

Development of EcoPark in Tuen Mun Area 38

Contract No. EP/SP/52/06
EM&A Report No. 33 (March 2009)

Contract No. : EP/SP/52/06
Development of EcoPark in Tuen Mun Area 38

ENVIRONMENTAL MONITORING AND AUDIT

MONTHLY EM&A REPORT for

March 2009

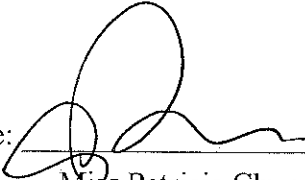
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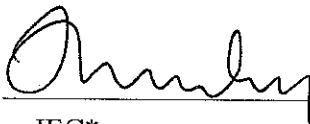
APPROVAL SHEET

DOCUMENT DATE: 31 March 2009

Prepared and Certified by: ET Leader (Environmental Pioneers & Solutions Limited)

Signature: 
Miss Patricia Chung

Date: 17 APR 2009

Verified by: 
IEC*

Date: 21 APR 2009

* IEC – Independent Environmental Checker

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EXECUTIVE SUMMARY

This is the thirty-third monthly Environmental Monitoring and Audit (EM&A) Report for the Environmental Protection Department Contract No. EP/SP/52/06 entitled "Development of EcoPark in Tuen Mun Area 38". (Environmental Permit No. EP-226/2005).

This report contains the results and findings of site inspection activities and EM&A works carried out by the Environmental Team (ET) of the Works Contractor as required in the contract during March 2009.

The site activities in the reporting period mainly consisted of excavation and site formation works and construction of drainage in Phase II construction site.

Several environmental issues, such as improper accommodation of chemical drums, unsatisfactory site housekeeping and incompleteness of hoardings re-installation along Phase I and II construction site, have been identified by ET during weekly site inspections in the reporting month. Contractor has implemented some mitigation measures to address those problems as advised by ET. Some of the measures taken by the contractor were considered as effective to minimize negative impact to the environment. On-going investigation will be carried out to observe performance and effectiveness of those measures. Outstanding environmental items will be inspected in the following month.

LFG monitoring was carried out during the reporting month, on weekly basis, when specified instruments, provided by contractor, were available on site. Oxygen level monitoring works have been suspended for one week (13 Mar 2009) due to instrument breakdown. The measurement results from ET shown in Table 3.5 were within Action and Limit Levels in accordance with EM&A manual. Furthermore, in regards to concerns arising from LFG monitoring equipment (GEM 2000), contractor agreed to re-calibrate and check adequacy of LFG monitoring equipment (GEM 2000) including oxygen measurement in early April 2009.

There were no notifications of summons or successful prosecution during March 2009.

A “Pink Form” have been issued by Environmental Protection Department (EPD) regarding water discharge to the storm drainage near the proposed manhole S3 on 09 March 2009. As observed during ET’s site investigation on 10 Mar 09 and 13 Mar 09, contractor took action to provide de-silting measures and divert muddy water into a soakaway pit in order to avoid muddy water discharge to nearby storm drainage. The case is recorded as an incident in the Section 3.4 of the monthly EM&A report, prior to any confirmation of any possible summon and prosecution. ET will continue to investigate and monitor the mitigation actions carried out by the contractor and provide appropriate assistance and advice whenever necessary.

Planned activities for April 2009 with regard to development of EcoPark consist of:

- 1) Site formation works,
- 2) Excavation works,
- 3) Road formation works and
- 4) Construction of drainage, sewerage & water mains

1. BASIC PROJECT INFORMATION

1.1 Introduction

This is the thirty-third monthly Environmental Monitoring and Audit (EM&A) Report for the Environmental Protection Department Contract No. EP/SP/52/06 entitled "Development of EcoPark in Tuen Mun Area 38". The site layout plan is shown in Appendix 1. The report was prepared by the Environmental Team, Environmental Pioneers & Solutions Limited, of the Works Contractor, Kaden Construction Limited. The report is to be submitted to the Works Contractor, the Engineer and the Environmental Protection Department for the project.

This report presents the results of the environmental monitoring of the project activities conducted during the month of March 2009. This included regular site inspections once per week for verification of implementation of the mitigation measures as recommended in the EM&A Manual and the Contractor's Environmental Management Plan (EMP).

The construction works of Phase I have already commenced in July 2006 and have been completed in November 2008.

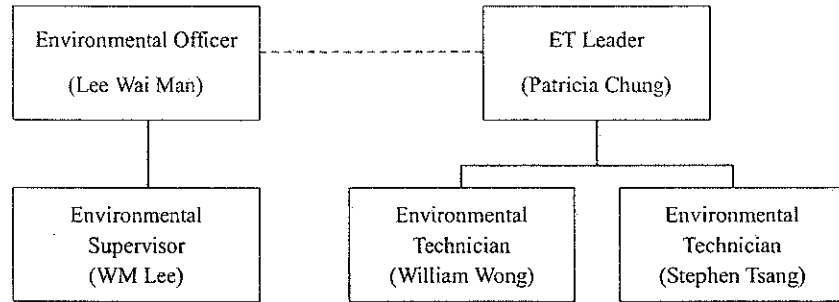
The construction works of Phase II commenced in December 2008 and is anticipated to be completed in December 2009.

The contact person and telephone number of key personnel for the captioned project are shown in Appendix 2.

1.2 Project Organization and Management

The Works Contractor has commissioned Environmental Pioneers & Solutions Limited as the Environmental Team, which comprises the environmental team leader and the environmental technicians to undertake the environmental monitoring and audit work for this project. The project Organization Chart of Environmental Team is shown in Figure 1.1.

Figure 1.1 Organization Chart of Environmental Team



2. SUMMARY OF WORK ACTIVITIES AND CONSTRUCTION STATUS

2.1 Works Undertaken during the Month

A summary of the site installation works in this month, with the information of locations, activities, equipment/materials and dates of occurrence, is provided by the Contractor, as shown in Table 2.1.

Item	Work Activities & Location	Date of Occurrence
1	Site formation works	1 Mar 2009 – 31 Mar 2009
2	Excavation works	1 Mar 2009 – 31 Mar 2009
3	Road Formation works	1 Mar 2009 – 31 Mar 2009
4	Construction of drainage	1 Mar 2009 – 31 Mar 2009

Machineries		
	Equipment/ Plant	Quantity
1	Mobile Crane	0
2	Excavator	6
3	Generator	2
4	Air Compressor	1
5	Roller	0
6	Loader	1
7	Grab Lorry	0
8	Crane Lorry	1
9	Water Truck	1
10	Dump Truck	1

Remarks:

- As informed by the Contractor, most equipment is mobile at site subject to work progress.
- Refer to Appendix 1 – Site layout plan for location of construction activities.

2.2 Future Key Issues

The Contractor has provided an updated construction program in Table 2.2 to show the planned activities for the coming month (April 2009). The anticipated environmental issues are summarized as follow:

Item	Works	Anticipated Environmental Issues
1	Site formation works, excavation works & road works	<ul style="list-style-type: none"> - Generation of C&D waste; excavated material should be reused as much as practicable. - Dust may be generated; the wheel washing machine should be in operation. - Haul road should be sprayed regularly, by truck or sprinkler. - Stagnant water should be removed. - Mosquito mitigation measures should be implemented. - Landfill gas monitoring should be carried out.
2	Construction of drainage, sewerage & water mains	<ul style="list-style-type: none"> - Generation of C&D waste; excavated material should be used as much as practicable - Dust may be generated; the wheel washing machine should be in operation

The site inspection schedule for the next month (April 2009) is designated on 3, 9, 17 and 24 of April 2009.

3. STATUS OF ENVIRONMENTAL PROTECTION AND SITE INSPECTIONS

3.1 Environmental Site Inspections

Environmental site inspections are required to inspect the construction activities of the Development of EcoPark in order to ensure that appropriate environmental protection and pollution control mitigation measures are properly implemented. Regular site inspections should be carried out by the ET once per week during construction phase.

Outstanding issues at the end of February 2009 includes:

- 1) Several chemical storage tanks without labels and drip pans have been found along Road F of Phase I construction site. Improperly maintained tanks were still observed in Phase I construction site during inspection carried out on 13 March 2009. Contractor was reminded again to provide labels and drip pans for chemical drums immediately.
- 2) Some of the hoardings along the interface of Phase I and II construction site was removed. Hoardings installation started along Lung Mun Road on 13 February 2009. Installation was disrupted when there was construction works in certain sections near the Sea Wall. Contractor will re-install the hoardings as far as practicable
- 3) Well constructed wheel washing bay was not available for wheel washing machine at the entrance of Phase II construction site. ET has been informed by contractor that the existing entrance is of temporary use and they are waiting for approval for construction of a permanent entrance along Lung Mun Road. Contractor was reminded to provide effective wheel washing and washing bay at any newly constructed entrance.

Contractor was reminded again to take appropriate actions for outstanding issues immediately.

Site inspection of Phase I construction site was conducted on 13 March 2009. Special observations include:

- 1) Drip pan has not yet been provided for the three plastic chemical drums adjacent to the cooling tower in the administration building. ET was informed that a proper drip pan is being designed.

- 2) Several chemical storage tanks without labels and drip pans have been found along Road F of Phase I construction site. Contractor was reminded again to better maintain all chemical storage tanks in both Phase I and II construction site.

Outstanding issues will be inspected in the next reporting month.

Site inspections for Phase II construction site were conducted on 6, 13, 20 and 27 of March 2009.

A detailed checklist of each site inspection together with comments, relevant photos and maps have been filed and kept.

The findings and results of site inspections are provided in Table 3.1:

Date	Observations	Advice from ET	Action taken	Closing Date
Mar 09	Some of the hoardings along the interface of Phase I and II site have not been re-installed yet	Contractor was reminded again to re-install hoardings for dust control as far as practicable	Installation was disrupted when there was construction works in certain sections near the Sea Wall. Contractor will re-install the hoardings as far as practicable	To be followed in the next reporting month
Mar 09	Well constructed wheel washing bay was not available for wheel washing machine at the entrance of Phase II construction site	ET has been informed by contractor that the existing entrance is of temporary use and they are waiting for approval for construction of a permanent entrance along Lung Mun Road. Contractor was reminded to provide effective wheel washing and washing bay at any newly constructed entrance.	Contractor was still waiting for approval for construction of a permanent entrance along Lung Mun Road.	To be followed in the next reporting month
Mar 09	Dusty stockpiles have been observed in several locations in Phase II construction site	Contractor was reminded to take dust suppression measures on site include covering stockpiles with tarpaulin.	Contractor took action to spray water on stockpiles with sprinklers for dust suppression. Stockpiles of excavated materials that are expected to stay long will be covered with tarpaulin.	To be followed in the next reporting month

Date	Observations	Advice from ET	Action taken	Closing Date
06 Mar 09	Stagnant water was observed at the entrance of Phase II site and near water front	Contractor was reminded to pump out accumulated water and provide properly maintained wastewater treatment facilities before discharge and take appropriate mosquito mitigation measures.	Accumulated water simply soakaway in the excavation pit when no construction work underwent in the area. Contractor sprayed anti-malaria oil to control mosquitoes	13 Mar 09
06 Mar 09	Construction wastes were observed along the Sea Wall area	Contractor was reminded to relocate the waste in designated refuse collection point	Action taken as advised.	13 Mar 09
13 Mar 09	Instrument (GasAlert MicroClip) for oxygen level measurement was broken down and sent for maintenance and calibration. Oxygen monitoring works have been suspended for one week. Details refer to table 3.5.	Contractor was reminded to provide specified instrument with valid calibration certificate for weekly oxygen monitoring as soon as possible.	A valid oxygen meter (GasAlert MicroClip) was provided on 20 Mar 2009 for oxygen measurement.	20 Mar 09
20 Mar 09 27 Mar 09	Housekeeping was unsatisfactory around the designated refuse collection areas.	Contractor was reminded to dispose waste when the collection bucket is full	Contractor will arrange a site clearance in March 2009	To be followed in the next reporting month
27 Mar 09	Chemical drums without drip trays were observed at several locations in Phase II construction site.	Contractor was reminded to provide drip trays for all chemical drums on site	Nil	To be followed in the next reporting month

3.2 Air Dust

Excavation work commenced in Phase II construction site. Dust problem may be arisen when stockpiles of excavated materials are not enclosed, covered or dampened during dry or windy conditions.

3.3 Noise

The major noise source was vehicle movement and machinery in the EcoPark. Since the nearby NSRs were remote, the noise impact was minimal. There was no specific observation noted regarding noise issue. The Contractor has obtained the Construction Noise Permit on 07 August 2007 but it had been expired on 28 Feb 2008. The contractor

should renew the permit as necessary.

3.4 Surface Water Quality

Since there was no water discharge at manhole, the Contractor removed the silt curtain installed at discharge point on 4 April 2007, as agreed by the Engineer's Representative. No muddy water was observed at discharge point for Phase I construction site. As informed by Engineer's Representative, there was no direct water discharge at manhole in Phase II construction site. No muddy water discharge is expected.

Chemical toilets (1 nos.) have been provided in Phase II construction site by a licensed contractor, of which sewage generated is collected every three to five days without causing contamination on surface water. The Effluent Discharge License was issued to the Contractor on 20 November 2006.

The temporary storage tank was used to store the effluent of aerobic wastewater treatment system and the stored effluent was pumped away regularly. As checked by the ET, there was no effluent discharge into the storm water drain. To avoid any sewage overflow, frequent checking is required after the commencement of Phase II construction works.

A "Pink Form" have been issued by EPD regarding water discharge to the storm drainage near the proposed manhole S3 on 09 March 2009. ET has reviewed the case and carried out an investigation on 10 March 2009 jointly with representatives from contractor.

With reference to the inspection record issued by EPD on 09 March 2009, muddy water discharge and inadequate wastewater treatment has been observed during their inspection. Water samples were taken for laboratory analysis by EPD.

No direct water discharge has been found during ET's investigation on 10 March 2009. The contractor took remedial action to fill up the temporary pump sump with fine granular materials to filter muddy water before entering the pump. Water pumped out from sump was diverted to a soakaway pit nearby as a temporary remedial action.

An on-site meeting has been held amongst ET and contractor representatives after the investigation to reassure no direct water discharge to storm drain system and to ensure

proper mitigation measures being carried out whenever necessary. In addition, contractor was advised to inspect dewatering works frequently to prevent any discharge of muddy water as one of the remedial action.

ET conducted a second site investigation with RE and IEC representatives on 13 Mar 2009. As observed during the inspection, water at the concerned excavation pit was pumped out to the soakaway pit, instead of discharging to the nearby storm drainage. De-silting measures including filtering materials and tarpaulin coverings have been implemented.

The case is recorded as an incident in the monthly EM&A report, prior to any confirmation of any possible summon and prosecution. ET will continue to investigate and monitor the mitigation actions carried out by the contractor and provide appropriate assistance and advice whenever necessary.

3.5 Visual and Landscape Impact

Hoarding was erected at the site egress and aligned along the site boundary along Lung Mun Road. Hoardings were specially designed to be movable for future re-use in other locations. Some of the hoardings have been removed at the interface between Phase I and Phase II construction site. Installation was disrupted when there was construction works in certain sections near the Sea Wall. Contractor will re-install the hoardings as far as practicable

3.6 Waste / Chemical Waste

The Contractor implemented visual inspection and distributed flyers/ notices to ensure all dump trucks have mechanical covers closed when leaving EcoPark site.

Separate waste collection bins were made available for collecting aluminum cans, waste paper and plastic bottles etc. The Contractor has provided the revised site layout plan for refuse collection points as shown in Appendix 3.

Waste dumpers were used for the collection and storage of general waste. Temporary storage areas for waste metals and waste tyres were established in Phase I construction site. For Phase II construction site, a designated refuse collection point has been

established and location is shown in Appendix 3.

Excavated materials are reused as back-fill material to balance cut and fill and hence reduce the generation of materials. Surplus materials are returned to stock in centralized area with suitable protective measures. The Contractor was reminded to comply with the requirements and conditions for disposal at public fill facility and all oversized aggregates should be crushed to less than 250mm before delivering to the public fill.

Materials are recycled and re-used at site as much as practicable to minimize waste generation. Timbers are recycled to make temporary tools and assess ladders etc. Excavated rocks, concrete and asphalts are stored for future re-use in land formation and structural construction etc.

Registered waste collectors will be arranged to collect and transport the wastes whenever necessary.

The Contractor has provided sufficient drip trays for all temporary electricity generators at site. These drip trays should be covered by tarpaulin sheet to minimize rainfall accumulation.

Table 3.4 provides a summary table of waste disposal in March 2009 The Contractor has been reminded to keep good record at site in order to have a clear presentation of waste disposal.

Type of Waste	Disposal Site	Quantity	Remarks
General Waste	WENT Landfill	6 tonnes	-
Inert C&D Material	Public Fill Facility	0 tonnes	-

3.7 Landfill Gas

Landfill gas (LFG) monitoring was carried out in March 2009 when there were excavations of 1m depth or more in Phase II construction site. LFG monitoring was carried out on site at four (4) locations, as instructed by the Engineer's Representative. LFG measurements on 06, 13, 20 and 27 March 2009 are summarized in Table 3.5. Measurement results are within the Action / Limit Levels in accordance with the EM&A Manual, as shown in Table 3.6.

Table 3.5 Summary of LFG Measurement for March 2009

Sampling Location	Date of Measurement	Sampling Time	Weather Condition	Methane (CH ₄) %LEL	Carbon Dioxide (CO ₂) %LEL	Oxygen (O ₂)
FMH 37	06 March 09	11:20	Rainy	0.00%	0.00%	20.9
FMH 35	06 March 09	N/A*	N/A*	N/A*	N/A*	N/A*
FMH 33 – 34	06 March 09	N/A*	N/A*	N/A*	N/A*	N/A*
FMH 33	06 March 09	N/A*	N/A*	N/A*	N/A*	N/A*
FMH 37	13 March 09	10:22	Sunny	0.00%	0.00%	N/A**
FMH 35	13 March 09	10:28	Sunny	0.00%	0.00%	N/A**
FMH 33 – 34	13 March 09	10:32	Sunny	0.00%	0.00%	N/A**
FMH 33	13 March 09	10:35	Sunny	0.00%	0.00%	N/A**
FMH 37	20 March 09	12:09	Drizzle	0.00%	0.00%	22.2%
FMH 35	20 March 09	12:19	Drizzle	0.00%	0.00%	22.7%
FMH 33 – 34	20 March 09	12:24	Drizzle	0.00%	0.00%	22.7%
FMH 33	20 March 09	12:30	Drizzle	0.00%	0.00%	20.9%
FMH 37	27 March 09	11:25	Overcast	0.00%	0.00%	20.9%
FMH 35	27 March 09	11:29	Overcast	0.00%	0.00%	20.9%
FMH 33 – 34	27 March 09	11:32	Overcast	0.00%	0.00%	20.9%
FMH 33	27 March 09	11:35	Overcast	0.00%	0.00%	20.9%

Remarks:

- 1) As agreed by the Engineer's Representative, the landfill gas measurements on March 2009 were carried out with two instruments: one for the measurements of methane and carbon dioxide (GEM 2000 Plus), another for the measurement of oxygen (GasAlert MicroClip).

* Monitoring point FMH 33, 33-34 and 35 have not been measured due to adverse weather conditions.

** Oxygen meter was unavailable due to equipment breakdown.

Table 3.6 Action Levels, Limit Levels and Event and Action Plan for LFG (From EM&A Manual)

Parameter	Level	Action
Oxygen	Action Level < 19% O ₂	Ventilate trench/ void to restore O ₂ to >19%
	Limit Level < 18% O ₂	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore O ₂ to > 19%
Methane (CH ₄)	Action Level >10% LEL	Post "No Smoking" signs Prohibit hot works Increase ventilation to restore CH ₄ to <10% LEL

Sampling Location	Date of Measurement	Sampling Time	Weather Condition	Methane (CH ₄) %LEL	Carbon Dioxide (CO ₂) %LEL	Oxygen (O ₂)
	Limit Level	>20% LEL				
						Stop works Evacuate personnel/prohibit entry Increase ventilation to restore CH ₄ to <10% LEL
Carbon Dioxide (CO ₂)	Action Level	>0.5% CO ₂				Ventilate to restore CO ₂ to < 0.5%
	Limit Level	>1.5% CO ₂				Stop works Evacuate personnel/prohibit entry Increase ventilation to restore CO ₂ to < 0.5%

4. SUMMARY OF ENVIRONMENTAL PERMIT AND LICENCES

ET has checked with the Contractor for the status of all environmental permits and licenses for this project as at March 2009, which is summarized in Table 4.1. ET will follow the application process of the outstanding permits / licenses and will provide suitable assistance whenever appropriate.

Description	License / Permit No.#	Date of Issue	Date of Expiry	Status/Remarks
Environmental Permit	EP-226/2005	9-Sept-2005	--	Issued
Registration of Waste Producer	5111-421-K2869-02	27-Jul-2006	--	Issued
Construction Noise Permit	GW-RW0402-07	07-Aug-2007	28-Feb-2008	Expired
Effluent Discharge Licence	EP760/421/011762/I	20-Nov-2006	1-Dec-2011	Issued

5. CUMULATIVE LOG OF COMPLAINTS AND REMEDIAL ACTION

The cumulative log of complaints is referred in Appendix 5.

6. CUMULATIVE LOG OF NOTIFICATION OF SUMMONS AND PROSECUTIONS

No notification of summons and no prosecutions occurred during March 2009.

7. CONCLUSION

There is no summon nor prosecutions reported during March 2009.

A "Pink Form" have been issued by Environmental Protection Department (EPD) regarding water discharge to the storm drainage near the proposed manhole S3 on 09 March 2009. As observed during ET's site investigation on 10 Mar 09 and 13 Mar 09, contractor took action to provide de-silting measures and divert muddy water into a soakaway pit in order to avoid muddy water discharge to nearby storm drainage. The case is recorded as an incident in the Section 3.4 of the monthly EM&A report, prior to any confirmation of any possible summon and prosecution. ET will continue to

investigate and monitor the mitigation actions carried out by the contractor and provide appropriate assistance and advice whenever necessary.

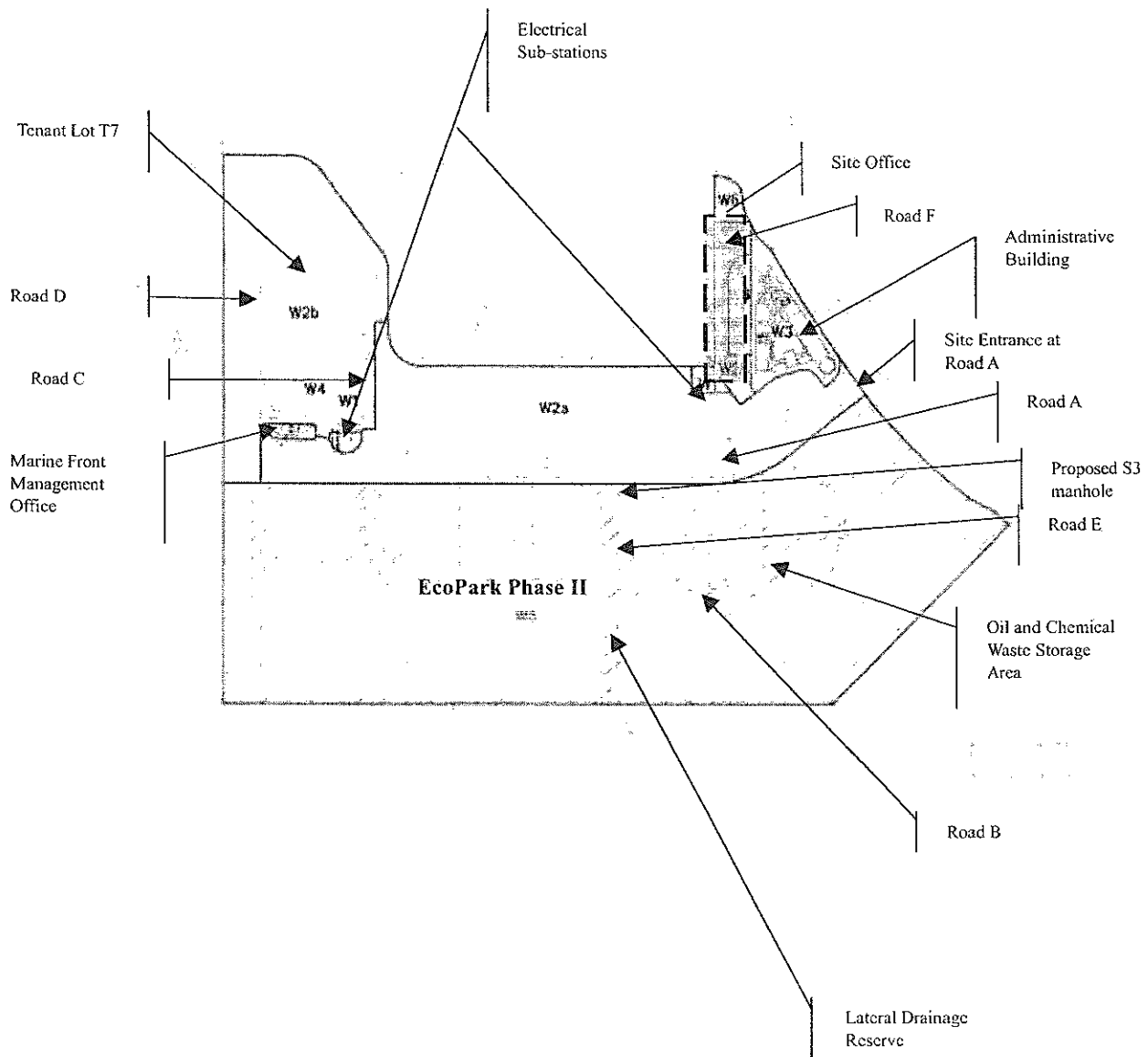
Several environmental issues, such as improper accommodation of chemical drums, unsatisfactory site housekeeping and incompleteness of hoardings re-installation along Phase I and II construction site, have been identified by ET during weekly site inspections in the reporting month. Contractor has implemented some mitigation measures to address those problems as advised by ET. Some of the measures taken by the contractor were considered as effective to minimize negative impact to the environment. On-going investigation will be carried out to observe performance and effectiveness of those measures. Outstanding environmental items will be inspected in the following month.

The Contractor has been using the waste management and record system including allocation of waste storage areas and the trip ticket system as proposed in the Environmental Management Plan.

LFG monitoring was carried out in March 2009 on weekly basis. The measurement results from ET shown in Table 3.5 were within Action and Limit Levels in accordance with EM&A manual.

The ET will continue to implement the environmental monitoring & audit programme in accordance with the EM&A Manual and Environmental Permit requirement.

APPENDIX 1 - SITE LAYOUT PLAN



APPENDIX 2 - THE CONTACT PERSONS, TELEPHONE NUMBERS OF KEY PERSONNEL FOR DEVELOPMENT OF ECOPARK IN TUEN MUN AREA 38

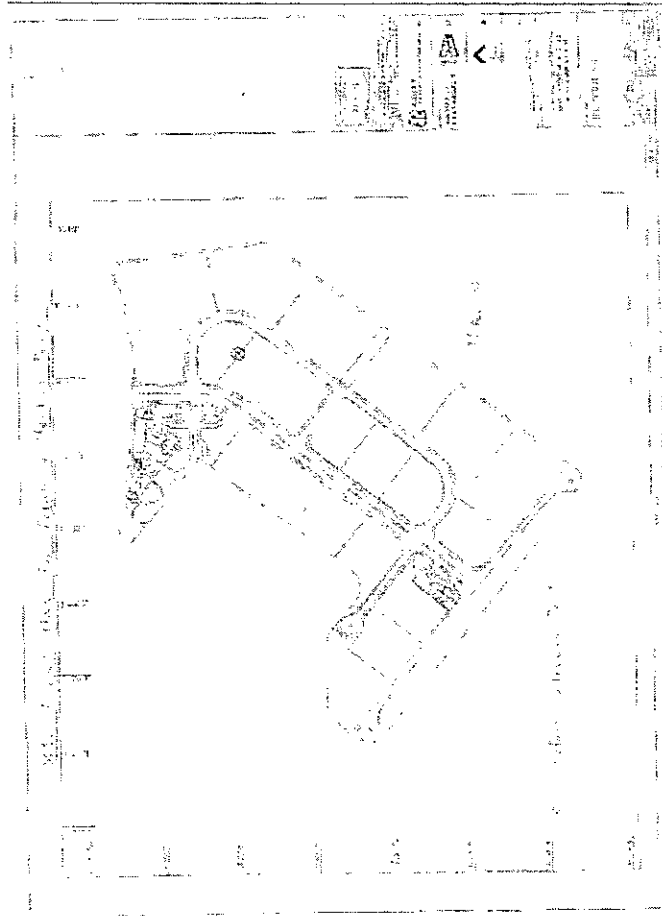
Company/Department	Name	Position	Telephone
Scott Wilson Ltd.	Harold Insley	Independent Environmental Checker	2410 3858
Scott Wilson Ltd.	Mr. Andy Cheung	Resident Engineer	6111 9703
Scott Wilson Ltd.	Mr. T W Wong	Inspector	6111 9705
Kaden Construction Limited	Mr. K M Book	Project Manager	9193 8680
Kaden Construction Limited	Mr. Stephen Leung	Section Agent	9071 7657
Environmental Pioneers & Solutions Limited	Miss. Patricia Chung	Environmental Team Leader	2185 0123
Environmental Pioneers & Solutions Limited	Mr. William Wong	Environmental Technician	2185 0154
Environmental Pioneers & Solutions Limited	Mr. Stephen Tsang	Environmental Technician	2185 0172

APPENDIX 3 – REVISED SITE LAYOUT PLAN FOR REFUSE COLLECTION POINTS

2009/03/24 11:42 AM

City Council
Planning Department

APPENDIX 3 - REVISED SITE LAYOUT PLAN FOR REFUSE COLLECTION POINTS



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APPENDIX 4 - ORIGINAL LANDFILL GAS FIELD MEASUREMENT RECORDING SHEETS

Environmental Pioneers and Solutions Limited

Contract No.: EP/SP/52/06 - Development of EcoPark in Tuen Mun Area 38

Landfill Gas Monitoring - Field Measurement Recording Sheet

Date of Monitoring: 06 Mar 2009
 Weather condition: Rainy
 Monitoring performed by: Chung Pui Sun
 Monitoring instrument:

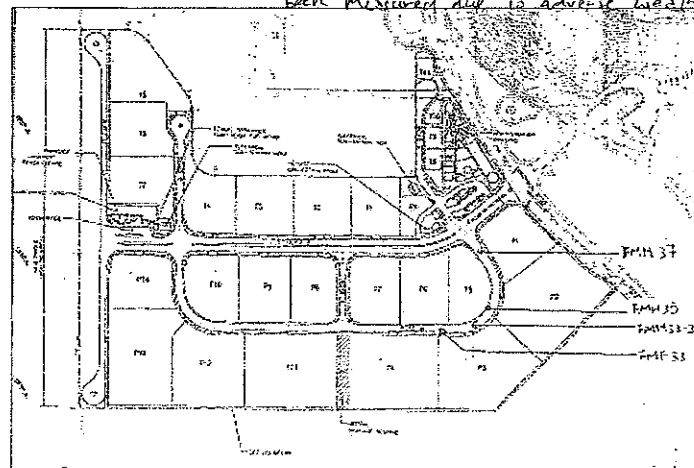
Instruments	Model: GEM 2000 Plus	Last calibration:	18 Dec 2008
	S/N: GM-08793	Next calibration:	17 Dec 2009

Monitoring results:

Location	Time	Results				
		Methane (CH ₄) %	Carbon Dioxide (CO ₂) %	Oxygen (O ₂) %	Bal. Gas %	Baro. Pressure %
FMH 33						
FMH 33 - 34		Not measured *				
FMH 35						
FMH 37	11:20	0.00	0.00	20.9	84.4	30.38

Instrument for O₂ measurement: GasAlert MicroClip GAMIC-4-DL2 Serial no.: S103-13348

* Monitoring point FMH 33, 33-34 and 35 have not been measured due to adverse weather conditions.



Environmental Pioneers and Solutions Limited

Contract No.: EP/SP/52/06 - Development of EcoPark in Tuen Mun Area 38

Landfill Gas Monitoring – Field Measurement Recording Sheet

Date of Monitoring: 13/3/2009
 Weather condition: Sunny
 Monitoring performed by: Chung Pui Suen
 Monitoring instrument:

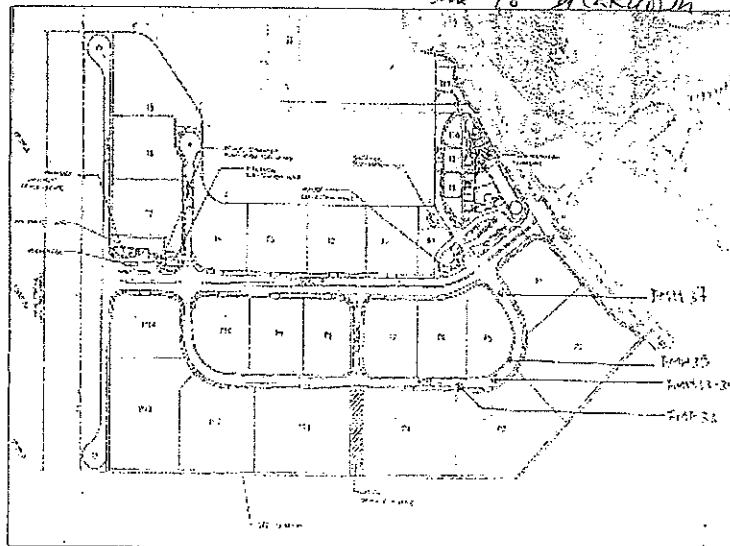
Instruments	Model: GEM 2000 Plus	Last calibration:	18 Dec 2008
	S/N: GM-08793	Next calibration:	17 Dec 2009

Monitoring results:

Location	Time	Results				
		Methane (CH ₄) %	Carbon Dioxide (CO ₂) %	*Oxygen (O ₂) %	Bal. Gas %	Baro. Pressure %
FMH 33	1035	00.0	00.0	N/A	85.0	31.01
FMH 33 - 34	1032	00.0	00.0	N/A	84.8	31.01
FMH 35	1028	00.0	00.0	N/A	84.7	31.01
FMH 37	1022	00.0	00.0	NA	84.5	31.01

Instrument for O₂ measurement: GasAlert MicroClip GAMIC-4-DL2 Serial no.: S103-13348

*O₂ meter was unavailable due to breakdown



Environmental Pioneers and Solutions Limited

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Landfill Gas Monitoring – Field Measurement Recording Sheet

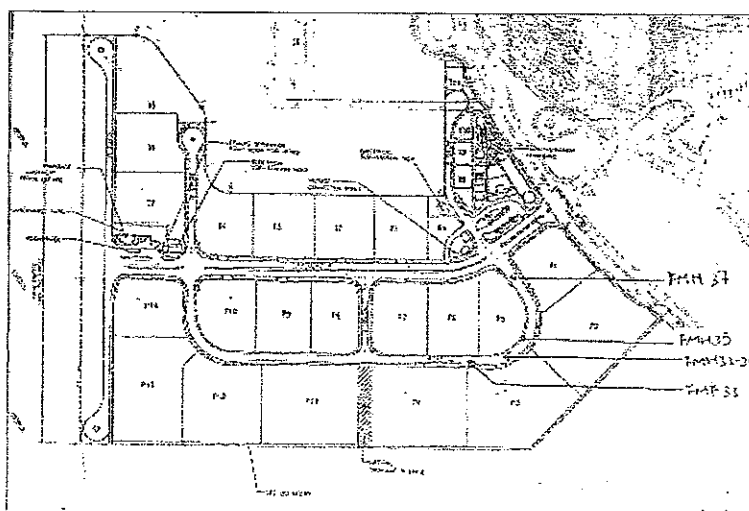
Date of Monitoring: 20/13/2009
 Weather condition: Sunny + Drizzle
 Monitoring performed by: Chung Pui Suen
 Monitoring instrument:

Instruments	Model: GEM 2000 Plus	Last calibration:	18 Dec 2008
	S/N: GM-08793	Next calibration:	17 Dec 2009

Monitoring results:

Location	Time	Results				
		Methane (CH ₄) %	Carbon Dioxide (CO ₂) %	*Oxygen (O ₂) %	Bal. Gas %	Baro. Pressure %
FMH 33	12:30	00.0	00.0	20.9	85.2	29.83
FMH 33 - 34	12:24	00.0	00.0	22.7	85.4	29.83
FMH 35	12:19	00.0	00.0	22.7	85.2	29.83
FMH 37	12:09	00.0	00.0	22.2	85.0	29.83

Instrument for O₂ measurement: GasAlert MicroClip GAMIC-4-DL2 Serial no.:S103-13348
 *O₂ level measured with GasAlert Micro



Environmental Pioneers and Solutions Limited

Contract No.: EP/SP/52/06 - Development of EcoPark in Tuen Mun Area 38

Landfill Gas Monitoring – Field Measurement Recording Sheet

Date of Monitoring: 27 Mar 2009

Weather condition: Overcast

Monitoring performed by: William Wong

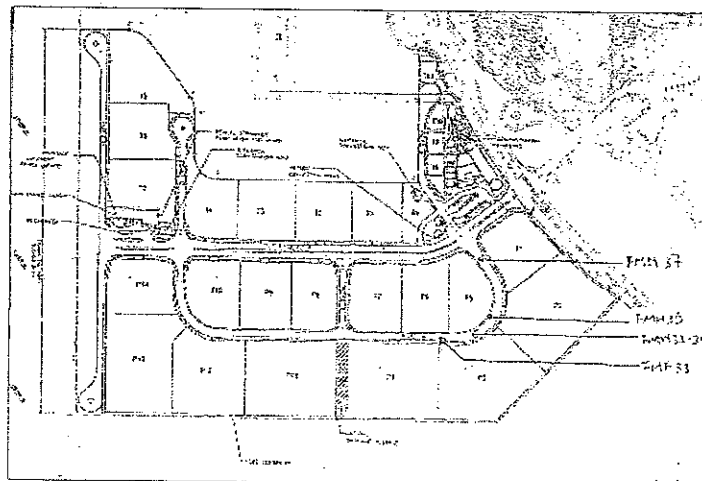
Monitoring instrument:

Instruments	Model: GEM 2000 Plus	Last calibration:	18 Dec 2008
	S/N: GM-08793	Next calibration:	17 Dec 2009

Monitoring results:

Location	Time	Results				
		Methane (CH ₄) %	Carbon Dioxide (CO ₂) %	Oxygen (O ₂) %	Bal. Gas %	Baro. Pressure %
FMH 33	11:25	0.00	0.00	20.9	84.85	30.02
FMH 33-34	11:30	0.00	0.00	20.9	84.85	30.02
FMH 35	11:29	0.00	0.00	20.9	84.85	30.02
FMH 37	11:25	0.00	0.00	20.9	84.85	30.02

Instrument for O₂ measurement: GasAlert MicroClip GAMIC-4-DL2 Serial no.:S103-13348



APPENDIX 5 – CUMULATIVE LOG OF COMPLAINTS

CUMULATIVE LOG OF COMPLAINTS

Environmental Parameters	No. of Outstanding Complaints	No. of complaints received in March 2009	Cumulative no. of complaints received since the commencement of project
Air	0	0	2
Noise	0	0	0
Water	0	0	0
Waste	0	0	0
Total	0	0	2

DETAILS OF COMPLAINTS AND REMEDIAL ACTIONS

Log Ref.	Date of Complainant received	Location	Complainant /Date	Details of Complaint	Investigation /Mitigation Action	Investigated by/ Date
-	-	-	-	-	-	-

