of water samples from the eight sampling locations at mid-ebb and mid-flood between 1 Jan to 31 Jan 09. No monitoring was conducted in from 24 Jan to 31 Jan since no dredging operation was undertaken.



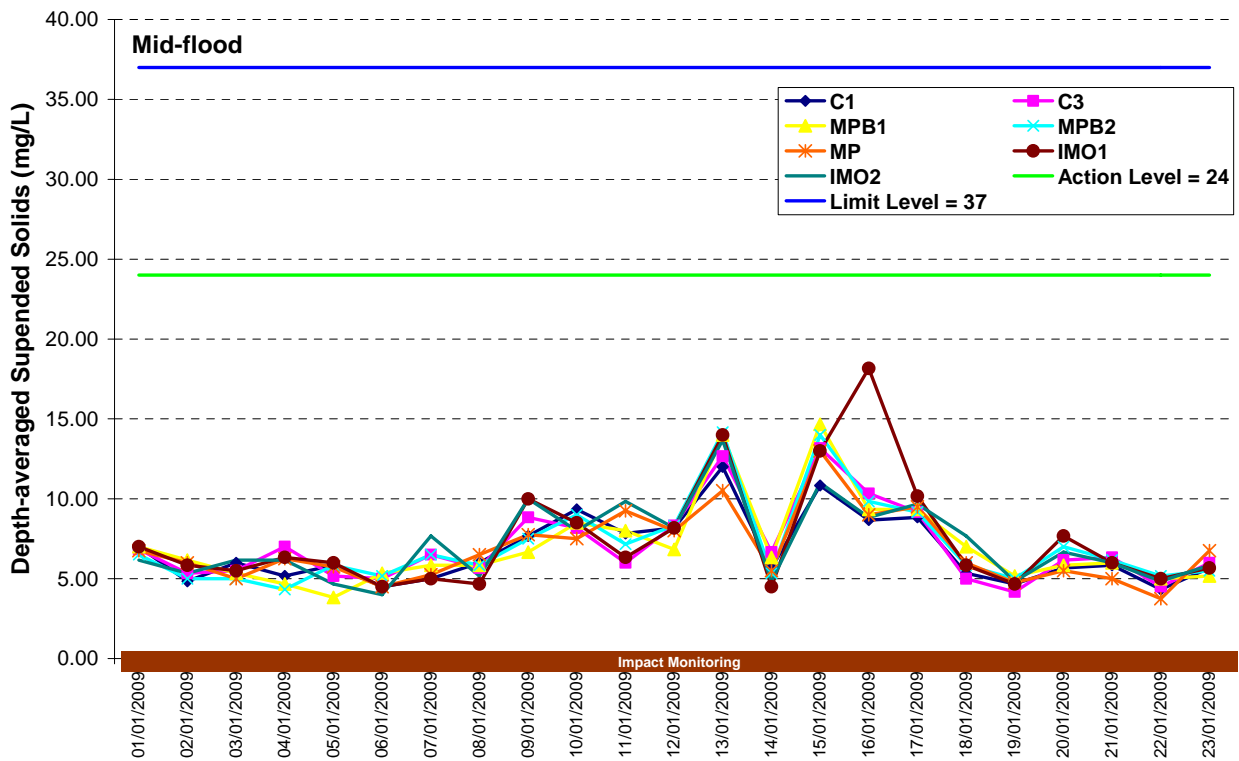
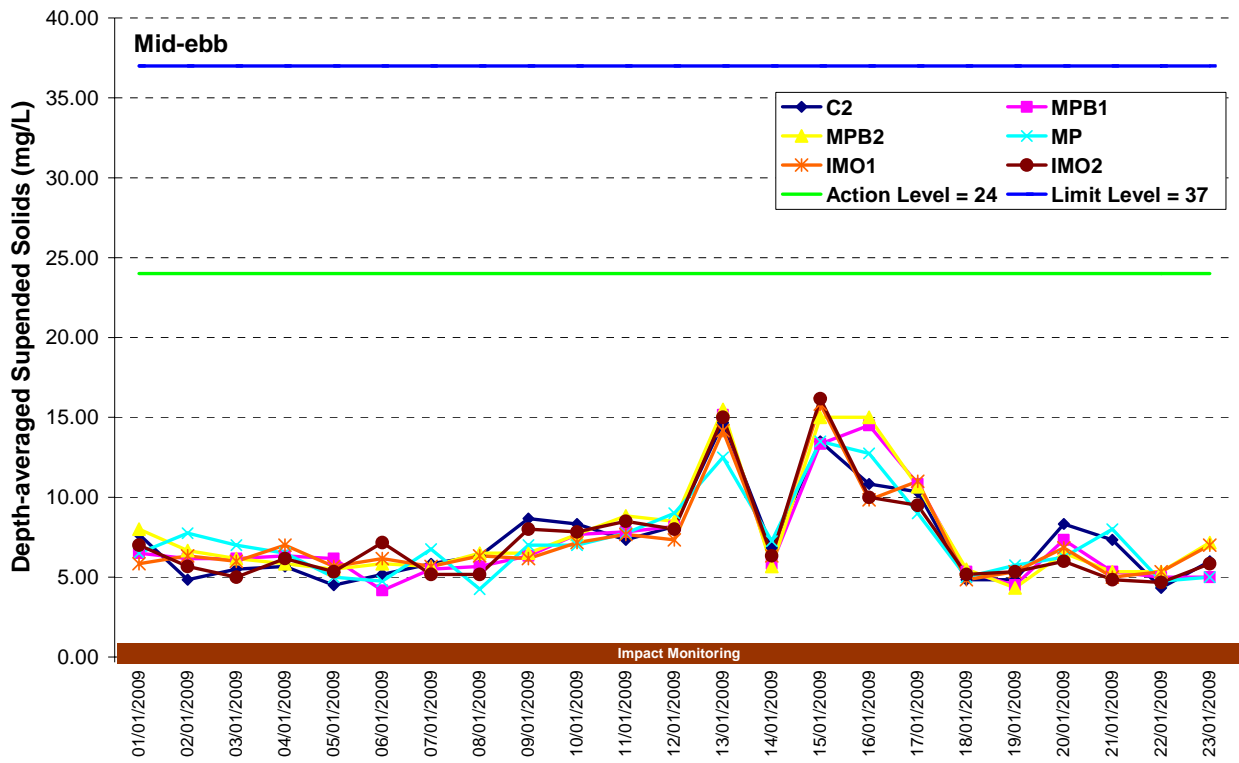


Figure G4 Depth-averaged suspended solids concentration (mg/L) of water samples from the eight sampling locations at mid-ebb and mid-flood between 1 Jan to 31 Jan 09. No monitoring was conducted in from 24 Jan to 31 Jan since no dredging operation was undertaken.



Sampling Date	01/01/2009
Weather & Ambient Temperature	Fine, 15C

Station	C2 (NM5)								
Time (hh:mm)	15:42-15:45								
Water Depth (m)	20.8								
Monitoring Depth (m)	1.0		10.4		19.8				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	19.7	19.7	19.1	19.0	18.8	18.9	19.20	-	
Salinity (ppt)	23.9	24.0	29.0	29.1	30.2	30.2	27.74	-	
pH	8.4	8.4	8.5	8.5	8.5	8.5	8.49	-	
D.O. Saturation (%)	98.0	96.9	94.2	93.0	97.5	97.3	96.15	-	
D.O. (mg/L)	6.7	6.7	6.4	6.3	6.6	6.5	6.53	6.55	
Turbidity (NTU)	3.6	3.5	4.4	4.2	5.5	5.2	4.40	-	
SS (mg/L)	8.0	6.0	9.0	8.0	7.0	8.0	7.67	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	15:55-15:57						Northing	Easting
Water Depth (m)	10.6						22.22.019	113.55.324
Monitoring Depth (m)	1.0		5.3		9.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.4	19.3	18.9	18.9	18.4	18.4	18.88	-
Salinity (ppt)	29.8	29.7	31.2	31.2	31.7	31.7	30.86	-
pH	8.6	8.5	8.5	8.5	8.6	8.6	8.55	-
D.O. Saturation (%)	95.3	93.5	87.4	86.8	92.1	92.6	91.28	-
D.O. (mg/L)	6.4	6.3	5.7	5.8	6.2	6.22	6.10	6.21
Turbidity (NTU)	4.2	4.4	5.3	5.2	5.8	6.0	5.15	-
SS (mg/L)	7.0	5.0	6.0	5.0	6.0	6.0	5.83	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	16:08-16:10						Northing	Easting
Water Depth (m)	9.8						22.21.794	113.55.786
Monitoring Depth (m)	1.0		4.9		8.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.2	19.2	18.4	18.5	18.2	18.3	18.63	-
Salinity (ppt)	29.4	29.3	31.1	31.1	31.8	31.7	30.71	-
pH	8.5	8.5	8.5	8.5	8.5	8.5	8.50	-
D.O. Saturation (%)	94.9	93.7	92.0	91.9	94.2	93.2	93.32	-
D.O. (mg/L)	6.3	6.3	6.2	6.2	6.3	6.29	6.27	6.31
Turbidity (NTU)	4.8	4.6	5.5	5.4	6.5	6.7	5.58	-
SS (mg/L)	8.0	6.0	7.0	7.0	8.0	6.0	7.00	-
Remarks	Dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	6.6	6.6	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.5	6.5	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	5.7	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	10.0	10.0	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	15:15-15:17							
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)	19.8	19.7	19.4	19.4	19.2	19.2	19.45	-
Salinity (ppt)	23.9	24.0	26.1	26.2	27.6	27.7	25.90	-
pH	8.4	8.5	8.5	8.5	8.5	8.5	8.48	-
D.O. Saturation (%)	99.1	98.7	97.8	98.2	100.1	101.3	99.20	-
D.O. (mg/L)	6.8	6.8	6.7	6.7	6.8	6.9	6.77	6.85
Turbidity (NTU)	3.3	3.5	4.2	4.1	4.6	4.5	4.03	-
SS (mg/L)	5.0	6.0	7.0	8.0	7.0	6.0	6.50	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	15:03-15:06							
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 (°C)	19.7	19.7	19.6	19.6	19.6	19.6	19.61	-
Salinity (ppt)	24.4	24.3	24.9	25.0	25.1	24.9	24.76	-
pH	8.5	8.5	8.5	8.5	8.5	8.5	8.48	-
D.O. Saturation (%)	99.8	99.4	100.6	100.5	101.1	100.8	100.37	-
D.O. (mg/L)	6.8	6.8	6.9	6.9	6.9	6.9	6.86	6.90
Turbidity (NTU)	3.5	3.4	3.9	4.1	5.0	5.2	4.18	-
SS (mg/L)	8.0	9.0	8.0	8.0	8.0	7.0	8.00	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	15:25-15:26							
Water Depth (m)	5.6							
Monitoring Depth (m)	1.0		2.8		4.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.6	19.7	-	-	19.3	19.3	19.47	-
Salinity (ppt)	25.6	25.7	-	-	27.1	27.0	26.36	-
pH	8.5	8.5	-	-	8.5	8.5	8.50	-
D.O. Saturation (%)	105.2	106.3	-	-	106.6	106.9	106.25	-
D.O. (mg/L)	7.2	7.2	-	-	7.2	7.3	7.22	7.25
Turbidity (NTU)	2.6	2.8	-	-	3.2	3.4	3.00	-
SS (mg/L)	6.0	6.0	-	-	8.0	6.0	6.50	-
Remarks	Dredging works was observed.							





Sampling Date	02/01/2009
Weather & Ambient Temperature	Sunny, 16C

Station	C2 (NM5)								
Time (hh:mm)	16:26-16:29								
Water Depth (m)	20.6								
Monitoring Depth (m)	1.0		10.3		19.6				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	18.5	18.5	19.2	19.2	19.1	19.1	18.92	-	
Salinity (ppt)	28.8	28.8	31.8	31.9	32.3	32.3	30.99	-	
pH	8.3	8.3	8.3	8.4	8.3	8.3	8.33	-	
D.O. Saturation (%)	96.3	95.8	91.4	92.3	94.1	94.7	94.10	-	
D.O. (mg/L)	6.8	6.8	6.3	6.3	6.4	6.5	6.50	6.44	
Turbidity (NTU)	3.3	3.2	3.8	3.9	4.7	4.6	3.92	-	
SS (mg/L)	4.0	5.0	6.0	5.0	5.0	4.0	4.83	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	16:40-16:42						Northing	Easting
Water Depth (m)	9.4						22.22.073	113.55.302
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)	19.5	19.5	20.1	20.2	19.1	19.2	19.61	-
Salinity (ppt)	30.3	30.5	31.7	31.7	31.8	31.8	31.30	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.29	-
D.O. Saturation (%)	98.3	98.7	95.3	96.4	96.0	96.8	96.92	-
D.O. (mg/L)	6.8	6.8	6.4	6.5	6.6	6.60	6.60	6.59
Turbidity (NTU)	4.7	4.6	5.6	5.4	6.6	6.4	5.55	-
SS (mg/L)	6.0	6.0	6.0	6.0	7.0	7.0	6.33	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	16:51-16:53						Northing	Easting
Water Depth (m)	10.0						22.21.811	113.55.758
Monitoring Depth (m)	1.0		5.0		9.0			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.7	19.7	19.1	19.1	18.9	18.9	19.25	-
Salinity (ppt)	30.8	30.7	31.7	31.7	31.8	31.7	31.39	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.30	-
D.O. Saturation (%)	100.4	99.3	95.9	95.1	99.3	99.4	98.23	-
D.O. (mg/L)	6.8	6.8	6.6	6.5	6.8	6.83	6.73	6.82
Turbidity (NTU)	4.1	4.2	4.7	4.8	5.7	5.5	4.83	-
SS (mg/L)	5.0	5.0	5.0	6.0	6.0	7.0	5.67	-
Remarks	Dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	6.4	6.4	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.5	6.5	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	5.1	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	6.3	6.3	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	15:53-15:55							
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)	18.2	18.2	18.5	18.5	18.5	18.5	18.40	-
Salinity (ppt)	26.6	26.4	29.3	29.3	29.5	29.5	28.44	-
pH	8.3	8.3	8.3	8.3	8.3	8.3	8.31	-
D.O. Saturation (%)	97.6	99.0	96.9	96.7	98.2	99.2	97.93	-
D.O. (mg/L)	7.0	7.1	6.8	6.8	6.9	7.0	6.94	6.94
Turbidity (NTU)	3.1	3.3	3.5	3.6	4.2	4.4	3.68	-
SS (mg/L)	6.0	6.0	7.0	6.0	6.0	6.0	6.17	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	15:41-15:43							
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-averaged	Bottom
Water Temperature (°C)	18.4	18.4	18.4	18.4	18.4	18.4	18.39	-
Salinity (ppt)	28.3	28.2	28.5	28.5	31.7	31.7	29.48	-
pH	8.3	8.3	8.3	8.3	8.3	8.4	8.33	-
D.O. Saturation (%)	99.4	100.1	97.9	98.1	99.4	98.8	98.95	-
D.O. (mg/L)	7.1	7.1	6.9	7.0	6.9	6.9	6.96	6.88
Turbidity (NTU)	3.6	3.4	4.1	4.3	4.5	4.7	4.10	-
SS (mg/L)	8.0	8.0	6.0	5.0	6.0	7.0	6.67	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	16:03-16:04							
Water Depth (m)	5.7							
Monitoring Depth (m)	1.0		2.9		4.7			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.1	18.1	-	-	18.6	18.6	18.35	-
Salinity (ppt)	27.7	27.8	-	-	30.3	30.3	29.00	-
pH	8.3	8.3	-	-	8.3	8.3	8.29	-
D.O. Saturation (%)	100.3	99.6	-	-	100.8	102.1	100.70	-
D.O. (mg/L)	7.2	7.1	-	-	7.0	7.1	7.11	7.07
Turbidity (NTU)	2.9	2.7	-	-	3.5	3.7	3.20	-
SS (mg/L)	7.0	8.0	-	-	8.0	8.0	7.75	-
Remarks	Dredging works was observed.							



Sampling Date	03/01/2009
Weather & Ambient Temperature	Fine, 15C

Station	C2 (NM5)								
Time (hh:mm)	17:16-17:18								
Water Depth (m)	20.2								
Monitoring Depth (m)	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)	18.3	18.3	18.5	18.5	18.6	18.6	18.46	-	
Salinity (ppt)	26.0	26.1	31.0	30.9	31.7	31.7	29.57	-	
pH	8.0	8.0	8.1	8.1	8.0	8.0	8.04	-	
D.O. Saturation (%)	96.2	96.1	93.5	91.8	94.5	94.0	94.35	-	
D.O. (mg/L)	6.8	6.8	6.3	6.2	6.4	6.3	6.47	6.35	
Turbidity (NTU)	2.5	2.6	3.4	3.5	4.3	4.2	3.42	-	
SS (mg/L)	5.0	7.0	4.0	5.0	6.0	6.0	5.50	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	17:29-17:31						Northing	Easting
Water Depth (m)	9.6						22.22.016	113.55.331
Monitoring Depth (m)	1.0		4.8		8.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.5	18.5	18.4	18.4	18.3	18.3	18.42	-
Salinity (ppt)	25.6	25.7	29.9	30.0	31.6	31.6	29.06	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.10	-
D.O. Saturation (%)	98.4	98.5	97.2	96.9	97.6	97.6	97.70	-
D.O. (mg/L)	7.0	7.0	6.7	6.7	6.7	6.63	6.77	6.66
Turbidity (NTU)	3.3	3.5	4.3	4.2	5.1	5.3	4.28	-
SS (mg/L)	5.0	6.0	5.0	6.0	8.0	6.0	6.00	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	17:42-17:44						Northing	Easting
Water Depth (m)	9.8						22.21.764	113.55.790
Monitoring Depth (m)	1.0		4.9		8.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.2	18.2	18.4	18.4	18.6	18.6	18.40	-
Salinity (ppt)	27.3	27.5	31.1	31.1	32.2	32.1	30.22	-
pH	8.1	8.1	8.1	8.1	8.1	8.1	8.08	-
D.O. Saturation (%)	96.4	96.9	97.5	97.1	98.9	97.6	97.40	-
D.O. (mg/L)	6.8	6.8	6.7	6.6	6.7	6.59	6.68	6.63
Turbidity (NTU)	4.0	3.9	4.6	4.7	5.6	5.8	4.77	-
SS (mg/L)	5.0	6.0	4.0	5.0	5.0	5.0	5.00	-
Remarks	Dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	6.4	6.4	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.5	6.5	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	4.4	4.4	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	7.2	7.2	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	16:47-16:49							
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)	18.4	18.4	18.2	18.2	18.3	18.3	18.30	-
Salinity (ppt)	26.5	26.7	28.2	28.3	29.7	29.6	28.16	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18	-
D.O. Saturation (%)	100.1	100.6	98.8	100.2	101.5	100.6	100.30	-
D.O. (mg/L)	7.0	7.1	6.9	7.0	7.0	7.0	6.99	6.98
Turbidity (NTU)	2.6	2.7	3.2	3.3	3.8	3.7	3.22	-
SS (mg/L)	5.0	6.0	7.0	6.0	7.0	6.0	6.17	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	16:36-16:38							
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-averaged	Bottom
Water Temperature (°C)	18.7	18.7	18.3	18.3	18.2	18.2	18.38	-
Salinity (ppt)	25.5	25.5	27.4	27.3	29.4	29.4	27.42	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18	-
D.O. Saturation (%)	96.0	96.7	93.7	94.2	95.9	95.6	95.35	-
D.O. (mg/L)	6.8	6.8	6.6	6.6	6.6	6.6	6.66	6.63
Turbidity (NTU)	2.6	2.5	3.1	3.2	3.6	3.8	3.13	-
SS (mg/L)	5.0	6.0	6.0	5.0	8.0	7.0	6.17	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	16:58-16:59							
Water Depth (m)	5.6							
Monitoring Depth (m)	1.0		2.8		4.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.4	18.4	-	-	18.2	18.1	18.29	-
Salinity (ppt)	26.7	26.7	-	-	28.4	28.4	27.56	-
pH	8.1	8.1	-	-	8.1	8.1	8.14	-
D.O. Saturation (%)	96.9	97.2	-	-	98.7	99.4	98.05	-
D.O. (mg/L)	6.8	6.8	-	-	6.9	6.9	6.86	6.91
Turbidity (NTU)	2.4	2.3	-	-	2.7	2.6	2.50	-
SS (mg/L)	7.0	8.0	-	-	7.0	6.0	7.00	-
Remarks	Dredging works was observed.							



Sampling Date	04/01/2009
Weather & Ambient Temperature	Fine, 18C

Station	C2 (NM5)								
Time (hh:mm)	17:55-17:58								
Water Depth (m)	19.2								
Monitoring Depth (m)	1.0		9.6		18.2				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	22.2	22.3	21.8	21.9	21.4	21.5	21.86	-	
Salinity (ppt)	49.3	48.7	53.2	53.3	55.5	55.3	52.55	-	
pH	1.1	1.1	9.7	9.7	18.2	18.2	9.66	-	
D.O. Saturation (%)	34.2	33.8	37.0	37.0	38.6	38.5	36.53	-	
D.O. (mg/L)	98.7	96.6	98.0	97.1	98.2	97.2	97.63	97.70	
Turbidity (NTU)	7.9	7.9	8.0	8.0	8.0	8.0	7.95	-	
SS (mg/L)	6.0	7.0	6.0	5.0	4.0	6.0	5.67	-	
Remarks	No dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	18:21-18:23						Northing	Easting
Water Depth (m)	9.8						22.22.020	113.55.333
Monitoring Depth (m)	1.0		4.9		8.8			
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	21.8	21.7	21.94	-
Salinity (ppt)	43.3	43.2	46.1	46.0	49.8	49.8	46.38	-
pH	1.1	1.1	5.0	5.0	8.8	8.8	4.97	-
D.O. Saturation (%)	29.9	29.8	31.9	31.8	34.5	34.5	32.06	-
D.O. (mg/L)	95.1	94.8	95.0	93.3	96.4	95.30	94.98	95.85
Turbidity (NTU)	7.9	7.9	7.9	7.9	7.9	7.9	7.91	-
SS (mg/L)	7.0	8.0	7.0	7.0	7.0	6.0	7.00	-
Remarks	No dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	18:56-18:57						Northing	Easting
Water Depth (m)	10.0						22.21.770	113.55.782
Monitoring Depth (m)	1.0		5.0		9.0			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.5	22.6	21.9	21.9	21.6	21.6	22.00	-
Salinity (ppt)	41.4	40.4	46.9	47.4	51.3	51.9	46.56	-
pH	1.0	1.1	5.5	5.5	9.1	9.1	5.21	-
D.O. Saturation (%)	28.6	27.9	32.4	32.8	35.6	36.0	32.22	-
D.O. (mg/L)	96.6	95.8	97.2	96.7	97.5	97.90	96.95	97.70
Turbidity (NTU)	7.9	7.9	8.0	8.0	8.0	8.0	7.97	-
SS (mg/L)	6.0	6.0	7.0	6.0	6.0	6.0	6.17	-
Remarks	No dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	97.7	97.7	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	97.6	97.6	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	10.3	10.3	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	7.4	7.4	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	18:30-18:33							
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)	22.2	22.3	21.8	21.9	21.7	21.8	21.94	-
Salinity (ppt)	42.8	42.6	48.7	48.6	51.5	51.7	47.66	-
pH	1.1	1.1	4.3	4.4	7.6	7.7	4.37	-
D.O. Saturation (%)	29.6	29.4	33.7	33.6	35.8	35.8	32.99	-
D.O. (mg/L)	97.0	96.5	97.3	96.5	96.5	97.1	96.82	96.80
Turbidity (NTU)	7.9	7.9	8.0	8.0	8.0	8.0	7.97	-
SS (mg/L)	7.0	7.0	6.0	6.0	6.0	6.0	6.33	-
Remarks	No dredging works was observed.							

Station	MPB2							
Time (hh:mm)	18:39-18:41							
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 (°C)	22.3	22.3	22.0	22.0	21.6	21.7	21.98	-
Salinity (ppt)	41.7	41.8	45.6	46.3	50.3	50.5	46.03	-
pH	1.0	1.2	4.5	4.5	8.0	8.1	4.55	-
D.O. Saturation (%)	28.8	28.9	31.5	32.0	34.9	35.0	31.84	-
D.O. (mg/L)	95.1	95.2	94.9	94.2	95.8	94.9	95.02	95.35
Turbidity (NTU)	7.9	7.9	7.9	7.9	7.9	7.9	7.89	-
SS (mg/L)	6.0	6.0	6.0	6.0	5.0	6.0	5.83	-
Remarks	No dredging works was observed.							

Station	MP							
Time (hh:mm)	18:12-18:13							
Water Depth (m)	5.5							
Monitoring Depth (m)	1.0		2.8		4.5			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.2	22.1	-	-	21.8	21.7	21.95	-
Salinity (ppt)	42.4	42.9	-	-	47.8	47.9	45.24	-
pH	1.1	1.1	-	-	4.6	4.6	2.85	-
D.O. Saturation (%)	29.2	29.6	-	-	33.1	33.1	31.25	-
D.O. (mg/L)	95.5	94.8	-	-	96.1	94.7	95.28	95.40
Turbidity (NTU)	7.9	7.9	-	-	8.0	8.0	7.94	-
SS (mg/L)	6.0	6.0	-	-	7.0	7.0	6.50	-
Remarks	No dredging works was observed.							



Sampling Date	05/01/2009
Weather & Ambient Temperature	Cloudy, 16C

Station	C2 (NM5)								
Time (hh:mm)	19:36-19:38								
Water Depth (m)	20.2								
Monitoring Depth (m)	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)	18.9	19.0	18.3	18.4	18.0	18.2	18.47	-	
Salinity (ppt)	31.5	31.4	32.3	32.2	33.0	32.8	32.18	-	
pH	7.7	7.7	7.8	7.8	7.8	7.8	7.76	-	
D.O. Saturation (%)	97.3	97.7	96.3	96.7	96.0	93.8	96.30	-	
D.O. (mg/L)	8.5	8.4	8.4	8.3	8.4	8.2	8.37	8.30	
Turbidity (NTU)	9.6	9.6	8.9	9.1	9.1	9.2	9.25	-	
SS (mg/L)	4.0	6.0	4.0	4.0	5.0	4.0	4.50	-	
Remarks	No dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	19:48-19:50						Northing	Easting
Water Depth (m)	18.6						22.21.987	113.55.307
Monitoring Depth (m)	1.0		9.3		17.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.4	18.9	18.5	18.4	18.2	18.2	18.62	-
Salinity (ppt)	31.1	31.5	32.3	32.4	32.8	32.8	32.15	-
pH	7.8	7.7	7.7	7.8	7.7	7.8	7.75	-
D.O. Saturation (%)	107.1	108.9	109.3	107.3	110.4	107.5	108.42	-
D.O. (mg/L)	8.3	8.5	8.6	8.4	8.7	8.45	8.50	8.57
Turbidity (NTU)	8.5	8.1	8.7	8.9	8.8	8.6	8.60	-
SS (mg/L)	7.0	7.0	5.0	5.0	5.0	5.0	5.67	-
Remarks	No dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	19:58-20:00						Northing	Easting
Water Depth (m)	20.2						22.21.769	113.55.764
Monitoring Depth (m)	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)	19.0	18.9	18.5	18.6	18.2	18.2	18.55	-
Salinity (ppt)	31.7	31.8	32.3	32.3	32.9	33.0	32.36	-
pH	7.8	7.8	7.8	7.8	7.8	7.8	7.77	-
D.O. Saturation (%)	103.6	105.2	102.5	104.0	103.5	104.7	103.92	-
D.O. (mg/L)	8.1	8.2	8.1	8.2	8.1	8.24	8.15	8.19
Turbidity (NTU)	9.3	9.7	8.6	9.2	9.0	9.6	9.23	-
SS (mg/L)	6.0	5.0	5.0	6.0	5.0	5.0	5.33	-
Remarks	No dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	8.3	8.3	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	8.4	8.4	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	12.0	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	5.9	5.9	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	19:18-19:19							
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)	19.4	19.5	18.9	19.0	18.4	18.3	18.90	-
Salinity (ppt)	31.1	30.9	31.8	31.8	33.1	33.2	31.98	-
pH	7.7	7.7	7.7	7.7	7.8	7.8	7.73	-
D.O. Saturation (%)	86.1	95.2	104.7	90.9	98.3	98.0	95.53	-
D.O. (mg/L)	7.6	8.3	9.1	8.0	8.6	8.6	8.35	8.56
Turbidity (NTU)	9.7	9.4	10.5	10.3	9.6	9.9	9.90	-
SS (mg/L)	7.0	7.0	6.0	7.0	5.0	5.0	6.17	-
Remarks	No dredging works was observed.							

Station	MPB2							
Time (hh:mm)	19:09-19:10							
Water Depth (m)	9.1							
Monitoring Depth (m)	1.0		4.6		8.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.5	19.5	18.8	18.7	18.6	18.6	18.95	-
Salinity (ppt)	31.2	31.2	32.1	32.1	32.6	32.5	31.93	-
pH	7.7	7.7	7.7	7.7	7.7	7.7	7.70	-
D.O. Saturation (%)	86.5	89.0	101.6	98.3	96.7	98.6	95.12	-
D.O. (mg/L)	7.7	7.9	8.9	8.6	8.5	8.7	8.37	8.57
Turbidity (NTU)	8.4	8.4	10.3	10.2	10.0	10.7	9.67	-
SS (mg/L)	5.0	5.0	6.0	6.0	6.0	5.0	5.50	-
Remarks	No dredging works was observed.							

Station	MP							
Time (hh:mm)	19:27-19:28							
Water Depth (m)	5.7							
Monitoring Depth (m)	1.0		2.9		4.7			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.0	19.8	-	-	18.3	18.2	18.83	-
Salinity (ppt)	31.5	30.9	-	-	32.4	32.5	31.81	-
pH	7.7	7.7	-	-	7.8	7.8	7.74	-
D.O. Saturation (%)	103.9	103.1	-	-	91.2	94.9	98.28	-
D.O. (mg/L)	9.1	9.0	-	-	8.0	8.3	8.60	8.17
Turbidity (NTU)	9.3	9.2	-	-	9.5	9.7	9.43	-
SS (mg/L)	5.0	5.0	-	-	5.0	5.0	5.00	-
Remarks	No dredging works was observed.							





Sampling Date	06/01/2009
Weather & Ambient Temperature	Sunny, 19C

Station	C2 (NM5)								
Time (hh:mm)	7:35-7:36								
Water Depth (m)	20.3								
Monitoring Depth (m)	1.0		10.2		19.3				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	16.8	18.0	17.9	17.8	17.8	17.8	17.67	-	
Salinity (ppt)	32.8	31.9	32.7	32.6	32.8	32.7	32.57	-	
pH	7.6	7.6	7.6	7.6	7.6	7.6	7.61	-	
D.O. Saturation (%)	91.7	88.9	88.9	94.4	93.7	90.4	91.33	-	
D.O. (mg/L)	8.3	7.9	7.9	8.3	8.3	8.0	8.12	8.14	
Turbidity (NTU)	5.1	5.3	5.8	5.8	5.2	5.1	5.38	-	
SS (mg/L)	5.0	6.0	5.0	4.0	6.0	5.0	5.17	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	7:14-7:16						Northing	Easting
Water Depth (m)	18.1						22.21.951	113.55.533
Monitoring Depth (m)	1.0		9.1		17.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.8	18.9	18.0	18.0	18.0	18.0	18.29	-
Salinity (ppt)	32.0	32.0	32.3	29.6	32.3	32.5	31.75	-
pH	7.6	7.6	7.6	7.6	7.6	7.6	7.64	-
D.O. Saturation (%)	94.5	96.2	90.4	91.8	93.1	90.5	92.75	-
D.O. (mg/L)	8.2	8.3	8.0	8.3	8.2	8.00	8.17	8.11
Turbidity (NTU)	5.8	5.8	6.3	6.4	6.5	6.4	6.20	-
SS (mg/L)	5.0	6.0	5.0	6.0	7.0	8.0	6.17	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	7:03-7:04						Northing	Easting
Water Depth (m)	17.6						22.21.623	113.55.881
Monitoring Depth (m)	1.0		8.8		16.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.7	18.6	18.1	18.1	18.0	18.0	18.25	-
Salinity (ppt)	32.0	32.0	32.4	32.7	32.9	32.7	32.43	-
pH	7.7	7.7	7.7	7.7	7.7	7.7	7.67	-
D.O. Saturation (%)	95.6	92.6	92.3	94.4	97.2	95.6	94.62	-
D.O. (mg/L)	8.3	8.1	8.1	8.3	8.5	8.40	8.29	8.47
Turbidity (NTU)	6.5	6.7	7.1	6.8	6.9	7.0	6.83	-
SS (mg/L)	7.0	7.0	7.0	7.0	7.0	8.0	7.17	-
Remarks	Dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	8.1	8.1	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	8.1	8.1	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	7.0	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	6.7	6.7	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	7:59-8:00							
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-averaged	Bottom
Water Temperature (°C)	18.3	18.3	17.8	17.8	17.8	18.0	18.01	-
Salinity (ppt)	32.1	32.0	32.2	32.0	32.3	32.1	32.09	-
pH	7.6	7.6	7.6	7.6	7.6	7.6	7.56	-
D.O. Saturation (%)	92.5	89.3	97.9	91.6	91.0	102.7	94.17	-
D.O. (mg/L)	8.1	7.9	8.7	8.1	8.1	9.0	8.31	8.55
Turbidity (NTU)	8.8	8.9	11.2	11.2	11.5	11.1	10.45	-
SS (mg/L)	4.0	3.0	4.0	3.0	5.0	6.0	4.17	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	8:10-8:11							
Water Depth (m)	9.1							
Monitoring Depth (m)	1.0		4.6		8.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	17.9	18.0	17.7	17.7	17.7	17.8	17.80	-
Salinity (ppt)	31.9	31.8	32.1	32.0	32.3	32.3	32.05	-
pH	7.5	7.5	7.5	7.5	7.5	7.5	7.50	-
D.O. Saturation (%)	81.7	95.7	87.1	87.0	91.4	99.9	90.47	-
D.O. (mg/L)	7.3	8.5	7.8	7.8	8.1	8.8	8.05	8.48
Turbidity (NTU)	8.2	7.9	9.9	10.5	11.2	11.2	9.82	-
SS (mg/L)	6.0	6.0	5.0	5.0	6.0	7.0	5.83	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	7:51-7:52							
Water Depth (m)	5.6							
Monitoring Depth (m)	1.0		2.8		4.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.1	18.1	-	-	18.1	18.1	18.11	-
Salinity (ppt)	31.6	31.2	-	-	32.4	31.8	31.73	-
pH	7.6	7.6	-	-	7.5	7.6	7.57	-
D.O. Saturation (%)	93.9	94.8	-	-	100.0	87.3	94.00	-
D.O. (mg/L)	8.3	8.4	-	-	8.8	7.8	8.30	8.26
Turbidity (NTU)	13.3	13.4	-	-	13.3	13.2	13.30	-
SS (mg/L)	4.0	4.0	-	-	6.0	5.0	4.75	-
Remarks	Dredging works was observed.							



Sampling Date	07/01/2009
Weather & Ambient Temperature	Fine, 17C

Station	C2 (NM5)								
Time (hh:mm)	8:54-8:56								
Water Depth (m)	20.2								
Monitoring Depth (m)	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)	19.1	18.8	18.1	18.1	18.0	18.1	18.36	-	
Salinity (ppt)	28.1	28.6	32.0	32.0	32.3	32.1	30.84	-	
pH	7.7	7.7	7.7	7.7	7.7	7.7	7.70	-	
D.O. Saturation (%)	92.1	91.7	92.0	91.1	91.5	92.3	91.78	-	
D.O. (mg/L)	6.7	6.7	6.7	6.6	6.7	6.7	6.71	6.71	
Turbidity (NTU)	7.9	8.0	8.0	7.9	8.8	8.9	8.25	-	
SS (mg/L)	6.0	7.0	6.0	6.0	5.0	5.0	5.83	-	
Remarks	No dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	8:36-8:37						Northing	Easting
Water Depth (m)	18.8						22.21.954	113.55.536
Monitoring Depth (m)	1.0		9.4		17.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.2	20.9	18.1	18.1	18.3	17.8	18.72	-
Salinity (ppt)	29.9	29.1	32.1	32.1	31.9	32.1	31.20	-
pH	7.7	7.7	7.7	7.7	7.7	7.7	7.72	-
D.O. Saturation (%)	93.2	91.2	92.9	92.7	93.5	94.3	92.97	-
D.O. (mg/L)	6.8	6.5	6.8	6.8	6.8	6.91	6.75	6.86
Turbidity (NTU)	7.6	7.8	7.7	7.7	7.8	7.7	7.72	-
SS (mg/L)	5.0	6.0	5.0	5.0	7.0	6.0	5.67	-
Remarks	No dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	8:23-8:25						Northing	Easting
Water Depth (m)	19.1						22.21.628	113.55.897
Monitoring Depth (m)	1.0		9.6		18.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.6	18.0	18.0	18.0	17.9	18.0	18.25	-
Salinity (ppt)	30.1	39.0	32.2	32.2	32.4	32.1	33.01	-
pH	7.7	7.8	7.7	7.9	7.7	7.8	7.77	-
D.O. Saturation (%)	93.5	101.4	92.5	92.3	94.3	91.6	94.27	-
D.O. (mg/L)	6.7	8.3	6.8	6.8	6.9	6.74	7.03	6.82
Turbidity (NTU)	7.0	7.1	7.7	7.6	8.1	8.2	7.62	-
SS (mg/L)	5.0	5.0	6.0	5.0	5.0	5.0	5.17	-
Remarks	No dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	6.7	6.7	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.7	6.7	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	10.7	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	7.6	7.6	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	9:14-9:15							
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)	18.9	18.8	18.4	18.4	18.6	18.2	18.52	-
Salinity (ppt)	28.4	28.9	29.2	29.7	31.4	31.7	29.88	-
pH	7.7	7.7	7.7	7.7	7.7	7.7	7.70	-
D.O. Saturation (%)	92.2	92.0	92.7	92.8	93.4	94.6	92.95	-
D.O. (mg/L)	6.8	6.8	6.8	6.8	6.8	6.9	6.81	6.85
Turbidity (NTU)	12.9	12.4	12.0	12.2	12.6	12.5	12.43	-
SS (mg/L)	6.0	6.0	5.0	5.0	6.0	5.0	5.50	-
Remarks	No dredging works was observed.							

Station	MPB2							
Time (hh:mm)	9:22-9:24							
Water Depth (m)	9.1							
Monitoring Depth (m)	1.0		4.6		8.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.9	19.1	18.2	18.5	18.3	18.5	18.60	-
Salinity (ppt)	28.7	28.4	31.2	29.3	30.9	31.4	29.96	-
pH	7.7	7.7	7.7	7.7	7.7	7.7	7.71	-
D.O. Saturation (%)	90.6	88.6	91.5	88.3	92.6	87.7	89.88	-
D.O. (mg/L)	6.6	6.5	6.7	6.5	6.8	6.4	6.57	6.57
Turbidity (NTU)	10.4	10.5	11.5	11.4	12.7	12.6	11.52	-
SS (mg/L)	6.0	7.0	5.0	5.0	5.0	6.0	5.67	-
Remarks	No dredging works was observed.							

Station	MP							
Time (hh:mm)	9:05-9:05							
Water Depth (m)	5.8							
Monitoring Depth (m)	1.0		2.9		4.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.9	18.9	-	-	19.2	19.1	19.00	-
Salinity (ppt)	28.2	27.0	-	-	28.3	29.4	28.23	-
pH	7.7	7.7	-	-	7.7	7.7	7.71	-
D.O. Saturation (%)	90.8	91.2	-	-	90.8	90.3	90.78	-
D.O. (mg/L)	6.7	6.7	-	-	6.6	6.6	6.65	6.60
Turbidity (NTU)	11.4	11.4	-	-	11.6	11.6	11.50	-
SS (mg/L)	5.0	6.0	-	-	7.0	9.0	6.75	-
Remarks	No dredging works was observed.							



Sampling Date	01/08/2009
Weather & Ambient Temperature	Sunny, 16C

Station	C2 (NM5)								
Time (hh:mm)	10:47-10:48								
Water Depth (m)	20.2								
Monitoring Depth (m)	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)	18.9	18.9	18.8	18.8	18.8	18.8	18.85	-	
Salinity (ppt)	33.8	33.8	33.8	33.8	33.8	33.8	33.77	-	
pH	8.8	8.8	8.9	8.8	8.8	8.8	8.84	-	
D.O. Saturation (%)	102.5	102.4	102.5	102.2	102.3	102.6	102.42	-	
D.O. (mg/L)	7.8	7.8	7.8	7.8	7.8	7.8	7.80	7.80	
Turbidity (NTU)	3.5	3.6	3.9	3.8	4.2	3.9	3.82	-	
SS (mg/L)	5.0	5.0	7.0	7.0	7.0	7.0	6.33	-	
Remarks	No dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	10:09-10:10						Northing	Easting
Water Depth (m)	14.0						22.20.791	113.53.644
Monitoring Depth (m)	1.0		7.0		13.0			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.9	18.9	18.9	18.9	18.9	18.9	18.86	-
Salinity (ppt)	33.8	33.8	33.8	33.8	33.8	33.8	33.76	-
pH	8.8	8.7	8.7	8.8	8.7	8.7	8.74	-
D.O. Saturation (%)	104.0	104.5	104.5	104.0	104.9	104.3	104.37	-
D.O. (mg/L)	7.9	8.0	8.0	7.9	8.0	7.94	7.95	7.97
Turbidity (NTU)	3.3	2.8	3.1	3.2	3.9	4.4	3.45	-
SS (mg/L)	9.0	8.0	6.0	5.0	5.0	5.0	6.33	-
Remarks	No dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	10:21-10:22						Northing	Easting
Water Depth (m)	13.6						22.21.510	113.54.436
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)	18.9	18.9	18.9	18.8	18.9	18.9	18.85	-
Salinity (ppt)	33.8	33.8	33.8	33.8	33.8	33.8	33.76	-
pH	8.8	8.7	8.8	8.8	8.8	8.7	8.75	-
D.O. Saturation (%)	103.7	103.1	103.6	103.3	103.8	103.7	103.53	-
D.O. (mg/L)	7.9	7.8	7.9	7.9	7.9	7.90	7.88	7.90
Turbidity (NTU)	3.3	3.5	3.2	3.3	4.2	4.0	3.58	-
SS (mg/L)	5.0	5.0	5.0	5.0	6.0	5.0	5.17	-
Remarks	No dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	7.8	7.8	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.8	7.8	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	5.0	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	8.2	8.2	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	11:21-11:22							
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)	18.8	18.8	18.8	18.8	18.8	18.8	18.83	-
Salinity (ppt)	33.7	33.7	33.7	33.7	33.7	33.7	33.72	-
pH	8.7	8.7	8.7	8.7	8.7	8.7	8.68	-
D.O. Saturation (%)	105.2	105.3	105.4	105.1	105.3	106.2	105.42	-
D.O. (mg/L)	8.0	8.0	8.0	8.0	8.0	8.1	8.03	8.06
Turbidity (NTU)	3.2	3.4	3.6	3.3	3.4	3.4	3.38	-
SS (mg/L)	5.0	6.0	5.0	5.0	6.0	7.0	5.67	-
Remarks	No dredging works was observed.							

Station	MPB2							
Time (hh:mm)	11:27-11:28							
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)	18.8	18.8	18.8	18.8	18.8	18.8	18.82	-
Salinity (ppt)	33.7	33.7	33.7	33.7	33.7	33.7	33.73	-
pH	8.9	8.8	8.8	8.8	8.9	8.8	8.82	-
D.O. Saturation (%)	104.9	104.9	104.9	104.8	105.0	105.1	104.93	-
D.O. (mg/L)	8.0	8.0	8.0	8.0	8.0	8.0	7.99	8.01
Turbidity (NTU)	3.4	3.1	3.6	3.5	3.6	3.5	3.45	-
SS (mg/L)	5.0	5.0	7.0	6.0	8.0	8.0	6.50	-
Remarks	No dredging works was observed.							

Station	MP							
Time (hh:mm)	11:12-11:12							
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)	18.8	18.8	-	-	18.8	18.8	18.82	-
Salinity (ppt)	33.7	33.7	-	-	33.7	33.7	33.69	-
pH	8.7	8.7	-	-	8.5	8.7	8.62	-
D.O. Saturation (%)	108.4	112.0	-	-	115.6	110.2	111.55	-
D.O. (mg/L)	8.3	8.5	-	-	8.8	8.4	8.50	8.61
Turbidity (NTU)	3.6	3.5	-	-	3.8	3.6	3.63	-
SS (mg/L)	4.0	4.0	-	-	4.0	5.0	4.25	-
Remarks	No dredging works was observed.							









Sampling Date	10/01/2009
Weather & Ambient Temperature	Fine, 14C

Station	C2 (NM5)								
Time (hh:mm)	13:15-13:16								
Water Depth (m)	19.0								
Monitoring Depth (m)	1.0		9.5		18.0				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	15.2	15.2	15.0	15.0	14.8	14.8	15.01	-	
Salinity (ppt)	35.5	35.5	37.0	37.0	37.5	37.5	36.69	-	
pH	8.2	8.2	8.2	8.2	8.0	8.1	8.12	-	
D.O. Saturation (%)	113.4	112.2	99.9	101.2	102.4	101.7	105.13	-	
D.O. (mg/L)	8.0	7.9	7.1	7.1	7.2	7.2	7.42	7.20	
Turbidity (NTU)	4.1	3.9	5.1	4.9	5.4	5.5	4.82	-	
SS (mg/L)	8.0	7.0	8.0	9.0	7.0	11.0	8.33	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	12:12-12:13						Northing	Easting
Water Depth (m)	9.8						22.22.002	113.55.393
Monitoring Depth (m)	1.0		4.9		8.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	15.5	15.4	15.2	15.2	14.7	14.7	15.14	-
Salinity (ppt)	35.4	35.4	36.1	36.0	37.2	37.1	36.20	-
pH	8.2	8.1	8.2	8.2	8.3	8.3	8.20	-
D.O. Saturation (%)	110.3	109.3	106.9	106.9	105.8	105.0	107.37	-
D.O. (mg/L)	7.8	7.7	7.5	7.6	7.5	7.43	7.58	7.46
Turbidity (NTU)	4.4	4.4	4.9	4.9	5.6	5.8	5.00	-
SS (mg/L)	8.0	8.0	8.0	7.0	6.0	6.0	7.17	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	12:23-12:25						Northing	Easting
Water Depth (m)	10.8						22.21.765	113.55.779
Monitoring Depth (m)	1.0		5.4		9.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	15.8	16.3	15.5	15.5	15.1	15.1	15.53	-
Salinity (ppt)	35.2	35.2	36.0	35.9	36.9	36.9	36.04	-
pH	8.2	8.2	8.2	8.1	8.2	8.1	8.15	-
D.O. Saturation (%)	108.9	110.8	106.2	106.0	105.0	104.2	106.85	-
D.O. (mg/L)	7.6	7.8	7.5	7.4	7.4	7.30	7.50	7.35
Turbidity (NTU)	4.8	4.9	5.3	5.1	5.7	5.6	5.23	-
SS (mg/L)	8.0	7.0	9.0	7.0	8.0	8.0	7.83	-
Remarks	Dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	7.2	7.2	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
Turbidity (Depth-averaged)	29.0	49.0	6.3	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	10.8	10.8	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	12:47-12:48							
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)	14.9	14.9	14.9	14.9	14.9	14.9	14.91	-
Salinity (ppt)	35.0	34.7	36.0	35.8	36.3	36.1	35.65	-
pH	8.1	8.1	8.2	8.2	8.2	8.2	8.15	-
D.O. Saturation (%)	114.3	113.2	108.1	107.1	109.9	108.6	110.20	-
D.O. (mg/L)	8.1	8.1	7.7	7.6	7.8	7.7	7.82	7.74
Turbidity (NTU)	4.4	4.5	5.3	5.1	5.7	5.5	5.08	-
SS (mg/L)	7.0	7.0	9.0	7.0	9.0	7.0	7.67	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	12:36-12:37							
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)	15.5	15.6	15.1	15.1	15.0	14.9	15.19	-
Salinity (ppt)	34.8	34.8	35.7	35.5	36.7	36.7	35.70	-
pH	8.2	8.1	8.1	8.2	8.2	8.1	8.14	-
D.O. Saturation (%)	109.2	109.2	105.7	106.1	107.9	107.0	107.52	-
D.O. (mg/L)	7.7	7.7	7.5	7.5	7.6	7.6	7.62	7.59
Turbidity (NTU)	5.1	5.1	5.1	5.2	5.2	5.5	5.20	-
SS (mg/L)	8.0	9.0	6.0	8.0	6.0	9.0	7.67	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	12:57-12:58							
Water Depth (m)	5.6							
Monitoring Depth (m)	1.0		2.8		4.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	15.1	15.2	-	-	15.1	15.1	15.11	-
Salinity (ppt)	34.5	34.3	-	-	35.7	35.8	35.10	-
pH	8.1	8.0	-	-	8.0	8.2	8.09	-
D.O. Saturation (%)	111.4	111.0	-	-	112.8	112.9	112.03	-
D.O. (mg/L)	7.9	7.9	-	-	8.0	8.0	7.95	7.99
Turbidity (NTU)	4.3	4.3	-	-	4.6	4.7	4.48	-
SS (mg/L)	8.0	6.0	-	-	8.0	6.0	7.00	-
Remarks	Dredging works was observed.							



Sampling Date	11/01/2009
Weather & Ambient Temperature	Sunny, 16C

Station	C2 (NM5)								
Time (hh:mm)	13:22-13:24								
Water Depth (m)	20.4								
Monitoring Depth (m)	1.0		10.2		19.4				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	17.8	17.8	17.6	17.6	17.6	17.6	17.66	-	
Salinity (ppt)	32.5	32.4	33.5	33.5	34.3	34.4	33.42	-	
pH	8.3	8.2	8.4	8.4	8.3	8.4	8.34	-	
D.O. Saturation (%)	99.3	99.9	97.6	97.8	99.8	99.2	98.93	-	
D.O. (mg/L)	6.6	6.7	6.5	6.5	6.7	6.6	6.62	6.65	
Turbidity (NTU)	2.9	3.1	4.1	3.9	4.7	4.5	3.87	-	
SS (mg/L)	6.0	9.0	7.0	6.0	9.0	7.0	7.33	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	13:08-13:11						Northing	Easting
Water Depth (m)	9.2						22.21.997	113.55.390
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)	18.0	18.0	17.7	17.7	17.7	17.7	17.79	-
Salinity (ppt)	27.1	27.1	29.5	29.5	31.4	31.3	29.31	-
pH	8.2	8.2	8.3	8.3	8.3	8.3	8.29	-
D.O. Saturation (%)	88.8	88.5	91.5	91.3	94.2	94.9	91.53	-
D.O. (mg/L)	6.1	6.1	6.3	6.2	6.4	6.42	6.24	6.40
Turbidity (NTU)	3.9	3.8	4.5	4.6	5.6	5.5	4.65	-
SS (mg/L)	6.0	7.0	6.0	7.0	9.0	11.0	7.67	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	12:55-12:58						Northing	Easting
Water Depth (m)	10.0						22.21.756	113.56.786
Monitoring Depth (m)	1.0		5.0		9.0			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.5	18.5	17.6	17.6	17.5	17.5	17.85	-
Salinity (ppt)	28.5	28.5	31.1	31.0	33.7	33.7	31.08	-
pH	8.3	8.3	8.4	8.4	8.4	8.4	8.39	-
D.O. Saturation (%)	92.5	91.2	93.3	93.4	95.6	96.8	93.80	-
D.O. (mg/L)	6.3	6.2	6.3	6.3	6.4	6.51	6.34	6.47
Turbidity (NTU)	4.1	4.3	5.2	4.9	6.6	6.3	5.23	-
SS (mg/L)	7.0	9.0	8.0	11.0	8.0	8.0	8.50	-
Remarks	Dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	6.7	6.7	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.6	6.6	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	5.0	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	9.5	9.5	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	13:47-13:50							
Water Depth (m)	7.6							
Monitoring Depth (m)	1.0		3.8		6.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.0	18.0	17.7	17.7	17.7	17.7	17.79	-
Salinity (ppt)	26.5	26.5	29.2	29.3	30.2	30.1	28.63	-
pH	8.2	8.2	8.3	8.3	8.3	8.3	8.29	-
D.O. Saturation (%)	90.9	90.9	89.9	90.5	92.9	92.5	91.27	-
D.O. (mg/L)	6.2	6.3	6.2	6.2	6.3	6.3	6.24	6.31
Turbidity (NTU)	3.3	3.5	4.5	4.2	4.8	5.1	4.23	-
SS (mg/L)	8.0	7.0	8.0	8.0	9.0	7.0	7.83	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	13:57-14:00							
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 (°C)	18.0	18.0	17.7	17.7	17.7	17.7	17.79	-
Salinity (ppt)	26.9	27.0	29.7	29.7	30.1	30.1	28.89	-
pH	8.2	8.2	8.3	8.3	8.2	8.3	8.23	-
D.O. Saturation (%)	89.1	90.7	89.7	88.7	92.3	90.1	90.10	-
D.O. (mg/L)	6.1	6.2	6.1	6.0	6.3	6.1	6.15	6.20
Turbidity (NTU)	3.3	3.3	3.7	3.8	4.5	4.3	3.82	-
SS (mg/L)	8.0	11.0	6.0	10.0	7.0	11.0	8.83	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	13:38-13:40							
Water Depth (m)	5.5							
Monitoring Depth (m)	1.0		2.8		4.5			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.0	18.1	-	-	17.7	17.7	17.87	-
Salinity (ppt)	26.4	26.5	-	-	29.3	29.3	27.86	-
pH	8.2	8.2	-	-	8.2	8.2	8.18	-
D.O. Saturation (%)	90.0	89.6	-	-	92.3	92.4	91.08	-
D.O. (mg/L)	6.2	6.2	-	-	6.3	6.3	6.25	6.31
Turbidity (NTU)	3.6	3.8	-	-	4.2	4.4	4.00	-
SS (mg/L)	9.0	7.0	-	-	9.0	6.0	7.75	-
Remarks	Dredging works was observed.							



Sampling Date	12/01/2009
Weather & Ambient Temperature	Fine, 17C

Station	C2 (NM5)								
Time (hh:mm)	14:01-14:03								
Water Depth (m)	20.2								
Monitoring Depth (m)	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)	18.8	18.5	17.8	17.9	17.8	17.8	18.11	-	
Salinity (ppt)	27.9	28.3	31.7	31.8	32.0	31.9	30.60	-	
pH	7.6	7.6	7.6	7.6	7.6	7.6	7.59	-	
D.O. Saturation (%)	82.2	81.8	82.1	81.2	81.6	82.4	81.88	-	
D.O. (mg/L)	6.2	6.2	6.2	6.1	6.2	6.2	6.19	6.19	
Turbidity (NTU)	3.4	3.5	3.5	3.4	4.3	4.4	3.75	-	
SS (mg/L)	10.0	7.0	9.0	10.0	6.0	7.0	8.17	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	13:42-13:44						Northing	Easting
Water Depth (m)	17.7						22.22.014	113.54.231
Monitoring Depth (m)	1.0		8.9		16.7			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.9	20.7	17.8	17.9	18.0	17.6	18.47	-
Salinity (ppt)	29.6	28.9	31.9	31.8	31.6	31.9	30.96	-
pH	7.6	7.6	7.6	7.6	7.6	7.6	7.61	-
D.O. Saturation (%)	83.3	81.3	83.0	82.8	83.6	84.4	83.07	-
D.O. (mg/L)	6.2	5.9	6.3	6.2	6.3	6.39	6.23	6.34
Turbidity (NTU)	3.1	3.3	3.2	3.2	3.3	3.2	3.22	-
SS (mg/L)	8.0	6.0	8.0	7.0	7.0	8.0	7.33	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	13:30-13:32						Northing	Easting
Water Depth (m)	16.9						22.21.822	113.55.783
Monitoring Depth (m)	1.0		8.5		15.9			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	19.4	17.7	17.7	17.8	17.7	17.7	18.00	-
Salinity (ppt)	29.9	28.1	32.0	32.0	32.2	31.9	31.00	-
pH	7.6	7.6	7.6	7.7	7.6	7.7	7.66	-
D.O. Saturation (%)	83.6	82.2	82.6	82.4	84.4	81.7	82.82	-
D.O. (mg/L)	6.2	6.2	6.2	6.3	6.4	6.22	6.24	6.30
Turbidity (NTU)	2.5	2.6	3.2	3.1	3.6	3.7	3.12	-
SS (mg/L)	8.0	9.0	8.0	6.0	10.0	7.0	8.00	-
Remarks	Dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	6.2	6.2	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
Turbidity (Depth-averaged)	29.0	49.0	4.9	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	10.6	10.6	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	14:20-14:21							
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)	18.6	18.5	18.1	18.1	18.3	18.0	18.27	-
Salinity (ppt)	28.2	28.6	28.9	29.5	31.1	31.5	29.64	-
pH	7.6	7.6	7.6	7.6	7.6	7.6	7.59	-
D.O. Saturation (%)	82.3	82.1	82.8	82.9	83.5	84.7	83.05	-
D.O. (mg/L)	6.3	6.2	6.3	6.3	6.3	6.4	6.29	6.33
Turbidity (NTU)	10.4	10.4	10.5	10.6	11.1	11.0	10.67	-
SS (mg/L)	7.0	9.0	7.0	9.0	9.0	8.0	8.17	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	14:29-14:31							
Water Depth (m)	9.1							
Monitoring Depth (m)	1.0		4.6		8.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.6	18.9	18.0	18.3	18.1	18.3	18.35	-
Salinity (ppt)	28.4	28.1	31.0	29.0	30.7	31.1	29.72	-
pH	7.6	7.6	7.6	7.6	7.6	7.6	7.60	-
D.O. Saturation (%)	80.7	78.7	81.6	78.4	82.7	77.8	79.98	-
D.O. (mg/L)	6.1	6.0	6.2	6.0	6.3	5.8	6.05	6.05
Turbidity (NTU)	5.9	6.0	7.0	6.9	8.2	8.1	7.02	-
SS (mg/L)	8.0	7.0	10.0	7.0	11.0	8.0	8.50	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	14:12-14:12							
Water Depth (m)	5.8							
Monitoring Depth (m)	1.0		2.9		4.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	18.7	18.6	-	-	18.9	18.8	18.75	-
Salinity (ppt)	28.0	26.8	-	-	28.1	29.1	27.99	-
pH	7.6	7.6	-	-	7.6	7.6	7.60	-
D.O. Saturation (%)	80.9	81.3	-	-	80.9	80.4	80.88	-
D.O. (mg/L)	6.1	6.2	-	-	6.1	6.1	6.13	6.08
Turbidity (NTU)	6.9	6.9	-	-	7.1	7.1	7.00	-
SS (mg/L)	7.0	9.0	-	-	10.0	10.0	9.00	-
Remarks	Dredging works was observed.							



Sampling Date	1/13/2009
Weather & Ambient Temperature	Sunny, 20C

Station	C2 (NM5)								
Time (hh:mm)	15:54-15:56								
Water Depth (m)	19.3								
Monitoring Depth (m)	1.0		9.7		18.3				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	22.2	22.4	21.3	21.4	20.5	20.5	21.38	-	
Salinity (ppt)	26.1	25.9	29.0	29.0	31.4	31.5	28.79	-	
pH	7.7	7.7	7.7	7.7	7.6	7.7	7.67	-	
D.O. Saturation (%)	87.5	86.6	74.7	75.4	71.7	72.2	78.02	-	
D.O. (mg/L)	5.8	5.8	4.9	5.0	4.7	4.8	5.16	4.74	
Turbidity (NTU)	5.3	5.5	6.0	6.2	8.9	8.8	6.78	-	
SS (mg/L)	15.0	12.0	16.0	14.0	14.0	17.0	14.67	-	
Remarks	No dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	15:01-15:03						Northing	Easting
Water Depth (m)	14.8						22.22.089	113.55.317
Monitoring Depth (m)	1.0		7.4		13.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.2	22.3	21.5	21.5	20.8	20.8	21.52	-
Salinity (ppt)	23.7	23.6	28.1	28.0	30.1	30.1	27.28	-
pH	7.7	7.7	7.7	7.7	7.7	7.7	7.68	-
D.O. Saturation (%)	84.8	86.2	74.7	74.0	71.7	72.9	77.38	-
D.O. (mg/L)	5.7	5.8	5.0	4.9	4.7	4.82	5.15	4.78
Turbidity (NTU)	6.3	6.3	7.7	7.6	9.1	9.2	7.70	-
SS (mg/L)	14.0	14.0	14.0	16.0	14.0	13.0	14.17	-
Remarks	No dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	14:50-14:52						Northing	Easting
Water Depth (m)	11.1						22.21.929	113.55.724
Monitoring Depth (m)	1.0		5.6		10.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.3	22.3	21.6	21.7	20.9	20.9	21.63	-
Salinity (ppt)	24.3	24.6	28.0	27.7	30.5	30.3	27.54	-
pH	7.7	7.7	7.7	7.7	7.7	7.7	7.71	-
D.O. Saturation (%)	71.1	86.9	76.8	77.4	73.5	73.1	76.47	-
D.O. (mg/L)	5.9	5.8	5.1	5.1	4.8	4.83	5.27	4.84
Turbidity (NTU)	6.3	6.2	7.3	7.4	8.7	8.5	7.40	-
SS (mg/L)	16.0	15.0	15.0	14.0	16.0	14.0	15.00	-
Remarks	No dredging works was observed.							

**Compliance with Action and Limit Level**

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	4.7	4.7	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.2	5.2	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	8.8	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	19.1	19.1	N	N	N	N	N	N	N	N	N	N

**Mid-Ebb**

Station	MPB1							
Time (hh:mm)	15:28-15:29							
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)	22.7	22.8	21.6	21.6	21.4	21.5	21.95	-
Salinity (ppt)	19.6	19.7	26.4	26.3	27.9	27.5	24.55	-
pH	7.7	7.7	7.6	7.6	7.6	7.6	7.64	-
D.O. Saturation (%)	86.9	88.9	75.4	75.5	77.3	77.8	80.30	-
D.O. (mg/L)	5.9	6.1	5.0	5.0	5.1	5.2	5.39	5.16
Turbidity (NTU)	5.7	5.7	6.8	6.7	7.3	7.4	6.60	-
SS (mg/L)	15.0	14.0	16.0	14.0	17.0	15.0	15.17	-
Remarks	No dredging works was observed.							

Station	MPB2							
Time (hh:mm)	15:16-15:18							
Water Depth (m)	9.3							
Monitoring Depth (m)	1.0		4.7		8.3			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.9	22.9	22.2	22.4	21.7	21.9	22.33	-
Salinity (ppt)	19.1	19.3	24.0	23.1	27.2	25.2	22.97	-
pH	7.7	7.7	7.7	7.7	7.6	7.7	7.69	-
D.O. Saturation (%)	94.5	94.8	82.1	80.0	79.7	77.9	84.83	-
D.O. (mg/L)	6.5	6.5	5.5	5.4	5.3	5.2	5.72	5.25
Turbidity (NTU)	6.2	6.2	8.4	8.3	8.9	8.9	7.82	-
SS (mg/L)	17.0	16.0	14.0	16.0	14.0	16.0	15.50	-
Remarks	No dredging works was observed.							

Station	MP							
Time (hh:mm)	15:37-15:38							
Water Depth (m)	5.8							
Monitoring Depth (m)	1.0		2.9		4.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	22.3	22.4	-	-	21.6	21.6	21.98	-
Salinity (ppt)	21.6	21.4	-	-	26.5	26.7	24.06	-
pH	7.6	7.6	-	-	7.5	7.5	7.53	-
D.O. Saturation (%)	84.2	85.6	-	-	75.5	78.2	80.88	-
D.O. (mg/L)	5.7	5.8	-	-	5.0	5.2	5.44	5.12
Turbidity (NTU)	7.4	7.3	-	-	8.5	8.5	7.93	-
SS (mg/L)	13.0	12.0	-	-	14.0	11.0	12.50	-
Remarks	No dredging works was observed.							









Sampling Date	01/15/09
Weather & Ambient Temperature	Sunny, 15C

Station	C2 (NM5)								
Time (hh:mm)	15:31-15:33								
Water Depth (m)	20.8								
Monitoring Depth (m)	1.0		10.4		19.8				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	16.2	16.3	16.2	16.2	16.2	16.2	16.19	-	
Salinity (ppt)	39.7	39.6	39.6	39.7	39.6	39.6	39.63	-	
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	-	
D.O. Saturation (%)	92.4	92.5	91.9	92.0	92.3	92.5	92.27	-	
D.O. (mg/L)	7.1	7.1	7.1	7.1	7.1	7.2	7.13	7.14	
Turbidity (NTU)	11.1	10.8	12.0	12.3	15.8	16.2	13.03	-	
SS (mg/L)	16.0	16.0	12.0	13.0	12.0	12.0	13.50	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	16:41-16:42						Northing	Easting
Water Depth (m)	13.1						22.21.884	113.55.673
Monitoring Depth (m)	1.0		6.6		12.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	16.4	16.4	16.4	16.4	16.3	16.3	16.37	-
Salinity (ppt)	39.7	39.7	39.6	39.7	39.7	39.7	39.65	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20	-
D.O. Saturation (%)	84.8	84.2	83.8	84.1	84.4	84.8	84.35	-
D.O. (mg/L)	6.5	6.5	6.5	6.5	6.5	6.53	6.50	6.52
Turbidity (NTU)	16.8	17.0	17.3	17.3	20.1	20.4	18.15	-
SS (mg/L)	16.0	15.0	14.0	15.0	18.0	17.0	15.83	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	16:31-16:33						Northing	Easting
Water Depth (m)	14.5						22.22.061	113.54.303
Monitoring Depth (m)	1.0		7.3		13.5			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	16.4	16.4	16.3	16.3	16.3	16.4	16.36	-
Salinity (ppt)	39.7	39.7	39.7	39.7	39.7	39.7	39.68	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.20	-
D.O. Saturation (%)	84.2	83.3	83.0	83.7	84.4	83.1	83.62	-
D.O. (mg/L)	6.5	6.4	6.4	6.5	6.5	6.40	6.44	6.45
Turbidity (NTU)	15.4	15.2	15.7	16.0	16.8	16.3	15.90	-
SS (mg/L)	17.0	16.0	15.0	16.0	17.0	16.0	16.17	-
Remarks	Dredging works was observed.							

**Compliance with Action and Limit Level**

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	7.1	7.1	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.1	7.1	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	16.9	NA	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	17.6	17.6	N	N	N	N	N	N	N	N	N	N

**Mid-Ebb**

Station	MPB1							
Time (hh:mm)	14:51-14:52							
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-averaged	Bottom
Water Temperature (°C)	16.3	16.3	16.2	16.2	16.2	16.2	16.21	-
Salinity (ppt)	39.4	39.4	39.6	39.6	39.6	39.6	39.53	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.21	-
D.O. Saturation (%)	93.7	94.2	93.6	93.6	94.1	94.0	93.87	-
D.O. (mg/L)	7.2	7.3	7.2	7.2	7.3	7.3	7.26	7.27
Turbidity (NTU)	12.9	13.2	14.9	14.8	15.1	15.1	14.33	-
SS (mg/L)	14.0	14.0	13.0	14.0	13.0	12.0	13.33	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	14:44-14:45							
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)	16.3	16.3	16.2	16.2	16.2	16.2	16.21	-
Salinity (ppt)	39.4	39.7	39.6	39.6	39.5	39.5	39.54	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.23	-
D.O. Saturation (%)	95.1	94.4	95.5	94.1	96.6	94.7	95.07	-
D.O. (mg/L)	7.4	7.3	7.4	7.3	7.5	7.3	7.35	7.40
Turbidity (NTU)	14.5	14.4	16.0	16.4	17.9	18.0	16.20	-
SS (mg/L)	16.0	15.0	15.0	15.0	15.0	14.0	15.00	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	15:01-15:02							
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)	16.3	16.3	-	-	16.2	16.2	16.23	-
Salinity (ppt)	39.6	39.5	-	-	39.6	39.6	39.61	-
pH	8.2	8.2	-	-	8.2	8.2	8.21	-
D.O. Saturation (%)	93.3	93.6	-	-	93.5	93.1	93.38	-
D.O. (mg/L)	7.2	7.2	-	-	7.2	7.2	7.21	7.21
Turbidity (NTU)	12.4	12.5	-	-	13.5	13.1	12.88	-
SS (mg/L)	13.0	15.0	-	-	12.0	14.0	13.50	-
Remarks	Dredging works was observed.							







Sampling Date	01/17/09
Weather & Ambient Temperature	Fine, 16C

Station	C2 (NM5)								
Time (hh:mm)	17:33-17:36								
Water Depth (m)	20.4								
Monitoring Depth (m)	1.0		10.2		19.4				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	17.0	17.0	16.5	16.4	16.2	16.2	16.54	-	
Salinity (ppt)	24.3	24.3	29.5	29.6	30.7	30.6	28.15	-	
pH	8.1	8.1	8.2	8.2	8.2	8.2	8.17	-	
D.O. Saturation (%)	96.9	95.8	93.0	91.7	96.4	95.7	94.92	-	
D.O. (mg/L)	7.0	6.9	6.6	6.5	6.8	6.8	6.78	6.80	
Turbidity (NTU)	11.6	11.5	13.3	13.1	15.4	14.9	13.30	-	
SS (mg/L)	9.0	9.0	11.0	11.0	11.0	11.0	10.33	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	17:56-17:58						Northing	Easting
Water Depth (m)	9.6						22.21.970	113.55.363
Monitoring Depth (m)	1.0		4.8		8.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	16.7	16.7	16.3	16.2	15.8	15.7	16.22	-
Salinity (ppt)	30.2	30.1	31.6	31.6	32.1	32.2	31.31	-
pH	8.2	8.2	8.2	8.2	8.2	8.3	8.23	-
D.O. Saturation (%)	94.1	92.2	89.1	88.9	90.8	91.3	91.07	-
D.O. (mg/L)	6.6	6.5	6.2	6.2	6.4	6.47	6.42	6.46
Turbidity (NTU)	11.2	11.1	12.3	12.2	13.0	13.2	12.17	-
SS (mg/L)	11.0	12.0	11.0	10.0	11.0	11.0	11.00	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	18:17-18:19						Northing	Easting
Water Depth (m)	10.6						22.21.719	113.55.790
Monitoring Depth (m)	1.0		5.3		9.6			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	16.5	16.5	15.8	15.8	15.6	15.6	15.97	-
Salinity (ppt)	30.4	30.3	31.5	31.5	32.2	32.1	31.36	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.18	-
D.O. Saturation (%)	93.7	92.9	90.7	91.1	93.5	91.9	92.30	-
D.O. (mg/L)	6.6	6.6	6.4	6.5	6.6	6.54	6.54	6.58
Turbidity (NTU)	10.8	10.6	11.5	11.4	13.1	12.7	11.68	-
SS (mg/L)	10.0	10.0	9.0	8.0	10.0	10.0	9.50	-
Remarks	Dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	6.8	6.8	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	6.8	6.8	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	17.3	17.3	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

Mid-Ebb

Station	MPB1							
Time (hh:mm)	17:04-17:06							
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)	17.1	17.1	16.8	16.7	16.6	16.5	16.79	-
Salinity (ppt)	24.4	24.3	26.5	26.6	28.0	28.1	26.29	-
pH	8.1	8.1	8.2	8.2	8.2	8.2	8.16	-
D.O. Saturation (%)	97.6	98.1	96.7	97.1	99.1	100.4	98.17	-
D.O. (mg/L)	7.1	7.1	6.9	7.0	7.1	7.2	7.04	7.12
Turbidity (NTU)	9.5	9.3	10.2	10.1	10.6	10.9	10.10	-
SS (mg/L)	11.0	12.0	12.0	11.0	10.0	9.0	10.83	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	16:53-16:55							
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 (°C)	17.0	17.0	16.9	16.9	16.9	16.9	16.95	-
Salinity (ppt)	24.8	24.7	25.3	25.3	25.4	25.3	25.12	-
pH	8.2	8.2	8.2	8.2	8.2	8.2	8.16	-
D.O. Saturation (%)	98.8	97.9	99.1	99.5	100.1	99.3	99.12	-
D.O. (mg/L)	7.1	7.1	7.1	7.1	7.2	7.1	7.12	7.16
Turbidity (NTU)	9.9	10.0	10.4	10.6	11.2	11.0	10.52	-
SS (mg/L)	10.0	11.0	12.0	11.0	10.0	10.0	10.67	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	17:14-17:15							
Water Depth (m)	5.7							
Monitoring Depth (m)	1.0		2.9		4.7			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	17.0	17.0	-	-	16.6	16.7	16.81	-
Salinity (ppt)	26.0	26.1	-	-	27.5	27.4	26.75	-
pH	8.2	8.2	-	-	8.2	8.2	8.18	-
D.O. Saturation (%)	105.0	105.6	-	-	106.4	106.2	105.80	-
D.O. (mg/L)	7.5	7.5	-	-	7.5	7.6	7.52	7.55
Turbidity (NTU)	9.2	9.3	-	-	9.9	10.1	9.63	-
SS (mg/L)	8.0	9.0	-	-	9.0	10.0	9.00	-
Remarks	Dredging works was observed.							









Sampling Date	1/19/2009
Weather & Ambient Temperature	Sunny, 20C

Station	C2 (NM5)								
Time (hh:mm)	7:54-7:56								
Water Depth (m)	19.3								
Monitoring Depth (m)	1.0		9.7		18.3				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	21.1	21.2	20.4	20.4	19.7	19.7	20.40	-	
Salinity (ppt)	26.8	26.6	29.3	29.3	31.4	31.5	29.15	-	
pH	7.6	7.7	7.6	7.7	7.6	7.7	7.64	-	
D.O. Saturation (%)	86.3	85.5	76.5	75.7	72.9	73.7	78.43	-	
D.O. (mg/L)	5.7	5.7	5.1	5.0	4.8	4.9	5.19	4.84	
Turbidity (NTU)	5.2	5.4	6.5	6.3	8.8	8.7	6.82	-	
SS (mg/L)	4.0	5.0	4.0	5.0	6.0	5.0	4.83	-	
Remarks	No dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	7:01-7:03						Northing	Easting
Water Depth (m)	14.8						22.21.821	113.55.177
Monitoring Depth (m)	1.0		7.4		13.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.0	21.1	20.5	20.5	20.0	20.0	20.49	-
Salinity (ppt)	23.6	23.5	28.5	28.5	30.2	30.2	27.42	-
pH	7.6	7.6	7.7	7.7	7.6	7.7	7.64	-
D.O. Saturation (%)	83.3	84.5	75.0	74.5	72.9	73.6	77.30	-
D.O. (mg/L)	5.7	5.7	5.0	4.9	4.8	4.88	5.17	4.86
Turbidity (NTU)	6.2	6.2	7.8	7.6	9.1	9.1	7.67	-
SS (mg/L)	6.0	5.0	6.0	6.0	5.0	4.0	5.33	-
Remarks	No dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	6:50-6:52						Northing	Easting
Water Depth (m)	11.1						22.21.729	113.55.804
Monitoring Depth (m)	1.0		5.6		10.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.1	21.1	20.5	20.6	20.0	20.0	20.55	-
Salinity (ppt)	24.6	24.8	28.6	28.3	30.7	30.4	27.90	-
pH	7.7	7.7	7.7	7.7	7.7	7.6	7.66	-
D.O. Saturation (%)	73.2	84.7	76.2	77.0	74.2	73.5	76.47	-
D.O. (mg/L)	5.8	5.7	5.1	5.1	4.9	4.87	5.24	4.89
Turbidity (NTU)	6.3	6.2	7.3	7.4	8.9	8.8	7.48	-
SS (mg/L)	6.0	5.0	6.0	5.0	5.0	5.0	5.33	-
Remarks	No dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	4.8	4.8	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	5.2	5.2	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	8.9	8.9	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	6.3	6.3	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	7:27-7:29							
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)	21.4	21.4	20.6	20.6	20.4	20.5	20.79	-
Salinity (ppt)	20.0	19.8	26.3	26.1	28.0	27.6	24.62	-
pH	7.6	7.6	7.6	7.6	7.6	7.6	7.58	-
D.O. Saturation (%)	86.1	84.7	75.3	75.3	76.8	76.9	79.18	-
D.O. (mg/L)	5.9	5.8	5.1	5.1	5.1	5.1	5.35	5.14
Turbidity (NTU)	5.6	5.6	6.5	6.4	6.9	7.0	6.33	-
SS (mg/L)	5.0	5.0	4.0	4.0	5.0	4.0	4.50	-
Remarks	No dredging works was observed.							

Station	MPB2							
Time (hh:mm)	7:16-7:18							
Water Depth (m)	9.3							
Monitoring Depth (m)	1.0		4.7		8.3			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.5	21.5	21.0	21.1	20.8	20.7	21.10	-
Salinity (ppt)	18.9	19.7	25.0	23.6	26.2	27.6	23.50	-
pH	7.7	7.6	7.7	7.7	7.6	7.6	7.65	-
D.O. Saturation (%)	90.1	90.5	80.7	79.1	77.6	79.1	82.85	-
D.O. (mg/L)	6.2	6.2	5.4	5.3	5.2	5.3	5.60	5.22
Turbidity (NTU)	6.1	6.2	7.8	7.7	8.3	8.3	7.40	-
SS (mg/L)	6.0	6.0	3.0	4.0	4.0	3.0	4.33	-
Remarks	No dredging works was observed.							

Station	MP							
Time (hh:mm)	7:37-7:38							
Water Depth (m)	5.8							
Monitoring Depth (m)	1.0		2.9		4.8			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.1	21.1	-	-	20.5	20.5	20.81	-
Salinity (ppt)	21.0	21.2	-	-	26.5	26.0	23.69	-
pH	7.5	7.5	-	-	7.5	7.4	7.49	-
D.O. Saturation (%)	83.7	82.4	-	-	77.8	76.2	80.03	-
D.O. (mg/L)	5.7	5.7	-	-	5.2	5.1	5.43	5.17
Turbidity (NTU)	7.9	8.0	-	-	8.8	8.8	8.38	-
SS (mg/L)	5.0	5.0	-	-	7.0	6.0	5.75	-
Remarks	No dredging works was observed.							



Sampling Date	01/20/2009
Weather & Ambient Temperature	Fine, 19C

Station	C2 (NM5)								
Time (hh:mm)	21:02-21:05								
Water Depth (m)	18.8								
Monitoring Depth (m)	1.0		9.4		17.8				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	20.8	21.1	19.7	19.7	18.4	18.4	19.68	-	
Salinity (ppt)	26.3	25.9	29.5	29.4	32.5	32.6	29.37	-	
pH	8.0	8.0	8.0	8.0	8.0	8.0	8.00	-	
D.O. Saturation (%)	87.7	87.0	70.6	70.4	66.4	66.7	74.80	-	
D.O. (mg/L)	5.7	5.7	4.6	4.5	4.3	4.3	4.85	4.30	
Turbidity (NTU)	5.0	5.2	5.5	5.8	9.9	9.8	6.87	-	
SS (mg/L)	8.0	8.0	8.0	9.0	9.0	8.0	8.33	-	
Remarks	No dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	20:00-20:04						Northing	Easting
Water Depth (m)	17.3						22.21.829	113.55.178
Monitoring Depth (m)	1.0		8.7		16.3			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	20.9	21.1	19.9	19.8	18.8	18.8	19.87	-
Salinity (ppt)	24.7	24.5	28.6	28.8	31.7	31.6	28.32	-
pH	8.0	8.0	8.0	8.0	8.0	8.0	7.97	-
D.O. Saturation (%)	84.0	86.1	66.7	67.9	64.4	62.2	71.88	-
D.O. (mg/L)	5.5	5.6	4.3	4.4	4.2	4.00	4.66	4.08
Turbidity (NTU)	6.6	6.5	8.4	8.6	10.6	10.6	8.55	-
SS (mg/L)	7.0	8.0	6.0	6.0	7.0	7.0	6.83	-
Remarks	No dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	19:50-19:53						Northing	Easting
Water Depth (m)	12.4						22.21.737	113.55.803
Monitoring Depth (m)	1.0		6.2		11.4			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.3	20.2	20.3	19.0	19.0	20.16	-
Salinity (ppt)	24.6	24.6	28.2	27.8	31.5	31.6	28.06	-
pH	8.1	8.0	8.0	8.0	7.9	8.0	8.00	-
D.O. Saturation (%)	84.8	89.2	74.4	74.5	67.5	67.7	76.35	-
D.O. (mg/L)	6.0	5.8	4.8	4.8	4.4	4.36	5.02	4.36
Turbidity (NTU)	6.3	6.1	7.7	7.6	8.9	9.4	7.67	-
SS (mg/L)	7.0	6.0	6.0	5.0	6.0	6.0	6.00	-
Remarks	No dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	4.3	4.3	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	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	8.9	8.9	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	10.8	10.8	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	20:32-20:34							
Water Depth (m)	8.1							
Monitoring Depth (m)	1.0		4.1		7.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.9	21.8	20.1	20.2	19.9	20.0	20.63	-
Salinity (ppt)	18.7	18.8	27.2	26.9	28.3	27.7	24.61	-
pH	8.0	8.0	7.9	7.9	7.9	7.9	7.92	-
D.O. Saturation (%)	92.7	88.6	70.2	70.4	73.4	74.7	78.33	-
D.O. (mg/L)	6.2	5.9	4.6	4.6	4.8	4.9	5.15	4.81
Turbidity (NTU)	5.1	5.2	6.5	6.4	6.9	7.0	6.18	-
SS (mg/L)	7.0	6.0	8.0	8.0	8.0	7.0	7.33	-
Remarks	No dredging works was observed.							

Station	MPB2							
Time (hh:mm)	20:22-20:24							
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)	21.9	22.0	21.2	21.4	20.6	20.3	21.22	-
Salinity (ppt)	18.4	18.5	22.1	21.0	23.7	27.5	21.84	-
pH	8.1	8.0	8.0	8.0	7.9	7.9	7.98	-
D.O. Saturation (%)	102.5	103.0	82.1	78.7	73.1	76.9	86.05	-
D.O. (mg/L)	6.9	6.9	5.4	5.2	4.8	5.0	5.71	4.90
Turbidity (NTU)	6.4	6.3	9.3	9.2	9.2	9.9	8.38	-
SS (mg/L)	8.0	7.0	6.0	6.0	6.0	6.0	6.50	-
Remarks	No dredging works was observed.							

Station	MP							
Time (hh:mm)	20:41-20:42							
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)	21.0	21.2	-	-	20.1	20.1	20.60	-
Salinity (ppt)	22.6	22.0	-	-	27.1	27.3	24.76	-
pH	7.9	7.9	-	-	7.7	7.8	7.79	-
D.O. Saturation (%)	83.9	86.1	-	-	68.1	74.2	78.08	-
D.O. (mg/L)	5.6	5.7	-	-	4.4	4.8	5.13	4.63
Turbidity (NTU)	7.8	7.6	-	-	8.9	8.4	8.18	-
SS (mg/L)	7.0	6.0	-	-	6.0	6.0	6.25	-
Remarks	No dredging works was observed.							



Sampling Date	01/21/2009
Weather & Ambient Temperature	Cloudy, 18C

Station	C2 (NM5)								
Time (hh:mm)	21:47-21:50								
Water Depth (m)	18.8								
Monitoring Depth (m)	1.0		9.4		17.8				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	20.9	21.1	19.8	19.9	18.7	18.7	19.85	-	
Salinity (ppt)	26.3	26.0	29.4	29.3	32.3	32.3	29.25	-	
pH	7.9	8.0	8.0	7.9	7.9	8.0	7.93	-	
D.O. Saturation (%)	87.2	86.5	71.5	71.5	67.6	68.0	75.38	-	
D.O. (mg/L)	5.7	5.7	4.6	4.6	4.4	4.4	4.91	4.40	
Turbidity (NTU)	5.1	5.3	5.7	6.0	9.6	9.5	6.87	-	
SS (mg/L)	6.0	8.0	8.0	8.0	6.0	8.0	7.33	-	
Remarks	No dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	20:45-20:49						Northing	Easting
Water Depth (m)	17.3						22.20.791	113.53.644
Monitoring Depth (m)	1.0		8.7		16.3			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.0	21.1	20.0	20.0	19.0	19.0	20.02	-
Salinity (ppt)	24.4	24.2	28.6	28.7	31.3	31.2	28.06	-
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.90	-
D.O. Saturation (%)	83.6	85.5	68.0	69.1	66.0	64.1	72.72	-
D.O. (mg/L)	5.5	5.6	4.4	4.5	4.3	4.15	4.75	4.22
Turbidity (NTU)	6.5	6.4	8.2	8.4	10.2	10.2	8.32	-
SS (mg/L)	6.0	6.0	5.0	4.0	5.0	4.0	5.00	-
Remarks	No dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	20:35-20:38						Northing	Easting
Water Depth (m)	12.4						22.21.510	113.54.436
Monitoring Depth (m)	1.0		6.2		11.4			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.2	21.3	20.3	20.4	19.2	19.2	20.25	-
Salinity (ppt)	24.5	24.6	28.2	27.9	31.2	31.4	27.95	-
pH	8.0	8.0	7.9	7.9	7.9	7.9	7.93	-
D.O. Saturation (%)	80.4	88.0	74.4	74.7	68.5	68.8	75.80	-
D.O. (mg/L)	5.9	5.8	4.9	4.9	4.4	4.46	5.05	4.45
Turbidity (NTU)	6.3	6.2	7.6	7.6	8.9	9.3	7.65	-
SS (mg/L)	5.0	6.0	5.0	4.0	4.0	5.0	4.83	-
Remarks	No dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	4.4	4.4	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	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	8.9	8.9	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	9.5	9.5	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	21:17-21:19							
Water Depth (m)	8.1							
Monitoring Depth (m)	1.0		4.1		7.1			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	21.8	21.7	20.2	20.3	20.0	20.1	20.68	-
Salinity (ppt)	18.8	18.9	26.9	26.6	28.2	27.6	24.50	-
pH	7.9	7.9	7.8	7.8	7.8	7.8	7.85	-
D.O. Saturation (%)	90.9	87.4	70.9	71.0	73.7	74.7	78.10	-
D.O. (mg/L)	6.1	5.9	4.6	4.7	4.8	4.9	5.16	4.85
Turbidity (NTU)	5.2	5.3	6.5	6.4	6.9	7.0	6.22	-
SS (mg/L)	6.0	5.0	4.0	4.0	6.0	7.0	5.33	-
Remarks	No dredging works was observed.							

Station	MPB2							
Time (hh:mm)	21:07-21:09							
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)	21.9	21.9	21.2	21.3	20.6	20.4	21.21	-
Salinity (ppt)	18.3	18.6	22.7	21.4	24.2	27.4	22.09	-
pH	8.0	8.0	7.9	8.0	7.9	7.8	7.91	-
D.O. Saturation (%)	99.6	100.1	81.4	78.4	73.7	77.1	85.05	-
D.O. (mg/L)	6.7	6.7	5.4	5.2	4.9	5.0	5.67	4.95
Turbidity (NTU)	6.4	6.3	9.2	9.1	9.9	10.2	8.52	-
SS (mg/L)	6.0	6.0	6.0	4.0	6.0	4.0	5.33	-
Remarks	No dredging works was observed.							

Station	MP							
Time (hh:mm)	21:26-21:27							
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)	21.0	21.2	-	-	20.2	20.2	20.66	-
Salinity (ppt)	22.2	21.7	-	-	26.7	27.0	24.41	-
pH	7.8	7.8	-	-	7.6	7.7	7.73	-
D.O. Saturation (%)	83.3	85.3	-	-	69.5	74.6	78.18	-
D.O. (mg/L)	5.6	5.7	-	-	4.6	4.9	5.17	4.72
Turbidity (NTU)	7.9	7.7	-	-	9.8	9.5	8.73	-
SS (mg/L)	8.0	8.0	-	-	9.0	7.0	8.00	-
Remarks	No dredging works was observed.							





Sampling Date	01/22/09
Weather & Ambient Temperature	Fine, 16C

Station	C2 (NM5)								
Time (hh:mm)	23:05-23:07								
Water Depth (m)	21.0								
Monitoring Depth (m)	1.0		10.5		20.0				
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom	
Water Temperature (°C)	17.4	17.4	17.2	17.2	17.1	17.2	17.26	-	
Salinity (ppt)	33.9	35.1	35.6	35.1	35.4	35.0	35.01	-	
pH	7.9	7.9	7.9	7.8	7.8	7.8	7.86	-	
D.O. Saturation (%)	99.8	96.9	91.3	89.3	91.9	94.1	93.88	-	
D.O. (mg/L)	7.8	7.5	7.1	7.0	7.2	7.3	7.31	7.25	
Turbidity (NTU)	3.5	3.7	4.7	4.9	5.1	5.3	4.53	-	
SS (mg/L)	4.0	6.0	4.0	3.0	5.0	4.0	4.33	-	
Remarks	Dredging works was observed.								

Station	IMO1						Co-ordinates	
Time (hh:mm)	23:40-23:41						Northing	Easting
Water Depth (m)	13.7						22.20.791	113.53.644
Monitoring Depth (m)	1.0		6.9		12.7			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	17.4	17.4	17.2	17.2	17.2	17.2	17.26	-
Salinity (ppt)	33.8	34.2	34.4	36.0	34.6	34.4	34.54	-
pH	7.9	7.9	7.9	7.9	7.9	7.9	7.88	-
D.O. Saturation (%)	96.7	93.7	92.0	93.6	94.0	96.0	94.33	-
D.O. (mg/L)	7.6	7.3	7.2	7.3	7.4	7.51	7.36	7.43
Turbidity (NTU)	3.9	3.7	4.3	4.3	4.7	4.6	4.25	-
SS (mg/L)	5.0	5.0	4.0	6.0	6.0	6.0	5.33	-
Remarks	Dredging works was observed.							

Station	IMO2						Co-ordinates	
Time (hh:mm)	23:32-23:33						Northing	Easting
Water Depth (m)	14.2						22.21.510	113.54.436
Monitoring Depth (m)	1.0		7.1		13.2			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	17.5	17.3	17.2	17.2	17.2	17.2	17.27	-
Salinity (ppt)	33.8	33.9	35.2	35.1	34.5	35.2	34.61	-
pH	7.9	7.9	7.8	7.8	7.8	7.8	7.85	-
D.O. Saturation (%)	96.2	90.5	89.9	91.5	95.2	95.9	93.20	-
D.O. (mg/L)	7.5	7.1	7.0	7.1	7.4	7.46	7.27	7.45
Turbidity (NTU)	4.3	4.5	5.0	4.8	5.3	5.3	4.87	-
SS (mg/L)	4.0	5.0	5.0	5.0	4.0	5.0	4.67	-
Remarks	Dredging works was observed.							

Compliance with Action and Limit Level

Parameter	As in EM&A		C2*130%		IMO1		IMO2		MPB1		MPB2		MP	
	Action Level	Limit Level	Action Level	Limit Level	Exceedance of Action	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level	Exceedance of Action Level	Exceedance of Limit Level
DO (Bottom)	3.3	2.5	7.2	7.2	N	N	N	N	N	N	N	N	N	N
DO (Depth-averaged)	4.2	4.0	7.3	7.3	N	N	N	N	N	N	N	N	N	N
Turbidity (Depth-averaged)	29.0	49.0	5.9	5.9	N	N	N	N	N	N	N	N	N	N
SS (Depth-averaged)	24.0	37.0	5.6	5.6	N	N	N	N	N	N	N	N	N	N

Mid-Ebb

Station	MPB1							
Time (hh:mm)	22:27-22:28							
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-averaged	Bottom
Water Temperature (°C)	17.4	17.5	17.3	17.3	17.3	17.2	17.33	-
Salinity (ppt)	34.8	34.4	35.0	35.0	35.1	35.7	34.99	-
pH	8.0	8.0	8.0	7.9	7.9	7.9	7.94	-
D.O. Saturation (%)	95.2	101.7	99.2	92.8	96.0	97.2	97.02	-
D.O. (mg/L)	7.4	7.9	7.7	7.2	7.5	7.5	7.55	7.51
Turbidity (NTU)	3.5	3.4	3.6	3.6	4.2	4.1	3.73	-
SS (mg/L)	6.0	4.0	6.0	7.0	3.0	4.0	5.00	-
Remarks	Dredging works was observed.							

Station	MPB2							
Time (hh:mm)	22:18-22:20							
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)	17.5	17.5	17.5	17.3	17.2	17.2	17.36	-
Salinity (ppt)	34.6	34.7	34.6	35.0	35.9	35.9	35.12	-
pH	8.0	8.0	8.0	8.0	7.9	7.9	7.97	-
D.O. Saturation (%)	103.5	101.3	98.8	94.1	94.2	96.5	98.07	-
D.O. (mg/L)	8.0	7.9	7.7	7.3	7.3	7.5	7.62	7.39
Turbidity (NTU)	3.5	3.5	3.7	3.9	4.3	4.4	3.88	-
SS (mg/L)	6.0	8.0	4.0	5.0	4.0	5.0	5.33	-
Remarks	Dredging works was observed.							

Station	MP							
Time (hh:mm)	22:38-22:38							
Water Depth (m)	5.7							
Monitoring Depth (m)	1.0		2.9		4.7			
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth-averaged	Bottom
Water Temperature (°C)	17.4	17.4	-	-	17.4	17.3	17.38	-
Salinity (ppt)	34.6	33.9	-	-	34.6	34.5	34.39	-
pH	7.9	7.9	-	-	7.9	7.9	7.92	-
D.O. Saturation (%)	101.5	104.5	-	-	102.3	102.8	102.78	-
D.O. (mg/L)	7.9	8.2	-	-	8.0	8.0	8.02	8.00
Turbidity (NTU)	3.4	3.3	-	-	3.4	3.3	3.35	-
SS (mg/L)	5.0	5.0	-	-	5.0	4.0	4.75	-
Remarks	Dredging works was observed.							







Annex H

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



## CERTIFICATE OF ANALYSIS

Client	: ERM HONG KONG	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 7
Contact	: MS KAREN LUI	Contact	: Wong Wai Man, Alice	Work Order	: HK0819965
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Project	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	Quote number	: ----	Date Samples Received	: 10-JAN-2009
Order number	: ----			Issue Date	: 03-FEB-2009
C-O-C number	: ----			No. of samples received	: 18
Site	: ----			No. of samples analysed	: 18

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client. The completion date of analysis is: 21-JAN-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: **HK0819965**

**Sample(s) were collected by ALS Technichem (HK) staff on 10 January, 2009.**

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

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

*Signatories*

Anh Ngoc Huynh

*Position*

Senior Chemist

*Authorised results for*

Organics

**ALS Laboratory Group**

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A Campbell Brothers Limited Company



### Analytical Results

Sub-Matrix: MARINE WATER

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	MPB1 ME	MPB1 ME DUP	MPB2 ME	MPB2 ME DUP	MP ME
				[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]
				HK0819965-001	HK0819965-002	HK0819965-003	HK0819965-004	HK0819965-005
<b>EP-065A: PCB Single Congeners</b>								
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
<b>EP-065B: Organochlorine Pesticides</b>								
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
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>							Surrogate control limits listed at end of this report.	
Decachlorobiphenyl	2051-24-3	0.1	%	<b>82.0</b>	<b>90.5</b>	<b>84.0</b>	<b>78.7</b>	<b>81.6</b>





Sub-Matrix: MARINE WATER				Client sample ID	MP ME DUP	C2 (NM5) ME	C2 (NM5) ME DUP	MPB1 MF	MPB1 MF DUP
Client sampling date / time				[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]	
Compound	CAS Number	LOR	Unit	HK0819965-006	HK0819965-007	HK0819965-008	HK0819965-009	HK0819965-010	
<b>EP-065A: PCB Single Congeners</b>									
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	
<b>EP-065B: Organochlorine Pesticides</b>									
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	
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>							Surrogate control limits listed at end of this report.		
Decachlorobiphenyl	2051-24-3	0.1	%	84.3	80.2	69.5	84.4	85.2	



Sub-Matrix: MARINE WATER				Client sample ID	MPB2 MF	MPB2 MF DUP	MP MF	MP MF DUP	C1 (NM3) MF
Client sampling date / time				[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]
Compound	CAS Number	LOR	Unit	HK0819965-011	HK0819965-012	HK0819965-013	HK0819965-014	HK0819965-015	
<b>EP-065A: PCB Single Congeners</b>									
PCB 8	34883-43-7	0.01	µg/L	<0.01	<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	<0.01
PCB 28	7012-37-5	0.01	µg/L	<0.01	<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	<0.01
PCB 44	41464-39-5	0.01	µg/L	<0.01	<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	<0.01
PCB 101	37680-73-2	0.01	µg/L	<0.01	<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	<0.01
PCB 149	38380-04-0	0.01	µg/L	<0.01	<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	<0.01
PCB 153	35065-27-1	0.01	µg/L	<0.01	<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	<0.01
PCB 126	57465-28-8	0.01	µg/L	<0.01	<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	<0.01
PCB 128	38380-07-3	0.01	µg/L	<0.01	<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	<0.01
PCB 180	35065-29-3	0.01	µg/L	<0.01	<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	<0.01
PCB 170	35065-30-6	0.01	µg/L	<0.01	<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	<0.01
<b>EP-065B: Organochlorine Pesticides</b>									
4,4'-DDT	50-29-3	0.01	µg/L	<0.01	<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	<0.01
4,4'-DDD	72-54-8	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>								Surrogate control limits listed at end of this report.	
Decachlorobiphenyl	2051-24-3	0.1	%	91.2	83.1	86.6	91.3	90.3	



Sub-Matrix: MARINE WATER				Client sample ID	C1 (NM3) MF DUP	C3 (NM6) MF	C3 (NM6) MF DUP		
				Client sampling date / time	[10-JAN-2009]	[10-JAN-2009]	[10-JAN-2009]		
Compound	CAS Number	LOR	Unit	HK0819965-016	HK0819965-017	HK0819965-018			
<b>EP-065A: PCB Single Congeners</b>									
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			
<b>EP-065B: Organochlorine Pesticides</b>									
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			
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>							Surrogate control limits listed at end of this report.		
Decachlorobiphenyl	2051-24-3	0.1	%	87.1	85.0	90.9			



**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 (%)
<b>EP-065A: PCB Single Congeners (QC Lot: 862059)</b>								
HK0819965-001	MPB1 ME	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		
<b>EP-065B: Organochlorine Pesticides (QC Lot: 862059)</b>								
HK0819965-001	MPB1 ME	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 (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration n	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EP-065A: PCB Single Congeners (QC Lot: 862059)</b>											
PCB 8	34883-43-7	0.01	µg/L	<0.01	100 µg/L	106	----	50	130	----	----
PCB 18	37680-65-2	0.01	µg/L	<0.01	100 µg/L	100	----	50	130	----	----
PCB 28	7012-37-5	0.01	µg/L	<0.01	100 µg/L	76.4	----	50	130	----	----
PCB 52	35693-99-3	0.01	µg/L	<0.01	100 µg/L	77.2	----	50	130	----	----
PCB 44	41464-39-5	0.01	µg/L	<0.01	100 µg/L	72.7	----	50	130	----	----
PCB 66	32598-10-0	0.01	µg/L	<0.01	100 µg/L	71.2	----	50	130	----	----
PCB 101	37680-73-2	0.01	µg/L	<0.01	100 µg/L	88.8	----	50	130	----	----
PCB 77	32598-13-3	0.01	µg/L	<0.01	100 µg/L	90.2	----	50	130	----	----
PCB 149	38380-04-0	0.01	µg/L	<0.01	100 µg/L	94.0	----	50	130	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EP-065A: PCB Single Congeners (QC Lot: 862059) - Continued</b>											
PCB 118	31508-00-6	0.01	µg/L	<0.01	100 µg/L	98.0	----	50	130	----	----
PCB 153	35065-27-1	0.01	µg/L	<0.01	100 µg/L	93.7	----	50	130	----	----
PCB 105	32598-14-4	0.01	µg/L	<0.01	100 µg/L	90.6	----	50	130	----	----
PCB 126	57465-28-8	0.01	µg/L	<0.01	100 µg/L	94.6	----	50	130	----	----
PCB 187	52663-68-0	0.01	µg/L	<0.01	100 µg/L	97.5	----	50	130	----	----
PCB 128	38380-07-3	0.01	µg/L	<0.01	100 µg/L	97.1	----	50	130	----	----
PCB 156	38380-08-4	0.01	µg/L	<0.01	100 µg/L	104	----	50	130	----	----
PCB 180	35065-29-3	0.01	µg/L	<0.01	100 µg/L	108	----	50	130	----	----
PCB 169	60044-26-0	0.01	µg/L	<0.01	100 µg/L	80.2	----	50	130	----	----
PCB 170	35065-30-6	0.01	µg/L	<0.01	100 µg/L	90.1	----	50	130	----	----
PCB 195	52663-78-2	0.01	µg/L	<0.01	100 µg/L	117	----	50	130	----	----
<b>EP-065B: Organochlorine Pesticides (QC Lot: 862059)</b>											
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	25 µg/L	# Not Determined	----	50	130	----	----
4,4'-DDD	72-54-8	0.01	µg/L	<0.01	25 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: MARINE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>			
Decachlorobiphenyl	2051-24-3	50	130



## CERTIFICATE OF ANALYSIS

Client	: ERM HONG KONG	Laboratory	: ALS Technichem HK Pty Ltd	Page	: 1 of 7
Contact	: MS KAREN LUI	Contact	: Wong Wai Man, Alice	Work Order	: HK0823738
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Project	: EM&A FOR THE PERMANENT AVIATION FUEL FACILITY	Quote number	: ----	Date Samples Received	: 24-DEC-2008
Order number	: ----			Issue Date	: 22-JAN-2009
C-O-C number	: ----			No. of samples received	: 18
Site	: ----			No. of samples analysed	: 18

### General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for processing purposes. If the sampling time is displayed as 0:00 the information was not provided by client. The completion date of analysis is: 12-JAN-2009

Key: LOR = Limit of reporting; CAS Number = Chemistry Abstract Services number

Specific comments for Work Order: **HK0823738**

**Sample(s) were collected by ALS Technichem (HK) staff on 24 December, 2008.**

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

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

*Signatories*

Anh Ngoc Huynh

*Position*

Senior Chemist

*Authorised results for*

Organics

**ALS Laboratory Group**

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A Campbell Brothers Limited Company



### Analytical Results

Sub-Matrix: MARINE WATER

Client sample ID

Client sampling date / time

Compound	CAS Number	LOR	Unit	MPB1 ME	MPB1 ME DUP	MPB2 ME	MPB2 ME DUP	MP ME
				[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]
				HK0823738-001	HK0823738-002	HK0823738-003	HK0823738-004	HK0823738-005
<b>EP-065A: PCB Single Congeners</b>								
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
<b>EP-065B: Organochlorine Pesticides</b>								
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
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>						Surrogate control limits listed at end of this report.		
Decachlorobiphenyl	2051-24-3	0.1	%	69.4	66.8	66.5	67.2	64.5



Sub-Matrix: MARINE WATER				Client sample ID	MP ME DUP	C2 (NM5) ME	C2 (NM5) ME DUP	MPB1 MF	MPB1 MF DUP
Client sampling date / time				[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]
Compound	CAS Number	LOR	Unit	HK0823738-006	HK0823738-007	HK0823738-008	HK0823738-009	HK0823738-010	
<b>EP-065A: PCB Single Congeners</b>									
PCB 8	34883-43-7	0.01	µg/L	<0.01	<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	<0.01
PCB 28	7012-37-5	0.01	µg/L	<0.01	<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	<0.01
PCB 44	41464-39-5	0.01	µg/L	<0.01	<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	<0.01
PCB 101	37680-73-2	0.01	µg/L	<0.01	<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	<0.01
PCB 149	38380-04-0	0.01	µg/L	<0.01	<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	<0.01
PCB 153	35065-27-1	0.01	µg/L	<0.01	<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	<0.01
PCB 126	57465-28-8	0.01	µg/L	<0.01	<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	<0.01
PCB 128	38380-07-3	0.01	µg/L	<0.01	<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	<0.01
PCB 180	35065-29-3	0.01	µg/L	<0.01	<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	<0.01
PCB 170	35065-30-6	0.01	µg/L	<0.01	<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	<0.01
<b>EP-065B: Organochlorine Pesticides</b>									
4,4'-DDT	50-29-3	0.01	µg/L	<0.01	<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	<0.01
4,4'-DDD	72-54-8	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>							Surrogate control limits listed at end of this report.		
Decachlorobiphenyl	2051-24-3	0.1	%	67.2	62.0	63.6	62.9	73.6	





Sub-Matrix: MARINE WATER				Client sample ID	MPB2 MF	MPB2 MF DUP	MP MF	MP MF DUP	C1 (NM3) MF
Client sampling date / time				[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]
Compound	CAS Number	LOR	Unit	HK0823738-011	HK0823738-012	HK0823738-013	HK0823738-014	HK0823738-015	
<b>EP-065A: PCB Single Congeners</b>									
PCB 8	34883-43-7	0.01	µg/L	<0.01	<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	<0.01
PCB 28	7012-37-5	0.01	µg/L	<0.01	<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	<0.01
PCB 44	41464-39-5	0.01	µg/L	<0.01	<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	<0.01
PCB 101	37680-73-2	0.01	µg/L	<0.01	<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	<0.01
PCB 149	38380-04-0	0.01	µg/L	<0.01	<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	<0.01
PCB 153	35065-27-1	0.01	µg/L	<0.01	<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	<0.01
PCB 126	57465-28-8	0.01	µg/L	<0.01	<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	<0.01
PCB 128	38380-07-3	0.01	µg/L	<0.01	<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	<0.01
PCB 180	35065-29-3	0.01	µg/L	<0.01	<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	<0.01
PCB 170	35065-30-6	0.01	µg/L	<0.01	<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	<0.01
<b>EP-065B: Organochlorine Pesticides</b>									
4,4'-DDT	50-29-3	0.01	µg/L	<0.01	<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	<0.01
4,4'-DDD	72-54-8	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>								Surrogate control limits listed at end of this report.	
Decachlorobiphenyl	2051-24-3	0.1	%	69.0	62.7	64.2	66.4	61.4	



Sub-Matrix: MARINE WATER				Client sample ID	C1 (NM3) MF DUP	C3 (NM6) MF	C3 (NM6) MF DUP		
				Client sampling date / time	[24-DEC-2008]	[24-DEC-2008]	[24-DEC-2008]		
Compound	CAS Number	LOR	Unit	HK0823738-016	HK0823738-017	HK0823738-018			
<b>EP-065A: PCB Single Congeners</b>									
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			
<b>EP-065B: Organochlorine Pesticides</b>									
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			
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>							Surrogate control limits listed at end of this report.		
Decachlorobiphenyl	2051-24-3	0.1	%	67.6	70.7	69.4			



### 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 (%)
<b>EP-065A: PCB Single Congeners (QC Lot: 855620)</b>								
HK0823738-001	MPB1 ME	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		
<b>EP-065B: Organochlorine Pesticides (QC Lot: 855620)</b>								
HK0823738-001	MPB1 ME	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 (MB) Report		Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration n	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EP-065A: PCB Single Congeners (QC Lot: 855620)</b>											
PCB 8	34883-43-7	0.01	µg/L	<0.01	100 µg/L	68.6	----	50	130	----	----
PCB 18	37680-65-2	0.01	µg/L	<0.01	100 µg/L	70.1	----	50	130	----	----
PCB 28	7012-37-5	0.01	µg/L	<0.01	100 µg/L	72.5	----	50	130	----	----
PCB 52	35693-99-3	0.01	µg/L	<0.01	100 µg/L	73.8	----	50	130	----	----
PCB 44	41464-39-5	0.01	µg/L	<0.01	100 µg/L	74.5	----	50	130	----	----
PCB 66	32598-10-0	0.01	µg/L	<0.01	100 µg/L	74.4	----	50	130	----	----
PCB 101	37680-73-2	0.01	µg/L	<0.01	100 µg/L	99.6	----	50	130	----	----
PCB 77	32598-13-3	0.01	µg/L	<0.01	100 µg/L	98.5	----	50	130	----	----
PCB 149	38380-04-0	0.01	µg/L	<0.01	100 µg/L	104	----	50	130	----	----



Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPD (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EP-065A: PCB Single Congeners (QC Lot: 855620) - Continued</b>											
PCB 118	31508-00-6	0.01	µg/L	<0.01	100 µg/L	103	----	50	130	----	----
PCB 153	35065-27-1	0.01	µg/L	<0.01	100 µg/L	106	----	50	130	----	----
PCB 105	32598-14-4	0.01	µg/L	<0.01	100 µg/L	104	----	50	130	----	----
PCB 126	57465-28-8	0.01	µg/L	<0.01	100 µg/L	108	----	50	130	----	----
PCB 187	52663-68-0	0.01	µg/L	<0.01	100 µg/L	108	----	50	130	----	----
PCB 128	38380-07-3	0.01	µg/L	<0.01	100 µg/L	108	----	50	130	----	----
PCB 156	38380-08-4	0.01	µg/L	<0.01	100 µg/L	106	----	50	130	----	----
PCB 180	35065-29-3	0.01	µg/L	<0.01	100 µg/L	109	----	50	130	----	----
PCB 169	60044-26-0	0.01	µg/L	<0.01	100 µg/L	106	----	50	130	----	----
PCB 170	35065-30-6	0.01	µg/L	<0.01	100 µg/L	109	----	50	130	----	----
PCB 195	52663-78-2	0.01	µg/L	<0.01	100 µg/L	110	----	50	130	----	----
<b>EP-065B: Organochlorine Pesticides (QC Lot: 855620)</b>											
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	25 µg/L	# Not Determined	----	50	130	----	----
4,4'-DDD	72-54-8	0.01	µg/L	<0.01	25 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: MARINE WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
<b>EP-065S: PCB Congeners and Organochlorine Pesticides Surrogate</b>			
Decachlorobiphenyl	2051-24-3	50	130

Environmental Division

**CERTIFICATE OF ANALYSIS**

**CONTACT:** MS KAREN LUI  
**CLIENT:** ERM HONG KONG  
**ADDRESS:** 21/F, LINCOLN HOUSE, 979 KING'S ROAD,  
 TAIKOO PLACE, ISLAND EAST,  
 QUARRY BAY, HONG KONG.  
**PROJECT:** EM&A FOR THE PERMANENT AVIATION FUEL FACILITY

**Batch:** HK0819965  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 10/01/2009  
**DATE OF ISSUE:** 02/02/2009  
**SAMPLE TYPE:** WATER  
**No. of SAMPLES:** 18

**COMMENTS**

Sample(s) were collected by ALS Technichem (HK) staff on 10 January, 2009.  
 Water sample(s) analysed and reported on an as received basis.  
 PAHs were subcontracted and tested by ALS Sydney.  
 ALS Sydney details report was attached. The attached report contains a total of 14 pages.

**Sample Details**

<b>ALS Lab ID</b>	<b>Sample ID</b>	<b>Date of Sampling</b>
HK0819965 - 1	MPB1_ME	10/01/2009
HK0819965 - 2	MPB1_ME DUP	10/01/2009
HK0819965 - 3	MPB2_ME	10/01/2009
HK0819965 - 4	MPB2_ME DUP	10/01/2009
HK0819965 - 5	MP_ME	10/01/2009
HK0819965 - 6	MP_ME DUP	10/01/2009
HK0819965 - 7	C2 (NM5)_ME	10/01/2009
HK0819965 - 8	C2 (NM5)_ME DUP	10/01/2009
HK0819965 - 9	MPB1_MF	10/01/2009
HK0819965 - 10	MPB1_MF DUP	10/01/2009
HK0819965 - 11	MPB2_MF	10/01/2009
HK0819965 - 12	MPB2_MF DUP	10/01/2009
HK0819965 - 13	MP_MF	10/01/2009
HK0819965 - 14	MP_MF DUP	10/01/2009
HK0819965 - 15	C1 (NM3)_MF	10/01/2009
HK0819965 - 16	C1 (NM3)_MF DUP	10/01/2009
HK0819965 - 17	C3 (NM6)_MF	10/01/2009
HK0819965 - 18	C3 (NM6)_MF DUP	10/01/2009

**ISSUING LABORATORY: HONG KONG****Address**

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 11/F Chung Shun Knitting Centre  
 1-3 Wing Yip Street  
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 HONG KONG

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Ms Wong Wai Man, Alice  
 Laboratory Manager - Hong Kong

**Other ALS Environmental Laboratories**

**AUSTRALIA**  
 Brisbane Hong Kong  
 Melbourne Singapore  
 Sydney Kuala Lumpur  
 Newcastle Bogor

**AMERICAS**  
 Vancouver  
 Santiago  
 Antofagasta  
 Lima

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Abbreviations: % SPK REC denotes percentage spike recovery  
 CHK denotes duplicate check sample  
 LOR denotes limit of reporting  
 LCS % REC denotes Laboratory Control Sample percentage recovery

**ALS Technichem (HK) Pty Ltd**  
 Part of the **ALS Laboratory Group**

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 A Campbell Brothers Limited Company



Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: ES0900518	Page	: 1 of 8
Client	: ALS TECHNICHEM (HK)	Laboratory	: Environmental Division Sydney
Contact	: MS ALICE WONG	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	: alice.wong@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	: ---	Date Samples Received	: 15-JAN-2009
C-O-C number	: ---	Issue Date	: 28-JAN-2009
Sampler	: ---	No. of samples received	: 18
Site	: ---	No. of samples analysed	: 18
Quote number	: SY/241/07		

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



WORLD RECOGNISED  
ACCREDITATION

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*

Edwandy Fadjar  
Victor Kedicioglu

*Position*

Senior Organic Chemist  
Business Manager - NSW

*Accreditation Category*

Organics  
Organics



**Analytical Results**

Sub-Matrix: WATER	Client sample ID	HK0819965-1	HK0819965-2	HK0819965-3	HK0819965-4	HK0819965-5		
	Client sampling date / time	MPB1-ME	MPB1-ME DUP	MPB2-ME	MPB2-ME DUP	MP-ME		
Compound	CAS Number	LOR	Unit	ES0900518-001	ES0900518-002	ES0900518-003	ES0900518-004	ES0900518-005
<b>EP132B: Polynuclear Aromatic Hydrocarbons</b>								
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
<b>EP132T: Base/Neutral Extractable Surrogates</b>								
2-Fluorobiphenyl	321-60-8	0.1	%	103	75.2	89.1	102	125
Anthracene-d10	1719-06-8	0.1	%	95.2	100	101	104	108
4-Terphenyl-d14	1718-51-0	0.1	%	95.4	98.9	102	104	106



**Analytical Results**

Sub-Matrix: WATER	Client sample ID	HK0819965-6	HK0819965-7	HK0819965-8	HK0819965-9	HK0819965-10		
	Client sampling date / time	MP-ME DUP	C2 (NM5)-ME	C2 (NM5)-ME DUP	MPB1-MF	MPB1-MF DUP		
		10-JAN-2009 15:00	10-JAN-2009 15:00	10-JAN-2009 15:00	10-JAN-2009 15:00	10-JAN-2009 15:00		
Compound	CAS Number	LOR	Unit	ES0900518-006	ES0900518-007	ES0900518-008	ES0900518-009	ES0900518-010
<b>EP132B: Polynuclear Aromatic Hydrocarbons</b>								
3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	91-57-0	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	208-98-8	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
<b>EP132T: Base/Neutral Extractable Surrogates</b>								
2-Fluorobiphenyl	321-60-8	0.1	%	85.7	83.4	120	112	101
Anthracene-d10	1719-06-8	0.1	%	118	111	99.0	116	104
4-Terphenyl-d14	1718-51-0	0.1	%	119	107	97.4	114	104





**Analytical Results**

Sub-Matrix: WATER

Client sample ID

HK0819965-11  
MPB2-MF

HK0819965-12  
MPB2-MF DUP

HK0819965-13  
MP-MF

HK0819965-14  
MP-MF DUP

HK0819965-15  
C1(NM3)-MF

Client sampling date / time

10-JAN-2009 15:00

10-JAN-2009 15:00

10-JAN-2009 16:00

10-JAN-2009 15:00

10-JAN-2009 15:00

Compound	CAS Number	LOR	Unit	ES0900518-011	ES0900518-012	ES0900518-013	ES0900518-014	ES0900518-015
<b>EP132B: Polynuclear Aromatic Hydrocarbons</b>								
3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	91-57-5	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
<b>EP132T: Base/Neutral Extractable Surrogates</b>								
2-Fluorobiphenyl	321-50-8	0.1	%	107	80.0	111	84.9	100
Anthracene-d10	1719-06-8	0.1	%	111	104	99.3	104	102
4-Terphenyl-d14	1718-51-0	0.1	%	110	100	98.4	103	101



**Analytical Results**

Sub-Matrix: WATER

Compound	CAS Number	LOR	Unit	Client sample ID	Client sample ID	Client sample ID	---	---
				HK0819965-16	HK0819965-17	HK0819965-18		
				C1(NM3)-MF DUP	C3 (NM6)-MF	C3 (NM6)-MF DUP		
				10-JAN-2009 15:00	10-JAN-2009 15:00	10-JAN-2009 15:00		
				ES0900518-016	ES0900518-017	ES0900518-018		
				Client sampling date / time	Client sampling date / time	Client sampling date / time		
<b>EP132B: Polynuclear Aromatic Hydrocarbons</b>								
3-Methylcholanthrene	56-48-5	0.1	µg/L	<0.1	<0.1	<0.1	---	---
2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	<0.1	<0.1	---	---
7,12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Acenaphthene	83-32-9	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Acenaphthylene	208-96-8	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Anthracene	120-12-7	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	<0.05	<0.05	---	---
Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Chrysene	218-01-9	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Coronene	191-07-1	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Fluoranthene	206-44-0	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Fluorene	86-73-7	0.1	µg/L	<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	---	---
N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Naphthalene	91-20-3	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Perylene	198-55-0	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Phenanthrene	85-01-8	0.1	µg/L	<0.1	<0.1	<0.1	---	---
Pyrene	129-00-0	0.1	µg/L	<0.1	<0.1	<0.1	---	---
<b>EP132T: Base/Neutral Extractable Surrogates</b>								
2-Fluorobiphenyl	321-50-8	0.1	%	80.5	105	93.1	---	---
Anthracene-d10	1719-06-8	0.1	%	108	103	104	---	---
4-Terphenyl-d14	1718-51-0	0.1	%	106	101	103	---	---



### Surrogate Control Limits

Sub-Matrix: **WATER**

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



Environmental Division

**QUALITY CONTROL REPORT**

Work Order	: ES0900518	Page	: 1 of 6
Client	: ALS TECHNICHEM (HK)	Laboratory	: Environmental Division Sydney
Contact	: MS ALICE WONG	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	: alice.wong@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
Site	: ----	Date Samples Received	: 15-JAN-2009
C-O-C number	: ----	Issue Date	: 28-JAN-2009
Sampler	: ----	No. of samples received	: 18
Order number	: ----	No. of samples analysed	: 18
Quote number	: SY/241/07		

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



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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.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Edwandy Fadjar	Senior Organic Chemist	Organics
Victor Kedicioglu	Business Manager - NSW	Organics

Page : 2 of 6  
Work Order : ES0900518  
Client : ALS TECHNICHEM (HK)  
Project : ----



### **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 insufficient 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 = Chemistry Abstract Services number  
                  LOR = Limit of reporting  
                  RPD = Relative Percentage Difference  
                  # = Indicates failed QC



### 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 Compound	CAS Number	LOR	Unit	Method Blank (MB)	Laboratory Control Spike (LCS) Report			
				Report	Spike Concentration	Spike Recovery (%)	Recovery Limits (%)	
				Result		LCS	Low	High
<b>EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 864564)</b>								
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	77.3	85.8	121
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	78.1	67.7	112
EP132: 7,12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	89.7	11.6	146
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	74.4	73.2	111
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	76.7	72.4	112
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	79.1	73.4	113
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	83.8	73.6	114
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	81.5	75.2	117
EP132: Benzo(b)fluoranthene	205-99-2	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	72.5	71.4	119
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	85.6	75.3	118
EP132: Benzo(g,h,i)perylene	191-24-2	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	76.0	66.6	121
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	99.4	74.8	118
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	80.7	69.6	120
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	82.1	47.4	131
EP132: Dibenz(a,h)anthracene	53-70-3	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	75.2	71.5	117
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	81.0	74.8	117
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	75.4	72.9	114
EP132: Indeno(1,2,3-cd)pyrene	193-39-5	0.1	µg/L	<0.1	---	---	---	---
		0.10	µg/L	---	2 µg/L	76.8	67.8	119



Sub-Matrix: WATER

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB)	Spike	Laboratory Control Spike (LCS) Report		
				Report		Concentration	Spike Recovery (%)	Recovery Units (%)
				Result		LCS	Low	High
<b>EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 864564) - continued</b>								
EP132: N-2-Fluorenyl Acetamide	53-96-3	0.1	µg/L	<0.1	----	----	----	----
		0.10	µg/L	----	2 µg/L	117	53.6	131
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	----	----	----	----
		0.10	µg/L	----	2 µg/L	77.0	68.3	116
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	----	----	----	----
		0.10	µg/L	----	2 µg/L	81.4	68	122
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	----	----	----	----
		0.10	µg/L	----	2 µg/L	80.6	74.8	112
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	----	----	----	----
		0.10	µg/L	----	2 µg/L	81.7	75.1	117

Annex I

## Dolphin Sighting Records



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

**Activity: Dolphin Impact Monitoring - Field Log Sheet**

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

\*\* Sighting recorded when there is no dredging

Week	Date		Dredger 1		Observers' Names	
			No. of Dolphin Occurrence*	Sighting No.		
1	Mon	01-Sep	No Dredging	-	Richard Huang	
	Tue	02-Sep	15	1-7	Anton Tsang	
	Wed	03-Sep	2	8	Anton Tsang	
	Thu	04-Sep	2	9	Richard Huang	
	Fri	05-Sep	1	10	Anton Tsang	
	Sat	06-Sep	No Dredging			
	Sun	07-Sep	No Dredging			
2	Mon	08-Sep	No Dredging		Richard Huang	
	Tue	09-Sep	0	-	Anton Tsang	
	Wed	10-Sep	0	-	Anton Tsang	
	Thu	11-Sep	0	-	Richard Huang	
	Fri	12-Sep	0	-	Anton Tsang	
	Sat	13-Sep	No Dredging			
	Sun	14-Sep	No Dredging			
3	Mon	15-Sep	No Dredging			
	Tue	16-Sep	0	-	Richard Huang	
	Wed	17-Sep	0	-	Anton Tsang	
	Thu	18-Sep	0	-	Richard Huang	
	Fri	19-Sep	0	-	Anton Tsang	
	Sat	20-Sep	No Dredging			
	Sun	21-Sep	No Dredging			
4	Mon	22-Sep	No Dredging	-	Ivy So	
	Tue	23-Sep	No Dredging	-	Anton Tsang	
	Wed	24-Sep	Typhoon		No Monitoring	
	Thu	25-Sep	0	-	Richard Huang	
	Fri	26-Sep	0	-	Ivy So	
	Sat	27-Sep	No Dredging			
	Sun	28-Sep	No Dredging			

5	Mon	29-Sep	0	-	Ivy So
	Tue	30-Sep	4	11	Ivy So
	Wed	01-Oct	0	-	Richard Huang
	Thu	02-Oct	0	-	Ivy So
	Fri	03-Oct	0	-	Ivy So
	Sat	04-Oct	0	-	Ivy So
	Sun	05-Oct	0	-	Richard Huang
6	Mon	06-Oct	0	-	Ivy So
	Tue	07-Oct	0	-	Richard Huang
	Wed	08-Oct	0	-	Ivy So
	Thu	09-Oct	4	12-13	Ivy So
	Fri	10-Oct	0	-	Ivy So
	Sat	11-Oct	3	14	Ivy So
	Sun	12-Oct	1	15	Richard Huang
7	Mon	13-Oct	3	16	Ivy So
	Tue	14-Oct	0	-	Ivy So
	Wed	15-Oct	No Dredging	-	Ivy So
	Thu	16-Oct	0	-	Chung
	Fri	17-Oct	0	-	Ivy So
	Sat	18-Oct	0	-	Ivy So
	Sun	19-Oct	2	17	Richard Huang
8	Mon	20-Oct	0	-	Ivy So
	Tue	21-Oct	0	-	Ivy So
	Wed	22-Oct	5	18-20	Ivy So
	Thu	23-Oct	0	-	Richard Huang
	Fri	24-Oct	0	-	Ivy So
	Sat	25-Oct	0	-	Ivy So
	Sun	26-Oct	0	-	Richard Huang

9	Mon	27-Oct	No Dredging	-	No Monitoring
	Tue	28-Oct	No Dredging	-	Ivy So
	Wed	29-Oct	No Dredging	-	No Monitoring
	Thu	30-Oct	No Dredging	-	No Monitoring
	Fri	31-Oct	No Dredging	-	Ivy So
	Sat	01-Nov	No Dredging	-	No Monitoring
	Sun	02-Nov	No Dredging	-	No Monitoring
10	Mon	03-Nov	No Dredging	-	No Monitoring
	Tue	04-Nov	No Dredging	-	No Monitoring
	Wed	05-Nov	No Dredging	-	Anton Tsang
	Thu	06-Nov	0	-	Richard Huang
	Fri	07-Nov	1	21-22	Anton Tsang
	Sat	08-Nov	No Dredging	-	Ivy So
	Sun	09-Nov	0	-	Richard Huang
11	Mon	10-Nov	1	23	Anton Tsang
	Tue	11-Nov	1	24	Anton Tsang
	Wed	12-Nov	0	-	Anton Tsang
	Thu	13-Nov	No Dredging	-	No Monitoring
	Fri	14-Nov	No Dredging	-	No Monitoring
	Sat	15-Nov	0	-	Ivy So
	Sun	16-Nov	1	25	Richard Huang
12	Mon	17-Nov	0	-	Anton Tsang
	Tue	18-Nov	0	-	Anton Tsang
	Wed	19-Nov	0	-	Anton Tsang
	Thu	20-Nov	0	-	Richard Huang
	Fri	21-Nov	11	26	Anton Tsang
	Sat	22-Nov	1	27	Ivy So
	Sun	23-Nov	0	-	Richard Huang

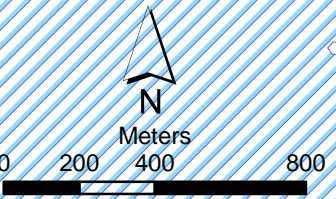
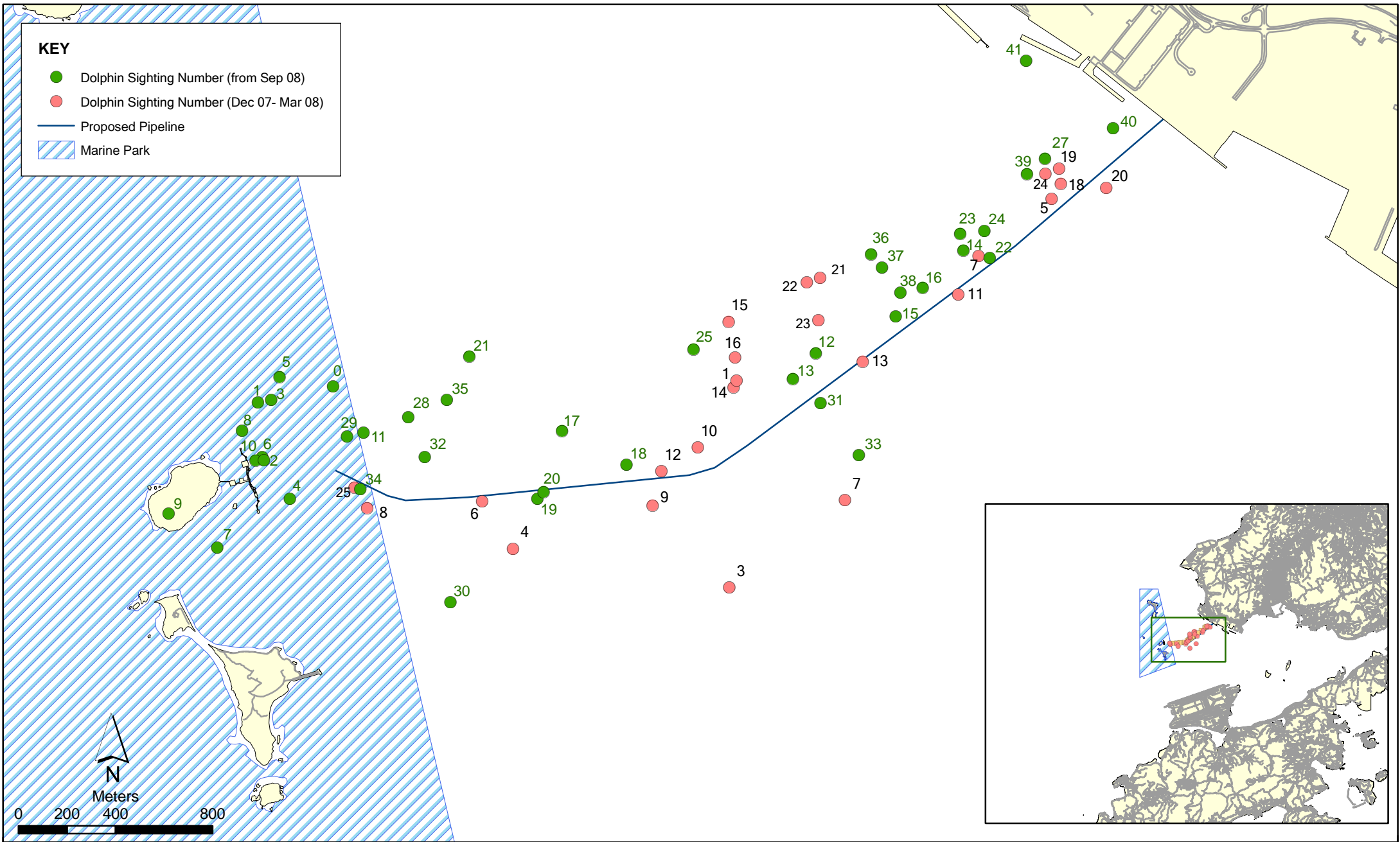
13	Mon	24-Nov	4	28-29	Anton Tsang
	Tue	25-Nov	0	-	Anton Tsang
	Wed	26-Nov	0	-	Anton Tsang
	Thu	27-Nov	0	-	Richard Huang
	Fri	28-Nov	0	-	Anton Tsang
	Sat	29-Nov	0	-	Ivy So
	Sun	30-Nov	0	-	Richard Huang
14	Mon	01-Dec	0	-	Anton Tsang
	Tue	02-Dec	No Dredging	-	No Monitoring
	Wed	03-Dec	No Dredging	-	No Monitoring
	Thu	04-Dec	3	30	Ivy So
	Fri	05-Dec	2	31	Ivy So
	Sat	06-Dec	0	-	Ivy So
	Sun	07-Dec	3	32	Ivy So
15	Mon	08-Dec	2	33	Anton Tsang
	Tue	09-Dec	0	-	Anton Tsang
	Wed	10-Dec	0	-	Richard Huang
	Thu	11-Dec	0	-	Ivy So
	Fri	12-Dec	1	34	Anton Tsang
	Sat	13-Dec	1	35	Ivy So
	Sun	14-Dec	0	-	Ivy So
16	Mon	15-Dec	2	36-37	Ivy So
	Tue	16-Dec	0	-	Anton Tsang
	Wed	17-Dec	1	38	Richard Huang
	Thu	18-Dec	0	-	Ivy So
	Fri	19-Dec	0	-	Anton Tsang
	Sat	20-Dec	0	-	Ivy So
	Sun	21-Dec	0	-	Richard Huang
17	Mon	22-Dec	0	-	Anton Tsang
	Tue	23-Dec	0	-	Anton Tsang
	Wed	24-Dec	0	-	Richard Huang
	Thu	25-Dec	0	-	Ivy So

	Fri	26-Dec	0	-	Ivy So
	Sat	27-Dec	0	-	Ivy So
	Sun	28-Dec	0	-	Richard Huang
18	Mon	29-Dec	0	-	Anton Tsang
	Tue	30-Dec	0	-	Anton Tsang
	Wed	31-Dec	0	-	Richard Huang
	Thu	01-Jan	1	39	Richard Huang
	Fri	02-Jan	0	-	Anton Tsang
	Sat	03-Jan	0	-	Richard Huang
	Sun	04-Jan	0	-	Richard Huang
19	Mon	05-Jan	0	-	Anton Tsang
	Tue	06-Jan	0	-	Anton Tsang
	Wed	07-Jan	0	-	Richard Huang
	Thu	08-Jan	0	-	Ivy So
	Fri	09-Jan	0	-	Ivy So
	Sat	10-Jan	0	-	Richard Huang
	Sun	11-Jan	0	-	Richard Huang
20	Mon	12-Jan	0	-	Ivy So
	Tue	13-Jan	0	-	Ivy So
	Wed	14-Jan	1	40	Richard Huang
	Thu	15-Jan	2	41	Anton Tsang
	Fri	16-Jan	0	-	Anton Tsang
	Sat	17-Jan	0	-	Richard Huang
	Sun	18-Jan	0	-	Richard Huang
21	Mon	19-Jan	0	-	Anton Tsang
	Tue	20-Jan	0	-	Richard Huang
	Wed	21-Jan	0	-	Richard Huang
	Thu	22-Jan	0	-	Anton Tsang
	Fri	23-Jan	0	-	Anton Tsang

\* Dolphin monitoring was not conducted from 24 Jan to 31 Jan 09 since there was no dredging operation

**KEY**

- Dolphin Sighting Number (from Sep 08)
- Dolphin Sighting Number (Dec 07- Mar 08)
- Proposed Pipeline
- ▨ Marine Park



Dolphin Sighting Locations (as of 31 January 2009)

Permanent Aviation Fuel Facility (PAFF) - Dolphin Sighting Records

Sighting No.	Date	Time	Chainage	Dredger Coordinates (N-Lat)	Dredger Coordinates (E-Long)	Sighting Distance (m)	#Sighting Angle from Dredging Machine (o)	Group size	Group Composition*	Beaufort	Boat Association	Behaviour	Other comments
1	2/9/2008	1000	4315	823838.545	806678.150	275	320	4	2UA, 1 SA, 1 SJ	1	None	Feeding, Travelling	Before Dredging
			4321	823840.556	806672.460								
2	2/9/2008	1024	4315	823838.545	806678.150	80	5	2	2UA	1	None	Breaching, Spy-hopping	Before Dredging
			4321	823840.556	806672.460								
3	2/9/2008	1035	4315	823838.545	806678.150	300	330	2	1UA, 1SA	1	None	Travelling	Before Dredging
			4321	823840.556	806672.460								
4	2/9/2008	1045	4315	823838.545	806678.150	220	75	3	1UA, 1SA, 1UJ	1	None	Travelling	Before Dredging
			4321	823840.556	806672.460								
5	2/9/2008	1108	4315	823838.546	806678.151	400	330	1	1SA	1	None	Travelling	Before Dredging
			4321	823840.557	806672.461								
6	2/9/2008	1411	4315	823838.547	806678.152	50	0	1	1UA	2	None	Travelling	During Dredging
			4321	823840.558	806672.462								
7	2/9/2008	1530	4315	823838.548	806678.153	350	150	2	2UA	2	None	Travelling	During Dredging
			4321	823840.559	806672.463								
8	3/9/2008	1535	4306	823841.180	806687.338	155	300	2	2UA	1	None	Travelling	During Dredging
			4300	823842.903	806693.345								
9	4/9/2008	1336	4306	823841.181	806687.339	380	190	2	2UA	2	None	Travelling	During Dredging
			4300	823842.904	806693.346								
10	5/9/2008	1711	4315	823838.546	806678.151	80	15	1	1UA	2	None	Travelling	Dredging Stopped
			4321	823840.557	806672.461								
11	30/9/2008	1050	3925	823794.421	807000.841	250	350	4	4UA	2	None	Travelling	Before Dredging
			4015	823867.660	806948.534								
12	9/10/2008	1001	1900	824212.899	808853.818	200	10	3	3UA	2	None	Travelling	During Dredging
			1925	824198.037	808833.716								
13	9/10/2008	1427	1925	824198.037	808833.716	100	35	1	1UA	3	None	Travelling	Before Dredging
			1970	824171.284	808797.532								
14	11/10/2008	0839	1175	824643.917	809436.783	220	15	3	3 UA	2	None	Travelling	Before Dredging
			1160	824652.835	809448.845								
15	12/10/2008	0839	1125	824673.643	809476.988	240	160	1	1UA	2	None	Travelling	During Dredging
			1170	824646.890	809440.804								
16	13/10/2008	0818	1030	824730.121	809553.376	170	160	3	1SS, 1 SA, 1 UA	2	None	Breaching, Feeding	Before Dredging
			1025	824733.094	809557.397								
17	19/10/2008	11:04	2730	823785.196	808154.203	270	270	2	2UA	2	None	Travelling	Dredger was moving
			2680	823792.332	808203.670								
18	22/10/2008	1420	3180	823757.391	807705.065	550	30	3	3 UA	2	None	Travelling	During Dredging
			3220	823754.942	807665.140								
19	22/10/2008	1528	3180	823757.392	807705.066	180	55	2	2 UA	2	None	Travelling	During Dredging
			3220	823754.943	807665.141								
20	22/10/2008	1625	3180	823757.393	807705.067	200	45	3	3UA	2	Hang	Feeding	Dredging Stopped
			3220	823754.944	807665.142								
21	7/11/2008	1210	3690	82376.168	807196.022	700	345	5	3UA, 2SA	2	Hang	Travelling, Feeding	Dredging Stopped
			3760	823721.882	807126.153								
22	7/11/2008	1618	1040	824724.176	809545.335	200	45	1	1UA	1	None	Travelling	During Dredging
			1015	824739.039	809565.468								
23	10/11/2008	1249	930	824789.572	809633.785	20	275	1	1UA	3	None	Travelling	Dredging Stopped
			905	824804.435	809653.888								
24	11/11/2008	1605	840	824843.078	809706.153	30	97	1	1UA	3	None	Travelling	During Dredging
			820	824854.968	809722.235								
25	16/11/2008	0843	2080	824105.888	808709.082	290	270	1	1UA	2	None	Travelling	During Dredging
26a*	21/11/2008	1430	4074	823904.923	806909.628	50	70	5	2UA, 2SS, 1UJ	2	None	Travelling, Breaching, Porpoising, Feeding	During Dredging
			4059	823904.280	806922.380								
26b*	21/11/2008	1430	4074	823904.923	806909.628	300	335	6	2UA, 2SA, 1SJ, 1UC	2	None	Travelling, Breaching, Feeding	During Dredging
			4059	823904.280	806922.380								
* = Sighting no 26a & 26b the 2 groups very soon joined together to form one large group, thus a total of 11 dolphins													
27	22/11/2008	1558	545	825018.457	809946.360	100	325	1	1UA	3	None	Travelling	During Dredging
			490	825051.155	809987.585								
28	24/11/2008	1220	3770	823721.270	807116.172	400	345	1	1UA	4	None	Travelling	Dredging Stopped
			4030	823879.867	806939.816								
29	24/11/2008	1233	3770	823721.270	807116.172	250	305	3	2UA, 1SS	4	None	ong the side of dredging machine and the nearest	Dredging Stopped

Permanent Aviation Fuel Facility (PAFF) - Dolphin Sighting Records

Sighting No.	Date	Time	Chainage	Dredger Coordinates (N-Lat)	Dredger Coordinates (E-Long)	Sighting Distance (m)	#Sighting Angle from Dredging Machine (o)	Group size	Group Composition*	Beaufort	Boat Association	Behaviour	Other comments
			4030	823879.867	806939.816								
30	4/12/2008	1130	3530	823735.963	807355.722	480	110	3	3UA	3	None	Travelling	During Dredging
			3470	823739.636	807415.609								
31	5/12/2008	0851	1785	824281.268	808946.289	200	100	2	2UA	4	None	Travelling	Dredger was moving
			1770	824290.185	808958.350								
32	7/12/2008	1056	3600	823731.678	807285.853	200	350	3	2UA, 1SA	3	None	Travelling	Before Dredging
			3550	823734.739	807335.759								
33	8/12/2008	1619	1625	824376.389	809074.943	500	115	2	2UA	4	None	Travelling, Breaching	During Dredging
			1590	824397.197	809103.086								
34	12/12/2008	1204	3980	823839.178	806968.875	200	66	1	1UA	2	None	Travelling	Dredging Stopped
			3970	823831.041	806974.687								
35	13/12/2008	1440	3600	827373.678	807285.853	450	340	1	1UA	3	None	Travelling	Dredger was moving
			3605	823731.372	807280.863								
36	15/12/2008	0845	1265	824590.412	809364.415	170	270	1	1SA	2	None	Travelling	Dredger was moving
37	15/12/2008	0855	1265	824590.412	809364.415	100 - 300	from 330 to 270	2	1UA, 1SS	2	None	stayed at about 100m at 270 degree	Dredger was moving and before dredging
38	17/12/2008	1105	1155	824655.808	809452.865	120	170	3	1UA, 2SJ	2	None	Travelling	During Dredging
			1145	824661.753	809460.906								
39	1/1/2009	1045	95	825286.472	810304.839	470	190	1	1UA	2	None	Traveling	During Dredging
40	14/1/2009	0936	0	825343.390	810380.900	80	200	1	1UA	2	None	Milling	During Dredging
			5	825340.394	810376.897								
41	15/1/2009	1129	0	825343.390	810380.900	500#	300#	2	2UA	2	None	Breaching	Distance and sighting angle were recorded from the place where there was underwater operation going
			5	825340.394	810376.897								

\*Key:  
 UC = Unspotted Calf  
 UJ = Unspotted Juvenile  
 SJ = Spotted Juvenile  
 SS = Spotted Sub-adult  
 SA = Spotted Adult  
 UA = Unspotted Adult

# Compass bearing is used (North = 0 degree )



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