ANNUAL ENVIRONMENTAL REPORT

Year End December 2010

Dunmore Landfill

Dunmore
County Kilkenny

Waste Licence Register Number W0030-02

Kilkenny County Council
County Hall
John Street
Kilkenny

Telephone – (056)7794470
environment@kilkennycoco.ie

1. Introduction

Kilkenny County Council's Landfill Site at Dunmore received its first Waste Licence (30/1) from the Environmental Protection Agency on the 23rd November 1999. In March 2001 an application was made to review this Licence, to incorporate an enhanced entrance, better infrastructural features and a further four cells. The EPA granted the review of the licence in May 2002 register no. 30/2. The reporting period for this Annual Environmental Report is from 01/01/10 to the 31/12/10.

Records for gas production and waste quantities are based on the waste quantities entering the landfill over the weighbridge. All water balance calculations, site area etc. refer to the entire licensed boundary of the site incorporating cells 1-14 (area for potential leachate generation).

2. Waste Acceptance

2.1 Waste Activities

The categories of waste listed below may be accepted at the landfill site: -

These categories were accepted at the land fill site up to March 24th 2010 after which they will be accepted at the C.A site and transferred by Greenstar to their waste facility in Kilkenny City.

- Household refuse collected by refuse contractors in the functional areas of Kilkenny County Council and Kilkenny Borough Council. This practice has now ceased due to the completion of the landfill area. No refuse contractors have been accepted in the site since end of October 2009.
- Commercial refuse (similar in character to household refuse) collected private refuse contractors in the functional areas of Kilkenny County Council and Kilkenny Borough Council. Restrictions on Commercial recyclable waste have been in force since September 2001 and will continue under the terms of the

Waste Management (Packaging) Regulations and the terms of the Waste Licence. Since the end of October 2009 only smaller scale operators have been accepted to the site.

- Household refuse which is transported directly by householders to the landfill site or brought to the C.A. site which is in turn is deposited to landfill, including green waste.
- Commercial refuse (similar in character to household refuse) i.e. small businesses, which is transported directly to the landfill site. Restrictions on Commercial recyclable waste have been in force since September 2001 and will continue under the terms of the Waste Management (Packaging) Regulations and the terms of the Waste Licence.
- Household waste for recycling which is temporarily stored on site (Mixed Electrical Goods, Steel/Aluminium Cans, Clear/Green/Brown Glass, Mixed Paper, Cardboard, Plastic Packaging, Tetra pack, Gas Cylinders, Timber, Metal, Waste Oils, Household Hazardous Waste, Textiles, Lead Acid/Primary Batteries)
- Non-hazardous construction and demolition waste which is specifically required for the site and is accepted by agreement with Kilkenny County Council.
- Non-hazardous industrial waste. Restrictions on Industrial recyclable waste have been in force since September 2001.
- Litter, street sweepings and gully cleanings.
- Imported cover and road material in quantities as required

The total maximum amount of each waste that may be accepted is listed in the table below.

WASTE TYPE	**MAX (PER ANNUM)**	**TOTAL 2010**
Household	20,995 Note 1	580
Commercial + Litter& Street Sweepings	14,000 Note 1	661
Industrial Non-Hazardous Solids	5,000 Note 1	0
Treated Sewage Sludge	1,000 Note 2	0
Construction and Demolition Waste	1,000 Note 3&4	1

Green Waste for Composting	1,500 Note 5	0
TOTAL FOR DISPOSAL	**40,000**	**1,242**

Note 1: - The tonnage of household waste, commercial waste and industrial non-hazardous solid waste may be increased with the prior agreement of the Agency provided that the total amount of these wastes accepted at the landfill for disposal does not exceed the combined total of 40,000 tonnes per annum.
Note 2: - Treated sewage sludge may only be accepted at the facility for recovery and in accordance with Condition 5.7.1.
Note 3: - Construction & Demolition Waste shall not be disposed of at the facility but may be accepted for recovery for use as daily cover, in site construction works and landfill restoration. This quantity may be increased subject to agreement with the Agency.
Note 4: - A maximum of 5 tonnes per annum of construction waste containing asbestos may be disposed of in accordance with Condition 5.7.3.
Note 5: - Limited to 1,000 m3 at any time.

Dunmore Landfill Site accepts only non-hazardous waste; however, hazardous waste in small quantities may be present in domestic refuse and in commercial refuse, particularly in skips. Kilkenny County Council has provided a separate area for the collection of white goods, brown goods and a household hazardous waste container. Specialised companies (Indaver, KMK Metals Recycling Ltd,) remove all of this waste from site and dispose/recycle it in accordance the relevant legislation. Kilkenny County Council also provides a mobile Chemcar collection of household hazardous waste at various times through out the year at different locations around the county.

From September 2001 restrictions were put on the acceptance of all recyclable commercial and industrial waste, including white & brown goods, paper, cardboard, metal, timber, glass and cans.

The demand for recycling services and quantities of recyclable materials increased through out 2010. Kilkenny City and County have 43 Bring Site accepting glass, cans, newspapers and plastic bottles. It is hoped that the CAS and the Bring Sites will encourage recycling and reduce the amounts of domestic waste being landfilled. In addition to this over 8000 home compost units have been distributed throughout the county. It is hoped that this will result in a significant reduction in the amounts of kitchen green waste going for disposal.

Animal waste such as hide and skin trimmings and fish offal has been restricted from the site since the 30th November 2001, which is now policy at the site.

2.2 Recycling

In October 2003 Kilkenny County Council opened a dedicated recycling facility. The materials accepted at the site include: -

- Mixed Paper
- Cardboard
- Glass (Brown, Green, Clear)
- Batteries (Primary, Lead Acid, fence batteries)
- White Goods
- Brown Goods
- Household Hazardous waste
- Waste Oils/filters
- Steel/Aluminium Cans
- Mixed Metal
- Timber
- Textiles
- Tetra Pack
- Plastics
- Reading Books

Since opening in 2003 there has been a significant increase in the quantities accepted for recycling at the facility. The quantities of recyclable material accepted at the C.A. site and the category breakdown can be found in Appendix A. Since opening an extra member of staff has been employed specifically to supervise the centre, with security systems to monitor activity. There is a nominal charge levied for using the centre to assist with the running cost.

From the 13th August 2005 Dunmore Civic Amenity Site accepts WEEE (Waste Electronic & Electrical Equipment) free of charge from householders under the Waste Management (waste Electrical and Electronic Equipment) Regulations 2005. Registered retailers are permitted to deliver the WEEE (collected from a like for like take back scheme) to the CA site by prior agreement.

2.3 Quantity and Composition

The quantities of waste accepted at the landfill since July 1997 and the categorised breakdown can be found in Appendix A. The recyclable waste removed from the site i.e. white/brown goods, bottles (green, brown and clear), metal, timber, paper/cardboard, tetra and mixed plastic are also listed.

2.4 Capacity

The remaining capacity (January 2010) at Dunmore was approximately 1500 tonnes. Dunmore landfill site reached its full capacity in mid March 2010 and ceased operation.

2.5 Area Occupied by the Waste

The area occupied by the waste at the end of 2010 is shown in the table below:-

Cell Number	Area (sqm)	Area (Hectares)	Area (Acres)	Comment
1	5304	0.53	1.31	Full
2	3546	0.35	0.865	Full
3	3142	0.31	0.766	Full
4	6169	0.62	1.532	Full
5	3872	0.39	0.964	Full
6	4888	0.49	1.211	Full
7	2921	0.29	0.717	Full
8	7464	0.75	1.853	Full
9	4360	0.44	1.087	Full
10	6163	0.62	1.532	Full
11	6500	0.65	1.61	Full
12	3050	0.31	0.75	Full
13	6170	0.62	1.52	Full
14	5390	0.54	1.33	Full

Total	**68939**	**6.9**	**17.03**	**Full**

Capping works to the remainder of cell 12 and full capping works of cells 13 & 14 commenced in early September 2010 and were complete by mid December 2010.

2.6 Deposition Methods

Waste presented at Dunmore landfill for disposal is handled in the following ways: -

Household and commercial waste collected by private refuse contractors and Kilkenny Corporation is deposited at the active land filling face. The waste is then spread and compacted as soon as it becomes practical to do so, by the site staff. The acceptance of this waste from private refuse contractors has ceased since the end of October 2009.

Waste brought directly to the site by householders is placed by them in the container located in the recycling centre. When this container is full, it is weighed and transported to the active tipping face for disposal. From March 2010 onwards, due to the landfill closure, all waste brought by householders and deposited in the appropriate waste receptacle is collected, weighed and transported by Greenstar to their waste facility in Kilkenny City. All recyclables brought to the site are directed to the appropriate location and are placed in the appropriate receptacle for temporary storage on site. As soon as these receptacles are full, site staff arranges for the removal of the material to an authorised materials recycling centre. From the start of 2002 some white goods and brown goods have been reclassified in the European Waste Catalogue and these goods will be handled in accordance with this directive (EC) No. 2557/2001.

Small amounts of construction/demolition waste are accepted at the site. This waste is tipped away from the tip face. An assessment is carried out on the waste and is used for internal haul roads, inert cover material and strengthening the tipping face. Any recoverable metal is placed in the metal recycling skip. Any material unsuitable for these operations is landfilled, which would only be from a domestic source. A

separate construction and demolition facility does not operate at present.

Christmas trees brought to Dunmore during January 2010 were shredded and used as capping on the site.

3. Environmental Monitoring

3.1 Report on Emissions

3.1.1 Landfill Gas

Landfill gas monitoring locations at Dunmore are set out in the following locations.

Perimeter Gas Migration Monitoring Locations

Station	Easting	Northing
GM1	249524	160493
GM2	249587	160435
GM3	249804	160270
GM4	249867	160441
GM5	249765	160510
GM7	249732	160623
GM8	249845	159922
GM9	249529	160616
GM10	249900	160467
GM11	249930	160497
GM12	249930	160535
GM13	249900	160568
GM14	249879	160632
GM15	249848	160668
GM16	249820	160707
GM17	249709	160660
GM18	249671	160714
GM19	249818	160545
GM20	249754	160497
GM21	249751	160443
GM22	249764	160401
GM23	249811	160374

Vent Pipe Locations (harnessed gas wells)

Station	Easting	Northing
VP1	249785	160305
VP2	249752	160329
VP3	249771	160357
VP4	249735	160378
VP5	249718	160350
VP6	249688	160376
VP7	249704	160398
VP8	249650	160395

VP9	249674	160427
VP10	249696	160466
VP11	249718	160496
VP12	249682	160499
VP13	249655	160465
VP14	249637	160423
VP15	249611	160445
VP16	249607	160483
VP17	249644	160503
VP18	249508	160564
VP19	249537	160593
VP20	249565	160621
VP21	249593	160649
VP22	249623	160676
VP23	249606	160546
VP24	249591	160571
VP25	249559	160586
VP26	249566	160554
VP27	249532	160563
VP28	249540	160537
VP29	249565	160516
VP30	249832	160014
VP31	249630	160664
VP32	249884	160007
VP33	249608	160611
VP34	249918	160038
VP35	249577	160592
VP36	249953	160070
VP37	249589	160528
VP38	249647	160566
VP39	249674	160565
VP40	249685	160589
VP41	249618	160562
VP42	249673	160623
VP43	249654	160604
VP44	249628	160588
VP45	249633	160622
VP46	249582	160623
VP47	249728	160577
VP48	249758	160574
VP49	249760	160543
VP50	249787	160570
VP51	249759	160600
VP52	249809	160585
VP53	249780	160615
VP54	249808	160638

VP55	249814	160617
VP56	249833	160616

Gas monitoring and migration results are submitted to the Agency biannually. Results for 2010 are available in Appendix B. All gas wells on the site are harnessed and the gas is burnt off thus reducing the landfills contribution to ozone depleting gases by 90%, and also reduces landfill gases odour.

Gas Quantity Emissions from the Landfill

The initial aerobic phase and the first transition stage only take a couple weeks. During these phases there is no gas produced as a result of degradation. In the second transition phase there is no longer oxygen intake to the site and the anaerobic phase begins. This results in methane production and will continue for up to two years. In this period of time the production of gas is not stable and the full annual production of gas is not reached. When gas production stabilizes in the methanogenic phase and total expected time until the end of methane production is approximately twenty years. The table below is an estimate based on the tonnages accepted since the weighbridge was installed (07/97) and since waste input (in tonnes) records were kept. The figures in the table below are based on an estimated gas production of 75 l/kg (which includes an assumption of 60% wet waste). A detailed discussion of landfill gas production since the site opened is contained in the EIS submitted as part of the licence review.

Cells 8-14

Year	Annual Tonnage Waste		Annual Gas Production Rate Methane (Mm3/yr)	Cumulative Methane Gas Production Rate (Mm3)	Annual Landfill Gas Production (Mm3/yr)
1997 (6mths)	12,793.65	0.02	0.02	0.02	0.04
1998	21,828.05	0.04	0.09	0.07	0.16
1999	27,853.72	0.05	0.18	0.24	0.33
2000	33,593.38	0.06	0.30	0.53	0.54
2001	29,805.96	0.06	0.42	0.95	0.76
2002	17,651.90	0.03	0.51	1.48	0.92
2003	17,259.53	0.03	0.57	2.05	1.04
2004	23,334.00	0.04	0.65	2.69	1.18
2005	19,266.00	0.04	0.73	3.42	1.32

2006	18,516.00	0.03	0.80	4.22	1.45
2007	22,267.00	0.04	0.87	5.09	1.59
2008	18,239.94	0.03	0.95	6.46	1.73
2009	14,289.00	0.03	0.96	6.46	1.75
2010 Jan 1st – March 23rd	1,242.28	0.00	1.04	8.10	1.89

In November 2001 a temporary gas extraction and flare system was introduced at the site in cells 8-10. This resulted in a noticeable improvement in the air quality within the site, a reduction in odour problems and a reduction in measured exceedance levels adjacent to these cells. During 2004 a permanent gas extraction and enclosed flare system was installed. This system controls all gas venting and migrating from cells 1 to 14, the gas is drawn out of the cell and is burnt off. Since the installation of this system the landfill gases have been significantly reduced by 90%. This system was extended in 2008 to extract gas from cell13& 14.

3.1.2 Surface Water, Groundwater and Leachate

Surface Water: - Surface water is analysed quarterly and the results are submitted to the Agency. The monitoring locations are listed below: -

Station	Easting	Northing
Stream A -Upstream	249978	160617
- Downstream	249544	160503

Results of the surface water monitoring are available in Appendix C

Groundwater: - Groundwater well quality is tested quarterly, and results are submitted to the Agency as set out in condition 9.1 and schedule F of the licence. The monitoring locations are listed on below: -

Station	Easting	Northing
No. 3	250011	160551
GW1	249675	160924

No. 14	249547	160507
GW2	249867	160440
GW3	249500	160511
GW4	249562	160456
MW1	249619	160383
No.15	249454	159728
No. 6	249488	160191

Results throughout the year have shown no adverse effects to the ground water as a result of landfilling in the area, and are listed in Appendix C.

Leachate: - The composition of leachate is tested at leachate manholes and holding lagoon quarterly and results are submitted to the Agency as set out in condition 9.1 and schedule F of the licence. The results are listed in Appendix C. The monitoring locations are listed below: -

Monitoring Locations	**Easting**	**Northing**
Holding Lagoon	249566	160484
Manhole 1	249649	160608
Manhole 2	249600	160604
Manhole 3	249521	160536
Manhole 4	249526	160507
Manhole 5	249566	160480

The volume of leachate produced and removed from the site is as follows: -

The water balance equation was calculated as follows: -

Amount of Leachate on Site = (effective rainfall * area cell 1-7 * % area not yet capped) + (effective rainfall * area cell 8-10 * % area not yet capped) + (effective rainfall * area cell 11-12* % area not yet capped) + (effective rainfall * area cell 13-14* % area not yet capped)–(leachate removed)–(primary absorption factor)–(degradation water usage2007)

Where: -

Effective Rainfall = Total Rainfall – Potential Evapotranspiration (Met Eireann Figures)

Primary absorption may be taken as 100 l/tonne for 10% of waste as the amount of dry materials is decreasing from domestic sources.

Volume required for degradation = 2mm per square meter

Amount of Leachate on Site = (0) + (718.04) + (762.47) + (4614.75) – (7054) - (12.42) – (78.19)

Amount of Leachate on Site = -1049.35 m^3

The amount of leachate removed from site and frequency was in response to the amount of rainfall and potential evapo-transpiration at the site i.e. the rate of leachate production. More leachate was removed off site than was produced on site during 2010 as it was necessary to store some leachate on site in late 2009. This leachate was then tankered off site in early 2010. A second leachate lagoon was installed during 2003 which provides for a much greater storage capacity at the site.

During 2004 leachate recirculation tankers were installed in cells 8-10 to reduce the cost of leachate collection and disposal, enhance settlement with the aim of recovering air space, to encourage gas production and to promote early stabilisation. An extra leachate recirculation tank was installed at cells 13-14 during the final capping phase in late 2010. The leachate recirculation tanks locations are listed below.

Leachate recirculation Tanks

Station	Easting	Northing
LR 1	249515	160572
LR 2	249553	160605
LR 3	249602	160643
LR 4	249647	160670
LR 5	249758	160584

3.1.3 Dust monitoring

Dust Monitoring: - Dust Monitoring takes place three times a year and the results are submitted to the Agency. The monitoring locations are listed below and results are shown in Appendix C: -

Station	Easting	Northing

DG 1	249565	160453
DG 2	249756	160467
DG3	249700	160638
DG 4	249870	160671
DG 5	249940	160588

3.1.4 Noise Monitoring

Noise Monitoring: **-** Noise Monitoring is analysed annually and the results are submitted to the Agency. The monitoring locations are listed below: -

Station	**Easting**	**Northing**
NS 1	249725	160830
NS 2	249852	160740
NS 3	250006	160593
NS 4	250003	160571
N1	249803	160290
N2	249489	160927
NS 5	249981	160510
Dunmore Cottage	249442	160896

The locations of all sampling and monitoring points can be found in the attached drawing in Appendix D.

3.2 Interpretation of Environmental Monitoring

Gas: - Gas monitoring took place on the site at both gas well locations and migration points. The results from the wells indicated that approximately 2/3 of the gas in the vents was methane with the remaining 1/3 carbon dioxide. These are the normal levels that can be expected in a landfill of this age.

Results from the migration points around the site indicated a number of exceedances in the set trigger levels, which are given in Schedule C of the licence. An Assessment of Landfill Gas Measurements at Dunmore Landfill, Co. Kilkenny analysing the processes responsible for these exceedence levels was carried out in March 2006 and submitted to the agency in 2007. This report concluded that there is CO_2 naturally occurring in the Dunmore Area. To allow for this finding the Agency agreed to increase the tolerance of the CO_2 trigger level, from 1.5% v/v to 3% v/v, therefore any levels =>3% v/v would be treated as an incident and reportable to the Agency. During 2007, 24.38% of the monitoring migration analysis points had trigger levels = or > than 1.5%, 71.19% of these exceedences had values in the range of = or > 1.5% v/v & <3% v/v, and 28.81% of these exceedences were in the range of = or > 3% v/v. The number of exceedences in the gas migration monitoring points was less than that in 2009. There were no exceedences of methane at any of the migration locations during 2010.

Ground/Surface Water: - Primary indicator parameters used to detect the presence of any leachate infiltration to groundwater are conductivity and chloride levels. The levels of chloride and conductivity are within acceptable levels and there is no noticeable increases in these levels since records began.

Dust Monitoring: - Dust monitoring was carried out at five different locations during the months of August, May and March. No exceedences of the permitted level of 350mg/m2/day, from Schedule C of the waste licence conditions, was recorded

Noise Monitoring:-Noise monitoring was carried out during February 2010. Six sensitive locations and two boundary locations were monitored during daytime landfill operations. Results indicated that the local noise environment was primarily impacted by passing traffic on the N77 Kilkenny-Durrow Road, and that the noise from the landfill was negligible.

3.3 Meteorological Monitoring

Meteorological Report

The following is a summary of the rainfall amounts and potential evapo-transpiration rates at Dunmore. The results were obtained from Met-Eireann.

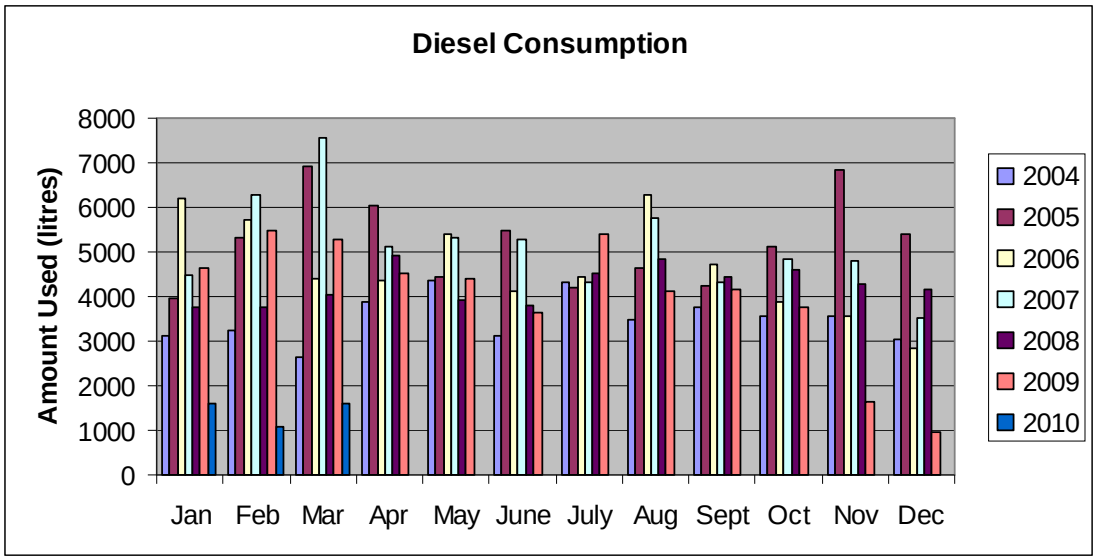
Month	Rainfall (mm)	Potential Evapotrans. (mm)
January	71.5	5.7
February	48.0	12.9
March	80.7	32.9
April	49.0	58.9
May	51.4	76.8
June	37.7	88.0
July	93.6	75.5
August	25.5	72.7
September	108.7	45.4
October	68.9	26.7
November	87.7	9.2
December	52.2	3.6
Total	**722.7**	**504.7**

4. Site Infrastructure and Development

4.1 Resource and Energy Consumption

The following raw materials are used as a result of the land filling process at Dunmore landfill facility:

4.1.1 Diesel Fuel: -The amount of fuel consumed per week at the landfill site averages at approximately 356 litres per week for the year 2010, by the loading shovel, tractor, excavator, and compactor. There was a decrease in diesel consumption, by approx 604ltr/week, in 2010 compared to previous year. Below shows comparative fuel use for the last number of years.



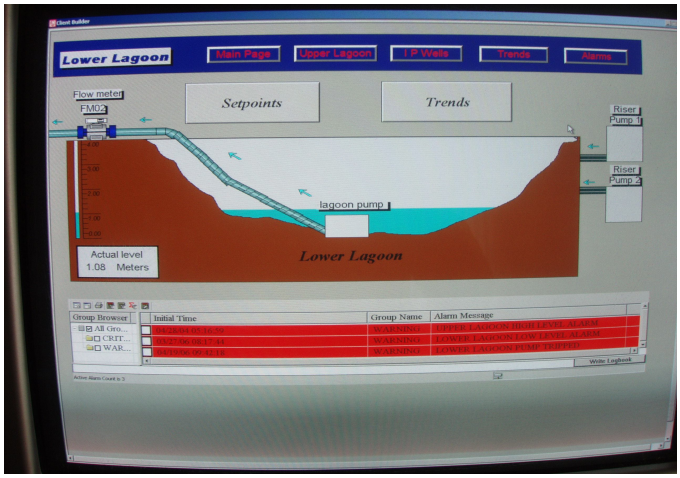
4.1.2 Electricity: -. Electricity is used in the following buildings; weighbridge office, main offices and recycling centre office. It is also used to operate the weighbridge computer, pump, lights, heating and cooling appliances, CCTV cameras etc. In 2003 a new three phase supply was installed to meet the demands of the revised licence and supply the recycling centre, gas flare, pumps, SCADA system and extended office.

4.1.3 Sprinkling Water: - During periods of dry weather water is used to suppress dust on the site haul roads. Occasionally water maybe taken from the river Nore located adjacent to the site. The quantities of water used would vary but would not exceed 8,000 gallons per day during dry weather. The entrance and weighbridge area are watered down and cleaned using the road sweeper or a power washer and a 300 gallon reused oil tank as a water reservoir filled from the site water supply. Some sprinkling around the weighbridge is carried out using local groundwater sources.

4.2 SCADA System:-

4.2.1 Leachate Monitoring

Supervisory Control and Data acquisition to facilitate monitoring and management of Leachate levels in the Leachate lagoons and new cells is in operation at the facility. This system allows for constant monitoring of all pumps, leachate levels in wells and lagoons, to ensure the levels in cells do not rise above 1m and that leachate level in lagoons shall always maintain a minimum freeboard of 0.75m. Alarms will be raised should any of the levels be reached. (See below typical screen showing level in lower lagoon). The SCADA system was upgraded during 2008 to facilitate the control of the additional leachate pumps in Cells 13 & 14.



4.2.2 Gas collection and flaring system

Collection and flaring of gas commenced August 2004. The flare operates 24hr a day 7 days a week at temperatures of approx 1020^0C. SCADA system on site constantly monitors and records the flaring system. Data is down loaded on a monthly basis from the flare system to an excel spread the following parameters are recorded:

Ambient temperature
Atmospheric Pressure
Carbon Dioxide
Flow
Methane
Oxygen
Pressure
Flare Temperature
Carbon Monoxide

Closed Flare System

4.3 Development Works

4.3.1. Development Works over the Reporting Period

Over the past year the following development works have been carried out at the facility:

- Completed phase 4 capping of cells 12, 13 & 14.
- Installation of fifth Leachate recirculation tank in cells 13 &14.
- Completed grading, top soiling, grass seeding and re-instatement of haul road at Cells 10, 11 &12.
- Completion of manholes and covers on Gas wells in Cells 13 & 14.
- Completed the concrete works at Civic Amenity Site for new packer skips.

4.3.2 Proposed Development Works

It is proposed to carry out the following developments at Dunmore in the year 2011.

- Final top soiling and seeding of cells 13 &14.
- Install further signage in Civic Amenity site.
- Improve layout and increase capacity at CAS.
- Review and update of traffic management measures on site.
- Continued review of Health & Safety on site.
- Additional landscaping around site offices and civic amenity site.

4.4 Tank and Pipeline Integrity Tests

In respect of Condition 5.12.2, an integrity test on the leachate-holding lagoon and pipeline outside the cells was carried out.

'Geomembrane Testing Services Limited', carried out an integrity test on the leachate holding lagoon which was submitted to the Agency on 2nd September 2003. Air pressure and high frequency spark tests were carried out over the lined area of the lagoon. It was found that 'the geomembrane liner was free of defects at the time of final inspection'. Lagoon structures were retested in 2007 with the final part of the test completed in early 2008. Upon completion of the integrity test on both leachate holding lagoons, results were forwarded to the Agency

4.5 Restoration Plan and Aftercare Plan

The final ground level contours of the landfill are shown on Drawing No. 30-2-DWG03, contours map, while the restoration plan for the area is shown on Drawing No. 30-2-DWG02, Landscaping Plan. These are available in appendix F.

Phase I of the Restoration in Cells 1 – 7 was completed with a temporary cap after it was filled between 1989 and 1998. Three acres of leased land has been seeded with grass and a small yard area is provided. The remaining six acres had been planted

with native woodland species and fenced with a rabbit-proof fence. As part of the revised licence all seeded areas and trees were removed and a revised impermeable capping system commenced in 2003. 90% of this capping layer was completed in 2004 the remaining capping works were completed in 2009 as part of phase III capping. The area will be restored as outlined previously with a mix of grass and planting.

Phase II of the Restoration Scheme comprises Cells 8 – 10. As part of the licence conditions and landfill directive partial capping of cells 8 -10 commenced in 2003. At the end of 2004 50% of this capping layer was completed. Completion of the remaining capping works to cells 8, 9, 10, 11 & 12 took place during 2008. Final capping will consist of a gas drainage layer, a bentonite enhance liner, an impermeable plastic layer, surface water drainage layer, subsoil and topsoil. The restored area will be a combination of seeded and planted areas. The final capping detail was submitted to the Agency for approval and is in accordance with details shown in the EPA Landfill Manual on Restoration and Aftercare.

Phase III of the Restoration Scheme comprises Cells 8 – 14. The remainder of the site will be capped progressively within 12 months of the final filling of cells to level. Final capping will consist of a gas drainage layer, a bentonite enhance liner, an impermeable plastic layer, surface water drainage layer, subsoil and topsoil. The restored area will be a combination of seeded and planted areas. The final capping detail was submitted to the Agency for approval and is in accordance with details shown in the EPA Landfill Manual on Restoration and Aftercare.

Prior to completion of the restoration, the gas pipework system shall be modified. Tree and shrub planting will be delayed until all remedial work on the gas system has been carried out and initial settlement has occurred. Areas subject to delays shall be restored on an interim basis and seeded with grass.

All leachate collection and control systems shall be maintained.

Upon completion of the landfill activities the following restoration/reinstatement works was carried out: -

1. Removal of all litter screen fencing.
2. Weighbridge and offices area no longer required shall be topsoiled and seeded with grass, those required for the operation of the civic amenity site will be maintained as required.
3. Any litter from perimeter hedging, ditches and surrounding land was removed.
4. All boundary fences on the site are secured. Hedge rows were retained and renewed as necessary.
5. All unsurfaced roadways with the exception of the access to the leachate lagoon, recirculation tanks, perimeter access to sampling points and civic amenity site have been removed.
6. Decommission and removal of services, e.g. telephone, ESB, no longer required on site.
7. Erect signage indicating that the landfilling facility is closed and directing users of the civic amenity facility to the correct locations.
8. The boundary at the access road (from the Bleech Road) has been secured, all unsurfaced roadway shall be removed apart from access to the lagoon and sampling points.

In the long term and subject to Waste Licence conditions and monitoring results, any appurtenances no longer required for the monitoring or maintenance programmes shall be removed off site. The localised areas affected by these works will be restored to the condition of the surrounding ground.

The leased area of land (O'Neill's pit) will be returned to the owner for agricultural grazing use, all fence boundaries restored and its maintenance, apart from monitoring points and gas wells, will no longer be the responsibility of Kilkenny County Council.

The remaining areas of land subject to agreement with the agency will be woodland/grassland after the restoration and landscaping plan is complete and specialist forestry management firms under contract with Kilkenny County Council will manage these areas.

4.6 Site Survey

The site topographical survey is completed at least once a year. This survey was submitted to the Agency previously under condition 8.8.1 (ref. LC-41-MG) and will be submitted annually thereafter. Last topographical (Revision I) survey was carried out in December 2010 and will be sent to the Agency.

5. Environmental Targets and Objectives

5.1 Objectives and Targets

Objective 1

Ensure that all waste acceptance requirements are met

Target 1.1	All waste accepted at the facility is within the criteria set out in Part I of the Waste Licence
Target 1.2	The amounts of each category of waste recovered and disposed if at the facility does not exceed that specified in Schedule A of the Waste Licence
Target 1.3	Any restriction on waste entering the facility shall be strictly enforced
Target 1.4	All waste accepted for recovery and disposal shall be done so within the opening hours specified in condition 1.6

Objective 2

Establish and Environmental Management System to fulfil the obligation of the Waste

Licence.

Target 2.1 The facility shall employ a suitably qualified facility manager as the person in charge and that this person or a nominated deputy shall be present at all times at the facility, this person will be in place from the grant date of the licence.

Target 2.2 The facility manager and deputy shall complete the FAS Waste Management Training Program within 12 months of their appointment.

Target 2.3 All personnel performing specially assigned tasks shall receive all appropriate instruction prior to carrying out that function

Target 2.4 Submission of details of management structure for Dunmore Landfill Facility by the end of August 2002, which will be reviewed annually or as required.

Target 2.5 Preparation and submission of an Environmental Management Program (EMP) to the Environmental Protection Agency by the end of November 2002, which will be reviewed annually in November and submitted to the Agency or as required.

Target 2.6 Preparation and submission of an Environmental Management System (EMS) to the Environmental Protection Agency by the end of November 2002, which will be reviewed annually in November and submitted to the Agency or as required.

Target 2.7 Establish awareness and training procedures for personnel at Dunmore Landfill Facility which will form part of the EMS

Target 2.8 Submission to the EPA of a communications program as part of the EMS

Target 2.9 Preparation and submission of a corrective action procedure, which will be submitted to the Agency as part of the EMS

Target 2.10 First Annual Environment Report (AER) of Waste Licence 30-2 submitted to Agency by the end of January 2003.

Target 2.11 Review of AER by the end of March annually thereafter

Objective 3

Provision of required infrastructure at the facility with the agreement of the agency

Target 3.1 An updated site notice board will be provided at the new facility entrance by end June 2002. The new Waste Licence reference number will be provided, contacted details including revised telephone numbers and location of all environmental monitoring information

Target 3.2 Security fencing and security measures will be provided as part of the provision of the new access by May 2003

Target 3.3 A new access will be provided from the N77 by April 2003. Detailed SEW will be submitted on the project will be submitted to the Agency, when the safety audit on the alignment has been approved by the NRA.

Target 3.4 Facility roads and hardstanding areas will be provided at the new access by April 2003, which will be designed to ensure safe access and movement within the site. All areas will be provided with appropriate surface water drainage systems.

Target 3.5 New facility offices, will be provided, which will incorporate telephones and an electronic communication facility by April 2003. Offices shall be fitted with gas monitoring equipment, in accordance with 'Protection of New Buildings and Occupants from Landfill Gas.

Target 3.6 A Waste Inspection and Quarantine Area will be provided by May 2003, subject to Agreement with the Agency. Drainage from these areas will go directly to the leachate lagoon.

Target 3.7 The present weighbridge at the facility will be relocated or a new weighbridge will be provided at the new facility entrance, subject to agreement with the Agency, by May 2003. This

weighbridge will not be made operational until approval is given by Legal Metrology Services.

Target 3.8 A wheel cleaning as set out in the EIS area will be provided at the facility entrance by May 2003, subject to agreement with the Agency.

Target 3.9 As part of the development of the new offices, a wastewater treatment plant will be provide at the new facility offices by May 2003, subject to agreement with the Agency. The discharge from this unit will go directly to the new leachate lagoon.

Target 3.10 A revised tank and drum storage area will be provided by April 2003, to ensure any spillage that may occur is contained.

Target 3.11 Four new cells will be provided (cell 11-14), between 2002 and 2005 and will be constructed to that specified in condition 3.13, subject to agreement with the Agency.

Target 3.12 A new larger leachate lagoon shall be construction to the specified standard to provide sufficient capacity for storage by May 2003, subject to agreement with the Agency.

Target 3.13 A new gas management system is in place, analysis and written procedure on the system will be prepared and submitted to the agency by 2006.

Target 3.14 A SCADA system or equivalent will be installed at the facility by April 2003, where the hardware and software will be incorporated into the new facility offices, subject to the Agencies agreement.

Target 3.15 A full surface water management system will be incorporated as infrastructure and capping is provided, subject to the Agencies agreement. Surface water from the extension will be diverted to the surface water stream once the capping system is provided.

Target 3.16 All new infrastructure provided will have regard to the ground

water in the area which is monitored on a monthly basis.

Target 3.17 A construction and demolition storage area will be provided by April 2003 as part of the revised access, subject to the agreement of the Agency.

Target 3.18 The civic amenity site will be provided by May 2003 and will be maintained to the highest environmental standards. It is anticipated that this area in conjunction with other County Council initiatives will increase recovery rates in the County.

Target 3.19 A household hazardous waste facility will be provided at the new civic waste facility. This facility will be widely advertised and will raise awareness of the need to source segregate household hazardous waste.

Target 3.20 A proposal on the provision of compost facilities will be completed by May 2003 and submitted to the Agency. Composting/shredding facilities will increase recovery rates for green waste in the County.

Target 3.21 A revised proposal for the provision of berms at the facility will be submitted to the Agency by January 2003. All revision made will be as a result of consultation with adjacent properties.

Target 3.22 All monitoring points required to meet the conditions of the Waste Licence will be provided as infrastructure develops, subject to the Agencies agreement.

Target 3.23 The landfill gas management system shall be extended to extract gas from the new cells as they develop, subject to agreement with the agency.

Target 3.24 The leachate extraction system shall be extended as the cells develop, subject to agreement with the Agency.

Target 3.23 A storage and shredding area for Christmas Trees shall be provided and shredded trees to be reused as landfill cover

Objective 4

Establishment of a detailed plan for the restoration and aftercare of the facility

Target 4.1 A full revised restoration and aftercare plan will be submitted to the Agency by May 2003, which will incorporate a proposal for treatment of cells 1-7

Target 4.2 Capping at the facility will commence in May 2003 in accordance with condition 4.3, subject to agreement with the Agency and will continue on a phased basis as the facility develops.

Target 4.3 Assessment of the capping adequacy of cells 1-7 will commence in February 2003. A proposal for the capping and collection of gas from cells 1-7 will be submitted to the Agency by May 2003. All works on this area will be completed by May 2004.

Target 4.4 All material excavated for the purpose of the development of infrastructure will be reused with the facility boundary and will be stored appropriately until required.

Target 4.5 Proposals for the Phase II extension of capping of cells 10 & 11 will be submitted to the agency, it is proposed that works on this capping will be complete by October 2006.

Target 4.6 Proposals for the Phase III capping of cells 7, 8, 9, 10, 11 & 12 will be submitted to the agency, it is proposed that works on this capping will be complete by end of 2009.

Target 4.7 Proposals for the phase IV final capping of cell 12, 13 & 14 will be submitted to the agency, it is proposed that the works on this capping will be completed by the end of 2010.

Objective 5

The facility shall be operated to ensure there are no adverse environmental effects as a result of the operation of the facility.

Target 5.1 Waste shall not be disposed of in any part of the facility until approval is sought and granted by the Agency

Target 5.2 A procedure for the acceptance of waste at the facility has been submitted and approved by the Agency and shall be updated

annually thereafter.

Target 5.3 All waste shall be covered appropriately at the end of each day

Target 5.4 A full leachate management plan will be drawn up which shall include procedures for monitoring leachate levels, removal of leachate by tanker and control procedures to ensure that leachate levels remain within parameters set out in condition 5.11. This plan will form part of the AER and will be revised as necessary.

Target 5.5 Written records of maintenance of all monitoring and emission equipment. Maintenance of these systems will take place as recommended by the manufacturer

Target 5.6 All lagoons structures at the site will be independently tested every three years.

Target 5.7 The wheel wash at the site entrance shall be maintained and cleaned as required.

Objective 6

Control of emissions at the facility

Target 6.1 Any emission exceeding trigger levels or unauthorised emission will be notified to the Agency.

Target 6.2 Monitoring of the landfill gas flare will commence once the installation of the flare is complete. All emission values shall comply with the terms of the Waste Licence.

Target 6.3 Flare unit efficiency shall be tested once it is installed and once every three years.

Objective 7

Continuing minimisation of Environmental Nuisances associated with Dunmore

Landfill Facility.

Target 7.1 That any potential nuisance resulting from the operation of the facility will be minimised and any methods that may eliminate nuisance will be implemented. Ongoing community consultation and inspections at the facility will ensure nuisance is minimised. Full compliance with the requirements set out in Condition 7 of the Waste Licence will continue.

Objective 8

Continuation of Environmental Monitoring at the facility

Target 8.1 All environmental monitoring at the facility as specified in Schedule D of the Waste Licence shall commence by 10th July, 2002.

Target 8.2 An initial topographical survey of cells 1-10 and all areas to be developed as part of the revised licence to be completed by June 2002, and two more survey to be completed by January 2003 and May 2003, to map development of the site. A topographical survey shall be completed by January each year thereafter.

Target 8.3 A drawing of all monitoring locations shall be submitted to the Agency by August 2002. Any changes to the location of monitoring locations will be immediately updated on this drawing and will be communicated to the Agency.

Target 8.4 A stability assessment of the site will be completed by November 2002 and annually thereafter and submitted to the Agency.

Target 8.5 A revised weekly nuisance monitoring system will be introduced at the site and implemented by January 2003; all records will be held at the site.

Objective 9

Contingency measures shall be put in place in the event of an incident or emergency at the site

Target 9.1 An Emergency response procedure will be developed and submitted to the Agency by November 2002 and submitted to the Agency. The procedure will be revised as necessary.

Target 9.2 An adequate supply of absorbent booms and material will be provided and maintained at the site.

Target 9.3 All waste oil storage containers shall be bunded.

Objective 10

Records shall be maintained and available for inspection at all reasonable times

Target 10.1 All records for the site shall be available at the facility office for inspection

Target 10.2 Ongoing maintenance of waste records as per Condition 10.2 of the Waste Licence.

Target 10.3 A procedure shall be developed to log all waste leaving the civic amenity site once the project has been completed.

Target 10.4 A complaints book shall be kept at the facility office and any complaint shall be logged as per condition 10.4

Target 10.5 A record of all leachate leaving the facility shall be kept in accordance with condition 10.5

Target 10.6 A record shall be kept of the program for the control of vermin and flies as per condition 10.7

Target 10.7 A record of bird control activities shall be kept and regular bird counts made.

Target 10.8 A written record shall be kept of the type of daily cover that is used on the site as per condition 10.9

Target 10.9 Long term environmental monitoring to continue a set out in the table over: -

Report Title	Report Submission
Environmental Management System Updates	Annually in November
Annual Environmental Report (AER)	Annually at the end of March
Bund, tank and container integrity assessment	Every three years in September
Monitoring of landfill gas	Quarterly up to December 2004 biannually there after
Monitoring of Surface Water Quality	Quarterly
Monitoring Ground Water Quality	Quarterly
Monitoring of Leachate	Quarterly
Meteorological Monitoring	Annually
Dust Monitoring	Three times a year
Noise Monitoring	Annually
Site Topographic Survey	Annually

Objective 11

To submit all relevant reports and notifications to the Agency in the timeframes specified

Target 11.1 Any incident at the site shall be notified in accordance with the corrective action procedure

Target 11.2 A new contract will be entered into for the recovery/disposal white goods/brown goods by end May 2003

Target 11.3 Waste recovery reports shall be submitted to the Agency by November 2002 as outlined in condition 11.3

Target 11.4 A report on the achievement of the final profile at the site shall be submitted by November 2002

Target 11.5 An operations procedure shall be developed for operation in adverse wind conditions and submitted to the agency by November 2002.

Target 11.6 A report on procedure to control vermin and flies shall be submitted to the Agency by November 2002

Target 11.7 The first AER of the License will be submitted by May 2003

Target 11.8 A conditioning plan in accordance with Council Directive 1991/31/EC shall be submitted to the Agency by 16th July 2002

Objective 12

To operate the landfill to compliment relevant legislation and the Landfill Directive

Target 12.1 All packaging waste as defined in SI No. 61 of 2003 will be restricted from the landfill

Target 12.2 All contractors using the site shall be in full compliance with SI No. 402 of 2001

Target 12.3 Whole used tyres shall be restricted from the site from 1st of June 2003, in compliance with Council Directive 1991/31/EC. Shredded tyres will be restricted from 1st June 2006.

Target 12.4 The landfill site will be operated with regard to the South East Waste Management and any measures necessary to meet the terms and targets of the plan shall be implemented. This will include the acceptance of waste from outside the Kilkenny area from the partners in the South East Region

Objective 13

To provide infrastructure to reduce visual impact and minimise nuisance

Target 13.1 Continuation of odour modelling and testing at the site and local properties. Odour survey monitoring shall be sent to the agency at the end of each month. Recommendations will be implemented.

Target 13.2 Provision of extensive planting and renewal of hedgerows. Berms will be placed in locations in order to minimise visual impact.

Target 13.3 The road access and roadway along the front of the site will be maintained and cleaned in order to minimise visual nuisance at the entrance to the facility.

Objective 14

To reduce the quantity of recycling and biodegradable materials goin to landfill.

Target 14.1 To achieve a 50% reduction by commercial establishments.

Target 14.2 To set up a communication procedure and reporting mechanism between landfill and enforcement officers regarding offenders.

Target 14.3 Provide awareness to companies of restricted landfill materials.

Objective 15

To achieve closure of the landfill facility to an environmentally satisfactory standard and comply fully with relevant legislation and the Landfill Directive.

Target 15.1; The continued acceptance of acceptable waste in the landfill for such time as the required quantities are received to enable final contours be reached.

Target 15.2; The notification of all customers that the landfill section at Dunmore will cease to operate from the advised date.

Target 15.3; The expansion of the CAS to ensure continued availability of refuse disposal facility to householders and small business customers.

Target 15.4; Increased signage and road markings at the CAS to ensure ease of access and use for the expected increase in customers anticipated as a direct result of the landfill closure.

Target 15.5; To maintain the existing gas and leachate management system to ensure full compliance with the conditions of our license.

Target 15.6; To advertise, appoint a contractor and complete the final capping of the landfill within 2010.

Target 15.7; To maintain the nuisance montiroing system in place in relation to vermin, noise and litter control.

Target 15.8; To investigate the viability of a C&D waste facility within the site.

Target 15.9; To assess the cost structure of the CAS to examine if the facility can be self funding.

Details of the status of the objectives and targets can be found in Appendix G.

6. Procedures

6.1 Waste Acceptance Procedure

Municipal Waste defined as household waste as well as commercial and other waste which, because with nature or composition, is similar to household waste is accepted at Dunmore Landfill. Municipal Waste accepted at Dunmore Landfill Site will be subject to municipal waste characterisation surveys on a regular basis, at least once

per annum.

Since the commencement of landfill operations at Dunmore a regular client base has been established of waste producers and waste contractors depositing waste at Dunmore Landfill. The waste producer and/or waste contractor have established with Kilkenny County Council if their waste is acceptable at the site. Any new waste producer or waste contractor wishing to dispose of waste at Dunmore Landfill Site is obliged to inform Kilkenny County Council of their operation. Similarly if the existing clientele have any reason to believe that the waste previously accepted has changed this information is brought to the attention of Kilkenny County Council. A correct and adequate description of the waste is sought and a determination whether the waste is acceptable or not is provided. If the waste is unacceptable at the Landfill Site then the waste producer/contractor is advised to find an alternative method of recovery or disposal and under the Waste Management Act, inform Kilkenny County Council of the alternative used.

When waste arrives at the Landfill the weighbridge operator notes the haulier/waste contractor and the vehicle registration number. The weighbridge operator determines the origin of the waste and the class of waste and inspects the covering of the waste. The weighbridge operator then confirms the type of waste by visual inspection. If the waste is acceptable the waste is directed to the tipping area where it is discharged from the vehicle. After discharge at the tipping area the compactor or loader operator inspects the waste. If the waste is acceptable the compactor operator proceeds to dispose and compact the waste in the active cell.

If the weighbridge operator determines that the waste is not acceptable, the site supervisor is informed. The site supervisor will then inspect the waste load. If the supervisor considers the waste acceptable the waste may be deposited in the active cell or if he/she requires to inspect the load it will be discharged on the active tipping area where it will be inspected and checked. The tipping area thus serves as an inspection area also. If the supervisor determines that the load is acceptable after inspection it is disposed of in the active cell. If the supervisor determines that the

load is not acceptable the load will be directed to the waste quarantine area.

Once the site supervisor determines that a load prior to discharge from the vehicle is not acceptable or if a load is quarantined the site engineer is informed. The site engineer together with the site supervisor will discuss the waste load with the waste producer/contractor. Any further information as may be required or checks including analysis of the waste load will be undertaken. A decision on what action to be taken shall then be made and recorded. If it is determined at this stage that the load is acceptable it will be disposed of within the active. If the load is not acceptable the waste contractor/producer will be obliged to remove the load from the site and take it for an alternative recovery operation or to a disposal facility where the waste is accepted. Under section 18&34 of the Waste Management Act, Kilkenny County Council requires the Waste Contractor to record where all of the waste collected is disposed/recovered and such reports as required will be submitted to Kilkenny County Council.

A flow chart outlining the details of the procedure is outlined in Appendix H.

6.2 Emergency Response Procedure

Following an assessment of risk at the site in Dunmore, as part of our ongoing safety audits, procedures were put in place to deal with any emergency that may arise at the site.

The main risks identified at the site are explosion, fire, oil/leachate spillage and injury to persons.

During the end of 2004 a gas extraction and enclosed flare system was installed on site. This system extracts gases present in the cells and treats the gas on site by flaring thus significantly reducing its accumulation on site, its migration into the atmosphere and minimises the risk to human health. Field balancing of the wells are regularly carried out to ensure each well in all areas of the site are not being over or under

pumped which would effect the combustion of the gas at the flare stage, and to ensure concentrations of landfill methane gas being transmitted are not within the explosive range of 5-15%. It is not permissible to set a fire or smoke at Dunmore, but with the nature of the gases present there remains a risk of fire on the active site. If a fire is identified at the site and it is safe to do so, the fire would be covered with inert material. If it is considered that the fire is unsafe and out of control, the fire service would be contacted immediately. Any fire at the site is immediately reported to the Engineer in charge and the site will be fully inspected.

The possibility of fire on one of the site vehicles or site offices was also identified as a potential risk. All site vehicles and site offices have been fitted with a fire extinguisher. In the case of a fire being detected in either, the fire extinguishers shall be used initially to control the fire. If the fire is unsafe or out of control the fire the fire brigade will be called. In the event of fire on any of the vehicles the vehicle owner/Machinery Yard Engineer shall be contacted immediately.

Site staff have received instruction in the use of this equipment and there is regular servicing of any fire control equipment on the site.

The storage of fuel on site, the presence of methane gas and other containers that may be on site from time to time, may pose a potential risk of explosion at the site. If there is an explosion on the site, all personnel on the site should be evacuated immediately. The fire service and the Engineer in charge are to be called immediately. A full investigation of the site is to be carried out to establish the cause of the explosion. Any resultant fire shall be brought under control as described above. The site may not be re-opened until clearance has been received from the Chief Fire Officer and the Engineer in charge.

Any fire or explosion on the site would be considered an incident and a full report will be made to the EPA as per condition 11.2.

Any spillage of leachate at the site is regarded as an incident under the terms of the waste licence. The source of any spillage is to be identified immediately and the course of action to be taken will be decided on or booms stored on the site. Any spillage would be contained by a clay bund. If necessary any watercourses in the area should be dammed to prevent any reception of leachate to surface water supply. A vacuum or leachate tanker will take the excess spilled leachate away. The surface/ground water should be sampled to assess the impact of the spill. Monitoring controls would then be put in place to ensure that levels do not breach the bunds. Extra leachate tankers will be employed to remove the excess leachate produced (a number of companies are available to provide this service); until monitoring results show that they are unnecessary. If there is any spillage of leachate, the Engineer in charge, is to be notified. An incident report will be prepared by the Engineer and sent to the EPA. In the event of any incident which relates to the discharges to surface water, the Southern Regional Fishery Board will be notified as soon as practicable and in any case not later than 10:00am on the following working day after such an incident.

Oil spillage at the site will be contained with oil sorbant material. This sorbant when cleaned up will be stored in secure storage containers, supplied by the fire service, pending collection by an authorised waste facility. If any oil spillage occurs on site, the Engineer in charge should be notified.

All staff on site has been issued with personal protective equipment. All footwear is to SP3 standard (pierce proof, steel toed), hi-visibility clothing, gas masks and ear protection. Anti-bacterial wipes and bio guard wipes (which include protection from leptosporosis and other viruses) are provided on site. A number of first aid kits are available on site and they are regularly checked to ensure they are fully stocked. Some site staff have completed manual handling and first aid course and further courses are planned for the remainder. A full round of injections will be administered to the staff of Dunmore including Hepatitis A&B, Tetanus and Polio as required. All visitors to the site must report to the site offices and are restricted to certain areas

within the site.

In the event of injury to any person, a member of the site staff will apply first aid. If it is necessary an ambulance will be called and the injured person will be taken to hospital. Any injury must be reported to Safety Co-ordinator and the Safety Officer to record the incident. The Safety Officer will then notify the HSA as required.

A summary chart of the procedures to be followed is shown on the following page. This chart along with all relevant phone numbers are posted in the site offices and all site staff has been made aware of this.

Emergency Response Procedure

Emergency	Response	Notify
Explosion	1. Call-out Fire Brigade 2. Evacuate Site	Engineer in Charge Chief Fire Officer EPA
Fire-Vehicle	1. Control with Vehicle or site fire extinguishers. 2. If unsafe or out of control, call out Fire Brigade	Machinery Yard Engineer Vehicle Owner Engineer in Charge
Fire-Site	1. Cover with Inert Material. 2. If unsafe, or out of control evacuate site and call-out Fire Brigade.	Engineer in charge. EPA
Oil Spillage	Contain with oil sorbent material	Engineer in charge. EPA Southern Regional Fishery Board
Leachate Spillage	1. Contain with clay bunds, Dam watercourses, if necessary. 2. Suction up spillage with Vacuum tanker or leachate tanker	Engineer in charge. EPA Southern Regional Fishery Board
Injury to Persons	1. Call Ambulance 2. Apply First Aid	Engineer in charge.

Emergency Response Numbers: -

Gardai Station **Dominic St** **Kilkenny.**	**(056) 7722222**
Fire Station **Gaol Rd** **Kilkenny.**	**(056) 7794400**
Ambulance	**(056) 7751133**
Environmental Protection Agency – OEE	**(053) 9160600** **LoCall 1890 335599**
Southern Regional Fisheries Board	**(052) 80055**

7. Nuisance

7.1 Nuisance Control

The following measures are employed at Dunmore to control nuisance: -

7.1.1 Bird Control: - 'Bird Control Ireland' (BCI) have been employed since 2000 to regulate and monitor the bird control on site. A number of different techniques for controlling birds are used and specific non-native species of bird that come into the area are targeted. The methods employed are acoustic scarers, visual scarecrows such as helekite, eagle kites and falcon flights. Personnel visit the site weekly and provide a detailed monthly report of the bird populations observed on site. Instructions are left on a white board in the weighbridge for daily actions to be performed by site staff. A daily log sheet of on site activities is complete by site personnel and reviewed by both the facility manager and BCI to ensure the program remains successful.

During 2004 a marine signal pistol was purchased and is being used on the site to scare the birds. A number of staff on site have been trained in correct use of bird scaring pistol. A new acoustic scarer has recently been purchased for the site, which has a larger range of distress calls than on the previous machine. The distress calls added are designed to target the observed non native species that have tried to make raids on the site. Sample data logs and End of Year report are available in Appendix I.

Bird control on site ceased in April 2010 when the remaining cells were adequately covered with clay following the landfill closure in March.

7.1.2 Vermin Control: - 'Pestkill-Pest Control Services' visit the site on a regular basis, to place bait for vermin control at the site. There are 49 no. specific and labelled locations at and surrounding the site where bait is placed in custom made boxes. Pestkill inspects these monitoring points monthly to see if the bait was taken or rodent activity if any are noted and bait re-stock if necessary. The bait points are moved or the number shall be increased should it be deemed necessary by 'Pestkill'. Monthly record sheets of the findings at the site are logged and kept on site. There is

also a monthly meeting between the vermin control company and the facility manager to discuss findings and any improvements to be made.

In April 2002, 'Pestkill' installed bait boxes in three adjoining properties to ensure that any vermin attracted by the Landfill to these properties would be controlled. Monthly inspections of these points are also made; notes of any bait take are made and restocked if necessary.

It is considered that adequate covering of the waste is also a necessary measure that is carried out. This will ensure that the food supply for vermin is kept at a minimum and therefore is a control measure for vermin.

7.1.3 Fly Control: - 'Pestkill-Pest Control Services' is under contract to spray the face of the landfill and machinery during the late Spring, Summer and early Autumn, and at other times if necessary.

It is considered that good site practice should eliminate the need for spraying. These measures include good compaction and mixing of the waste with inert clay. This leads to flies on the waste and their larva being compacted and buried with the waste, which in turn leads to the life cycle being stopped. When this is complete the active face of the landfill is covered with inert clay material as soon as is practical.

The use of Hessian material has discontinued as this has lead to producing an environment suitable for the propagation of flies. Once the site has reached its agreed height the site is covered with appropriate soil cover and a permanent cap will be in place within twelve months of this final agreed height being reached.

8. Incidents and Complaints

8.1 Incident Reports

The following incidents took place at Dunmore during the reporting period. Details of the incidents are as follows: -

Gas Migration: - Under condition 6.3.1 of the licence, results showing a Methane level greater than or equal to 1 v/v or a CO_2 value greater than or equal to 1.5 v/v, is regarded as an exceedance. An Assessment of Landfill Gas Measurements at Dunmore Landfill, Co. Kilkenny analysing the processes responsible for these exceedence levels was carried out and submitted to the agency at the end of 2004. This report concluded that there is CO_2 is naturally occurring in the Dunmore Area. To allow for this finding the Agency agreed to increase the tolerance of the CO_2 trigger level, from 1.5% v/v to 3% v/v, therefore any levels =>3% v/v would be treated as an incident and reportable to the Agency. For the purpose of this report I have included both ranges of CO_2 from between 1.5 % to <3% v/v (Italic text) There were no recorded exceedances of =>3% v/v.

	1	*2*	*3*	*4*	*5*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*
Jan		*2.3*							*2.0*	*1.8*							*1.8*	*1.5*				
Feb		*2.0*							*1.9*	*1.8*												
Mar		*1.6*																				
Apr		*1.8*							*1.9*	*1.5*												
May		*2.1*							*2.2*	*1.7*												
Jun		*1.9*			*2.1*				*2.0*	*2.2*							*2.8*			*2.4*		
Jul		*2.1*			*2.0*				*2.2*	*2.1*							*2.1*	*2.3*				
Aug		*2.3*							*2.6*								*2.1*	*2.5*		*2.4*		
Sep		*2.6*			*2.3*				*1.9*	*2.2*							*2.6*	*2.5*				
Oct		*2.3*							*2.2*	*2.2*										*2.4*		
Nov		*2.1*							*2.4*	*2.0*							*2.5*	*2.7*				
Dec		*2.2*							*2.3*	*2.0*							*2.1*	*2.5*				

9. Staffing

9.1 Staffing Structure

Kilkenny County Council own and manage the landfill site at Dunmore. The County Council with Philip O'Neill as Director of Service and Carol McCarthy as Senior Engineer are presently appointed as the project supervisors for design and construction phase.

The Environment Section manages the facility on behalf of Kilkenny County Council with Carol McCarty BA BAI, MIEI, as Senior Executive Engineer of the Section.

On site Alan Rhatigan is caretaker at the site. The operatives at the site also include one driver (Leachate Tanker), weighbridge operator, C.A. operator and a general operative.

The site is open Monday – Friday, 8.00 to 4.30 and on Saturday from 8.00 to 12.00. The phone numbers at the site are 056-7761999 and 056 7767848. Any queries or complaints may be made to the site or to the Environment Section in County Hall (056-7794470). A flow chart outlining the management structure is attached in Appendix J.

9.2 Monitoring and Sampling

The monitoring and sampling at Dunmore is carried out by the staff of the Environment Section of Kilkenny County Council, personnel from the Environmental Protection Agency, Regional Inspectorate, Seville Lodge, Callan Road, Kilkenny and personnel from environmental consultants Fehily, Timoney & Co. The list of all duties required and the relevant personnel are listed below: -

Interpretation of Results: -

Carol McCarthy BA BAI MIEI, Senior Engineer,
Completed FAS Waste December 2001,
Environment Section Kilkenny Co. Co. August 1990 – August 1994 and October 2001 – Present,
Environment Section Laois County Council Sept. 1996 – June 1997
Landfill Duties Head of Environment Section

Maeve Good BA BAI MIEI, Assistant Engineer,
Completed FAS Waste Management Certificate Feb 2005
Environment Section Kilkenny Co. Co. October 2004 - Present
Landfill Duties Deputy Facility Manager

Water Sampling (Condition 8.1 Schedule D.5): **-**

Michael Daly NCEA Diploma in Environmental Protection, Technician,
Diploma in Environment Protection
Environment Section Kilkenny Co. Co. Nov. 1982 – Present
Landfill Duties Water/Leachate and Dust Monitoring/Noise Monitoring

Water sampling at the site is carried out by Jean Smith and Jim McGarry of the Environmental Protection Agency, Regional Inspectorate, Seville Lodge, Callan Road, Kilkenny. Quarterly sampling is carried out on all parameters listed in accordance with Condition 9.1 and Schedule F.4 of the Licence

Gas Monitoring (Condition 8.1 and Schedule D.2): -

Carol McCarthy BA BAI MIEI, Senior Executive Engineer,
Completed FAS Waste December 2001,

Environment Section Kilkenny Co. Co. August 1990 – August 1994 and October 2001 – Present,

Environment Section Laois County Council Sept. 1996 – June 1997

Landfill Duties Head of Environment Section

Noise Monitoring (Condition 8.1 Schedule D.4): -

Michael Daly NCEA Diploma in Environmental Protection, Technician,

Diploma in Environment Protection

Environment Section Kilkenny Co. Co. Nov. 1982 – Present

Landfill Duties Water/Leachate and Dust Monitoring/Noise Monitoring

Fehily Timoney & Co., Core Hse., Pouladuff Rd., Cork.

Director for Kilkenny Area Mr. Gerry O'Sullivan BE CEng

Landfill Duties Consulting Engineers/Noise Monitoring

Dust Monitoring (Condition 8.1 Schedule D.3): -

Michael Daly NCEA Diploma in Environmental Protection, Technician,

Diploma in Environment Protection

Environment Section Kilkenny Co. Co. Nov. 1982 – Present

Landfill Duties Water/Leachate/Noise and Dust Monitoring

Meteorological Monitoring (Condition 8.1 Schedule D.6): -

Meteorological Monitoring is carried out by Met Eireann at the Oakpark Meteorological Station, Carlow. Results are submitted to Kilkenny County Council on a monthly basis.

10. Financial Provision

10.1 Financial Provision for the Site

The aggregate of the amount of charges imposed by Kilkenny County Council in respect of the disposal of waste at Dunmore Landfill (W0030-02) during 2009 was not less then the amount that would meet the total of the following costs:

(a) costs incurred in acquisition and development of the facility,
(b) costs of operating the facility and
(c) costs of restoration.

11. Public Information

11.1 Procedure for Public Consultation

Dunmore Landfill is established since 1989 and good communication has developed between the site staff and the local community. The site staff in a spirit of good neighbourliness promptly deals with any issues arising locally.

During the development of proposals for an extension to the landfill site at Dunmore, intensive consultation has taken place especially with the immediate neighbours of the site and with other local residents. This consultation process commenced in November 2000 and was ongoing during the development stage. Arising out of these consultations, Kilkenny County Council had set up a Community Liaison Group.

The group comprises of seven members of the local community representing the different areas in the vicinity on the landfill, two local elected representatives, Senior Executive Engineer and the facility manager. As the landfill is now due for closure the Community Liaison Group will be convened to ascertain the appropriate community projects to benefit from this.

In addition to the above, the Kilkenny Area Committee of the County Council, comprising elected members of the Kilkenny Electoral Area is briefed on the developments at Dunmore.

The full Council are briefed on all waste management issues on a regular basis including developments at Dunmore, pricing structure, staff changes etc.

The Strategic Policy Committee on Environment (SPC 3), which comprises of council officials elected representatives and community representatives are briefed on developments at the landfill site and policy decisions are drafted as a result of the meetings.

All environmental monitoring results are held in the Dunmore Landfill, Dunmore, Co. Kilkenny and any member of the public is free to inspect them at any time during normal office hours (08:00 to 16:30 hours). Arrangements can be made to view the information at an alternative location by prior arrangement.

There is a fax and phone located at the site where queries can be made during opening hours i.e. 08:00 to 16:30, or a message can be left on the answering machine and if required will be contacted as soon as the message is received.

11.2 Complaints

A complaints register is located on site and any complaint regarding the operation of the facility is recorded and the action taken to address the complaint/observation. No complaints were received during 2010.

12. Compliance

12.1 Summary of Compliance

A summary of compliance under licence as part of our objectives and targets in Appendix G.

Appendix A

Waste Quantities

&

Recycling Rates

DUNMORE LANDFILL 2010

007 Local authority, 008 Domestic brought by house holders, 009 Domestic (contractors)
010 Litter & street sweepings, 011 Commercial, 012 Industrial , 013 Construction & demolition.
014 Sewage sludge , 015 Agricultural , 017 Asbestos waste

	CATEGORIES																			
MONTHS	Local 00	House 0(	Contract	Street 01	Commer	Industri	Construc	Sewage	Agricultu	Asbestos	Clay	Roads	Stone	Gravel	Filt. Gra	Sand	Topsoil	WEEE	Check	TOTAL
January	0.84	177.92	0.6	52.8	162.14	0	0.14	0	0	0	226.26	26.08	0	0	0	0	0	0		646.78
February	1.6	209.2	0.1	63.7	180.7	0	0.08	0	0	0	661	228.86	0	0.00	0	0	0	0		1345.50
March	1.84	193.28	1.4	79.9	115.76	0	0.28	0	0	0	609.04	194.86	0	23.6	0	0	0	0		1219.96
April	0	0	0	0	0	0	0	0	0	0	127.42	18.80	0	0	0	0	0	0		146.22
May	0	0	0	0	0	0	0	0	0	0	126.08	0.00	0	0.00	0	0	0	0		126.08
June	0	0	0	0	0	0	0	0	0	0	342.92	0	0	0	0	0	0	0		342.92
July	0	0	0	0	0	0	0	0	0	0	72.44	0	0	0	0	0	0	0		72.44
August	0	0	0	0	0	0	0	0	0	0	3.24	0.00	0	0.00	0	0	0	0		3.24
Septembe	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0.00	0	0	0	0		0.00
October	0	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0		0.00
Novembe	0	0	0	0	0	0	0	0	0	0	0	0.00	0	0.00	0	0	0	0		0.00
Decembe	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0	0.00	0	0	0	0		0.00
TOTAL	**4.28**	**580.4**	**2.1**	**196.4**	**458.6**	**0**	**0.5**	**0**	**0**	**0**	**2168.7**	**468.6**	**0**	**23.6**	**0**	**0**	**0**	**0**	**0**	**3903.1**
%	0%	15%	0%	5%	12%	0%	0%	0%	0%	0%										

Recycling Rates 2010

	Cardboard	Paper	Plastic	Timber	Metal	Fridges	Batteries	Textiles	Hazardous	Flourescent tubes	Glass	white & brown	tetra	Oil	Oil filters	Tyres	**Total per month**	**Total WEEE**
Jan	4.74	21.18	5.56	2.32	12.66	0	0	1.96	2.06	0	8.44	20.86	0.92	0	0	0	80.7	20.86
Feb	4.12	17.32	9.26	3.2	19.92	0	0	2.5	0	0.2	8.84	18.44	0.94	1.36	0	0	85.8	18.44
Mar	4.82	21.12	7.98	1.34	19.04	0	0	2.7	1.94	0	5.32	20.78	0.98	0	0	0	86.02	20.78
Apr	6.96	21.41	7.86	12.76	14.38	0	0	2.96	1.9	0	7.88	15.9	1.16	0	0	0	93.17	15.9
May	5.38	20.62	3.48	9.4	16.32	0	0.84	2.08	1.94	0.15	8.16	12.8	0.82	0	0	0	81.99	12.8
Jun	5.72	18.61	4.53	9.06	8.9	0	0	3.46	2.04	0	9.46	14.66	1	1.74	0	0	75.02	14.66
Jul	7.57	22.46	7.18	0	7.04	0.4	0	4.18	1.9	0.2	7.74	24.38	1.36	1.12	0	0	85.09	24.78
Aug	11.98	24.42	5.4	0	9.96	0	0	3.44	1.6	0	10.18	14.1	0.7	0.34	0	0	82.12	14.1
Sep	11.86	25.06	5.06	1	3.44	0	0	2.6	0	0	9.8	13.28	0.98	0.12	0	0	73.2	13.28
Oct	7.24	13.52	7	0	4.8	0	0	1.12	2.32	0.28	4.42	20.16	0.8	0.93	0	0	62.59	20.16
Nov	14.41	24.72	6.04	0	4.16	0	2.2	1.68	1.38	0	8.84	8.36	1.22	0.1	0	0	73.11	8.36
Dec	3.92	21.76	6.5	0	4.24	0	0	0.18	0	0	5.7	1.88	0.58	0.52	0	0	45.28	1.88
Subtotal	**88.72**	**252.2**	**75.85**	**39.08**	**124.86**	**0.4**	**3.04**	**28.86**	**17.08**	**0.83**	**94.78**	**185.6**	**11.46**	**0**	**0**	**0**	**924.09**	**186**

Appendix B

Gas Monitoring

&

Gas Migration

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Active	Date: 02/02/10	Time: 09:00
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jan 2010 Next Calibration Due: Jul 2010	
Monitoring Personnel: Alan Rhatigan	Weather: Dry	Barometric Pressure (mb) : 999

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	17.30	16.90	5.90	New gas well
VP2	Cell No. 1 Vent	600mm	37.90	20.60	2.60	New gas well
VP3	Cell No. 1 Vent	600mm	22.40	16.20	5.80	New gas well
VP4	Cell No. 3 Vent	600mm	26.20	18.80	5.70	New gas well
VP5	Cell No. 2 Vent	600mm	26.10	19.90	3.20	New gas well
VP6	Cell No. 2 Vent	600mm	46.50	25.70	2.50	New gas well
VP7	Cell No. 3 Vent	600mm	42.50	23.80	4.40	New gas well
VP8	Cell No. 7 Vent	600mm	18.00	13.00	10.00	New gas well
VP9	Cell No. 7 Vent	600mm	24.60	16.30	9.30	New gas well
VP10	Cell No. 6 Vent	600mm	33.40	24.60	3.10	New gas well
VP11	Cell No. 6 Vent	600mm	33.80	25.00	0.40	New gas well
VP12	Cell No. 5 Vent	600mm	34.00	24.90	0.30	New gas well
VP13	Cell No. 5 Vent	600mm	21.40	20.00	3.80	New gas well
VP14	Cell No. 7 Vent	600mm	18.90	19.80	3.20	New gas well
VP15	Cell No. 7 Vent	600mm	24.70	20.10	5.40	New gas well
VP16	Cell No. 4 Vent	600mm	25.00	20.80	4.70	New gas well
VP17	Cell No. 4 Vent	600mm	25.40	21.00	4.70	New gas well
VP18	Cell No. 10 Vent	600mm	13.90	21.00	1.60	
VP19	Cell No. 10 Vent	600mm	25.30	23.40	1.00	New gas well
VP20	Cell No. 10 Vent	600mm	38.40	27.20	0.30	New gas well

VP21	Cell No. 9 Vent	600mm	41.50	28.80	0.70	New gas well
VP22	Cell No. 8 Vent	600mm	40.90	29.50	0.80	New gas well
VP23	Cell No. 11 Vent	600mm	22.20	21.60	0.50	New gas well
VP24	Cell No. 11 Vent	600mm	71.60	22.60	0.20	New gas well
VP25	Cell No. 11 Vent	600mm	68.20	34.40	0.20	New gas well
VP26	Cell No. 11 Vent	600mm	22.30	22.20	1.00	New gas well
VP27	Cell No. 11 Vent	600mm	57.30	30.30	0.10	New gas well
VP28	Cell No. 11 Vent	600mm	34.20	27.00	0.60	New gas well
VP29	Cell No. 11 Vent	600mm	37.10	29.50	0.20	New gas well
VP30	Cell No. 8 Vent	600mm	34.60	24.10	2.00	New gas well
VP31	Cell No. 8 Vent	600mm	22.80	19.40	4.50	New gas well
VP32	Cell No. 9 Vent	600mm	51.70	23.80	5.00	New gas well
VP33	Cell No9 Vent	600mm	66.20	35.40	0.60	New gas well
VP34	Cell No10 Vent	600mm	26.60	22.10	1.60	New gas well
VP35	Cell No. 10 Vent	600mm	38.30	25.50	2.40	New gas well
VP36	Cell No. 10 Vent	600mm	56.30	31.80	0.40	New gas well
VP37	Cell No. 11 Vent	600mm	32.80	26.40	0.00	New gas well
VP38	Cell No. 12 Vent	600mm	27.60	23.60	0.20	New gas well
VP39	Cell No. 12 Vent	600mm	66.00	27.90	1.90	New gas well
VP40	Cell No. 12 Vent	600mm	34.80	20.70	5.80	New gas well
VP41	Cell No. 12 Vent	600mm	17.90	15.80	5.90	New gas well
VP42	Cell No. 12 Vent	600mm	60.20	34.90	1.60	New gas well
VP43	Cell No. 12 Vent	600mm	45.70	25.80	0.30	New gas well
VP44	Cell No. 12 Vent	600mm	28.90	15.50	5.10	New gas well
VP45	Cell No. 12 Vent	600mm	18.70	13.90	9.00	New gas well
VP46	Cell No. 12 Vent	600mm	16.90	17.90	3.60	New gas well
VP47	Cell No. 12 Vent	600mm	51.00	33.20	0.80	New gas well

VP48	Cell No. 12 Vent	600mm	43.50	28.30	2.00	New gas well
VP49	Cell No. 12 Vent	600mm	16.20	17.10	5.20	New gas well
VP50	Cell No. 12 Vent	600mm	27.60	24.10	1.60	New gas well
VP51	Cell No. 12 Vent	600mm	25.10	24.10	1.40	New gas well
VP52	Cell No. 14 Vent	600mm	41.20	30.70	0.00	New gas well
VP53	Cell No. 14 Vent	600mm	45.40	32.50	2.20	New gas well
VP55	Cell No. 14 Vent	600mm	49.90	33.70	1.40	New gas well
VP56	Cell No. 14 Vent	600mm	61.00	40.00	0.20	New gas well
HOR1	Cell No. 14 Vent	600mm	30.10	24.20	3.80	New gas well
HOR2	Cell No. 14 Vent	600mm	37.80	28.50	3.40	New gas well
HOR2	Cell No. 14 Vent	600mm	37.80	28.50	3.40	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Active	Date: 03/03/10	Time: 11:00
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jan 2010 Next Calibration Due: Jul 2010	
Monitoring Personnel: Alan Rhatigan	Weather: dry	Barometric Pressure (mb) : 1001

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	51.00	26.40	2.00	New gas well
VP2	Cell No. 1 Vent	600mm	51.30	27.00	1.10	New gas well
VP3	Cell No. 1 Vent	600mm	54.10	27.30	1.00	New gas well
VP4	Cell No. 3 Vent	600mm	56.60	28.80	0.20	New gas well
VP5	Cell No. 2 Vent	600mm	32.40	17.10	2.20	New gas well
VP6	Cell No. 2 Vent	600mm	53.70	28.20	1.50	New gas well
VP7	Cell No. 3 Vent	600mm	27.70	15.80	10.00	New gas well
VP8	Cell No. 7 Vent	600mm	42.10	23.80	6.10	New gas well
VP9	Cell No. 7 Vent	600mm	44.10	24.60	2.00	New gas well
VP10	Cell No. 6 Vent	600mm	25.20	19.50	1.60	New gas well
VP11	Cell No. 6 Vent	600mm	29.40	22.90	0.80	New gas well
VP12	Cell No. 5 Vent	600mm	29.40	23.80	0.40	New gas well
VP13	Cell No. 5 Vent	600mm	13.20	19.00	0.50	New gas well
VP14	Cell No. 7 Vent	600mm	34.90	19.30	3.80	New gas well
VP15	Cell No. 7 Vent	600mm	45.30	26.20	2.00	New gas well
VP16	Cell No. 4 Vent	600mm	29.10	20.90	2.60	New gas well
VP17	Cell No. 4 Vent	600mm	23.00	16.60	3.20	New gas well
VP18	Cell No. 10 Vent	600mm	19.80	19.30	5.40	
VP19	Cell No. 10 Vent	600mm	21.10	20.00	4.80	New gas well
VP20	Cell No. 10 Vent	600mm	30.10	25.80	0.60	New gas well

VP21	Cell No. 9 Vent	600mm	34.80	26.40	0.40	New gas well
VP22	Cell No. 8 Vent	600mm	32.40	26.20	1.60	New gas well
VP23	Cell No. 11 Vent	600mm	18.00	19.60	0.60	New gas well
VP24	Cell No. 11 Vent	600mm	70.40	21.60	0.30	New gas well
VP25	Cell No. 11 Vent	600mm	66.30	32.60	0.50	New gas well
VP26	Cell No. 11 Vent	600mm	18.40	20.80	1.60	New gas well
VP27	Cell No. 11 Vent	600mm	64.30	29.80	0.20	New gas well
VP28	Cell No. 11 Vent	600mm	38.00	11.00	3.80	New gas well
VP29	Cell No. 11 Vent	600mm	31.70	26.80	0.10	New gas well
VP30	Cell No. 8 Vent	600mm	56.00	32.20	4.20	New gas well
VP31	Cell No. 8 Vent	600mm	50.30	27.90	2.40	New gas well
VP32	Cell No. 9 Vent	600mm	65.90	32.70	0.70	New gas well
VP33	Cell No9 Vent	600mm	66.20	33.80	0.60	New gas well
VP34	Cell No10 Vent	600mm	19.80	21.50	1.50	New gas well
VP35	Cell No. 10 Vent	600mm	29.20	25.20	1.50	New gas well
VP36	Cell No. 10 Vent	600mm	44.00	29.40	1.20	New gas well
VP37	Cell No. 11 Vent	600mm	24.30	24.40	0.20	New gas well
VP38	Cell No. 12 Vent	600mm	17.90	21.40	0.60	New gas well
VP39	Cell No. 12 Vent	600mm	71.30	28.80	0.60	New gas well
VP40	Cell No. 12 Vent	600mm	35.40	19.10	7.50	New gas well
VP41	Cell No. 12 Vent	600mm	17.00	15.10	7.00	New gas well
VP42	Cell No. 12 Vent	600mm	62.70	35.00	0.60	New gas well
VP43	Cell No. 12 Vent	600mm	38.60	23.80	0.60	New gas well
VP44	Cell No. 12 Vent	600mm	13.90	11.10	12.20	New gas well
VP45	Cell No. 12 Vent	600mm	20.80	18.50	0.60	New gas well
VP46	Cell No. 12 Vent	600mm	39.80	17.30	3.40	New gas well
VP47	Cell No. 12 Vent	600mm	29.50	24.40	2.80	New gas well

VP48	Cell No. 12 Vent	600mm	38.20	26.50	1.00	New gas well
VP49	Cell No. 12 Vent	600mm	26.50	3.80	3.60	New gas well
VP50	Cell No. 12 Vent	600mm	23.50	22.80	0.30	New gas well
VP51	Cell No. 12 Vent	600mm	30.80	25.40	0.20	New gas well
VP52	Cell No. 14 Vent	600mm	41.20	30.70	0.00	New gas well
VP53	Cell No. 14 Vent	600mm	45.40	32.50	2.20	New gas well
VP55	Cell No. 14 Vent	600mm	49.90	33.70	1.40	New gas well
VP56	Cell No. 14 Vent	600mm	61.00	40.00	0.20	New gas well
HOR1	Cell No. 14 Vent	600mm	30.10	24.20	3.80	New gas well
HOR2	Cell No. 14 Vent	600mm	37.80	28.50	3.40	New gas well

Dunmore Landfill Site						
Operator: Kilkenny County Council				Dunmore, Co. Kilkenny National Grid Reference: 160572N 249519E		
Site Status: Active				Date: 08/04/10		Time: 09:00
Instrument Used: Infra Red Gas Analyser - GA 94				Date of Calibration: Jan 2010 Next Calibration Due: Jul 2010		
Monitoring Personnel: Alan Rhatigan				Weather: dry		Barometric Pressure (mb) : 1019
RESULTS						
Sample Station Number	**Borehole/ Spike/ Other**	**Survey Depth**	**CH_4 % v/v**	**CO_2 % v/v**	**O_2 % v/v**	**Comments**
VP1	Cell No. 1 Vent	600mm	22.30	13.90	10.00	New gas well
VP2	Cell No. 1 Vent	600mm	32.30	18.80	8.70	New gas well
VP3	Cell No. 1 Vent	600mm	33.40	19.20	5.70	New gas well
VP4	Cell No. 3 Vent	600mm	26.90	15.00	8.00	New gas well
VP5	Cell No. 2 Vent	600mm	31.70	17.50	7.40	New gas well
VP6	Cell No. 2 Vent	600mm	34.60	18.70	7.20	New gas well
VP7	Cell No. 3 Vent	600mm	52.90	25.00	3.70	New gas well
VP8	Cell No. 7 Vent	600mm	27.50	7.20	4.90	New gas well
VP9	Cell No. 7 Vent	600mm	35.70	19.60	6.10	New gas well
VP10	Cell No. 6 Vent	600mm	38.10	21.00	6.00	New gas well
VP11	Cell No. 6 Vent	600mm	36.30	22.10	1.40	New gas well
VP12	Cell No. 5 Vent	600mm	40.90	23.60	0.80	New gas well
VP13	Cell No. 5 Vent	600mm	27.80	19.70	4.00	New gas well
VP14	Cell No. 7 Vent	600mm	25.30	20.20	4.80	New gas well
VP15	Cell No. 7 Vent	600mm	23.80	19.30	6.20	New gas well
VP16	Cell No. 4 Vent	600mm	19.70	20.90	4.00	New gas well
VP17	Cell No. 4 Vent	600mm	14.00	15.60	6.40	New gas well
VP18	Cell No. 10 Vent	600mm	21.10	21.80	3.00	New gas well
VP19	Cell No. 10 Vent	600mm	12.50	15.20	6.70	New gas well
VP20	Cell No. 10 Vent	600mm	30.10	26.30	2.30	New gas well

VP21	Cell No. 9 Vent	600mm	44.20	29.00	0.40	New gas well
VP22	Cell No. 8 Vent	600mm	32.80	25.50	2.30	New gas well
VP23	Cell No. 11 Vent	600mm	52.30	32.00	0.60	New gas well
VP24	Cell No. 11 Vent	600mm	72.60	23.90	0.50	New gas well
VP25	Cell No. 11 Vent	600mm	64.50	34.60	0.00	New gas well
VP26	Cell No. 11 Vent	600mm	65.40	34.00	0.20	New gas well
VP27	Cell No. 11 Vent	600mm	65.10	34.20	0.00	New gas well
VP28	Cell No. 11 Vent	600mm	41.30	27.60	0.00	New gas well
VP29	Cell No. 11 Vent	600mm	61.40	36.90	0.00	New gas well
VP30	Cell No. 8 Vent	600mm	30.30	20.30	5.20	New gas well
VP31	Cell No. 8 Vent	600mm	38.40	27.10	1.20	New gas well
VP32	Cell No. 9 Vent	600mm	44.30	29.10	1.00	New gas well
VP33	Cell No9 Vent	600mm	68.30	34.30	0.40	New gas well
VP34	Cell No10 Vent	600mm	22.30	23.00	1.70	New gas well
VP35	Cell No. 10 Vent	600mm	28.50	20.70	5.40	New gas well
VP36	Cell No. 10 Vent	600mm	52.00	32.50	0.90	New gas well
VP37	Cell No. 11 Vent	600mm	51.50	33.90	0.00	New gas well
VP38	Cell No. 12 Vent	600mm	22.60	22.00	0.80	New gas well
VP39	Cell No. 12 Vent	600mm	64.80	25.90	2.80	New gas well
VP40	Cell No. 12 Vent	600mm	22.20	13.40	11.00	New gas well
VP41	Cell No. 12 Vent	600mm	65.80	35.90	0.70	New gas well
VP42	Cell No. 12 Vent	600mm	59.60	34.40	1.10	New gas well
VP43	Cell No. 12 Vent	600mm	48.90	24.80	0.50	New gas well
VP44	Cell No. 12 Vent	600mm	22.60	5.40	3.40	New gas well
VP45	Cell No. 12 Vent	600mm	23.50	13.20	9.60	New gas well
VP46	Cell No. 12 Vent	600mm	11.70	15.60	6.90	New gas well
VP47	Cell No. 12 Vent	600mm	24.10	16.60	9.40	New gas well

VP48	Cell No. 12 Vent	600mm	53.50	30.00	0.80	New gas well
VP49	Cell No. 12 Vent	600mm	33.70	18.20	9.50	New gas well
VP50	Cell No. 12 Vent	600mm	69.30	34.20	0.20	New gas well
VP51	Cell No. 12 Vent	600mm	23.80	23.20	0.90	New gas well
VP52	Cell No. 14 Vent	600mm	53.80	33.50	1.00	New gas well
VP53	Cell No. 14 Vent	600mm	53.80	31.20	3.20	New gas well
VP55	Cell No. 14 Vent	600mm	54.20	33.40	0.50	New gas well
VP56	Cell No. 14 Vent	600mm	63.90	39.60	0.50	New gas well
HOR1	Cell No. 14 Vent	600mm	41.80	25.70	4.90	New gas well
HOR2	Cell No. 14 Vent	600mm	42.00	30.70	1.70	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Closed	Date: 06/05/10	Time: 11:30
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jan 2010 Next Calibration Due: Jul 2010	
Monitoring Personnel: Alan Rhatigan	Weather: dry	Barometric Pressure (mb) : 1006

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	31.80	21.80	0.80	New gas well
VP2	Cell No. 1 Vent	600mm	23.30	16.30	5.00	New gas well
VP3	Cell No. 1 Vent	600mm	37.00	22.40	0.90	New gas well
VP4	Cell No. 3 Vent	600mm	63.60	25.70	1.80	New gas well
VP5	Cell No. 2 Vent	600mm	26.10	17.40	1.80	New gas well
VP6	Cell No. 2 Vent	600mm	35.20	19.90	6.00	New gas well
VP7	Cell No. 3 Vent	600mm	48.50	24.20	2.90	New gas well
VP8	Cell No. 7 Vent	600mm	29.90	16.80	5.70	New gas well
VP9	Cell No. 7 Vent	600mm	46.70	23.20	4.40	New gas well
VP10	Cell No. 6 Vent	600mm	16.10	10.70	10.00	New gas well
VP11	Cell No. 6 Vent	600mm	35.80	20.80	2.40	New gas well
VP12	Cell No. 5 Vent	600mm	40.10	23.20	0.70	New gas well
VP13	Cell No. 5 Vent	600mm	18.90	12.40	8.00	New gas well
VP14	Cell No. 7 Vent	600mm	13.20	13.00	8.80	New gas well
VP15	Cell No. 7 Vent	600mm	22.30	18.40	5.70	New gas well
VP16	Cell No. 4 Vent	600mm	10.90	9.70	12.00	New gas well
VP17	Cell No. 4 Vent	600mm	24.20	19.90	4.60	New gas well
VP18	Cell No. 10 Vent	600mm	24.80	22.30	2.20	
VP19	Cell No. 10 Vent	600mm	18.60	16.10	6.70	New gas well
VP20	Cell No. 10 Vent	600mm	37.20	26.90	1.10	New gas well

VP21	Cell No. 9 Vent	600mm	39.60	24.80	2.10	New gas well
VP22	Cell No. 8 Vent	600mm	42.30	28.40	1.40	New gas well
VP23	Cell No. 11 Vent	600mm	21.90	23.30	0.60	New gas well
VP24	Cell No. 11 Vent	600mm	67.50	21.10	0.40	New gas well
VP25	Cell No. 11 Vent	600mm	66.40	32.20	0.40	New gas well
VP26	Cell No. 11 Vent	600mm	25.70	22.10	1.10	New gas well
VP27	Cell No. 11 Vent	600mm	64.90	31.30	0.30	New gas well
VP28	Cell No. 11 Vent	600mm	16.20	20.90	0.10	New gas well
VP29	Cell No. 11 Vent	600mm	37.20	27.80	0.10	New gas well
VP30	Cell No. 8 Vent	600mm	43.10	25.60	2.00	New gas well
VP31	Cell No. 8 Vent	600mm	38.60	24.80	3.30	New gas well
VP32	Cell No. 9 Vent	600mm	39.70	24.00	2.10	New gas well
VP33	Cell No9 Vent	600mm	65.10	34.10	0.30	New gas well
VP34	Cell No10 Vent	600mm	38.80	24.90	0.70	New gas well
VP35	Cell No. 10 Vent	600mm	62.90	30.70	1.20	New gas well
VP36	Cell No. 10 Vent	600mm	63.60	33.60	0.40	New gas well
VP37	Cell No. 11 Vent	600mm	41.80	29.40	0.10	New gas well
VP38	Cell No. 12 Vent	600mm	27.10	22.70	0.20	New gas well
VP39	Cell No. 12 Vent	600mm	70.60	28.10	0.60	New gas well
VP40	Cell No. 12 Vent	600mm	31.40	18.40	7.30	New gas well
VP41	Cell No. 12 Vent	600mm	17.80	17.40	4.10	New gas well
VP42	Cell No. 12 Vent	600mm	58.70	32.40	1.70	New gas well
VP43	Cell No. 12 Vent	600mm	42.90	23.00	0.40	New gas well
VP44	Cell No. 12 Vent	600mm	15.60	15.60	5.00	New gas well
VP45	Cell No. 12 Vent	600mm	21.40	13.10	8.50	New gas well
VP46	Cell No. 12 Vent	600mm	16.70	19.80	2.00	New gas well
VP47	Cell No. 12 Vent	600mm	57.90	35.00	0.20	New gas well

VP48	Cell No. 12 Vent	600mm	44.20	26.80	1.40	New gas well
VP49	Cell No. 12 Vent	600mm	44.00	29.80	1.90	New gas well
VP50	Cell No. 12 Vent	600mm	18.90	19.20	2.30	New gas well
VP51	Cell No. 12 Vent	600mm	31.70	20.80	2.90	New gas well
VP52	Cell No. 14 Vent	600mm	50.00	32.70	0.10	New gas well
VP53	Cell No. 14 Vent	600mm	46.40	32.90	0.70	New gas well
VP55	Cell No. 14 Vent	600mm	60.70	36.40	0.60	New gas well
VP56	Cell No. 14 Vent	600mm	60.70	39.20	0.30	New gas well
HOR1	Cell No. 14 Vent	600mm	48.50	28.30	1.70	New gas well
HOR2	Cell No. 14 Vent	600mm	41.90	31.80	0.60	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Closed	Date: 02/06/10	Time: 10:30
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jan 2010 Next Calibration Due: Jul 2010	
Monitoring Personnel: Alan Rhatigan	Weather: dry	Barometric Pressure (mb) : 1008

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	32.80	25.50	2.20	New gas well
VP2	Cell No. 1 Vent	600mm	47.50	24.00	1.30	New gas well
VP3	Cell No. 1 Vent	600mm	36.20	26.50	0.90	New gas well
VP4	Cell No. 3 Vent	600mm	33.30	25.80	2.40	New gas well
VP5	Cell No. 2 Vent	600mm	16.10	21.00	2.70	New gas well
VP6	Cell No. 2 Vent	600mm	67.10	30.40	0.00	New gas well
VP7	Cell No. 3 Vent	600mm	57.90	27.70	1.90	New gas well
VP8	Cell No. 7 Vent	600mm	39.20	18.20	6.70	New gas well
VP9	Cell No. 7 Vent	600mm	63.80	29.10	0.00	New gas well
VP10	Cell No. 6 Vent	600mm	38.10	21.00	6.00	New gas well
VP11	Cell No. 6 Vent	600mm	36.30	22.10	1.40	New gas well
VP12	Cell No. 5 Vent	600mm	40.90	23.60	0.80	New gas well
VP13	Cell No. 5 Vent	600mm	21.40	20.00	3.80	New gas well
VP14	Cell No. 7 Vent	600mm	18.90	19.80	3.20	New gas well
VP15	Cell No. 7 Vent	600mm	24.70	20.10	5.40	New gas well
VP16	Cell No. 4 Vent	600mm	25.00	20.80	4.70	New gas well
VP17	Cell No. 4 Vent	600mm	23.00	16.60	3.20	New gas well
VP18	Cell No. 10 Vent	600mm	19.80	19.30	5.40	
VP19	Cell No. 10 Vent	600mm	21.10	20.00	4.80	New gas well
VP20	Cell No. 10 Vent	600mm	30.10	25.80	0.60	New gas well

VP21	Cell No. 9 Vent	600mm	58.90	34.00	0.10	New gas well
VP22	Cell No. 8 Vent	600mm	47.40	32.10	0.00	New gas well
VP23	Cell No. 11 Vent	600mm	52.30	32.00	0.60	New gas well
VP24	Cell No. 11 Vent	600mm	74.30	24.90	0.00	New gas well
VP25	Cell No. 11 Vent	600mm	64.80	33.90	0.00	New gas well
VP26	Cell No. 11 Vent	600mm	42.10	27.10	0.00	New gas well
VP27	Cell No. 11 Vent	600mm	64.90	31.30	0.30	New gas well
VP28	Cell No. 11 Vent	600mm	16.20	20.90	0.10	New gas well
VP29	Cell No. 11 Vent	600mm	37.20	27.80	0.10	New gas well
VP30	Cell No. 8 Vent	600mm	43.10	25.60	2.00	New gas well
VP31	Cell No. 8 Vent	600mm	62.60	33.30	0.00	New gas well
VP32	Cell No. 9 Vent	600mm	59.50	34.50	0.60	New gas well
VP33	Cell No9 Vent	600mm	63.50	36.60	0.00	New gas well
VP34	Cell No10 Vent	600mm	30.10	22.60	0.00	New gas well
VP35	Cell No. 10 Vent	600mm	37.00	22.10	0.90	New gas well
VP36	Cell No. 10 Vent	600mm	52.50	32.50	0.30	New gas well
VP37	Cell No. 11 Vent	600mm	41.90	27.40	0.00	New gas well
VP38	Cell No. 12 Vent	600mm	40.20	26.40	0.00	New gas well
VP39	Cell No. 12 Vent	600mm	51.10	24.00	4.50	New gas well
VP40	Cell No. 12 Vent	600mm	33.40	15.30	6.30	New gas well
VP41	Cell No. 12 Vent	600mm	19.70	20.00	3.00	New gas well
VP42	Cell No. 12 Vent	600mm	59.50	35.00	0.90	New gas well
VP43	Cell No. 12 Vent	600mm	60.30	31.50	0.00	New gas well
VP44	Cell No. 12 Vent	600mm	30.50	23.80	0.60	New gas well
VP45	Cell No. 12 Vent	600mm	25.20	15.70	9.30	New gas well
VP46	Cell No. 12 Vent	600mm	29.50	23.20	1.80	New gas well
VP47	Cell No. 12 Vent	600mm	24.10	16.60	9.40	New gas well

VP48	Cell No. 12 Vent	600mm	53.50	30.00	0.80	New gas well
VP49	Cell No. 12 Vent	600mm	33.70	18.20	9.50	New gas well
VP50	Cell No. 12 Vent	600mm	69.30	34.20	0.20	New gas well
VP51	Cell No. 12 Vent	600mm	25.10	24.10	1.40	New gas well
VP52	Cell No. 14 Vent	600mm	41.20	30.70	0.00	New gas well
VP53	Cell No. 14 Vent	600mm	45.40	32.50	2.20	New gas well
VP54	Cell No. 14 Vent	600mm	22.80	27.10	0.30	New gas well
VP55	Cell No. 14 Vent	600mm	49.90	33.70	1.40	New gas well
VP56	Cell No. 14 Vent	600mm	61.00	40.00	0.20	New gas well
HOR1	Cell No. 14 Vent	600mm	30.60	10.50	2.60	New gas well
HOR2	Cell No. 14 Vent	600mm	41.90	31.80	0.60	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Closed	Date: 01/07/10	Time: 11:30
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jan 2010 Next Calibration Due: Jul 2010	
Monitoring Personnel: Alan Rhatigan	Weather: dry	Barometric Pressure (mb) : 1015

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	22.20	19.20	6.10	New gas well
VP2	Cell No. 1 Vent	600mm	38.00	24.00	2.60	New gas well
VP3	Cell No. 1 Vent	600mm	62.10	25.70	2.10	New gas well
VP4	Cell No. 3 Vent	600mm	66.70	26.20	1.10	New gas well
VP5	Cell No. 2 Vent	600mm	54.70	27.20	0.80	New gas well
VP6	Cell No. 2 Vent	600mm	52.20	27.70	2.10	New gas well
VP7	Cell No. 3 Vent	600mm	50.90	24.40	3.90	New gas well
VP8	Cell No. 7 Vent	600mm	63.20	33.30	0.20	New gas well
VP9	Cell No. 7 Vent	600mm	61.50	28.50	1.20	New gas well
VP10	Cell No. 6 Vent	600mm	50.90	27.70	1.70	New gas well
VP11	Cell No. 6 Vent	600mm	48.90	23.20	2.50	New gas well
VP12	Cell No. 5 Vent	600mm	55.90	26.00	0.60	New gas well
VP13	Cell No. 5 Vent	600mm	54.20	29.20	1.60	New gas well
VP14	Cell No. 7 Vent	600mm	28.00	20.60	3.30	New gas well
VP15	Cell No. 7 Vent	600mm	54.60	33.00	1.10	New gas well
VP16	Cell No. 4 Vent	600mm	56.00	35.60	1.20	New gas well
VP17	Cell No. 4 Vent	600mm	49.90	28.70	1.60	New gas well
VP18	Cell No. 10 Vent	600mm	58.60	36.30	0.00	
VP19	Cell No. 10 Vent	600mm	50.90	33.30	0.00	New gas well
VP20	Cell No. 10 Vent	600mm	39.70	28.40	0.80	New gas well

VP21	Cell No. 9 Vent	600mm	44.00	29.30	0.00	New gas well
VP22	Cell No. 8 Vent	600mm	43.80	30.80	0.60	New gas well
VP23	Cell No. 11 Vent	600mm	55.30	34.50	0.00	New gas well
VP24	Cell No. 11 Vent	600mm	72.20	23.20	0.00	New gas well
VP25	Cell No. 11 Vent	600mm	65.30	32.30	0.00	New gas well
VP26	Cell No. 11 Vent	600mm	50.70	27.10	0.00	New gas well
VP27	Cell No. 11 Vent	600mm	64.20	34.70	0.00	New gas well
VP28	Cell No. 11 Vent	600mm	21.60	21.90	0.00	New gas well
VP29	Cell No. 11 Vent	600mm	50.40	31.20	0.00	New gas well
VP30	Cell No. 8 Vent	600mm	48.90	33.60	0.10	New gas well
VP31	Cell No. 8 Vent	600mm	58.20	33.20	0.90	New gas well
VP32	Cell No. 9 Vent	600mm	69.50	29.20	0.00	New gas well
VP33	Cell No9 Vent	600mm	61.00	35.10	0.50	New gas well
VP34	Cell No10 Vent	600mm	45.30	28.90	0.00	New gas well
VP35	Cell No. 10 Vent	600mm	60.30	30.00	1.40	New gas well
VP36	Cell No. 10 Vent	600mm	64.40	35.10	0.10	New gas well
VP37	Cell No. 11 Vent	600mm	60.50	37.40	0.00	New gas well
VP38	Cell No. 12 Vent	600mm	57.60	31.30	0.00	New gas well
VP39	Cell No. 12 Vent	600mm	70.20	28.90	0.00	New gas well
VP40	Cell No. 12 Vent	600mm	45.40	29.70	2.60	New gas well
VP41	Cell No. 12 Vent	600mm	43.90	26.40	0.00	New gas well
VP42	Cell No. 12 Vent	600mm	52.70	30.70	2.50	New gas well
VP43	Cell No. 12 Vent	600mm	46.20	26.60	0.00	New gas well
VP44	Cell No. 12 Vent	600mm	52.20	30.60	0.10	New gas well
VP45	Cell No. 12 Vent	600mm	54.80	28.20	0.60	New gas well
VP46	Cell No. 12 Vent	600mm	65.70	29.30	0.10	New gas well
VP47	Cell No. 12 Vent	600mm	37.70	28.90	0.00	New gas well

VP48	Cell No. 12 Vent	600mm	31.40	19.70	6.10	New gas well
VP49	Cell No. 12 Vent	600mm	26.90	23.40	0.00	New gas well
VP50	Cell No. 12 Vent	600mm	39.90	26.60	0.70	New gas well
VP51	Cell No. 12 Vent	600mm	32.80	26.70	0.00	New gas well
VP52	Cell No. 14 Vent	600mm	41.90	26.60	4.20	New gas well
VP53	Cell No. 14 Vent	600mm	43.40	32.80	0.30	New gas well
VP54	Cell No. 14 Vent	600mm	23.90	27.80	0.20	New gas well
VP55	Cell No. 14 Vent	600mm	59.70	37.10	0.40	New gas well
VP56	Cell No. 14 Vent	600mm	59.30	38.50	0.00	New gas well
HOR1	Cell No. 14 Vent	600mm	10.70	6.60	14.70	New gas well
HOR2	Cell No. 14 Vent	600mm	49.00	33.20	0.10	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Closed	Date: 31/07/10	Time: 11:00
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jan 2010 Next Calibration Due: Jul 2010	
Monitoring Personnel: Alan Rhatigan	Weather: Wet	Barometric Pressure (mb) : 998

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	32.80	25.50	2.20	New gas well
VP2	Cell No. 1 Vent	600mm	47.50	24.00	1.30	New gas well
VP3	Cell No. 1 Vent	600mm	33.40	19.20	5.70	New gas well
VP4	Cell No. 3 Vent	600mm	26.90	15.00	8.00	New gas well
VP5	Cell No. 2 Vent	600mm	31.70	17.50	7.40	New gas well
VP6	Cell No. 2 Vent	600mm	34.60	18.70	7.20	New gas well
VP7	Cell No. 3 Vent	600mm	42.50	23.80	4.40	New gas well
VP8	Cell No. 7 Vent	600mm	18.00	13.00	10.00	New gas well
VP9	Cell No. 7 Vent	600mm	35.70	19.60	6.10	New gas well
VP10	Cell No. 6 Vent	600mm	38.10	21.00	6.00	New gas well
VP11	Cell No. 6 Vent	600mm	48.30	29.00	0.60	New gas well
VP12	Cell No. 5 Vent	600mm	49.10	29.10	0.60	New gas well
VP13	Cell No. 5 Vent	600mm	35.50	23.10	3.30	New gas well
VP14	Cell No. 7 Vent	600mm	34.40	23.60	2.40	New gas well
VP15	Cell No. 7 Vent	600mm	59.00	33.20	0.10	New gas well
VP16	Cell No. 4 Vent	600mm	52.00	30.30	0.50	New gas well
VP17	Cell No. 4 Vent	600mm	49.90	28.70	1.60	New gas well
VP18	Cell No. 10 Vent	600mm	24.80	22.30	2.20	
VP19	Cell No. 10 Vent	600mm	18.60	16.10	6.70	New gas well
VP20	Cell No. 10 Vent	600mm	37.20	26.90	1.10	New gas well

VP21	Cell No. 9 Vent	600mm	58.90	32.80	0.00	New gas well
VP22	Cell No. 8 Vent	600mm	45.90	30.80	0.40	New gas well
VP23	Cell No. 11 Vent	600mm	52.30	32.00	0.60	New gas well
VP24	Cell No. 11 Vent	600mm	74.30	23.70	0.10	New gas well
VP25	Cell No. 11 Vent	600mm	64.10	33.50	0.00	New gas well
VP26	Cell No. 11 Vent	600mm	68.20	34.40	0.20	New gas well
VP27	Cell No. 11 Vent	600mm	42.10	27.10	0.00	New gas well
VP28	Cell No. 11 Vent	600mm	21.60	21.90	0.00	New gas well
VP29	Cell No. 11 Vent	600mm	61.50	37.20	0.00	New gas well
VP30	Cell No. 8 Vent	600mm	60.10	31.80	0.90	New gas well
VP31	Cell No. 8 Vent	600mm	62.60	33.30	0.00	New gas well
VP32	Cell No. 9 Vent	600mm	59.50	34.50	0.60	New gas well
VP33	Cell No9 Vent	600mm	65.10	34.10	0.30	New gas well
VP34	Cell No10 Vent	600mm	38.80	24.90	0.70	New gas well
VP35	Cell No. 10 Vent	600mm	62.90	30.70	1.20	New gas well
VP36	Cell No. 10 Vent	600mm	63.60	33.60	0.40	New gas well
VP37	Cell No. 11 Vent	600mm	24.30	24.40	0.20	New gas well
VP38	Cell No. 12 Vent	600mm	40.20	26.40	0.00	New gas well
VP39	Cell No. 12 Vent	600mm	55.10	24.50	3.50	New gas well
VP40	Cell No. 12 Vent	600mm	31.40	18.40	7.30	New gas well
VP41	Cell No. 12 Vent	600mm	37.10	27.30	0.00	New gas well
VP42	Cell No. 12 Vent	600mm	59.60	34.40	1.10	New gas well
VP43	Cell No. 12 Vent	600mm	64.90	32.80	0.40	New gas well
VP44	Cell No. 12 Vent	600mm	28.90	15.50	5.10	New gas well
VP45	Cell No. 12 Vent	600mm	21.40	13.10	8.50	New gas well
VP46	Cell No. 12 Vent	600mm	16.70	19.80	2.00	New gas well
VP47	Cell No. 12 Vent	600mm	24.10	16.60	9.40	New gas well

VP48	Cell No. 12 Vent	600mm	31.40	26.70	0.50	New gas well
VP49	Cell No. 12 Vent	600mm	36.70	17.60	4.20	New gas well
VP50	Cell No. 12 Vent	600mm	47.50	31.80	0.60	New gas well
VP51	Cell No. 12 Vent	600mm	20.40	21.30	2.10	New gas well
VP52	Cell No. 14 Vent	600mm	42.90	32.10	0.00	New gas well
VP53	Cell No. 14 Vent	600mm	35.40	27.80	3.00	New gas well
VP54	Cell No. 14 Vent	600mm	53.80	31.20	3.20	New gas well
VP55	Cell No. 14 Vent	600mm	54.20	33.40	0.50	New gas well
VP56	Cell No. 14 Vent	600mm	63.90	39.60	0.50	New gas well
HOR1	Cell No. 14 Vent	600mm	30.10	24.20	3.80	New gas well
HOR2	Cell No. 14 Vent	600mm	37.80	28.50	3.40	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Closed	Date: 31/08/10	Time: 11:00
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jul 2010 Next Calibration Due: Jan 2011	
Monitoring Personnel: Alan Rhatigan	Weather: dry	Barometric Pressure (mb) : 1023

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	21.10	20.60	4.70	New gas well
VP2	Cell No. 1 Vent	600mm	20.60	16.30	5.50	New gas well
VP3	Cell No. 1 Vent	600mm	7.80	10.80	6.90	New gas well
VP4	Cell No. 3 Vent	600mm	28.10	19.50	6.00	New gas well
VP5	Cell No. 2 Vent	600mm	15.70	15.60	6.50	New gas well
VP6	Cell No. 2 Vent	600mm	32.10	20.40	6.80	New gas well
VP7	Cell No. 3 Vent	600mm	51.60	29.20	2.00	New gas well
VP8	Cell No. 7 Vent	600mm	9.10	20.90	3.40	New gas well
VP9	Cell No. 7 Vent	600mm	23.10	19.10	6.90	New gas well
VP10	Cell No. 6 Vent	600mm	23.80	16.30	3.30	New gas well
VP11	Cell No. 6 Vent	600mm	28.20	23.30	2.10	New gas well
VP12	Cell No. 5 Vent	600mm	29.30	24.40	1.50	New gas well
VP13	Cell No. 5 Vent	600mm	23.10	22.00	3.20	New gas well
VP14	Cell No. 7 Vent	600mm	36.20	24.80	4.00	New gas well
VP15	Cell No. 7 Vent	600mm	23.50	24.50	1.90	New gas well
VP16	Cell No. 4 Vent	600mm	39.50	29.50	1.70	New gas well
VP17	Cell No. 4 Vent	600mm	22.80	24.10	2.40	New gas well
VP18	Cell No. 10 Vent	600mm	32.20	28.40	0.10	
VP19	Cell No. 10 Vent	600mm	20.30	18.10	6.20	New gas well
VP20	Cell No. 10 Vent	600mm	24.80	20.70	4.00	New gas well

VP21	Cell No. 9 Vent	600mm	40.00	27.80	1.60	New gas well
VP22	Cell No. 8 Vent	600mm	28.10	22.20	3.90	New gas well
VP23	Cell No. 11 Vent	600mm	48.00	31.90	0.70	New gas well
VP24	Cell No. 11 Vent	600mm	70.20	25.30	0.40	New gas well
VP25	Cell No. 11 Vent	600mm	66.90	32.30	0.30	New gas well
VP26	Cell No. 11 Vent	600mm	37.50	25.80	0.10	New gas well
VP27	Cell No. 11 Vent	600mm	65.90	34.90	0.00	New gas well
VP28	Cell No. 11 Vent	600mm	21.10	23.00	0.00	New gas well
VP29	Cell No. 11 Vent	600mm	43.20	30.90	0.00	New gas well
VP30	Cell No. 8 Vent	600mm	52.10	30.40	0.60	New gas well
VP31	Cell No. 8 Vent	600mm	53.00	34.00	0.90	New gas well
VP32	Cell No. 9 Vent	600mm	69.00	29.20	0.70	New gas well
VP33	Cell No9 Vent	600mm	63.40	35.20	0.40	New gas well
VP34	Cell No10 Vent	600mm	39.90	25.10	2.40	New gas well
VP35	Cell No. 10 Vent	600mm	32.00	23.90	2.80	New gas well
VP36	Cell No. 10 Vent	600mm	53.10	31.80	0.50	New gas well
VP37	Cell No. 11 Vent	600mm	54.30	35.00	0.00	New gas well
VP38	Cell No. 12 Vent	600mm	30.00	24.60	0.00	New gas well
VP39	Cell No. 12 Vent	600mm	67.90	27.50	1.70	New gas well
VP40	Cell No. 12 Vent	600mm	10.80	6.70	15.00	New gas well
VP41	Cell No. 12 Vent	600mm	15.50	18.20	1.10	New gas well
VP42	Cell No. 12 Vent	600mm	36.00	20.80	8.20	New gas well
VP43	Cell No. 12 Vent	600mm	36.40	25.60	0.40	New gas well
VP44	Cell No. 12 Vent	600mm	32.80	23.90	2.80	New gas well
VP45	Cell No. 12 Vent	600mm	41.40	28.00	1.40	New gas well
VP46	Cell No. 12 Vent	600mm	16.60	20.40	2.20	New gas well
VP47	Cell No. 12 Vent	600mm	18.50	17.80	5.50	New gas well

VP48	Cell No. 12 Vent	600mm	52.80	30.00	1.30	New gas well
VP49	Cell No. 12 Vent	600mm	22.30	21.70	0.20	New gas well
VP50	Cell No. 12 Vent	600mm	31.70	18.60	5.70	New gas well
VP51	Cell No. 12 Vent	600mm	42.50	29.70	0.30	New gas well
VP52	Cell No. 14 Vent	600mm	29.40	18.60	9.50	New gas well
VP53	Cell No. 14 Vent	600mm	41.30	29.50	2.00	New gas well
VP54	Cell No. 14 Vent	600mm	61.70	36.40	0.60	New gas well
VP55	Cell No. 14 Vent	600mm	62.20	38.10	0.40	New gas well
VP56	Cell No. 14 Vent	600mm	18.70	23.50	1.20	New gas well
HOR1	Cell No. 14 Vent	600mm	56.20	31.10	1.20	New gas well
HOR2	Cell No. 14 Vent	600mm	42.00	28.80	1.00	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Closed	Date: 02/10/10	Time: 09:00
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jul 2010 Next Calibration Due: Jan 2011	
Monitoring Personnel: Alan Rhatigan	Weather: Wet	Barometric Pressure (mb) : 992

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	14.90	19.80	3.70	New gas well
VP2	Cell No. 1 Vent	600mm	14.30	12.90	8.90	New gas well
VP3	Cell No. 1 Vent	600mm	12.70	11.80	10.60	New gas well
VP4	Cell No. 3 Vent	600mm	23.20	13.90	10.00	New gas well
VP5	Cell No. 2 Vent	600mm	21.20	14.60	9.00	New gas well
VP6	Cell No. 2 Vent	600mm	26.30	17.30	8.50	New gas well
VP7	Cell No. 3 Vent	600mm	22.30	14.60	10.80	New gas well
VP8	Cell No. 7 Vent	600mm	23.50	18.30	6.50	New gas well
VP9	Cell No. 7 Vent	600mm	15.10	14.40	9.40	New gas well
VP10	Cell No. 6 Vent	600mm	11.10	17.10	6.60	New gas well
VP11	Cell No. 6 Vent	600mm	29.90	24.30	1.50	New gas well
VP12	Cell No. 5 Vent	600mm	30.80	24.80	1.00	New gas well
VP13	Cell No. 5 Vent	600mm	9.30	13.80	9.20	New gas well
VP14	Cell No. 7 Vent	600mm	15.00	17.50	6.70	New gas well
VP15	Cell No. 7 Vent	600mm	20.70	20.40	4.10	New gas well
VP16	Cell No. 4 Vent	600mm	16.50	16.70	7.10	New gas well
VP17	Cell No. 4 Vent	600mm	19.00	18.90	5.20	New gas well
VP18	Cell No. 10 Vent	600mm	39.40	32.30	0.20	
VP19	Cell No. 10 Vent	600mm	31.70	25.30	3.10	New gas well
VP20	Cell No. 10 Vent	600mm	37.20	26.00	2.50	New gas well

VP21	Cell No. 9 Vent	600mm	38.90	28.30	0.00	New gas well
VP22	Cell No. 8 Vent	600mm	32.50	25.00	2.90	New gas well
VP23	Cell No. 11 Vent	600mm	35.30	27.80	0.80	New gas well
VP24	Cell No. 11 Vent	600mm	69.00	26.10	0.50	New gas well
VP25	Cell No. 11 Vent	600mm	66.10	33.00	0.30	New gas well
VP26	Cell No. 11 Vent	600mm	45.70	27.40	0.00	New gas well
VP27	Cell No. 11 Vent	600mm	64.70	34.70	0.10	New gas well
VP28	Cell No. 11 Vent	600mm	26.30	24.30	0.00	New gas well
VP29	Cell No. 11 Vent	600mm	46.00	32.10	0.00	New gas well
VP30	Cell No. 8 Vent	600mm	42.00	30.60	1.10	New gas well
VP31	Cell No. 8 Vent	600mm	56.20	35.10	0.40	New gas well
VP32	Cell No. 9 Vent	600mm	64.10	28.00	1.20	New gas well
VP33	Cell No9 Vent	600mm	62.90	36.50	0.30	New gas well
VP34	Cell No10 Vent	600mm	33.10	25.00	2.10	New gas well
VP35	Cell No. 10 Vent	600mm	62.90	32.90	0.40	New gas well
VP36	Cell No. 10 Vent	600mm	59.10	35.80	0.00	New gas well
VP37	Cell No. 11 Vent	600mm	55.20	35.60	0.00	New gas well
VP38	Cell No. 12 Vent	600mm	29.50	25.90	0.00	New gas well
VP39	Cell No. 12 Vent	600mm	67.70	29.00	0.80	New gas well
VP40	Cell No. 12 Vent	600mm	25.10	22.80	4.30	New gas well
VP41	Cell No. 12 Vent	600mm	22.10	19.90	3.30	New gas well
VP42	Cell No. 12 Vent	600mm	46.80	27.20	5.00	New gas well
VP43	Cell No. 12 Vent	600mm	33.50	24.50	0.50	New gas well
VP44	Cell No. 12 Vent	600mm	26.20	23.00	0.40	New gas well
VP45	Cell No. 12 Vent	600mm	42.00	27.00	4.50	New gas well
VP46	Cell No. 12 Vent	600mm	23.00	22.20	1.50	New gas well
VP47	Cell No. 12 Vent	600mm	62.30	35.40	0.10	New gas well

VP48	Cell No. 12 Vent	600mm	60.60	30.70	2.20	New gas well
VP49	Cell No. 12 Vent	600mm	38.00	13.20	5.40	New gas well
VP50	Cell No. 12 Vent	600mm	24.10	19.50	5.10	New gas well
VP51	Cell No. 12 Vent	600mm	60.20	33.70	2.10	New gas well
VP52	Cell No. 14 Vent	600mm	44.90	28.80	2.50	New gas well
VP53	Cell No. 14 Vent	600mm	31.90	23.40	5.20	New gas well
VP54	Cell No. 14 Vent	600mm	33.20	24.60	0.90	New gas well
VP55	Cell No. 14 Vent	600mm	62.40	37.00	0.80	New gas well
VP56	Cell No. 14 Vent	600mm	61.60	37.60	0.70	New gas well
HOR1	Cell No. 14 Vent	600mm	34.90	25.30	3.30	New gas well
HOR2	Cell No. 14 Vent	600mm	26.90	22.80	3.30	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Closed	Date: 01/11/10	Time: 08:30
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jul 2010 Next Calibration Due: Jan 2011	
Monitoring Personnel: Alan Rhatigan	Weather: Wet	Barometric Pressure (mb) : 996

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	32.80	25.50	2.20	New gas well
VP2	Cell No. 1 Vent	600mm	32.30	18.80	8.70	New gas well
VP3	Cell No. 1 Vent	600mm	12.70	11.80	10.60	New gas well
VP4	Cell No. 3 Vent	600mm	33.30	25.80	2.40	New gas well
VP5	Cell No. 2 Vent	600mm	16.10	21.00	2.70	New gas well
VP6	Cell No. 2 Vent	600mm	32.10	20.40	6.80	New gas well
VP7	Cell No. 3 Vent	600mm	51.60	29.20	2.00	New gas well
VP8	Cell No. 7 Vent	600mm	18.00	13.00	10.00	New gas well
VP9	Cell No. 7 Vent	600mm	35.70	19.60	6.10	New gas well
VP10	Cell No. 6 Vent	600mm	38.10	21.00	6.00	New gas well
VP11	Cell No. 6 Vent	600mm	36.30	22.10	1.40	New gas well
VP12	Cell No. 5 Vent	600mm	40.90	23.60	0.80	New gas well
VP13	Cell No. 5 Vent	600mm	21.40	20.00	3.80	New gas well
VP14	Cell No. 7 Vent	600mm	25.30	20.20	4.80	New gas well
VP15	Cell No. 7 Vent	600mm	23.80	19.30	6.20	New gas well
VP16	Cell No. 4 Vent	600mm	19.70	20.90	4.00	New gas well
VP17	Cell No. 4 Vent	600mm	24.20	19.90	4.60	New gas well
VP18	Cell No. 10 Vent	600mm	24.80	22.30	2.20	
VP19	Cell No. 10 Vent	600mm	18.60	16.10	6.70	New gas well
VP20	Cell No. 10 Vent	600mm	37.20	26.90	1.10	New gas well

VP21	Cell No. 9 Vent	600mm	58.90	32.80	0.00	New gas well
VP22	Cell No. 8 Vent	600mm	32.80	25.50	2.30	New gas well
VP23	Cell No. 11 Vent	600mm	52.30	32.00	0.60	New gas well
VP24	Cell No. 11 Vent	600mm	72.60	23.90	0.50	New gas well
VP25	Cell No. 11 Vent	600mm	66.90	32.30	0.30	New gas well
VP26	Cell No. 11 Vent	600mm	37.50	25.80	0.10	New gas well
VP27	Cell No. 11 Vent	600mm	65.90	34.90	0.00	New gas well
VP28	Cell No. 11 Vent	600mm	34.20	27.00	0.60	New gas well
VP29	Cell No. 11 Vent	600mm	37.10	29.50	0.20	New gas well
VP30	Cell No. 8 Vent	600mm	34.60	24.10	2.00	New gas well
VP31	Cell No. 8 Vent	600mm	22.80	19.40	4.50	New gas well
VP32	Cell No. 9 Vent	600mm	59.50	34.50	0.60	New gas well
VP33	Cell No9 Vent	600mm	65.10	34.10	0.30	New gas well
VP34	Cell No10 Vent	600mm	45.30	28.90	0.00	New gas well
VP35	Cell No. 10 Vent	600mm	60.30	30.00	1.40	New gas well
VP36	Cell No. 10 Vent	600mm	64.40	35.10	0.10	New gas well
VP37	Cell No. 11 Vent	600mm	51.50	33.90	0.00	New gas well
VP38	Cell No. 12 Vent	600mm	22.60	22.00	0.80	New gas well
VP39	Cell No. 12 Vent	600mm	64.80	25.90	2.80	New gas well
VP40	Cell No. 12 Vent	600mm	31.40	18.40	7.30	New gas well
VP41	Cell No. 12 Vent	600mm	37.10	27.30	0.00	New gas well
VP42	Cell No. 12 Vent	600mm	59.60	34.40	1.10	New gas well
VP43	Cell No. 12 Vent	600mm	64.90	32.80	0.40	New gas well
VP44	Cell No. 12 Vent	600mm	13.90	11.10	12.20	New gas well
VP45	Cell No. 12 Vent	600mm	20.80	18.50	0.60	New gas well
VP46	Cell No. 12 Vent	600mm	39.80	17.30	3.40	New gas well
VP47	Cell No. 12 Vent	600mm	62.30	35.40	0.10	New gas well

VP48	Cell No. 13 Vent	600mm	60.60	30.70	2.20	New gas well
VP49	Cell No. 13 Vent	600mm	36.70	17.60	4.20	New gas well
VP50	Cell No. 13 Vent	600mm	69.30	34.20	0.20	New gas well
VP51	Cell No. 13 Vent	600mm	25.10	24.10	1.40	New gas well
VP52	Cell No. 14 Vent	600mm	41.20	30.70	0.00	New gas well
VP53	Cell No. 14 Vent	600mm	34.90	25.30	3.30	New gas well
VP54	Cell No. 14 Vent	600mm	62.20	38.10	0.40	New gas well
VP55	Cell No. 14 Vent	600mm	18.70	23.50	1.20	New gas well
VP56	Cell No. 14 Vent	600mm	63.90	39.60	0.50	New gas well
HOR1	Cell No. 14 Vent	600mm	30.10	24.20	3.80	New gas well
HOR2	Cell No. 14 Vent	600mm	37.80	28.50	3.40	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Closed	Date: 01/12/10	Time: 09:00
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jul 2010 Next Calibration Due: Jan 2011	
Monitoring Personnel: Alan Rhatigan	Weather: Snow	Barometric Pressure (mb) : 996

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	31.80	21.80	0.80	New gas well
VP2	Cell No. 1 Vent	600mm	23.30	16.30	5.00	New gas well
VP3	Cell No. 1 Vent	600mm	37.00	22.40	0.90	New gas well
VP4	Cell No. 3 Vent	600mm	26.90	15.00	8.00	New gas well
VP5	Cell No. 2 Vent	600mm	31.70	17.50	7.40	New gas well
VP6	Cell No. 2 Vent	600mm	34.60	18.70	7.20	New gas well
VP7	Cell No. 3 Vent	600mm	42.50	23.80	4.40	New gas well
VP8	Cell No. 7 Vent	600mm	18.00	13.00	10.00	New gas well
VP9	Cell No. 7 Vent	600mm	35.70	19.60	6.10	New gas well
VP10	Cell No. 6 Vent	600mm	38.10	21.00	6.00	New gas well
VP11	Cell No. 6 Vent	600mm	29.90	24.30	1.50	New gas well
VP12	Cell No. 5 Vent	600mm	30.80	24.80	1.00	New gas well
VP13	Cell No. 5 Vent	600mm	9.30	13.80	9.20	New gas well
VP14	Cell No. 7 Vent	600mm	15.00	17.50	6.70	New gas well
VP15	Cell No. 7 Vent	600mm	20.70	20.40	4.10	New gas well
VP16	Cell No. 4 Vent	600mm	39.50	29.50	1.70	New gas well
VP17	Cell No. 4 Vent	600mm	22.80	24.10	2.40	New gas well
VP18	Cell No. 10 Vent	600mm	32.20	28.40	0.10	
VP19	Cell No. 10 Vent	600mm	20.30	18.10	6.20	New gas well
VP20	Cell No. 10 Vent	600mm	24.80	20.70	4.00	New gas well

VP21	Cell No. 9 Vent	600mm	40.00	27.80	1.60	New gas well
VP22	Cell No. 8 Vent	600mm	40.90	29.50	0.80	New gas well
VP23	Cell No. 11 Vent	600mm	22.20	21.60	0.50	New gas well
VP24	Cell No. 11 Vent	600mm	71.60	22.60	0.20	New gas well
VP25	Cell No. 11 Vent	600mm	68.20	34.40	0.20	New gas well
VP26	Cell No. 11 Vent	600mm	22.30	22.20	1.00	New gas well
VP27	Cell No. 11 Vent	600mm	57.30	30.30	0.10	New gas well
VP28	Cell No. 11 Vent	600mm	34.20	27.00	0.60	New gas well
VP29	Cell No. 11 Vent	600mm	61.40	36.90	0.00	New gas well
VP30	Cell No. 8 Vent	600mm	30.30	20.30	5.20	New gas well
VP31	Cell No. 8 Vent	600mm	38.40	27.10	1.20	New gas well
VP32	Cell No. 9 Vent	600mm	44.30	29.10	1.00	New gas well
VP33	Cell No9 Vent	600mm	68.30	34.30	0.40	New gas well
VP34	Cell No10 Vent	600mm	22.30	23.00	1.70	New gas well
VP35	Cell No. 10 Vent	600mm	28.50	20.70	5.40	New gas well
VP36	Cell No. 10 Vent	600mm	64.40	35.10	0.10	New gas well
VP37	Cell No. 11 Vent	600mm	41.90	27.40	0.00	New gas well
VP38	Cell No. 12 Vent	600mm	40.20	26.40	0.00	New gas well
VP39	Cell No. 12 Vent	600mm	51.10	24.00	4.50	New gas well
VP40	Cell No. 12 Vent	600mm	33.40	15.30	6.30	New gas well
VP41	Cell No. 12 Vent	600mm	19.70	20.00	3.00	New gas well
VP42	Cell No. 12 Vent	600mm	59.50	35.00	0.90	New gas well
VP43	Cell No. 12 Vent	600mm	33.50	24.50	0.50	New gas well
VP44	Cell No. 12 Vent	600mm	26.20	23.00	0.40	New gas well
VP45	Cell No. 12 Vent	600mm	42.00	27.00	4.50	New gas well
VP46	Cell No. 12 Vent	600mm	23.00	22.20	1.50	New gas well
VP47	Cell No. 12 Vent	600mm	18.50	17.80	5.50	New gas well

VP48	Cell No. 12 Vent	600mm	52.80	30.00	1.30	New gas well
VP49	Cell No. 12 Vent	600mm	22.30	21.70	0.20	New gas well
VP50	Cell No. 12 Vent	600mm	31.70	18.60	5.70	New gas well
VP51	Cell No. 12 Vent	600mm	42.50	29.70	0.30	New gas well
VP52	Cell No. 14 Vent	600mm	41.90	26.60	4.20	New gas well
VP53	Cell No. 14 Vent	600mm	43.40	32.80	0.30	New gas well
VP54	Cell No. 14 Vent	600mm	23.90	27.80	0.20	New gas well
VP55	Cell No. 14 Vent	600mm	59.70	37.10	0.40	New gas well
VP56	Cell No. 14 Vent	600mm	63.90	39.60	0.50	New gas well
HOR1	Cell No. 14 Vent	600mm	30.10	24.20	3.80	New gas well
HOR2	Cell No. 14 Vent	600mm	37.80	28.50	3.40	New gas well

Site Name: Dunmore Landfill Site	Site Address: Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	National Grid Reference: 160572N 249519E	
Site Status: Closed	Date: 31/12/10	Time: 11:00
Instrument Used: Infra Red Gas Analyser - GA 94	Date of Calibration: Jul 2010 Next Calibration Due: Jan 2011	
Monitoring Personnel: Alan Rhatigan	Weather: dry	Barometric Pressure (mb) : 998

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
VP1	Cell No. 1 Vent	600mm	21.10	20.60	4.70	New gas well
VP2	Cell No. 1 Vent	600mm	20.60	16.30	5.50	New gas well
VP3	Cell No. 1 Vent	600mm	7.80	10.80	6.90	New gas well
VP4	Cell No. 3 Vent	600mm	28.10	19.50	6.00	New gas well
VP5	Cell No. 2 Vent	600mm	15.70	15.60	6.50	New gas well
VP6	Cell No. 2 Vent	600mm	34.60	18.70	7.20	New gas well
VP7	Cell No. 3 Vent	600mm	42.50	23.80	4.40	New gas well
VP8	Cell No. 7 Vent	600mm	26.30	17.30	8.50	New gas well
VP9	Cell No. 7 Vent	600mm	22.30	14.60	10.80	New gas well
VP10	Cell No. 6 Vent	600mm	23.50	18.30	6.50	New gas well
VP11	Cell No. 6 Vent	600mm	15.10	14.40	9.40	New gas well
VP12	Cell No. 5 Vent	600mm	11.10	17.10	6.60	New gas well
VP13	Cell No. 5 Vent	600mm	18.90	12.40	8.00	New gas well
VP14	Cell No. 7 Vent	600mm	13.20	13.00	8.80	New gas well
VP15	Cell No. 7 Vent	600mm	22.30	18.40	5.70	New gas well
VP16	Cell No. 4 Vent	600mm	10.90	9.70	12.00	New gas well
VP17	Cell No. 4 Vent	600mm	24.20	19.90	4.60	New gas well
VP18	Cell No. 10 Vent	600mm	39.40	32.30	0.20	
VP19	Cell No. 10 Vent	600mm	31.70	25.30	3.10	New gas well
VP20	Cell No. 10 Vent	600mm	37.20	26.00	2.50	New gas well

VP21	Cell No. 9 Vent	600mm	38.90	28.30	0.00	New gas well
VP22	Cell No. 8 Vent	600mm	32.50	25.00	2.90	New gas well
VP23	Cell No. 11 Vent	600mm	35.30	27.80	0.80	New gas well
VP24	Cell No. 11 Vent	600mm	69.00	26.10	0.50	New gas well
VP25	Cell No. 11 Vent	600mm	66.90	32.30	0.30	New gas well
VP26	Cell No. 11 Vent	600mm	37.50	25.80	0.10	New gas well
VP27	Cell No. 11 Vent	600mm	65.90	34.90	0.00	New gas well
VP28	Cell No. 11 Vent	600mm	21.10	23.00	0.00	New gas well
VP29	Cell No. 11 Vent	600mm	43.20	30.90	0.00	New gas well
VP30	Cell No. 8 Vent	600mm	52.10	30.40	0.60	New gas well
VP31	Cell No. 8 Vent	600mm	22.80	19.40	4.50	New gas well
VP32	Cell No. 9 Vent	600mm	59.50	34.50	0.60	New gas well
VP33	Cell No9 Vent	600mm	65.10	34.10	0.30	New gas well
VP34	Cell No10 Vent	600mm	45.30	28.90	0.00	New gas well
VP35	Cell No. 10 Vent	600mm	60.30	30.00	1.40	New gas well
VP36	Cell No. 10 Vent	600mm	52.50	32.50	0.30	New gas well
VP37	Cell No. 11 Vent	600mm	41.90	27.40	0.00	New gas well
VP38	Cell No. 12 Vent	600mm	40.20	26.40	0.00	New gas well
VP39	Cell No. 12 Vent	600mm	51.10	24.00	4.50	New gas well
VP40	Cell No. 12 Vent	600mm	33.40	15.30	6.30	New gas well
VP41	Cell No. 12 Vent	600mm	15.50	18.20	1.10	New gas well
VP42	Cell No. 12 Vent	600mm	36.00	20.80	8.20	New gas well
VP43	Cell No. 12 Vent	600mm	36.40	25.60	0.40	New gas well
VP44	Cell No. 12 Vent	600mm	32.80	23.90	2.80	New gas well
VP45	Cell No. 12 Vent	600mm	41.40	28.00	1.40	New gas well
VP46	Cell No. 12 Vent	600mm	23.00	22.20	1.50	New gas well
VP47	Cell No. 12 Vent	600mm	37.70	28.90	0.00	New gas well

VP48	Cell No. 12 Vent	600mm	31.40	19.70	6.10	New gas well
VP49	Cell No. 12 Vent	600mm	26.90	23.40	0.00	New gas well
VP50	Cell No. 12 Vent	600mm	39.90	26.60	0.70	New gas well
VP51	Cell No. 12 Vent	600mm	32.80	26.70	0.00	New gas well
VP52	Cell No. 14 Vent	600mm	41.20	30.70	0.00	New gas well
VP53	Cell No. 14 Vent	600mm	45.40	32.50	2.20	New gas well
VP54	Cell No. 14 Vent	600mm	22.80	27.10	0.30	New gas well
VP55	Cell No. 14 Vent	600mm	49.90	33.70	1.40	New gas well
VP56	Cell No. 14 Vent	600mm	63.90	39.60	0.50	New gas well
HOR1	Cell No. 14 Vent	600mm	30.10	24.20	3.80	New gas well
HOR2	Cell No. 14 Vent	600mm	37.80	28.50	3.40	New gas well

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Active	**Date:** 01/02/10	**Time:** 09:20
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jan 2010 **Next Calibration Due:** Jul 2010	
Monitoring Personnel: Alan Rhatigan	**Weather:** Dry	**Barometric Pressure (mb):** 1000

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.50	20.70	
GM2	Spike	600mm	0.00	**2.30**	18.60	
GM3	Spike	600mm	0.00	0.60	20.40	
GM4	Spike	600mm	0.00	0.40	21.00	
GM5	Spike	600mm	0.00	0.80	20.60	
GM7	Spike	600mm	0.00	0.40	20.80	
GM8	Spike	600mm	0.00	0.50	20.10	
GM9	Spike	600mm	0.00	0.60	19.70	
GM10	Spike	600mm	0.00	**2.00**	19.3	
GM11	Spike	600mm	0.00	**1.80**	18	
GM12	Spike	600mm	0.00	0.70	19.8	
GM13	Spike	600mm	0.00	0.50	20.3	
GM14	Spike	600mm	0.00	1.4	19.1	
GM15	Spike	600mm	0.00	0.1	21.5	
GM16	Spike	600mm	0.00	0.1	21.5	
GM17	Spike	600mm	0.00	0.6	20.9	
GM18	Spike	600mm	0.00	**1.8**	19.3	
GM19	Spike	600mm	0.00	**1.5**	19.4	
GM20	Spike	600mm	0.00	0.6	20.6	
GM21	Spike	600mm	0.00	0.8	20.2	
GM22	Spike	600mm	0.00	0.6	20.7	
GM23	Spike	600mm	0.00	0.9	20	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Active	**Date:** 03/03/10	**Time:** 08:30
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jan 2010 **Next Calibration Due:** Jul 2010	
Monitoring Personnel: Alan Rhatigan	**Weather:** Dry	**Barometric Pressure (mb):** 1000

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.40	20.40	
GM2	Spike	600mm	0.00	**2.00**	18.60	
GM3	Spike	600mm	0.00	0.60	20.60	
GM4	Spike	600mm	0.00	0.30	21.10	
GM5	Spike	600mm	0.00	0.70	20.40	
GM7	Spike	600mm	0.00	0.40	20.50	
GM8	Spike	600mm	0.00	0.60	20.50	
GM9	Spike	600mm	0.00	0.80	20.20	
GM10	Spike	600mm	0.00	**1.90**	18.60	
GM11	Spike	600mm	0.00	**1.80**	18.50	
GM12	Spike	600mm	0.00	0.80	20.40	
GM13	Spike	600mm	0.00	0.40	20.30	
GM14	Spike	600mm	0.00	0.40	20.90	
GM15	Spike	600mm	0.00	0.20	21.20	
GM16	Spike	600mm	0.00	0.10	21.10	
GM17	Spike	600mm	0.00	0.40	21.00	
GM18	Spike	600mm	0.00	0.70	19.60	
GM19	Spike	600mm	0.00	1.60	18.30	
GM20	Spike	600mm	0.00	0.50	20.90	
GM21	Spike	600mm	0.00	1.10	19.20	
GM22	Spike	600mm	0.00	0.70	20.10	
GM23	Spike	600mm	0.00	0.90	19.50	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Active	**Date:** 07/04/10	**Time:** 08:45
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jan 2010 **Next Calibration Due:** Jul 2010	
Monitoring Personnel: Alan Ratigan	**Weather:** Dry	**Barometric Pressure (mb):** 1010

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.60	20.80	
GM2	Spike	600mm	0.00	**1.60**	17.80	
GM3	Spike	600mm	0.00	0.40	19.70	
GM4	Spike	600mm	0.00	0.60	20.10	
GM5	Spike	600mm	0.00	0.70	19.90	
GM7	Spike	600mm	0.00	0.30	20.40	
GM8	Spike	600mm	0.00	0.60	20.40	
GM9	Spike	600mm	0.00	0.80	20.20	
GM10	Spike	600mm	0.00	1.20	18.90	
GM11	Spike	600mm	0.00	0.90	18.60	
GM12	Spike	600mm	0.00	0.70	19.80	
GM13	Spike	600mm	0.00	0.30	20.00	
GM14	Spike	600mm	0.00	1.70	19.70	
GM15	Spike	600mm	0.00	0.00	20.90	
GM16	Spike	600mm	0.00	0.00	20.80	
GM17	Spike	600mm	0.00	0.70	19.70	
GM18	Spike	600mm	0.00	1.00	19.10	
GM19	Spike	600mm	0.00	1.20	18.80	
GM20	Spike	600mm	0.00	0.90	20.00	
GM21	Spike	600mm	0.00	0.30	20.30	
GM22	Spike	600mm	0.00	0.70	19.80	
GM23	Spike	600mm	0.00	0.30	19.90	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Active	**Date:** 05/05/10	**Time:** 11:15
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jan 2010 **Next Calibration Due:** Jul 2010	
Monitoring Personnel: Alan Ratigan	**Weather:** Dry	**Barometric Pressure (mb):** 1015

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.60	19.30	
GM2	Spike	600mm	0.00	**1.80**	17.10	
GM3	Spike	600mm	0.00	0.40	19.90	
GM4	Spike	600mm	0.00	0.60	19.60	
GM5	Spike	600mm	0.00	0.50	19.10	
GM7	Spike	600mm	0.00	0.40	19.90	
GM8	Spike	600mm	0.00	0.50	19.20	
GM9	Spike	600mm	0.00	0.80	18.60	
GM10	Spike	600mm	0.00	**1.90**	17.30	
GM11	Spike	600mm	0.00	**1.50**	17.70	
GM12	Spike	600mm	0.00	0.70	19.80	
GM13	Spike	600mm	0.00	0.40	20.50	
GM14	Spike	600mm	0.00	1.30	18.40	
GM15	Spike	600mm	0.00	0.10	20.50	
GM16	Spike	600mm	0.00	0.00	20.40	
GM17	Spike	600mm	0.00	0.90	18.80	
GM18	Spike	600mm	0.00	1.10	18.50	
GM19	Spike	600mm	0.00	0.90	18.80	
GM20	Spike	600mm	0.00	0.70	19.10	
GM21	Spike	600mm	0.00	0.60	19.20	
GM22	Spike	600mm	0.00	1.10	17.90	
GM23	Spike	600mm	0.00	0.70	18.90	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Active	**Date:** 01/06/10	**Time:** 09:00
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jan 2010 **Next Calibration Due:** Jul 2010	
Monitoring Personnel: Alan Ratigan	**Weather:** Dry	**Barometric Pressure (mb):** 1009

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.60	19.90	
GM2	Spike	600mm	0.00	**2.10**	14.60	
GM3	Spike	600mm	0.00	0.60	18.50	
GM4	Spike	600mm	0.00	0.50	19.50	
GM5	Spike	600mm	0.00	0.50	18.60	
GM7	Spike	600mm	0.00	0.90	18.50	
GM8	Spike	600mm	0.00	0.60	19.80	
GM9	Spike	600mm	0.00	0.90	18.80	
GM10	Spike	600mm	0.00	**2.20**	17.90	
GM11	Spike	600mm	0.00	**1.70**	15.60	
GM12	Spike	600mm	0.00	0.80	20.40	
GM13	Spike	600mm	0.00	0.40	20.30	
GM14	Spike	600mm	0.00	0.40	20.90	
GM15	Spike	600mm	0.00	0.20	21.20	
GM16	Spike	600mm	0.00	0.00	20.80	
GM17	Spike	600mm	0.00	0.70	19.70	
GM18	Spike	600mm	0.00	1.00	19.10	
GM19	Spike	600mm	0.00	1.20	18.80	
GM20	Spike	600mm	0.00	0.90	20.00	
GM21	Spike	600mm	0.00	0.60	19.90	
GM22	Spike	600mm	0.00	1.20	17.90	
GM23	Spike	600mm	0.00	1.10	19.00	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Active	**Date:** 29/06/10	**Time:** 11:00
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jan 2010 **Next Calibration Due:** Jul 2010	
Monitoring Personnel: Alan Ratigan	**Weather:** Dry	**Barometric Pressure (mb):** 1014

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.70	18.80	
GM2	Spike	600mm	0.00	**1.90**	18.60	
GM3	Spike	600mm	0.00	0.40	18.40	
GM4	Spike	600mm	0.00	1.40	17.70	
GM5	Spike	600mm	0.00	**2.10**	15.60	
GM7	Spike	600mm	0.00	0.30	18.80	
GM8	Spike	600mm	0.00	0.60	18.10	
GM9	Spike	600mm	0.00	0.80	18.90	
GM10	Spike	600mm	0.00	**2.00**	17.30	
GM11	Spike	600mm	0.00	**2.20**	17.20	
GM12	Spike	600mm	0.00	0.90	18.50	
GM13	Spike	600mm	0.00	0.70	18.70	
GM14	Spike	600mm	0.00	1.90	18.50	
GM15	Spike	600mm	0.00	0.40	19.40	
GM16	Spike	600mm	0.00	0.10	19.70	
GM17	Spike	600mm	0.00	2.00	18.20	
GM18	Spike	600mm	0.00	**2.80**	17.30	
GM19	Spike	600mm	0.00	1.20	17.10	
GM20	Spike	600mm	0.00	1.10	18.80	
GM21	Spike	600mm	0.00	**2.40**	17.30	
GM22	Spike	600mm	0.00	0.80	17.10	
GM23	Spike	600mm	0.00	0.50	17.40	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Closed	**Date:** 31-Jul-10	**Time:** 09:00
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jan '10 **Next Calibration Due:** Jul'10	
Monitoring Personnel: Alan Rhatigan	**Weather:** Wet	**Barometric Pressure (mb):** 998

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.60	19.90	
GM2	Spike	600mm	0.00	**2.10**	14.60	
GM3	Spike	600mm	0.00	0.60	18.50	
GM4	Spike	600mm	0.00	0.60	19.50	
GM5	Spike	600mm	0.00	0.80	18.80	
GM7	Spike	600mm	0.00	0.20	20.20	
GM8	Spike	600mm	0.00	0.60	20.00	
GM9	Spike	600mm	0.00	1.00	19.40	
GM10	Spike	600mm	0.00	**2.20**	17.90	
GM11	Spike	600mm	0.00	**2.10**	17.40	
GM12	Spike	600mm	0.00	0.60	20.00	
GM13	Spike	600mm	0.00	0.30	20.40	
GM14	Spike	600mm	0.00	1.70	19.70	
GM15	Spike	600mm	0.00	0.00	20.90	
GM16	Spike	600mm	0.00	0.00	20.80	
GM17	Spike	600mm	0.00	1.40	18.30	
GM18	Spike	600mm	0.00	**2.10**	18.60	
GM19	Spike	600mm	0.00	**2.30**	5.20	
GM20	Spike	600mm	0.00	0.70	19.60	
GM21	Spike	600mm	0.00	0.60	19.90	
GM22	Spike	600mm	0.00	1.00	19.20	
GM23	Spike	600mm	0.00	0.90	17.70	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Closed	**Date:** 31-Aug-10	**Time:** 09:00
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jul '10 **Next Calibration Due:** Jan '11	
Monitoring Personnel: Alan Rhatigan	**Weather:** Dry	**Barometric Pressure (mb):** 1023

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.60	17.30	
GM2	Spike	600mm	0.00	**2.30**	17.00	
GM3	Spike	600mm	0.00	0.30	18.80	
GM4	Spike	600mm	0.00	0.30	19.00	
GM5	Spike	600mm	0.00	1.30	17.60	
GM7	Spike	600mm	0.00	0.00	19.40	
GM8	Spike	600mm	0.00	0.90	16.50	
GM9	Spike	600mm	0.00	0.60	16.80	
GM10	Spike	600mm	0.00	**2.60**	17.20	
GM11	Spike	600mm	0.00	1.30	18.80	
GM12	Spike	600mm	0.00	0.40	19.00	
GM13	Spike	600mm	0.00	0.90	17.60	
GM14	Spike	600mm	0.00	0.50	19.20	
GM15	Spike	600mm	0.00	0.20	19.30	
GM16	Spike	600mm	0.00	0.00	19.40	
GM17	Spike	600mm	0.00	1.10	18.70	
GM18	Spike	600mm	0.00	**2.10**	18.40	
GM19	Spike	600mm	0.00	**2.50**	12.00	
GM20	Spike	600mm	0.00	1.20	18.40	
GM21	Spike	600mm	0.00	**2.40**	17.40	
GM22	Spike	600mm	0.00	0.80	17.20	
GM23	Spike	600mm	0.00	0.60	18.60	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Closed	**Date:** 01-Oct-10	**Time:** 14:00
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jul '10 **Next Calibration Due:** Jan '11	
Monitoring Personnel: Alan Rhatigan	**Weather:** Wet	**Barometric Pressure (mb):** 988

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.50	18.10	
GM2	Spike	600mm	0.00	**2.60**	15.80	
GM3	Spike	600mm	0.00	0.70	18.10	
GM4	Spike	600mm	0.00	0.60	16.70	
GM5	Spike	600mm	0.00	**2.30**	15.50	
GM7	Spike	600mm	0.00	0.10	18.70	
GM8	Spike	600mm	0.00	0.90	17.10	
GM9	Spike	600mm	0.00	0.60	17.70	
GM10	Spike	600mm	0.00	**1.90**	16.70	
GM11	Spike	600mm	0.00	**2.20**	17.10	
GM12	Spike	600mm	0.00	0.70	19.20	
GM13	Spike	600mm	0.00	0.30	18.90	
GM14	Spike	600mm	0.00	2.20	16.80	
GM15	Spike	600mm	0.00	0.60	18.20	
GM16	Spike	600mm	0.00	0.90	17.80	
GM17	Spike	600mm	0.00	2.20	16.70	
GM18	Spike	600mm	0.00	**2.60**	17.00	
GM19	Spike	600mm	0.00	**2.50**	17.80	
GM20	Spike	600mm	0.00	0.80	18.00	
GM21	Spike	600mm	0.00	0.90	18.20	
GM22	Spike	600mm	0.00	0.90	17.60	
GM23	Spike	600mm	0.00	0.20	21.20	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Closed	**Date:** 30-Oct-10	**Time:** 09:00
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jul '10 **Next Calibration Due:** Jan'11	
Monitoring Personnel: Alan Rhatigan	**Weather:** Wet	**Barometric Pressure (mb):** 996

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.60	17.30	
GM2	Spike	600mm	0.00	**2.30**	17.00	
GM3	Spike	600mm	0.00	0.30	18.80	
GM4	Spike	600mm	0.00	0.60	19.50	
GM5	Spike	600mm	0.00	0.80	18.80	
GM7	Spike	600mm	0.00	0.20	20.20	
GM8	Spike	600mm	0.00	0.90	16.50	
GM9	Spike	600mm	0.00	0.90	18.80	
GM10	Spike	600mm	0.00	**2.20**	17.90	
GM11	Spike	600mm	0.00	**2.20**	17.10	
GM12	Spike	600mm	0.00	0.60	20.00	
GM13	Spike	600mm	0.00	0.30	20.40	
GM14	Spike	600mm	0.00	1.70	19.70	
GM15	Spike	600mm	0.00	0.60	18.20	
GM16	Spike	600mm	0.00	0.00	19.40	
GM17	Spike	600mm	0.00	1.10	18.70	
GM18	Spike	600mm	0.00	1.00	19.10	
GM19	Spike	600mm	0.00	1.20	18.80	
GM20	Spike	600mm	0.00	0.90	20.00	
GM21	Spike	600mm	0.00	**2.40**	17.30	
GM22	Spike	600mm	0.00	0.80	17.10	
GM23	Spike	600mm	0.00	0.60	18.20	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Closed	**Date:** 30-Nov-10	**Time:** 09:00
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jul '10 **Next Calibration Due:** Jan'11	
Monitoring Personnel: Alan Rhatigan	**Weather:** Frosty	**Barometric Pressure (mb):** 996

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.60	19.90	
GM2	Spike	600mm	0.00	**2.10**	18.40	
GM3	Spike	600mm	0.00	0.50	20.50	
GM4	Spike	600mm	0.00	0.60	20.20	
GM5	Spike	600mm	0.00	0.80	20.60	
GM7	Spike	600mm	0.00	0.40	20.80	
GM8	Spike	600mm	0.00	0.50	20.10	
GM9	Spike	600mm	0.00	1.00	19.40	
GM10	Spike	600mm	0.00	**2.40**	17.50	
GM11	Spike	600mm	0.00	**2.00**	18.20	
GM12	Spike	600mm	0.00	0.70	19.80	
GM13	Spike	600mm	0.00	0.30	20.00	
GM14	Spike	600mm	0.00	1.70	19.70	
GM15	Spike	600mm	0.00	0.70	20.30	
GM16	Spike	600mm	0.00	0.20	20.90	
GM17	Spike	600mm	0.00	1.80	19.20	
GM18	Spike	600mm	0.00	**2.50**	17.80	
GM19	Spike	600mm	0.00	**2.70**	17.10	
GM20	Spike	600mm	0.00	0.60	19.90	
GM21	Spike	600mm	0.00	1.10	19.20	
GM22	Spike	600mm	0.00	0.70	20.10	
GM23	Spike	600mm	0.00	0.90	19.50	

LANDFILL GAS MIGRATION MONITORING FORM

Site Name: Dunmore Landfill Site	**Site Address:** Dunmore, Co. Kilkenny	
Operator: Kilkenny County Council	**National Grid Reference:** 160572N 249519E	
Site Status: Closed	**Date:** 31-Dec-10	**Time:** 09:00
Instrument Used: Infra red Gas Analyser - GA 94	**Date Of Calibration:** Jul '10 **Next Calibration Due:** Jan'11	
Monitoring Personnel: Alan Rhatigan	**Weather:** Dry	**Barometric Pressure (mb):** 998

RESULTS

Sample Station Number	Borehole/ Spike/ Other	Survey Depth	CH_4 % v/v	CO_2 % v/v	O_2 % v/v	Comments
GM1	Spike	600mm	0.00	0.70	18.80	
GM2	Spike	600mm	0.00	**2.20**	18.10	
GM3	Spike	600mm	0.00	0.60	18.50	
GM4	Spike	600mm	0.00	0.60	20.20	
GM5	Spike	600mm	0.00	0.80	20.60	
GM7	Spike	600mm	0.00	0.40	20.80	
GM8	Spike	600mm	0.00	0.90	16.50	
GM9	Spike	600mm	0.00	1.00	19.40	
GM10	Spike	600mm	0.00	**2.30**	17.90	
GM11	Spike	600mm	0.00	**2.00**	18.40	
GM12	Spike	600mm	0.00	0.70	19.80	
GM13	Spike	600mm	0.00	0.30	20.00	
GM14	Spike	600mm	0.00	1.70	19.70	
GM15	Spike	600mm	0.00	0.20	21.20	
GM16	Spike	600mm	0.00	0.20	20.90	
GM17	Spike	600mm	0.00	1.80	19.20	
GM18	Spike	600mm	0.00	**2.10**	18.10	
GM19	Spike	600mm	0.00	**2.50**	17.60	
GM20	Spike	600mm	0.00	0.60	19.90	
GM21	Spike	600mm	0.00	1.10	19.20	
GM22	Spike	600mm	0.00	0.70	20.10	
GM23	Spike	600mm	0.00	0.20	21.20	

Appendix C

Surface, Ground Water

Monitoring

&

Leachate Monitoring

&

Dust Monitoring

Downstream 'A'	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	8.4	8.4			7.9	8.1			8			8.2	8.3		8.2	8.3	8.5	8.3	7.8		8.4	8.2		
Temperature oC	8.1	9.5			7.9	8.1			7.1			11.1	7.5		13	8	10.4	16.2	14		3.8	13.9		
Conductivity uS/CM 20oC																								
Conductivity uS/CM 25oC	402	360			487	412			408			455	294		411	487	415	471	370		430	363		
C.O.D.	<8	9			16	24			31			<8	46		13	<8	12		47		<20	<20		
B.O.D.	0.7	1.6			1	0.6			0.9			0.8	2.2		0.7	0.9	0.5	1.4	1.8		0.9	0.6		
Ammonia mg/l N	0.004	0.12			0.4	0.008			0.009			0.012	0.031		0.059	0.018	0.006	0.014	0.03		<0.01	0.01		
Dissolved Oxygen %sat	98.4	94.2			114.4	104			99.9			89	101.2		98	100	104	94	108.6		108			
Calcium mg/l Ca						64.5												74.9						
Cadmium mg/l Cd						<.0001												<0.005						
Chromium mg/l Cr						0.00242												0.00527						
Chloride mg/l Cl	17	19			19	17			15			14	14		14	30	16	16	11		13	10		
Copper mg/l Cu						0.00289												<0.005						
Iron mg/l Fe						0.0778												<0.25						
Lead Mg/l Pb						<.001												<0.005						
Magnesium mg/l Mg						6.08												12.7						
Manganese mg/l Mn						0.0335												<0.25						
Mercury mg/l Hg																		<0.0005						
Nickel mg/l Ni						<.001												<0.005						
Potassium mg/l K						0.92												<5						
Sodium mg/l Na						9.5												17.4						
Sulphate mg/l SO4																		17						
Zinc mg/l Zn						<1												<0.005						
Alkalinity CaCO3		153				150												205						
TOC mg/l C																								
TON mg/l N	3.1	3			6.1	5.7			5									3				2.55		
o-Phosphate mg/l P	0.01	0.012			0.008	0.006			0.01									0.11						
Flouride mg/l F																								
Phosphorous mg/l P																								
Nitrite mg/l N	0.002	0.007			0.001	0.004			0.003									0.023						
Nitrate mg/l N																								
Suspended Solids mg/l	<6	<6			21.6	61.3			<6.0				8		<6	<7.5	<6	29			6	<5		
Colour Hazen																								
Total Coliforms/100ml																								
Faecal Coliforms/100ml																								

N O S a m p l e A v a i l a b l e

Upstream 'A'	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	8.2	8.3			8	8.3		8.3	7.4			8	8.3		8.1	8.3	8.4	8.4	8.1		8.1	**8.2**		
Temperature oC	8.6	10.1			7.3	8.1		12.8	7.4			11.1	6.7		13.2	8.2	11.2	15.9	13.5		4.5	14.1		
Conductivity uS/CM 20oC																								
Conductivity uS/CM 25oC	382	390			367	418		434	412			420	317		381	558	428	451	370		433	352		
C.O.D.	<8	16			22	8		<8	27			<8	38		22	24	<8		<20		<20	26		
B.O.D.	0.7	1			0.8	0.5		0.9	1.5			0.8	1.6		1.2	1.2	0.5	1	0.9		0.9	1.5		
Ammonia mg/l N	0.022	0.018			0.007	0.01		0.011	0.003			0.019	0.012		0.021	0.022	0.006	0.017	<0.01		<0.01	0.01		
Dissolved Oxygen %sat	96.4	91.5			113.5	101		112	99.3			92	99.2		97.2	100	101.3	99	100.8		107			
Calcium mg/l Ca						64.5												140						
Cadmium mg/l Cd						<.0001												<0.005						
Chromium mg/l Cr						<.001												0.00678						
Chloride mg/l Cl	18	18			15	18		18	15			14	14		13	54	16	16	10		13	9		
Copper mg/l Cu						<.001												<0.005						
Iron mg/l Fe						0.0815												<0.25						
Lead Mg/l Pb						0.001												<0.005						
Magnesium mg/l Mg						6.01												36.5						
Manganese mg/l Mn						0.0027												<0.25						
Mercury mg/l Hg																		<0.0005						
Nickel mg/l Ni						<.001												<0.005						
Potassium mg/l K						0.78												<5						
Sodium mg/l Na						8.37												29.4						
Sulphate mg/l SO4																		13						
Zinc mg/l Zn						<.001												0.24						
Alkalinity CaCO3		161				157												200						
TOC mg/l C																								
TON mg/l N	2.8	3.3			3.7	6		5.2	4									4	2.5		2.01			
o-Phosphate mg/l P	0.013	0.021			0.011	0.0037		0.02	0.01									0.2						
Flouride mg/l F																								
Phosphorous mg/l P																								
Nitrite mg/l N	0.001	0.005			0.002	0.006		0.005	0.001									0.007						
Nitrate mg/l N																								
Suspended Solids mg/l	9	<6			<10	65.4		<6.0	<6.0				7		34	42	<6	<17			<5	5		
Colour Hazen																								
Total Coliforms/100ml																								
Faecal Coliforms/100ml																								

N O S a m p l e A v a i l a b l e

GW 1	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.6	7.6	7.5	7.3	7.4	7.4	7.6	7.4	7.7	7.4	7.6	7.5	7.4	7.5	7.5	7.6	7.3	7.3	6.8		7.3	7.3		
Temperature ^{o}C	10.9	10.1	11.5	11.4	10.5	11.4	12.9	12.1	10.4	12.4	12.9	11.9	10.6	12.9	11.4	10.4	11.1	12.1	11.8		9.9	11.7		
Conductivity uS/CM 20^{o}C																								
Conductivity uS/CM 25^{o}C	647	648	647	646	656	665	659	648	637	601	610	600	598	623	613	621	616	613	644	N o S a m p l e A v a i l a b l e	631	626	N o S a m p l e A v a i l a b l e	N o S a m p l e A v a i l a b l e
Ammonia mg/l N	<0.003	0.005	0.005	0.064	0.015		0.037	0.021	<0.003	0.005	0.038	0.009	<0.003	0.058	0.011	0.003	<0.003	<0.01	<0.01		<0.01	0.03		
Dissolved Oxygen %sat	74.1	66.8	65.1	73.3	85	84.5	69	98.6	75.4	75.8	69.5	68.8	79.2	80	83.1	59	87	84	80		79			
Calcium mg/l Ca			93	94.6	91	101	101	105	92	89.2	85.9			98.8				98.8						
Cadmium mg/l Cd				<.0001		<.0001				<0.005	<0.005			<0.001				<0.005						
Chromium mg/l Cr				0.00816		0.00404				<0.005	<0.005			0.0025				0.00688						
Chloride mg/l Cl	21	21	21	23	25		27	23	23	21	23	19	19	22	20	19	21	21	21		20	19		
Copper mg/l Cu				0.0377		0.001				<0.005	<0.005			0.00222				<0.005						
Iron mg/l Fe	0.715	2.39	3.73	1.67	4.74	1.1	0.106			0.829	0.192			1.07		4.14	0.21	1.4			330	540		
Lead Mg/l Pb				<0.001		<.001				<0.005	<0.005			<0.001				<0.005						
Magnesium mg/l Mg				13.3	13.2	12	10.8	9.9	14.4	1.1	12.8			13.5				18.3						
Manganese mg/l Mn			.013.6	0.0686		42.4				<0.050	<0.050			0.0653				<0.25						
Mercury mg/l Hg										<0.0005	<0.005			<0.0005				<0.0005						
Nickel mg/l Ni				0.00573		0.00438				<0.005	<0.005			0.00343				<0.005						
Potassium mg/l K		1.5	1.2	1.38	1.2	1.24	1.3	1.2	1.1	<1	<5.0			2.09		1.4	2.7	<5			<0.5	1.5		
Sodium mg/l Na		20.3	21.9	20.1	19.2		17.9	14.8	17.6	15.1	15.6			23.8		13.1	11	23.5			14	14		
Sulphate mg/l SO_4				14.2		12.4				14.9				27.1				14						
Zinc mg/l Zn				0.0404		0.001				<0.030	<0.030			0.0187				<0.005						
Alkalinity $CaCO_3$		262		250		244								264				260						
TOC mg/l C	-	1.58		<0.5				1.7	0.7	<0.5	<0.5	<0.5	0.7	<0.5	0.8	0.9	0.6	1.6			nr			
TON mg/l N	10	11	8.7	9.1	11		11	10	11	10	10	8.7	8.4	8	8.2	8.6	9.4	8.5	8.8		8.2	7.81		
Nitrate+Nitrite mg/l N																								
Flouride mg/l F				<0.1		<.1				0.16				0.1				0.07						
Phosphorous mg/l P																								
Nitrite mg/l N	<0.001	<0.001	<0.001	<0.001	<.001		<0.001	<0.001	<0.001		<0.001	<0.001		<0.001	0.001			<0.002						
Suspended Solids mg/l																								
o-Phosphate mg/l P	<0.006	<0.006	<0.006	<0.006	0.016		<0.006	<0.006	<0.006	<0.006	<0.006	0.36		<0.006				0.09						
Colour Hazen																								
Total Coliforms/100ml	0	0	0	13	0	0	10	0	0	0	<10	10	4	2	33	<10	<10	10	170		20	5200		
Faecal Coliforms/100ml																								
Aluminium mg/l				0.948		588				0.448	0.0579			0.683				0.655						
e-coli 100ml	0	0	0	0	0	0	<10	0	0	0	<10	<5	0	0	1	<10	<10	<10	<10		<10	nr		

GW2	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.5	7.5	7.1	7.3	7.4		7.5	7.3	7.6	7.3	7.5	7.4	7.4	7.4	7.4	7.6	7.3	7.3	7.2		7.3	7.5		
Temperature ^{o}C	10.8	10.5	10.9	10.9	10.5		11.9	11.7	10.7	11.4	11	11.2	10.3	11.3	10.9	10.3	10.9	11.3	10.9		9.9	10.9		
Conductivity uS/CM $20^{o}C$																								
Conductivity uS/CM $25^{o}C$	632	629	621	631	647		653	639	592	600	593	602	607	617	625	621	626	620	625		615	597		
Ammonia mg/l N	0.031	0.008	<0.003	0.004	<.003		0.065	0.026	<0.003	0.014	0.016	0.011	0.005	0.008	0.005	0.008	<0.003	<0.01	<0.01		<0.01	0.39		
Dissolved Oxygen %sat	67.2	57.8	51	32.6	78.5		55.1	55	71.8	65.2	85.2	31.1	84.8	64.9	68.9	58	79	71	56		61			
Calcium mg/l Ca			95	96	99		108	100	95	91.7	96.5			106				103						
Cadmium mg/l Cd				<0.0001						<0.005	<0.005			<0.001				<0.005						
Chromium mg/l Cr				0.00741						<0.005	<0.005			0.00197				0.00644						
Chloride mg/l Cl	19	18	17	21	16		19	20	20	20	19	18	18	19	18	17	19	19	19		16	17		
Copper mg/l Cu				<.001						<0.005	<0.005			0.00107				<0.005						
Iron mg/l Fe	0.505	0.769	1.66	1.13	2.79		0.109			0.162	0.134			0.633		0.846	0.15	1.08			170	180		
Lead Mg/l Pb										<0.005	<0.005			<0.001				<0.005						
Magnesium mg/l Mg			14.3	18.2	15.1		14.1	15.5	13.3	1.4	11.9			14.4				19.9						
Manganese mg/l Mn				0.326						<0.050	<0.050			0.158				<0.25						
Mercury mg/l Hg										<0.0005	<0.005			<0.0005				<0.0005						
Nickel mg/l Ni				0.00389						<0.005	<0.005			0.00194				<0.005						
Potassium mg/l K		0.4	0.9	1.15	0.9		0.9	1.7	0.8	<1	<5.0			1.34		1.1	1	<5			<0.5	1		
Sodium mg/l Na		11.6	11.3		11.1		11	12.3	10.5	10.6	9.78			14.1		9.5	8.2	19			10	10		
Sulphate mg/l SO_4				18.3						16.4				17.9				16						
Zinc mg/l Zn				0.0289						<0.030	<0.03			0.0168				<0.005						
Alkalinity $CaCO_3$		288		289						256				285				291						
TOC mg/l C	-	1.2		<0.5				1.7	1	0.8	0.6	<0.5	1.1	<0.5	0.9	0.7	<0.5	1.6	1.9		nr			
TON mg/l N	5.6	5.3	3.5	2.3	5.7		5	3.1	5.3	6.4	6.4	2.2	5	4.1	4.6	3.4	5.4	4.5	2.8		3.6	1.17		
Nitrate+Nitrite mg/l N																								
Flouride mg/l F				0.3						0.26				0.21				0.15						
Phosphorous mg/l P																								
Nitrite mg/l N	<0.001	<0.001	<0.001	<0.001	<.001		<.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001			<0.002						
Suspended Solids mg/l																								
o-Phosphate mg/l P	<0.006	<0.006	<0.006	<0.006	<.006		<0.006	<0.006	<0.006	<0.006	<0.006	0.33		<0.006				0.08						
Colour Hazen																								
Total Coliforms/100ml	0	0	0	0	0		63	0	2	0	<10	10	0	0	0	<10	<10	<10	20		<10	<10		
Faecal Coliforms/100ml																								
Aluminium mg/l				0.668						0.167	0.025			0.418				1.12						
e-coli	0	0	0	0	0		<10	0	0	0	<10	<10	0	0	0	<10	<10	<10	<10		<10	<10		

No Sample Available

GW 4	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.4	7.3	7	7.3	7.3	7.2	7.5	7.2	7.4	7.2	7.3	7.2	7.2	7.3	7.3	7.2	7.2	7.2	7.1		7.2	7.2		
Temperature ^{o}C	11.6	11.3	12.4	12.3	11.6	11.8	13.1	13	11.4	13.1	12.4	12.4	12	13	12.6	12.4	12.9	13.2	12.8		11.8	12.7		
Conductivity uS/CM 20^{o}C																								
Conductivity uS/CM 25^{o}C	677	734	737	766	694	638	643	748	688	720	695	698	712	731	701	699	717	707	711		709	701		
Ammonia mg/l N	<0.003	<0.003	<0.003	<0.003	<0.003		0.032	0.021	0.003	0.006	0.013	0.063	0.008	0.51	0.004	0.04	<0.003	0.12	0.06		0.01	0.01		
Dissolved Oxygen %sat	46.9	48.9	54.5	59.4	65.8	62.2	61.2	64.5	61.2	62.9	56.8	51.6	63.4	62.5	56.5	61	67	64	62		67			
Calcium mg/l Ca			113	127	124	110	113	135	120		119			139				122						
Cadmium mg/l Cd				<01		<.1					<0.005			<0.001				<0.005						
Chromium mg/l Cr				0.0107		0.00223					<0.005			0.00221				0.0055						
Chloride mg/l Cl	21	22	20	22	20		22	23	22	22	23	22	20	21	22	19	22	22	22		15	18		
Copper mg/l Cu				0.00311		<.001					<0.005			0.00193				<0.005						
Iron mg/l Fe	0.599	0.875	0.321	0.266	0.139	0.203	0.06				0.152			0.184		0.116	0.1	<0.25	0.11		170	<25		
Lead Mg/l Pb				<.001		<.001					<0.005			<0.001				<0.005						
Magnesium mg/l Mg			9	8.48	9.3	7.8	7	9.8	8.6		8.24			8.99				14.8						
Manganese mg/l Mn				0.018		0.0154					<0.050			<0.01				<0.25						
Mercury mg/l Hg											<0.0005			<00005				<0.0005						
Nickel mg/l Ni				0.00213		0.001					<0.005			0.00122				<0.005						
Potassium mg/l K		4.3	2.2	1.99	2	1.92	1.9	2.1	2		<5.0			3.24		<0.3	2.1	4.52	3.9		1.3	2		
Sodium mg/l Na		11.2	11.5	7.3	10.5		9.8	10	10.8		10.1			13.8		17.5	8.4	18.8	11		10	9.8		
Sulphate mg/l SO_4				14.2		12.3				18.5				35.3				23						
Zinc mg/l Zn				0.0172		0.101					<0.030			0.0154				<0.005						
Alkalinity $CaCO_3$		317		324		241				279								296						
TOC mg/l C	-	1.89	<0.05	<0.5				1.2	1.1	1	0.7	<0.5	1.2		0.9	1.2	<0.5	1.7	2.4		nr			
TON mg/l N	7.6	10	9.5	10	9.5		10	10	12	14	12	11	9.9	10	9.7	9.5	11	11	9.9		7.6	7		
Nitrate+Nitrite mg/l N																								
Flouride mg/l F				<0.1		<0.1				0.13				<0.10				0.07						
Phosphorous mg/l P																								
Nitrite mg/l N	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		0.007	<0.001			<0.001						
Suspended Solids mg/l																								
o-Phosphate mg/l P	<0.01	<0.006	<0.006	<0.006	0.056		<0.006	<0.006	<0.006	<0.006	0.025	0.29		<0.006				0.4						
Colour Hazen																								
Total Coliforms/100ml	0	0	0	1	0	0	<10	0	0	0	<5	<5	0	0	0	<10	<5	<5	<10		<10	<10		
Faecal Coliforms/100ml																								
Aluminium mg/l				98.4		0.0691					<0.025			<0.005				<0.25						
e-coli	0	0	0	0	0	0	<10	0	0	0	<5	<5	0	0	0	<10	<5	<5	<10		<10	<10		

N O S a m p l e A v a i l a b l e

N O S a m p l e A v a i l a b l e

N O S a m p l e A v a i l a b l e

MW 1	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009
PH	7.3	7.3	7	7.5	7.2	7.1	7.3	7.2	7.2	7.1	7.3	7.2	7.2	7.2	7.2	7.3	7.1	7.2	7.2		7.1	7.4		
Temperature ^{o}C	11.3	11.2	12.4	11.5	10.7	11.6	14.1	11.9	10.8	12.2	11.8	11.6	10.9	12.1	11.7	10.3	11.5	13.4	11.5		10	11.6		
Conductivity uS/CM 20^{o}C																								
Conductivity uS/CM 25^{o}C	797	803	776	776	788	799	789	768	808	807	759	743	760	793	748	755	758	764	742		771	787		
Ammonia mg/l N	0.041	<0.003	<0.003	0.004	0.01		0.042	0.014	<0.003	0.014	0.058	0.015	0.008	0.007	0.004	0.011	0.003	0.064	0.1		0.02	0.02		
Dissolved Oxygen %sat	53.8	39.2	38	35.9	54.9	53.3	55.6	50.3	47	52.2	53.6	54.8	49	59.1	53	60	62	68	61		61			
Calcium mg/l Ca			135	128	143	139	142	137	146	147	128							131						
Cadmium mg/l Cd				<.0001		0.0001				<0.005	<0.005							<0.005						
Chromium mg/l Cr				<.00643		0.00373				<0.005	<0.005							0.0064						
Chloride mg/l Cl	23	23	18	22	21		22	22	21	22	23	24	21	23	21	21	21	23	21		22	25		
Copper mg/l Cu				<.0107		0.001				<0.005	<0.005							<0.005						
Iron mg/l Fe	0.754	0.07	0.106	0.143	0.183	0.141	<.06			0.0637	0.125					0.175	0.089	<0.25	0.1		99	<25		
Lead Mg/l Pb				<0.001		<.001				<0.005	<0.005							<0.005						
Magnesium mg/l Mg				12.3	13	12.1	11.4	11.3	12.7	1.4	11.6							19						
Manganese mg/l Mn				0.00233		<.001				<0.050	<0.050							<0.25						
Mercury mg/l Hg										<0.0005	<0.0005							<0.0005						
Nickel mg/l Ni				<.001		<0.001				<0.005	<0.005							<0.005						
Potassium mg/l K		2.2	1.4	1.4	1.3	1.23	1.4	1.2	1.1	<1	1.06					1.2	1.1	<5	2.8		<0.5	1		
Sodium mg/l Na		12.3	11.6	11.2	11.5		11.1	11.2	11	12.6	10.7					9.9	7.7	19.7	11		9.9	12		
Sulphate mg/l SO_4				13.8		11.7				15.8				30.6				20						
Zinc mg/l Zn				0.0206		<.001				<0.030	<0.030							<0.005						
Alkalinity $CaCO_3$		364	343	343						239				364				363						
TOC mg/l C	-	1.22	0.6					1.2	1.3	1	<0.5	<0.5	1.1	0.9	0.9	1	<0.5	1.6	2.2		nr			
TON mg/l N	7.5	8	6.8	7.5	7.8		12	8.1	8.5	10	9.3	8.3	7.7	8.4	7.9	7.1	7.1	7.1	6.6		6.6	6.43		
Nitrate+Nitrite mg/l N																								
Flouride mg/l F				<.1		<0.1				0.1				<0.1				<0.05						
Phosphorous mg/l P																								
Nitrite mg/l N	<0.001	<0.001	<0.001	<0.001	<.001		<0.001	<0.001	<0.001	<0.001	0.001	0.005		<0.001	<0.001			<0.001						
Suspended Solids mg/l																								
o-Phosphate mg/l P	0.007	<0.006	<0.006	<0.006	0.062		<.006	<0.006	<0.006	<0.006	0.12	0.31		0.006				0.17						
Colour Hazen																								
Total Coliforms/100ml	1046	51	99	816	1203	659	>2419	225	2419	79	2359	1533	1	115	>2419	2247	21	41	31		10	340		
Faecal Coliforms/100ml																								
Aluminium mg/l				0.005		0.005				<0.025	<0.025							<0.25						
e-coli	0	0	0	0	0	0		0	0	0	<10	<10	0	0	0	<10	<5	<10	<10		<10	<10		

Well 3	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.5	7.5	7.3	7.6			7.5	7.4	7.4	7.3	7.5	7.3	7.5	7.3	7.5		7.3	7.3	7.1		7.4	7.3		
Temperature °C	8.2	9.2	14.3	7.2			16.3	12.3	7.1	14.5	12.7	10.5	7.4	12.1	12.2		9.4	14.7	11.8		5.3	13		
Conductivity uS/CM 20°C	-	-																						
Conductivity uS/CM 25°C	590	620	648	599			656	644	592	637	648	625	589	653	596		610	653	663		607	582		
Ammonia mg/l N	0.009	<0.003	0.22	<0.003			0.021	0.01	0.013	<0.003	0.013	0.02	0.005	<0.003	0.003		<0.003	<0.01	<0.01		<0.01	0.09		
Dissolved Oxygen %sat	36	38.4	71.6	103.1			50.5			61.3	82.4	58	36.7	67.8	43.7		50	71	71		41			
Calcium mg/l Ca	-	-	109	100			113	111	91	102	106							112						
Cadmium mg/l Cd	-	-								<0.005	<0.005							<0.005						
Chromium mg/l Cr										<0.005	<0.005							0.00559						
Chloride mg/l Cl	22	25	23	21			25	25	23	22	23	19	22	23	23		24	23	23		23	22		
Copper mg/l Cu	-	-								0.0127	0.0116							0.00754						
Iron mg/l Fe	<0.06	0.089	<0.06	0.156			<.06			0.0986	0.113						0.09	<0.25			64	<25		
Lead Mg/l Pb	-	-								<0.005	<0.005							<0.005						
Magnesium mg/l Mg	-	-	8.4	12.1			7.8	8	15.5	<1	8.59							15						
Manganese mg/l Mn	-	-								<0.050	<0.050							<0.25						
Mercury mg/l Hg	-	-								<0.0005	<0.0005							<0.0005						
Nickel mg/l Ni	-	-								<0.005	<0.005							<0.005						
Potassium mg/l K		0.4	0.8	1			0.9	1	1.3	<1	<1.0						1.4	<5			<0.5	0.8		
Sodium mg/l Na		12.1	11.9	11.2			11.8	12.3	11	12	12						8.7	19.8			9.7	10		
Sulphate mg/l SO_4										22				33.4				25						
Zinc mg/l Zn	-	-								0.227	0.113							0.0594						
Alkalinity $CaCO_3$	-	271								231				252				261						
TOC mg/l C	-	1.24						1	0.7	0.7	1.1	0.6	1.-0	1	0.9		<0.5	1.6	2.4		nr			
TON mg/l N	2.1	5.3	9.2	3.7			9.7	8.7	2.5	9.8	10	7.5	2.8	9.4	2.9		4.1	9.3	7.2		3.2	7.2		
Nitrate+Nitrite mg/l N	-	-																						
Flouride mg/l F	-	-								0.12				<0.10				0.1						
Phosphorous mg/l P	-	-																						
Nitrite mg/l N	<0.001	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001			<0.002						
Suspended Solids mg/l	-	-																						
o-Phosphate mg/l P	<0.006	<0.006	<0.006	0.0041			<0.006	<0.006	<0.006	<0.006	<0.006	0.012		<0.006				0.07						
Colour Hazen	-	-																						
Total Coliforms/100ml	102	173	2419	249			167	57	96	501	455	29	38	308	613		10	20	87		10	<10		
Faecal Coliforms/100ml	-	-																						
Aluminium mg/l	-	-								<0.025	<0.025							<0.25						
e-coli	0	1	0	0			19	3	1	0	<5	0	0	1	0		<5	<10	3		0	<10		

No Sample Available

Well 6	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th1/4 2005	1st1/4 2006	2nd1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.3	7.4	7.3	7.8	7.3	7.2	7.6	7.2	7.3	7.2	7.3	7.2	7.3	7.3	7.3	7.4	7.2	7.2	7.1		7.2	7.1		
Temperature ^{o}C	10.9	10.5	13.1	12.3	9.7	10.7	15.3	12.9	10.8	12.2	11.4	10.6	10.4	11.9	11.8	9.8	10.8	14.1	12.3		8.7	12.9		
Conductivity uS/CM 20^{o}C		-																						
Conductivity uS/CM 25^{o}C	737	739	730	780	741	749	631	744	769	724	756	748	760	766	750	753	754	743	744	N o S a m p l e A v a i l a b l e	755	754	N o S a m p l e A v a i l a b l e	N o S a m p l e A v a i l a b l e
Ammonia mg/l N	<0.003	0.023	<.003	0.004	<.003		0.21	0.01	<0.003	0.12	0.028	0.013	<0.003	<0.003	0.006	0.005	<0.003	0.18	0.04		0.02	0.09		
Dissolved Oxygen %sat	14.7	16.8	30	66.7	27.4	15.3	46	51.5	18.1	35.4	16.5	22	25	27.1	27.5	39	38	40.1	34		39			
Calcium mg/l Ca		-	122	129	129	129	107	130	132	125	121							121						
Cadmium mg/l Cd		-		<0.0001		<.0001				<0.005	<0.005							<0.005						
Chromium mg/l Cr				0.00531		0.00373				<0.005	<0.005							<0.005						
Chloride mg/l Cl	21	23	21	24	16		19	22	23	22	23	23	22	22	22	22	21	22	20		21	20		
Copper mg/l Cu		-		<.0227		<.001				<0.005	<0.005							<0.005						
Iron mg/l Fe	<0.06	<0.06	0.085	0.143	<0.06	137	<.06			0.05	0.119					0.23	0.11	<0.25	0.1		200	<25		
Lead Mg/l Pb		-		<.001		<.001				<0.005	<0.005							<0.005						
Magnesium mg/l Mg		-		11.3	13.3	12.3	10.6	11.4	13.3	1.3	11.6							17.8						
Manganese mg/l Mn		-	12.3	0.015		0.0915				<0.050	<0.050							<0.25						
Mercury mg/l Hg		-								<0.0005	<0.0005							<0.0005						
Nickel mg/l Ni		-		0.00213		<.001				<0.005	<0.005							<0.005						
Potassium mg/l K		3	2.6	2.33	2.6	2.61	2.4	2.8	2.7	<1	2.7					2.6	2.3	<5	4.3		1.5	2.3		
Sodium mg/l Na		13.5	12.8	10.9	12.2		10.5	11.1	13.1	12	10.9					9.8	8.1	18.5	12		10	11		
Sulphate mg/l SO_4				-		9.2				19.2				31.2				21						
Zinc mg/l Zn		-		0.122		<.001				<0.030	<0.030							<0.005						
Alkalinity $CaCO_3$		322		306						297				341				350						
TOC mg/l C		1.56	-	-				1.6	0.8	1.2	0.5	<0.5	3	<0.5	1.2	1.1	<0.5	1.6	1.7		nr			
TON mg/l N	7.2	8.2	7.9	6.2	7.6		7.8	8.5	8.3	9.6	9.9	9	8.8	9	8.9	8.5	8.4	8.4	7.6		7.5	7.31		
Nitrate+Nitrite mg/l N		-																						
Flouride mg/l F		-		-		<0.1				0.12				0.1				0.08						
Phosphorous mg/l P		-																						
Nitrite mg/l N	<0.001	<0.001	<0.001	<0.001	<.001		0.012	<0.001	<0.001	0.003	<0.001	<0.001		0.001	0.001			<0.001						
Suspended Solids mg/l		-																						
o-Phosphate mg/l P	<0.006	0.02	<0.006	<0.006	0.027		0.024	<0.006	0.022	<0.006	0.019	0.026		0.01				0.1						
Colour Hazen		-																						
Total Coliforms/100ml	387	2419	47	>2420	12	30	>2419	461	3	866	1049	34	16	>2419	51	<10	<5	96	74		74	120		
Faecal Coliforms/100ml		-																						
Aluminium mg/l		-		<0.05		<.050				<0.025	<0.025							<0.25						
e-coli	0	1	0	517	0	0	0	0	0	0	<5	0	1	0	10	<10	<5	<10	31		<10	<10		

Well 14	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.5	7.7	7.1	7.5	7.5	7.4	7.4	7.5	7.6	7.2	7.4	7.5	7.6	7.6	7.6	7.7	7.7	7.2	7.2		7.6	7.5		
Temperature ^{o}C	10.7	10.8	14.3	16.5	11	11.9	16.7	16.4	9.5	14.3	14.9	13.4	10.6	13.9	14.8	9.8	10	14.1	15.5		7.4	12.7		
Conductivity uS/CM 20^{o}C	-	-																						
Conductivity uS/CM 25^{o}C	414	434	524	585	539	438	567	532	441	679	771	637	508	582	459	436	437	484	513	N o S a m p l e A v a i l a b l e	362	582	N o S a m p l e A v a i l a b l e	N o S a m p l e A v a i l a b l e
Ammonia mg/l N	0.006	0.018	0.05	0.033	<0.003		0.082	0.022	0.024	0.012	0.023	0.019	0.017	0.23	0.02	0.14	0.5	0.06	0.26		0.01	0.08		
Dissolved Oxygen %sat	71.6	63.3	21	44.2	102.5	72	46.2	67.3	78.5	37.9	58.3	61.3	74	51.1	75.6	91	82.9	75	65		92			
Calcium mg/l Ca	-	-	89	96.3	92	69.8	90	77	71	110	133			102				76.9						
Cadmium mg/l Cd	-	-		<.0001		<.0001				<0.005	<0.005			<0.001				<0.005						
Chromium mg/l Cr				0.00562		<.001				<0.005	<0.005			0.00191				0.0056						
Chloride mg/l Cl	16	18	17	18	17		26	49	16	24	13	16	17	15	13	14	14	16	10		9	6		
Copper mg/l Cu	-	-		0.01		0.0224				<0.005	<0.005			0.00126				<0.005						
Iron mg/l Fe	0.1	0.153	0.077	0.605	0.785	0.329	0.062			0.0572	0.166			0.152		0.199	0.086	<0.25	0.37		120	67		
Lead Mg/l Pb	-	-		<.001		<.001				<0.005	<0.005			<0.001				<0.005						
Magnesium mg/l Mg	-	-		6.16	6.6	5.54	5.5	4.1	6.3	<1	9.43			7.92				13						
Manganese mg/l Mn	-	-	6.4	45.4		0.0136				<0.050	0.0663			0.0156				<0.25						
Mercury mg/l Hg	-	-								<0.0005	<0.005			<0.0005				<0.0005						
Nickel mg/l Ni	-	-		0.00294		0.00208				<0.005	<0.005			0.00114				<0.005						
Potassium mg/l K		2	1.8	2.11	1.7	1.33	1.7	1.5	1	<1	1.49			1.99		<0.3	1.3	<5	3.7		<0.5	1.3		
Sodium mg/l Na		10.4	10.6	12	11.1		16	23	10.5	19.2	14.9			14.6		6.9	7	17.2	9.3		5.9	6.1		
Sulphate mg/l SO_4				-		9.7				73.8				50.2				17						
Zinc mg/l Zn	-	-		0.0213		<.001				<0.030	<0.030			0.0188				<0.005						
Alkalinity $CaCO_3$	-	177		272						226								213						
TOC mg/l C	-	4.48		-				3.6	4.2	3.7	2.5	3.3	3.1		5.3	3.9	2.5	2.7	5.1		nr			
TON mg/l N	2.9	3.6	2.7	2.2	6.7		5.9	4.9	4.1	5.1	3	3	4.7	4	3.5	3.3	2.8	3.1	2.2		2	1.07		
Nitrate+Nitrite mg/l N	-	-																						
Flouride mg/l F	-	-		-		<.1				0.16				<0.10				0.08						
Phosphorous mg/l P	-	-																						
Nitrite mg/l N	0.002	0.003	0.004	0.003	0.001		0.016	0.006	0.002	0.016	0.015	0.002		0.006	0.002			0.009						
Suspended Solids mg/l	-	-																						
o-Phosphate mg/l P	0.016	0.026	<0.006	<0.006	0.019		<.006	<0.006	0.012	0.012	0.03	0.036		0.04				0.13						
Colour Hazen	-	-																						
Total Coliforms/100ml	>2419	>2419	3448	2420	>2419	549	>2419	1986	>2419	>2419	6867	5475	>2419	1986	>2419	1198	468	6900	24000		320	5800		
Faecal Coliforms/100ml	-	-																						
Aluminium mg/l	-	-		0.439		0.22				<0.025	<0.025			0.0322				<0.25						
e-coli	27	147	89	161	649	17	613	108	38	326	<10	275	1203	99	461	74	26	120	4400		1100	41		

Well 15	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.1	7.3	7.2	7.2	7.2	7.2	7.3	7.2	7.2	7.1	7.3	7.5	7.2	7.2	7.2	7.3	7.2		7.1		7.2	7.1		
Temperature ^{o}C	10.1	9.7	13.4	13.4	9.2	9.5	14.3	14.5	9	12.8	13.4	11.4	8.5	12.1	13.7	8.5	8.7	13.6	13.5		7.7	11		
Conductivity uS/CM 20^{o}C	-	-																						
Conductivity uS/CM 25^{o}C	739	727	744	742	721	730	734	737	705	721	714	637	721	734	732	728	726	713	711		699	713		
Ammonia mg/l N	0.005	<0.003	0.75	<0.003	0.087		0.032	0.008	0.005	0.036	0.075	0.024	1.2	0.009	<0.003	0.017	<0.003	1	0.04		0.12	0.08		
Dissolved Oxygen %sat	16.3	16.9	31	25.1	21	31.4	25.9	47	23.1	20.1	16.3	15.2	22.5	16.9	24.1	34	34	32	24		33			
Calcium mg/l Ca	-	-	130	122	130	129	136	131	126	116	121							120						
Cadmium mg/l Cd	-	-		<0.001		<.0001				<0.005	<0.005							<0.005						
Chromium mg/l Cr				0.00604		0.00406				<0.005	<0.005							0.006						
Chloride mg/l Cl	21	21	21	27	19		22	23	21	22	22	21	25	22	23	23	22	21	20		22	19		
Copper mg/l Cu	-	-		0.00773		<.001				<0.005	<0.005							<0.005						
Iron mg/l Fe	0.278	0.466	1.24	0.502	0.526	0.479	<.06			0.14	0.158					0.382	0.25	<0.25	0.22		310	96		
Lead Mg/l Pb	-	-		<0.001		<.001				<0.005	<0.005							<0.005						
Magnesium mg/l Mg	-	-	11.2	11.5	11.6	11	10.8	10.7	10.9	1	9.98							16.5						
Manganese mg/l Mn	-	-		0.297		0.151				0.101	0.0813							<0.25						
Mercury mg/l Hg	-	-								<0.0005	<0.0005							<0.0005						
Nickel mg/l Ni	-	-		0.00253		2.68				<0.005	<0.005							<0.005						
Potassium mg/l K		2.2	2.1	2.16	1.8	1.73	2	2.1	1.7	<1	1.95					1.8	1.8	<5	3.8		1.1	1.9		
Sodium mg/l Na		10.5	10.7	10.1	10		10.4	10.8	9.9	9	9.08					7.9	7.5	17.4	11		8.1	8.8		
Sulphate mg/l SO_4				19.3		14.6				16.7				26.8				19						
Zinc mg/l Zn	-	-		0.0216		0.00653				<0.030	<0.030							<0.005						
Alkalinity $CaCO_3$	-	330		324										323				337						
TOC mg/l C	-	1.58		<.5				1.8	1.7	<0.5	0.8	<0.5	1.4	0.6	2.1	1.1	0.5	1.6			nr			
TON mg/l N	5	5.6	6.9	6.7	5.5		6	6.5	5.6	7.5	7.8	6.1	6.5	7.5	6.8	7	6.8	6.5	5.5		5.9	6.7		
Nitrate+Nitrite mg/l N	-	-																						
Flouride mg/l F	-	-		<0.1		<.1				0.13				<0.10				0.09						
Phosphorous mg/l P	-	-																						
Nitrite mg/l N	0.002	0.001	<0.001	<0.001	<.001		<0.001	<0.001	<0.001		0.006	0.001		0.001	0.007			0.005						
Suspended Solids mg/l	-	-																						
o-Phosphate mg/l P	0.011	<0.006	<0.006	<0.006	<.009		<0.006	<0.006	<0.006	0.016	0.019	0.035		0.006				0.11						
Colour Hazen	-	-																						
Total Coliforms/100ml	548	1414	20	11	86	93	8664	727	1733	10	1266	66	435	22	2419	295	98	340	180		7700	10		
Faecal Coliforms/100ml	-	-																						
Aluminium mg/l	-	-		0.16		0.138				<0.025	<0.025							<0.25						
e-coli	75	225	9	0	4	14	52	0	46	0	265	26	23	3	345	74	41	120	74		520	<10		

NO Sample Available

NO Sample Available

NO Sample Available

Leachate Lagoon	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.5	7.3	8.2	7.2	7.3				7.7	7.8	7.5	7.1	7.2	7.3	7.2	7.2	7.2	7.4		
Temperature oC	8	14	20	20	10			7.3	7	14	15	13.1	12	23	18.4	14.8	10.8	16.1		
Conductivity uS/CM 20oC																				
Conductivity uS/CM 25oC	6690	5900	8930	6910	7870	N	N	6750	4910	14650	6200	4540	7580	6840	38500	6180	5200	4690	N	N
C.O.D.	436	454	660	791	910	o	o	903	1484	1291	659	696	2675	1242	281	985	449	225	o	o
B.O.D.	10	88	60	248	440	S	S	45	548	45	158	150	1500	380	31.5	400	123	15	S	S
Ammonia mg/l N	330	290	680	470	850	a	a	330	100	670	260	150	270	<0.003	120	240	190	200	a	a
Dissolved Oxygen %sat						m	m												m	m
Calcium mg/l Ca		193				p	p			164				220					p	p
Cadmium mg/l Cd		>0.002				l	l			<0.001				<0.005					l	l
Chromium mg/l Cr		0.0601				e	e			0.0582				0.04					e	e
Chloride mg/l Cl	762	666	1782	1575	1093	A	A	909		>1416	811	475	947	25121	451	790	751	599	A	A
Copper mg/l Cu		0.0165				v	v			0.0285				<0.005					v	v
Iron mg/l Fe		8.55				a	a			10.12				3.3					a	a
Lead Mg/l Pb		>0.02				i	i			0.00257				<0.005					i	i
Magnesium mg/l Mg		72.2				l	l			98.9				110					l	l
Manganese mg/l Mn		2.03				a	a			1.27				1.7					a	a
Mercury mg/l Hg						b	b			<0.0005				<0.0005					b	b
Nickel mg/l Ni		0.073				l	l			0.15				0.059					l	l
Potassium mg/l K		197				e	e			510				260					e	e
Sodium mg/l Na		503								1750				620						
Sulphate mg/l SO4		24.4								185.9				170						
Zinc mg/l Zn		0.666								0.0601				<0.005						
Alkalinity CaCO3																				
TOC mg/l C																				
TON mg/l N	<10	0.4	5.8	8.9	0.3			12	0.2	1.1	0.4	0.2	<0.1	<0.1	<0.5	2.3	0.6	5.9		
o-Phosphate mg/l P	0.68	0.27	0.26	0.62	0.62			0.22		1.9				0.2						
Flouride mg/l F		0.75								3.46				29						
Phosphorous mg/l P																				
Nitrite mg/l N	0.036	>0.001	0.039		<0.001			0.75		<0.001				0.029						
Nitrate mg/l N																				
Suspended Solids mg/l																				
Colour Hazen																				
Total Coliforms/100ml		4044								7945				>24192						
E Coli/100ml		1514								30				>24192						
Faecal Coliforms/100ml																				
Aluminium mg/l		>1								0.203				<0.25						

Manhole 1	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.2													7.1	7		
Temperature oC	14													13.5	15.9		
Conductivity uS/CM 20oC																	
Conductivity uS/CM 25oC	15920	Available	Available	Available	Available	Available	Available	Available	Available	Available	Available	Available	Available	7200	7990	Available	Available
C.O.D.	1281													500	500		
B.O.D.	188													48	36		
Ammonia mg/l N	1200													420	470		
Dissolved Oxygen %sat																	
Calcium mg/l Ca																	
Cadmium mg/l Cd																	
Chromium mg/l Cr																	
Chloride mg/l Cl	2493													980	1101		
Copper mg/l Cu																	
Iron mg/l Fe																	
Lead Mg/l Pb																	
Magnesium mg/l Mg																	
Manganese mg/l Mn																	
Mercury mg/l Hg																	
Nickel mg/l Ni																	
Potassium mg/l K																	
Sodium mg/l Na																	
Sulphate mg/l SO4		NO Sample	NO Sample	NO Sample	NO Sample	NO Sample	NO Sample	NO Sample	NO Sample	NO Sample	NO Sample	NO Sample	NO Sample			NO Sample	NO Sample
Zinc mg/l Zn																	
Alkalinity CaCO3																	
TOC mg/l C																	
TON mg/l N	6.6													3	1.37		
o-Phosphate mg/l P	1.2																
Flouride mg/l F																	
Phosphorous mg/l P																	
Nitrite mg/l N																	
Nitrate mg/l N																	
Suspended Solids mg/l																	
Colour Hazen																	
Total Coliforms/100ml																	
E Coli/100 ml																	
Faecal Coliforms/100ml																	
Aluminium mg/l																	

Manhole 2	1st 1/4 2005	2nd 1/4 2005	3rd 1/4 2005	4th 1/4 2005	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH		7.3	7.2	7.3	7.2	8	7.3	7.3	7.3	7.1														
Temperature oC		18	18	17	18	16	18	17	14	16														
Conductivity uS/CM 20oC																								
Conductivity uS/CM 25oC		15370	15960	15130	14060	13900	13600	12000	4800	10890														
C.O.D.		1275	1274	919	933	881	851	715	741	571														
B.O.D.		87	116	60	70	10	97.5	40	>320	54														
Ammonia mg/l N		960	540	930	610	610	710	1200	570															
Dissolved Oxygen %sat																								
Calcium mg/l Ca				132		180				187														
Cadmium mg/l Cd				<0.0001		>.002				<0.005														
Chromium mg/l Cr				0.0749		0.102				0.0338														
Chloride mg/l Cl		2337	1519	2441	1911	2229	1944	2002	535															
Copper mg/l Cu				0.0428		0.0418				0.0269														
Iron mg/l Fe				17400		3.73				14														
Lead Mg/l Pb				3.64		>0.2				<0.005														
Magnesium mg/l Mg				137		158				9.5														
Manganese mg/l Mn				1.01		0.572				2.34														
Mercury mg/l Hg										<0.0005														
Nickel mg/l Ni				0.111		0.136				0.0883														
Potassium mg/l K				545		550				30														
Sodium mg/l Na				1640		1520				33.8														
Sulphate mg/l SO4				35.6		47.8				69														
Zinc mg/l Zn				0.0791		1.62				0.0516														
Alkalinity CaCO3																								
TOC mg/l C																								
TON mg/l N		2.9	70	13	41		48	17	6.3															
o-Phosphate mg/l P		1.4	0.86	1.7	0.79	0.29	0.64	0.55	0.38															
Flouride mg/l F				<0.1		1.2				8.4														
Phosphorous mg/l P																								
Nitrite mg/l N		1.1	8.8	0.22	0.23	0.54	0.19	0.53	0.001															
Nitrate mg/l N																								
Suspended Solids mg/l																								
Colour Hazen																								
Total Coliforms/100ml				>2419		>24192				19860														
E Coli/100 ml				54		0				60														
Faecal Coliforms/100ml																								
Aluminium mg/l				147		1				0.0677														

No Sample Available

Manhole 3	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.3	7.6	7.2	7.3	7.5	7	7.3	7.2	7.4	7.1	7.3	7.3	7.2	7.1	7.4	7.2		
Temperature oC	17	17	11	15	15	12	10	14	16	13.5	11	15.7	16.2	11.5	8.7	14.7		
Conductivity uS/CM 20oC																		
Conductivity uS/CM 25oC	14160	4450	5900	10890	4960	4110	16490	5710	2330	6690		3160	93200	3550	834	1234	N	N
C.O.D.	890	210	1527	1059	226	273	1144	374	94	557	2565	168	61	660	<20	25	o	o
B.O.D.	80	8	>656	42	22.6	10	79	31	4.4	109.5	1360	21	5.8	284	3.4	>8		
Ammonia mg/l N	940	300	240	630	>298	200	<0.003	190	78	0.98	240	150	71	120	26	43	S	S
Dissolved Oxygen %sat																	a	a
Calcium mg/l Ca				149				306				61					m	m
Cadmium mg/l Cd				<0.005				<0.001				<0.005					p	p
Chromium mg/l Cr				0.0319				0.0234				0.016					l	l
Chloride mg/l Cl	2241	679	688	1503	690	570		>696	269	825	903	380	173	376	80	136	e	e
Copper mg/l Cu				0.0126				0.0112				<0.005						
Iron mg/l Fe				9.28				7.823				2.3					A	A
Lead Mg/l Pb				<0.005				0.00186				<0.005					v	v
Magnesium mg/l Mg				0.012				69.3				28					a	a
Manganese mg/l Mn				1.66				3.549				0.42					i	i
Mercury mg/l Hg				<0.0005				<0.0005				<0.0005					l	l
Nickel mg/l Ni				0.0767				0.0581				0.023					a	a
Potassium mg/l K				37.5				194				99					b	b
Sodium mg/l Na				32.6				581				270					l	l
Sulphate mg/l SO4				26.5				330.9				34					e	e
Zinc mg/l Zn				0.0343				0.11				<0.005						
Alkalinity CaCO3																		
TOC mg/l C																		
TON mg/l N	7.5	8.4	4	17	1.3	17	0.3	1.1	0.1	0.1	<0.1	0.6	<0.5	0.6	0.8	6.07		
o-Phosphate mg/l P	1.3	0.039	0.28	0.55	0.32	0.1		0.25				0.26						
Flouride mg/l F				8.07				1.31				0.9						
Phosphorous mg/l P																		
Nitrite mg/l N	0.071		<0.001	0.18	0.48	0.085		<0.001				0.022						
Nitrate mg/l N																		
Suspended Solids mg/l																		
Colour Hazen																		
Total Coliforms/100ml				24190				>9677				370						
E Coli/100 ml				10				147				52						
Faecal Coliforms/100ml																		
Aluminium mg/l				0.268				0.0876				0.53						

Manhole 5	1st 1/4 2006	2nd 1/4 2006	3rd 1/4 2006	4th 1/4 2006	1st 1/4 2007	2nd 1/4 2007	3rd 1/4 2007	4th 1/4 2007	1st 1/4 2008	2nd 1/4 2008	3rd 1/4 2008	4th 1/4 2008	1st 1/4 2009	2nd 1/4 2009	3rd 1/4 2009	4th 1/4 2009	1st 1/4 2010	2nd 1/4 2010	3rd 1/4 2010	4th 1/4 2010
PH	7.5	7	7.6	7.2	7.3	7.2	7.3	7.2	7.7	7.8	7.3	7	7	7.2	7.3	7.1	7.2	7.4		
Temperature oC	9	12	16	19	10	13	15	13	7	14	14	11.2	11	15.5	18.5	13.9	10.7	16.5		
Conductivity uS/CM 20oC																				
Conductivity uS/CM 25oC	8120	5740	15870	7690	7970	15280	6640	7730	5250	14770	7380	5090	5992	11120	47800	6480	5520	4840	N o S a m p l e A v a i l a b l e	N o S a m p l e A v a i l a b l e
C.O.D.	547	309	1071	756	915	5380	666	814	1575	1196	524	435	309	849	306	917	369	243		
B.O.D.	48	39	96	208	380	>2400	126.6	46	540	39	110	114	84	195	38	360	94	16		
Ammonia mg/l N	450	320	1200	420	850	840	>350	410	110	980	390	260	370	0.036	190	280	270	200		
Dissolved Oxygen %sat																				
Calcium mg/l Ca		178				532				157				180						
Cadmium mg/l Cd		0.002				<0.005				<0.001				<0.005						
Chromium mg/l Cr		0.0718				0.0635				0.0641				0.05						
Chloride mg/l Cl	924	592	2664	1083	1054	2248	872	960		>1676	1009	525	629	1553	338	856	795	618		
Copper mg/l Cu		0.0286				0.0667				0.0229				<0.005						
Iron mg/l Fe		22.8				8.15				6.239				2.9						
Lead Mg/l Pb		>0.02				<0.005				0.00198				<0.005						
Magnesium mg/l Mg		61.9				22.1				126				87						
Manganese mg/l Mn		1.67				6.33				1.296				1.1						
Mercury mg/l Hg						<0.0005				<0.0005				<0.0005						
Nickel mg/l Ni		0.0624				0.0902				0.1564				0.058						
Potassium mg/l K		185				41				569				330						
Sodium mg/l Na		453				43.7				1922				910						
Sulphate mg/l SO4		17.9				34.7				197.2				100						
Zinc mg/l Zn		1.47				0.209				0.0504				<0.005						
Alkalinity CaCO3																				
TOC mg/l C										4										
TON mg/l N	<10	0.7	6.7	6.8	2.6	<0.1	0.4	3.2	0.2	1.1	0.4	0.7	0.2	<0.1	<0.5	2.9	0.6	5.77		
o-Phosphate mg/l P	0.95	0.26	1.8	0.57	0.62	1.5	29	0.37		2				2.3						
Flouride mg/l F		0.2				98.7				4.77				3.2						
Phosphorous mg/l P																				
Nitrite mg/l N	<0.001	>0.001	<0.001		<0.001	<0.005	<0.001	<0.001		<0.001				<0.01						
Nitrate mg/l N																				
Suspended Solids mg/l																				
Colour Hazen																				
Total Coliforms/100ml		2764				>24190				>9677				>24192						
E Coli/100 ml		575				19863				54				>24192						
Faecal Coliforms/100ml																				
Aluminium mg/l		>1				0.219				0.227				<0.250						

Site : Dunmore Landfill Environs

Depth to Water Level (metres)

Station	January	February	March	April	May	June	July	August	Sept	October	November	December
G.W.1	**11.03**	**11.12**	**11.58**	**11.12**	**11.51**	**11.7**	**11.78**	**11.77**	**11.04**	**11.23**	**10.51**	**11.2**
G.W.2	**7.61**	**7.79**	**8.39**	**7.92**	**8.51**	**8.85**	**8.92**	**9.12**	**8.22**	**8.3**	**7.38**	**7.72**
G.W.3	**5.4**	**5.55**	**5.79**	**5.67**	**5.96**	**6.18**	**6.12**	**6.38**	**5.91**	**5.97**	**5.4**	**"**
G.W.4	**3.22**	**3.39**	**3.63**	**3.53**	**3.8**	**4.03**	**4**	**4.22**	**3.76**	**3.85**	**3.26**	**"**
M.W.1								**12.98**	**12.42**	**12.57**	**11.98**	**12.17**
No.3												
No.6	*	*	*	*	*	*	*	*	*	*		
No.14	**3.05**	**3.34**	**3.31**	**3.67**	**3.98**	**3.95**	**3.49**	**3.99**	**3.61**	**3.71**	**3.3**	**3.6**
No.15												

no reading, possible obstruction in bore
* monitoring point overgrown
" Locks frozen

DUNMORE LANDFILL

Dust Deposition Monitoring

Date		No. of Days
from	15/02/2010	**29**
to	16/03/2010	

Station Number	Location	Result (mg/m2/day)
DG1	Landfill SW boundary beside GW4(O'Neill's Gate)	**121**
DG2	South Cell Cell 13	**104**
DG3	Cell 8	**131**
DG4	East of Weighbridge	**126**
DG5	NE Boundary	**144**

DUNMORE LANDFILL

Dust Deposition Monitoring

Date		No. of Days
from	10/05/2010	**31**
to	10/06/2010	

Station Number	Location	Result (mg/m2/day)
DG1	Landfill SW boundary beside GW4(O'Neill's Gate)	**118**
DG2	South Cell Cell 13	**85**
DG3	Cell 8	**115**
DG4	East of Weighbridge	**87**
DG5	NE Boundary	**47**

Dust Deposition Monitoring

Date		No. of Days
from	16/07/2010	**28**
to	13/08/2010	

Station Number	Location	Result (mg/m2/day)
DG1	Landfill SW boundary beside GW4(O'Neill's Gate)	**156**
DG2	South Cell Cell 13	**79**
DG3	Cell 8	**299**
DG4	East of Weighbridge	**191**
DG5	NE Boundary	**49**

Appendix D

Drawings

Sampling Points

Restoration Plan

&

Aftercare Plan

DUNMORE
COTTAGE

EP

Total Depth
of Lagoon
3.45m

62m

MH1 Base depth 50.46
Present Height 64m
Final Height 62m

MH2 Base depth 50.11m (Blocked)
Present Height 60.684m
Final Height 61.5m

61m

60m

54m

MH3 Base depth 48.836m
Final & Present Height 55.341m

MH7 Base depth 50.136
Side Riser 8.2m

MH6 Base depth 49.946
Side Riser 6.5m

MH4 Base depth 49.616
Final & Present Height 53.036m

MH5 Base depth 49.23
Final & Present Height 53.22m

Total Depth
of Lagoon
3.25m

54m
56.5
58.5m
60.5
61.5m

61.5m
56.5m
58.5m
60.5m

60.1

61.2

61.8

DEC.

Revision	Description	By	Da

Restotation Plan
01/07/03 800
1:2500
30-2-DWG03

...\OLK2\Final Contour.dgn 17/08/2006 15:51:14

DUNMORE COTTAGE

Road Edge Planting to be completed as part of road contract

Existing hedge line retained, protected and replaced as necessary

Ornamental planting for Civic Amenity Site

New hedge row to be established

Road Edge Planting to be completed as part of road contract

Woodland to be established as part of the final cap on landfilled areas

Grassed Area

Existing hedge line retained, protected and replaced as necessary

Woodland to be established as part of the final cap on landfilled areas

All landfill infrastructure to be removed

Entrance to lagoon and lagoon to be retained

Hedgeline to be renewed in this area

New Hedge Line to be established

Grassed Area

Grassed Area

Existing hedge line retained, protected and replaced as necessary

DEC.

EP

60.1

61.2

61.8

List of Species to be Used

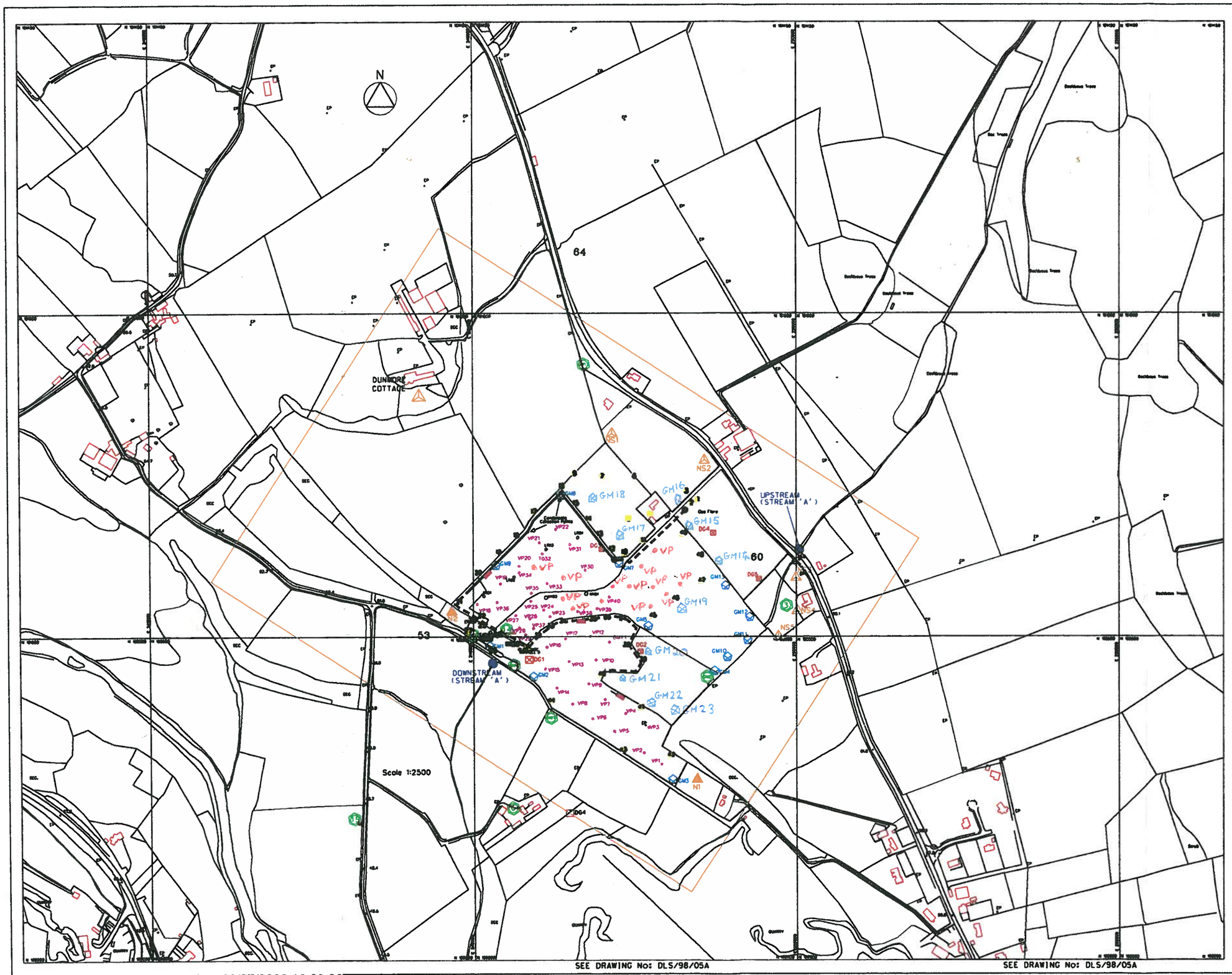
Tree/plant type	*Species*
Common Ash	Fraxinus Excelsior
Hawthorn	Crataegus Monogyna
Whitebeam	Sorbus Hibernica
Blackthorn	Prunus Spinosa
Elder	Sambucas Nigra
Cherry	Prunus Avium
Gorse	Ulex Europaeus
Bristly ox tongue	Picris Hieracioides
Holly	Ilex Aquifolium
Hazel	Corylus Avellana
Common Beech	Figus Sylvatica
Silver Beech	Betula Pendula

OS Licence Number
Kilkenny CCMA 9802

Revision	Description	By	Da

Restotation Plan
01/07/03 BOD
1:2500
30-2-DWG02

...\OLK2\Restoration.dgn 17/08/2006 15:37:03



EXTRACT FROM O.S.S. Nos: 4645-C & 4645-D
OS Licence No.Kilkenny CCMA9802

LEGEND:

- GROUNDWATER MONITORING POINTS
- SURFACE WATER MONITORING POINTS
- NOISE MONITORING POINTS
- GAS MONITORING POINTS — VP
- GAS MIGRATION MONITORING POINTS — GM
- DUST MONITORING POINTS — DG
- BAIT BOXES — 13

REVISION	DESCRIPTION	BY	DATE
K	Alteration of Noise, Dust, Leachate, Gas Monitoring Points	MG	June '06
J	Alteration of Bait Monitoring Points	MG	Mar '06
I	Alteration of Gas Well Points	MG	JAN '05
H	Alteration of Noise Monitoring Points	BOD	OCT '03
G	Vermin Baits Pts. 7-11 Removed	BOD	SEP '02
F	Vermin Bait Box Points Added Pts. 1-40	BOD	JAN '01
E	GAS MONITORING POINTS (VP19,VP20 & VP21) ADDED DUST MONITORING POINT (DG 5) ADDED	BOD	JAN '00
D	GROUNDWATER MONITORING POINTS MW1 ADDED	ROC	MAY '99
C	GAS MONITORING POINTS (VP17 & VP18) ADDED GROUNDWATER MONITORING POINTS GW1 TO GW4 ADDED	ROC	APR '99
B	GAS MONITORING POINTS (VP15 & VP16) ADDED	ROC	NOV '98
A	GAS MIGRATION MONITORING POINTS ADDED DUST MONITORING POINTS ADDED CPC GAS REMOVAL LOCATION ADDED GROUNDWATER MONITORING POINT 13 - RELOCATED TO CORRECT POSITION	ROC	AUG '98 AUG '98 AUG '98 AUG '98

PROJECT: DUNMORE LANDFILL SITE

ENVIRONMENT SECTION
KILKENNY CO.CO.
COUNTY HALL,
JOHN STREET,
KILKENNY.

DESC: MONITORING POINTS
DATE: MAY '99 BY: ROC
SCALES: Not to Scale
DRAWING NO: DLS/98/05/RevE

...\monitoring-Rev-2dmg.dgn 06/07/2006 10:03:26

Appendix E

Meteorological Monitoring

METEOROLOGICAL DATA								
								Jan-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	1	1	0.9	-3.8	0	3.7	96.2	1003.7
2010	1	2	4.1	-6.3	0.3	2.4	93.3	1011.1
2010	1	3	3.5	-4.6	0	4.4	84.6	1015.9
2010	1	4	1.3	-5.7	0	3.6	88.3	1014
2010	1	5	1.3	-1.7	0.7	6.9	91.1	1000.9
2010	1	6	1.4	-7.3	1.3	8	85.8	1003.8
2010	1	7	-999	-999	0.9	1.1	96	1010.1
2010	1	8	-999	-999	0	1.4	96.6	1020
2010	1	9	-3	-9.9	0.3	1.2	96.5	1023.1
2010	1	10	2.1	-4.8	1.4	3.8	94	1016.4
2010	1	11	2.6	0.3	2.5	4.7	95.7	1009.1
2010	1	12	3.9	0.6	15.2	13.5	90.8	991.8
2010	1	13	4.3	1.1	2.6	5.3	97.6	989.1
2010	1	14	7.1	-0.9	0.1	5	96.2	995.2
2010	1	15	10.6	6	15.3	16.2	92.8	994.8
2010	1	16	10	2.7	8.6	8.7	89	990.5
2010	1	17	9.5	1.9	0	9.3	84.8	1006.9
2010	1	18	7.9	2.7	0.2	6.4	94.3	1014.4
2010	1	19	7.1	5	4.3	11.6	86.5	1006.2
2010	1	20	9.2	0.3	2.9	4.1	92.6	1001.7
2010	1	21	10.5	0	13.4	11.7	95.7	1000.7
2010	1	22	10.1	-0.8	0.1	2.7	92.6	1008.1
2010	1	23	2.2	-1.5	0.1	2.3	99	1016.7
2010	1	24	1.7	-1.4	0.1	2	98.9	1018.9
2010	1	25	5.2	-1	0	2.5	97.1	1026.3
2010	1	26	-999	-999	0	1.2	89.8	1033.9
2010	1	27	10	2.7	0	7	91.3	1026.1
2010	1	28	8.2	4.8	0.6	9.1	85.7	1010
2010	1	29	8.3	1.5	0.6	11	81.8	993.7
2010	1	30	4.3	-2.7	0	3.7	86.9	998.1
2010	1	31	4.3	-3.2	0	4.3	91.5	1001.9
				Total monthly rainfall	**71.5**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
5.7	

METEOROLOGICAL DATA								
								Feb-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	2	1	6.5	0.1	0.0	5.8	86.0	1007.7
2010	2	2	9.2	4.6	5.1	8.9	88.4	999.4
2010	2	3	9.4	2.3	7.3	6.1	93.5	997.6
2010	2	4	9.6	0.8	20.1	9.6	96.5	987.9
2010	2	5	9.4	2.7	0.6	6.1	89.0	986.7
2010	2	6	5.4	2.6	0.0	4.0	97.6	1008.9
2010	2	7	5.8	0.7	0.0	4.6	92.3	1014.5
2010	2	8	4.7	0.3	0.3	4.6	84.9	1009.3
2010	2	9	4.7	-1.1	0.3	6.0	83.5	1010.9
2010	2	10	5.5	-2.4	0.0	5.2	82.9	1015.5
2010	2	11	5.2	-4.5	0.0	3.8	87.0	1020.2
2010	2	12	6.2	-0.7	0.0	5.2	89.4	1021.1
2010	2	13	5.6	-2.8	0.0	4.0	85.6	1019.9
2010	2	14	6.9	-2.8	0.1	3.2	89.7	1013.0
2010	2	15	8.9	1.5	0.6	8.6	87.7	997.6
2010	2	16	6.8	-2.0	0.0	4.2	86.5	983.6
2010	2	17	6.4	-3.8	0.0	3.1	87.2	982.6
2010	2	18	4.2	-2.2	0.0	4.7	91.7	986.2
2010	2	19	3.9	-2.3	0.0	3.9	89.1	989.1
2010	2	20	4.9	-4.0	1.9	3.3	91.8	988.9
2010	2	21	5.2	-2.9	0.0	2.9	88.5	983.7
2010	2	22	5.6	-4.1	0.0	3.3	90.0	982.3
2010	2	23	3.3	-1.9	3.5	6.0	86.7	981.4
2010	2	24	5.4	2.1	3.2	4.2	97.1	979.2
2010	2	25	3.0	-1.0	4.2	3.3	93.8	979.4
2010	2	26	7.2	0.4	0.4	9.4	86.2	982.4
2010	2	27	8.3	-1.8	0.0	2.5	89.6	983.6
2010	2	28	7.4	-0.7	0.4	4.4	91.5	988.7
				Total monthly rainfall	**48.0**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
12.9	

METEOROLOGICAL DATA								
								Mar-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	3	1	9.5	-2.8	0	1.8	84.5	1003.6
2010	3	2	7.4	-3.7	0	3.9	88.3	1013.9
2010	3	3	6.4	0.8	0	6	76.7	1011.2
2010	3	4	9.3	-1.9	0	3.5	81.2	1019
2010	3	5	8.9	-4.4	0	2.4	86.4	1025.4
2010	3	6	8.9	-0.9	0	3.4	85.4	1022.1
2010	3	7	5.7	-3.8	0	5.5	76.3	1024.4
2010	3	8	7	-6.2	0	3.1	67.6	1023.7
2010	3	9	9.5	-5.3	0	2	73.2	1025.5
2010	3	10	8.8	-4.2	0	3.1	81.1	1024.8
2010	3	11	7.6	-3.4	0	4.7	79.7	1021.3
2010	3	12	9.6	4	0	7	77.4	1020
2010	3	13	9	4.4	0	5	76.3	1026.1
2010	3	14	11.6	-1.2	0	4.3	77.9	1025.8
2010	3	15	10.9	-1.3	0	4.6	75.3	1021.5
2010	3	16	8.7	-0.4	0.3	9.1	80.4	1013.7
2010	3	17	13.6	7.3	0.1	11	88.3	1007.7
2010	3	18	12.7	8.7	6.7	13.6	87.3	997.8
2010	3	19	10.3	4	5.4	6.4	82.2	999
2010	3	20	11.6	2.4	5.6	8.2	80.1	997.4
2010	3	21	14.1	2.3	0.5	8.7	81.4	1005.2
2010	3	22	11.5	2.3	7.6	12.3	78.4	1002.9
2010	3	23	9.3	2.1	1.6	9	85.4	1001.6
2010	3	24	13	7.5	7.2	8.6	83.1	991.2
2010	3	25	11.6	6.4	10.3	8.3	88.8	986.5
2010	3	26	12.6	5.5	0.7	5.4	87.1	986.5
2010	3	27	11.8	4.7	0.1	7.9	77.8	998.8
2010	3	28	11	5.5	0	4.1	75.1	999.6
2010	3	29	11.2	3.4	14.6	6.1	93.3	985.3
2010	3	30	5.2	0.2	16.4	13.8	92.9	976.8
2010	3	31	6.7	0.8	3.6	13.8	79.1	991.3
				Total monthly rainfall	**80.7**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
32.9	

METEOROLOGICAL DATA								
								Apr-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	4	1	9.7	0.7	0	7.1	80.9	997.5
2010	4	2	10.4	2.8	12.7	6.9	84.9	987
2010	4	3	9.5	-1	3.5	5	87.6	992.9
2010	4	4	9.9	1.1	3.7	9.8	77.7	1005.6
2010	4	5	12.4	8.1	1.5	19.5	85.9	1001.9
2010	4	6	11.9	6.7	21.9	10.6	87	999
2010	4	7	12.1	3.3	0.1	5.1	75.2	1015
2010	4	8	13.8	3	-999	4.1	78.4	1023.5
2010	4	9	14.3	4.6	0	6.9	77.1	1024.9
2010	4	10	17	3.1	0	5.1	72	1025.2
2010	4	11	19.3	2.8	0	3.2	72.4	1023.3
2010	4	12	16.2	4	0	3.7	69.1	1022.5
2010	4	13	15.5	3.7	0	5.3	69.7	1020.5
2010	4	14	12.5	2.7	0	5.6	75.5	1018
2010	4	15	12.5	1.8	0	7.5	81.9	1019.4
2010	4	16	13.6	0.7	0	4	72.3	1021.7
2010	4	17	17	0.2	0	3.3	70.2	1014.2
2010	4	18	13	4.8	0	4.3	70.5	1009.6
2010	4	19	12.7	4.7	0	4.3	75.2	1011.7
2010	4	20	11	1.1	0	4.1	66.4	1014.7
2010	4	21	12	-0.2	0	3.3	66	1016.2
2010	4	22	13	1.2	0	3.5	71.6	1011.5
2010	4	23	15.5	4	0	7.4	65.8	1007.3
2010	4	24	14.9	6.7	0.4	8.8	82.2	1006
2010	4	25	16.5	8.9	2.6	7.3	83.9	1008.5
2010	4	26	18	7.3	0.1	6.5	80	1016.8
2010	4	27	14.8	8.2	0.1	11.6	83.9	1015.5
2010	4	28	16.3	10.7	1	11.8	85.4	1006.5
2010	4	29	14.5	8.8	0.1	6.7	71.5	1002.6
2010	4	30	14.5	7.2	1.3	5	83.4	999.7
				Total monthly rainfall	**49.0**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
58.9	

METEOROLOGICAL DATA								
								May-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	5	1	12.8	5.7	11.3	3.2	85.6	1002.6
2010	5	2	11.2	4.7	1.8	6	82.8	1011.6
2010	5	3	12.7	2.4	0	5.9	71.8	1021.3
2010	5	4	12.8	1.7	0	5.9	74.5	1023.6
2010	5	5	16.8	8.4	3.3	5.5	85.2	1016.2
2010	5	6	14.8	9.7	5.7	7.5	86.4	1008.3
2010	5	7	11.8	6.6	0.5	7.8	74.4	1008.9
2010	5	8	13.2	4.8	0	8.2	65.3	1010.8
2010	5	9	14.6	2	0	5.8	68.8	1008.6
2010	5	10	10.7	2.4	0.3	8	75.5	1008.5
2010	5	11	11.4	-0.4	0.6	5.1	75.6	1009.4
2010	5	12	10.5	1.7	0.1	5.6	76.9	1009.9
2010	5	13	13.1	3.6	1.2	8.5	79.8	1004.1
2010	5	14	14.6	5.7	0.5	6	72.8	1003
2010	5	15	15.6	3.3	0	7.5	65.5	1009.6
2010	5	16	15.1	5.6	0	6.4	65.9	1010.4
2010	5	17	16.4	4.3	0	4.8	72.1	1017.6
2010	5	18	15.2	8.5	2.5	9.3	88.8	1019.3
2010	5	19	20.5	11	0	5.6	87.4	1019.3
2010	5	20	23.7	12	0	4.1	84.8	1023.8
2010	5	21	21.6	10	0.1	5.1	82.6	1023.6
2010	5	22	24	8.9	0	4.2	73.3	1021.4
2010	5	23	25.6	9.7	0	4	70	1016.1
2010	5	24	19.7	9.7	0	5.3	78.7	1010
2010	5	25	17	5.3	0	8.2	71.8	1007.2
2010	5	26	15.9	5.1	0	7.6	66	1005.2
2010	5	27	13.7	2.7	2	7.6	78	1004.8
2010	5	28	14	3.4	0.5	5.5	77.4	1006.1
2010	5	29	16.8	9.3	9.8	5.2	89.7	998.5
2010	5	30	16	7	0	4.1	73.5	1008.4
2010	5	31	17.7	9.1	11.2	7.1	76.6	1011.9
				Total monthly rainfall	**51.4**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
76.8	

METEOROLOGICAL DATA								
								Jun-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	6	1	18.2	9.8	5.4	5.3	80.7	1008.7
2010	6	2	20.7	7.4	0	3.8	77.2	1014.6
2010	6	3	19.6	8.2	0	6.6	76.9	1013.1
2010	6	4	20.9	11.3	0	7.2	75.6	1010.2
2010	6	5	20.8	10.2	0	2.9	76.5	1010.9
2010	6	6	18.6	11.9	10.3	4.2	84.8	1007.6
2010	6	7	15.3	11.8	6.8	5.7	94.2	999.2
2010	6	8	17.6	12.4	5.6	3.5	93.5	992.9
2010	6	9	17.1	12.4	1.3	7.4	86.4	998.9
2010	6	10	16.6	9.6	0	8.1	79.7	1006.6
2010	6	11	19.4	8	0	6	81.6	1006.9
2010	6	12	18.4	10.9	0	5.3	68.2	1012.1
2010	6	13	16.6	9.3	5.8	7.2	84.3	1008.8
2010	6	14	18.3	8.6	0.1	6.1	78.5	1015.7
2010	6	15	20.9	9.1	0.3	2.7	72	1022.7
2010	6	16	21.9	9.1	0	2.3	72.6	1020.3
2010	6	17	21.1	11.9	0	3.8	83	1017.7
2010	6	18	20	11.6	0	5.1	80.2	1015.9
2010	6	19	19.8	7.4	0	7.1	69.6	1014.2
2010	6	20	22.3	5.8	0	4.1	65.9	1016
2010	6	21	23.2	7.4	0	5.3	70.6	1015.2
2010	6	22	21.1	10.3	0	7.3	76	1014.9
2010	6	23	21	10.7	0	6.6	81.3	1012.7
2010	6	24	20.6	11.6	0	5.6	73.3	1012.5
2010	6	25	20.2	14.6	0	6	81.8	1010
2010	6	26	22.1	14	0	9.1	77.8	1007.2
2010	6	27	23.3	13.1	0.3	8.9	72	1008.7
2010	6	28	18.7	11.3	0.7	7.7	92.5	1009.9
2010	6	29	20.9	12	0	4.3	78.7	1012.2
2010	6	30	21.3	13.3	1.1	8.7	82.5	1008.5
				Total monthly rainfall	**37.7**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
88.0	

METEOROLOGICAL DATA								
								Jul-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	7	1	21.9	13.9	11.5	12.6	81.6	997.2
2010	7	2	21.1	10.9	1.8	8.8	79.3	1000.2
2010	7	3	20.4	10.5	0	7.9	74.8	1009.7
2010	7	4	21.1	11.5	1.2	13.1	75.5	1007.2
2010	7	5	20	9.5	0	6.7	71.5	1016
2010	7	6	17	8.5	0.2	9.4	86	1014.1
2010	7	7	21.7	13.2	0.1	8.9	69.8	1006.9
2010	7	8	17.6	12.1	3.3	8	82.9	1008.1
2010	7	9	17.9	14.2	10.2	7	92.2	1005.1
2010	7	10	18.9	13.6	16.4	9.8	95	1003
2010	7	11	18.9	9.4	0	7.8	75.3	1006.1
2010	7	12	20.1	9.5	0	2.3	77	1005.9
2010	7	13	17	11.8	2.6	4.9	89.7	998.2
2010	7	14	19.1	14.2	5.2	7.5	89.6	987
2010	7	15	18.9	11.3	10.9	7.8	88.9	988
2010	7	16	17.9	10.5	5.8	9	81.8	996.5
2010	7	17	20.1	10.1	2.6	8.8	79.1	1009.6
2010	7	18	19.8	14.1	6.2	9.5	94.4	1009.9
2010	7	19	20	13.5	9.8	9	92.4	1007
2010	7	20	20.7	11.1	0	5.1	80.6	1001
2010	7	21	19	10.6	1.6	3.8	86.6	996.8
2010	7	22	18.5	12.5	1.2	6.3	89	1006.6
2010	7	23	20.2	11.3	0	4.5	77.1	1014.1
2010	7	24	22.6	13.2	0.4	6.3	86.2	1012.5
2010	7	25	24	11.9	0	5.9	86.5	1012.3
2010	7	26	24.2	16.5	0	8.5	81	1011.9
2010	7	27	20.5	13.8	0.3	7.1	77.2	1011
2010	7	28	19.4	12.7	0	6.5	77.6	1011.8
2010	7	29	18.7	13.6	0	3.9	78.6	1011.7
2010	7	30	21	14.2	1.7	7.4	88.7	1005.1
2010	7	31	20.2	11.8	0.6	8.1	82.4	1004.3
				Total monthly rainfall	**93.6**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
75.5	

METEOROLOGICAL DATA								
								Aug-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	8	1	18.9	11.1	0	3.4	81	1007.4
2010	8	2	17.1	11.6	0	4	82	1012.3
2010	8	3	18.1	11.7	7.2	6.4	83.8	1008.1
2010	8	4	19.2	11.6	0.8	8.2	79.5	1003.6
2010	8	5	19.5	12.7	0	7.4	74	1006.3
2010	8	6	18.9	14	0.2	9.2	84.8	1001.6
2010	8	7	19.6	11.4	0.5	6.3	80.4	1009.3
2010	8	8	21.8	10.8	0	4.8	74.4	1013.1
2010	8	9	20.3	10.1	0.5	8.4	77.2	1004.4
2010	8	10	20.8	9.8	0	6.9	70.6	1002.3
2010	8	11	18.8	8.5	0	5.7	78.2	1008.4
2010	8	12	17.9	12.1	0	8.2	76.5	1013.8
2010	8	13	17.4	10.9	0	7.4	75.8	1016.6
2010	8	14	19.4	10.3	0	6.2	74.3	1015.4
2010	8	15	24.2	8.8	0	3.3	73.7	1017.3
2010	8	16	18.8	8.9	1.3	3.8	84.2	1012.2
2010	8	17	18.9	12.3	0.1	7.5	75.6	1004.7
2010	8	18	19.2	12.2	0.3	9.3	75	999.8
2010	8	19	18	10.9	4.6	7.2	88.6	997.7
2010	8	20	22.6	10.9	0.1	10.9	79.8	999.1
2010	8	21	22.2	10.8	0.7	8.4	76.2	1007.1
2010	8	22	22	11.6	4	6	75.7	1004
2010	8	23	18	10.7	4.1	8.6	82.2	994.3
2010	8	24	18.1	8.4	0.7	9.9	79.7	1001
2010	8	25	18	6	0	4.3	84.9	1004.1
2010	8	26	19.6	7	0	6.3	79.2	1001.7
2010	8	27	19.3	9.1	0	5.8	74.9	1008.5
2010	8	28	19.5	8.5	0.1	8	75.1	1015.6
2010	8	29	18	5.8	0.3	8.4	71.5	1014.7
2010	8	30	19.1	3.3	0	3.6	73.2	1019.8
2010	8	31	19.9	3.3	0	4.2	77.8	1017.1
				Total monthly rainfall	**25.5**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
72.2	

METEOROLOGICAL DATA								
								Sep-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	9	1	20.8	7.6	0.1	4.4	80.8	1013.2
2010	9	2	22.4	6.6	0	5.4	71.7	1012.5
2010	9	3	21	9	0	6.6	81.2	1011.7
2010	9	4	17.3	13.7	1.6	6.5	94	1009.1
2010	9	5	19.1	14.2	6.6	9.4	92.3	1003.8
2010	9	6	17	13.1	47.1	8	95.9	991.8
2010	9	7	17.3	11.2	0.8	5.9	88.7	988.8
2010	9	8	20.7	11.3	1.8	5.5	85.4	994.5
2010	9	9	20.6	11.8	5.3	6.3	85.8	1006
2010	9	10	21.4	15.4	1.9	8.9	90.5	1002.5
2010	9	11	19	10.6	0.2	8.1	82.9	1005.1
2010	9	12	18.2	9.6	0.9	7.5	83.2	1017.4
2010	9	13	20.8	13	0.3	11.2	89.5	1012.7
2010	9	14	17.7	10.1	5.3	12.3	82.3	1007.3
2010	9	15	17	9.1	0.3	10.4	81.7	1006.1
2010	9	16	16.6	10.3	0.2	6	78.9	1008.4
2010	9	17	14.8	5.8	0.1	4.6	80.7	1013.3
2010	9	18	14.5	6	0.9	6.7	88.2	1011.2
2010	9	19	18.9	12.9	2.9	8.7	89.6	1002.6
2010	9	20	19.3	13.5	0	8.6	84.3	1003.7
2010	9	21	18.2	13.9	0	9.7	85.5	1007.1
2010	9	22	20.2	13.6	23.5	9.3	90	1002.1
2010	9	23	16.4	11.8	2.6	7.6	90.6	998.1
2010	9	24	13.7	3.3	0	7.7	79.4	1007.8
2010	9	25	12.1	2.8	0	4.5	78.9	1014.6
2010	9	26	13	5.2	0	2.6	77.5	1011.5
2010	9	27	15.7	1.8	0	3.9	82.8	1008
2010	9	28	16.2	6.8	4.2	6	92.4	1005.2
2010	9	29	17.8	8	0.1	5	85.5	1005.6
2010	9	30	16.3	6.8	2	7.3	90	1001
				Total monthly rainfall	**108.7**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
45.4	

METEOROLOGICAL DATA								
								Oct-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	10	1	16.9	7.4	4.5	9.2	80.5	987.4
2010	10	2	14.9	8.0	1.6	7.4	86.8	989.1
2010	10	3	16.6	7.6	0.8	4.7	87.7	985.6
2010	10	4	16.0	6.4	2.3	9.4	90.7	987.0
2010	10	5	16.2	8.8	0.0	9.9	78.4	986.1
2010	10	6	17.3	6.3	0.1	7.6	82.4	993.7
2010	10	7	17.0	10.2	0.9	10.2	81.6	1003.3
2010	10	8	20.6	14.4	0.7	10.8	84.9	1002.3
2010	10	9	17.9	12.4	0.0	6.1	83.4	1005.4
2010	10	10	16.9	8.2	0.0	3.1	86.8	1007.1
2010	10	11	18.9	5.0	0.2	3.0	87.6	1013.2
2010	10	12	16.4	2.9	0.3	3.5	92.5	1015.1
2010	10	13	11.2	6.2	0.1	3.1	95.9	1016.0
2010	10	14	11.4	8.8	0.0	3.6	84.8	1016.8
2010	10	15	13.7	7.5	0.5	5.0	89.0	1015.9
2010	10	16	13.8	2.4	0.0	3.8	89.2	1017.7
2010	10	17	13.9	0.1	0.1	3.9	90.8	1018.3
2010	10	18	13.9	9.7	0.5	8.6	86.0	1013.2
2010	10	19	12.8	4.6	0.9	8.0	85.9	1009.3
2010	10	20	9.6	0.3	0.0	4.4	79.4	1016.4
2010	10	21	12.5	3.3	0.0	5.8	80.7	1014.7
2010	10	22	12.8	4.6	4.3	8.1	88.6	1005.3
2010	10	23	11.5	4.4	2.4	5.4	89.7	999.0
2010	10	24	10.3	-0.9	0.0	3.7	90.2	1013.0
2010	10	25	11.3	-2.9	0.8	8.4	85.5	1017.7
2010	10	26	17.4	10.0	7.3	11.8	92.3	1005.6
2010	10	27	14.0	7.4	1.5	8.1	85.4	1003.5
2010	10	28	14.8	7.4	5.2	12.2	91.2	998.1
2010	10	29	14.2	6.0	21.9	9.6	93.5	981.4
2010	10	30	12.6	3.5	1.2	4.5	93.8	984.2
2010	10	31	10.7	5.3	10.8	5.3	96.4	994.9
				Total monthly rainfall	**68.9**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
26.7	

METEOROLOGICAL DATA								
								Nov-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	11	1	13.4	1.7	4.0	6.4	96.2	1003.2
2010	11	2	13.6	9.3	4.1	12.7	87.7	996.3
2010	11	3	15.6	7.7	2.1	7.7	91.8	1001.0
2010	11	4	17.1	12.9	3.8	13.1	90.1	1004.3
2010	11	5	13.0	8.8	0.5	6.2	87.2	1011.0
2010	11	6	9.5	3.8	0.5	5.1	90.3	1010.1
2010	11	7	8.6	2.7	18.0	9.8	91.2	997.8
2010	11	8	10.2	4.5	1.0	5.9	93.0	959.2
2010	11	9	8.4	1.9	6.1	8.5	90.1	977.9
2010	11	10	8.6	-2.2	2.7	5.7	90.0	992.6
2010	11	11	12.3	7.4	9.6	21.5	80.7	973.7
2010	11	12	10.6	6.0	0.5	12.0	82.3	982.9
2010	11	13	8.2	1.9	2.8	5.9	88.7	982.6
2010	11	14	8.2	-1.7	0.1	2.2	93.8	988.6
2010	11	15	9.1	-2.4	0.0	3.7	95.5	1004.3
2010	11	16	9.7	1.0	10.9	10.1	89.1	1004.3
2010	11	17	11.0	6.0	10.8	11.7	87.7	985.6
2010	11	18	11.0	3.5	1.0	8.6	89.0	989.9
2010	11	19	9.4	0.9	0.1	3.2	93.6	1000.4
2010	11	20	9.9	3.7	0.1	4.3	92.2	1006.6
2010	11	21	6.4	1.2	0.0	6.0	91.8	1009.4
2010	11	22	5.8	0.3	0.0	5.1	96.1	1007.3
2010	11	23	5.6	-0.5	0.1	4.2	97.7	1009.2
2010	11	24	4.8	0.2	0.5	4.7	96.0	1007.1
2010	11	25	4.2	-0.5	2.0	6.2	89.0	1008.6
2010	11	26	4.6	-0.9	0.1	6.8	90.5	1003.3
2010	11	27	0.8	-3.8	3.6	5.0	94.1	1001.6
2010	11	28	-999.0	-999.0	0.0	3.7	99.2	1000.2
2010	11	29	-999.0	-999.0	0.0	2.3	99.1	1007.3
2010	11	30	3.4	-3.5	2.7	5.8	93.7	1010.3
				Total monthly rainfall	**87.7**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
9.2	

METEOROLOGICAL DATA								
								Dec-10
Year	Month	Day	Max. Temperature ºC	Min. Temperature ºC	Rainfall (mm)	Mean Wind Speed (Knots)	Mean Relative Humidity %	Mean CBL Pressure (hPa)
2010	1	1	-1.7	-6.2	17.6	4.9	99.2	1008.9
2010	1	2	-1.4	-9.5	5.5	4.2	97.6	1008.6
2010	1	3	2.7	-12.9	1.6	3.2	97.5	1001.1
2010	1	4	1.5	-1.5	0.1	3.3	99.3	996.2
2010	1	5	-1.1	-5.6	0	2.7	100	1000.1
2010	1	6	-1.8	-8.0	3.4	1.9	98.8	995.5
2010	1	7	1.8	-5.5	2.9	5.4	97.7	998.9
2010	1	8	-3.6	-10.2	0	3.5	98.2	1013.4
2010	1	9	3.6	-10.3	0	2.1	96.8	1026.3
2010	1	10	4.8	1.3	0	3.8	96.4	1027
2010	1	11	4.3	0.7	0.2	2.6	99.4	1021.8
2010	1	12	1.1	-2.3	0	2.4	99.9	1017.9
2010	1	13	5.3	-0.1	0	3.4	87.2	1021
2010	1	14	4.2	-0.5	0	3.8	90.7	1029.9
2010	1	15	5.4	1.1	0.2	4	96.4	1032.8
2010	1	16	8.3	-1.3	0.9	11.7	87.7	1009.9
2010	1	17	1.3	-1.3	0	8.6	89.7	994.8
2010	1	18	0.2	-8.1	0	3.1	93.8	985.3
2010	1	18	1.5	-8.1	0	2.1	93	988.2
2010	1	20	-1.7	-7.2	0	4.7	96.2	994
2010	1	21	-3.2	-8.6	0.4	5.3	96.2	997.5
2010	1	22	-3.1	-10.1	0.1	5.7	96.7	1004
2010	1	23	-2.4	-9.7	0.2	5.5	97.9	1011.5
2010	1	24	-6.2	-11.5	0	2.7	96.2	1018.2
2010	1	25	-4.0	-12.3	0	1	96.1	1021.7
2010	1	26	6.4	-6.0	4.9	11.3	88	1011.8
2010	1	27	8.4	6.2	13.5	12.1	95.2	997
2010	1	28	10.7	6.8	0.2	6.4	97.2	999.6
2010	1	29	10.1	8.0	0.4	4.9	97.7	1008
2010	1	30	10.4	6.5	0.1	2.3	97.3	1015.7
2010	1	31	7.7	4.4	0	1.9	91.1	1019.5
				Total monthly rainfall	**52.2**			

Potential Evapotranspiration (mm)	Class A pan Evaporation
3.6	

Appendix F

Status of Objectives and Targets

Objectives		Status	Comments
Objective 1			
Ensure that all waste acceptance requirements are met			
Target 1.1	All waste accepted at the facility are within the criteria set out in Part I of the Waste Licence	Compliant	
Target 1.2	The amounts of each category of waste recovered and disposed if at the facility does not exceed that specified in Schedule A of the Waste Licence	Compliant	
Target 1.3	Any restriction on waste entering the facility shall be strictly enforced	Compliant	
Target 1.4	All waste accepted for recovery and disposal shall be done so within the opening hours i.e. 8.00 – 4.30 Mon –Fri. and 8.00 12.00 Sat.	Compliant	
Objective 2			
Establish and Environmental Management System to fulfil the obligation of the Waste Licence.			
Target 2.1	The facility shall employ a suitably qualified facility manager as the person in charge	In place since licence granted	

	and that this person or a nominated deputy shall be present at all times at the facility, this person will be in place from the grant date of the licence.		
Target 2.2	The facility manager and deputy shall complete the FAS Waste Management Training Program within 12 months of their appointment.	Completed	
Target 2.3	All personnel performing specially assigned tasks shall receive all appropriate instruction prior to carrying out that function	Ongoing as part of awareness and training	
Target 2.4	Submission of details of management structure for Dunmore Landfill Facility by the end of August 2002, which will be reviewed annually or as required.	Completed and reviewed as required	Submitted 04/12/02 Oct 2004 Jan 2007
Target 2.5	Preparation and submission of an Environmental Management Program (EMP) to the Environmental Protection Agency by the end of November 2002, which will be reviewed annually in November and submitted to the Agency or as required.	Completed and reviewed as required	Submitted 09/04/04
Target 2.6	Preparation and submission of an	Completed	

	Environmental Management System (EMS) to the Environmental Protection Agency by the end of November 2002, which will be reviewed annually in November and submitted to the Agency or as required.	and reviewed as required	Submitted 09/04/04
Target 2.7	Establish awareness and training procedures for personnel at Dunmore Landfill Facility which will form part of the EMS	Ongoing	
Target 2.8	Submission to the EPA of a communications program as part of the EMS	Completed	Submitted as part of EMS 09/04/03
Target 2.9	Preparation and submission of a corrective action procedure, which will be submitted to the Agency as part of the EMS	Completed	Submitted as part of EMS 09/04/03
Target 2.10	First Annual Environment Report (AER) of Waste Licence 30-2 submitted to Agency by the end of January 2003.	Completed	Submitted 14/08/03
Target 2.11	Review of AER by the end of January annually thereafter	Every January	
Objective 3			
Provision of required infrastructure at the facility with the agreement of the agency			
Target 3.1	An updated site notice board will be provided at the new	Completed by 08/03	

	facility entrance by end June 2002. The new Waste Licence reference number will be provided, contacted details including revised telephone numbers and location of all environmental monitoring information		
Target 3.2	Security fencing and security measures will be provided as part of the provision of the new access by May 2003	Completed 07/03	
Target 3.3	A new access will be provided from the N77 by April 2003. Detailed SEW will be submitted on the project will be submitted to the Agency, when the safety audit on the alignment has been approved by the NRA.	Completed 04/03	
Target 3.4	Facility roads and hard standing areas will be provided at the new access by April 2003, which will be designed to ensure safe access and movement within the site. All area will be provided with appropriate surface water drainage systems.	Complete 04/03	
Target 3.5	New facility offices, will be provided, which will incorporate telephones and an electronic communication facility by April	Completed 04/03	

	2003. Offices shall be fitted with gas monitoring equipment, in accordance with 'Protection of New Buildings and Occupants from Landfill Gas.		
Target 3.6	A Waste Inspection and Quarantine Area will be provided by May 2003, subject to Agreement with the Agency. Drainage from these areas will go directly to the leachate lagoon.	Completed 05/03	
Target 3.7	The present weighbridge at the facility will be relocated or a new weighbridge will be provided at the new facility entrance, subject to agreement with the Agency, by May 2003. This weighbridge will not be made operational until approval is given by Legal Metrology Services.	Completed 05/03	
Target 3.8	A wheel cleaning as set out in the EIS area will be provided at the facility entrance by May 2003, subject to agreement with the Agency.	Completed 05/03	
Target 3.9	As part of the development of the new offices, a wastewater treatment plant will be provide at the new facility offices by	Complete by 05/03	

	May 2003, subject to agreement with the Agency. The discharge from this unit will go directly to the new leachate lagoon.		
Target 3.10	A revised tank and drum storage area will be provided by April 2003, to ensure any spillage that may occur is contained.	Completed by 04/03	
Target 3.11	Four new cells will be provided (cell 11-14), between 2002 and 2005 and will be constructed to that specified in condition 3.13, subject to agreement with the Agency.	One and a half cells completed by 12/02 Others ongoing until 12/05	QA/QC for cell 11a submitted 24/10/02 QA/QC for cell12 30/05/03
Target 3.12	A new larger leachate lagoon shall be construction to the specified standard to provide sufficient capacity for storage by May 2003, subject to agreement with the Agency.	Completed by 05/03	
Target 3.13	A revised landfill gas management system will be provided by November 2003, which will contain a proposal for the utilisation of Landfill Gas as an energy source. A proposal on the system will be submitted to the Agency by March 2003.	Completed by 11/03	
Target 3.14	A SCADA system or equivalent will be installed at the facility by	Phase I completed	

	April 2003, where the hardware and software will be incorporated into the new facility offices, subject to the Agencies agreement.	by 11/03 other phases as landfill develops	
Target 3.15	A full surface water management system will be incorporated as infrastructure and capping is provided, subject to the Agencies agreement. Surface water from the extension will be diverted to the surface water stream once the capping system is provided.	Ongoing as part of develop.	
Target 3.16	All new infrastructures provided will have regard to the ground water in the area which is monitored on a monthly basis.	Ongoing	
Target 3.17	A construction and demolition storage area will be provided by April 2003 as part of the revised access, subject to the agreement of the Agency.	Will not be provided C&D waste Accepted direct to tip face	
Target 3.18	The civic amenity site will be provided by May 2003 and will be maintained to the highest environmental standards. It is anticipated that this area in conjunction with other County Council initiatives will increase recovery rates in the County.	Completed by 05/03	

Target 3.19	A household hazardous waste facility will be provided at the new civic waste facility. This facility will be widely advertised and will raise awareness of the need to source segregate household hazardous waste.	Completed by 05/03	
Target 3.20	A proposal on the provision of compost facilities will be completed by May 2003 and submitted to the Agency. Composting/shredding facilities will increase recovery rates for green waste in the County.	Proposal will be examined and submitted to the Agency	
Target 3.21	A revised proposal for the provision of berms at the facility will be submitted to the Agency by January 2003. All revision made will be as a result of consultation with adjacent properties.	Complete by 01/03	
Target 3.22	All monitoring points required to meet the conditions of the Waste Licence will be provided as infrastructure develops, subject to the Agencies agreement.	Ongoing	
Target 3.23	A storage and shredding area for Christmas Trees shall be provided and shredded trees to be reused as landfill cover	Set up December 2003 Annually there after	

Objective 4 Establishment of a detailed plan for the restoration and aftercare of the facility			
Target 4.1	A full revised restoration and aftercare plan will be submitted to the Agency by May 2003, which will incorporate a proposal for treatment of cells 1-7	Complete by 05/03	
Target 4.2	Capping at the facility will commence in May 2003 in accordance with condition 4.3, subject to agreement with the Agency and will continue on a phased basis as the facility develops.	To commence 05/03 Completed Completed	
Target 4.3	Assessment of the capping adequacy of cells 1-7 will commence in February 2003. A proposal for the capping and collection of gas from cells 1-7 will be submitted to the Agency by May 2003. All works on this area will be completed by May 2004.	Completed	
Target 4.4	All material excavated for the purpose of the development of infrastructure will be reused with the facility boundary and will be stored appropriately until		

	required.		
Objective 5			
The facility shall be operated to ensure there are no adverse environmental effects as a result of the operation of the facility.		Ongoing	
Target 5.1	Waste shall not be disposed of in any part of the facility until approval is sought and granted by the Agency	Completed	04/12/03
Target 5.2	A procedure for the acceptance of waste at the facility shall be submitted to the Agency for agreement by August 2002 and updated annually thereafter.	Ongoing	
Target 5.3	All waste shall be covered appropriately at the end of each day	Completed as part of AER	
Target 5.4	A full leachate management plan will be drawn up which shall include procedures for monitoring leachate levels, removal of leachate by tanker and control procedures to ensure that leachate levels remain within parameters set out in condition 5.11. This plan will form part of the AER and will be revised as necessary.	SCADA System- on Going monitoring Of leachate Levels in cells and lagoons	
Target 5.5	Written records of maintenance of all monitoring and emission equipment. Maintenance of	Ongoing	

	these systems will take place as recommended by the manufacturer	Ongoing	
Target 5.6	All lagoons structures at the site will be independently tested every three years.		
Target 5.7	The wheel wash at the site entrance shall be maintained and cleaned as required	Ongoing Wheel shakeout unit by 06/03	
Objective 6 Control of emissions at the facility			
Target 6.1	Any emission exceeding trigger levels or unauthorised emission will be notified to the Agency.	Ongoing	
Target 6.2	Monitoring of the landfill gas flare will commence once the installation of the flare is complete. All emission values shall comply with the terms of the Waste Licence.	New flare unit installed 07/04	
Objective 7 Continuing minimisation of Environmental Nuisances associated with Dunmore Landfill Facility.			
Target 7.1	That any potential nuisance resulting from the operation of the facility will be minimised and any methods that may eliminate nuisance will be implemented. Ongoing	Ongoing	

	community consultation and inspections at the facility will ensure nuisance is minimised. Full compliance with the requirements set out in Condition 7 of the Waste Licence will continue.		
Objective 8			
Continuation of Environmental Monitoring at the facility			
Target 8.1	All environmental monitoring at the facility as specified in Schedule D of the Waste Licence shall commence by 10th July, 2002.	Ongoing	
Target 8.2	An initial topographical survey of cells 1-10 and all areas to be developed as part of the revised licence to be completed by June 2002, and two more survey to be completed by January 2003 and May 2003, to map development of the site. A topographical survey shall be completed by January each year thereafter.	Completed	Submitted 08/04/03
Target 8.3	A drawing of all monitoring locations shall be submitted to the Agency by August 2002. Any changes to the location of monitoring locations will be immediately updated on this drawing and will be communicated to the Agency.	Ongoing	
Target 8.4	A stability assessment of the site will be completed by November 2002 and annually thereafter and submitted to the Agency.	Complete by 05/03	
Target 8.5	A revised weekly nuisance monitoring system will be introduced at the site and implemented by January 2003;	Completed	

	all records will be held at the site.		
Objective 9			
Contingency measures shall be put in place in the event of an incident or emergency at the site			
Target 9.1	An Emergency response procedure will be developed and submitted to the Agency by November 2002 and submitted to the Agency. The procedure will be revised as necessary.	Completed	Submitted by 06/12/03
Target 9.2	An adequate supply of absorbent booms and material will be provided and maintained at the site.	Completed Continually assessed	
Target 9.3	Waste oil containers shall be bunded**.**	Completed By March 2005 In place	
Objective 10			
Records shall be maintained and available for inspection at all reasonable times			
Target 10.1	All records for the site shall be available at the facility office for inspection	Ongoing	
Target 10.2	Ongoing maintenance of waste records as per Condition 10.2 of the Waste Licence.	Completed 06/03	
Target 10.3	A procedure shall be developed to log all waste leaving the civic amenity site once the project has been completed.	In place	
Target 10.4	A complaints book shall be kept at the facility office and any complaint shall be logged as per	Ongoing	

	condition 10.4		
Target 10.5	A record of all leachate leaving the facility shall be kept in accordance with condition 10.5	Ongoing	
Target 10.6	A record shall be kept of the program for the control of vermin and flies as per condition 10.7	Ongoing	
Target 10.7	A record of bird control activities shall be kept and regular bird counts made.	Ongoing	
Target 10.8	A written record shall be kept of the type of daily cover that is used on the site as per condition 10.9	Ongoing	
Target 10.9	Long term environmental monitoring to continue.		
Objective 11			
To submit all relevant reports and notifications to the Agency in the timeframes specified		Ongoing	
Target 11.1	Any incident at the site shall be notified in accordance with the corrective action procedure	Complete 05/03	
Target 11.2	A new contract will be entered into for the recovery/disposal white goods/brown goods by end May 2003	Completed 04/03	
Target 11.3	Waste recovery reports shall be submitted to the Agency by	Form part	

	November 2002 as outlined in condition 11.3	of SEW reports	Report 06/12/03
Target 11.4	A report on the achievement of the final profile at the site shall be submitted by November 2002	Submitted	
Target 11.5	An operations procedure shall be developed for operation in adverse wind conditions and submitted to the agency by November 2002.	Submitted	Report 04/12/03
Target 11.6	A report on procedure to control vermin and flies shall be submitted to the Agency by November 2002	Submitted 14/08/03	Report 12/07/02
Target 11.7	The first AER of the License will be submitted by May 2003	Complete	
Target 11.8	A conditioning plan in accordance with Council Directive 1991/31/EC shall be submitted to the Agency by 16th July 2002		
Objective 12			
To operate the landfill to compliment relevant legislation and the Landfill Directive		In place since 03/02	
Target 12.1	All packaging waste as defined in SI No. 61 of 2003 will be restricted from the landfill	Phased in through 2002	
Target 12.2	All contractors using the site shall be in full compliance with SI No. 402 of 2001	Complete by 06/03	

Target 12.3	Whole used tyres shall be restricted from the site from 1st of June 2003, in compliance with Council Directive 1991/31/EC. Shredded tyres will be restricted from 1st June 2006	Ongoing	
Target 12.4	The landfill site will be operated with regard to the South East Waste Management and any measures necessary to meet the terms and targets of the plan shall be implemented. This will include the acceptance of waste from outside the Kilkenny area from the partners in the South East Region		
Objective 13			
To provide infrastructure to reduce visual impact and minimise nuisance		Ongoing	
Target 13.1	Continuation of odour modelling and testing at the site and local properties. Recommendations will be implemented.	Ongoing	
Target 13.2	Provision of extensive planting and renewal of hedgerows. Berms will be placed in locations in order to minimise visual impact.	Ongoing	
Target 13.3	The road access and roadway along the front of the site will be		

maintained and cleaned in order to minimise visual nuisance at the entrance to the facility.		
Objective 14 To reduce the quantity of recycling and biodegradable materials going to landfill.		
Target 14.1 To achieve a 50% reduction by commercial establishments.	Dec 06	
Target 14.2 To set up a communication procedure and reporting mechanism between landfill and enforcement officers regarding offenders.	Completed Jan 06	
Target 14.3 Provide awareness to companies of restricted landfill materials.	Ongoing	
Objective 15 To achieve closure of the landfill facility to an environmentally satisfactory standard and comply fully with relevant legislation and the Landfill Directive.		
Target 15.1; The continued acceptance of acceptable waste in the landfill for such time as the required quantities are received to enable final contours to be reached.	Completed	
Target 15.2; The notification of all customers that the landfill section at Dunmore will cease to operate from the advised date.	Completed	
Target 15.3; The expansions of the CAS to ensure continued availability of refuse disposal facility to householders and small business customers.	Ongoing	

Target 15.4;	Increased signage and road markings at the CAS to ensure ease of access and use for the expected increase in customers anticipated as a direct result of the landfill closure.	Ongoing	
Target 15.5;	To maintain the existing gas and leachate management system to ensure full compliance with the conditions of our license.	Ongoing	
Target 15.6;	To advertise, appoint a contractor and complete the final capping of the landfill within 2010.	Completed	
Target 15.7;	To maintain the nuisance monitoring system in place in relation to vermin, noise and litter control.	Ongoing	
Target 15.8;	To investigate the viability of a C&D waste facility within the site.	Completed Not Viable	
Target 15.9;	To assess the cost structure of the CAS to examine if the facility can be self funding.	Ongoing	

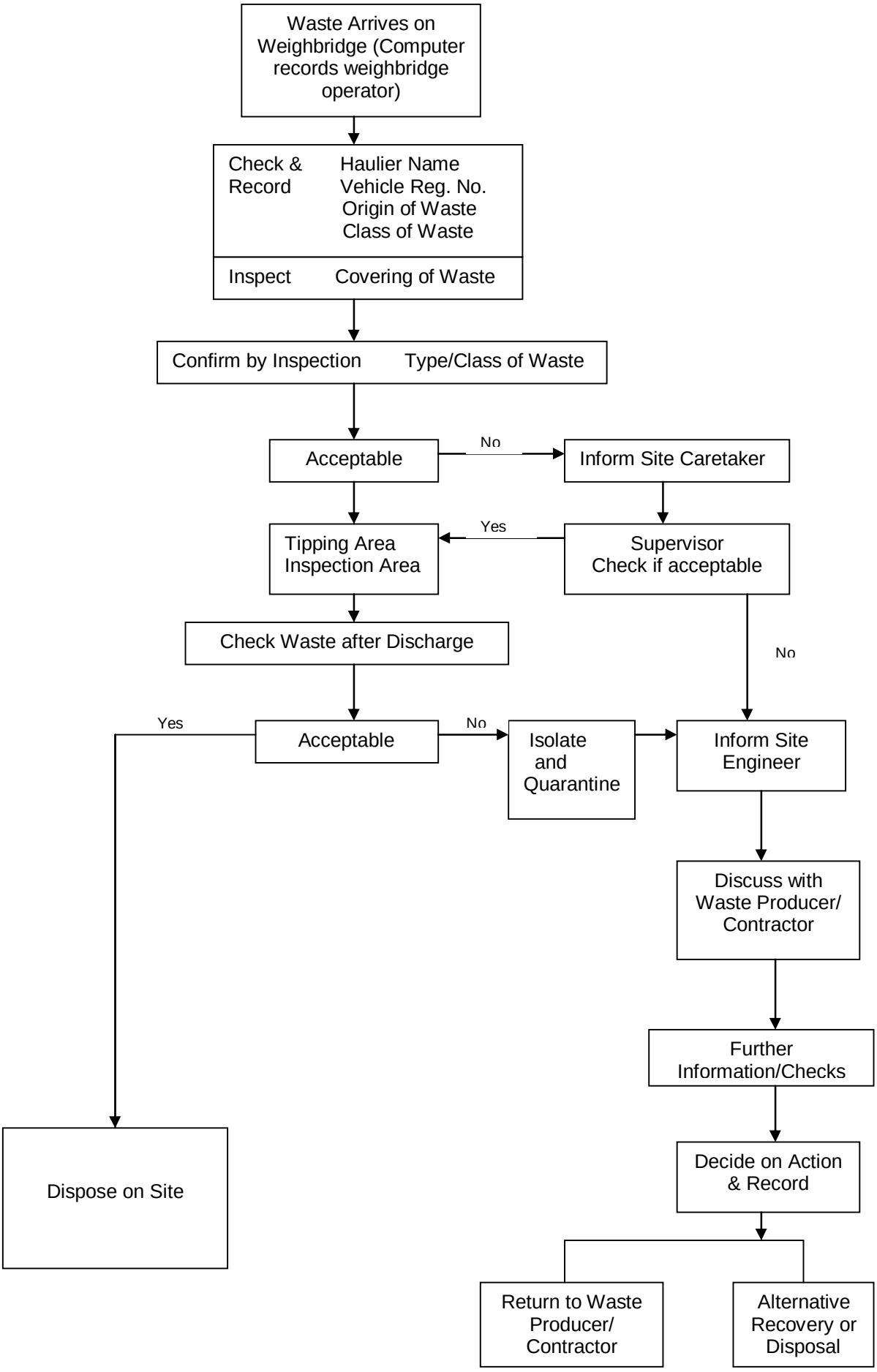
Appendix G

Waste Acceptance

Procedure Flowchart

DUNMORE LANDFILL

WASTE ACCEPTANCE PROCEDURE



Appendix H

Bird Control

Bird Control Ireland Ltd.

Littlebridge Inches, Cappoquin, Co. Waterford, Ireland

Bird Control Report for Dunmore Landfill Site
January 2010 – April 2010

Location: **Dunmore Landfill, Dunmore, Co. Kilkenny**

Type: **Landfill Site**

Client: **Kilkenny County Council**

Bird Control Ireland Ltd operated a bird control programme at Dunmore Landfill site between January 2010 and April 2010.

During each visit to the site a *Visit Log* was completed giving details of activities on site during period of time there. A *Month End* report was compiled from these giving details of bird counts and activities of note i.e. greater number of birds on site, equipment maintenance and liaison with site management etc.

These were forwarded to Dunmore landfill site (Kilkenny County Council) where it was out into Bird Control Manual.

While on site a number of bird scaring devices were deployed to include, Falcons, Hawks, Helekites, Hawk Kites, Balloons, Predator Models, Fire Arms, Species Specific Distress Calls, Flapping Kites and Bird Scaring Pistol.

Staff at Dunmore were responsible for the deployment of equipment and applied diligently. They adapted to the programme as necessary.

Tel: 00 353 58 52302 Fax: 00 353 58 52892 e-mail: bci@eircom.net
Directors: Jeremy Nicholson, Orla Nicholson - Co. Reg.: 322127

Bird Control Ireland Ltd.

Littlebridge Inches, Cappoquin, Co. Waterford, Ireland

During visits of inclement weather conditions, birds of prey or kites cannot be flown. In this case very other bird control measure was then put in place to re in force bird control measures.

Very little bird activity was noted on site during the months of January, February, March and April.

It is evident from looking at visit log sheets and month end reports that an excellent level of bird control is being maintained at Dunmore.

Jeremy Nicholson

Jeremy Nicholson
Managing Director
Bird Control Ireland Ltd

Tel: 00 353 58 52302 Fax: 00 353 58 52892 e-mail: bci@eircom.net
Directors: Jeremy Nicholson, Orla Nicholson - Co. Reg.: 322127

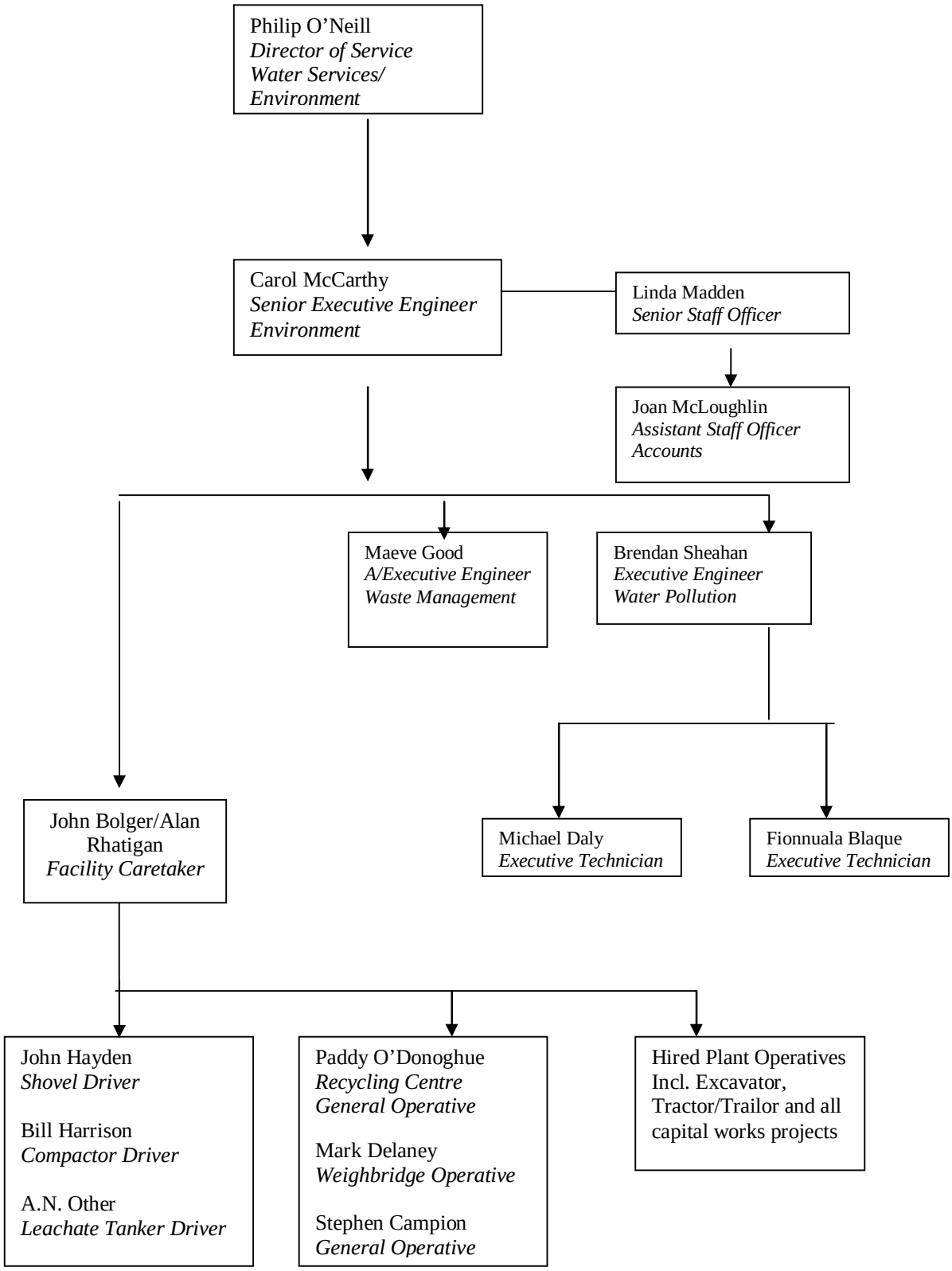
Littlebridge Inches, Cappoquin, Co. Waterford, Ireland

Tel: 00 353 58 52302 Fax: 00 353 58 52892 e-mail: bci@eircom.net
Directors: Jeremy Nicholson, Orla Nicholson - Co. Reg.: 322127

Appendix I

Management Structure

Staff Structure – Dunmore Landfill



Appendix J

Sample Flare Data

DATE	TIME	MILI	MAF	BLOWER	ST CO	ST DAMPER_POS	S CH4	S O2	S PRESSURE	S TEMPERATUR	S FLOW	S CO2	N22
31/01/2010	00:00:18	515	B	60.00000000	3.38874412	26.16804314	33.18245316	1.80552769	19.91788483	1018.38970947	211.09552002	24.17784882	
31/01/2010	00:27:02	843		60.00000000	2.81994772	30.78253937	33.26657104	1.80452621	19.96595192	1019.95190430	209.52532959	24.22992134	
31/01/2010	00:57:02	906		60.00000000	2.56358886	30.14804649	33.14640427	1.81353891	20.22431374	1021.20166016	206.27276611	24.00160217	
31/01/2010	01:27:02	921		60.00000000	2.75185251	27.41459846	33.02623367	1.81854594	20.08011246	1020.00396729	206.04846191	23.71720314	
31/01/2010	01:57:03	0		60.00000000	2.79591417	25.66813850	32.99018478	1.82455432	20.20028114	1018.80633545	204.38212585	23.89344978	
31/01/2010	02:27:03	46		60.00000000	2.87202072	27.42100716	32.91808319	1.82455432	20.23633003	1019.79571533	202.58761597	23.79331017	
31/01/2010	02:57:03	78		60.00000000	3.22050858	26.36031342	32.79391098	1.83056271	20.12817955	1018.28558350	204.65451050	23.76126480	
31/01/2010	03:27:03	93		60.00000000	3.32866001	28.59065437	32.79391098	1.83556974	20.08612061	1020.10815430	203.50090027	23.97356224	
31/01/2010	03:57:03	156		60.00000000	3.14440203	28.80535507	32.91808319	1.82555568	20.15221214	1020.21228027	203.64509583	23.51692200	
31/01/2010	04:27:03	203		60.00000000	3.20448613	31.92975426	32.78990555	1.81854594	20.11015511	1020.88922119	202.23512268	23.66913605	
31/01/2010	04:57:03	218		60.00000000	3.24053669	29.73466492	32.80592728	1.79351079	20.40456581	1020.21228027	203.05226135	23.80532646	
31/01/2010	05:27:03	281		60.00000000	3.31664324	28.54578972	32.83797073	1.78249538	20.03204536	1019.01458740	193.10234070	23.71720314	
31/01/2010	05:57:03	328		60.00000000	2.92409372	31.68300819	32.80993271	1.77748835	20.14620399	1022.03485107	94.82074738	24.08571815	
31/01/2010	06:27:03	406		60.00000000	1.98678136	29.13221550	32.69377136	1.77648699	20.19427109	1020.42059326	202.95613098	24.21790314	
31/01/2010	06:57:03	453		60.00000000	0.94131780	32.52579498	32.55757904	1.78149402	20.11616325	1022.86798096	202.25114441	23.55297279	
31/01/2010	07:27:03	484		60.00000000	0.54876828	29.54559708	32.20508575	1.78249538	20.10414505	1021.25372314	203.50090027	23.87742805	
31/01/2010	07:57:03	531		60.00000000	0.16823553	28.86303711	31.84858704	1.80652905	19.67754936	1020.31640625	203.54896545	23.38473701	
31/01/2010	08:27:03	546		60.00000000	0.86521125	27.67736816	31.63228416	1.84558380	19.92990112	1019.17083740	203.90145874	23.67714691	
31/01/2010	08:57:03	625		60.00000000	2.13899446	27.63891411	31.80853081	1.85860193	19.70759010	1020.00396729	206.25674438	23.49288940	
31/01/2010	09:27:03	703		60.00000000	2.51151609	25.30282402	31.64430046	1.87362301	19.66553116	1019.11877441	206.32084656	23.34868813	
31/01/2010	09:57:03	734		60.00000000	2.77188063	27.58764076	31.68836212	1.87963140	19.69557381	1019.32702637	207.97114563	23.46885490	
31/01/2010	10:27:03	812		60.00000000	3.04426193	28.46567726	31.53214455	1.90066087	19.73162460	1020.62884521	210.00599670	23.54496193	
31/01/2010	10:57:03	859		60.00000000	3.29661512	28.06511307	31.40396500	1.90867209	19.93590927	1020.31640625	211.31983948	23.46885490	
31/01/2010	11:27:03	921		60.00000000	3.29661512	28.66435814	31.31584167	1.92970145	19.82175064	1020.88922119	211.12756348	23.90546608	
31/01/2010	11:57:04	0		60.00000000	5.14320040	29.25398827	31.20368385	1.95173240	19.73763275	1021.67034912	210.39053345	23.72120857	
31/01/2010	12:27:04	46		60.00000000	5.57180023	25.03684998	31.04746437	1.98277581	19.74964905	1018.49389648	210.64689636	23.41678238	
31/01/2010	12:57:04	109		60.00000000	5.77208090	25.15541649	31.16362762	1.88063276	20.15221214	1017.81695557	212.15299988	23.54896736	
31/01/2010	13:27:04	156		60.00000000	5.03905439	18.63423538	30.63889313	1.86961734	20.34448242	1018.38970947	211.31983948	23.63709068	
31/01/2010	13:57:04	171		60.00000000	3.61305809	16.58655167	30.91928482	1.92669725	20.20028114	1018.07727051	211.88063049	23.42479324	
31/01/2010	14:27:04	218		60.00000000	2.82795906	17.39088440	30.89124680	1.96775472	20.44662476	1018.96252441	212.29721069	23.79331017	
31/01/2010	14:57:04	265		60.00000000	2.81594229	17.49342918	30.77107811	2.00781083	20.52473450	1020.57678223	211.35188293	23.68515778	
31/01/2010	15:27:04	343		60.00000000	3.00020027	19.85515404	30.76707268	2.01882625	20.56078529	1019.79571533	212.56959534	23.57700729	
31/01/2010	15:57:04	437		60.00000000	2.96014404	17.19220543	30.69096565	2.03685141	20.33246613	1018.18145752	212.15299988	23.60905075	
31/01/2010	16:27:04	453		60.00000000	2.90406561	19.68852043	30.65491486	2.07490468	20.50671005	1019.06665039	213.40275574	23.48487854	
31/01/2010	16:57:04	531		60.00000000	3.05227304	19.43856812	30.48668098	2.11796498	20.26036453	1017.76483154	212.08891296	23.43681145	
31/01/2010	17:27:04	546		60.00000000	3.08832359	21.09530067	30.17824745	2.15301418	20.42860031	1020.21228027	212.71379089	23.30462456	
31/01/2010	17:57:04	609		60.00000000	2.96014404	20.40953445	29.90186119	2.20708990	20.37452507	1019.74365234	213.08230591	23.23252487	
31/01/2010	18:27:04	671		60.00000000	3.16042447	19.09568596	29.70558739	2.23112345	20.41658401	1018.49389648	213.77127075	23.17644691	
31/01/2010	18:57:04	734		60.00000000	3.38874412	16.91982269	29.73362541	2.25515723	20.15822220	1017.97314453	214.63647461	23.09232903	
31/01/2010	19:27:04	750		60.00000000	3.45283389	21.45100212	29.70158005	2.28720188	20.34448242	1020.88922119	215.18124390	22.98417664	
31/01/2010	19:57:04	781		60.00000000	1.61425984	17.00954819	29.74163628	2.31223702	20.39254951	1018.44183350	213.78729248	22.90005875	
31/01/2010	20:27:04	859		60.00000000	1.57420385	17.06723022	29.61345673	2.29621458	20.16423035	1019.37908936	213.11434937	23.16843414	
31/01/2010	20:57:04	906		60.00000000	1.96675336	15.69890308	29.60945129	2.31123567	20.30843163	1018.28558350	213.46684265	22.72381210	
31/01/2010	21:27:04	953		60.00000000	1.77047861	17.78183556	30.01802444	2.25215292	19.92389297	1020.00396729	211.96073914	23.27658653	
31/01/2010	21:57:05	15		60.00000000	1.71039450	20.56655693	30.09413147	2.24614453	20.02603722	1022.29522705	212.10493469	22.95213127	
31/01/2010	22:27:05	93		60.00000000	1.53815341	19.97051620	30.36651230	2.27618647	20.18826294	1021.93066406	211.97676086	23.09633446	
31/01/2010	22:57:05	125		60.00000000	1.63829350	19.23027420	30.85519600	2.30322433	20.12817955	1020.42059326	211.96073914	23.53695107	
31/01/2010	23:27:05	187		60.00000000	1.57019818	15.12529564	31.16763306	2.33426785	20.03204536	1018.33764648	211.86460876	23.83336639	
31/01/2010	23:57:05	218		60.00000000	1.44201875	16.61218834	31.28379631	2.32825947	19.88183403	1019.74365234	211.99278259	23.79731560	
01/02/2010	00:00:12	843	E	60.00000000	1.41397953	18.17278671	31.24374008	2.33226514	19.90586853	1020.47265625	211.81652832	23.82936096	

Date	Time	Milli	Marl	0	Sts 1	Sts 2	S METHANE	S OXYGEN	S PRESSURE	S 6	S FLOW	S 8
28/02/2010	00:00:06	46	B	60.00000000	0.66092527	20.51528358	28.90045929	2.62767863	19.84578323	1020.78509521	209.90986633	21.87462425
28/02/2010	00:07:51	734		60.00000000	0.76507109	19.11811638	28.86841393	2.64169836	21.15561867	1020.99334717	219.63548279	21.81453896
28/02/2010	00:37:51	812		60.00000000	0.80913275	19.25270653	28.90045929	2.64470243	21.32385254	1019.17083740	219.69956970	21.80252266
28/02/2010	01:07:51	828		60.00000000	0.64890844	19.71095085	28.73222351	2.67073894	21.46204758	1021.40997314	218.11334229	21.59823608
28/02/2010	01:37:51	859		60.00000000	0.86521125	20.70755386	28.81233597	2.65071082	20.79511261	1020.78509521	208.14739990	21.73042107
28/02/2010	02:07:51	968		60.00000000	0.62487477	16.50323486	28.85239220	2.66272759	21.07750893	1018.02520752	215.06909180	21.84658432
28/02/2010	02:37:52	31		60.00000000	0.48868415	20.56655693	28.89244843	2.65071082	21.27578545	1021.20166016	212.79389954	21.92269135
28/02/2010	03:07:52	109		60.00000000	0.52072901	17.92603874	28.68816185	2.68676138	21.41998863	1019.79571533	213.37071228	21.69036484
28/02/2010	03:37:52	140		60.00000000	0.65691966	19.01557159	28.41177559	2.75185251	21.20969391	1019.74365234	213.59501648	21.58221436
28/02/2010	04:07:52	171		60.00000000	0.46465048	18.59578133	28.25956154	2.78089309	19.20288467	1020.73303223	203.37271118	21.38994408
28/02/2010	04:37:52	296		60.00000000	0.66893649	19.53790855	28.33967400	2.79391146	20.19427109	1019.74365234	205.51971436	21.61826515
28/02/2010	05:07:52	343		60.00000000	0.66493088	15.72453880	28.13138199	2.83997583	21.35389519	1019.27496338	213.51490784	21.45403481
28/02/2010	05:37:52	390		60.00000000	0.64890844	13.92360306	27.93510818	2.88203478	20.63889503	1019.69152832	207.57058716	21.67834854
28/02/2010	06:07:52	390		60.00000000	0.84518319	16.66666603	27.78289413	2.92509508	21.90666962	1020.99334717	216.89564514	21.54215813
28/02/2010	06:37:52	421		60.00000000	1.00941312	15.98089981	27.70278358	2.94712591	21.46204758	1020.68090820	217.76084900	21.41397858
28/02/2010	07:07:52	484		60.00000000	1.03745234	15.86553764	27.65872192	2.97015810	21.29381180	1019.79571533	217.69676208	21.32184982
28/02/2010	07:37:52	500		60.00000000	0.96535146	16.20841980	27.53855324	2.98117352	21.19166756	1022.03485107	217.42437744	21.49409103
28/02/2010	08:07:52	578		60.00000000	0.86521125	14.85611629	27.53855324	3.00821137	18.55397606	1019.17083740	205.74403381	21.00540733
28/02/2010	08:37:52	625		60.00000000	0.76507109	16.48080444	27.60264206	3.03424788	21.34788704	1022.29522705	218.59402466	21.57019806
28/02/2010	09:07:52	671		60.00000000	0.74904865	14.05819321	27.42238998	3.07330251	20.44061661	1019.74365234	212.77787781	21.04546356
28/02/2010	09:37:52	687		60.00000000	0.78910470	14.92341137	27.21409798	3.12036848	20.48868370	1021.56616211	206.75344849	21.24173737
28/02/2010	10:07:52	703		60.00000000	1.01742435	13.08402157	27.21409798	3.13438797	20.81914711	1020.26434326	215.61384583	21.20168114
28/02/2010	10:37:52	781		60.00000000	0.86521125	10.86329460	27.13799286	3.12837958	20.71099472	1017.66070557	210.69496155	21.30182076
28/02/2010	11:07:52	796		60.00000000	1.03344679	13.93962574	27.13398552	3.10234308	20.08612061	1019.48327637	216.17463684	21.51812363
28/02/2010	11:37:52	796		60.00000000	0.80112153	12.60013962	27.10194206	3.09032631	20.84317970	1018.65008545	217.77688599	21.59423065
28/02/2010	12:07:52	843		60.00000000	2.74784684	17.32038498	26.97376251	3.10935307	21.14360046	1022.19104004	213.80331421	21.50610733
28/02/2010	12:37:52	890		60.00000000	2.84798717	10.39223194	26.77748680	3.10835147	19.67754936	1020.21228027	204.84677124	21.65431595
28/02/2010	13:07:52	968		60.00000000	2.88403749	15.26629353	26.93771172	3.09633470	21.31784439	1021.98278809	210.67893982	21.62627602
28/02/2010	13:37:53	62		60.00000000	2.84798717	9.52701378	26.93771172	3.09433198	21.81053543	1019.27496338	212.71379089	21.72241020
28/02/2010	14:07:53	125		60.00000000	2.71580195	13.16092968	27.01381874	3.07630682	22.29721642	1020.26434326	213.57899475	21.27378273
28/02/2010	14:37:53	218		60.00000000	2.92008805	16.74677849	26.65732002	3.13238525	21.25175285	1022.81591797	209.50930786	21.55417442
28/02/2010	15:07:53	281		60.00000000	2.94812727	12.95584106	26.82555389	3.09633470	21.35990334	1019.48327637	205.34347534	21.43801308
28/02/2010	15:37:53	296		60.00000000	2.62367296	13.92680836	26.66132545	3.13338661	21.38994598	1020.62884521	212.36129761	21.69036484
28/02/2010	16:07:53	343		60.00000000	2.76386929	13.14170265	26.42098808	3.19747639	21.41998863	1021.51409912	212.82594299	21.62627602
28/02/2010	16:37:53	375		60.00000000	2.46344876	6.53720379	26.50110054	3.20849180	20.39254951	1018.44183350	209.71759033	21.64630318
28/02/2010	17:07:53	406		60.00000000	2.71580195	15.08043194	26.34888649	3.25055075	20.92729759	1022.60760498	209.04464722	21.64229774
28/02/2010	17:37:53	468		60.00000000	2.63568997	15.80144691	26.26076317	3.29461241	21.73843384	1024.16979980	216.49508667	21.63028145
28/02/2010	18:07:53	484		60.00000000	2.89204884	12.36621094	26.21269608	3.32064867	20.68095398	1020.62884521	208.70817566	21.52213097
28/02/2010	18:37:53	500		60.00000000	2.74384117	5.57264566	26.21269608	3.33466840	18.69817734	1017.34826660	200.24833679	21.46605110
28/02/2010	19:07:53	562		60.00000000	2.66372919	2.40338373	26.07250023	3.40276384	21.20969391	1013.85937500	217.31222534	21.22972107
28/02/2010	19:37:53	609		60.00000000	2.55157208	5.68480396	25.95233154	3.45483661	20.80713081	1018.38970947	210.16622925	21.31784439
28/02/2010	20:07:53	656		60.00000000	2.61566186	0.51913089	25.94832611	3.49589419	19.94191933	1016.04644775	214.26795959	21.14960861
28/02/2010	20:37:53	765		60.00000000	2.65171218	0.97417158	26.06448936	3.51091504	19.66553116	1014.06768799	208.64408875	21.18966484
28/02/2010	21:07:53	812		60.00000000	2.58762264	5.71684885	25.95233154	3.53294587	21.63028145	1016.20269775	219.09071350	20.99338913
28/02/2010	21:37:53	828		60.00000000	2.53554964	10.34095955	25.98037148	3.52894044	18.65011024	1019.27496338	212.24914551	21.13759232
28/02/2010	22:07:53	859		60.00000000	2.53955531	11.53624249	26.14860725	3.54896832	22.24314117	1024.95092773	214.30001831	21.20568657
28/02/2010	22:37:53	937		60.00000000	2.56759453	12.95904541	26.14860725	3.57200074	19.88784218	1022.97216797	213.19445801	20.91728401
28/02/2010	23:07:54	0		60.00000000	0.85720003	9.96923637	26.06448936	3.60204268	19.05868149	1023.64910889	212.63368225	20.84518242
28/02/2010	23:37:54	31		60.00000000	0.90927297	6.56924915	25.98437691	3.63508892	19.80372429	1022.50347900	210.99938965	21.28980446

DATE	TIME	MILI	MAF	0		ST 1		ST 2		S METHANE		S OXYGEN		S PRESSURE		S 6		S FLOW		S 8	
31/03/2010	00:00:06	421	B	55.00000000		0.86921686		21.63365936		32.99419022		1.83857393		15.42359257		1019.48327637		152.58160400		23.22050858	
31/03/2010	00:09:07	593		55.00000000		0.93330657		21.94770050		32.86601257		1.87162018		15.61586189		1018.80633545		153.97555542		23.35269356	
31/03/2010	08:58:05	31	B	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	
31/03/2010	09:28:05	78		55.00000000		0.84117764		34.10561752		46.56919479		0.05307430		15.73603058		1020.21228027		155.96234131		28.13538742	
31/03/2010	09:58:05	78		55.00000000		0.73302621		34.51900101		41.75445557		0.31444019		16.15060997		1021.87860107		155.88223267		27.27818871	
31/03/2010	10:28:05	171		55.00000000		0.53675145		32.08357239		39.31103516		0.49869815		16.24674606		1020.00396729		156.37892151		26.68135262	
31/03/2010	10:58:05	234		55.00000000		0.72100937		32.72447205		37.58061218		0.62587619		16.02443504		1021.04547119		155.28939819		25.92028809	
31/03/2010	11:28:05	296		55.00000000		0.56479067		29.28603172		36.74343872		0.76607245		15.54976940		1018.02520752		155.36950684		25.89625359	
31/03/2010	11:58:05	375		55.00000000		0.60084116		31.69262123		35.90225983		0.88824350		15.67594624		1021.20166016		155.08110046		25.49569321	
31/03/2010	12:28:05	406		55.00000000		0.58882433		30.77613068		35.50170135		0.99939913		15.99439240		1020.47265625		155.77006531		25.31944656	
31/03/2010	12:58:05	531		55.00000000		0.58081311		29.27321434		35.15321350		1.12457430		16.20468712		1020.57678223		154.56838989		25.19927788	
31/03/2010	13:28:05	578		55.00000000		0.70098132		28.76049232		34.84477997		1.22371316		16.14460182		1018.18145752		154.92088318		24.95894241	
31/03/2010	13:58:05	687		55.00000000		0.56078506		32.41363525		34.76466751		1.26176643		15.74804688		1022.03485107		155.09712219		25.22731781	
31/03/2010	14:28:05	750		55.00000000		0.80913275		30.83381081		34.53635025		1.32886040		16.15060997		1020.68090820		154.31202698		24.95493507	
31/03/2010	14:58:05	812		55.00000000		0.63288599		26.62308311		34.21990585		1.41197670		15.82014847		1020.21228027		155.56178284		24.96294785	
31/03/2010	15:28:05	968		55.00000000		0.76106548		26.63590050		33.78329468		1.54616451		16.13859367		1020.36853027		155.33746338		24.53034210	
31/03/2010	15:58:05	984		55.00000000		0.76907670		24.70358086		33.77127838		1.58622062		15.94031620		1018.12939453		156.17063904		24.41818428	
31/03/2010	16:28:06	46		55.00000000		0.74103743		28.29263306		33.63508606		1.65631878		16.00040054		1020.94128418		156.92369080		24.45423508	
31/03/2010	16:58:06	140		55.00000000		0.66493088		31.35294342		33.59503174		1.68836367		15.85019016		1021.51409912		154.48828125		24.48628044	
31/03/2010	17:28:06	203		55.00000000		0.76106548		27.76709366		33.55096817		1.72942114		16.17464447		1020.10815430		155.09712219		24.40616798	
31/03/2010	17:58:06	265		55.00000000		0.88523930		26.30904198		33.19446945		1.83757257		15.90426636		1018.28558350		156.31483459		24.34608269	
31/03/2010	18:28:06	312		55.00000000		0.72100937		28.64192581		33.03825378		1.88664126		15.86821556		1021.25372314		155.81814575		24.47025681	
31/03/2010	18:58:06	375		55.00000000		0.71700376		25.05928230		32.55757904		1.95673931		16.06649399		1019.17083740		156.29881287		24.24594307	
31/03/2010	19:28:06	437		55.00000000		0.66493088		27.76388931		32.30522537		2.08291602		15.95834160		1021.72241211		156.21870422		24.28199387	
31/03/2010	19:58:06	531		55.00000000		0.80112153		26.39556313		32.11295700		2.17804909		16.32485390		1020.26434326		156.81152344		24.14980888	
31/03/2010	20:28:06	531		55.00000000		0.72100937		24.70678520		32.08091354		2.26316833		16.30082130		1018.70214844		157.34027100		23.85339355	
31/03/2010	20:58:06	640		55.00000000		0.77308226		25.04646301		31.88864326		2.35029030		15.97035885		1019.43121338		156.26676941		23.76927567	
31/03/2010	21:28:06	718		55.00000000		0.69297016		24.30301666		31.64830589		2.40837169		16.25275421		1019.58740234		157.34027100		23.64910698	
31/03/2010	21:58:06	828		55.00000000		0.71299815		24.07870102		31.49208832		2.46244740		16.32485390		1019.89984131		155.67393494		23.49288940	
31/03/2010	22:28:06	859		55.00000000		0.92128974		23.76465797		31.49208832		2.49549365		16.08451843		1018.02520752		156.52313232		23.28459740	
31/03/2010	22:58:06	906		55.00000000		0.71700376		23.96333885		31.44802666		2.52052855		16.14460182		1018.59802246		156.60324097		23.28059196	
31/03/2010	23:28:06	937		55.00000000		0.71299815		24.73883057		31.53214455		2.50951314		16.10855103		1019.37908936		157.00379944		23.39675522	

Date	Time	Milli	Marl	0	Sts 1	Sts 2	S METHANE	S OXYGEN	S PRESSURE	S 6	S FLOW	S 8
30/04/2010	00:00:13	812	B	55.00000000	2.53955531	14.49080181	30.23833275	1.98678136	16.83556938	1020.78509521	156.21870422	24.15781975
30/04/2010	00:29:19	718		55.00000000	2.62767863	16.05780792	30.17023659	2.02483463	17.00981331	1021.25372314	155.27337646	23.83737183
30/04/2010	00:59:19	750		55.00000000	2.54356098	14.91059303	30.39455032	1.99579406	16.99178886	1020.05609131	156.26676941	23.92148972
30/04/2010	01:29:19	828		55.00000000	2.59963942	16.32698631	30.24233818	2.02683759	17.23813248	1021.40997314	157.43640137	23.73723030
30/04/2010	01:59:19	859		55.00000000	2.41938710	12.96865845	30.56278610	1.96374917	17.21409988	1018.28558350	158.02923584	23.73322487
30/04/2010	02:29:19	906		55.00000000	2.56759453	14.20239544	30.63889313	1.98277581	16.88964462	1019.63946533	157.86900330	23.85339355
30/04/2010	02:59:19	937		55.00000000	2.49949908	14.99711514	30.71900558	1.98377717	17.03384781	1020.10815430	157.11595154	23.72120857
30/04/2010	03:29:19	984		55.00000000	2.58361697	16.83970833	30.67093849	1.97776878	16.73342705	1020.68090820	157.90106201	23.75325394
30/04/2010	03:59:20	31		55.00000000	2.43941498	14.42350674	30.55878067	2.02483463	17.11195755	1019.69152832	159.71159363	24.10574722
30/04/2010	04:29:20	125		55.00000000	2.44342065	13.89796734	30.75906181	1.98377717	17.10594749	1018.07727051	158.76626587	23.80532646
30/04/2010	04:59:20	156		55.00000000	2.53955531	14.04217052	30.79511261	2.00580812	16.85359573	1018.44183350	159.08671570	23.83336639
30/04/2010	05:29:20	171		55.00000000	2.58762264	16.50323486	30.80312347	1.98277581	16.84758568	1019.79571533	158.71820068	23.69717598
30/04/2010	05:59:20	234		55.00000000	2.58361697	16.72755051	31.07149887	1.92569590	17.04586411	1019.27496338	159.02262878	23.39274979
30/04/2010	06:29:20	265		55.00000000	2.53554964	19.07004929	31.07950974	1.93270576	17.11195755	1020.73303223	157.78889465	23.79331017
30/04/2010	06:59:20	281		55.00000000	2.63969541	15.50022316	30.83917427	1.96475053	16.84758568	1020.36853027	158.94252014	23.93350601
30/04/2010	07:29:20	312		55.00000000	2.31924677	16.40710068	30.71500015	2.00180244	17.11796570	1020.42059326	158.62207031	23.62106895
30/04/2010	07:59:20	375		55.00000000	2.47546554	12.37902832	30.56278610	2.01081514	17.06388855	1018.12939453	157.43640137	23.70118141
30/04/2010	08:29:20	406		55.00000000	2.72381330	14.56770992	30.56278610	2.01982760	16.94972992	1019.89984131	159.11875916	23.73723030
30/04/2010	08:59:20	421		55.00000000	2.59563375	16.65384674	30.33046150	2.02683759	17.22611618	1020.73303223	158.99058533	23.55297279
30/04/2010	09:29:20	484		55.00000000	2.61165619	17.80426788	30.31443977	2.02683759	16.63729286	1022.50347900	157.64469910	23.52493477
30/04/2010	09:59:20	531		55.00000000	2.73983574	14.33057594	30.25435448	2.06388927	17.11195755	1020.62884521	157.53253174	23.74524307
30/04/2010	10:29:20	578		55.00000000	2.52753854	15.49701881	30.04205704	2.10194254	17.08792305	1021.20166016	157.11595154	23.55297279
30/04/2010	10:59:20	625		55.00000000	2.63568997	14.17035103	30.24634361	2.00080109	16.91968727	1018.91046143	155.17724609	23.92950058
30/04/2010	11:29:20	656		55.00000000	2.79190850	13.89476299	30.24233818	2.01882625	17.17804909	1019.89984131	156.21870422	24.12977982
30/04/2010	11:59:20	703		55.00000000	2.55157208	17.54790688	30.09012413	2.01482058	16.85960388	1021.56616211	153.89544678	24.11776352
30/04/2010	12:29:20	718		55.00000000	2.63969541	16.25969315	30.29040527	1.94572389	16.97376251	1019.27496338	152.90205383	24.31804466
30/04/2010	12:59:20	781		55.00000000	2.64770675	18.75280190	30.28239441	1.95874214	16.61926651	1020.26434326	150.93130493	24.40216255
30/04/2010	13:29:20	843		55.00000000	2.71580195	15.53226852	30.04606247	1.99979961	16.72141075	1020.26434326	152.29319763	24.37812805
30/04/2010	13:59:20	890		55.00000000	2.77188063	16.58334732	30.01001358	2.00580812	16.96174622	1021.40997314	148.91247559	24.65050888
30/04/2010	14:29:20	953		55.00000000	2.71179628	13.96205711	30.05407524	1.98678136	16.51111603	1019.95190430	146.97375488	24.33006096
30/04/2010	14:59:20	968		55.00000000	2.60364509	13.13529396	29.93390656	1.96875620	16.35489655	1018.12939453	148.76826477	24.30602837
30/04/2010	15:29:20	984		55.00000000	2.76386929	12.60013962	29.66553116	2.08792305	16.84157753	1019.58740234	151.47605896	24.43821335
30/04/2010	15:59:21	15		55.00000000	2.52353287	13.93642139	29.61345673	2.09192872	16.91968727	1020.26434326	154.10374451	23.89344978
30/04/2010	16:29:21	46		55.00000000	2.62367296	12.93981838	29.76967621	2.09893847	16.61926651	1019.32702637	152.51751709	23.93751144
30/04/2010	16:59:21	109		55.00000000	2.80392528	15.34961128	29.72961998	2.10094118	16.76346970	1020.73303223	153.01420593	24.01762390
30/04/2010	17:29:21	187		55.00000000	2.77588606	14.16073704	29.65351295	2.11496091	16.31283760	1020.57678223	151.20367432	23.95353317
30/04/2010	17:59:21	265		55.00000000	2.73583007	12.21559906	29.32905960	2.11996794	16.93771362	1017.76483154	151.33186340	24.48227501
30/04/2010	18:29:21	296		55.00000000	2.60364509	12.58411789	29.29300880	2.10795093	16.55918312	1018.33764648	150.22630310	24.18585968
30/04/2010	18:59:21	375		55.00000000	2.51952720	11.62596893	29.01662254	2.21109533	16.52313232	1019.48327637	152.80592346	24.19787598
30/04/2010	19:29:21	421		55.00000000	2.57560563	12.94302273	29.03264427	2.20909262	16.98578072	1020.36853027	151.29981995	23.92148972
30/04/2010	19:59:21	531		55.00000000	2.67574596	14.64782333	28.90045929	2.26717401	16.66132545	1021.98278809	153.55897522	23.89344978
30/04/2010	20:29:21	578		55.00000000	2.73583007	12.96545410	28.85639763	2.33627057	17.03384781	1020.88922119	152.43740845	23.82936096
30/04/2010	20:59:21	609		55.00000000	2.67174029	9.56867218	28.62006760	2.44942904	16.27077866	1018.96252441	153.01420593	23.52493477
30/04/2010	21:29:21	656		55.00000000	2.67174029	10.99788380	28.58401680	2.49949908	16.81754494	1018.65008545	154.02362061	23.54896736
30/04/2010	21:59:21	703		55.00000000	2.57560563	10.45632172	28.53594971	2.55657911	16.99178886	1020.73303223	154.82475281	23.37272072
30/04/2010	22:29:21	734		55.00000000	2.77588606	10.82484055	28.41578102	2.58461833	16.59523392	1020.78509521	154.56838989	23.20047951
30/04/2010	22:59:21	781		55.00000000	2.70378518	12.92700005	28.60804939	2.58161426	16.57720757	1021.25372314	155.22531128	23.40877151
30/04/2010	23:29:21	875		55.00000000	2.62767863	10.67743301	28.70418549	2.59663510	16.68535995	1019.11877441	155.59382629	23.12437248
30/04/2010	23:59:21	968		55.00000000	2.58361697	8.89251995	28.69216728	2.62267160	16.53514862	1019.63946533	157.00379944	23.50490570

Date	Time	Milli	Marl	0	Sts 1	Sts 2	S METHANE	S OXYGEN	S PRESSURE	S 6	S FLOW	S 8
31/05/2010	00:00:01	125	B	55.00000000	2.39935899	5.50855541	30.10614777	1.53114355	14.06569195	1019.58740234	132.28118896	24.58642006
31/05/2010	00:00:26	62		55.00000000	2.43941498	5.22014952	30.15822029	1.53114355	14.10174274	1019.58740234	137.05587769	24.61045456
31/05/2010	00:30:26	125		55.00000000	2.36731410	2.90969658	30.11015320	1.58822346	14.16783524	1018.44183350	138.99458313	24.70658875
31/05/2010	01:00:26	156		55.00000000	2.64370108	4.43183947	30.33847237	1.56819546	12.90005970	1018.80633545	139.25094604	24.51031303
31/05/2010	01:30:26	171		55.00000000	2.44742632	6.59808969	30.23432732	1.56919682	13.01422024	1020.47265625	136.97575378	24.92289162
31/05/2010	02:00:26	187		55.00000000	2.44742632	4.89969826	30.46264648	1.54416180	13.46485043	1019.37908936	137.84097290	24.65451622
31/05/2010	02:30:26	218		55.00000000	2.44742632	5.49253321	30.58281517	1.56118560	14.04165840	1019.43121338	136.49508667	24.68255424
31/05/2010	03:00:26	265		55.00000000	2.54356098	4.99583387	30.27037811	1.59623468	13.84338093	1019.58740234	131.88063049	24.51031303
31/05/2010	03:30:26	281		55.00000000	2.49148798	5.86105204	30.15822029	1.62928092	14.17985153	1019.89984131	137.96914673	24.42619514
31/05/2010	04:00:26	296		55.00000000	2.47145987	6.28725195	30.23032188	1.60524726	14.07770920	1021.09753418	133.86741638	24.21790314
31/05/2010	04:30:26	343		55.00000000	2.43540955	7.37358141	30.35449409	1.58521926	13.55497646	1021.30578613	138.01721191	24.47025681
31/05/2010	05:00:26	390		55.00000000	2.43941498	4.85483503	30.45864105	1.56018424	14.36611271	1019.27496338	131.54415894	24.53835297
31/05/2010	05:30:26	406		55.00000000	2.46344876	6.06934500	30.38653946	1.57320237	14.14980984	1020.26434326	137.71279907	24.47025681
31/05/2010	06:00:26	421		55.00000000	2.44742632	4.60488319	30.42259026	1.59222901	14.70859241	1019.43121338	137.61665344	24.52232933
31/05/2010	06:30:26	453		55.00000000	2.55157208	5.71364450	30.23432732	1.61826551	14.05968380	1020.10815430	132.07289124	24.81073380
31/05/2010	07:00:26	515		55.00000000	2.47546554	6.21354818	30.27037811	1.60424590	14.29401112	1021.51409912	138.41778564	24.43821335
31/05/2010	07:30:26	593		55.00000000	2.55157208	6.49234056	30.34648323	1.62327254	13.00821114	1020.88922119	139.47526550	24.35409546
31/05/2010	08:00:26	625		55.00000000	2.38333654	5.42523813	30.37852859	1.61425984	14.30602837	1019.63946533	139.81173706	24.50630760
31/05/2010	08:30:26	671		55.00000000	2.49949908	6.92494965	30.81914520	1.55417573	13.78329659	1020.36853027	137.95312500	24.53434753
31/05/2010	09:00:26	671		55.00000000	2.36330843	7.21335602	30.67093849	1.46104538	14.64850807	1019.89984131	134.73262024	24.73863220
31/05/2010	09:30:26	687		55.00000000	2.49949908	8.06575584	30.54676437	1.46004403	14.13178444	1020.94128418	131.88063049	25.22331238
31/05/2010	10:00:26	718		55.00000000	2.41938710	7.25181007	30.63889313	1.46004403	14.02363300	1020.00396729	132.93811035	25.30342293
31/05/2010	10:30:26	734		55.00000000	2.43941498	7.07556200	30.75906181	1.41998792	13.80733013	1019.79571533	127.66672516	25.55177116
31/05/2010	11:00:26	765		55.00000000	2.39134789	8.25802708	30.94732475	1.40096128	13.51291847	1019.74365234	134.38012695	25.47165871
31/05/2010	11:30:26	796		55.00000000	2.55958343	7.32551384	31.18365669	1.36390936	14.46825504	1020.00396729	132.34527588	25.57580566
31/05/2010	12:00:26	859		55.00000000	2.61566186	6.06934500	31.31183434	1.34988976	13.75926304	1018.33764648	128.22750854	25.70398521
31/05/2010	12:30:26	906		55.00000000	2.44342065	4.94135714	31.07950974	1.39194870	14.51031399	1018.33764648	128.19546509	25.23933411
31/05/2010	13:00:26	921		55.00000000	2.36731410	0.22431582	33.72320938	1.00741029	13.7127934	986.36486816	133.43479919	25.10714912
31/05/2010	13:30:26	984		55.00000000	2.47145987	24.21969986	32.42539597	1.21369910	15.01502132	1020.00396729	131.97676086	25.97236061
31/05/2010	14:00:27	31		55.00000000	2.36330843	21.86758804	31.91668129	1.23272574	13.96955776	1020.42059326	130.77508545	25.87622643
31/05/2010	14:30:27	62		55.00000000	2.57160020	22.46683121	31.78449631	1.23773277	14.02964115	1020.62884521	130.95132446	26.23272514
31/05/2010	15:00:27	62		55.00000000	2.49549365	19.43856812	31.83657074	1.25575805	12.78590012	1018.44183350	130.18225098	25.69997978
31/05/2010	15:30:27	125		55.00000000	2.69577408	21.00877953	31.67234039	1.24874818	12.00480652	1020.10815430	132.15301514	25.87221909
31/05/2010	16:00:27	156		55.00000000	2.64370108	25.13298607	31.86861420	1.22471452	14.09573364	1021.20166016	130.58280945	25.79611397
31/05/2010	16:30:27	203		55.00000000	2.55958343	21.91245079	32.02483368	1.21269774	14.78069305	1020.00396729	130.13418579	25.70799065
31/05/2010	17:00:27	218		55.00000000	2.69977951	22.07588196	31.83657074	1.23773277	14.11976719	1019.63946533	134.47625732	25.66392899
31/05/2010	17:30:27	250		55.00000000	2.45143199	24.49528694	31.98878288	1.24173844	13.89144802	1021.40997314	128.46784973	25.57981110
31/05/2010	18:00:27	265		55.00000000	2.43941498	23.82234001	31.70839119	1.25175238	14.16783524	1020.42059326	134.63648987	25.36350822
31/05/2010	18:30:27	281		55.00000000	2.36330843	21.27795792	31.90466499	1.26577199	14.40216255	1017.71276855	135.29341125	25.22731781
31/05/2010	19:00:27	312		55.00000000	2.61165619	23.13016510	31.71239662	1.29981971	14.37812901	1021.20166016	135.83816528	25.19527245
31/05/2010	19:30:27	343		55.00000000	2.48748231	21.69133949	31.70839119	1.32385337	14.78069305	1020.21228027	136.38293457	25.02703667
31/05/2010	20:00:27	375		55.00000000	2.45944309	19.28795624	32.10895157	1.32886040	14.58241558	1018.96252441	139.85980225	25.27137947
31/05/2010	20:30:27	421		55.00000000	2.41137576	20.82612228	32.30923080	1.31984770	13.47686768	1020.00396729	140.56478882	24.92289162
31/05/2010	21:00:27	484		55.00000000	2.31924677	21.23309517	32.37332153	1.31984770	13.69317055	1019.43121338	136.33486938	25.08712006
31/05/2010	21:30:27	515		55.00000000	2.49549365	18.52848625	32.37332153	1.33186460	14.59443188	1018.44183350	137.47245789	24.69857788
31/05/2010	22:00:27	546		55.00000000	2.44742632	21.00877953	32.29721451	1.33687150	14.60644913	1020.05609131	140.90126038	24.71860504
31/05/2010	22:30:27	593		55.00000000	2.41938710	20.66589546	32.34127808	1.31884634	14.40216255	1020.21228027	137.39234924	24.88684082
31/05/2010	23:00:27	609		55.00000000	2.49148798	19.83592796	32.41738129	1.30482674	14.28199482	1019.63946533	141.06147766	24.75465584
31/05/2010	23:30:27	656		55.00000000	2.31123567	20.24930954	32.41738129	1.29781687	14.25796127	1020.00396729	139.20288086	24.73462677

Date	Time	Milli	Marl	0	Sts 1	Sts 2	S METHANE	S OXYGEN	S PRESSURE	S 6	S FLOW	S 8
28/06/2010	00:00:24	687	B	55.00000000	2.28319645	20.00897026	41.02543259	0.75505704	9.25896263	1021.25372314	98.84237671	28.58001137
28/06/2010	00:01:23	812		55.00000000	2.43941498	18.89059639	41.06148529	0.75705987	8.68816376	1019.89984131	105.33145905	28.55998230
28/06/2010	00:31:23	859		55.00000000	2.33927488	17.67608643	41.11355591	0.79311031	9.21089554	1019.17083740	115.68195343	28.35169029
28/06/2010	01:01:23	890		55.00000000	2.27518511	20.96071053	41.18565750	0.79511315	11.54215908	1020.99334717	111.45202637	28.23552895
28/06/2010	01:31:23	921		55.00000000	2.25115156	18.90662003	41.34588242	0.81113553	9.88984585	1020.78509521	105.94031525	28.35169029
28/06/2010	02:01:23	984		55.00000000	2.13899446	19.55393028	41.37792587	0.81714398	8.59803677	1021.09753418	101.30982971	28.18746185
28/06/2010	02:31:24	31		55.00000000	2.22711778	18.28174019	41.45803833	0.82916081	9.12677765	1020.73303223	106.08451080	27.69877625
28/06/2010	03:01:24	62		55.00000000	2.31123567	16.66025734	41.66232681	0.81514114	8.73022270	1019.01458740	104.81874084	27.93911362
28/06/2010	03:31:24	78		55.00000000	2.17103934	18.86816406	41.93871307	0.77909070	9.40917301	1019.79571533	111.61225128	28.05928230
28/06/2010	04:01:24	93		55.00000000	2.45944309	18.23367119	41.89865494	0.80312437	10.41257763	1020.42059326	104.96294403	28.09933853
28/06/2010	04:31:24	109		55.00000000	2.24714589	15.14131737	42.05487442	0.78610051	8.20749092	1019.37908936	106.30883026	28.15541649
28/06/2010	05:01:24	156		55.00000000	2.34328055	19.70454216	42.01081467	0.79711592	12.10694981	1021.30578613	109.81774139	27.99919701
28/06/2010	05:31:24	203		55.00000000	2.25916266	19.08286667	42.16302490	0.76507109	7.52253151	1021.67034912	106.70938873	27.89104652
28/06/2010	06:01:24	218		55.00000000	2.26316833	18.04460526	41.93871307	0.75705987	9.93791294	1019.48327637	111.35589600	28.29160690
28/06/2010	06:31:24	234		55.00000000	2.35930300	18.34903336	42.17504501	0.73402762	9.40917301	1020.36853027	109.04866028	28.33566856
28/06/2010	07:01:24	312		55.00000000	2.23512912	18.05421829	42.09092712	0.73002201	9.60745049	1020.36853027	106.32485199	28.31964684
28/06/2010	07:31:24	406		55.00000000	2.22311234	20.38710403	41.97876740	0.74604446	8.61606216	1021.56616211	104.40216064	28.17544365
28/06/2010	08:01:24	500		55.00000000	2.33526921	21.69454384	41.97075653	0.71700376	8.91648293	1021.93066406	102.52753448	28.41978645
28/06/2010	08:31:24	531		55.00000000	2.28720188	18.37467003	41.97476196	0.67494488	8.09333038	1020.21228027	105.33145905	28.59202766
28/06/2010	09:01:24	625		55.00000000	2.24714589	20.99916458	42.08692169	0.65491688	8.59202862	1021.61822510	106.91767883	28.55998230
28/06/2010	09:31:24	734		55.00000000	2.39535332	19.93206215	41.87862778	0.61486077	9.17484474	1019.48327637	100.58882141	28.86440849
28/06/2010	10:01:24	828		55.00000000	2.26717401	17.94526482	42.04686356	0.59383136	8.91648293	1019.27496338	102.20708466	28.72020721
28/06/2010	10:31:24	953		55.00000000	2.31524134	20.55053329	42.17504501	0.54376125	8.54396152	1019.69152832	93.73121643	28.88844299
28/06/2010	11:01:24	984		55.00000000	2.32725811	21.62724876	42.04686356	0.53174442	9.81774521	1020.47265625	105.23532867	29.34508133
28/06/2010	11:31:25	46		55.00000000	2.36731410	20.38389969	42.24714279	0.50971359	8.64610481	1019.48327637	96.23072052	29.05667877
28/06/2010	12:01:25	109		55.00000000	2.16302824	19.43856812	42.40336227	0.49369115	9.08471870	1020.42059326	95.38153076	29.12076759
28/06/2010	12:31:25	218		55.00000000	2.15902257	18.94186783	42.53154373	0.49769676	8.28559971	1019.48327637	92.38533783	29.28099251
28/06/2010	13:01:25	312		55.00000000	2.28319645	20.64666939	42.35930252	0.51472056	9.97396374	1020.99334717	98.31363678	29.16082382
28/06/2010	13:31:25	406		55.00000000	2.25916266	18.72396278	42.27518463	0.50670940	8.23753262	1020.10815430	93.29861450	29.23693085
28/06/2010	14:01:25	484		55.00000000	2.20308423	16.94866180	42.43941498	0.49168834	7.75085115	1018.75421143	96.53514862	29.36511040
28/06/2010	14:31:25	593		55.00000000	2.16302824	20.44478416	42.60765076	0.46064487	9.68556023	1020.99334717	104.64249420	29.50130081
28/06/2010	15:01:25	609		55.00000000	2.19907856	22.02781296	42.76386642	0.45563787	9.45123196	1020.94128418	94.48427582	29.38513756
28/06/2010	15:31:25	625		55.00000000	2.32725811	19.11491203	42.92809677	0.46565190	8.46585178	1019.58740234	93.66712952	29.38513756
28/06/2010	16:01:25	671		55.00000000	2.32325244	19.17579842	42.84798431	0.48668134	7.42639685	1019.79571533	100.09212494	29.49328995
28/06/2010	16:31:25	796		55.00000000	2.10294414	22.11754036	42.97216034	0.47766870	8.53795338	1020.05609131	93.73121643	29.32104874
28/06/2010	17:01:25	984		55.00000000	2.32325244	22.49887657	42.73182297	0.47466451	8.58602047	1020.78509521	94.54836273	29.89385033
28/06/2010	17:31:26	62		55.00000000	2.38333654	19.31038666	42.83196259	0.47967151	8.09333949	1020.31640625	95.58982086	29.34107590
28/06/2010	18:01:26	140		55.00000000	2.35129166	20.62423706	42.96414948	0.48467854	9.06068516	1020.68090820	93.13838959	29.41718292
28/06/2010	18:31:26	203		55.00000000	2.15902257	18.07024193	42.96014404	0.47166032	10.92329216	1018.18145752	101.38993835	29.36911583

Date	Time	Milli	Marl	0	Sts 1	Sts 2	S METHANE	S OXYGEN	S PRESSURE	S 6	S FLOW	S 8
31/07/2010	00:00:13	609	B	55.00000000	2.25115156	33.37498856	36.64329910	2.39935899	14.18586063	1018.59802246	137.88903809	25.71199608
31/07/2010	00:11:01	234		55.00000000	2.33526921	34.36838913	36.72741699	2.37031841	14.70258331	1019.95190430	138.17744446	26.08451653
31/07/2010	00:41:01	281		55.00000000	2.17504501	34.33313751	36.79951859	2.42038846	14.52233124	1020.42059326	138.64208984	25.62787819
31/07/2010	01:11:01	296		55.00000000	2.30322433	34.27225113	36.99979782	2.38133383	14.26396942	1019.89984131	149.02462769	26.00039864
31/07/2010	01:41:01	328		55.00000000	2.42339253	37.36140060	37.11595917	2.33827353	16.25275421	1020.73303223	150.11415100	25.84818649
31/07/2010	02:11:01	375		55.00000000	2.39134789	35.66941833	37.15201187	2.34628463	13.75325489	1019.43121338	143.75325012	26.08451653
31/07/2010	02:41:01	406		55.00000000	2.21910667	36.25584412	37.22811890	2.32525516	13.88543987	1021.09753418	144.87481689	26.01241684
31/07/2010	03:11:01	453		55.00000000	2.51952720	36.08280182	37.24013519	2.28219509	13.62106991	1019.63946533	147.00579834	25.78810310
31/07/2010	03:41:01	515		55.00000000	2.41538143	34.49336243	37.44441986	2.32725811	16.47506523	1019.58740234	148.97656250	25.98437691
31/07/2010	04:11:01	546		55.00000000	2.51552153	37.07940674	37.47246170	2.28620052	16.33086395	1020.88922119	143.91346741	26.46104431
31/07/2010	04:41:01	609		55.00000000	2.31524134	36.29430008	37.35229111	2.33026218	15.30342484	1020.73303223	139.71559143	25.92829895
31/07/2010	05:11:01	640		55.00000000	2.38734221	34.71447372	37.20007706	2.33226514	16.12056923	1019.37908936	150.97937012	25.73202324
31/07/2010	05:41:01	687		55.00000000	2.27518511	36.46093369	37.27618408	2.31524134	16.27077866	1019.89984131	151.05947876	25.67193985
31/07/2010	06:11:01	703		55.00000000	2.30322433	37.39665222	37.28018951	2.29721594	14.90086079	1020.31640625	150.16221619	25.81213570
31/07/2010	06:41:01	750		55.00000000	2.36330843	34.29148102	37.02783585	2.34227920	16.09052658	1019.43121338	150.17823792	25.69597244
31/07/2010	07:11:01	812		55.00000000	2.36330843	34.24661636	36.79951859	2.41938710	16.16863632	1019.63946533	145.70799255	25.61185646
31/07/2010	07:41:01	859		55.00000000	2.25916266	33.36857986	36.79150772	2.40636873	14.83476830	1019.37908936	140.80511475	25.71199608
31/07/2010	08:11:01	875		55.00000000	2.24314022	33.81400681	36.40296173	2.43841362	13.43480873	1019.79571533	147.47045898	25.75205231
31/07/2010	08:41:01	921		55.00000000	2.31123567	34.69204330	36.64329910	2.40737033	13.87342262	1019.32702637	150.57881165	25.81213570
31/07/2010	09:11:01	968		55.00000000	2.39535332	37.21399307	36.69136810	2.38333654	16.15060997	1021.30578613	144.20187378	25.78409576
31/07/2010	09:41:02	0		55.00000000	2.21510100	35.23681259	36.60725021	2.38634086	16.50510788	1019.48327637	143.94551086	26.03644943
31/07/2010	10:11:02	46		55.00000000	2.37131977	36.99288177	36.56719208	2.38333654	15.47166061	1021.20166016	139.74763489	25.96434975
31/07/2010	10:41:02	46		55.00000000	2.27518511	36.44491196	36.83957291	2.31824541	16.24073792	1020.57678223	138.75425720	26.12056732
31/07/2010	11:11:02	93		55.00000000	2.23512912	35.40024185	36.99979782	2.30122161	16.13258553	1019.37908936	142.39134216	26.08451653
31/07/2010	11:41:02	140		55.00000000	2.34328055	36.32313919	37.47646713	2.20007992	15.03304577	1019.06665039	147.77487183	26.52112770
31/07/2010	12:11:02	156		55.00000000	2.27518511	35.97064209	37.43240356	2.25916266	13.72321224	1019.48327637	144.28198242	26.29681396
31/07/2010	12:41:02	187		55.00000000	2.23512912	38.76177216	37.40436554	2.25715995	16.01241684	1021.98278809	140.00399780	26.72941971
31/07/2010	13:11:02	234		55.00000000	2.37532544	37.41587830	37.74884796	2.19307017	14.34207916	1021.04547119	146.34887695	26.90967178
31/07/2010	13:41:02	296		55.00000000	2.21910667	36.97045135	37.67274094	2.17003798	13.99359131	1020.36853027	134.55636597	26.49709511
31/07/2010	14:11:02	312		55.00000000	2.35129166	36.73972702	37.44441986	2.22411370	16.27678680	1021.09753418	143.16041565	26.41297722
31/07/2010	14:41:02	343		55.00000000	2.31924677	36.71729660	37.24013519	2.25215292	13.36871624	1020.42059326	147.47045898	26.32885933
31/07/2010	15:11:02	453		55.00000000	2.34328055	36.32954788	37.20007706	2.18305612	16.25275421	1020.94128418	140.34046936	26.34087563
31/07/2010	15:41:02	515		55.00000000	2.23512912	37.45753860	36.79951859	2.35629869	15.00300407	1021.09753418	136.54315186	25.98437691
31/07/2010	16:11:02	609		55.00000000	2.21910667	37.00249863	36.88764191	2.28219509	16.12056923	1021.77447510	138.44982910	26.25275230
31/07/2010	16:41:02	671		55.00000000	2.34728599	37.25244904	36.79150772	2.37532544	13.50090122	1021.30578613	145.98036194	25.80813026
31/07/2010	17:11:02	750		55.00000000	2.34728599	34.53502274	36.46705246	2.37832952	16.16262817	1018.96252441	135.83816528	26.17664528
31/07/2010	17:41:02	796		55.00000000	2.15902257	36.02191544	36.67934799	2.37832952	13.28459835	1020.73303223	142.96815491	25.98037148
31/07/2010	18:11:02	812		55.00000000	2.45143199	37.31974411	36.49108505	2.44141793	14.55838203	1020.36853027	134.86079407	26.26477051
31/07/2010	18:41:02	875		55.00000000	2.10294414	37.00570297	36.44702530	2.48447824	16.27678680	1020.88922119	137.10394287	25.93630981
31/07/2010	19:11:02	921		55.00000000	2.19507313	35.37139893	36.16663361	2.50350475	13.20648861	1019.32702637	147.90306091	25.92028809
31/07/2010	19:41:02	953		55.00000000	2.33927488	35.72069168	36.07851028	2.52753854	13.87943077	1020.73303223	148.06327820	25.77207947
31/07/2010	20:11:03	31		55.00000000	2.27518511	34.71447372	35.84618378	2.60064077	16.20468712	1019.43121338	144.20187378	25.61185646
31/07/2010	20:41:03	62		55.00000000	2.48748231	34.79138184	35.92229080	2.58862400	16.21670341	1019.69152832	141.17362976	25.65191078
31/07/2010	21:11:03	93		55.00000000	2.24714589	35.84246445	35.64590454	2.65371513	13.53695202	1020.36853027	145.11515808	25.50370407
31/07/2010	21:41:03	125		55.00000000	2.37131977	35.56046677	35.32545471	2.73983574	16.77548599	1020.21228027	146.95773315	25.24734497
31/07/2010	22:11:03	187		55.00000000	2.33927488	35.14708328	35.24934769	2.76186657	15.15321445	1021.25372314	140.14820862	25.22331238
31/07/2010	22:41:03	265		55.00000000	2.18305612	34.23379898	35.27738571	2.80392528	13.98157406	1019.63946533	144.00961304	25.09513283
31/07/2010	23:11:03	281		55.00000000	2.38734221	34.01589203	35.04906845	2.82695770	13.84338093	1019.63946533	147.10194397	25.00700951
31/07/2010	23:41:03	328		55.00000000	2.43941498	37.37422180	35.41357803	2.78189445	16.48107338	1021.20166016	145.82014465	25.14720535

Date	Time	Milli	Marl	0	Sts	1	Sts	2	S	METHANE	S	OXYGEN	S	PRESSURE	S	6	S	FLOW	S	8
31/08/2010	09:03:29	531	B	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000	U	0.00000000
31/08/2010	09:33:30	390		55.00000000		2.32725811		24.01140594		33.06228638		2.36330843		15.75405598		1019.63946533		153.86340332		24.78269386
31/08/2010	10:03:31	343		55.00000000		2.15101123		26.53656197		33.06228638		2.28019214		15.68195438		1022.19104004		151.52412415		25.07510376
31/08/2010	10:33:31	375		55.00000000		2.26316833		24.61385536		33.29861832		2.24614453		15.61586189		1019.11877441		149.05667114		25.17123795
31/08/2010	11:03:31	468		55.00000000		2.22711778		26.04306602		33.65912247		2.21810532		15.56178665		1020.88922119		146.30081177		25.55577660
31/08/2010	11:33:31	500		55.00000000		2.38734221		27.00121498		33.78329468		2.21910667		15.47166061		1019.01458740		144.77868652		25.52373123
31/08/2010	12:03:33	78		55.00000000		2.34328055		28.47208595		33.80732727		2.18205476		15.45363522		1019.89984131		143.68916321		25.37151909
31/08/2010	12:33:34	640		55.00000000		2.25115156		28.96237755		33.98357391		2.11696362		15.39955902		1019.79571533		146.52513123		25.11115456
31/08/2010	13:03:35	328		55.00000000		2.31123567		26.69358253		34.17184067		2.05587816		15.45964336		1019.89984131		146.60523987		25.12317085
31/08/2010	13:33:35	515		55.00000000		2.31123567		28.74767494		34.28800201		1.99479258		15.01502132		1018.07727051		145.11515808		25.79611397
31/08/2010	14:03:35	578		55.00000000		2.33927488		30.86585617		34.54836655		1.95874214		14.82275200		1018.18145752		136.51110840		25.72401237
31/08/2010	14:33:36	406		55.00000000		2.39535332		32.14445877		34.36010361		1.93570995		15.20728970		1021.25372314		143.89744568		25.38754082
31/08/2010	15:03:36	625		55.00000000		2.13498878		28.68358421		34.46825409		1.92569590		14.15581799		1019.01458740		142.85598755		25.87622643
31/08/2010	15:33:36	671		55.00000000		2.39935899		30.58706474		34.60044098		1.85259354		14.51031399		1020.26434326		138.78630066		26.07250023
31/08/2010	16:03:37	140		55.00000000		2.27518511		33.22437668		34.74864578		1.83056271		14.88884449		1022.55554199		141.18966675		26.15261269
31/08/2010	16:33:37	484		55.00000000		2.43941498		29.10658073		35.02102661		1.81654310		15.26136589		1019.69152832		137.16802979		26.16462898
31/08/2010	17:03:37	546		55.00000000		2.39535332		30.75049400		35.21730423		1.78950524		14.84678555		1019.58740234		136.79951477		25.98838234
31/08/2010	17:33:37	609		55.00000000		2.49949908		31.88168716		35.20528412		1.83757257		15.57981205		1021.30578613		143.97756958		25.95233154
31/08/2010	18:03:37	656		55.00000000		2.27117944		29.75068665		34.94091415		1.86360896		15.31544113		1021.04547119		145.77207947		25.78409576
31/08/2010	18:33:37	687		55.00000000		2.41538143		31.50355530		35.01301575		1.83156407		15.26737404		1020.26434326		145.94831848		25.93230438
31/08/2010	19:03:37	781		55.00000000		2.44342065		30.26981735		34.97296143		1.84558380		15.43560982		1020.47265625		141.76646423		26.10855103
31/08/2010	19:33:37	828		55.00000000		2.24314022		31.51637268		34.70458603		1.90767062		15.60384560		1021.72241211		146.55717468		25.67193985
31/08/2010	20:03:37	890		55.00000000		2.29921889		31.66378021		34.47225952		1.97576594		15.42359257		1020.99334717		146.17263794		25.34748459
31/08/2010	20:33:37	906		55.00000000		2.36330843		29.30205536		34.32405090		2.06789494		15.50170231		1020.99334717		147.26216125		25.32345200
31/08/2010	21:03:37	921		55.00000000		2.36330843		27.25437164		34.27198029		2.11095524		15.61586189		1020.62884521		148.39974976		25.32345200
31/08/2010	21:33:37	953		55.00000000		2.45944309		23.69416046		34.03965378		2.15902257		15.62187099		1018.33764648		148.59202576		24.71860504
31/08/2010	22:03:37	984		55.00000000		2.32725811		24.66192245		34.08371735		2.20208287		15.60985374		1019.27496338		148.68815613		24.91087341
31/08/2010	22:33:38	62		55.00000000		2.49549365		28.21892929		34.24794388		2.20108151		15.69997978		1022.34729004		149.00860596		25.04706573
31/08/2010	23:03:38	78		55.00000000		2.36731410		26.31545067		34.59242630		2.21409965		15.68195438		1021.30578613		150.30642700		25.02703667
31/08/2010	23:33:38	109		55.00000000		2.38734221		27.86002541		34.36010361		2.22010803		15.73603058		1021.30578613		150.29040527		24.88684082

Date	Time	Milli	Marl	0	Sts 1	Sts 2	S METHANE	S OXYGEN	S PRESSURE	S 6	S FLOW	S 8
30/09/2010	00:00:17	15	B	55.00000000	2.48748231	36.97686005	35.12517548	2.01682353	15.66993809	1021.77447510	154.16783142	24.94692421
30/09/2010	00:04:47	687		55.00000000	2.47546554	35.54764938	35.12517548	2.01482058	15.52573586	1021.09753418	154.13578796	24.89885712
30/09/2010	00:34:47	718		55.00000000	2.31123567	34.15689087	35.15321350	2.00781083	15.03905487	1018.80633545	153.76727295	24.97496414
30/09/2010	01:04:47	734		55.00000000	2.37131977	33.75952911	35.39355087	1.98578000	15.79611492	1019.27496338	152.37332153	24.92689705
30/09/2010	01:34:47	765		55.00000000	2.27117944	35.47074127	35.39755630	1.95874214	15.08111382	1020.36853027	153.43080139	24.50630760
30/09/2010	02:04:47	812		55.00000000	2.38333654	35.75914764	35.71399689	1.91868603	15.56779480	1021.35791016	153.36671448	24.75065041
30/09/2010	02:34:47	859		55.00000000	2.33927488	32.47131729	35.51772308	1.93771267	15.06909657	1018.28558350	154.16783142	24.89485168
30/09/2010	03:04:47	859		55.00000000	2.37131977	35.31051636	35.64590454	1.91968751	15.36951733	1020.10815430	153.31863403	24.69457054
30/09/2010	03:34:47	921		55.00000000	2.14300013	35.40344620	35.95032883	1.88964546	15.27338314	1019.74365234	153.81533813	24.73462677
30/09/2010	04:04:47	984		55.00000000	2.32325244	35.78798676	36.15461349	1.85059071	15.30342484	1020.26434326	154.13578796	25.11115456
30/09/2010	04:34:48	31		55.00000000	2.23913479	34.40043259	36.15060806	1.85159218	15.06909657	1019.58740234	153.36671448	25.11916542
30/09/2010	05:04:48	46		55.00000000	2.32325244	34.91315460	36.15461349	1.84257948	15.33346653	1019.63946533	154.90486145	25.09513283
30/09/2010	05:34:48	62		55.00000000	2.31524134	36.01230240	36.11455917	1.83356690	15.21930695	1019.63946533	154.42419434	24.92689705
30/09/2010	06:04:48	140		55.00000000	2.34328055	33.81080246	36.23072052	1.81253743	14.97897053	1018.96252441	153.81533813	25.07510376
30/09/2010	06:34:48	171		55.00000000	2.29521322	36.02832413	36.42699814	1.79651499	15.50771046	1020.05609131	153.87942505	25.13919449
30/09/2010	07:04:48	203		55.00000000	2.39134789	36.20137024	36.31483841	1.80652905	15.23132420	1020.36853027	154.31202698	24.97095871
30/09/2010	07:34:48	234		55.00000000	2.38333654	36.56027222	36.30682755	1.79351079	15.35750008	1020.68090820	153.68714905	24.95493507
30/09/2010	08:04:48	234		55.00000000	2.41938710	34.14727783	36.43100357	1.79551363	15.23733234	1018.70214844	153.76727295	24.97095871
30/09/2010	08:34:48	328		55.00000000	2.42739820	34.81061172	36.51512146	1.77047861	15.15321445	1019.06665039	152.43740845	24.75065041
30/09/2010	09:04:48	390		55.00000000	2.54756641	34.16009521	36.36290741	1.78950524	14.94892883	1018.80633545	154.27998352	25.17123795
30/09/2010	09:34:48	421		55.00000000	2.45143199	35.21437836	36.24273682	1.74944913	15.39355087	1019.48327637	152.22911072	25.23132324
30/09/2010	10:04:48	421		55.00000000	2.31924677	34.21136856	36.63929367	1.71239734	15.07510471	1018.18145752	151.81253052	25.28740120
30/09/2010	10:34:48	437		55.00000000	2.38333654	36.73652267	36.70338440	1.67434406	14.89485264	1020.42059326	149.05667114	25.55577660
30/09/2010	11:04:48	484		55.00000000	2.25916266	34.75933838	36.51512146	1.65031040	15.13518906	1019.69152832	149.21690369	25.39955902
30/09/2010	11:34:48	546		55.00000000	2.25115156	37.33256149	36.86761475	1.54316032	14.96094513	1021.30578613	147.26216125	25.86020279
30/09/2010	12:04:48	578		55.00000000	2.08291602	38.39645767	37.47246170	1.47005796	15.60384560	1021.77447510	149.52131653	26.12857819
30/09/2010	12:34:48	609		55.00000000	2.29120755	37.60174179	37.47646713	1.47606647	15.30943298	1021.09753418	147.48648071	26.68936348
30/09/2010	13:04:48	671		55.00000000	2.38734221	36.43529892	37.46845245	1.44602442	15.42359257	1019.89984131	147.02182007	26.40496635
30/09/2010	13:34:48	734		55.00000000	2.31524134	37.10183716	37.67674637	1.43100333	15.19527340	1021.04547119	148.11134338	26.39695549
30/09/2010	14:04:48	781		55.00000000	2.29120755	34.83945084	37.87302017	1.36891639	15.17123985	1018.70214844	145.05107117	26.67334175
30/09/2010	14:34:48	796		55.00000000	2.23913479	35.89693832	38.02923965	1.32285190	15.38754272	1019.69152832	145.67593384	27.15401459
30/09/2010	15:04:48	890		55.00000000	2.25115156	35.45792389	38.49789429	1.28279591	15.11115551	1018.59802246	147.32624817	26.66132545
30/09/2010	15:34:48	937		55.00000000	2.28720188	35.51560211	38.65411377	1.25375521	14.97296238	1019.17083740	147.00579834	26.43300438
30/09/2010	16:04:49	31		55.00000000	2.33526921	34.85867691	39.00660706	1.18766272	15.44762707	1018.75421143	145.57980347	26.64129639
30/09/2010	16:34:49	78		55.00000000	2.32725811	37.04095078	39.44321823	1.14159822	14.92489433	1020.21228027	146.98977661	27.00981331
30/09/2010	17:04:49	93		55.00000000	2.37131977	37.69787598	39.55537415	1.13158417	14.63048267	1020.42059326	147.87101746	26.84157753
30/09/2010	17:34:49	218		55.00000000	2.40336466	37.80041885	39.28299332	1.15962338	14.81674385	1020.36853027	147.59863281	26.64930725
30/09/2010	18:04:49	281		55.00000000	2.42339253	37.96064758	39.23492813	1.15962338	15.27338314	1020.42059326	147.71078491	26.37692642
30/09/2010	18:34:49	328		55.00000000	2.37131977	37.85169220	39.43520737	1.15962338	14.70859241	1021.35791016	147.55056763	26.60124016
30/09/2010	19:04:49	375		55.00000000	2.31123567	37.53444672	39.83176422	1.12557578	15.08111382	1020.94128418	147.69476318	26.66132545
30/09/2010	19:34:49	421		55.00000000	2.47546554	35.67582703	39.68355560	1.14059675	15.08712196	1019.32702637	148.62406921	26.43700981
30/09/2010	20:04:49	468		55.00000000	2.31924677	35.74312210	39.71960449	1.12857997	15.11716366	1019.06665039	148.78428650	26.37292099
30/09/2010	20:34:49	500		55.00000000	2.36330843	38.30673218	40.10414505	1.10755050	15.26136589	1020.47265625	148.39974976	26.33286476
30/09/2010	21:04:49	531		55.00000000	2.38333654	37.93821335	40.45263290	1.08051264	15.23733234	1020.47265625	147.02182007	26.50110054
30/09/2010	21:34:49	625		55.00000000	2.36330843	35.41626358	40.49669266	1.07350290	15.07510471	1019.11877441	147.40635681	26.62126923
30/09/2010	22:04:49	671		55.00000000	2.47145987	38.92840958	40.58481598	1.07650709	15.05107117	1021.25372314	148.03123474	26.34888649
30/09/2010	22:34:49	703		55.00000000	2.26717401	36.06998444	40.61285782	1.04746640	15.35149193	1018.96252441	147.40635681	26.44902802
30/09/2010	23:04:49	718		55.00000000	2.24714589	35.52841949	40.66092300	1.04546356	15.06909657	1018.18145752	147.15000916	26.56518936
30/09/2010	23:34:49	781		55.00000000	2.29120755	37.10504150	40.80913162	1.02543557	14.71460056	1018.96252441	146.68534851	26.53715134

Date	Time	Milli	Marl	0	Sts 1	Sts 2	S METHANE	S OXYGEN	S PRESSURE	S 6	S FLOW	S 8
31/10/2010	00:00:00	546	B	55.00000000	2.47145987	34.75933838	38.73022079	0.83416778	13.60905266	1019.32702637	144.97094727	26.18065262
31/10/2010	00:06:02	968		55.00000000	2.43941498	33.81721115	38.72621536	0.83516920	13.76527119	1018.02520752	145.57980347	26.28880310
31/10/2010	00:36:03	62		55.00000000	2.31123567	34.51900101	39.15081024	0.68596029	13.66913700	1018.02520752	145.25935364	26.68135262
31/10/2010	01:06:03	125		55.00000000	2.41938710	38.22021103	38.95453644	0.68495893	13.69317055	1021.93066406	144.92288208	26.48908424
31/10/2010	01:36:03	156		55.00000000	2.27518511	37.55367279	39.00660706	0.67794907	13.66312790	1020.99334717	145.09913635	26.41297722
31/10/2010	02:06:03	218		55.00000000	2.33927488	34.06075668	38.97856903	0.67995191	13.56699371	1018.12939453	143.99359131	26.32084846
31/10/2010	02:36:03	328		55.00000000	2.46344876	35.23681259	38.61005402	0.68495893	13.70518684	1020.57678223	144.66653442	26.62126923
31/10/2010	03:06:03	359		55.00000000	2.36330843	32.79176712	38.65411377	0.69196874	13.64510345	1017.97314453	145.45162964	26.46504974
31/10/2010	03:36:03	390		55.00000000	2.35129166	35.77516937	38.84638214	0.69397151	13.76527119	1021.61822510	145.62786865	26.50911140
31/10/2010	04:06:03	390		55.00000000	2.39535332	35.82964706	38.72220993	0.69597435	13.71720409	1019.63946533	145.70799255	26.62126923
31/10/2010	04:36:03	453		55.00000000	2.39535332	35.54124069	38.72621536	0.70598835	13.83136368	1019.63946533	145.77207947	26.52914047
31/10/2010	05:06:03	468		55.00000000	2.41538143	34.15368652	38.65411377	0.71199679	13.66312790	1018.59802246	145.08311462	26.26076317
31/10/2010	05:36:03	500		55.00000000	2.37532544	38.12407684	38.49388885	0.65992385	13.62106991	1021.56616211	145.06709290	26.58121300
31/10/2010	06:06:03	546		55.00000000	2.51151609	33.21796799	38.44982910	0.63989586	13.47686768	1019.43121338	144.74664307	26.65331268
31/10/2010	06:36:03	578		55.00000000	2.24314022	33.20835495	38.30162048	0.63589025	13.54896832	1018.96252441	145.08311462	26.50110054
31/10/2010	07:06:03	609		55.00000000	2.44742632	35.11503983	38.22551346	0.64590424	13.76527119	1020.36853027	145.27537537	26.50110054
31/10/2010	07:36:03	671		55.00000000	2.54356098	34.36838913	38.10534668	0.65691966	13.47686768	1020.21228027	144.55436707	26.98577881
31/10/2010	08:06:03	718		55.00000000	2.53955531	36.69486237	38.02923965	0.67294210	13.40476704	1020.99334717	144.92288208	26.22871971
31/10/2010	08:36:03	734		55.00000000	2.43941498	32.07075500	37.79691315	0.69196874	13.58501911	1017.76483154	145.00299072	26.52513313
31/10/2010	09:06:03	765		55.00000000	2.35129166	34.83304214	37.34027481	0.78009212	13.50690937	1020.05609131	145.22731018	26.28079224
31/10/2010	09:36:03	796		55.00000000	2.26316833	34.63756561	37.23212433	0.80712992	13.47085953	1020.05609131	145.14720154	26.37692642
31/10/2010	10:06:03	828		55.00000000	2.29921889	34.23700333	36.95173264	0.85019022	12.87602615	1020.47265625	140.21229553	26.03644943
31/10/2010	10:36:03	859		55.00000000	2.35129166	32.81099701	37.02383041	0.84918880	13.92148972	1018.07727051	145.49969482	26.33286476
31/10/2010	11:06:03	937		55.00000000	2.43540955	31.02608299	36.79951859	0.86220706	13.45884228	1017.66070557	143.65711975	25.88824272
31/10/2010	11:36:03	968		55.00000000	2.34728599	31.56123543	36.97977066	0.83617061	13.66913700	1018.96252441	145.37152100	26.17263985
31/10/2010	12:06:03	984		55.00000000	2.47546554	32.35274887	36.71940613	0.85319442	13.55497646	1019.69152832	145.06709290	26.26076317
31/10/2010	12:36:04	78		55.00000000	2.34328055	32.41683960	36.67934799	0.85619867	13.80733013	1019.58740234	141.94271851	26.20067978
31/10/2010	13:06:04	109		55.00000000	2.30322433	32.26302338	36.47506332	0.85319442	12.42539597	1020.00396729	141.26977539	26.03644943
31/10/2010	13:36:04	156		55.00000000	2.39134789	30.82419777	36.35489655	0.86220706	12.93611050	1020.05609131	141.76646423	26.32084846
31/10/2010	14:06:04	203		55.00000000	2.35930300	33.17951584	36.35089111	0.88123369	12.74984932	1020.05609131	137.44041443	26.19667435
31/10/2010	14:36:04	234		55.00000000	2.23512912	31.33691978	36.19066620	0.89525330	12.59963989	1021.40997314	136.07850647	26.13258362
31/10/2010	15:06:04	265		55.00000000	2.36330843	31.39139748	36.30282211	0.90426594	13.43480873	1022.19104004	137.98516846	26.23673058
31/10/2010	15:36:04	312		55.00000000	2.27518511	28.80855942	36.27878952	0.91728413	12.35329437	1020.68090820	133.57901001	26.28479767
31/10/2010	16:06:04	343		55.00000000	2.32325244	24.67153549	36.19867706	0.93430799	12.08291626	1019.43121338	135.06909180	26.01241684
31/10/2010	16:36:04	406		55.00000000	2.29921889	23.61725044	35.94231796	0.96234727	10.46064472	1018.38970947	125.43961334	25.68395615
31/10/2010	17:06:04	421		55.00000000	2.24314022	20.55373764	35.56178665	0.99739629	11.74043655	1019.17083740	133.62707520	26.04045486
31/10/2010	17:36:04	484		55.00000000	2.34728599	21.41254807	35.47766876	1.03544962	11.91468048	1019.37908936	129.73362732	25.80011940
31/10/2010	18:06:04	515		55.00000000	2.35930300	20.87739372	35.39755630	1.07550561	11.18766308	1019.79571533	131.76846313	25.69997978
31/10/2010	18:36:04	546		55.00000000	2.43941498	19.13734436	35.23733139	1.11856592	11.01942730	1019.63946533	127.82695007	25.79611397
31/10/2010	19:06:04	578		55.00000000	2.48748231	17.30115891	34.98497772	1.16062486	11.70438576	1020.36853027	128.66012573	25.33947372
31/10/2010	19:36:04	625		55.00000000	2.47546554	18.66948509	34.81674194	1.20969355	10.95934296	1021.35791016	128.59602356	25.66392899
31/10/2010	20:06:04	656		55.00000000	2.49148798	17.92603874	34.65251160	1.25475657	10.83316612	1021.09753418	128.83636475	25.80011940
31/10/2010	20:36:04	703		55.00000000	2.37131977	16.63782501	34.57239914	1.28279591	10.67694759	1020.47265625	135.88623047	25.33146286
31/10/2010	21:06:04	734		55.00000000	2.36731410	16.67948341	34.54035568	1.32084918	11.36791515	1021.98278809	130.24633789	25.47566414
31/10/2010	21:36:04	765		55.00000000	2.45143199	12.87572765	34.69256973	1.33086312	10.96535110	1018.44183350	130.63087463	25.48367691
31/10/2010	22:06:04	781		55.00000000	2.48347688	11.33115387	34.61646271	1.34388137	11.43400764	1018.80633545	127.93910980	25.36350822
31/10/2010	22:36:04	890		55.00000000	2.49549365	14.17035103	34.92489243	1.35489678	10.49669552	1019.89984131	128.08331299	25.31143570
31/10/2010	23:06:04	953		55.00000000	2.56759453	17.32359123	34.80072021	1.35990381	11.21169662	1020.21228027	130.82315063	25.29941750
31/10/2010	23:36:05	15		55.00000000	2.52753854	12.69307137	34.93690872	1.36691368	10.13018227	1019.37908936	126.99378967	25.25135040

Date	Time	Milli	Marl	0	Sts 1	Sts 2	S METHANE	S OXYGEN	S PRESSURE	S 6	S FLOW	S 8
30/11/2010	00:00:21	15	B	55.00000000	0.70098132	34.31711578	36.39495087	2.57059884	14.37212086	1020.78509521	155.56178284	23.12837791
30/11/2010	00:25:24	453		55.00000000	0.57280189	32.77254105	36.51512146	2.57560563	14.28800297	1018.96252441	156.53915405	23.14440155
30/11/2010	00:55:24	515		55.00000000	0.78509909	32.64756393	36.47906876	2.58161426	14.31804562	1018.65008545	156.68334961	23.27258110
30/11/2010	01:25:24	562		55.00000000	0.68095332	32.36877441	36.57119751	2.57860994	14.26997757	1018.44183350	156.33085632	22.93610954
30/11/2010	01:55:24	625		55.00000000	0.73703182	30.68640327	36.72341156	2.58061266	14.36010456	1018.28558350	149.50529480	23.12437248
30/11/2010	02:25:24	687		55.00000000	0.79311031	33.17631149	36.62727737	2.57460427	14.44422150	1019.89984131	153.78329468	22.99619293
30/11/2010	02:55:24	734		55.00000000	0.76907670	36.21418762	36.80352402	2.56258750	14.40216255	1021.87860107	152.48547363	23.03624916
30/11/2010	03:25:24	765		55.00000000	0.68896455	32.20854568	36.71940613	2.53655100	14.25796127	1018.59802246	151.21969604	23.04826736
30/11/2010	03:55:24	765		55.00000000	0.66493088	36.08280182	36.87562561	2.51251745	14.33607006	1022.34729004	144.71459961	23.31664276
30/11/2010	04:25:24	828		55.00000000	0.62487477	35.29128647	37.03184128	2.47846985	14.42018795	1020.62884521	154.48828125	23.12837791
30/11/2010	04:55:24	875		55.00000000	0.61686361	31.49073601	37.22811890	2.43841362	14.30602837	1018.07727051	144.47425842	23.28459740
30/11/2010	05:25:24	921		55.00000000	0.79311031	34.47413635	37.39234924	2.40136170	14.33006191	1020.21228027	131.86460876	23.28459740
30/11/2010	05:55:24	984		55.00000000	0.69697571	33.52560043	37.42839813	2.38333654	14.25796127	1019.37908936	70.69096375	23.29661369
30/11/2010	06:25:25	31		55.00000000	0.61686361	34.07998276	37.39635468	2.37732816	14.54636478	1018.75421143	-0.51271778	23.28459740
30/11/2010	06:55:25	140		55.00000000	0.56479067	30.90431023	37.19206619	2.37532544	14.10775089	1017.97314453	150.83515930	23.24854660
30/11/2010	07:25:25	281		55.00000000	0.42459440	32.43286133	37.23212433	2.37732816	14.29401112	1017.97314453	128.03524780	23.85739899
30/11/2010	07:55:25	328		55.00000000	0.54075706	31.13503647	37.30823135	2.37031841	14.41417980	1019.11877441	156.84356689	23.20849037
30/11/2010	08:25:25	343		55.00000000	0.53675145	36.45132065	37.24013519	2.37232113	14.19787693	1020.73303223	156.07449341	23.44482231
30/11/2010	08:55:25	343		55.00000000	0.58081311	32.29827499	37.11996460	2.38734221	14.31804562	1018.59802246	155.62586975	23.28059196
30/11/2010	09:25:25	390		55.00000000	0.52072901	31.83362007	37.03985596	2.40636873	14.30602837	1018.44183350	155.97836304	23.07229996
30/11/2010	09:55:25	421		55.00000000	0.48868415	33.20515060	36.83957291	2.43741226	14.40817165	1019.01458740	155.52973938	23.48087311
30/11/2010	10:25:25	484		55.00000000	0.59282994	35.68223953	36.80352402	2.46945715	14.37812901	1020.78509521	156.02642822	23.37272072
30/11/2010	10:55:25	531		55.00000000	0.54075706	34.87470245	36.79551315	2.48147392	14.33607006	1020.88922119	155.46565247	23.25255203
30/11/2010	11:25:25	546		55.00000000	0.72501498	35.97064209	36.71940613	2.48748231	14.43821335	1021.93066406	155.56178284	23.29661369
30/11/2010	11:55:25	656		55.00000000	0.70098132	35.87771225	36.84758377	2.49549365	14.36010456	1021.93066406	154.61645508	23.05627823
30/11/2010	12:25:25	703		55.00000000	0.53675145	34.38120651	36.64329910	2.49649501	14.32405376	1020.42059326	153.27056885	23.35669899
30/11/2010	12:55:25	703		55.00000000	0.73302621	32.80779266	36.56318665	2.50050068	14.22791862	1018.12939453	154.02362061	23.24454117
30/11/2010	13:25:25	734		55.00000000	0.50871217	34.73370361	36.59923553	2.49749637	14.38413811	1020.10815430	154.23191833	23.57700729
30/11/2010	13:55:25	750		55.00000000	0.48467854	35.00288010	36.80352402	2.48748231	14.34808731	1020.78509521	154.08772278	23.16042328
30/11/2010	14:25:25	750		55.00000000	0.48467854	35.64378357	36.76346588	2.48347688	14.29401112	1021.35791016	154.27998352	23.38473701
30/11/2010	14:55:25	796		55.00000000	0.49268976	31.72787094	36.84357834	2.47045851	14.34207916	1018.02520752	154.26396179	23.55697823
30/11/2010	15:25:25	828		55.00000000	0.58882433	35.85207748	36.48707962	2.49048662	14.28800297	1020.68090820	153.73522949	23.20849037
30/11/2010	15:55:25	859		55.00000000	0.62086922	35.25283432	36.63929367	2.46945715	14.16783524	1020.42059326	154.37611389	23.24854660
30/11/2010	16:25:25	937		55.00000000	0.53675145	34.97724533	37.07991028	2.42739820	14.43220520	1020.62884521	154.23191833	23.28459740
30/11/2010	16:55:25	984		55.00000000	0.66893649	34.77856445	37.11996460	2.42439413	14.40216255	1018.75421143	155.17724609	23.54896736
30/11/2010	17:25:26	15		55.00000000	0.54876828	36.32313919	37.14800644	2.41638279	14.22191048	1021.30578613	156.21870422	23.34468079
30/11/2010	17:55:26	62		55.00000000	0.50871217	36.20137024	37.14800644	2.42639685	14.40216255	1021.72241211	155.33746338	23.22451401
30/11/2010	18:25:26	109		55.00000000	0.55677944	34.49336243	36.91968536	2.44742632	14.18586063	1019.89984131	155.16122437	23.24854660
30/11/2010	18:55:26	171		55.00000000	0.56879628	36.74934006	36.83957291	2.46945715	14.40817165	1021.93066406	156.49107361	23.39675522
30/11/2010	19:25:26	281		55.00000000	0.70098132	34.49656677	36.91567993	2.48347688	14.42018795	1021.25372314	156.44300842	23.61706352
30/11/2010	19:55:26	312		55.00000000	0.58081311	33.49676132	36.79951859	2.50751042	13.98758221	1020.47265625	153.55897522	23.19246864
30/11/2010	20:25:26	390		55.00000000	0.61285800	32.41363525	36.62727737	2.50951314	14.38413811	1019.11877441	156.61926270	23.00420570
30/11/2010	20:55:26	468		55.00000000	0.70899254	31.53239441	36.87562561	2.50350475	14.36010456	1017.76483154	154.48828125	23.26056290
30/11/2010	21:25:26	562		55.00000000	0.68896455	33.83323288	37.11595917	2.48047256	13.35669899	1018.65008545	151.58821106	23.10434532
30/11/2010	21:55:26	593		55.00000000	0.58882433	36.05716705	37.03184128	2.48948526	14.40817165	1021.72241211	156.13858032	23.26056290
30/11/2010	22:25:26	656		55.00000000	0.62086922	35.71748734	36.87162018	2.49949908	14.36010456	1021.67034912	156.60324097	23.25655746
30/11/2010	22:55:26	750		55.00000000	0.63288599	31.49073601	36.83957291	2.50150204	14.29401112	1017.97314453	156.68334961	23.13639069
30/11/2010	23:25:26	812		55.00000000	0.66493088	29.69941521	36.83156204	2.50350475	14.45023060	1017.40032959	156.87562561	23.15641785
30/11/2010	23:55:26	859		55.00000000	0.52072901	33.57687378	36.83957291	2.49549365	14.36010456	1019.48327637	157.29220581	23.26857567

Date	Time	Milli	Marl	0	Sts 1	Sts 2	S METHANE	S OXYGEN	S PRESSURE	S 6	S FLOW	S 8
31/12/2010	00:00:29	218	B	50.00000000	2.58762264	30.96199226	38.97856903	2.52052855	13.10434628	1021.35791016	144.12176514	25.47566414
31/12/2010	00:26:55	31		50.00000000	2.69977951	27.92732048	38.61806488	2.54456234	12.90606880	1019.06665039	144.07369995	25.03905296
31/12/2010	00:56:55	46		50.00000000	2.51952720	28.28622437	38.83036041	2.54756641	12.93010235	1017.86901855	144.02563477	25.17524338
31/12/2010	01:26:55	109		50.00000000	2.68776274	30.20893097	38.59002304	2.56258750	12.97216129	1018.70214844	144.58641052	24.89885712
31/12/2010	01:56:55	156		50.00000000	2.77188063	31.91693687	38.77828979	2.53454828	13.17644691	1020.26434326	144.36210632	24.99499130
31/12/2010	02:26:55	296		50.00000000	2.75986362	29.35012245	38.69417191	2.54656506	13.24253941	1018.59802246	144.08972168	25.05507660
31/12/2010	02:56:55	375		50.00000000	2.66372919	30.31468010	38.82234955	2.53655100	12.97216129	1020.05609131	144.49028015	25.10314369
31/12/2010	03:26:55	468		50.00000000	2.85199261	30.56783676	39.05067062	2.53655100	13.13438797	1021.04547119	144.18585205	25.14720535
31/12/2010	03:56:55	515		50.00000000	2.79991984	33.27885437	38.85839844	2.54055667	12.91808510	1022.65972900	145.00299072	24.97496414
31/12/2010	04:26:55	671		50.00000000	2.68375707	29.75068665	38.73422623	2.54556370	13.20048046	1019.79571533	144.58641052	24.78670120
31/12/2010	04:56:55	734		50.00000000	2.68375707	29.60968781	38.89445114	2.53354692	12.97816944	1017.97314453	144.39414978	25.28339577
31/12/2010	05:26:55	796		50.00000000	2.69977951	28.05229568	38.70618820	2.54656506	12.56358910	1019.11877441	144.18585205	25.21129417
31/12/2010	05:56:55	859		50.00000000	2.69176841	31.02928734	38.58201218	2.55257344	12.96615219	1019.79571533	143.94551086	25.19927788
31/12/2010	06:26:56	78		50.00000000	2.58361697	29.82439041	38.54996872	2.55858183	13.27859020	1020.42059326	144.58641052	25.25535583
31/12/2010	06:56:56	125		50.00000000	2.61966753	28.31826973	38.50590515	2.54656506	13.16443062	1020.21228027	144.82675171	25.09513283
31/12/2010	07:26:56	171		50.00000000	2.80392528	30.92994690	38.54195786	2.53655100	13.19447231	1021.30578613	144.24993896	25.19527245
31/12/2010	07:56:56	250		50.00000000	2.58361697	29.51034927	38.38974380	2.55357480	13.08632088	1019.27496338	144.42619324	25.32345200
31/12/2010	08:26:56	328		50.00000000	2.66372919	31.76312065	38.30963135	2.57260156	13.27859020	1020.88922119	144.49028015	25.13919449
31/12/2010	08:56:56	359		50.00000000	2.74384117	29.97500229	38.19347000	2.58461833	13.12237167	1020.73303223	144.39414978	24.87882996
31/12/2010	09:26:56	406		50.00000000	2.62767863	30.60949516	38.14940643	2.61165619	13.13438797	1019.74365234	144.37812805	25.12717628
31/12/2010	09:56:56	500		50.00000000	2.63568997	27.14221382	37.79691315	2.61966753	13.08632088	1018.96252441	144.98696899	25.23933411
31/12/2010	10:26:56	593		50.00000000	2.69176841	0.23713386	39.20688629	2.76386929	14.04165840	933.09429932	149.79370117	25.05908203
31/12/2010	10:56:56	609		50.00000000	2.84798717	24.98557854	38.34568405	2.50350475	13.18245506	1018.80633545	145.37152100	24.95894241
31/12/2010	11:26:56	656		50.00000000	2.74384117	21.68813515	38.00120163	2.58361697	13.30863190	1019.74365234	144.69857788	24.62247086
31/12/2010	11:56:56	750		50.00000000	2.71980762	19.62763405	38.22951889	2.58962536	13.02022839	1018.38970947	144.69857788	24.97095871
31/12/2010	12:26:56	796		50.00000000	2.55157208	21.07927895	38.28159332	2.59463239	13.20648861	1019.01458740	144.07369995	25.02303123
31/12/2010	12:56:56	859		50.00000000	2.56358886	22.61744308	37.99719620	2.58161426	13.31464005	1020.94128418	144.90686035	25.07109833
31/12/2010	13:26:56	984		50.00000000	2.53955531	26.10074806	38.34968948	2.57059884	13.24854755	1022.39935303	143.62507629	25.00300407
31/12/2010	13:56:57	109		50.00000000	2.53554964	22.68153381	38.19747543	2.54956937	13.38674164	1019.06665039	144.98696899	25.14720535
31/12/2010	14:26:57	140		50.00000000	2.53955531	23.21027756	38.42980194	2.53655100	13.11636257	1019.27496338	143.70518494	25.22331238
31/12/2010	14:56:57	171		50.00000000	2.71980762	25.60725403	38.31764221	2.53254557	13.06829548	1022.86798096	144.55436707	25.14720535
31/12/2010	15:26:57	218		50.00000000	2.54756641	24.96635056	38.15341187	2.53855395	13.11636257	1019.74365234	144.26596069	25.20328331
31/12/2010	15:56:57	234		50.00000000	2.53554964	20.95750618	38.27358246	2.54456234	13.31464005	1019.11877441	145.22731018	25.03905296
31/12/2010	16:26:57	328		50.00000000	2.52353287	22.08869934	38.15741730	2.58662105	13.26657295	1019.01458740	146.46104431	25.02303123
31/12/2010	16:56:57	390		50.00000000	2.53955531	20.77805328	38.07730484	2.60364509	13.20048046	1019.69152832	145.65991211	24.87482452
31/12/2010	17:26:57	421		50.00000000	2.50350475	25.36691475	37.95313263	2.61666322	12.97216129	1022.97216797	145.62786865	24.82675552
31/12/2010	17:56:57	500		50.00000000	2.45944309	22.79689598	37.91708374	2.63068295	13.23653126	1020.94128418	145.91627502	24.66252708
31/12/2010	18:26:57	578		50.00000000	2.58361697	22.78407860	37.56459045	2.63368702	13.06829548	1020.31640625	145.38754272	24.91888618
31/12/2010	18:56:57	625		50.00000000	2.54356098	18.12471771	37.71680069	2.62467432	13.29060650	1014.74462891	146.06048584	24.67854881
31/12/2010	19:26:57	671		50.00000000	2.61566186	23.07568932	37.84498215	2.60865211	13.27258110	1021.35791016	146.38092041	24.71860504
31/12/2010	19:56:57	718		50.00000000	2.48347688	20.35505867	37.79290771	2.60765052	13.24854755	1017.86901855	146.02842712	24.80272293
31/12/2010	20:26:57	843		50.00000000	2.77188063	25.17144012	37.90907288	2.60865211	13.36270809	1024.22192383	145.45162964	24.89885712
31/12/2010	20:56:57	953		50.00000000	2.64770675	23.24873161	37.75685883	2.61265755	13.44081688	1021.40997314	145.86820984	24.81874466
31/12/2010	21:26:58	46		50.00000000	2.76787496	21.97654152	37.71680069	2.60664916	13.31464005	1020.73303223	146.12457275	24.86280632
31/12/2010	21:56:58	140		50.00000000	2.51952720	23.63647842	37.76486969	2.61966753	13.38674164	1022.81591797	145.77207947	24.57840919
31/12/2010	22:26:58	218		50.00000000	2.61966753	18.27532959	37.84097672	2.58962536	13.02022839	1020.10815430	145.17924500	25.02703667
31/12/2010	22:56:58	281		50.00000000	2.69176841	19.10529900	37.84097672	2.60264349	13.05627918	1018.49389648	145.57980347	24.32605553
31/12/2010	23:26:58	343		50.00000000	2.74384117	16.85893631	37.79290771	2.61966753	13.19447231	1015.57781982	145.91627502	24.73062134
31/12/2010	23:56:58	453		50.00000000	2.68375707	20.25251389	37.64470291	2.62767863	13.47085953	1021.30578613	146.50910950	24.74664497
01/01/2011	00:00:24	656	E	50.00000000	2.71580195	22.74242020	37.76486969	2.63068295	13.14039612	1021.61822510	146.02842712	24.75465584