Annual Environmental Report 2010

Derryconnell Landfill and Civic Amenity Site

WASTE LICENCE REGISTRATION NO. W0089-02

Prepared By: -
Mairéad Hales
Executive Engineer

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1. INTRODUCTION

1.1 Scope and Purpose of the Report

Waste Licence No. 89-1 was issued to Cork County Council by the Environmental Protection Agency (EPA) for Derryconnell Landfill Site in October 2000. In November 2008, Waste Licence No. W0089-02 was issued by the EPA, replacing 89-1, and is the current Waste Licence relating to the site.

Condition 11.12 of the waste licence states the following:-

'The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year.'

1.2 Reporting Period

This Annual Environmental Report (AER) covers the reporting period 1st January 2010 to 31st December 2010.

1.3 Site Location

The facility address and contact numbers are detailed below:-

Derryconnell Landfill,

Derryconnell,

Schull,

Co. Cork

Tel. (028) 37048

Fax: (028) 37742

The National Grid Reference for the site is E9627, N3396.

2. DESCRIPTION OF THE SITE

2.1 Waste Management Activities at the Facility

Waste Activities at the Derryconnell landfill site are restricted to those outlined below: -

Waste Management Act 1996 to 2008: Third Schedule

Class 1. Deposit on, in or under land (including landfill).

Class 4. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.

Class 5. Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.

Class 12. Repacking prior to submission to any activity referred to in a preceding paragraph of this Schedule (Principal Activity).

Class 13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

Waste Management Act 1996 to 2008: Fourth Schedule

Class 2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).

Class 3. Recycling or reclamation of metals and metal compounds.

Class 4. Recycling or reclamation of other inorganic materials.

Class 13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

In accordance with Schedule A of the Waste Licence, the waste categories and quantities acceptable at the facility are limited to those shown in Table 2.1.

Waste Types		**Maximum Tonnes Per Annum**
Non-Hazardous Waste	*Residual Municipal Waste For disposal*	17,000
	Storage of Waste prior to recovery	7,000
Hazardous Waste	*Storage of Waste prior to recovery or disposal*	152
Total including disposal and recovery		**24,152**

Table 2.1: Waste Categories and Quantities Acceptable at the Facility

2.2 Management and Staffing Structure of the Facility.

The following staff were employed on site during 2010: -

- One Facility Manager
- One Machine Operator (operates landfill compactor).
- Two General Operatives / Deputy Facility Managers
- In addition there are part-time, relief General Operatives.

Site and managerial staff details are shown in the following tables 2.2(a) and 2.2(b).

Employee	Position	Duties and Responsibilities	Experience / Qualifications
Mr. John Hurley *(Externally hired Contractor)*	Compactor Operator	Systematic and regularised placement and compaction of waste within active cell	Over 20 years experience of landfill compaction.
Mr. Joe Newman	General Operative Deputy Facility Manager	General site operation and maintenance. Collection of gate fees. Administration of on-site records. Implementation of waste acceptance procedures. Coordination and control of customer activities. Deputising as Facility Manager	12 years landfill operation experience. Completed Site Operative modules of FAS Waste Management Course. Trained in operation and management of various on site systems.
Mr. Frank Cronin	General Operative Deputy Facility Manager	General site operation and maintenance. Collection of gate fees. Administration of on-site records. Implementation of waste acceptance procedures. Coordination and control of customer activities. Deputising as Facility Manager	10 years landfill operation experience. Completed Site Operative modules of FAS Waste Management Course. Trained in operation and management of various on site systems.
Mr. Jerry McCarthy; Mr. Patrick Forrester	Relief General Operative	General site operation and maintenance. Collection of gate fees. Implementation of waste acceptance procedures. Coordination and control of customer activities.	5 years landfill operation experience. Completed Site Operative modules of FAS Waste Management Course. Trained in operation and management of various on site systems.

Table 2.2(a): Site Staff

The following staff were also responsible for operation and management of the facility.

Position	Contact Details
Senior Executive Officer *Ms. Gráinne O'Mahony*	Cork County Council, Environment & Recreation, Hume House, Wolfe Tone Street, Clonakilty, Co. Cork. Tel: 023 8858812 Fax: 023 8858814
Senior Executive Engineer *Mr. Paudie Hegarty, B.E.*	
Facility Manager / Executive Engineer *Ms. Mairéad Hales, B.E.*	

Table 2.2(b): Managerial Staff

2.3 Waste Quantities and Composition

The quantity and composition of the waste **received <u>and</u> disposed of** at the facility during the reporting period is recorded in table 2.3(a).

Waste Disposed of at Derryconnell Landfill (Tns) – 2010				
Month	**Household**	**Commercial**	**Construction & Demolition**	**Total**
January	527.18	1.62	119.18	647.98
February	536.42	20.08	470.46	1,026.96
March	527.66	2.34	126.32	656.32
April	373.14	0.70	180.14	553.98
May	235.66	6.60	61.36	303.62
June	201.54	0.00	47.38	248.92
July	379.06	0.00	0.00	379.06
August	164.42	0.00	41.46	205.88
September	-	-	-	-
October	-	-	-	-
November	-	-	-	-
December	-	-	-	-
Totals	**2,945.08**	**31.34**	**1,046.30**	**4,022.72**

Table 2.3(a): Quantities of Waste received and disposed of / landfilled during the reporting period January 2010 to December 2010.

The quantity and composition of the waste **received and recovered** during the reporting period, at the facility is recorded in table 2.3(b).

Waste Recovered at Derryconnell Landfill (Tns) – 2010													
Month	**Paper Card Plastic**	**Glass Bottles**	**Alum. Cans**	**Steel Cans**	**Scrap Metal**	**Timber**	**Batt.**	**Aerosl**	**Textiles**	**Oils**	**WEEE**	**Light Tubes**	**Gas Cylndrs**
January	16.26	6.98	0.14	0.36	6.28	5.78	0.00	0.00	1.78	0.58	0.00	0.00	0.00
February	14.84	9.82	0.12	0.66	15.46	11.14	1.26	0.14	0.74	0.00	7.86	0.00	0.00
March	13.42	3.50	0.16	1.20	7.20	5.00	0.00	0.00	0.94	1.08	24.18	0.00	0.00
April	19.00	8.08	0.18	0.54	13.38	10.44	0.00	0.00	0.86	0.00	9.46	0.00	0.00
May	13.50	6.16	0.08	0.70	0.00	0.00	0.00	0.08	0.66	0.00	12.68	0.22	0.00
June	15.68	7.26	0.14	0.78	6.76	5.94	0.00	0.14	1.14	0.76	0.00	0.00	0.00
July	21.46	8.56	0.16	0.00	13.10	10.82	0.00	0.00	0.66	0.00	22.22	0.00	0.00
August	20.02	11.88	0.32	1.00	9.48	4.70	0.00	0.08	1.88	0.00	5.80	0.00	0.00
September	18.30	0.00	0.02	0.64	5.38	7.58	0.00	0.00	1.70	0.00	7.44	0.00	0.00
October	12.04	7.02	0.12	0.44	4.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
November	10.36	6.72	0.14	0.70	4.32	4.86	0.00	0.10	0.78	0.00	4.64	0.00	0.78
December	10.02	0.00	0.02	0.26	0.00	0.00	0.00	0.00	0.62	0.74	0.00	0.00	0.00
Totals	**184.90**	**75.98**	**1.60**	**7.28**	**86.00**	**100.44**	**1.26**	**0.46**	**11.76**	**3.16**	**94.28**	**0.22**	**0.78**

Table 2.3(b): Quantity of Waste received and recovered during the reporting period January 2010 to December 2010.

2.4 Site Capacity

The filling sequence outlined below is based on the current landfill rates.

Phase	**Available Capacity**	**Available Capacity**	**Filling Commencement**	**Filling Completion**	**Restoration Completion**
	(m3)	**Months**	**Date**	**Date**	**Date**
Cell 1	0	0	Feb 2004	Nov 2004	March 2005
Cell 2	0	0	Nov 2004	Aug 2006	Temp. Cap Aug 2006
Cell 3	0	0	Sept 2006	Aug 2010	Q2 2011
Total	**0**	**0**			

Table 2.4: Phasing of Filling and Restoration Operations – Status at 31st Dec 2010

3. SITE DEVELOPMENT WORKS

3.1 Works During 2010

Final Capping and Gas Management works commenced on site on August 10th 2010. Cells 2 and 3 were capped and leachate and gas extraction systems put in place in accordance with details previously submitted to and approved by the EPA.

Other works which were carried out on site in 2010 are as follows:

- General maintenance works and upkeep of site.

3.2 Proposed Works for 2010

Due to inclement weather conditions towards the end on 2010, the full capping works were not entirely completed as planned. Topsoiling of the cells was postponed until Spring of 2011 and it is expected that this work will be completed by Q2 of 2011.

Other works which will be carried out on site in 2011 are as follows:

- General maintenance works and upkeep of site.

4. EMISSIONS AND ENVIRONMENTAL MONITORING DATA:

4.1 Monitoring points

All surface environmental monitoring points are shown on drawing No.1.

These consist of the following:

- **Groundwater Emissions monitoring Points: (7 no.)**
  (GW1, GW2, GW4, GW5, GW6, GW7, GW8)
- **Surface Water Emissions monitoring Points: (9 no.)**
  (SW1, SW2, SW3, SW4, SW5, SW6, SW7, SW8, SW9)
- **Leachate Quality monitoring Points: (8 no.)**
  (L1, L2, L3, L4, L5, L6, L7, L8)
- **Gas Emissions monitoring Points: (8 no.)**
  (L1, L2, L3, L4, L5, L6, L7, L8)
- **Dust Emissions monitoring Points: (4 no.)**
  (D1, D3, D6, D8) – number of points reduced with EPA agreement
- **Noise Emissions monitoring Points: (5 no.)**
  (N1, N6, N7, N10, N12) - number of points reduced with EPA agreement
- **Emissions to air monitoring Point: (1 no.)**
  Flare Stack

All sampling on site is carried out by Cork County Council personnel. Following the granting of Waste Licence W0089-02, environmental monitoring reporting is now via the AER. This replaces the previous system of reporting via two biannual reports.

The results of all environmental monitoring carried out on site during 2010 are tabulated in appendix 1.

4.2 Leachate

The leachate lagoon was operational throughout 2010. The total volume of leachate removed from the lagoon in 2010 was 23,910.68 M^3. All leachate extracted was transported to Bandon waste water treatment plant. Quantities extracted monthly are shown in table 4.2.

Month	***Vol (L)***
January	2,996,020
February	2,420,520
March	1,184,620
April	970,400
May	762,380
June	240,560
July	838,960
August	998,480
September	843,300
October	762,960
November	658,500
December	678,960
Total Leachate	**13,655,660**

Table 4.2: Leachate Disposal per Month 2010

4.3 Continuous Monitoring Systems utilised on site:

4.3.1 Surface water emissions monitoring (SCADA):

Surface water emissions from site are continuously analysed by means of a SCADA system that measures the following: TOC (Total Organic Carbon), pH, Conductivity, Ammonia as N, Temperature and Flow. A full record of hourly SCADA results is kept electronically and in hard copy on site.

4.3.2 Flare Emissions Monitoring:

A 500 M^3/Hr Flaring system was in operation on site throughout 2010. Gas quality and emissions are continuously analysed for the following: Methane %, Carbon Dioxide %, Oxygen %, Carbon Monoxide, Combustion Temperature, Flow & Pressure.

Flare monitoring results and emissions analysis are tabulated in appendix 2.

5.0 ENERGY CONSUMPTION

5.1 General

- During 2010, the site machinery comprised of an excavator, landfill compactor, teletruck and a site dumper, consumed approximately 36,000 litres of fuel.

- Water supply to the site is not yet metered.

- Electricity usage at the site during 2010 was estimated at approximately 96kWh per day.

6.0 ENVIRONMENTAL INCIDENTS, NON-COMPLIANCES AND COMPLAINTS

6.1 Environmental Incidents reported to EPA in 2010

A schedule of reported incidents and relevant remedial action is detailed in the following table.

Date	Nature of Incident	Corrective Action
01/11/10	Exceedance of emission limits	Further monitoring
26/11/10	Exceedance of emission limits	Further monitoring
24/01/10	Exceedance of emission limits	Further monitoring

Table 6.1: Environmental Incidents

6.2 Agency Notifications of Non-Compliance in 2010

A schedule of non-compliance's and relevant action is detailed in the following table.

Date	*Nature of Non Compliance*	*Corrective Action*
29/04/10	Non-compliance with section 53A of WMA 1996 re financial provisions	Information submitted to EPA
19/11/10	Non reporting of elevated ammonia	Trigger limits maintained and reporting procedure agreed with facility inspector
19/11/10	Exceedance of trigger limit for CO_2	Gas abstraction system extended and further monitoring underway
19/11/10	Flare burn temperature too low	Flare burn temperature now >1000 deg C
19/11/10	Leachate lagoon not integrity tested	Phase 1 of leachate lagoon test complete. Awaiting reduction in lagoon contents to complete test.
19/11/10	Non submission of firewater risk assessment, energy audit, CRAMP and ELRA.	Reports commissioned and ready for submission.
19/11/10	Non reporting of drainage system nuisance inspections	Drainage system inspections now recorded weekly.

Table 6.2: Non-Compliances.

6.3 Complaints Summary

There were no complaints in 2010. An odour log kept on site has not indicated any notable problems with odours during 2010.

6.4 Nuisance Controls

6.4.1 Litter

There were no serious littering incidents during 2010. Litter can become apparent on site during periods of high wind but this is always dealt with in a timely fashion by site staff.

6.4.2 Birds

A Bird Control Programme was in place on site during 2010. Records of visits by the Bird Control specialists are kept on site. The programme consists of a monthly service visit by the specialists and use of the following on site to assist in the prevention of bird scavenging at the site:-

- Helekite
- Hawk Kites
- Helegas 7.82cuM & Regulator
- Bird Scaring Pistol / 50 M Bang Cartridge

Bird presence on site in 2010 did not result in any impairment of, or interference with the amenity or the environment. Following initial capping works in August and September 2010 where waste was no longer exposed on site, professional bird control was no longer deemed necessary on site.

6.4.3 Vermin & Flying Insects

Vermin and fly control is carried out under contract with pest specialists and a record of same kept on site as required under condition 11.3 of the Waste Licence.

6.4.4 Scavenging

Scavenging did not occur on site during 2010. A CCTV system is operational on site to deter and record any potential scavenging incidents.

6.5 Programme for Public Information

6.5.1 Information Available to the Public

A site notice at the facility entrance states the following displays information on the facility including the following:-

- Facility name and address and telephone number
- Emergency contact information
- Opening hours
- Waste Licence information

Personnel associated with the facility are also available by appointment to meet with members of the public and answer queries regarding the facility if requested. The following information is held in a public file at the facility offices, available for the public to inspect: -

- A copy of the waste licence application.
- A copy of the current waste licence W0089-02.
- All correspondence from the Agency relating to the facility.
- All correspondence from Cork County Council to the Agency relating to the facility.
- Copies of environmental monitoring reports.

7. ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

An Environmental Management Plan was prepared for the site in accordance with EPA guidance documents. A copy is kept on site and acts as a manual for the operation of Derryconnell Landfill. It outlines the requirements of the Waste Licence and sets out a programme for achieving the schedule of objectives and targets.

7.1 Schedule of Objectives and Targets for Year 2010

The proposed Objectives & Targets for 2010 are as follows:

Objective 1: Complete Final Capping works on site

Due to inclement weather conditions towards the end on 2010, the full capping works were not entirely completed as planned. Topsoiling of the cells was postponed until Spring of 2011 and it is expected that this work will be completed by Q2 of 2011.

7.2 Implementation of Objectives and Targets From 2009

Objective 1: Final Capping, Leachate and Gas Management

This objective has been substantially achieved.

Objective 2: Acceptance of bagged waste only

Objective achieved

7.3 Update of Procedures Associated with the Facility

General Site procedures associated with the facility remained unchanged throughout 2010. Additional health and safety procedures were implemented by site staff and contractors for the duration of the final capping works.

7.4 Staff Training

Site Operatives underwent the following training in 2010:-

- Safe Pass
- First Aid
- Manual Handling
- EPA Hazardous Waste Handling Training

7.5 Financial Provision

Cork County Council has the ability to meet any financial commitments or liabilities incurred by the carrying out of the disposal activities relating to the Derryconnell Landfill. These commitments include compliance with the waste management licence (No. W00089-02) and restoration and aftercare of the site as specified in Condition 8 of the licence.

Under Section 38 of the Waste Management Act, 1996, Cork County Council ''shall provide and operate, or arrange of, such facilities as may be necessary for the recovery and disposal of household waste arising within the functional area''. Compliance with Section 38 and all other relevant sections of the Waste Management Act, 1996 is a statutory obligation of Cork County Council. Cork County Council annually, in the preparation of budget estimates and the passing of these estimates, shall make provision for any capital works and maintenance works required to fulfil conditions of the waste licence for the Derryconnell Landfill.

APPENDICES

APPENDIX 1

SUMMARY OF ENVIRONMENTAL MONITORING

- On site monitoring and sampling was carried out by Cork County Council Personnel.

- All Surface Water, Groundwater, Leachate and Dust analysis was carried out by Enva Ireland Ltd., Rafeen Industrial Estate, Ringaskiddy, Co. Cork.
- (Note: Blank results indicate monitoring location was dry at time of sampling)

- Noise Monitoring was carried out by McSwiney Environmental & Safety Consulting Ltd., Corner House, Kenmare, Co. Kerry, Ireland.

LANDFILL GAS MONITORING

The Waste Licence specifies monitoring of landfill gas emissions on a monthly basis.

Additional monitoring is carried out by the Licencee for informational purposes.

L1 – L2 MONITORING RESULTS

L1							L2					
Date	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**
14/01/2010	0.91	-	-	-	-	-	2.13	-	-	-	-	-
28/01/2010	1.28	-	-	-	-	-	2.45	-	-	-	-	-
11/02/2010	1.24	-	-	-	-	-	2.41	-	-	-	-	-
25/02/2010	-	-	-	-	-	-	-	-	-	-	-	-
11/03/2010	1.32	-	-	-	-	-	2.48	-	-	-	-	-
22/04/2010	1.10	-	-	-	-	-	2.20	-	-	-	-	-
20/05/2010	1.15	-	-	-	-	-	2.06	-	-	-	-	-
17/06/2010	1.26	-	-	-	-	-	1.73	-	-	-	-	-
05/07/2010	1.06	18.80	1017	20.00	0.00	0.00	1.83	18.20	1017	19.80	0.20	0.00
10/08/2010	1.02	-	-	-	-	-	1.25	-	-	-	-	-
10/09/2010	1.00	19.20	1018	-	-	-	1.43	18.40	1018	-	-	-
01/10/2010	1.04	-	-	-	-	-	1.70	-	-	-	-	-
19/11/2010	1.14	-	-	-	-	-	2.06	-	-	-	-	-
21/12/2010	1.05	-	-	-	-	-	1.83	-	-	-	-	-

L3 – L4 MONITORING RESULTS

L3							L4					
Date	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4 %**
14/01/2010	0.04	-	-	-	-	-	0.86	-	-	-	-	-
28/01/2010	0.02	-	-	-	-	-	1.45	-	-	-	-	-
11/02/2010	1.86	-	-	-	-	-	1.61	-	-	-	-	-
25/02/2010	Dry	-	-	-	-	-	Dry	-	-	-	-	-
11/03/2010	Dry	10.50	1011	20.10	0.00	0.00	Dry	-	-	-	-	-
22/04/2010	Dry	17.30	1008	20.30	0.30	0.00	Dry	-	-	-	-	-
20/05/2010	Dry	20.10	1012	20.70	0.00	0.00	Dry	-	-	-	-	-
17/06/2010	Dry	19.10	1019	21.00	0.00	0.00	Dry	-	-	-	-	-
05/07/2010	Dry	23.10	1020	20.50	0.00	0.00	0.90	20.10	1017	2.60	30.90	39.40
10/08/2010	Dry	22.10	1021	19.60	0.00	0.00	1.30	-	-	-	-	-
10/09/2010	Dry	18.10	1018	19.70	0.00	0.00	0.90	17.90	1018	-	-	-
01/10/2010	Dry	13.80	1006	19.80	0.00	0.00	0.42	-	-	-	-	-
19/11/2010	Dry	9.80	995	18.00	0.10	0.00	Dry	-	-	-	-	-
21/12/2010	Dry	2.00	1021	17.60	0.40	0.00	1.00	-	-	-	-	-

L5 – L6 MONITORING RESULTS

L5							L6					
Date	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**
14/01/2010	2.65	-	-	-	-	-	1.48	-	-	-	-	-
28/01/2010	2.79	8.70	1027	12.20	7.40	0.40	1.83	7.40	1027	17.00	1.30	0.00
11/02/2010	2.84	9.10	1025	20.10	0.50	0.00	2.04	8.20	1024	19.80	1.00	0.00
25/02/2010	2.61	11.20	1018	19.80	0.70	0.00	1.89	11.40	1018	17.20	1.50	0.00
11/03/2010	2.50	10.20	1011	19.00	1.20	0.00	1.72	11.10	1011	16.60	3.10	0.00
22/04/2010	2.41	16.40	1008	19.40	0.90	0.00	1.65	14.50	1008	19.00	1.70	0.00
20/05/2010	2.65	19.60	1014	19.40	0.60	0.00	1.93	18.20	1013	18.90	1.40	0.00
17/06/2010	2.51	18.40	1019	19.30	1.00	0.00	1.74	18.50	1019	18.80	1.90	0.00
05/07/2010	2.65	27.50	1017	19.70	0.60	0.00	1.74	20.10	1017	15.60	4.60	0.00
10/08/2010	2.40	20.40	1021	19.10	1.10	0.00	1.65	19.80	1021	16.20	4.00	0.00
10/09/2010	2.50	19.60	1018	19.00	1.00	0.00	1.51	17.40	1018	16.00	4.10	0.00
01/10/2010	2.58	16.70	1006	18.90	1.30	0.00	1.54	14.80	1006	15.30	4.50	0.00
19/11/2010	2.52	8.70	995	15.90	8.90	0.30	1.96	9.30	995	17.90	1.60	0.00
21/12/2010	2.50	2.40	1021	17.10	1.10	0.00	1.74	2.20	1021	18.00	1.60	0.00

L7 – L8 MONITORING RESULTS

L7							L8					
Date	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**
14/01/2010	0.91	-	-	-	-	-	0.34	-	-	-	-	-
28/01/2010	0.99	6.60	1027	15.50	3.30	0.00	0.28	0.32	-	-	-	-
11/02/2010	0.91	8.40	1025	19.70	0.30	0.00	0.76	-	-	-	-	-
25/02/2010	0.42	10.80	1018	17.10	1.20	0.00	0.53	-	-	-	-	-
11/03/2010	0.31	11.40	1011	16.80	2.40	0.00	0.37	-	-	-	-	-
22/04/2010	0.13	17.90	1008	17.10	3.90	0.00	0.16	17.00	1008	15.20	9.50	0.00
20/05/2010	0.21	17.40	1013	17.60	2.00	0.00	0.31	-	-	-	-	-
17/06/2010	0.55	18.40	1020	17.90	2.50	0.00	0.31	-	-	-	-	-
05/07/2010	0.15	20.50	1017	18.10	2.20	0.00	0.15	18.40	1017	19.10	1.40	0.00
10/08/2010	Dry	20.90	1021	17.10	3.90	0.00	0.27	-	-	-	-	-
10/09/2010	Dry	18.50	1018	17.20	4.20	0.00	0.33	18.70	1018	-	-	-
01/10/2010	Dry	16.20	1006	15.90	4.40	0.00	0.42	-	-	-	-	-
19/11/2010	0.19	9.80	995	15.00	4.90	0.00	0.64	-	-	-	-	-
21/12/2010	0.69	3.20	1021	16.10	3.50	0.00	0.53	-	-	-	-	-

GW1 – GW2 MONITORING RESULTS

GW1							GW2					
Date	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**
14/01/2010	2.06	6.20	1019	18.40	0.50	0.00	1.10	8.40	1019	19.40	0.30	0.00
28/01/2010	2.11	7.40	1027	17.00	0.70	0.00	1.04	11.60	1026	17.20	0.50	0.00
11/02/2010	2.28	6.30	1024	18.20	0.60	0.00	1.41	7.60	1024	18.00	0.80	0.00
25/02/2010	2.56	14.10	1018	19.10	1.10	0.00	1.31	12.10	1018	19.40	0.20	0.00
11/03/2010	2.65	9.60	1011	19.80	0.90	0.00	1.40	10.20	1011	19.20	0.50	0.00
22/04/2010	2.97	16.50	1008	19.40	1.00	0.00	1.76	18.10	1008	19.00	0.40	0.00
20/05/2010	2.71	19.10	1009	19.10	0.80	0.00	1.93	18.70	1009	20.00	0.10	0.00
17/06/2010	2.49	19.40	1019	19.00	1.10	0.00	1.66	20.10	1019	20.80	0.00	0.00
05/07/2010	2.68	20.30	1017	18.70	1.20	0.00	1.85	28.10	1020	20.40	0.00	0.00
10/08/2010	2.46	18.60	1021	18.40	0.90	0.00	1.82	19.90	1021	19.80	0.10	0.00
10/09/2010	2.33	17.20	1018	18.00	0.80	0.00	1.80	18.40	1018	17.90	0.80	0.00
01/10/2010	2.24	15.60	1006	18.30	1.10	0.00	1.78	17.20	1006	19.30	0.40	0.00
19/11/2010	2.05	10.20	995	18.20	0.40	0.00	1.20	9.70	995	18.40	0.20	0.00
21/12/2010	2.36	1.20	1021	18.50	0.30	0.00	1.37	2.00	1021	18.90	0.10	0.00

GW4 – GW5 MONITORING RESULTS

GW4							GW5					
Date	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**
14/01/2010	0.36	8.70	1019	19.90	0.30	0.00	0.46	8.20	1018	18.40	0.60	0.00
28/01/2010	0.31	7.20	1026	20.10	0.20	0.00	0.39	7.34	1026	19.80	0.30	0.00
11/02/2010	0.65	8.40	1024	19.80	0.80	0.00	0.21	8.90	1024	21.00	0.00	0.00
25/02/2010	0.79	11.90	1018	20.10	0.40	0.00	1.47	11.72	1019	20.10	0.70	0.00
11/03/2010	0.90	10.40	1011	20.40	0.30	0.00	1.56	10.90	1011	20.20	0.30	0.00
22/04/2010	1.14	16.60	1008	20.40	0.20	0.00	1.77	18.00	1008	20.20	0.60	0.00
20/05/2010	1.10	19.60	1009	21.00	0.00	0.00	1.56	18.90	1009	19.60	0.90	0.00
17/06/2010	1.08	18.60	1018	21.00	0.00	0.00	1.29	18.90	1020	20.10	0.40	0.00
05/07/2010	1.27	26.40	1020	20.80	0.00	0.00	1.48	22.50	1020	20.70	0.20	0.00
10/08/2010	1.59	19.50	1021	19.00	0.00	0.00	1.07	20.20	1021	18.70	0.30	0.00
10/09/2010	1.32	18.90	1018	19.80	0.00	0.00	0.96	16.90	1018	19.60	0.10	0.00
01/10/2010	1.13	20.20	1006	19.00	0.10	0.00	0.88	15.20	1006	18.60	0.70	0.00
19/11/2010	0.68	9.50	995	18.60	0.50	0.00	1.19	10.10	995	17.90	1.30	0.00
21/12/2010	0.64	0.80	1021	18.30	0.40	0.00	1.11	1.40	1021	17.80	1.00	0.00

GW6 – GW7 MONITORING RESULTS

GW6							GW7					
Date	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**
14/01/2010	0.46	5.60	1018	19.50	0.30	0.00	Full	-	-	-	-	-
28/01/2010	0.39	5.30	1027	17.70	0.50	0.60	Full	-	-	-	-	-
11/02/2010	Full	-	-	-	-	-	Full	-	-	-	-	-
25/02/2010	0.36	11.80	1020	19.60	0.80	0.00	Full	11.40	1020	19.70	0.20	0.00
11/03/2010	0.45	9.80	1011	19.60	1.00	0.00	Full	9.90	1011	19.80	0.10	0.00
22/04/2010	0.52	14.10	1008	19.30	0.90	0.00	Full	17.10	1008	19.50	0.20	0.00
20/05/2010	0.48	19.00	1009	19.80	0.00	0.00	Full	19.50	1009	21.00	0.00	0.00
17/06/2010	0.35	18.20	1020	20.40	0.00	0.00	0.25	19.50	1020	19.90	0.00	0.00
05/07/2010	0.54	26.70	1017	20.00	0.10	0.00	0.44	21.10	1017	19.90	0.10	0.00
10/08/2010	0.59	18.60	1021	19.20	0.60	0.00	0.46	17.80	1021	18.60	0.30	0.00
10/09/2010	0.55	17.60	1018	18.90	0.80	0.00	0.49	17.90	1018	18.60	0.30	0.00
01/10/2010	0.54	17.60	1006	19.30	0.50	0.00	0.57	14.30	1006	19.00	0.50	0.00
19/11/2010	Full	9.10	995	18.60	0.20	0.00	Full	9.10	995	18.80	0.00	0.00
21/12/2010	0.15	2.10	1021	17.60	1.20	0.00	0.10	2.30	1021	19.10	0.00	0.00

GW8 & SITE OFFICE MONITORING RESULTS

GW8							Site Office					
Date	**Depth (m)**	**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**		**Temp °C**	**Pressure Mb**	**O_2%**	**CO_2%**	**CH_4%**
14/01/2010	0.94	6.00	1018	19.30	0.10	0.00		9.80	1015	21.00	0.00	0.00
28/01/2010	0.88	5.20	1027	18.60	0.00	0.00		11.00	1026	21.00	0.00	0.00
11/02/2010	1.02	9.20	1025	21.00	0.00	0.00		10.20	1025	21.00	0.00	0.00
25/02/2010	0.98	11.00	1018	20.80	0.00	0.00		14.20	1018	21.00	0.00	0.00
11/03/2010	1.02	10.00	1011	21.00	0.00	0.00		10.20	1011	21.00	0.00	0.00
22/04/2010	1.26	14.70	1008	20.80	0.00	0.00		17.30	1009	21.00	0.00	0.00
20/05/2010	1.25	19.90	1009	20.90	0.00	0.00		21.40	1013	21.00	0.00	0.00
17/06/2010	1.23	20.00	1019	20.80	0.00	0.00		21.40	1020	21.00	0.00	0.00
05/07/2010	1.42	25.50	1017	20.20	0.00	0.00		22.20	1020	21.70	0.00	0.00
10/08/2010	1.39	20.40	1021	19.70	0.10	0.00		22.30	1021	21.00	0.00	0.00
10/09/2010	1.48	17.00	1018	19.50	0.10	0.00		20.20	1018	21.00	0.00	0.00
01/10/2010	1.52	15.40	1006	19.40	0.10	0.00		16.40	1005	21.00	0.00	0.00
19/11/2010	0.91	9.30	995	18.30	0.10	0.00		12.90	995	21.00	0.00	0.00
21/12/2010	0.98	2.70	1021	19.00	0.00	0.00		12.40	1021	21.00	0.00	0.00

SURFACE WATER

SURFACE WATER MONITORING RESULTS

SW1	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	<0.01	4.510	2.960	1.160
Chloride	**mg/l**	25.000	50.000	30.000	32.000
Conductivity	**us/cm**	136.700	295.000	273.000	146.000
Dissolved Oxygen	**mg/l**	-	-	-	13.500
Boron	**mg/l**	-	-	-	<.0094
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	9.230
Chromium (total)	**ug/l**	-	-	-	<3.000
Copper	**mg/l**	-	-	-	<0.00085
Iron	**ug/l**	-	-	-	<19.000
Lead	**ug/l**	-	-	-	<0.102
Magnesium	**mg/l**	-	-	-	2.100
Manganese	**ug/l**	-	-	-	99.600
Nickel	**ug/l**	-	-	-	1.040
Potassium	**mg/l**	-	-	-	<2.340
Sodium	**mg/l**	-	-	-	19.300
Zinc	**ug/l**	-	-	-	7.590
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	10.600
Total Phosphorous	**mg/l P**	-	-	-	<0.020
Total Coliforms	**No/100ml**	-	-	-	70
E.Coli	**No/100ml**	-	-	-	5

SURFACE WATER MONITORING RESULTS

SW2	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	0.150	Monitoring	<0.200	<0.200
Chloride	**mg/l**	20.000	Location	19.000	28.000
Conductivity	**us/cm**	88.300	Dry	178.000	210.000
Dissolved Oxygen	**mg/l**	-	-	-	6.210
Boron	**mg/l**	-	-	-	<0.0094
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	4.220
Chromium (total)	**ug/l**	-	-	-	<3.000
Copper	**mg/l**	-	-	-	0.002
Iron	**ug/l**	-	-	-	<19.000
Lead	**ug/l**	-	-	-	<0.180
Magnesium	**mg/l**	-	-	-	2.130
Manganese	**ug/l**	-	-	-	5.240
Nickel	**ug/l**	-	-	-	1.510
Potassium	**mg/l**	-	-	-	<2.340
Sodium	**mg/l**	-	-	-	13.600
Zinc	**ug/l**	-	-	-	3.750
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	10.000
Total Phosphorous	**mg/l P**	-	-	-	0.116
Total Coliforms	**No/100ml**	-	-	-	201
E.Coli	**No/100ml**	-	-	-	0

SURFACE WATER MONITORING RESULTS

SW3	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	0.440	1.210	0.693	0.402
Chloride	**mg/l**	19.000	36.000	27.000	33.000
Conductivity	**us/cm**	75.600	188.700	199.000	136.000
Dissolved Oxygen	**mg/l**	6.700	-	-	7.000
Boron	**mg/l**	-	-	-	<0.0094
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	7.050
Chromium (total)	**ug/l**	-	-	-	<3.000
Copper	**mg/l**	-	-	-	<0.00085
Iron	**ug/l**	-	-	-	20.200
Lead	**ug/l**	-	-	-	0.092
Magnesium	**mg/l**	-	-	-	2.010
Manganese	**ug/l**	-	-	-	105.000
Nickel	**ug/l**	-	-	-	1.200
Potassium	**mg/l**	-	-	-	<2.340
Sodium	**mg/l**	-	-	-	18.000
Zinc	**ug/l**	-	-	-	1.210
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	10.700
Total Phosphorous	**mg/l P**	-	-	-	<0.020
Total Coliforms	**No/100ml**	-	-	-	25
E.Coli	**No/100ml**	-	-	-	10

SURFACE WATER MONITORING RESULTS

SW4	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	<0.010	7.500	0.782	16.400
Chloride	**mg/l**	27.000	57.000	28.000	72.000
Conductivity	**us/cm**	178.700	275.000	177.000	439.000
Dissolved Oxygen	**mg/l**	-	-	-	10.200
Boron	**mg/l**	-	-	-	0.072
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	37.600
Chromium (total)	**ug/l**	-	-	-	<3.000
Copper	**mg/l**	-	-	-	0.002
Iron	**ug/l**	-	-	-	48.000
Lead	**ug/l**	-	-	-	0.081
Magnesium	**mg/l**	-	-	-	6.940
Manganese	**ug/l**	-	-	-	370.000
Nickel	**ug/l**	-	-	-	2.110
Potassium	**mg/l**	-	-	-	12.800
Sodium	**mg/l**	-	-	-	48.300
Zinc	**ug/l**	-	-	-	1.830
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	26.600
Total Phosphorous	**mg/l P**	-	-	-	<0.020
Total Coliforms	**No/100ml**	-	-	-	95
E.Coli	**No/100ml**	-	-	-	4

SURFACE WATER MONITORING RESULTS

SW5	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	0.470	1.300	0.692	0.407
Chloride	**mg/l**	22.000	46.500	39.000	36.500
Conductivity	**us/cm**	76.000	190.400	166.000	156.000
Dissolved Oxygen	**mg/l**	6.600	-	-	7.800
Boron	**mg/l**	-	-	-	0.018
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	7.290
Chromium (total)	**ug/l**	-	-	-	<3.000
Copper	**mg/l**	-	-	-	0.001
Iron	**ug/l**	-	-	-	87.600
Lead	**ug/l**	-	-	-	0.077
Magnesium	**mg/l**	-	-	-	2.090
Manganese	**ug/l**	-	-	-	104.000
Nickel	**ug/l**	-	-	-	0.996
Potassium	**mg/l**	-	-	-	<2.30
Sodium	**mg/l**	-	-	-	18.000
Zinc	**ug/l**	-	-	-	1.950
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	10.300
Total Phosphorous	**mg/l P**	-	-	-	<0.02
Total Coliforms	**No/100ml**	-	-	-	66
E.Coli	**No/100ml**	-	-	-	24

SURFACE WATER MONITORING RESULTS

SW6	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	0.510	Monitoring	0.775	0.340
Chloride	**mg/l**	35.000	Location	72.000	32.000
Conductivity	**us/cm**	297.000	Dry	579.000	137.000
Dissolved Oxygen	**mg/l**	-	-	-	13.500
Boron	**mg/l**	-	-	-	0.048
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	33.300
Chromium (total)	**ug/l**	-	-	-	<3.000
Copper	**mg/l**	-	-	-	0.001
Iron	**ug/l**	-	-	-	<19.000
Lead	**ug/l**	-	-	-	0.082
Magnesium	**mg/l**	-	-	-	4.820
Manganese	**ug/l**	-	-	-	22.500
Nickel	**ug/l**	-	-	-	1.870
Potassium	**mg/l**	-	-	-	5.650
Sodium	**mg/l**	-	-	-	23.700
Zinc	**ug/l**	-	-	-	2.270
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	20.600
Total Phosphorous	**mg/l P**	-	-	-	<0.020
Total Coliforms	**No/100ml**	-	-	-	1
E.Coli	**No/100ml**	-	-	-	0

SURFACE WATER MONITORING RESULTS

SW7	Units	14-Jan-10	18-Feb-10	29-Mar-10	22-Apr-10	28-May-10	30-Jun-10	28-Jul-10	25-Aug-10	23-Sep-10	21-Oct-10	16-Nov-10	15-Dec-10
pH	pH units	6.700	6.600	6.910	6.740	7.650	7.340	7.240	6.920	7.070	7.280	6.676	7.500
Ammoniacal N	mg/l N	0.072	0.244	11.200	0.220	0.370	0.991	<0.200	2.150	1.300	0.745	0.851	1.480
Conductivity	us/cm	157.000	128.000	98.000	129.000	143.500	210.000	123.100	255.000	220.000	156.000	172.800	545.000
Suspended Solids	mg/l	<5.000	<5.000	1.000	<6.000	<6.000	<6.000	<6.000	14.000	<6.000	<6.000	<6.000	16.000
COD	mg/l	32.000	8.000	46.000	16.000	20.000	36.000	46.000	39.000	22.000	21.000	25.000	21.000
Chloride	mg/l	29.400	25.300	22.000	30.000	38.000	36.000	31.000	28.000	30.000	35.000	32.900	30.000
Dissolved Oxygen	mg/l	-	-	-	-	-	-	-	-	-	-	10.940	-
Boron	mg/l	-	-	-	-	-	-	-	-	-	-	0.099	-
Cadmium	ug/l	-	-	-	-	-	-	-	-	-	-	<0.100	-
Calcium	mg/l	-	-	-	-	-	-	-	-	-	-	7.880	-
Chromium (total)	ug/l	-	-	-	-	-	-	-	-	-	-	<3.000	-
Copper	mg/l	-	-	-	-	-	-	-	-	-	-	0.001	-
Iron	ug/l	-	-	-	-	-	-	-	-	-	-	21.400	-
Lead	ug/l	-	-	-	-	-	-	-	-	-	-	0.046	-
Magnesium	mg/l	-	-	-	-	-	-	-	-	-	-	2.080	-
Manganese	ug/l	-	-	-	-	-	-	-	-	-	-	78.900	-
Nickel	ug/l	-	-	-	-	-	-	-	-	-	-	0.744	-
Potassium	mg/l	-	-	-	-	-	-	-	-	-	-	<2.34	-
Sodium	mg/l	-	-	-	-	-	-	-	-	-	-	19.400	-
Zinc	ug/l	-	-	-	-	-	-	-	-	-	-	0.887	-
Mercury	ug/l	-	-	-	-	-	-	-	-	-	-	<0.010	-
Sulphate	mg/l	-	-	-	-	-	-	-	-	-	-	9.900	-
Total Phosphorous	mg/l P	-	-	-	-	-	-	-	-	-	-	<0.020	-
Total Coliforms	No/100ml	-	-	-	-	-	-	-	-	-	-	53	-
E.Coli	No/100ml	-	-	-	-	-	-	-	-	-	-	10	-

SURFACE WATER MONITORING RESULTS

SW8	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	<0.010	Monitoring	<0.200	<0.200
Chloride	**mg/l**	22.000	Location	21.000	27.000
Conductivity	**us/cm**	88.300	Dry	135.000	169.000
Dissolved Oxygen	**mg/l**	-	-	-	9.400
Boron	**mg/l**	-	-	-	0.121
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	4.730
Chromium (total)	**ug/l**	-	-	-	<3.000
Copper	**mg/l**	-	-	-	0.001
Iron	**ug/l**	-	-	-	27.000
Lead	**ug/l**	-	-	-	0.108
Magnesium	**mg/l**	-	-	-	2.270
Manganese	**ug/l**	-	-	-	102.000
Nickel	**ug/l**	-	-	-	0.662
Potassium	**mg/l**	-	-	-	<2.340
Sodium	**mg/l**	-	-	-	14.700
Zinc	**ug/l**	-	-	-	0.252
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	11.700
Total Phosphorous	**mg/l P**	-	-	-	<0.020
Total Coliforms	**No/100ml**	-	-	-	11
E.Coli	**No/100ml**	-	-	-	0

SURFACE WATER MONITORING RESULTS

SW9	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	0.010	Monitoring	Monitoring	<0.200
Chloride	**mg/l**	37.500	Location	Location	40.500
Conductivity	**us/cm**	110.000	Dry	Dry	120.000
Dissolved Oxygen	**mg/l**	-	-	-	8.300
Boron	**mg/l**	-	-	-	<0.0094
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	2.600
Chromium (total)	**ug/l**	-	-	-	<3.000
Copper	**mg/l**	-	-	-	<0.00085
Iron	**ug/l**	-	-	-	73.500
Lead	**ug/l**	-	-	-	0.068
Magnesium	**mg/l**	-	-	-	2.590
Manganese	**ug/l**	-	-	-	239.000
Nickel	**ug/l**	-	-	-	0.693
Potassium	**mg/l**	-	-	-	<2.34
Sodium	**mg/l**	-	-	-	22.600
Zinc	**ug/l**	-	-	-	0.145
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	9.900
Total Phosphorous	**mg/l P**	-	-	-	<0.02
Total Coliforms	**No/100ml**	-	-	-	32
E.Coli	**No/100ml**	-	-	-	0

GROUNDWATER

GROUND WATER MONITORING RESULTS

GW1	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	<0.010	0.502	0.216	<0.200
Conductivity	**us/cm**	255.000	300.000	257.000	249.000
Chloride	**mg/l**	-	-	-	35.000
Boron	**mg/l**	-	-	-	0.020
Cadmium	**ug/l**	-	-	-	0.121
Calcium	**mg/l**	-	-	-	34.700
Chromium (total)	**ug/l**	-	-	-	6.390
Copper	**mg/l**	-	-	-	0.005
Iron	**ug/l**	-	-	-	<19.000
Lead	**ug/l**	-	-	-	0.094
Magnesium	**mg/l**	-	-	-	4.850
Manganese	**ug/l**	-	-	-	1190.000
Nickel	**ug/l**	-	-	-	1.210
Potassium	**mg/l**	-	-	-	<2.340
Sodium	**mg/l**	-	-	-	16.100
Zinc	**ug/l**	-	-	-	0.596
Cyanide (total)	**ug/l**	-	-	-	<50.000
Flouride	**mg/l**	-	-	-	<0.500
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	10.700
Total Phosphorous	**mg/l**	-	-	-	0.518
Total Coliforms	**MPN/100ml**	-	-	-	14
E. Coli	**MPN/100ml**	-	-	-	1

GROUND WATER MONITORING RESULTS

GW2	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	<0.010	<0.200	<0.200	<0.200
Conductivity	**us/cm**	298.000	220.000	343.000	1158.000
Chloride	**mg/l**	-	-	-	27.000
Boron	**mg/l**	-	-	-	<0.0094
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	33.500
Chromium (total)	**ug/l**	-	-	-	<5.550
Copper	**mg/l**	-	-	-	0.002
Iron	**ug/l**	-	-	-	<19.000
Lead	**ug/l**	-	-	-	0.027
Magnesium	**mg/l**	-	-	-	2.410
Manganese	**ug/l**	-	-	-	2.600
Nickel	**ug/l**	-	-	-	0.862
Potassium	**mg/l**	-	-	-	<2.34
Sodium	**mg/l**	-	-	-	12.000
Zinc	**ug/l**	-	-	-	1.110
Cyanide (total)	**ug/l**	-	-	-	<50.000
Flouride	**mg/l**	-	-	-	<0.500
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	23.700
Total Phosphorous	**mg/l**	-	-	-	0.218
Total Coliforms	**MPN/100ml**	-	-	-	201
E. Coli	**MPN/100ml**	-	-	-	41

GROUND WATER MONITORING RESULTS

GW4	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	0.040	<0.200	<0.200	<0.200
Conductivity	**us/cm**	298.000	301.000	251.000	362.000
Chloride	**mg/l**	-	-	-	26.000
Boron	**mg/l**	-	-	-	0.010
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	47.800
Chromium (total)	**ug/l**	-	-	-	5.070
Copper	**mg/l**	-	-	-	0.002
Iron	**ug/l**	-	-	-	<19.000
Lead	**ug/l**	-	-	-	0.031
Magnesium	**mg/l**	-	-	-	2.470
Manganese	**ug/l**	-	-	-	3.560
Nickel	**ug/l**	-	-	-	3.410
Potassium	**mg/l**	-	-	-	<2.340
Sodium	**mg/l**	-	-	-	19.000
Zinc	**ug/l**	-	-	-	0.610
Cyanide (total)	**ug/l**	-	-	-	<50.000
Flouride	**mg/l**	-	-	-	<0.500
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	8.200
Total Phosphorous	**mg/l**	-	-	-	0.176
Total Coliforms	**MPN/100ml**	-	-	-	32
E. Coli	**MPN/100ml**	-	-	-	0

GROUND WATER MONITORING RESULTS

GW5	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	0.170	Monitoring	<0.200	<0.200
Conductivity	**us/cm**	247.000	Location	331.000	207.000
Chloride	**mg/l**	-	Dry	-	27.000
Boron	**mg/l**	-	-	-	0.015
Cadmium	**ug/l**	-	-	-	0.129
Calcium	**mg/l**	-	-	-	39.600
Chromium (total)	**ug/l**	-	-	-	3.550
Copper	**mg/l**	-	-	-	0.003
Iron	**ug/l**	-	-	-	<19.000
Lead	**ug/l**	-	-	-	0.235
Magnesium	**mg/l**	-	-	-	1.930
Manganese	**ug/l**	-	-	-	42.100
Nickel	**ug/l**	-	-	-	2.730
Potassium	**mg/l**	-	-	-	<2.340
Sodium	**mg/l**	-	-	-	12.900
Zinc	**ug/l**	-	-	-	25.100
Cyanide (total)	**ug/l**	-	-	-	<50.000
Flouride	**mg/l**	-	-	-	<0.500
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	7.000
Total Phosphorous	**mg/l**	-	-	-	0.057
Total Coliforms	**MPN/100ml**	-	-	-	201
E. Coli	**MPN/100ml**	-	-	-	4

GROUND WATER MONITORING RESULTS

GW6	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	1.700	2.630	2.980	2.110
Conductivity	**us/cm**	480.000	376.000	388.000	370.000
Chloride	**mg/l**	-	-	-	50.000
Boron	**mg/l**	-	-	-	<0.0094
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	49.500
Chromium (total)	**ug/l**	-	-	-	27.400
Copper	**mg/l**	-	-	-	0.001
Iron	**ug/l**	-	-	-	<19.000
Lead	**ug/l**	-	-	-	0.041
Magnesium	**mg/l**	-	-	-	6.040
Manganese	**ug/l**	-	-	-	2290.000
Nickel	**ug/l**	-	-	-	1.940
Potassium	**mg/l**	-	-	-	<2.34
Sodium	**mg/l**	-	-	-	34.400
Zinc	**ug/l**	-	-	-	6.690
Cyanide (total)	**ug/l**	-	-	-	<50.000
Flouride	**mg/l**	-	-	-	<0.500
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	<3.000
Total Phosphorous	**mg/l**	-	-	-	2.380
Total Coliforms	**MPN/100ml**	-	-	-	1
E. Coli	**MPN/100ml**	-	-	-	0

GROUND WATER MONITORING RESULTS

GW7	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	17.610	17.600	15.300	11.600
Conductivity	**us/cm**	1100.000	855.000	971.000	796.000
Chloride	**mg/l**	-	-	-	66.000
Boron	**mg/l**	-	-	-	0.079
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	113.000
Chromium (total)	**ug/l**	-	-	-	6.010
Copper	**mg/l**	-	-	-	<0.00085
Iron	**ug/l**	-	-	-	<19.000
Lead	**ug/l**	-	-	-	0.097
Magnesium	**mg/l**	-	-	-	10.400
Manganese	**ug/l**	-	-	-	6350.000
Nickel	**ug/l**	-	-	-	2.790
Potassium	**mg/l**	-	-	-	14.300
Sodium	**mg/l**	-	-	-	48.200
Zinc	**ug/l**	-	-	-	11.000
Cyanide (total)	**ug/l**	-	-	-	<50.000
Flouride	**mg/l**	-	-	-	<0.500
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	29.400
Total Phosphorous	**mg/l**	-	-	-	0.038
Total Coliforms	**MPN/100ml**	-	-	-	2
E. Coli	**MPN/100ml**	-	-	-	0

GROUND WATER MONITORING RESULTS

GW8	Units	26-Mar-10	30-Jun-10	23-Sep-10	16-Nov-10
Ammoniacal N	**mg/l N**	0.070	<0.200	<0.200	<0.200
Conductivity	**us/cm**	324.000	458.000	414.000	239.000
Chloride	**mg/l**	-	-	-	35.000
Boron	**mg/l**	-	-	-	0.015
Cadmium	**ug/l**	-	-	-	<0.100
Calcium	**mg/l**	-	-	-	22.300
Chromium (total)	**ug/l**	-	-	-	<3.000
Copper	**mg/l**	-	-	-	0.005
Iron	**ug/l**	-	-	-	95.000
Lead	**ug/l**	-	-	-	0.498
Magnesium	**mg/l**	-	-	-	4.420
Manganese	**ug/l**	-	-	-	948.000
Nickel	**ug/l**	-	-	-	1.520
Potassium	**mg/l**	-	-	-	<2.340
Sodium	**mg/l**	-	-	-	26.100
Zinc	**ug/l**	-	-	-	16.300
Cyanide (total)	**ug/l**	-	-	-	<50.000
Flouride	**mg/l**	-	-	-	<0.500
Mercury	**ug/l**	-	-	-	<0.010
Sulphate	**mg/l**	-	-	-	17.100
Total Phosphorous	**mg/l**	-	-	-	<0.020
Total Coliforms	**MPN/100ml**	-	-	-	50
E. Coli	**MPN/100ml**	-	-	-	1

LEACHATE

LEACHATE MONITORING RESULTS

16-Nov-2010	Units	L1	L2	L3	L4	L5	L6	L7	L8
Ammoniacal N	**mg/l N**	44.500	121.000	Monitoring	262.000	11.200	<0.200	Monitoring	11.300
BOD	**mg/l**	30.020	51.250	Location	18.620	82.080	28.210	Location	18.060
COD	**mg/l**	303.000	325.000	Dry	307.000	1150.000	730.000	Dry	1030.000
Chloride	**mg/l**	63.000	177.000	-	399.000	40.000	25.000	-	5.000
Conductivity	**us/cm**	1020.000	2118.000	-	3404.000	550.000	-	-	363.000
pH	**pH units**	6.480	6.750	-	6.850	6.600	6.100	-	6.320
Boron	**mg/l**	0.104	0.191	-	1.800	0.056	0.031	-	0.019
Cadmium	**ug/l**	<0.100	<0.100	-	<0.100	<0.100	<0.100	-	<0.100
Calcium	**mg/l**	56.100	110.000	-	51.800	107.000	54.000	-	37.400
Chromium (total)	**ug/l**	<3.000	6.040	-	103.000	<3.000	17.400	-	6.350
Copper	**mg/l**	<0.00085	0.001	-	0.001	<0.00085	0.004	-	<.00085
Iron	**ug/l**	8300.000	1550.000	-	4270.000	19.000	19.000	-	<19.000
Lead	**ug/l**	0.101	0.064	-	0.029	0.116	0.037	-	<0.020
Magnesium	**mg/l**	8.940	27.200	-	27.200	9.140	4.720	-	4.160
Manganese	**ug/l**	5100.000	8850.000	-	1980.000	4900.000	16.700	-	3940.000
Nickel	**ug/l**	65.600	9.100	-	29.600	48.100	5.120	-	10.300
Potassium	**mg/l**	28.500	74.600	-	175.000	11.700	5.010	-	7.290
Sodium	**mg/l**	47.800	137.000	-	295.000	42.200	16.500	-	22.400
Zinc	**ug/l**	3.210	2.470	-	1.750	13.000	2.910	-	6.490
Cyanide (total)	**ug/l**	<50.000	<50.000	-	<50.000	<50.000	<50.000	-	<50.000
Flouride	**mg/l**	<0.500	<0.500	-	<0.500	<0.500	<0.500	-	<0.500
Mercury	**ug/l**	<0.010	<0.010	-	<0.010	<0.010	<0.010	-	<0.010
Sulphate	**mgl**	<3.000	40.900	-	<3.000	27.100	100.000	-	15.100
Total Phosphorous	**mg/l P**	0.068	0.038	-	0.545	0.030	0.636	-	0.142

DUST & NOISE MONITORING RESULTS

DUST MONITORING RESULTS

LOCATION	Units	28-Jul-10	23-Sep-10	15-Dec-10
D1	mg/m^2/day	52.20	26.70	17.10
D3	mg/m^2/day	41.40	69.40	0.48
D6	mg/m^2/day	252.00	213.00	15.20
D8	mg/m^2/day	91.20	139.00	9.05

NOISE MONITORING RESULTS - DECEMBER 2010

LOCATION	Units	L_{Aeq} 30 mins	L_{A90} 30 mins	L_{A10} 30 mins
N1	dB(A)	33.50	28.00	35.90
N6	dB(A)	36.10	28.70	37.60
N7	dB(A)	49.30	33.70	49.20
N10	dB(A)	43.10	35.80	46.10
N12	dB(A)	57.40	40.90	58.70

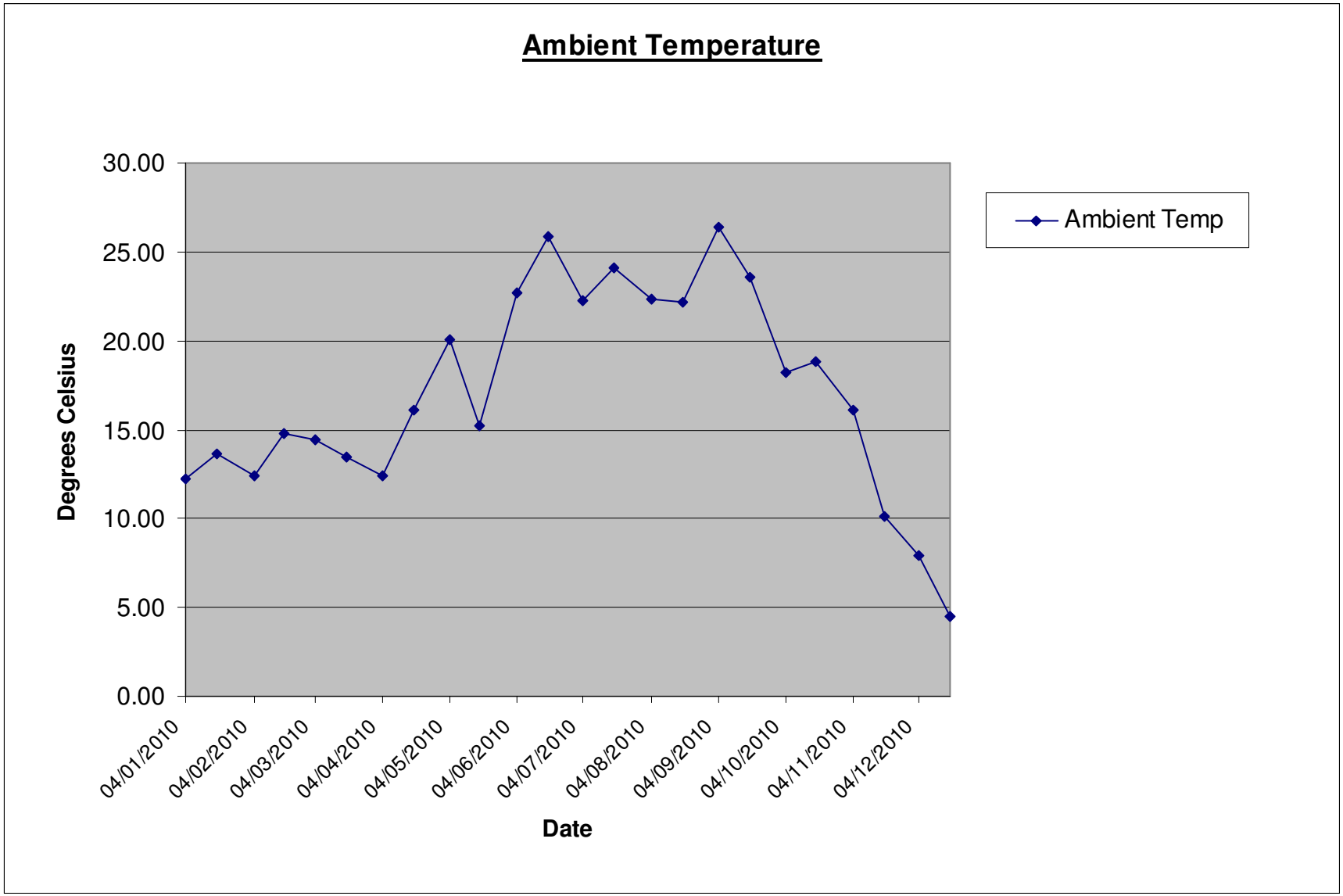
APPENDIX 2

FLARE EMISSIONS MONITORING RESULTS & GRAPHS

Biannual Flare Emissions Monitoring was carried out Axis Environmental Services, 40 Coolraine Heights, Old Cratloe Road, Limerick.

GAS FLARE DATA

Date	Ambient Temp	Atm Pressure	CO_2	CO	Flow	CH_4	O_2	Flare Pressure	Flare Temp
04/01/2010	12.24	1008.58	31.72	16.91	232.47	36.01	1.99	32.16	1104.77
18/01/2010	13.61	1011.16	32.38	9.47	225.81	27.41	1.84	31.73	1035.67
04/02/2010	12.40	1000.18	34.78	8.87	171.54	41.38	1.72	20.04	726.67
18/02/2010	14.78	978.81	33.46	22.01	173.82	45.61	1.87	5.38	833.21
04/03/2010	14.42	1011.56	34.38	10.59	173.81	43.38	1.80	5.47	800.36
18/03/2010	13.46	1026.07	27.03	9.04	218.80	37.79	5.54	6.58	728.28
04/04/2010	12.44	987.76	34.01	8.92	228.41	48.21	1.86	5.27	1001.27
18/04/2010	16.09	1021.57	30.97	10.43	269.17	52.10	1.08	4.09	1112.09
04/05/2010	20.10	1026.29	28.61	17.50	205.38	42.07	5.60	7.45	842.22
18/05/2010	15.18	1022.11	26.19	19.49	181.73	39.77	5.98	5.53	864.30
04/06/2010	22.74	1019.63	26.36	21.39	162.12	40.87	5.09	5.16	801.19
18/06/2010	25.83	1030.30	24.51	10.48	184.87	46.00	4.06	3.88	1066.50
04/07/2010	22.28	1019.44	26.93	11.44	165.03	29.31	3.43	5.39	1003.99
18/07/2010	24.13	1032.69	20.56	19.17	254.68	51.12	3.39	19.43	1055.69
04/08/2010	22.38	1019.02	31.19	10.55	234.78	44.93	2.51	18.79	1058.85
18/08/2010	22.15	1015.66	30.48	10.63	212.54	44.22	3.65	19.22	989.89
04/09/2010	26.35	1021.04	33.21	11.66	240.05	30.55	3.30	22.65	993.34
18/09/2010	23.59	1022.98	37.79	21.92	294.50	46.25	2.15	20.18	1002.11
04/10/2010	18.23	993.42	41.02	17.24	146.42	43.79	1.30	18.45	933.68
18/10/2010	18.84	1028.03	37.13	9.22	189.45	43.36	1.36	21.63	987.28
04/11/2010	16.10	1008.66	36.91	8.69	209.41	41.27	1.10	24.02	1012.60
18/11/2010	10.09	986.43	33.49	8.78	234.20	33.12	1.20	23.23	1005.36
04/12/2010	7.90	1012.00	29.42	6.48	259.30	42.57	1.84	22.01	997.54
18/12/2010	4.50	1008.24	31.69	4.28	247.09	42.17	1.35	21.88	1001.54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04/05/2010
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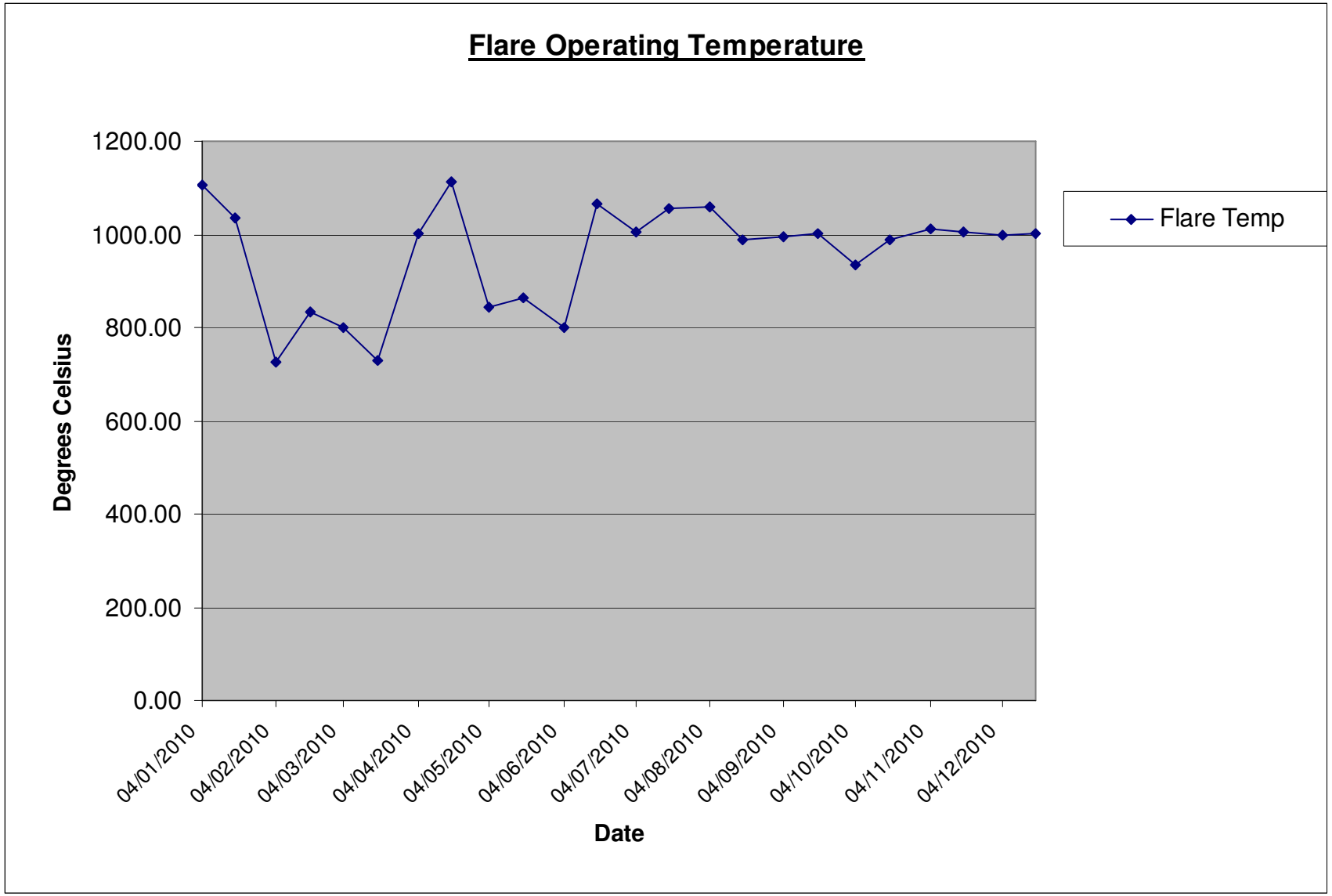
04/11/2010
04/12/2010
Date
Ambient Temp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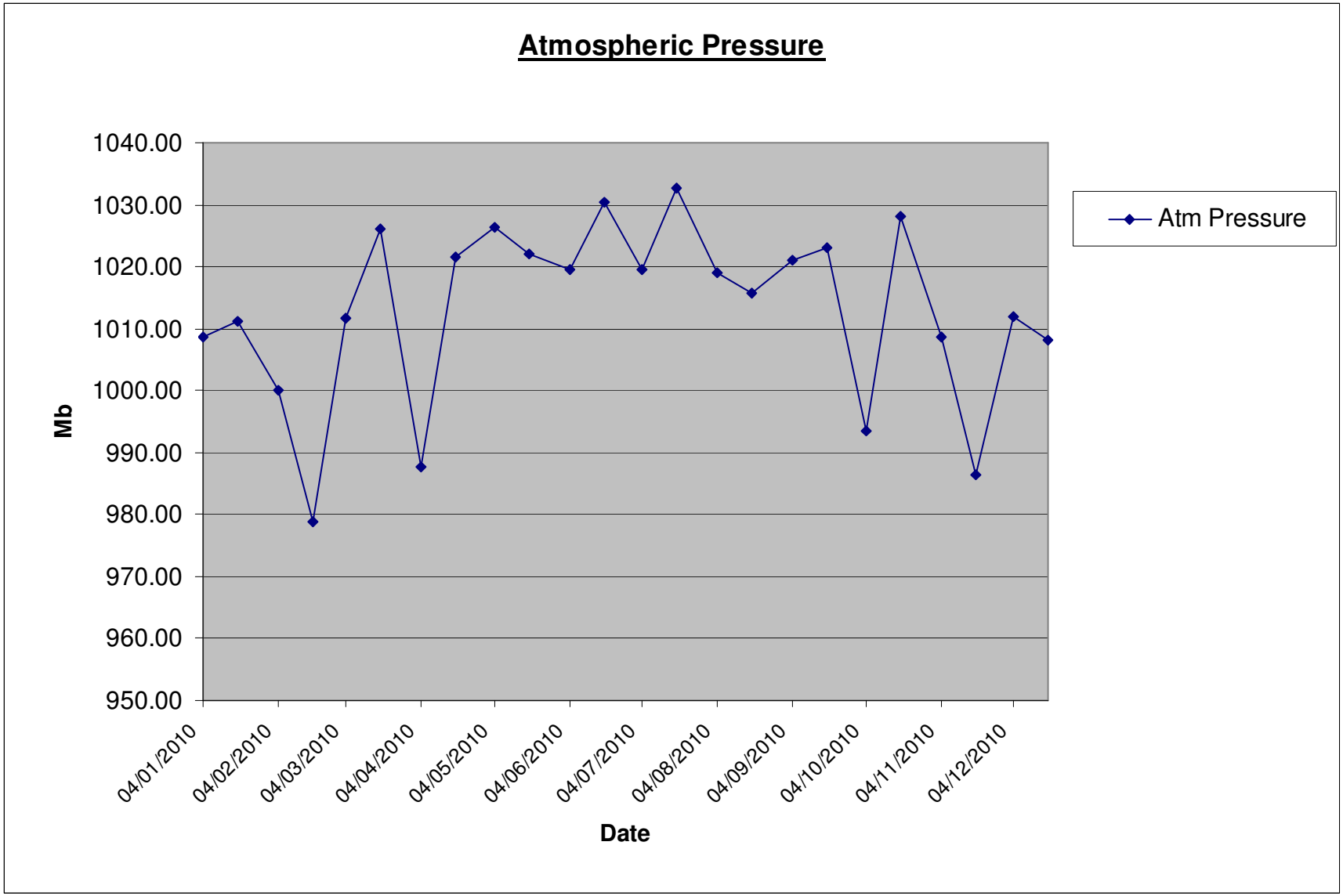
Date
Flare Temp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04/05/2010
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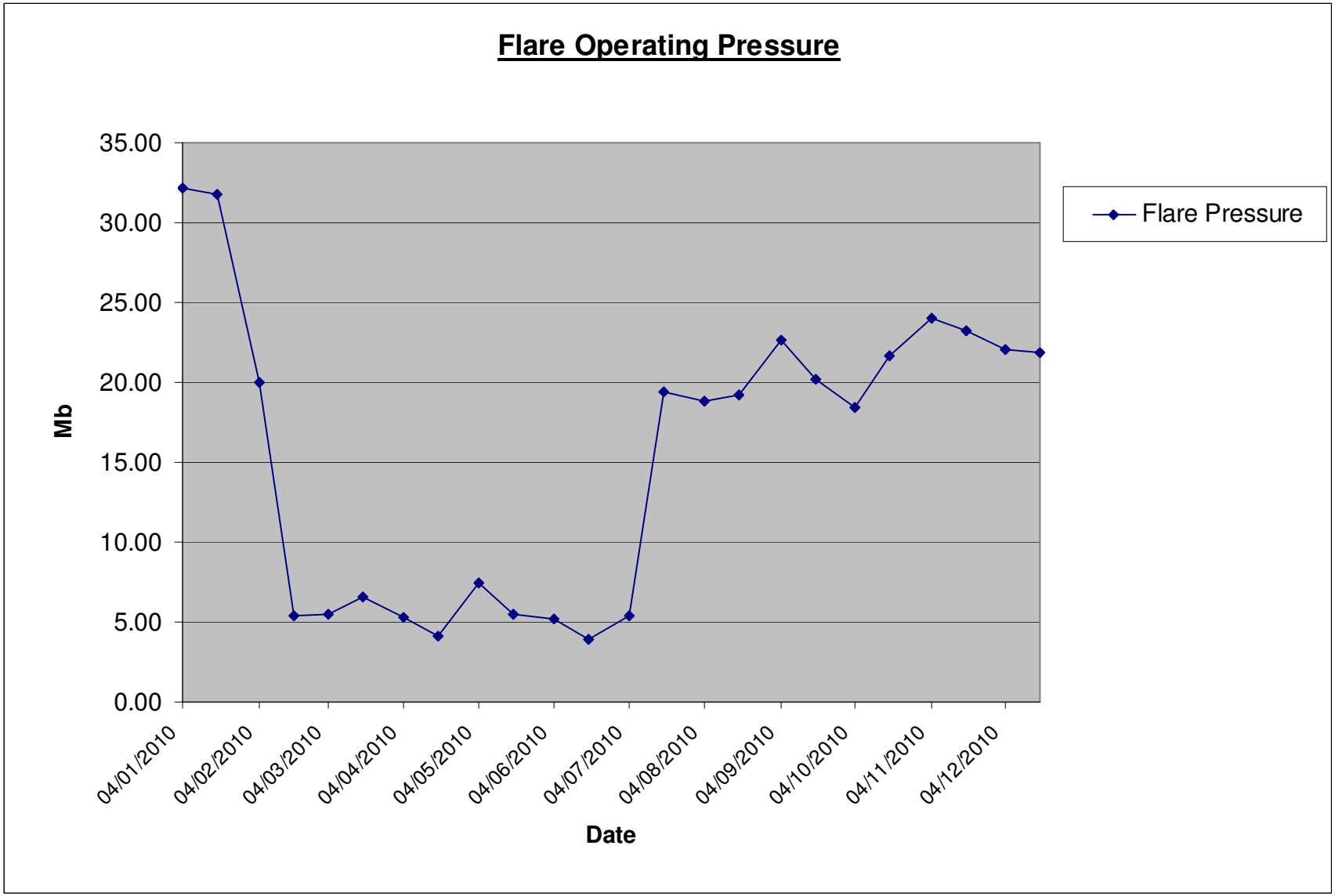
04/12/2010
Date
Atm Pressure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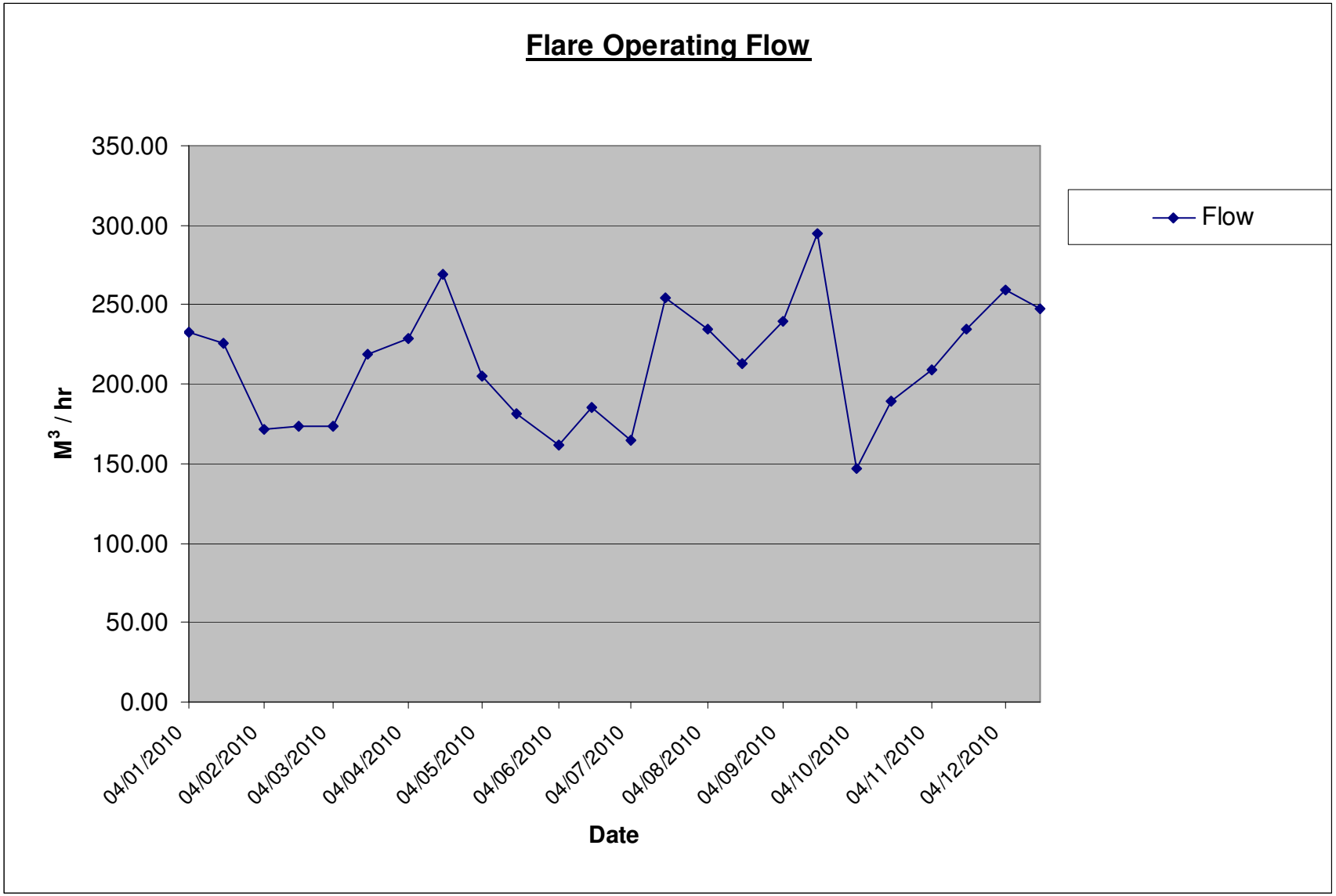
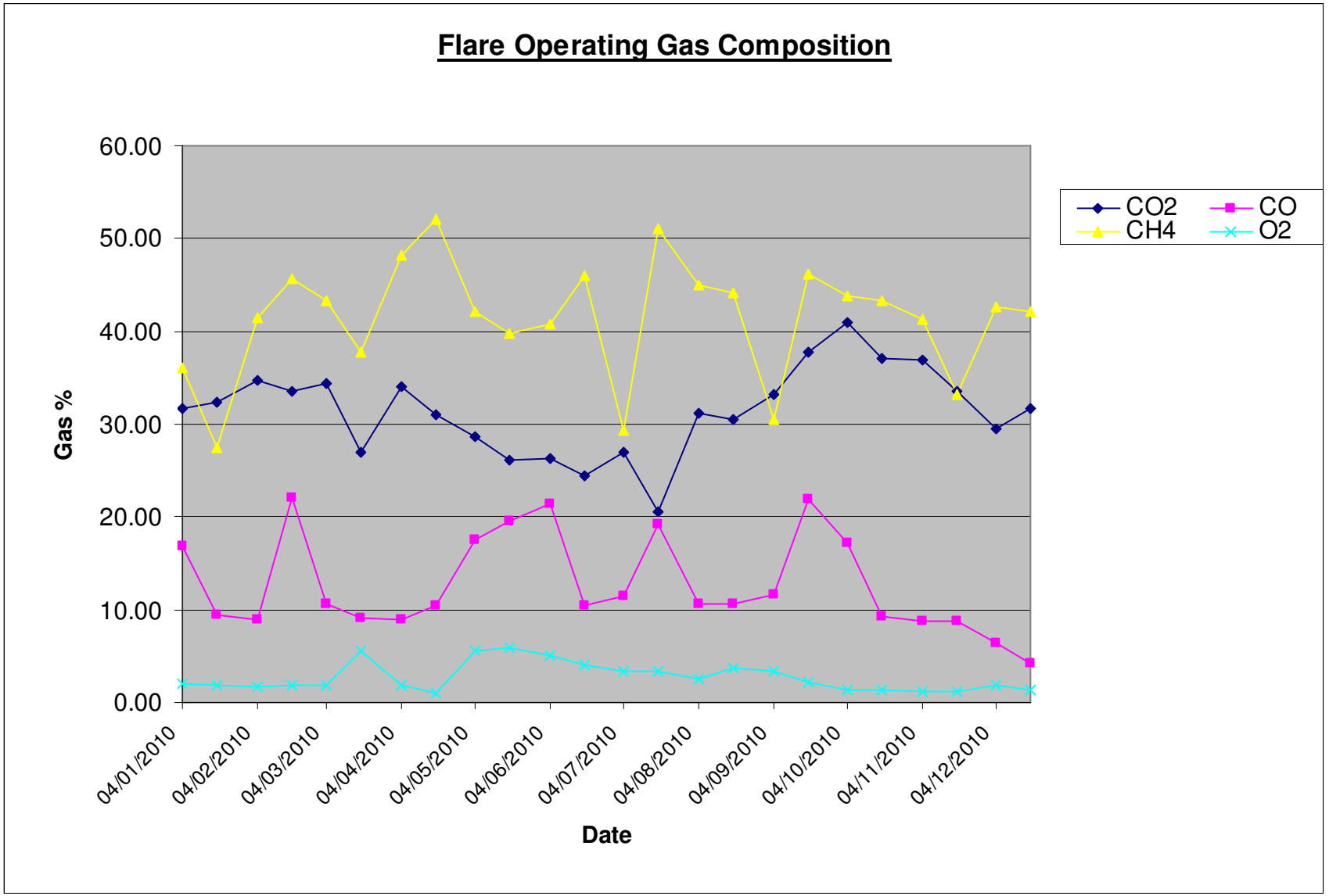
Flare Pressure


Flare Operating Flow
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
M3 / hr
04/01/2010
04/02/2010
04/03/2010
04/04/2010
04/05/2010
04/06/2010
04/07/2010
04/08/2010
04/09/2010
04/10/2010
04/11/2010
04/12/2010
Date
Flow


Flare Operating Gas Composition
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Gas %
04/01/2010
04/02/2010
04/03/2010
04/04/2010
04/05/2010
04/06/2010
04/07/2010
04/08/2010
04/09/2010
04/10/2010
04/11/2010
04/12/2010
Date
CO2
CO
CH4
O2

Biannual Flare Emissions Monitoring

FLARE EMISSIONS MONITORING

FLARE STACK	Units	24-June-10	11-Nov-10	Emission Limit
Residence Time	**S**	0.37	1.93	>0.30
Nitrogen Oxides (NO_X)	**Mg/Nm^3**	56.00	16.00	150.00
Sulphur Dioxide (SO_2)	**Mg/Nm^3**	<5.00	88.00	N/A
Carbon Monoxice (CO)	**Mg/Nm^3**	260.00	2734	N/A
Temperature	**^oC**	514	279	N/A

APPENDIX 3

2010 PRTR EMISSIONS DATA

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.11

REFERENCE YEAR	2010

1. FACILITY IDENTIFICATION

Parent Company Name	Cork County Council Western Division
Facility Name	Derryconnell Landfill
PRTR Identification Number	W0089
Licence Number	W0089-02

Waste or IPPC Classes of Activity

N	class_name
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.1	Deposit on, in or under land (including landfill).
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
3.4	Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.
3.5	Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.

Address 1	Derryconnell
Address 2	Schull
Address 3	County Cork
Address 4	
Country	Ireland
Coordinates of Location	-7.46596 53.2762
River Basin District	IEGBNISH
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Mairead Hales
AER Returns Contact Email Address	mairead.hales@corkcoco.ie
AER Returns Contact Position	Executive Engineer
AER Returns Contact Telephone Number	028 37742
AER Returns Contact Mobile Phone Number	086 6018493
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(c)	Installations for the disposal of non-hazardous waste
5(c)	Installations for the disposal of non-hazardous waste
5(d)	Landfills
50.1	General

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	No
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			ADD EMISSION POINT	QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	C	OTH	LandGEM Modelling	0.0	403548.8	0.0	403548.8

ADD NEW ROW | DELETE ROW * * Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			ADD EMISSION POINT	QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

ADD NEW ROW | DELETE ROW * * Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			ADD EMISSION POINT	QUANTITY		
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

ADD NEW ROW | DELETE ROW * * Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Derryconnell Landfill

Please enter summary data on the quantities of methane flared and / or utilised	**T (Total) kg/Year**	**M/C/E**	**Method Used**		**Facility Total Capacity m3 per hour**	
			Method Code	**Designation or Description**		
Total estimated methane generation (as per site model)	542068.8	C	OTH	LandGem Modelling	N/A	
Methane flared	138520.0	C	OTH	LandGem Modelling	500.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	403548.8	C	OTH	LandGem Modelling	N/A	

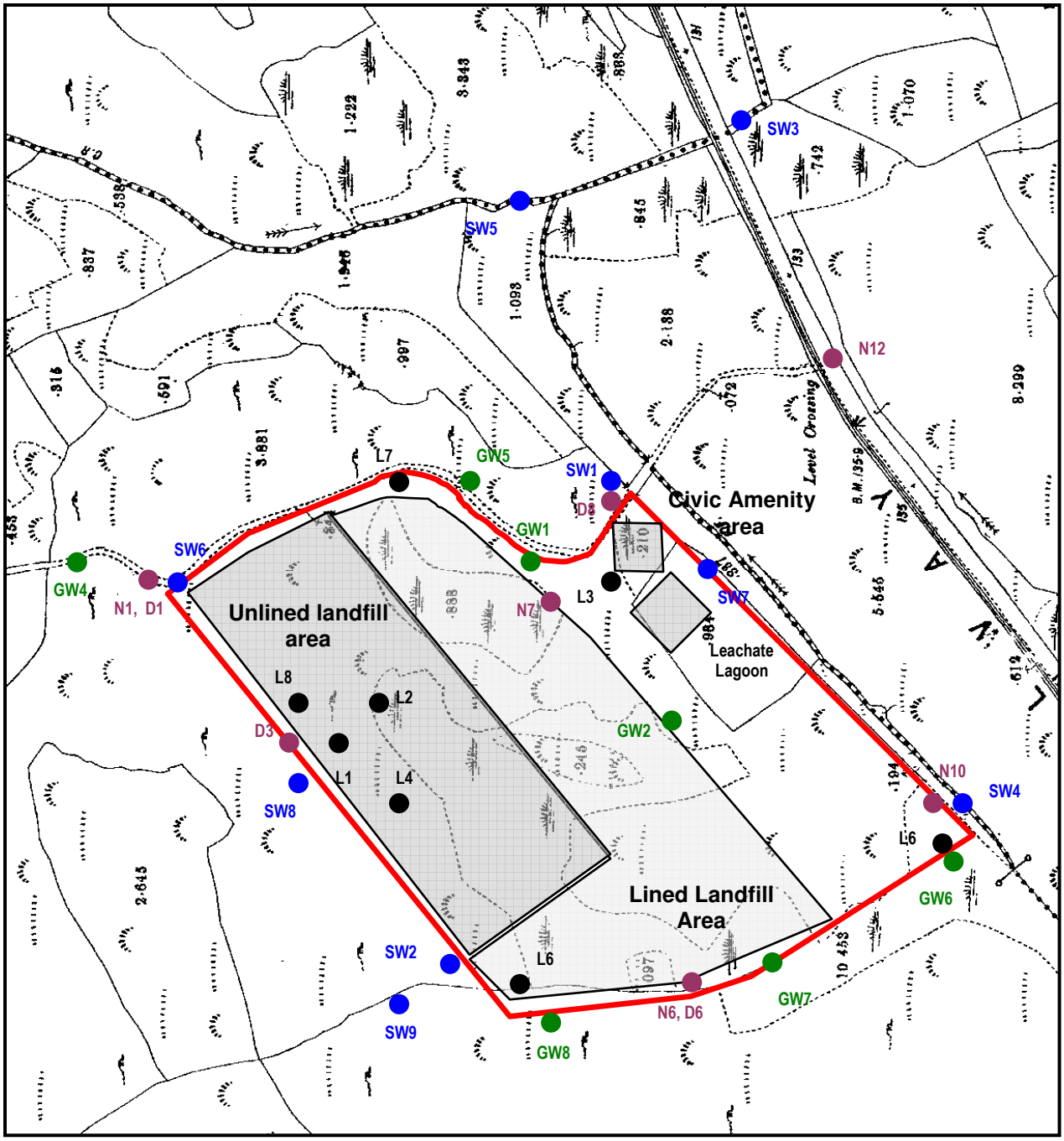
Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	15 01 06	No	184.9	mixed packaging	R13	M	Weighed	Offsite in Ireland	Greenstar Recycling ,Ck-WMC-323-05	Sarsfield Industrial Estate,Glanmire,Cork,.,Ireland		
Within the Country	15 01 07	No	75.98	glass packaging	R13	M	Weighed	Offsite in Ireland	Mr. Binman Ltd.,W0061-02	Luddenmore,Grange,Kilmallock,Co. Limerick,Ireland		
Within the Country	15 01 04	No	8.88	metallic packaging	R13	M	Weighed	Offsite in Ireland	Greendragon Recycling Ltd.,CK (S) 372-06	Corbally,Glanmire,Co. Cork,.,Ireland		
Within the Country	20 01 40	No	86.0	metals	R13	M	Weighed	Offsite in Ireland	Bantry Skip Hire Ltd.,WFP-CK-08-0002-01	Dunbittern East,Bantry ,Co. Cork,.,Ireland		
To Other Countries	20 01 11	No	11.76	textiles	R13	M	Weighed	Abroad	All-Tex Recyclers Ltd.,WMEX05/24	1 Ballycregagh Road,Cloughmills,Co. Antrim,BT44 9LB,United Kingdom		
Within the Country	20 01 38	No	66.26	wood other than that mentioned in 20 01 37	R13	M	Weighed	Offsite in Ireland	Bantry Skip Hire Ltd.,WFP-CK-08-0002-01	Dunbittern East,Bantry ,Co. Cork,.,Ireland		
Within the Country	16 06 05	No	1.26	other batteries and accumulators	R13	M	Weighed	Offsite in Ireland	KMK Metals Recycling,W0113-03	Cappincur Industrail Estate,Duingean Road,Tullamore,Co. Offaly,Ireland		
Within the Country	13 02 08	Yes	3.16	other engine, gear and lubricating oils	R13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0145-2	Clonminam Industrial Estate,Portlaoise,Co. Laois,.,Ireland	Enva Ireland Ltd,W,Clonminam Industrial Estate,Portlaoise,Co. Laois,.,Ireland	Clonminam Industrial Estate,Portlaoise,Co. Laois,.,Ireland
Within the Country	16 05 04	Yes	0.46	gases in pressure containers (including halons) containing dangerous substances	R13	M	Weighed	Offsite in Ireland	Enva Ireland Ltd,W0145-2	Clonminam Industrial Estate,Portlaoise,Co. Laois,.,Ireland	Enva Ireland Ltd,W,Clonminam Industrial Estate,Portlaoise,Co. Laois,.,Ireland	Clonminam Industrial Estate,Portlaoise,Co. Laois,.,Ireland
Within the Country	16 02 14	No	94.28	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R13	M	Weighed	Offsite in Ireland	KMK Metals Recycling,W0113-03	Cappincur Industrail Estate,Duingean Road,Tullamore,Co. Offaly,Ireland		
Within the Country	19 07 03	No	13355.66	landfill leachate other than those mentioned in 19 07 02	D4	M	Volume Calculation	Offsite in Ireland	Cork County Council - Bandon WWTP,.	Glaslin Road,Bandon,Co. Cork,.,Ireland		
Within the Country	20 03 01	No	4022.72	mixed municipal waste	D5	M	Weighed	Onsite in Ireland	Cork County Council,W0089-02	Derryconnell Landfill Site,Derryconnell Landfill Site,Schull,Co. Cork,Ireland		
Within the Country	20 03 01	No	60.04	mixed municipal waste	D15	M	Weighed	Offsite in Ireland	Bantry Skip Hire Ltd.,WFP-CK-08-0002-01	Dunbittern East,Bantry ,Co. Cork,.,Ireland		

DRAWINGS

DRAWING 01_2010

LOCATION OF ENVIRONMENTAL MONITORING POINTS



SURFACE WATER ● GROUNDWATER ● LEACHATE ●

NOISE & DUST ●

DRAWING 02_2010

2010 TOPOGRAPHICAL SURVEY