Maeda Corporation



Upgrading of Ting Kok Road Pumping Station No. 5

Monthly EM&A Report No. 9 for September 2006

October 2006

Report no: 01284R0271

Hyder Consulting Ltd

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Maeda Corporation



Upgrading of Ting Kok Road Pumping Station No. 5

Monthly EM&A Report No. 9 for September 2006

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Approver:	Guiyi Li		
Report no:	EA01284R0271	Date:	October 2006

This report has been prepared for in accordance with the terms and conditions of Maeda Corporation appointment for the Upgrading of Ting Kok Road Pumping Station No. 5 in September 2006. Hyder Consulting Ltd (Incorporated in Hong Kong with limited liability – COI Number 126012) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.





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1 Executive Summary

Drainage Services Department (DSD) awarded the contract for the Upgrading of Ting Kok Road Pumping Station No. 5 to Maeda Corporation in September 2005. Maeda appointed Hyder Consulting Limited as the Contractor's Landfill Gas (LFG) Team during the construction period. The construction contract commenced in September 2005 and the total construction period is approximately 28 months.

This report recorded the results and findings of the required EM&A works undertaken during September 2006. All relevant mitigation measures and requirements were implemented. There have been no exceedances in Action/Limit (A/L) Levels at any of the locations monitored under the EM&A programme.

An 11m-deep borehole, designated "M1", was installed by the Contractor to provide an "early warning" of potential LFG problems that could affect surface trenches, but does not form part of the EM&A programme. The Contractor has noted the monitoring results from M1 and will take them into consideration when planning surface trench works in the vicinity.

Manhole M2 was dismantled in July 2006 because of planned works and therefore monitoring at M2 has been terminated since July 2006. However, LFG has never been detected at M2 and so it is not considered that termination of monitoring at this location will have any significant impact on the overall effectiveness of the environmental monitoring programme, as monitoring at manhole M3 will continue.

Environmental Protection Department (EPD) has not conducted any site visit in the reporting period.

Event and Action Levels

The baseline monitoring results documented in the baseline monitoring report for the Project (our report ref.: EA01284R0022) provided the A/L Levels for LFG impact monitoring and also the Action Plan. For methane, A/L Levels are 0.5%/1.0%; for carbon dioxide, A/L Levels are 0.5%/1.5%; and for oxygen, A/L Levels are 19.0%/18.0%.

Complaint Log

There were no non-compliances in terms of the EM&A programme during the reporting period and no complaints regarding LFG were received.

Reporting Changes

There have been no reporting changes during the reporting period.

Future Key Issues

Based on anticipated construction activities for next month, on the construction programme and on the review of relevant Contractor's method statements by the LGT, no significant future key issues in terms of LFG have been identified at this time.



2 Introduction

2.1 Basic Project Information

Upgrading of Ting Kok Road Pumping Station No. 5 (TKRPS) under North District and Tolo Harbour Sewerage, Sewage Treatment and Disposal – High Priority Works is implemented based on the findings of the Study *Review of North District and Tolo Harbour Sewerage Master Plan*.

The purpose of the Project is to upgrade the existing TKRPS to cope with the sewerage needs of both existing and future developments along Ting Kok Road up to Tai Mei Tuk. The design pumping capacity of TKRPS has to be increased from 2,888m³/day to 11,520m³/day in order to serve the increasing sewage flow along Ting Kok Road. The Project is of high priority and needs to commence as soon as possible because full commissioning of the upstream sewerage facilities along Ting Kok Road is dependent on the completion of this Project.

The proposed scope of works includes construction of a new pumping station, laying of about 350m long twin 450mm diameter rising mains and 250m long 600mm diameter gravity sewer, and demolition of the existing pump pit. The main pumping station, transformer room, gravity sewers, manholes and boundary wall (except the twin rising mains) will be located outside the existing passive vent trench of Shuen Wan Landfill and the three existing Landfill Gas (LFG) monitoring probes within the Project site will not be affected by the works.

Six village houses are located about 60m away from the boundary of the proposed pumping station. The proposed pumping station upgrading works therefore constitute a Designated Project under type F.3(b)(i) in Schedule 2 of the Environmental Impact Assessment Ordinance. A Project Profile (PP) for direct application of the Environmental Permit (EP) (Application No.DIR-115/2005) was approved by the Environmental Protection Department (EPD) in March 2005 and an EP (EP-212/2005) was granted in April 2005, prior to the commencement of the upgrading works.

Drainage Services Department (DSD) awarded the contract for the upgrading of TKRPS to Maeda Corporation in September 2005. Maeda appointed Hyder Consulting Limited as the Contractor's Landfill Gas Team (LGT) during the construction period. CH2M HILL Hong Kong Limited is the Independent Checker (Landfill Gas) (IC(LG)) of the project. The construction contract commenced in September 2005 and the total construction period is approximately 28 months.

Close proximity of the Project to Shuen Wan Landfill (within the 250m Consultation Zone of Shuen Wan Landfill) may also suggest the possibility of landfill gas being released during excavation works for substructure of pumping station, transformer room and associated rising mains and gravity sewers. As such, a *Report on Landfill Gas Hazard Assessment* has been prepared previously (as Appendix E to the PP) in accordance with EPD's *Landfill Gas Hazard Assessment Guidance Note* and the *Practice Note for Professional Persons – Landfill Gas Hazard Assessment for Development Adjacent to Landfills*.



2.2 Management Structure and Project Organisation

The Engineer (DSD) is responsible for overseeing the construction works and ensuring that they are undertaken by the Contractor (Maeda) in accordance with the specification and contractual requirements. The Contractor shall report to the Engineer. The LGT is employed by the Contractor and responsible for conducting the EM&A programme. The IC(LG) shall advise the Engineer on LFG issues related to the Project.

The key personnel contact names and telephone number are summarised in Table 2-1. The project organisation is shown in Appendix 1.

Party	Position	Name:	Tel. No.:
Project Proponent and	Project Manager	Raymond LEE	2594 7457
Engineer – DSD	Engineer's Representative	Tim TSOI	2594 7460
Contractor – Maeda	Site Agent	George CHEUNG	9268 1918
LGT – Hyder Consulting	LGT Leader	Alexi BHANJA	2911 2916
IC(LG) – CH2M HILL	IC(LG)	Aldex LEE	2507 2203

Table 2-1 Contact Details for Key Project Personnel

2.3 Construction Programme

Construction programme of the Project is attached in Appendix 2. As can be seen, all works carried out during the reporting period have been carried out with the required LFG control measures in place (e.g. LFG monitoring for "hot works").

2.4 Works Undertaken during the Month

Works undertaken during the reporting period included:

- Construction of gravity sewer and rising main
- Excavation
- Installation of walings and struts
- Pile head cutting and installation of pile head steel plate
- Construction of sub-structure

3 Environmental Status

3.1 Works Undertaken during the Month with Illustrations

Works undertaken during the reporting period are identified in Section 2.4. Illustrations of these works, such as location of works, etc., are provided in Appendix 3.



3.2 Project Area and Monitoring Locations

The site is located at Ting Kok Road in Tai Po, and the major items to be constructed are located outside the existing passive vent trench of the adjacent Shuen Wan Landfill, which has been restored and is currently being monitored.

The impact monitoring locations specified in the *Report on Landfill Gas Hazard Assessment* comprise "utilities' manholes and chambers" (i.e. fixed locations for purposes of environmental protection) and at excavations of 1m depth or more (i.e. variable locations for purposes of worker safety).

An 11m-deep borehole, designated "M1", was installed by the Contractor (in addition to contract requirements) to provide an "early warning" of potential LFG problems that could affect surface trenches. It is not intended that M1 forms part of the EM&A programme, since conditions deep below the surface do not fall within the scope of the EM&A programme (i.e. manholes and excavations >1m).

In terms of fixed monitoring locations, the Baseline Report identified two existing manholes (M2 and M3). Manhole M2, however, was dismantled in July 2006 because of planned works and therefore monitoring at M2 has been terminated since July 2006. LFG has never been detected at M2 and so it is not considered that termination of monitoring at this location will have any significant impact on the overall effectiveness of the environmental monitoring programme, as monitoring at manhole M3 will continue. There are no other suitable manholes within the site that can be monitored in lieu of M2.

In terms of variable monitoring locations, these vary from month to month, depending on site activities. The fixed monitoring location is shown in Table 3-2:

Monitoring Station ID	Description	Purpose
M3	Existing Manhole (2m deep)	EM&A programme

Table 3-2 Fixed Monitoring Locations for LFG EM&A

Project area is shown in Appendix 3 and the fixed monitoring location is shown in Appendix 4.

4 Brief Summary of EM&A Requirements

4.1 Monitoring Parameters

During the construction phase, impact monitoring of LFG is to be carried out in accordance with the *Report on Landfill Gas Hazard Assessment* at the selected locations. LFG parameters to be monitored comprise oxygen, methane and carbon dioxide. Temperature is also recorded but this is not a LFG parameter.



4.2 Monitoring Equipment

Table 4-3 shows the equipment list for LFG monitoring.

Equipment	Manufacturer / Serial Nos.		
Gas Analyser GA 2000	Geotechnical Instruments / GA 08277		

Table 4-3 Equipment List for LFG Monitoring

4.3 Event and Action Levels/Plans

The baseline monitoring results documented in the baseline monitoring report for the Project (our report ref.: EA01284R0022) provided the Action and Limit (A/L) Levels for LFG impact monitoring and also the Action Plan. As per the *Report on Landfill Gas Hazard Assessment*, and in keeping with the standard presentation of LFG EM&A in other projects, both the A/L Levels and Action Plan are shown in the same table.

Table 4-4 shows the combined A/L Level and Action Plan for the Project, to be triggered if the LFG criteria are exceeded at fixed location M3, or at any of the variable locations:

Parameter	A/L Level		Action Plan
	<19%	-	Ventilate to restore oxygen to > 19%
Oxygen	<18%		Stop works Evacuate personnel/prohibit entry Increase ventilation to restore oxygen to >19%
	>10% LEL (i.e. > 0.5 % by volume)	1 1	Prohibit hot works Ventilate to restore methane to < 10% LEL
Methane	> 20% LEL (i.e. > 1% by volume)	1 1 1	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore methane to < 10% LEL
	>0.5%	-	Ventilate to restore carbon dioxide to <0.5%
Carbon Dioxide	>1.5%	- - -	Stop works Evacuate personnel/prohibit entry Increase ventilation to restore carbon dioxide to >0.5%

Table 4-4 Action and Limit Levels and Action Plan for Landfill Gas

4.4 Mitigation Measures & Requirements in Contract Documents

Measures for mitigating LFG hazards during the construction works have been stated clearly in the *Report on Landfill Gas Hazard Assessment*, which forms part of the contract documents Specification. Relevant excerpts could be referred to the Project Profile for Upgrading of Ting Kok Road Pumping Station No. 5.

Section 5 and Appendix 5 summarise the mitigation measures and requirements as well as the implementation status.



5 Implementation Status of LFG Control Measures

The status of the mitigation measures implemented by the Contractor is listed in Appendix 5. All LFG hazard control measures have been implemented as stipulated in the contract documents and in the *Report on Landfill Gas Hazard Assessment*.

6 Monitoring Results

Calibration records for the equipment used for LFG monitoring are provided in Appendix 6. Original *Field Measurement Recording Sheets* are provided in Appendix 7.

6.1 Early-warning Location M1

During the reporting period, LFG was monitored at M1 to give an "early warning" of potential LFG problems. M1 is an 11m-deep borehole and the carbon dioxide and methane concentrations may reflect possible influence of LFG at depth below the site. Monitoring results are shown in Table 6-5, below. Location M1 is not subject to EM&A and so A/L Levels are not applicable.

Monitoring		Ga	Temperature		
Station ID	•		Carbon Dioxide	Oxygen	(°C)
M1	29 September 06	0.1	0.4	19.7	30.7

Table 6-5 Monitoring Results at M1

Considering the location of M1 adjacent to a restored landfill, the recorded levels are within expected norms and are not cause for concern. Notwithstanding, the Contractor has noted these concentrations and will take them into consideration when planning surface trench works in the vicinity.

6.2 Fixed Location M3

During the reporting period, LFG was monitored at the fixed location M3 for purposes of environmental protection. This is shown in Table 6-6, below:

Monitoring		Ga	Temperature		
Station ID	Date	Methane	Carbon Dioxide	Oxygen	(°C)
M3	29 September 06	0	0.3	19.8	32.4

Note: bold indicates an exceedance of Action Level and bold indicates exceedance of Limit Level

Table 6-6 Monitoring Results at M3



Appendix 4 shows the position of each fixed monitoring station. There were no exceedances of A/L Levels at the fixed location during the reporting period.

6.3 Variable Locations

During the reporting period, LFG was also monitored at variable locations (for purposes of worker safety). These locations were within Portions 4 to 7 as shown in Appendix 3. A total of 430 readings, each including carbon dioxide, methane and oxygen, at variable locations were taken for safety-related reasons, including excavation and hot works. There were no exceedances for A/L Levels at any variable locations during the reporting period.

LFG monitoring results for variable locations are provided on the *Field Measurement Recording Sheets* in Appendix 7.

7 Report on Non-Compliance and Complaints

EPD has not conducted any site visit in the reporting period.

There were no non-compliances during the reporting period and no complaints regarding LFG were received.

8 Others

8.1 Future Key Issues

Construction activities for next month are anticipated to include:

- Excavation
- Diversion of existing drain
- Construction of gravity sewer and rising main
- Installation of walings and struts
- Pile head cutting and installation of pile head steel plate
- Construction of sub-structure and super-structure

Based on the above, on the construction programme (shown in Appendix 2) and on the review of relevant Contractor's method statements by the LGT, no significant future key issues in terms of LFG have been identified at this time.

LFG monitoring will be continued and the tentative monitoring schedule at fixed locations for the next three months is shown below:

- 3 October 2006
- 1 November 2006
- 1 December 2006



8.2 Comments, Recommendations and Conclusions

The LFG mitigation measures adopted by the Contractor during the reporting period are considered have been implemented in a satisfactory manner and there have been no exceedances in A/L Levels.

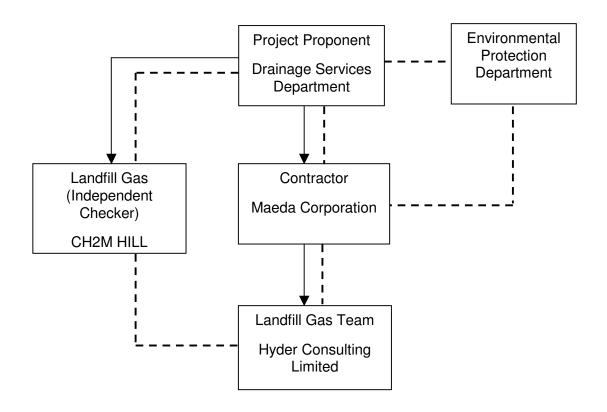
The EM&A programme is considered to have performed acceptably and there are no recommendations for improvements or modifications at this time.

In conclusion, there have been no significant issues relating to LFG hazard during the reporting period.



Project Organisation





---- Line of communication

Line of Authority



Construction Programme

Maeda Corporation Contract No. DC/2005/01 Expansion of Shek Wu Hui Sewage Treatment Works and Upgrading of Ting Kok Road Pumping Station No.5 Master Programme (Rev. 4)

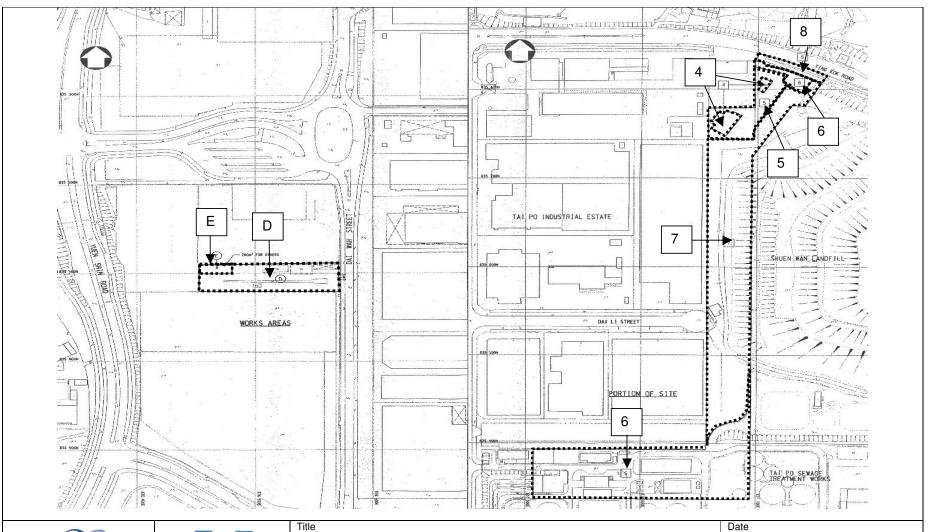
0 Task Name ID Duration Finish F M A M J J A 5 0 N D J F M A M J J A S O N D J F M A M J J A 775 Stage 4 (MH10 - Existing Manhole) 37 days Tue 06/11/28 Tue 07/1/9 774 **2**//2h 776 CCTV Inspection 5 days Wed 07/1/10 Mon 07/1/15 775 1/10 1/15 777 100 days Ting Kok Road Pumping Station No. 5 (Pipeworks) Fri 07/7/27 Tue 07/4/3 4/3 778 Laying Sewer MH6 - MH5 (by trenchless method) 4 days Tue 07/4/3 Fri 07/4/6 769 4/3 1.4/6 779 Construction of MH6 3 days Tue 07/4/10 778 Sat 07/4/7 4/10 4/7 780 Construction of MH5 3 days Wed 07/4/11 Fri 07/4/13 779 4/11 4/13 781 Sheet Piling and Excavation (Type E & F) 30 days Tue 07/4/3 Mon 07/5/7 769 4/3 5/7 782 Laying Sewer MH5 - MH4 8 days Sat 07/4/14 Mon 07/4/23 780 4/14 4/23 783 Construction of MH4 Tue 07/5/1 782 7 days Tue 07/4/24 4/24 5/1 784 Laying Sewer MH4 - MH3 7 days Wed 07/5/2 Wed 07/5/9 783 5/2 5/9 785 Construction of MH3 7 days Thu 07/5/10 Thu 07/5/17 784 5/10 5/17 786 Laying Sewer MH3 - MH2 5 days Fri 07/5/18 Wed 07/5/23 785 5/18 5/23 787 Construction of MH2 7 days Thu 07/5/24 Thu 07/5/31 786 5/24 5/31 788 Laying Sewer MH2 - MH1 5 days Fri 07/6/1 Wed 07/6/6 787 6/1 6/6 789 Construction of MH1 7 days Thu 07/6/7 Thu 07/6/14 788 790 Laying Sewer MH4 - F2 . 6 days Fri 07/6/15 Thu 07/6/21 789 6/15 6/21 791 Modification of F2 5 days Pri 07/6/22 Wed 07/6/27 790 6/22 6/27 792 Laying Sewer P/S - MH6 Thu 07/6/28 7 days Thu 07/7/5 791 6/28 7/5 793 Testing of pipeline 5 days Fri 07/7/6 Wed 07/7/11 792 7/6 17/11 794 Laying Sewer P/S - Existing box culvert Thu 07/7/12 5 days Tue 07/7/17 793 7/12 7/17 795 Connection to existing box culvert 5 days Wed 07/7/18 Mon 07/7/23 794 7/18 7/23 796 CCTVInspection 4 days Tue 07/7/24 Fri 07/7/27 795 7/24 7/27 797 Remaining Works for P/S and T/H 142 days Thu 07/3/1 Mon 07/8/13 798 Civil works for E&M installation (Cable Ducts & Draw Pits) 135 days Fri 07/3/9 Mon 07/8/13 799 1 External Finishes 120 days Thu 07/3/1 Wed 07/7/18 800 Roofing Finishes 43 days Thu 07/3/1 Thu 07/4/19 801 25 Key Date of Section 7 of the Works 1 day Fri 07/7/27 Fri 07/7/27 802 Section 8 - All Remaining Works 183 days Thu 07/4/26 Sat 07/11/24 803 E&M installation (by Others) 157 days Thu 07/4/26 Thu 07/10/25 804 External Cable Duct, Drainage & Catchpit 55 days Tue 07/8/14 Tue 07/10/16 798 8/14 10/16 805 Construction of Boundary Wall 58 days Tue 07/8/14 Fri 07/10/19 798 806 Demolition of Existing Boundary Wall 7 days Sat 07/10/20 Sat 07/10/27 805 10/20 🛱 10/27 807 Road Paving Sat 07/10/20 Tue 07/11/13 804,8 21 days 10/20 11/13 808 Testing and Commissioning (by Others) 80 days Wed 07/8/15 Thu 07/11/15 8/15 809 Connection to MH F2 7 days Mon 07/7/23 Mon 07/7/30 7/23 🖳 7/30 810 Connection to MH1 7 days Mon 07/7/23 Mon 07/7/30 7/23 📓 7/30 811 Demolition of existing pumping pit Tue 07/7/31 7 days Tue 07/8/7 809,8 7/31 8/7 812 Grouting for Existing Sewer & Manhole 30 days Wed 07/8/8 Tue 07/9/11 811 813 Landscaping 30 days Wed 07/9/12 Tue 07/10/16 812 9/12 10/16 814 Establishment works 34 days Wed 07/10/17 Sat 07/11/24 813 11/24 815 Key Date of Section 8 of the Works 1 day Sat 07/11/24 Sat 07/11/24 **11/24**

Date: Mon 06/8/28

Task
Critical Task
Progress
Folled Up Task
Rolled Up Milestone
Rolled Up Milestone
Rolled Up Milestone
Project Summary
Page 19



Location of Works and Project Area





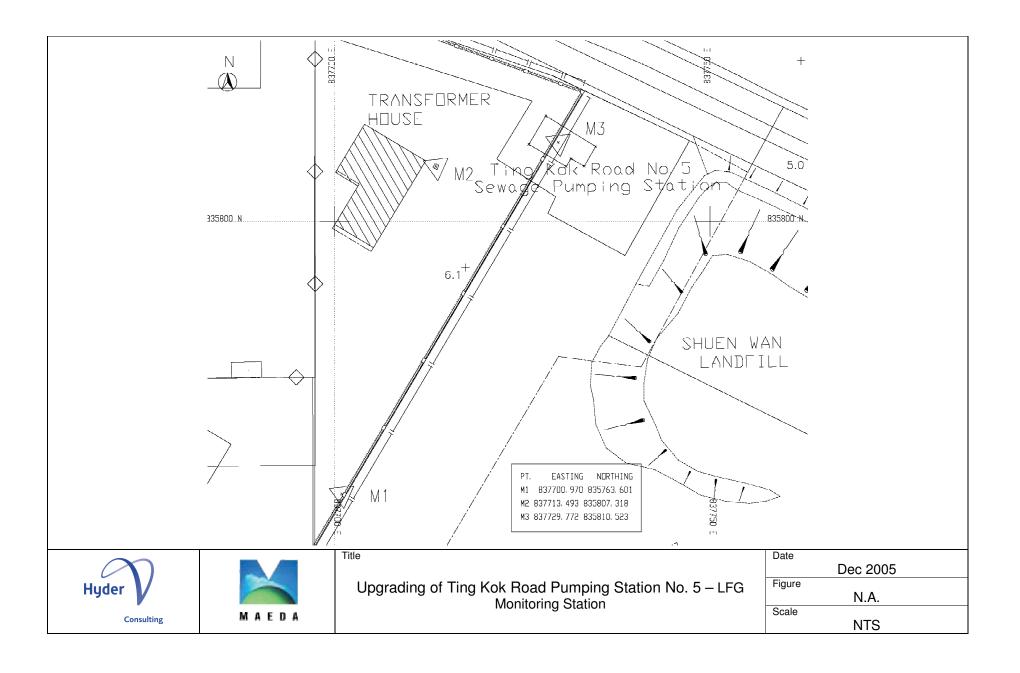


Upgrading of Ting Kok Road Pumping Station No. 5 – Portion of Site and Works Area

D-4-		
Date		
	Dec 2005	
	Dec 2003	
Figure		
90.0		
	N.A.	
Scale		
	NTC	
	NTS	



Fixed Monitoring Locations





Updated Implementation Schedule

Section	Environmental Protection Measure	Status	Location	Implementation Agent	Implementation Stage	Relevant Legislation & Guidelines
6.1	Safety officer, trained in the use of gas detection equipment and landfill gas-related hazards should be appointed on site throughout the ground works phase. The Safety Officer should be provided with intrinsically safe portable instruments, appropriately calibrated and capable of measuring the following gases in the ranges indicated: methane 0-100% LEL and 0-100% by volume; carbon dioxide 0-100%;and oxygen 0-21%	Y				Code of practice on Safety and Health at Work in Confined Space. Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)
6.2	No smoking and naked flames should be allowed.	Υ	Within			
6.2	No worker should work alone at any time in the confined area or any excavation trenches.	Y	the work site	Contractor	Construction	
6.2	Construction equipment should be equipped with a vertical exhaust at least 0.6m above ground level and/or with spark arrestors	Y				Landfill Gas
6.2	Electrical motors and electrical extension cords should be explosion-proof or intrinsically safe.	N/A				Hazard Assessment Guidance Note
6.2	Welding, flame-cutting or other hot works should only be carried out in trenches or confined spaces when controlled by a 'permit to work' procedure, properly authorized by the Safety Officer.	N/A				(EPD/TR8/97)
6.2	Forced ventilation should be required for workers, if in a trench deeper than 1m.	N/A				

Section	Environmental Protection Measure	Status	Location	Implementation Agent	Implementation Stage	Relevant Legislation & Guidelines
6.2	During piping assembly or conducting construction, all valves/seals should be closed as installed to prevent the migration of gases through the pipeline/conduit. Forced ventilation and gas monitoring should be performed before staff entering and working in large diameter pipe.	N/A	Within the work site	Contractor	Construction	Landfill Gas Hazard Assessment Guidance Note (EPD/TR8/97)
6.2	The Safety Officer should set down the monitoring frequency and areas prior to commencement of construction works.	Y				
6.2	Daily and routine monitoring should be carried out in all excavations.	Y				
6.2	All measurements in excavations should be made with the extended monitoring tube located not more than 10mm from the exposed ground surface. Monitoring should be performed properly to make sure that the area is free of landfill gas before any man enters the area.	Y				
6.2	For excavations deeper than 1m, measurement should be carried out:	N/A				
	 at the ground surface before excavation commences; 					
	 immediately before any worker enters the excavation; 					
	 at the beginning of each half working day (i.e morning and afternoon) for the entire period the excavation remains open; and 					
	 periodically through the working day whilst works are in the excavation. 					

Section	Environmental Protection Measure	Status	Location	Implementation Agent	Implementation Stage	Relevant Legislation & Guidelines
6.2	For excavations between 300mm and 1m deep, measurements should be carried out:	Y				
	 Directly after the excavation has been completed; and 					
	 Periodically whilst the excavation remains open. 					
6.2	The landfill gas precautionary measures involved with excavation and piping works should be included in the Safety Plan.	Y	Within the work site	Contractor	Construction	Landfill Gas Hazard Assessment
6.3	The cracks on the ground level at the working area should be monitored during ground-works construction	N/A				Guidance Note (EPD/TR8/97)
6.4	Where there are any temporary site offices, or any other buildings that have enclosed spaces with the capacity to accumulate landfill gas, then they should either:	Y				
	 Be located on an area which has been proved to be free of landfill gas and monitored manually by the Safety officer or an approved and appropriately qualified person to ensure that hazardous concentration of landfill gas does not occur; or 					
	 Be raised clear of the ground. If buildings are raised clear of the ground, a minimum, clear separation distance should be 500mm. 					
6.5	Such offices or buildings should be provided with some kinds of control of gas by mechanical means e.g. forced ventilation using fans or blowers.	Y				
6.6	Adequate fire extinguishing equipment, fire-resistant clothing and breathing apparatus (BA) sets should be made available on site.	Y				

Section	Environmental Protection Measure	Status	Location	Implementation Agent	Implementation Stage	Relevant Legislation & Guidelines
6.7	Periodic environmental monitoring report with LFG control measures evaluation during construction phase should be provided by contractor and submitted to SP/DSD and EPD.	Y				
7.1	When service voids, manholes or inspection chambers within the proposed site are entered for maintenance, monitoring and a checklist system of safety requirements should be performed before entry.	N/A	Manhole/ chamber	DSD	Operation	Code of Practice on Safety and health at Work in Confined Spaces
7.2	A procedure should be developed as part of the station operation to respond to gas detector alarms. The detection system should be maintained and calibrated regularly in accordance with the manufacturer's recommendations. In the event of a power failure, the detectors should have an 8-hour battery back-up system, and the procedures should indicate for manual monitoring in the station in the event of prolonged power failure (or longer than 8 hours).	N/A	Pumping station			
7.3	Forced ventilation should be used if methane of more than 0.5% (by volume) in the internal atmosphere (e.g. in service voids, manholes, inspection chambers or rooms as mentioned above) in detected.	N/A	Manhole/ chamber/ pumping station			
7.4	No person should enter or remain in a confined spaces or trenches where the carbon dioxide concentration exceed 1.5% (by volume).	N/A				
7.5	Oxygen concentration should be monitored and no person should enter or remain in any confined spaced or trenches where the oxygen content of air has fallen below 18% by volume.	N/A				

Section	Environmental Protection Measure	Status	Location	Implementation Agent	Implementation Stage	Relevant Legislation & Guidelines
7.6	All the access to these confined spaces would be restricted only to authorize personnel who should be aware of the LFG hazard. No member of general public should be permitted or allowed to access these confined spaces, manholes or inspection chambers.	N/A				

Note:

Y – Implemented

 $N-Not\ Implemented$

N/A - Not Applicable



Calibration Records





Environmental Management Division

CALIBRATION REPOR

Client Address : Maeda Corporation : Tai Po Site Office,

Ting Kok Road,

Tai Po

Report No.

: CR 000075

Page No.

: 1 of 2

Issue Date

: 23/08/2006

Received Date

: 19/08/2006

Approved Signatory: Grace Ting

Remarks

Completion Date

: 22/08/2006

Calibration Results:

Item

Gas Analyser model GA 2000, Geotechnical Instruments

Serial No.

GA 08277

Calibration Method:

In house method (calibrated and checked with certified gas standards)

Date of Calibration:

22/08/2006

Results:

Oxygen

 Expected, %	" "Andrew "	Reading, %	
0.0		0.0	
7.7		7.1	
20.0		19.8	

Methane

Expected, %	Reading, %
0.0	0.0
16.6	15.6
31.6	30.4
44.8	45.3
60.0	60.3





: CR 000075

: 23/08/2006

: 2 of 2

Environmental Management Division

Client Address : Tai Po Site Office,

: Maeda Corporation

Ting Kok Road,

Tai Po

Received Date

: 19/08/2006

Approved Signatory: Grace Ting

Remarks

Completion Date

: 22/08/2006

Report No.

Page No.

Issue Date

Calibration Results:

Item

Gas Analyser model GA 2000, Geotechnical Instruments

Serial No.

GA 08277

Calibration Method:

In house method (calibrated and checked with certified gas standards)

Date of Calibration:

22/08/2006

Results:

Carbon Dioxide

Expected, %	Reading, %
0.0	0.0
11.1	10.6
21.3	21.1
30.1	31.2
40.0	39.9



Field Measurement Recording Sheets

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From? Golf Mg	Annex
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ANNEXA Landfill Gas Monitoring - Held Weasurement Recording Sheek (Sample)

Name of site: TKR Phinging Station Nut.
Date of measurement:

Dates calibrated
-
22/8/2006

Samuelo	l Data -e	L				imeter on-site a		nonitoring hol	es ·	
Sample location -	Date of tucksurement	Sampling time	- 32 m/2 m/2	Hillian C 1	Dialessa is from ANA	Planmable gas (methane %)	Carbon dioxide (%)	Oxygen (%)		Remark
M - 1	24-9-2006	14:52	guar-	7	397	o. I	0.4	19.7	307	•
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		1 14 15 (Asserted to	4.7	ρ	03	19.8	344	
	· · · · · ·	-1		,		=======================================			-	7.
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					では、大学の	Total Mari	Y-4 =		·	<u></u>
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		= : .				,			-	
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	<u> </u>		*	· · · · · · · · ·			Ĭ	}		<u>-</u>

Field Technician: Kmg Krun Ki

13:51

AXIVIXA

Landfill Gas Monitoring — Field Measurement Recording Sheet

Name of site: TKR PG N.S. Date of measurement:

Sampling equipment used:	Dates calibrated
. 6/A 2000	22-8-06.
<u> </u>	

•	<u> </u>	T			•				·_	
Queenala				Per	imeter on-site ar	ad/or off-site i	noniforing.hol	eva ————————————————————————————————————		1
Sample location	jueasurement.		Weather condition	Balance gas (%)	Flammable gas	Carbon				
Portron4	1-9-2006	8:17	Fine .	79.6	0	6	Oxygen (%)	Temp (°C)	Remark	-{
Post in 5		8c 8	. * (79.6	G	. 0	203		2m depth	┨
Part Ton4	·	व ।व	£ ,	79.6	6	. 0	20.3	31.6	1.5 m depth	-
Portron 5	. ((}	8019	در	794	· 6		203	31.7	4.5m depth	-
Portrant	((8123	ر ۲	79.5	· G ·	0	205	31.6	4m depth	-
Portront	۱, ۱	8124	6.9.	79.5	0	0.	20,4	3(1)	4n diph	-
Partien]	(;	8425	* #	79.4	Ċ	0	20.4	317	5m dipth	_
Portron	• • •	6727		79.4	. 0	O	205	_3	5 in depoth	-
Portronb	. (8530	* (795	0	0	205	31.7	Im depth	-
Partronb	, , ,	8828	· /	79.4	6	0 .	204	317	2m olepth	-
	I					<u></u>	_ 2ఎగ్ర	3(7	in depth.	-
			12 pt 1	 		<u>. </u>				-
		· · · · ·	-					<u>'</u>	<u> </u>	-
			· · · · · · · · · · · · · · · · · · ·			<u> </u>				-
				1		1	1	I	1	1

Field Technician: Kova

Checked by:

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ANNEX A
Landfill Gasi

Name of site

Date of measure

13:50

. % 86 Landfill GaslMonitoring - Fleld Measurement Recording Sheet

Name of site: TKR P/S No 5
Date of measurement:

1- Sep -2006

Satisming works	· ·
Sampling equipment used:	Dates calibrated
FA	
64 2000	22-8-220

•		, 					<u> </u>		<u> </u>		
	Samala				Per	imeter on site a	adlor off off	- '14 1 4 4		•	 -
	location 1	neasurement	Sampling time	*	Balance gas (%)	Plannuable gas	Carbon	nonitoring hol	.es		1
	testrat	1-9-2006	13:20	Frae	19.5			Oxygen (%)	Temp (°C)	Remark	
i	Postrais	(k	1353	61	795	. <u>o</u>	0	2013	32.5	2n leth	
	Portor		13;23	. (,	79.5	G .	0	204	22.6.	1c5n depth	
	Postras Postras	· ()]	135.25	٠	795	0	G.	20'4 20'4	32.6	45m depth	ĺ
	Portron	· () !	B ₂ 1	· (1.	79.4		O.	205	3216 326	4m depth	
	Postron		13:28 17:28	<(79.4	0	0	20,5	326	5m denth	
	toton	: ''	13,73 6	· · · · · · · · · · · · · · · · · · ·		<u>0</u>	6	20.[32,6	5m dersh	
	Partreal		13:33		79.4	6	G	20.4	32.6	Hall Mc	:
•	Dorton	1 1	17:22	is	99,4	0	. 0	<u> 20,</u> ζ	325	2m olyon.	ı
		•		•				<u> </u>	32.6	(m depth	
										1	
		. ;			·	·					_
	-	:	<u>-</u>		<u></u>	<u> </u>		<u>-</u>			

Field Technician: Kning Kulun Ki Spervisor

Checked by:

Man (RSO) .

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MAEDA CO (DC200501) 2673 8999

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ANNEXA

Landfill Gas/Monitoring - Field Measurement Recording Sheet

Name of sites TKR P/S No.5.
Date of measurement:

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. Bampling equipment used:	
sampung edimentent need:	Dates calibrated
GA 2000	1
0/21-280-9	22-8-2-06
	1

-	 				!	<u> </u>		·	
Sample				Per	cimeter on-site a	nd/or affeits	montoule at		
location	Date of measuremen		Wealher condition	Balance gas (%)	Platamable gan	Carbon			<u> </u>
Postant 1	2-9-2-06		For	793	(Titoritatio 39)	dioxide (%)	Oxygen (%)	Temp (°C)	Remark
Portron 4	()	8-12	<u> </u>	793	0.	0	2=6	30.4 30.4	2 n dayth
Postan5	Line Control of the C	8122	e; e;	793	0	0	20,6	333.5	1 ison depth 45h depth
Portron	11	8025	(4	794	0.	0	_ე,გ⊆	30.5	4m durth
Portron	• •	852.4	٤١. ١.	79.4	0	0	225	305 30.5	4m depth
Parton [- ()	8526		794	0	۵	20.5	30.7	5 m depth
Pertonb	1 (1	8036	· • • • • • • • • • • • • • • • • • • •	793	0	- O	. 20,6	304	In depth
Portions	٤,	8:71	(1	79.3	O U	0	300	3014	3 mi gody
<u>-</u>	· * ·		i				306	305	The depth
<u>-</u>	<u> </u>	1, ;	ere met e				<u>.</u>	·· · · ·	<u> </u>
<u></u>				<u> </u>					<u> </u>
		<u> </u>		<u> </u>	<u></u>		<u> </u>		

Field Technician: Kon kuun (c)

Syevvisov

Checked by: _

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ANNEXA

03-0CT-2006

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Landfill GasiMonitoring - Field Measurement Recording Sheet

Name of sites TKD P/S No.5

3-Sep->==1

Sampling equipment used:	Dates calibrated
642004	
014, 5.089	55-8-50m/2

•		· · · · · · · · · · · · · · · · · · ·				• • • • • • • • • • • • • • • • • • • •		—— <u> </u>	
Sample :	Date of	a 31		Pej	imeter on site at	id/or off-site i	nonitoring ho		•
location	measurement	Sampling time	Weather condition	Balance gas (%)	Flammable gas	Carbon			
Portin4	2-9-2-1	13:05	Fine	79.4	(incurate %)	dioxide (%)		Temp (°C)	Remark
Total		13:06	در	794	U	0	20.5	336	>u golyy
Patron 7	- 13	13506	*/	794	Ü	0	205	33.0	(ita dopth
Parton 1	-/!	13:07		79,4	0		20.5	33.2	the depth
Porton !		13:14	· · · · · · · · · · · · · · · · · · ·	795	0	0	2704	33,2	the depth
TataT		13:15	-1	795	0		20.4	_ 3 2,2	5m don'th
Refm		13:15	1.	795	0	6	224	32,1	5moley to
Vartant b	• •	13:19		795	G	Ö	22.4	22.0	2m denth
Potano		13110	(1	795	b	6	20.4	33, 0 7,7, 0	In depth
-	+ + -								Migels al
			13 44 4	<u> </u>		· · · · · · · · · · · · · · · · · · ·			\$ ₄₄
			-			<u> </u>		<u></u>	*
-	-	-	<u> </u>	L	J_•		<u></u>		! .

Field Technician: Rose Kalon El Sypervisor

Chacked by:

Mun (RSO)

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ANNEXA

Landfill GasiMonitoring - Field Measurement Recording Sheet

Name of sites TIM P/S r.J.

4-5ep-2006

". Sampling equipment used:	Dates calibrated
GA 2060	22-8-2-0

	T	T					· ·····	—— <u> </u>	<u>-</u>
Sample	h Daking 1	,		Pet	ineter on site ar	id/or off-site i	nonitoring hal		•
location	Date of measurement	Sampling time	Weather condition	Balance gas (%)	Flammable gas	Carbon	. ,		
Textron-4	4742	7:26	Pow .	79.5	(methane %)	dioxide (%)	Oxygen (%)	Temp (°C)	Remark
Postan S		522	*,	795	0	G	20.4 20.4	293	2m light
Rotan4	1	872.7		794	<u> </u>		کی تح	29.1	1.5m depth
Porton 1		8,28	- · · · · · · · · · · · · · · · · · · ·	793	i c		- 201p	271	Hon derth
That on 1-	. (832		793	0	0	2=16	242	Han depoth
Texton		. E73:		79.2	6 .	C	2=5	392	5n depth
Portion	· <, :	8233		79.2	G	G	7,42	292	5m depth
Portrasil 1	1.	8135	*	79.5	G	O	22.4	212	2hdyon
Parton b.	- A 3	8-25	4 2	79.2	0,	_ 6	20.7	294	In depol
	-						· · · · · ·		•
	,				<u> </u>		<u> </u>		12
	1 :								*

Field Technician: Korg Kylun Ki Supervisor

Checked by: _

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ANNEXA

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Landfill GaslMonitoring - Field Measurement Recording Sheet

Name of sites TKR P/s No.5.
Date of measurement:

4-Sep-2-6

Sumpling equipment used:	Dates calibrated
GAZ evo	22-8-206b

]: ''					•		<u></u>	·	
Sample	Date of	Commutation		Per	imeter on eite a	nd/or off-site i	noniforing hal	68		 -]
location	ineasurement	Sampling time	Weather condition	Balance gas (%)	Flammable gas	Carbon	:			-
Portan4	! 4-9-2-36	13:30	Fry	79.4	(methane %)		Охувел (%)	Temp (°C)	Remark	
Port ren 5	-)	13121	٠,	79.6	0.	0	265	34.4_	2m donth	
Perton4	1 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	13:47	C)	796	0	. 0	20.3	32.4	1.5in depth	-
Porton		13,23	î ç	74.5		. O	20,4	34,4	4.5m Swoth	1
Poston =		13/26		79.6	0	. 6	503	324	How dipth	
Jostan	4 [13/27	~/.	795		0	23.4	3,2,4	5n deth	
Portant		13129	· (k .	745		0		. 32.4	5m depth	-}
Portrol	()	13123	. (,	77.6	6	0	204 20,7	32,4	In dutt	-
Postonb.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13:23	13	79.5		6	23,4	354	In depth	{
•	-		·				\		in output	
		•	·		······································				į	
					-	<u> </u>		-		ļ.
			<u> </u>		<u>·</u>	L			-	1

Field Technician: Kong Kulun Kl Supervisor

Chocked by;

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. 89 ANNEXA

83-0CT-2006

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Landill GaslMonitoring - Fleld Measurement Recording Sheet

Name of sites TKR PK No.

5 Sep-200

Sampling equipment used:	Dates calibrated
602600	22-8-206

	T	r				<u> </u>		<u>.</u>	: · ·
Partons Portons Portons Portons Portons Portons	measurement 5-9-20-6			Balance gas (%) 79.5 79.5 79.5 79.5 79.6	0 0 0 0 0	Carbon dioxide (%) 6 0 6 C	Oxygen (%) 20.4 20.4 20.4 20.4 20.4 20.4	Temp (°C) 31.7 32.7 32.7 32.7 32.7 32.8	Remark 2m depth 1.5a depth 45m depth 4m depth 4m depth 5m depth
Partient Portant Portant	:				6 0 6			1	
			1				·		

Field Technician: Keing Super visor

Checked by:

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ANNEXA

Landfill GaslMonitoring - Field Measurement Recording Sheet

Name of sites TKR P/S N.S. Date of measurement:

5- Sep-2006

Sampling equipment used:	Dates oalibrated
GA 2000	22-8-2-36/3
	3 3(3

•	13	·						<u>'</u> .	
Sample location Testan4	Date of measurement	Sampling time	Weather condition	Per Balance gas (%)		Carbon dioxide (%)	Охуден (%)	Temp ([†] C)	Remark
Portons Rooting 4 Portons Portons		13:24 2:21} 2:25	4,	793 793 79.9	0 0 0	0 0	20.6 20.6 20.5	34\ 73.9 33.6 33.8	1.5m dipth
Porton T Porton T	4,	13.27 13.27 12.26		793 793 793	0	р О	2016	37.8 22.8 23.8	4m depth 4m depth 5m depth 5m depth
Portranto	- / -	13:26	2.1	79.3	0 0 0	() ()	2016 206 206	23.4 23.8 33.8	2m depth 2m depth
-			es at						1
^	<u> </u>	<u> </u>	· · · · · · · · · · · · · · · · · · ·			·	<u>.</u>		

Field Technician: Keing KWUN KI

Checked by: _

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Annexa Landfill GasiMonitoring - Fleld Measurement Recording Sheet

Name of site; TKR P/3 Date of measurement:

Sampling equipment used:	
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	3
6A2000	22-8-3560

{		1	<u> </u>						<u> </u>		
ĺ	Sample	Date of	Sampling	Weather	Pet	imeter ou-site ar	nd/or off-site	nonitoring hol			 7
Ì	location	fileasurement	· time	condition	Balanco gas (%)	Flammable gas (methane %)	Carbon				-
-	Portons		8226	Fre	795	G	dioxido (%)	Oxygen (%)	Temp (°C)	Remark	
ľ	Proton4	-1	828		79.6	0	0	23.4 223,	28.6	2 molepth	_
-	texton 5	. 12	8:26: 8:29:	*,	795	0	0	20.4	28.6	45m depth	-
L	· Hoston	<,!	€13-2°	· · · · · · · · · · · · · · · · · · ·	796	0	6	203	9.82.6	4m depth	
L	- lover -		8773	*7.	79.6	6	0	.50:3	28.7	4m depth	
}	Partan 7		8734	<u> </u>	796	6	<i>O</i>	223	287 28.7	5m duth]
ŀ	Postant P		8338		775	σ	O	<u>Σ</u> -9	25	In dorth	1
	Porton b.		8727	- 5 2	74.5	0	0	20.4	288	2 m depth	1
			- 672		79.6	- ·	0	2003	2857	2m depth	1
-				en mil e				<u> </u>	1.		
-							-			1	
L							· · · · · · · · · · · · · · · · · · ·			·	
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Field Technicika: Kaing Kwin K

Checked by:

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MAEDA CO (DC200501) 2673 8999

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Landfill Gas Monitoring - Field: Measurement Recording: Sheet:

Name of sites TKRP/S MG.
Date of measurement:

Sampling equipment used:	Dates onlibrated
	i i i i i i i i i i i i i i i i i i i
6A2000	22.82006

	TT		. •-	-	,				
CI 4	,			Pet	ipuster on-site ar	Alamon	1	·	
Sample location	Date of near ment	Sampling		Balanco gas (%)	Haminable gas	Carbon		os .	
Porton4	16-9-2-16	13:27	Fin	19.5	(tnothams %)	_ • •		Temp (°C)	Remark
Potents	<u> </u>	13/28		794	0	0	<u>⊃0.4</u>	305	Jon graph
Portons	· · · · · · · · · · · · · · · · · · ·	Bara	4	79.40	0.	0	205. 205.	<i>3°5</i> 3°5	1 the depth
(extra)		13:23	<u> </u>	794.	. 0	O	30 d	324	Arabant These with
Portan	ne · I	13:31	***	795	0	<u>a</u>	4.05	32H.	5m lepth.
(artien		17-71"	<u> </u>	795 794	0	0	204	3.5	5m denths
Portant	, , ,	73240	A'.	71.4	0	. 0	75 <u>7</u>	_3=5	2m dipth
Porton C	1	[3):31		79.4	0	0	225	305	2m depth
Tortan		<u> 7:30</u>	· 6	714	U	8	20.5 20.5	35t	I.m depth
	-		1 -1		-				2 m dojsh
			1					-	
	· · · · ·			·	· · · · · · · · · · · · · · · · · · ·				
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Field Technician: Karna Kwin Kl

Checked by: __

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ANNEXA
Landfill GasiMonitoring - Fleld Measurement Recording Sheet:

Notice of sites TKR P/S NJ.

7- Sep-2006

Notation 18	1 -
Sampling equipment used:	Dates calibrated
. MAZeop	22-8-2006
	22 3 235 5

			r	_ ·		,			· - J	
	[Pist	imploy out Is	44	· · · · · · · · · · · · · · · · · · ·	·	
	Sample location	Date of	Sampling	Weather		imeter on site at	10/or off-site 1	nonlibring hol	or .	
	1	breagntomout	time	condition	Balanco gas (%)	Flammable gas (mediane %)	Carbon	101		
		187-1-2006	<u>8719</u>	Parry	77.5	6	dioxide (%)	Oxygon (%)	Temp (PC)	Remark
)]-	Portson 5	<u> </u>	8821		795	0		20.4	27.5	2 m depth
,)	Poten4	1 11	820	~1	715		. 0	204	77.5	1.5m depth
ì	12/15	* , ii.	822	-1	795	! i	O	_25¥	27.5	4m depth
ĵ	PAT	1 1	8523		79.3	0	<u> </u>	254	275	4m depth
	Poten7	K , (.	855	- 1 .7	79.3	0:	0,	Jol	27.5	5m desth
	Parte	1, ;	8-26	(715	6		اردح_	773	5m depth
	otan L		8.26	1.2	79.4		0	20,6	27.6	2 m dayoth
Ω	Portanto	1	8-27		79.4	<u> </u>	0	. 20,5	775	2h light
B	Portini		8233	-6-1	715	0	O .	عد2 _	275	in death
	[:	[1 -			1.115			224	275	2m dysth
							a			
									· · · · · · · · · · · · · · · · · · ·	1
			·		-		· · · · · · · · · · · · · · · · · · ·	-		
			<u></u> l		1	<u> </u>				•

Field Technician: Kant Kura: Kl Supervisor

Chocked by: _

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MHEDA CO (DCZBB581) 2673 8999

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Landfill Gasl Monitoring - Fleld Measurement Recording Sheet:

Name of site TKR PIS Date of measurement;

Sampling equipment used: Dates calibrated AA2000 22-8-2006

	j •			<u>-</u>		* *				
	Sample	Date of	51		Per	imeter on site at	nd/or off-site	nonlforing hal	· ·	
	location	measurement	Sampling	*	Balance gas (%)	Flammable gas	Carbon		- · · · · · · · · · · · · · · · · · · ·	
_	Postant	1-9-2006	13,27	Ramy	39.6	(methane %)	dioxide (%)	Oxygan (%)		Remark
+852	Totan 5	\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	13>28		79.5	6	0 -	20.3 20.4	51.1	Atab are
2616	Portions	La Carte	13-30	1.	79.5	. Ç.	- 0	20,4	27,7	13 in depth
6 4246	Portron	1	13733	• [794		O	20.5	27.	4m depth
å	losten	× . ',	13:34		795	0	. 0	205	277	5m deste
	Postan		13:34		794	0.	0	20,4	21,1	5m depth
	Portion b		13740	• (796	. 0	0	20, <u>T</u>	्रा,ी	2m depth
%86	Portan	4,4	13:32	<u>.</u>	79,6	6	. 0	23.3	277	In depth
			13:74) V.	776	0	O	203	77.7	2m depth
	·		•						1 -	
	}		ž ,	· · · · · · · · · · · · · · · · · · ·						:
	L	_ - <i>,</i>						· · · · · · · · · · · · · · · · · · ·	<u>-</u>	

Field Technician: Kain

Checked by:

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AXIMIXA

Landfill GasiMonitoring - Field Measurement Recording Sheet

Name of sites TVR P/S N.Z. Date of measurement:

8-540-2086

Sumpling equipment used:	Dates calibrated
5102000	22-8-2006

Sample Date of Sampling Weather Carton Flammable gas Carton Carton	, .	,	<u> </u>			-	*	Ļ <u>~</u>		-		
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Flold Tochmichin: King Kuu Ki A.

Cheeked by:

Alan (RSO)

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Name of sites TKR P/S
Date of measurement:

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Sampling equipment used:	Datas - 18 . 1
	Dates calibrated
GA-2006	
	22-8-20.6

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- Tex Tex	8-9-200	tings.	Clinda.	· · · · · · · · · · · · · · · · · · ·	(mothane,%)	diaxide (%)	Oxygou (%)	Temp (°C)	-]
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ield Teobalcian: Kory KUVIV

Chocked by:

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ASSESSMENT CASTRITATED	Mitoring -	-, ÎÑara.	KAL V	,		-~	
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Name of sites TKR P/S N35.
Date of measurement:

9-Sep-2006

Course M.	• ,-
Sampling squipment used:	Data di 111 1 1
	Dates onlibrated
61A 2000	22-8-2006
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Sample Date of Sampling Weather Pertineter on-site and/or off-site munitoring holes Condition Con
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Field Technician: Kning Kwun Ki Supervisor

Chocked by:

Alan (RSO)

Dates calibrated

22-8-230

Remark

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(RSO)

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Temp (C)

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Sempling equipment used:

GA 2000

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Perimeter on-site and/or off-site monitoring holes

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Flammable gas (modhane %)

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& Patin

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TOTANG

Name of sites TKR PB N.5

Date of

measurement

9-9-2006

ield Technician: Kane Kalun Wi

Sampling

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(335)

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Supervisor

Date of measurement;

Landfill GasiMonitoring - Field Measurement Recording Sheet;

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P. 28

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Nune of sites	TKRE	7/5 Wat.				

Date of measurement:

9-54-2006

- William W	
Sampling equipment used:	Dates calibrated
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GA 2000	
	17-14-500
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ield Technician: Kun Kwun K) A. Supervisor

Checked by:

ANNEXA	i.,	in the second	6)	- :		- 4
Landfill GasiMonitor	היבולת ביות	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	K .	·	7	

Name of the TVD DV NT

Name of sites TKR Date of measurement:

19-Sep-2116

GA 2000 22-8-2-06	Sampling equipment used:	· .
(1/A 2000	service adjustment need:	Dates calibrated
22-8-2 306	(7/12 va	1 1 1 1
		22-8-236

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		l'	1		· 	•				22-8-2 306	<u> </u>
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		pessorement	\ \undarma _			Planariable gas	Town on the site.	monitoring ho	les .		i
115	eston 4	11-9-20	13:45	condition	Balance gas (%)	(methane %)	Carbon	1			_
±_1	Per mon 5	• 11	13.27	Fig	79.5	(10,70)	diaxide (%)	Oxygen (%)	Temp (PC)	, j	
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ield	Technici	In Vira	. j 						<u>. · · </u>		

ield Technician: Kong Kulun Ki Spervisor

Chesked by: _

ANNIXA	•			 J. 1
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Landfill Gasily	Constant in o	т. т. VXV	46.24	.74

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Name of sites TKR PL No.5.
Date of meadurement:

12-Sep-206.

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Dates calibrated
72-8-206

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				22-8-226
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+ lating	There are	(1)	Oxygen (%) Temp (°C)	D "
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lold Technish It	1			1.

ield Technician: Kasa Kurn Kl

Supervisor

Chooked by:

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Landfill Gast Monitoring - Fleld Measurement Recording Sheet

Name of site, TKR P/s P/s Date of measurement:

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. gampling equipment used:	Dates calibrated
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	22-8-2006

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						· .	-		<u> </u>	17-8-5028	
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98%	Portant	*	13:40		793 11.4	6	,		25.6. 25.6.	Im depth 2m depth 1m depth	:
Fi	eld Technici	kn: Korea I.									

Field Technician: Keing Kuru In pertissor

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P.24

ANNEXA Landfil Cod					- •		•
Landfill Gasi	lylonitarin	g — Field	Measuremen	(ⁱ Dt-Reco	rđino::	Thacks	
Netno of sites	TUR PL				- HWE II	いがらわずに	

Name of sites TKR P/3 N.5.

Date of measurement:

B-Sep-2306

Sumpling agulpment used: Dates onlibrated
Dates onlibrated
GA 2 000
22-8-2006

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	· · · ţ		12-8-2006
Sample Date of	The		
location Bampling W. n	Peninofor on-site an	dor off-site monitoring holes	
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ield Technician: King Kwun Ki

Chooked by:

ANNEXA	į.			
Landfill Gast	Monitor	mg — Haja	TREE (The second
Nama ac u		- Little	Measurement Rec	ording Sheets

Name of sites TKR P/S No5 Date of measurement;

13-Sep-2006.

Sampling equipment used:	
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	12-8-2006
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+852 2616 4246	Portant Portant Portant Portant Portant Portant Portant	B-Soys-ob	13:33 13:37 13:37 13:32 13:22 13:23 13:24 13:40 13:40	5 15 15 E	Balance gas (%) 79.4 79.5 79.5 79.5 79.5 79.5 79.5 79.5	6 6 6 6	Carboin diaxide (%)	20.5 20.6 20.4 20.4 20.4 20.6 20.6		Romark 2 m depth 1.5 m depth 4 sm depth 5 m depth 5 m depth 2 m depth	
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ield Technician: King

Dates onlibrated

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Temp (PC)

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GA 2000

dioxide (%) Oxygen (%)

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Perimeter on site and/or off-site monitoring holes

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Date of

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14-Sep-56

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eld Technologian: Kong Kwun ICI

Date of measurement:

Landfill GaslMonitoring - Fleld Measurement Recording Sheets

Weather

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124-Sep-2286

Sampling

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Supervisor

(RSO)

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andfill Gasl Monitoring Held Measurement Recording Pheat	Annex A
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14-Sep-2006.	5
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	260 In duty
Technician: King Kulin (c)	
	. Cheeked by:
2 Speru (36 m)	(RSO)

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Sample Date of Samplitig	Perimeter on site and/or off site monitoring holes	.; :
measurement, time	condition by	
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	measurement	Sampling	Weather	-	This of the	unor our site monttofling.	holes (ı
et an 4	· · · · · · · · · · · · · · · · · · ·	f	condition : Bal	adoo gas (%)	Flaningable gas (inethane %)	Carbon			
	155 mish	13:33			(Adolustic No.)	diaxido (%) Oxygen (9	() Temp (°C)	Remark	:
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id Technician: Kail Kurn K? Sper V 2007	Testano	• • • • •	13:31	1	79.3			7 4		I'm desth]
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Id Technician: Kaal Kulin Ki	*			1 -	- 12 T		0	235	27.2	0	{
id Technician: Kaid Kurn Ki		-		1						- In creya	
id Technician: Kon Kinkin Kink		 		ों भू न्यूल		1]
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Id Technician: Kasi Kuun Ki				12. 14-						_ <u> </u>	
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ANNEXA

Landfill GaslMonitoring—Field Measurement Recording Pheeti

Name of sites TKR P/S KS.

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sumpling equipment used:	Define calling d
	Dates calibrated
6A 2000	22/8/201
	22/8/200
	·

40		<u> -</u>			•					22/8/200	
.		4	-		-				<u> </u>		
	Smaple	Date of	Sampling	Weather	Ta)	itnefer on-site äi	ador.off-she	nonitoring ha	es		া
	location	measurement	cana-			Trammaple sag	Carbon			<u> </u>	_
	Potron4	18-Sep-06	8733	Tr.	Balance gas (%)	(mothane %)	dioxido (%)	Oxygon (%)	Temp (C)	P	
+	Partino	7	8-33	i	79.4	6	C	20.5	28.7	Remark	┨.
·B52	Textrent	1	7-1		79.3	C		20.6		2m don't	_ _
26	Poston 5	: - } \$	873	C.C.	79.5	<u> </u>	· O	20,6	28.7	1. Francest	_
0.	Portron		8-34	L	7793		6	221	28.8	Atm depty	
4246	Porton)	, , ,	8,32 _i		713	. 0	. 0		_28 <i>X</i> :	4m depth	
0.	17 1T	· · · · · · · · · · · · · · · · · · ·	8.36	· · · · · · · · · · · · · · · · · · ·	77.4	6	. 0	20,6	28.9	Ifm disth.	
}	Postan		.8577:	* /	794	Ø	 	<u>22,}</u>	28.9	3m depth	
ļ	Porton		8338		793	6	<u>```</u>	20.5	785	5m denth	
-	Patron 6		8油	-1	793		<u> </u>	2 = 16	28.9	- zim den];
98%	Postan6	< 1	X :37	: C .		6	0.	· 2=/	2507	In our	
,		ļ ⁵ -	- 		77.4	δ.	0	, 225	38.7	In deph	1
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Field Technician:

ANNEX A Laudfill Gas Monitoring - Field Measurement Recording Sheet (Sample)

Name of site: TKR P/S No5. Date of measurement:

18 Sep - 2006.

Sampling equipment used:	Dates calibrated
	-
G Aztroo	12/8/2006.
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	Г ——	 			Per	imeter on-site ar	id/or off-site i	nonitoring hol	es .	-
Sample location	Date of measurement	Sampling time		ather htion		Flammable gas			Temp (°C)	Remark
	· · · · · · · · · · · · · · · · · · ·	13:23	1.54	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	719.3		0	20.6	<u> 28.0</u>	on depth
Text on 4	18-9-2-66	 		i i	74-3		Ú	226	25.0	1.5m depth
Porton 5	<u>. 4</u>	13:36	1.	<u>.</u>	793	- 0	0	22.6	28.0	4-5m depth
Portont	L1	 	- (753	· u	o	3-6	280	I'm denth
Porton 5	<u> </u>	13238			797	0	υ	206	28.0	you dest
Perm	<u> </u>		56 A F 1	1	794	6 1.	o	20.6	28.0	3m denth
totism	.: (1	13:40	1	7	793	1.5	. 6	2626	28.0	5m dorth
Postan	<1	13:41	\	<u> </u>	715	0	·	20,4	28.0	2m alunt
lato-		13:xts		<u>. </u>			0	20,17	2_8_∂	2m derth
Pestan b	1	B-42	<u>, '</u>	<u>.\</u>	1 15	- 0	7	20.5	2.8.0	Im deth
Pertrant	, .	13137		<u> </u>	79.4	<u> </u>	.,	1 23.3.	a pro	1111 100
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ANNEX A

Landfill Gas Monitoring - Field Measurement Recording Sheet (Sample)

Name of site: TKR PK No.5.

Date of measurement:

Sep-2006

Sampling equipment used:	Dates calibrated
6A2000	22/8/2014

		<u>:</u>					Alori off alto e	nanitivina kal	Q.D.	
				. I		meter on-site ar		TOTH SHOT		
Sample location	Date of	Sampling time		ather lition	Balance gas (%)	Flammable gas (methane %)		Oxygen (%)	Temp (°C)	Remark
Portion4	19-9-2006-	827	1,0	ñu	79.4	۵	O	295	25.6	2m deth
Partion 5	1 1 2 2 2 2 2 2	826	٠: ر	1	79.4	Ö	C	20,5	25.(1.5m douth
Postion 7	c1	8728	د	ı	79.5	C	ט	204	25.6	45m dayth
Perton 5	۱۶۰	8-29	,	.	79.4		0	205	25.7	4m dusth
Postion	ر ا	8533		ţ ' :	71,5	, එ	O	224	25.7	4m depth
Poton	<u> </u>	8-134		i' .	79.5.	*O	0	224	25.8	3m divit
Perton		8724			79.5	. 0	O	20.4	25.7	5m dept
Postant	P. S. 1	8236	. : 1	1	79.4	(0	0	20.5	25.1	2m desth
Potonb		853	. (t :	79.4	, 0	0	22.5	25.8	2m depth
Pertronb	. ÷(8430	,	1	795	. 0	D	2014.	250	In death
(63 / (61/)			, .	1.		-	·	<u> </u>	`	
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Field Technician:

ANNEX A

Landfill Gas Monitoring - Field Measurement Recording Sheet (Sample)

Name of site: TKR P/S No.5.

Date of measurement: 19-500-200

Sampling equipment used:	Dates calibrated			
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GA 2000.	· 22 (5/2 aul			

	<u> </u>	•	1_	•					······································	
					Per	imeter on-site a	nd/or off-site r	nonitoring hol	es	
Sample	Date of	Sampling	Weat	her		Flammable gas	Carbon dioxide (%)	Oxygen (%)	Temp (°C)	Remark
location ·	measurement	time	condi	non	Balarice gas (%)		GIOVING (50):	Oxygen (70)	Temp (C)	
Petm4	19-50006	13-26	肽	و	7924	· · · · · · · · · · · · · · · · · · ·	U	205	273	2m depth
Poston 5	()	1375			793	. 0	0	3.0.6	275	1.5m denth
Parton 4	. () .	13/28	* - 1		79.2	0	0	22	27.3	45m cheroth
Porton 5	: ()	1333	· . t	<u> </u>	792	. 0	O	22	27,4	4m depth
Porton	(1	13:73	1 2	٠.٠	. 712.	· · · · · · · · · · · · · · · · · · ·	0	2017	工件	the depth
Poston	(1	13234	,		79.3	0	0	20.6	274	3m oliph
Poston I	1	B:35			79.2	6 0	· 'ο':	2207	278	5m desth
Potin 1	: 9,	13,29	٠, د ر		79.1	Ö	: 0	722	27.5	2m don't
Petan 6		13337	٤,		79.4	. 0	0	J 5/2,	2(3	2m denth
Perfor b	(3	17:28	و ا		71.2	: 0	0	200	2(3	m death
	17				~	:	•		` _	U
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Field Technician: Kong Ki

ANNEX A ndfill Gas Monitoring – Field Measurement Recording Sheet (Sample)

Name of site: TKR P/S N.5 Date of measurement:

Sampling equipment used:	Dates calibrated
	:
GA 2008	22/8/2006

	<u>:</u>	:		Perimeter on-site and/or off-site monitoring holes						
Sample location	Date of measurement	Sampling time		ather lition	Balance gas (%)	Plammable gas (methane %)	dioxide (%)	Oxygen (%)	Temp (°C)	Remark
Portion 4	20/9/2-6.		· Pa		79.5	a	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	25.4	26.7	2m depth
Post on 4	167	8724	· · · · · · · · · · · · · · · · · · ·		795	0	v	204	267	4.5n depth
Potans	. ,	8325	i • •	······································	75	0	C	عمراب	<u>≥</u> 6,5	1.5m depty
	*)	8-27	-7	-	79,5	0	0	224	265	4m depth
Portons Textons	-7	8828	 	1 % %	79.44	•0	O	205	26.8	4n depth
	- <i>,</i>	8530	()		715	۱, ۵	0	2=4	267	3m dest
Porton 7	• /	2131	1 8/		713	ο .	. 0	225	≥6.8	5m desth
Poten]	* /	8-31	* /	<u>} </u>	793	. O	0	2≥5	26.7	2m depth
Postan B		8134	(./		715	,0	O	224	267	in death.
	- /	8>29	,	: •	79.5	0	O	20,4	268	Im death
Portions		10/7	\ . · · ·							
	13		1 :-	100 100					· ·	
	 		 							
	 	- 1:1-	1 . ;						<u> </u>	

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Annex A

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ANNEXA	1.1			حال سيا
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Landfill Gas	Monitoring -	- Field Mea	surement Recording	Duera (pampho)

Name of site: TR P/S N.5.
Date of measurement:

20-9-2066,

Sampling equipment used:	Dates calibrated					
:						
6A 2660	12/8/2006					

	:	<u></u>		<u> </u>	Per	imeter on-site ar	nd/or off-site r	nonitoring hol	es	
Sample location	Date of measurement	Sampling time		ather dition		Flammable gas			Temp (°C)	Remark
Porton4	20/9/206	13	نسب ا		79.3	. 0	. 0	20.6	78.7	2m olash
Portrant	11	13×18			793	0	<u> </u>	2016	287	45m depth
Potos5		13:18	٠ !		793	0	0	206	28.3	15m depth
Porton 5	i \ .	13x20			79.4	. 0	0	20.5	28.3	I'm olepth
Porton	I-1	13724	· * *)	1	.795	0	0	204	28.3	3m depth
Pertan	ن	13>25	-1	<u> </u>	795	0	0	204	28.3	5m depoth
Perten	37	13127		<u> </u>	79.4	<u> </u>	. 0	205	283	24m depth
Postion	н.)	13:26	1		79.3	10	0	206 206		1 - 0
Portion 6	3.7	13732	* 1	-	713	, Q .	0		25c4 25c3	1
Pertion 6.	<u> </u>	B=21	*	1	79:4	-	\	29.5		I'm cleyath
		·	1: 1:	- · · - · ·				 	+	
	i.i.	: :		ر العبو شهر د الله			-	 		
	:	<u>:</u>	1:			-`.		<u> </u>	 	
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Field Technician: Kuc

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Annex A

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ANNEXA	•		ą			
STATISTICS BY	<u>-</u>	· -	1		CST	i.
Landfill Gas	Monitorin	α _ Field Me	asurement	Kecording	3 Snee	6.
I ADOLULI LYAN	i IVRIDANIIGIE SLL	K — TITOTO TIYO	HOUSE OVER OFF	~~~~~	3	٠.

Name of site: TKR P/5 No.5.
Date of measurement:

21-9-2086

Sampling equipment used:	Dates calibrated
GA 2000	22/8/2066.
	· j

		:		<u>· ·</u>	Per	imeter on-site a	ad/or off-site n	aonitoring hol	es	-
Sample location	Date of measurement	Sampling time		ither lition	Balarice gas (%)	Flanmable gas (methane %)	Carbon dioxide (%)	Oxygen (%)	Temp (°C)	Remark
+p () 11	2/ /9/2006		F		77.6	G	· C	203	26.5	2m depth
Poston4		8:27		•		6	0	≥2,7	26.5	45n depth
	۷)	8828	: 21		79.7	6	G	Z 2 2 1	265.	1,5m depth
(h) for	: 1.	8229	-51		715	. c	<u>u</u>	20.4	265	4m depth
Portans	- 1 .	8732	· · · · · · · · · · · · · · · · · · ·	in in the	797	C	G	کےعرکہ	263	3m depoh
Tortan	()	8534	ζ,	•	795	0		224	263	In depth
Partin	* /	8:35	1 . (,	*	74 (6	6	2331	265	Ifm depth
671	Χ,	8236	()		79.5	: 6	C	274	264	sin depoty
D-to b		8540	- 37		79,5	10	. 6	20.4	264	2 m depths
Pation 6	1 27	8:2	6.1		79.5	6	D	20,4	264	I'm depoth
1 481-25-					1			 		
<u> </u>	1			. H.L. W	to recipione	• • • • • • • • • • • • • • • • • • • •		ļ :	ļ	
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Field Technician: Kong Kulin Kl Supervise

Checked by:

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Landfill Gas Monitoring – Field Measurement Recording Sheet (Sample)

Name of site: TKR PS No5 Date of measurement:

Sampling equipment used:	Dates calibrated
67A2000	12/8/2066
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		i	· · · · · · · · · · · · · · · · · · ·	<u> </u>	Per	imeter on-site ar	ad/or off-site t	nonitoring hol	es	
Sample	Date of measurement	Sampling time		ather dition		Planmable gas	Carbon	Oxygen (%)	Temp (°C)	Remark
location		13,73	- दि न	V .	79.5	Ø	O	22.4	26.1	2m depth
Portion4	21-9-2006	7 -	, 8.	L.	715	- 0	0	204	266	45m depth
1 STAM	<u> </u>	1326	4		79.5	.`0	0	23.4	26.4.	15m clepth
Intro	<u> </u>	13/27	9	i	79.6	.0	0	203	265	4 .
Potovi5	: 7 /	17:28	1	1	795	o	O C	20,4	264	3m olepth
Tetro 1	:	1	1	[795	.0	G	204	26.4	5m oleyth
187700	11	13330	1 71	-	79.6	0	0	703	26.4	4m olymba
Porter	*/	13232	. (,	·	795	i O	. 0	20,4	>6.4	an dooth
Porton	37		 		796	0	0	503	26.5	=n donth
(or im	<u>.</u>	12:36	1]	715.	, O	Ü	224	26.4	In depth.
Portione		13:29	\- <u>-</u>	<u> </u>			-			-
-	<u> </u>	1	<u> </u>	· · · · · · · · · · · · · · · · · · ·					-	
		 	+	1	1					
	<u> </u>	<u> </u>		1 2 4	1	· · · · · · · · · · · · · · · · · · ·				<u> </u>

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ANNEXA	; `	•	٠	·		hast (Carrola)
Landfill Gas	Monitoring	– Fiel	d Mea	arement b	tecoramy s	heet (Sample)

Name of site: TKR P/S No.5.
Date of measurement:

22-9-2006.

Sampling equipment used:	Dates calibrated
	12/20/
(p.4.200 t	25 \ 8\J = 2p

-				:	Per	imeter on-site ar	id/or off-site i	nonitoring hol	es	
Sample location	Date of measurement	Sampling time		ather dition	Balańce gas (%)	Flammable gas	Carbon	Oxygen (%)	Temp (°C)	Remark
		8717			793	· o	O	26	J'5	2 m depth
Poten4	22 2500	8.70	<u> </u>		793	. 6	٥	306	27,2	45m depth
100 ant	'() 'u	8222	· · · · ·		792	0	O	20.6	<u> 27.3 · </u>	15 moleyth
Pata5	<u> </u>			<u> </u>	79	0	0	2014	274	Ifm dowth
Pertrans	:(1	8518	7	<u> </u>	42	0	C	2=,6	273_	3m clipth
Trotan	17	8,74	· · · · · · · · · · · · · · · · · · ·			0 1,	O	207	27.3	5m depth
Porton	<u> </u>	8225	1	1-1-1	79.2	Q.	0 1	237	273	4m depth
Portion	(1	827	- 1	<u> </u>	792	6	0	D a 8	27. >	2 to drath
PortoK1	1	8>29	\ - \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				6	۲.0٪	27.3	2m depth
Porton	(1	8:3]	٠,		79,3	, o	1 0	23.8	273	medepth
Partino.	e)	8524	- ×	1	77,1			23.0	214	1 MENGENE
	<u> </u>	- \		<u> ` </u>	â .		1	·		-
	1-			1		•	<u>- </u>	·		
			1.		*					<u> </u>
	-		\	1.0 4.00		•				<u> </u>

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Landfill Gas Monitoring - Field Measurement Recording Sheet (Sample)

Name of site: TKR P/S No.5

Date of measurement:

22-9-2006

Sampling equipment used:	Dates calibrated
GA2000	22/8/2004.

		:			Per	imeter on-site ar	ıd/or off-site r	nonitoring hol	es	
Sample location	Date of meåsurement	Sampling time	~ ~ .	ather dition		Flammable gas	Carbon		Temp (°C)	Remark
Pot of H	12-4-700p	13:14	15		79.4	· · · O · ·	0	20.5	777	2 m depth
Porton 4	1/7	17:20		A	795	· · · · · ·	6	20,4	278	45m depth
Porton 5	113	na 15	21 (1)		795	0	0 .	7 - 4	278	1.5m desoth
Porton 5	-()	13316	1		794	<u> </u>	0	205	276	the douth
Parton 7	- ((13:19	化物化矿矿	100	793	<u> </u>	0	23-6	177	2m depth
Porton	10	13:22	,	<u> </u>	115	10	0	25.4	277	5 m depth
Postral	()	13754			193	6 !		1 22 P	27,6	>m dough
Porton	. (1	13:25	<u> </u>		79.4	10	0	207	21.8	2m depth
Partonb	1 4	13/30		1	11.2	, 0		20.5	216	In depth.
Portral	(1	13227	n .	*	79.4	. 0	, 0	23,2	<u> </u>	i i i i i i i i i i i i i i i i i i i
	<u> </u>	1	Main Sin	कि के उन्हें विकित्स क्षेत्र			 	·		
	1		· ` · · ·	# 1 (c 화·						
-			 -	1			-		· .	
1	1 1			4	<u>}</u> 17 17 17 17 17 17 17 17 17 17 17 17 17	l	· 1			

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ANNEX A	•		•			•
7%1 (1 (A)2% 2%			F		61 / /CL	T Y
I and GIL Cos	Moni	toring - Field Mea	arement K	lecarding S	neet (Samp	le)
1,2111111111111111111111111111111111111	S IYIVALI	fal mis Tatorn sareni	i efa en viante e e	B		~ /

Name of site: TKR PB No5
Date of measurement:

Sampling equipment used:	Dates calibrated
6A2000	22/8/2006

	:	Ţ	- :		Per	imeter on-site ar	id/or off-site i	nonitoring hol	es	<u>.</u>
Sample	Date of	Sampling	We	ather		Flammable gas				_
location	measurement	time	con	lition	Balance gas (%)	(methane %)	dioxide (%)	Oxygen (%)	Temp (°C)	Remark
Portion	13-9-2006		F		79.4	0	0	20,5	267	2m depath
Pertion4	11	8001			7945	· 'O	0	235	26.	4.5m depth
Porton5		8-24			79.5	. 0	0	204	26.8	1.5m dough
Porton 5	. (*	826		}	79.4	. 0	0	205	26.9	4m depth
Portant	. \ 1	8531		ta e e e	79.5	· · · · · · · · ·	Ö	204	26	3m death
Partino	,	8,25	•	Ţ .	79.3	, O 1	<u> </u>	30.6	26.8	5m depth
Partino	<u>; vi</u>	8333	(-	715	i,O ! : :	O	20.4	267	An depth
Porton		8-134	٠,	.	795	0	0	204	26.8	2m depth
Potent	34	8:27			743	10	0_	2016	267	2m depth
Portant	** (,	4530	4	,	193	. 0	٠ ی	20.6	268	I'm depth
Inviers			7 (-						
	· <u>·</u>	7 :		1 3 4 5 4 4	:		,	-		
	 	;	,	1				· · · · · · · · · · · · · · · · · · ·	<u></u>	
	 	= = =					<u> </u>		\perp_{Λ}	L

Field Technician: Kong Kwan Ki Superviver

Checked by:

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Annex A

PS/APP 1.18 - 15

P. BS

ANNEX A Landfill Gas Monitoring - Fleld Measurement Recording Sheet (Sample)

Name of site: TKR P/3 No.5.
Date of measurement:

Sampling equipment used:	Dates calibrated						
GA2000 :	22/8/2006						

	- +i	:		.						-
					Per	imeter on-site ar	id/or off-site i	nonitoring hol	es	-
Sample	Date of	Sampling	We	ather		Flammable gas	Carbon		m (000)	D -manufa
location	measurement	tine	1.00 1327 6 6	dition "	Balance gas (%)	(methane %)	dioxide (%):	Oxygen (%)	Temp (°C)	Remark
	72-9-206	[- Ta	1 3 1 2	792	(1	O	205	28.7.	2m digth
Port Ten	33-1238	1.		7 (7)	10.3	E- 0	0	<u>5مد</u>	28.7	4.5m derth
Torton	1 11			1	77.2	O	Ø .	204	28.(:	15m desath
Portavo	1 11.	13117	<u> </u>		19.5		0	7	I I	Α . Α
Poston 5	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13,20			-193	. G		75/P	287	How don'th
Parton	; \\	1725	. Tip-16-	Property of	1 95.00	£ 1-12 > 0 .	0	304	285	3m depth
1 1	1 .	1 2 2 4 M	,		791	" 'o . L.	0	225	287	5m depth
lotan	111	13:24	1 5 -	11 - 5 - 5 -	-45	0 4	. 0	204	72/3,	4m depth
Parkon	(17)	1334		<u> </u>	1 59.5	10	0	204	28.4	2m death
Perton		1 25	· · · · ·	<u> </u>		10		7 7	284	
Partion		12:27	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<u> </u>	177.3		0	20.4	230	2n down
ーかい	ر ج	1728	1		1 795 _	0	0	2014	287	I'm degth.
Later	b • • • • • • • • • • • • • • • • • • •	1 132 V	-1::	<u>j. </u>					\	:
	3 - 5		į	1 1 1 1 1 1				:	T ·	
	:-	<u> </u>	\	dai:				 		
	1]	<u> </u>		-		+	<u> </u>
	1	1. 1.					<i>i</i>	<u> </u>	1 !/	<u> </u>
1	l		<u> </u>				சுர்க்கம் <u> </u>	*.	1.1	γ .

Field Technician: Kang Kalun

PS/APP 1.18-15

Annex A

ANNEX A

Landfill Gas Monitoring - Field Measurement Recording Sheet (Sample)

Name of site: TKR PLS No. T Date of measurement:

Sampling equipment used:	Dates calibrated
GAZ ON U	22 /2/200

	:	- i -	1:		Per	imeter on-site ar	nd/or off-site t	nonitoring hol	es	
6 1	Dodinger	Campling	TXY	ather	·	Flammable gas	Marie Carlo	atronikingan tanan (=)		
Sample	Date of measurement	Sampling time	こしょうきゃぎがと な	dition -	Balance gas (%)	· (methane %)	dioxide (%)	Oxygen (%)	Temp (°C)	Remark
location	7	1	1		793	·	a	20.7	28.1	2ndot
lov m	27-4-201	T	·	Maria de la Compania	· 7/1/30	: : a	C	22,	282:	45m depth
Textim"	1 1	x'31		13 5 5 1 3	707	0	a	22,6		1.5n death
Portions	111	5:32		¥1	[[] []		0		387	11
Pertant	. ()	TN33		1	742	. · · · · · · · · · · · · · · · · · · ·	ļ	227	233	400 dapin
101/1	: 🕌	7(71		Market of	. 793:00	(et : 1 0	0	33/	253	3m depth
torton	1	8129	1	1	793		O	2319	283	5m depth
Porton	1		1		JOIL T	6 :	` o · ·	225	25,2	Any depth
Jes (see)	\	8.33		<u> </u>	-740		G	206	28.2	2m donth
Pertosy	1	8,34	<u> </u>	<u>d</u> ,		1 0 -		' /	283	
Penderab	·	837	2 2	<u> 4</u>	149	 	0	2200	· ·	
Perton	l "' 4 1	8530	, , ,	9	79.4	. 0	0	205	287	I have deport
1014.1.1.			1.8 = 2 = 1.0	4.			-		<u> </u>	<u> </u>
<u> </u>	1 1	1:::	-	1.1 2.5 1.8				<u> </u>	<u> </u>	<u> </u>
	 			1:	3				}	
	 			1	-	1	;			
1	1 4		1 1 -	a de la companya de l	vi	1	1	_ 	<u> </u>	

Field Technician: Kung Ku

ANNEXA

Landfill Gas Monitoring - Field Measurement Recording Sheet (Sample)

Name of site: TKR PIS No.5 Date of measurement:

Sampling equipment used:	Dates calibrated
i	
(nA 2000	72/8/2007

	•	2	'	•						· · · · · · · · · · · · · · · · · · ·
				Perimeter on-site and/or off-site monitoring holes						
		L. I.		<u>. </u>		Flammable gas	Carbon	A Company of the Comp	١٠. ١٠.	
Sample		Sampling	al We	ainer	Balarice gas (%)	· (methane %)	dioxide (%)	Oxygen (%)	Temp (°C)	Remark
location	ineasmement	time	con	19 14 7 5	Dataice Bas (10)	- Internation 149			77.4	2m depth
Porton	25/1/200	12337	54	0.	1.4. ·	. 0	0.	235		' ' ' ' '
	í ·	72/24	ET .	1 2 0 D L &	- 43	. O	0	2016	216	4.5m depth
Pertner		12/35	1		-143	. 0	0.	ڪ⊃ر ل	27.6	15m depth
Portons	۷.	11			7015	. 0	O	ح٥.5	214	4m depth
Porton		13231	1 3 3 5	<u> </u>			1.	20.6	27.6	3m depth
Porting	1 10	13-39	- 57 P	13 - 3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	9.53 = 1.0		O			الله فسسا
コウレイ	7 1	13-40		1	794	0	<u> </u>	225	21.6	5m depth
Toylor	· · · · · · ·	13>40	1		193	k.o. 4		226	27,5	I'm clipth
lex con	i d'		<u>س عند بنب</u> د د د		192	+ 0	. 0	المح	27.7	2m depth
Porton	.61	1327	- 1			1:0 -		225	275	2m dorth
Porton	'd'	With	: : : : : : : : : : : : : : : : : : :	4	777		ð	 /	271	
1 ~ 1 1		13-37			it 79.4	6	0	205	27.4	Im depth
Yestra		111111					4	<u> </u>		<u> </u>
<u> </u>	1			i in it	<u> </u>					
Į				And the second	1	7	 	- 		
	1			T						
	-\- -		- 1	100.35		<u> </u>	<i>[</i>]	<u> </u>	<u> </u>	

Field Technician: Kong Kaluk Kl

ANNEXA		1			lan lan
Landfill Ga	s Monitoring	- Field Mea	şurement R	ecording S	reet (Sample)

Name of site: TKR PIS No.5.
Date of measurement:

Sampling equipment used:	Dates calibrated
GA2000	22/8/2006
•	· ·

				Γ						r
	-	!		Perimeter on-site and/or off-site monitoring holes						
Cample	Date of	Sampling	We	ather		Plainmable gas	Carbon		•	
Sample location	measurement	time	con	dition -	Balance gas (%)		dioxide (%):	Oxygen (%)	Temp (°C)	Remark
\		 	1	1 9 5	19-3	5 0	0	ا مامد	26.4	2m depth
Porting 4	26-9-2-06		***	T			0	2:05	245	4. Ery depth
Portion	<u> </u>	8417	2 10	Se Minices	The state of the s		C	で	26.E	1.5m depth
Poxton5	1.	812.8	, , ,	<u> </u>	79.4	.0.		225		// A All
Portros	/×1 * ·	8229	1 : 3	<u></u>	79.4	. O.	U	225	265	tra depth
Postion	11	8450	1.1. A.C.	A SECTION OF	93	(O) (e)	0	25, 6	26,5	3m depth
011	10	8531	1:	1	79 5	io î	0	20.4.	264	5m depth
Lestien 1	111		1	1075 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	45	2 0 -	0	20,41	264	4m deron
Parton 1		\$ 5.70	<u> </u>	1 21	76.2	0	0) 50. P	264	2m depth
Potan	1	8730		<u>``</u>	17.2		. 0	* .	26.4	ולר ג'ו
Partonb	141	5-34	- F - 15 (`l£	793	10	 	المحد ا		2m douth
Patrob	7,4	8-11		(1) - ·	79.4	ं	0	235	26.6	In death
Tanno	1		7-1-1		il	, · ·	a		1	<u></u>
\ <u>\</u>	 			T. P. S. S. S. S.	1 133					
		<u> </u>	-		1 1 1 1 1 1 1 1 1		-			Ţ ,
					1		1		 	
	1 : 3	1. 1.		41,19			!	<u> </u>	<u>.</u>	

Field Technician: Kong lakan