

Leitrim County Council



2008 Annual Environmental Report

for

Mohill Landfill

WL 0065-1

**MOHILL LANDFILL
WASTE LICENCE W0065-01**

ANNUAL ENVIRONMENTAL REPORT 2008

1. Reporting Period

1st January 2008 – 31st December 2008

2. Waste Activities Carried out at the Facility

The facility is licensed under the Waste Management Acts 1996 to 2003 under Class 1, 4, and 13 of the third Schedule and Class 13 of the fourth Schedule of the 1996 Act. The disposal of municipal waste and non-hazardous industrial wastes ceased on 30th April 2002. Selected soil and boulder clay waste only from local construction projects was used in the capping and restoration of the landfill.

A Civic Amenity Recycling Facility has been built on a site between the public road and the landfill and is fully operational. This recycling centre is open to the public on Wednesdays and Saturdays and provides a full range collection of household recyclables.

3. Quantity and Composition of Waste Received for capping/restoration during the reporting period and each previous year.

No municipal waste and non-hazardous industrial waste was received or disposed of at this facility as per condition 1.4 of Waste Licence W0065-01 during the reporting period.

No clays were used as capping in the reporting period. Capping completed in the previous reporting period.

4 and 5. Summary Report on Emissions and Summary of results and interpretation of environmental monitoring

Please see attached spreadsheet, which trends results for various parameters required to be monitored and analysed as per Waste Licence W0065-01. Results of monitoring of all emissions required by licence W0065-01 for the reporting period are contained in Appendix 1.

6. Resource and Energy Consumption Summary

There was no resource or energy consumption associated with waste activities at this landfill site during the reporting period. The Civic amenity site is connected to mains ESB supply for the day to day running of the recycling activity.

7. Volume of leachate produced and volume transported/discharged off-site

The leachate collection system is complete and piped to the Mohill town foul sewer.

Leitrim County Council have budgeted to allow for monitoring of the landfill in accordance with the requirements of the license. Staff resources are allocated towards carrying out and overseeing this work

16. Other items Specified by the Agency

There are no other items specified by the Agency for inclusion in this Report

2008 Quarterly Test Events at Mohill Landfill - Groundwater

Note - It was not possible to sample from MW-03 as this borehole has been damaged

Ground water level (Metres) at each sampling location

| Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 20-Oct-08 |
|-----------|-----------|-----------|-----------|-----------|
| MW 03 | | | | |
| MW 05 - S | 2.7 | 2.0 | 3.2 | 0.5 |
| MW 05 - D | 3.3 | 2.7 | 5.2 | 2 |
| MW 06 - S | 1.8 | 1.1 | 2.3 | 2.9 |
| MW 06 - D | 4.5 | 3.1 | 4.0 | 1 |
| MW 08 - S | 2.6 | 4.0 | 2.6 | 1.3 |
| MW 08 - D | 4.2 | 1.5 | 2.2 | 3.1 |
| | | | | |

Ammonia Nitrogen (mg/l N) at each sampling location

| Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 20-Oct-08 |
|---|-------------|-------------|-------------|-------------|
| EPA GW Interim Guideline Value | 0.15 | 0.15 | 0.15 | 0.15 |
| MW 03 | | | | |
| MW 05 - S | 0.09 | <0.09 | <0.09 | 0.1 |
| MW 05 - D | <0.09 | <0.09 | 0.56 | 0.25 |
| MW 06 - S | 0.24 | <0.09 | <0.09 | 0.41 |
| MW 06 - D | 0.47 | <0.09 | <0.09 | 3 |
| MW 08 - S | <0.09 | <0.09 | <0.09 | 2.3 |
| MW 08 - D | 0.27 | <0.09 | 0.10 | <0.06 |

2008 Quarterly Test Events at Mohill Landfill - Groundwater

Conductivity (µS/cm) at each sampling location

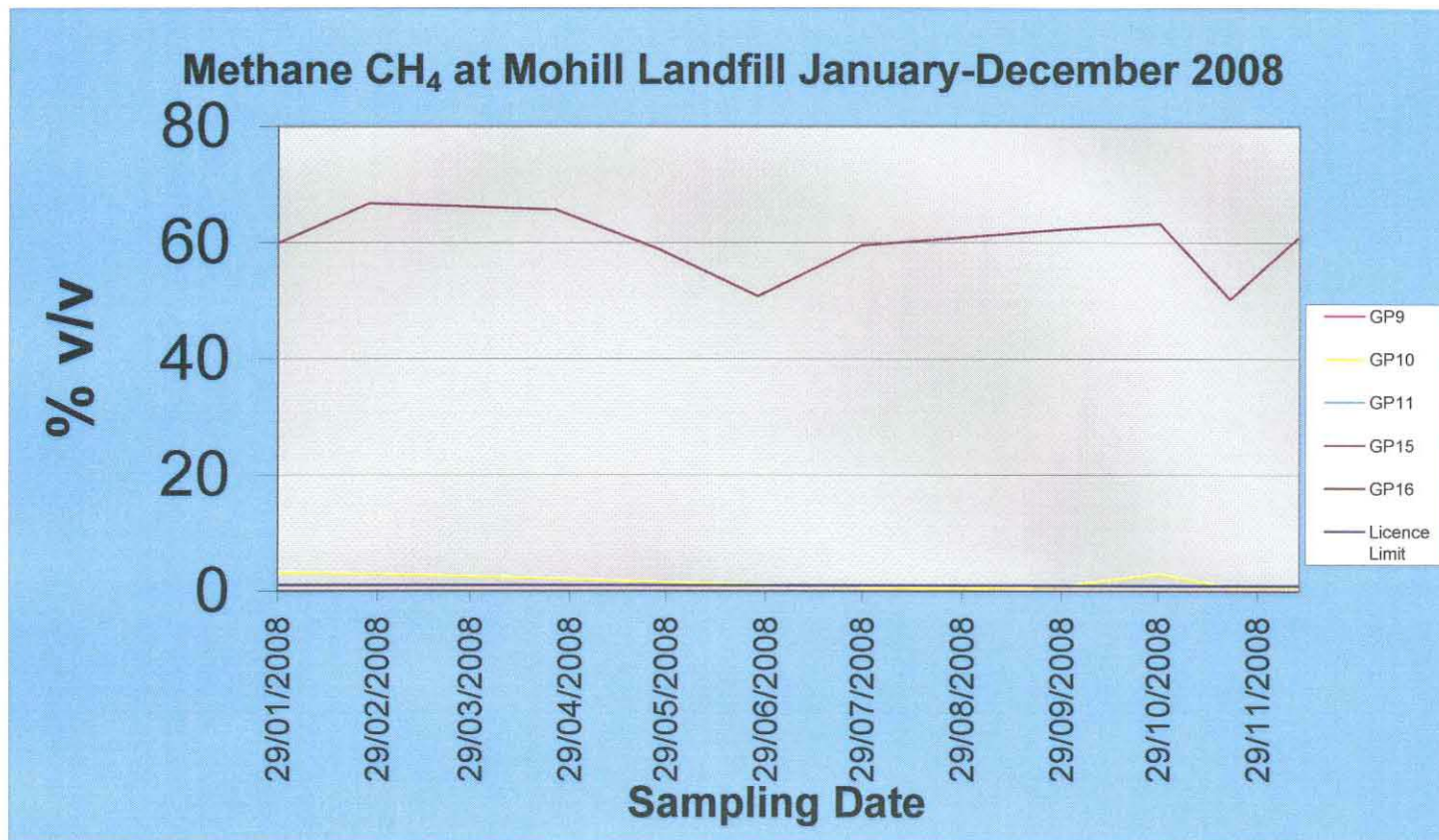
| Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 20-Oct-08 |
|----------------------|-------------|-------------|-------------|-------------|
| EPA Guideline | 1000 | 1000 | 1000 | 1000 |
| MW 03 | | | | |
| MW 05 - S | 662 | 641 | 684 | 686 |
| MW 05 - D | 891 | 988 | 964 | 1012 |
| MW 06 - S | 664 | 663 | 668 | 966 |
| MW 06 - D | 1191 | 1068 | 1006 | 666 |
| MW 08 - S | 840 | 814 | 918 | 1058 |
| MW 08 - D | 633 | 1076 | 1445 | 979 |

* Possible Matrix interference

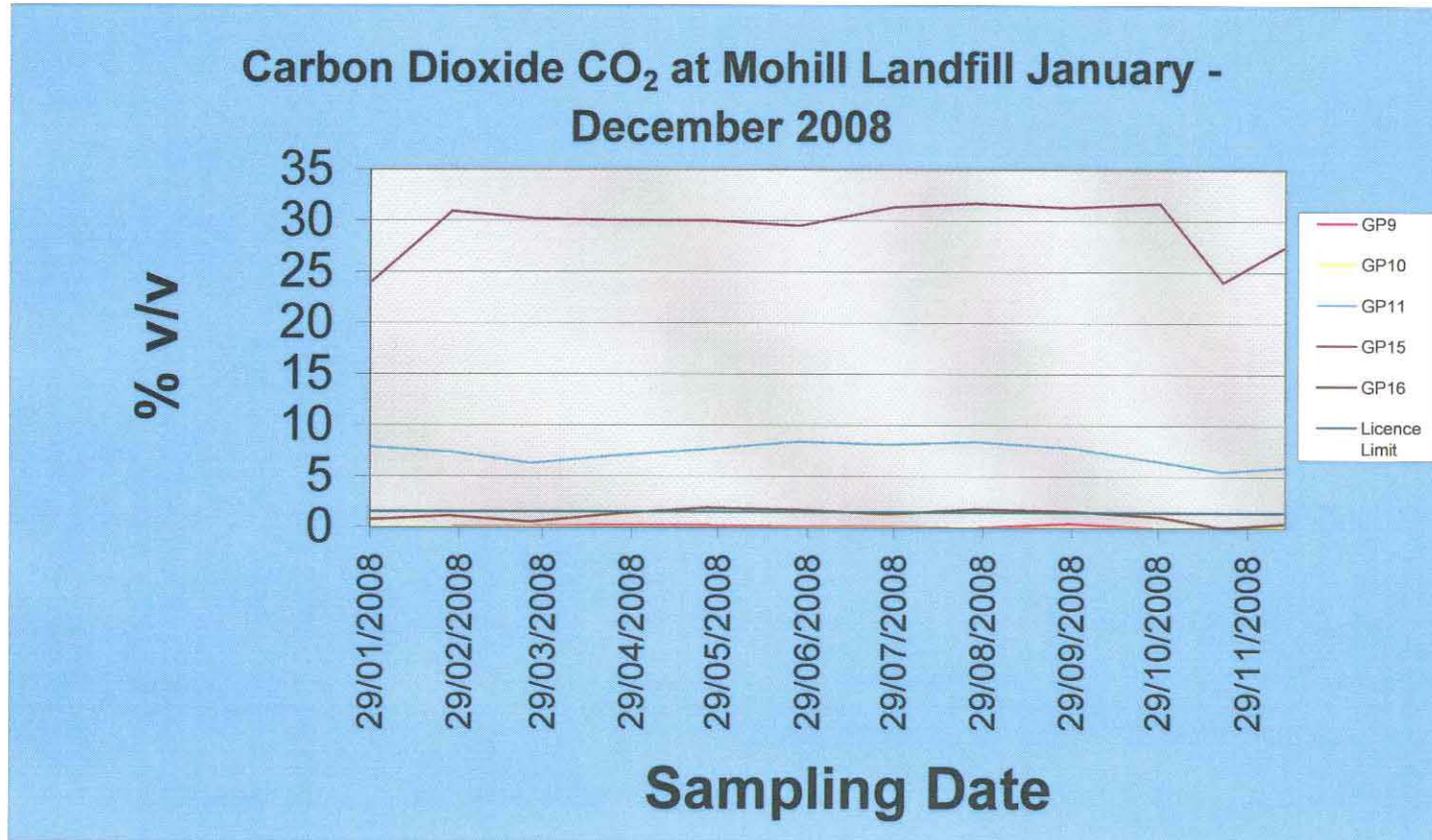
pH at each sampling location

| Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 20-Oct-08 |
|------------------------|------------|------------|------------|------------|
| EPA upper limit | 9.5 | 9.5 | 9.5 | 9.5 |
| EPA lower limit | 6.5 | 6.5 | 6.5 | 6.5 |
| MW 03 | | | | |
| MW 05 - S | 7.1 | 7.4 | 7.2 | 7.3 |
| MW 05 - D | 7.5 | 7.9 | 8.1 | 7.8 |
| MW 06 - S | 7.2 | 7.6 | 7.2 | 7.6 |
| MW 06 - D | 7.6 | 7.7 | 7.6 | 7.1 |
| MW 08 - S | 7.2 | 7.5 | 7.3 | 7.1 |
| MW 08 - D | 7.3 | 7.4 | 7.0 | 7.3 |

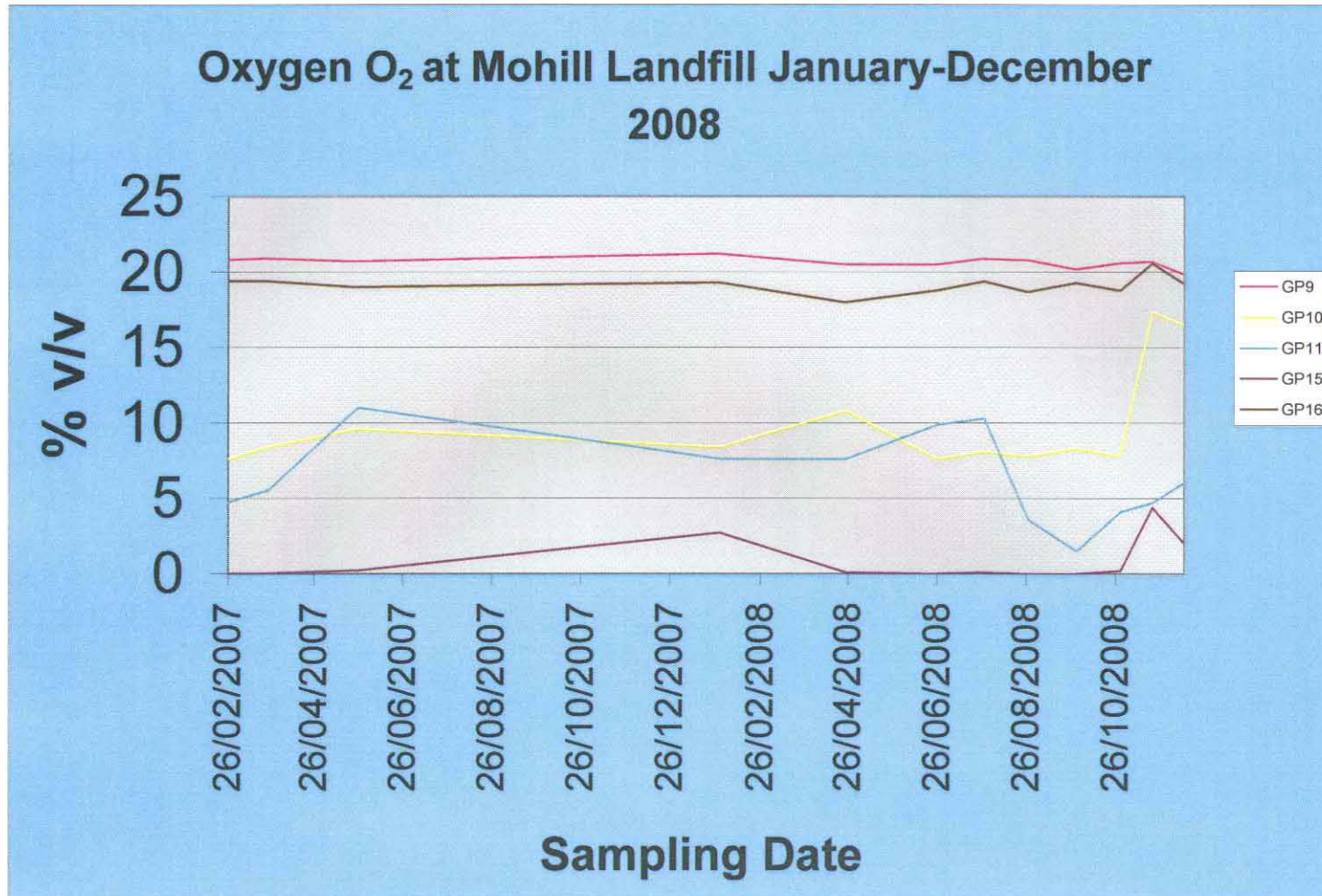
Mohill Landfill - Monthly Gas Monitoring 2008 - Methane



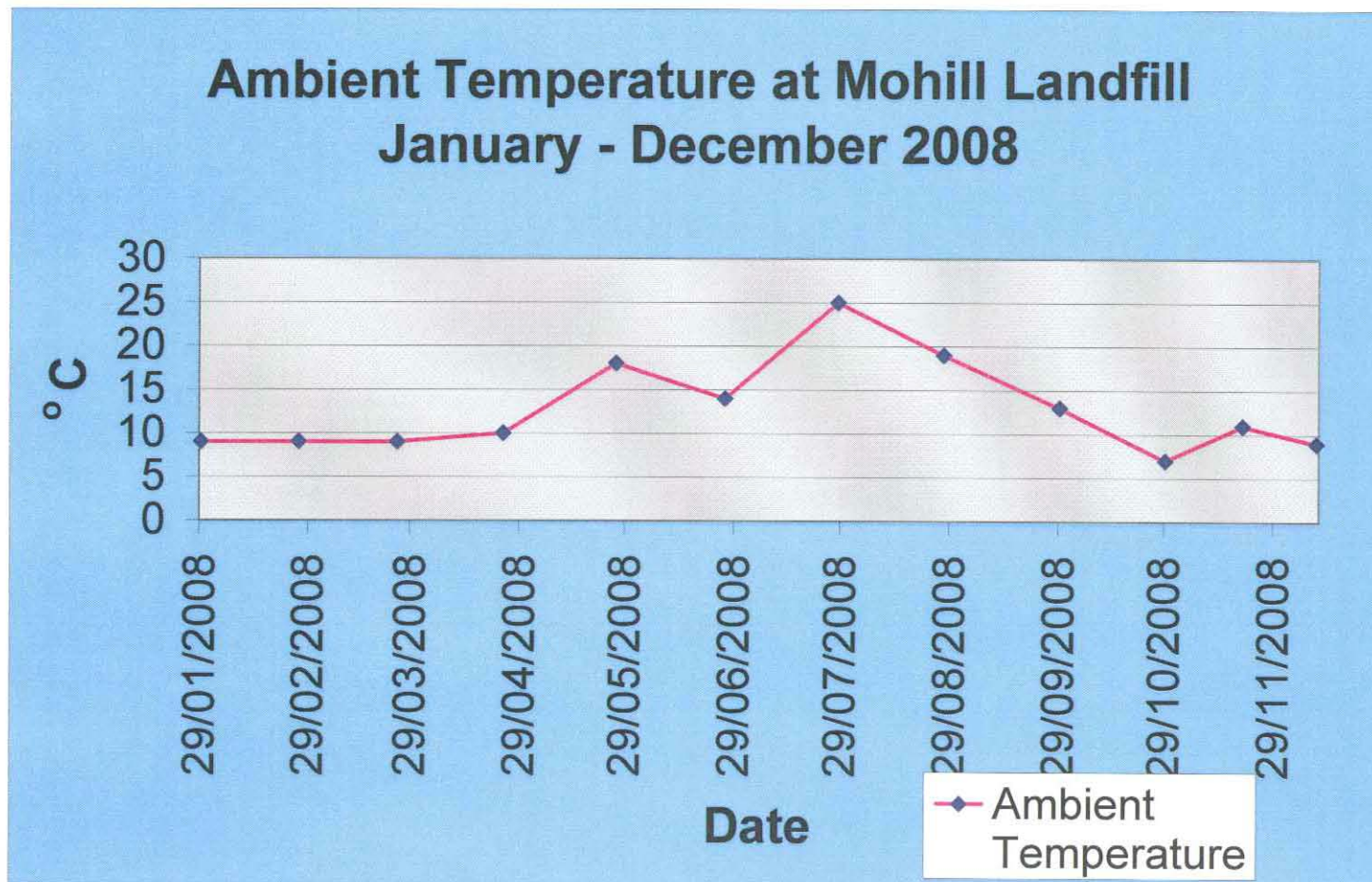
Mohill Landfill - Monthly Gas Monitoring 2008 - Carbon Dioxide



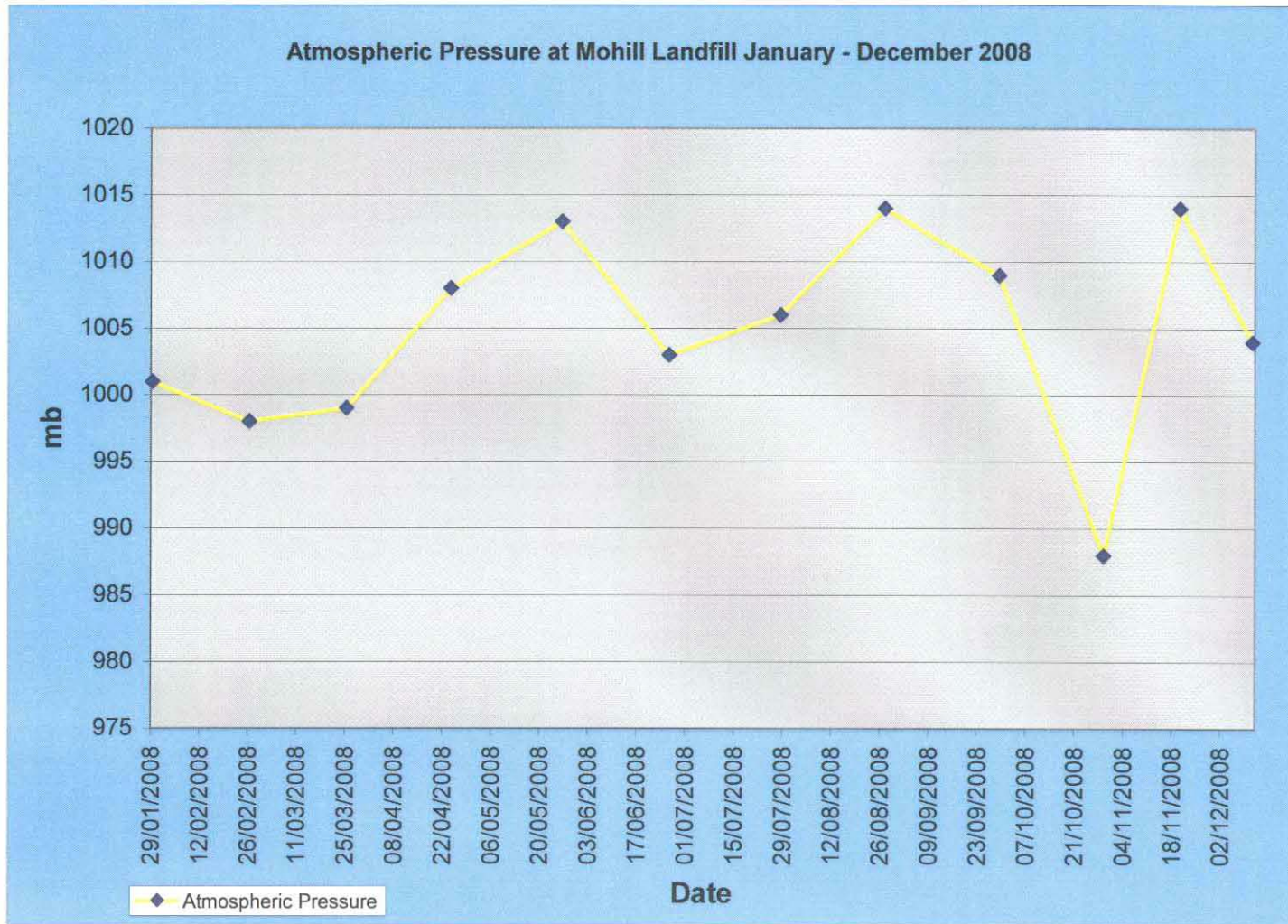
Mohill Landfill - Monthly Gas Monitoring 2008 - Oxygen



Mohill Landfill - Monthly Gas Monitoring 2008 - Ambient Temperature



Mohill Landfill - Monthly Gas Monitoring 2008 - Atmospheric Pressure



2008 Quarterly Test Events at Mohill Landfill - Groundwater

TOC at each sampling location

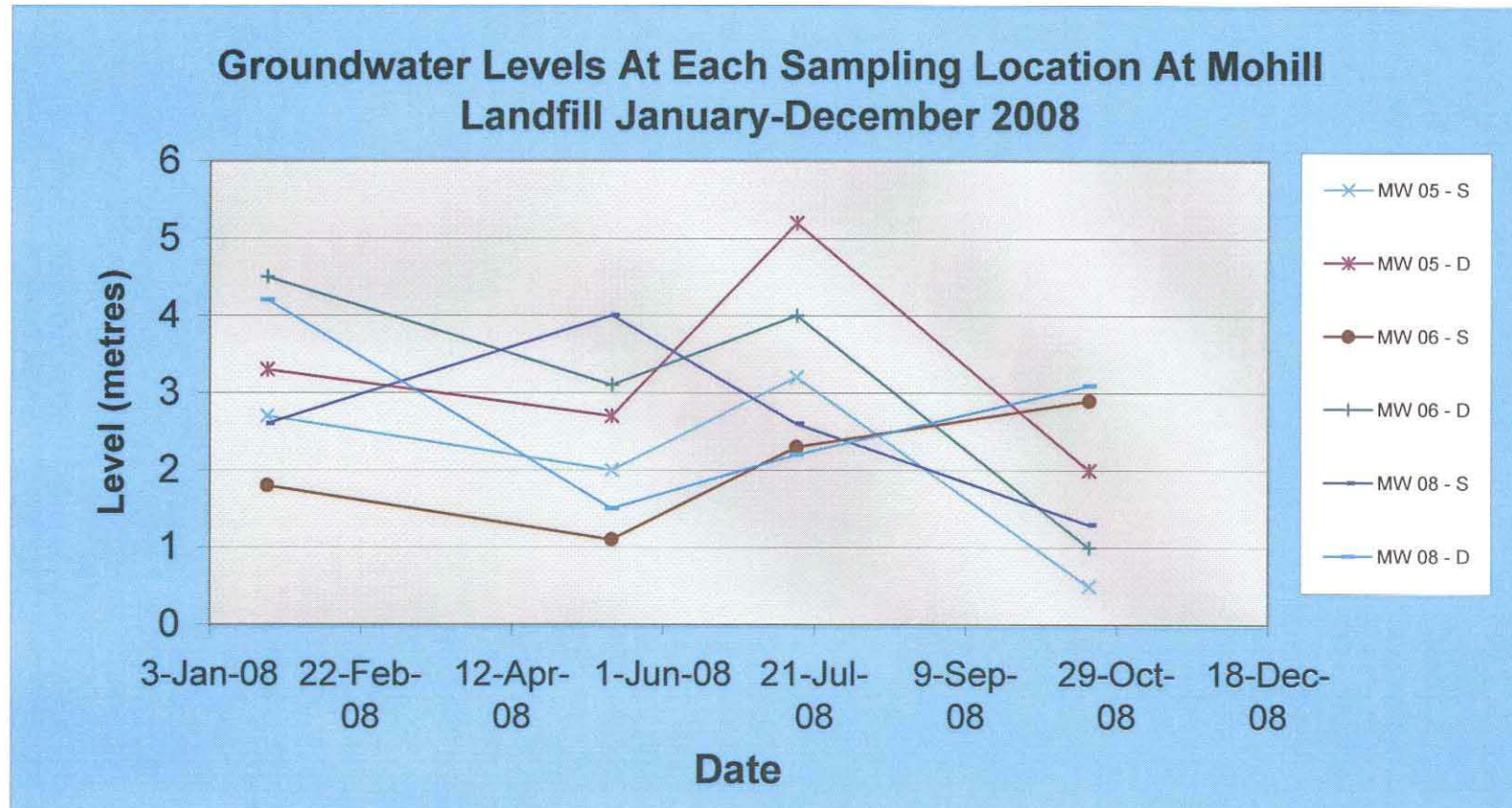
| Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 20-Oct-08 |
|----------------------|--|-------------|-----------|-----------|
| EPA Guideline | No abnormal change^{Note 1} | | | |
| MW 03 | | | | |
| MW 05 - S | 2.24 | 1.71 | 2.36 | 2.87 |
| MW 05 - D | 2.1 | 2.83 | 2.44 | 2.83 |
| MW 06 - S | 17.9 | 5.81 | 2.79 | 1.86 |
| MW 06 - D | 2.48 | 2.62 | 3.13 | 2.08 |
| MW 08 - S | 1.59 | 2.11 | 2.50 | 4.00 |
| MW 08 - D | 3.54 | 4.6 | 2.39 | 2.25 |

Note 1: No abnormal change refers to no significant change compared to background concentrations

Temperature (°C) at each sampling location

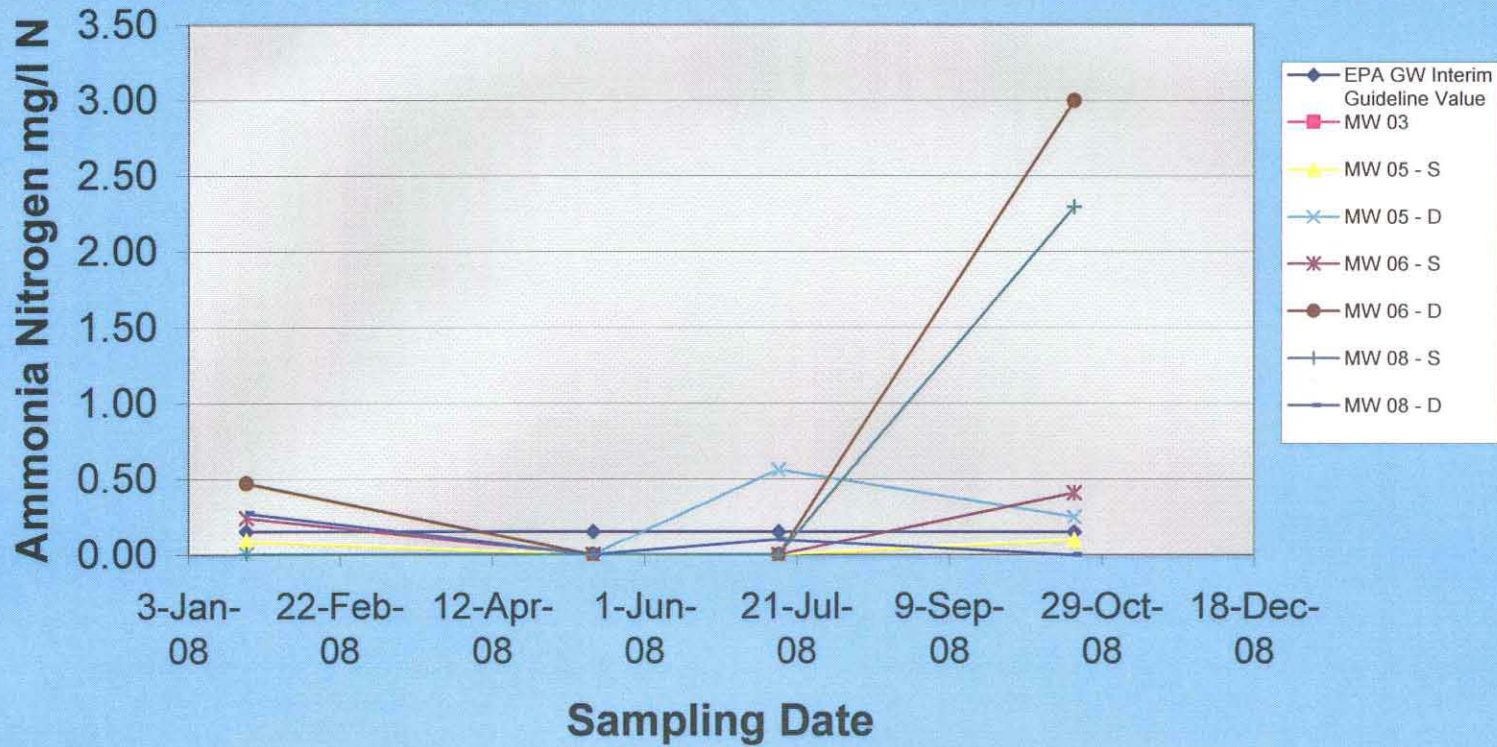
| Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 20-Oct-08 |
|---------------------------------------|-----------|-----------|-----------|-----------|
| EPA GW Interim Guideline Value | 25 | 25 | 25 | 25 |
| MW 03 | | | | |
| MW 05 - S | 11 | 12.5 | 12.9 | 11.8 |
| MW 05 - D | 11 | 11.8 | 13.1 | 11.9 |
| MW 06 - S | 11 | 12.4 | 12.8 | 12.1 |
| MW 06 - D | 11 | 11.8 | 12.8 | 12 |
| MW 08 - S | 10.7 | 11.3 | 12.9 | 11.9 |
| MW 08 - D | 10.5 | 12.0 | 13.0 | 12.1 |

Mohill Landfill Quarterly Groundwater Monitoring 2008 - Groundwater Level



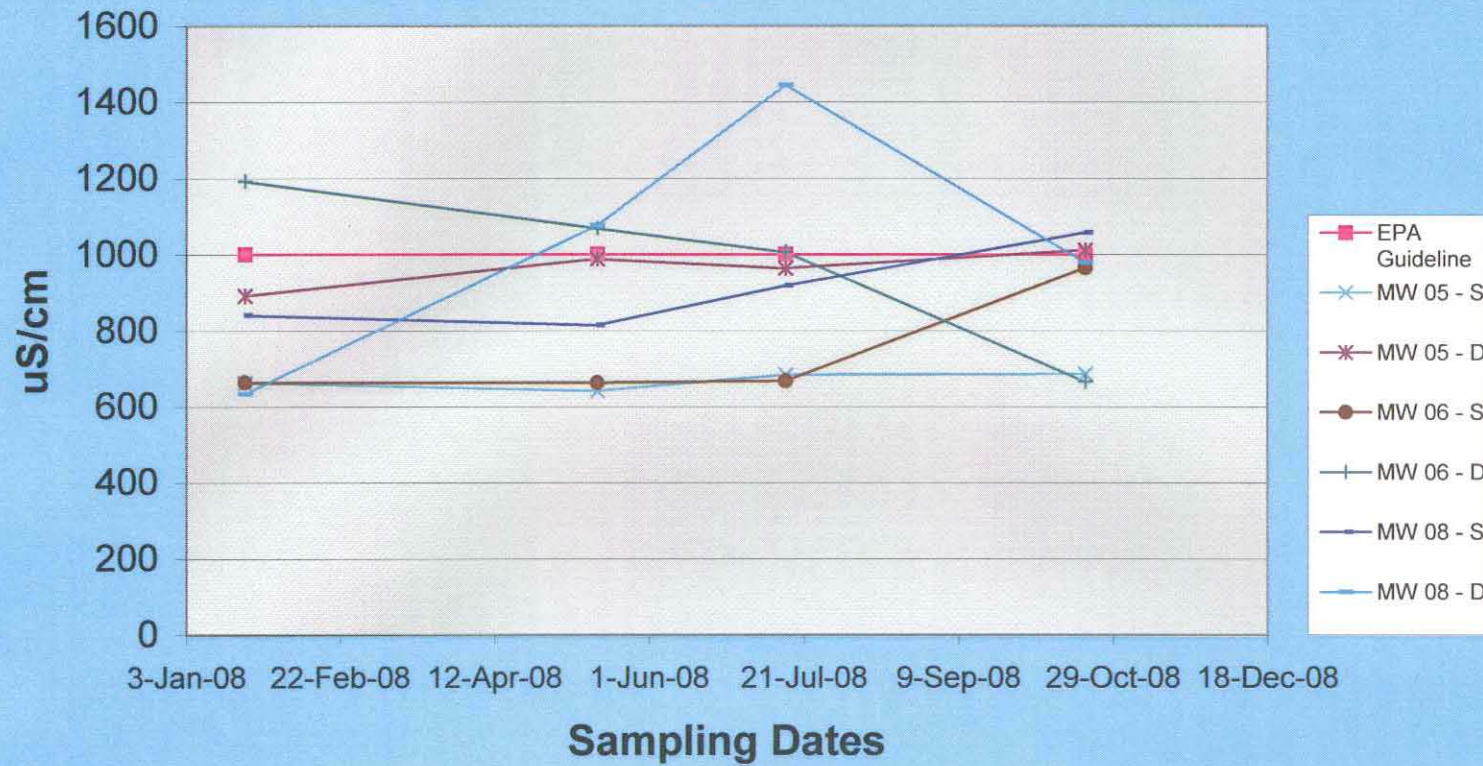
Mohill Landfill Quarterly Groundwater Monitoring 2008 - Ammonical Nitrogen

Ammonia Nitrogen At Each Sampling Location At Mohill Landfill January-December 2008



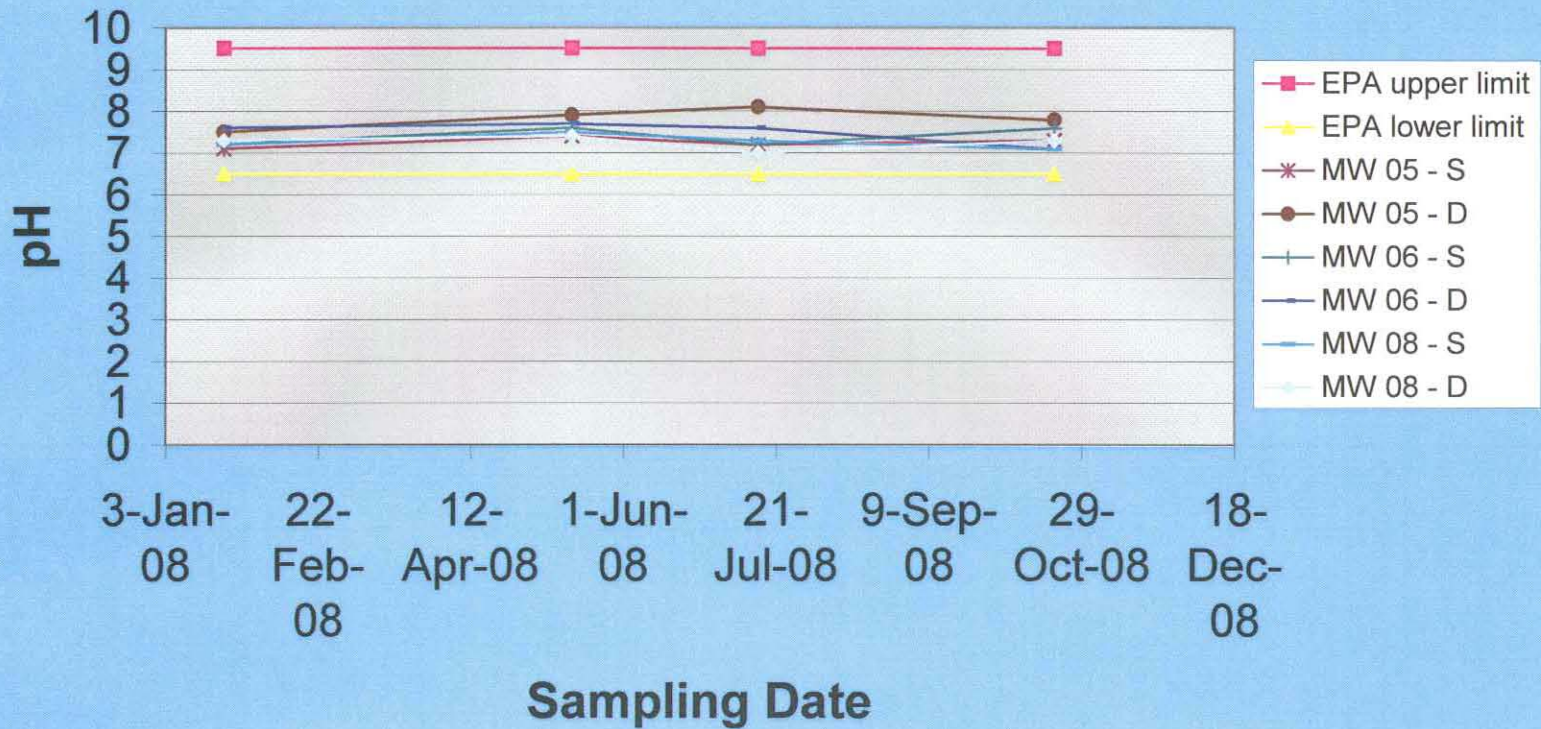
Mohill Landfill Quarterly Groundwater Monitoring 2008 - Conductivity

Conductivity uS/cm At Each Sampling Location At Mohill Landfill January-December 2008



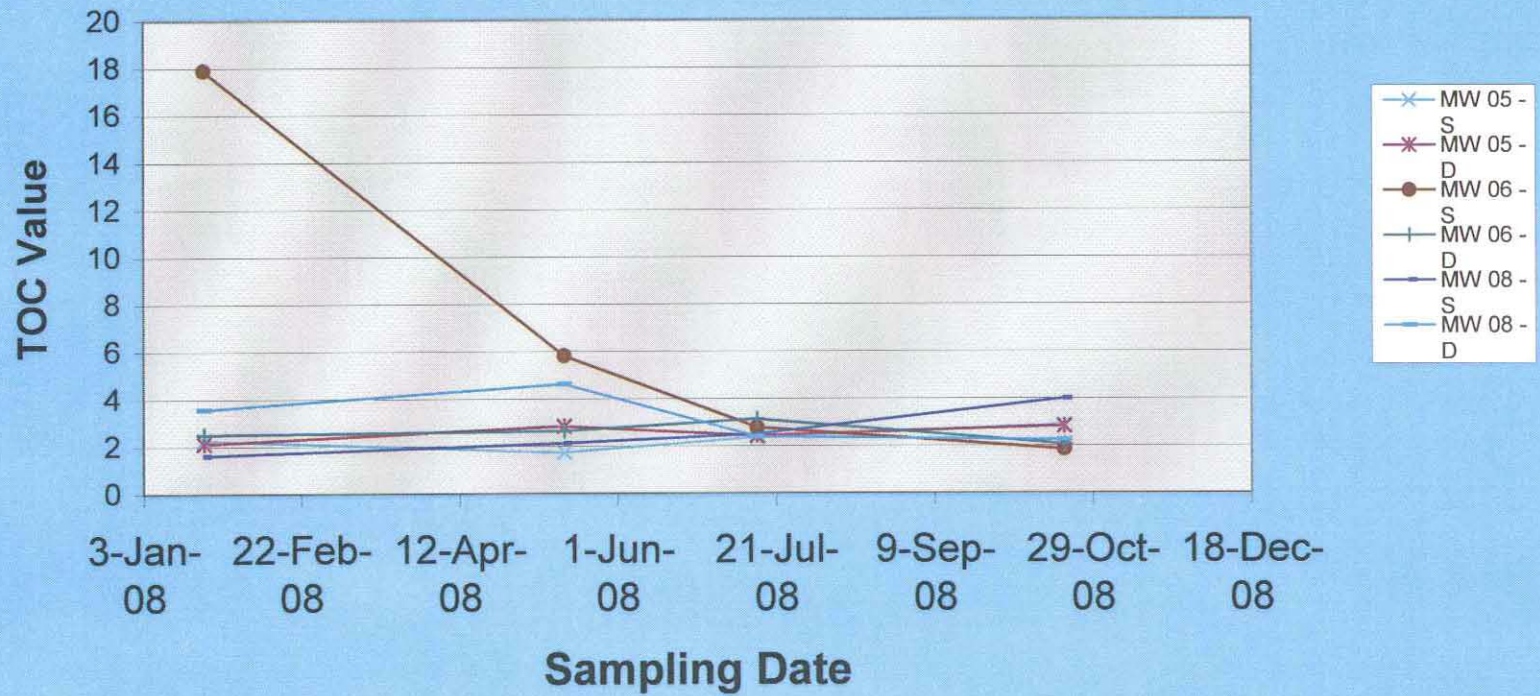
Mohill Landfill Quarterly Groundwater Monitoring 2008 - pH

pH At Each Sampling Location At Mohill Landfill January-December 2008

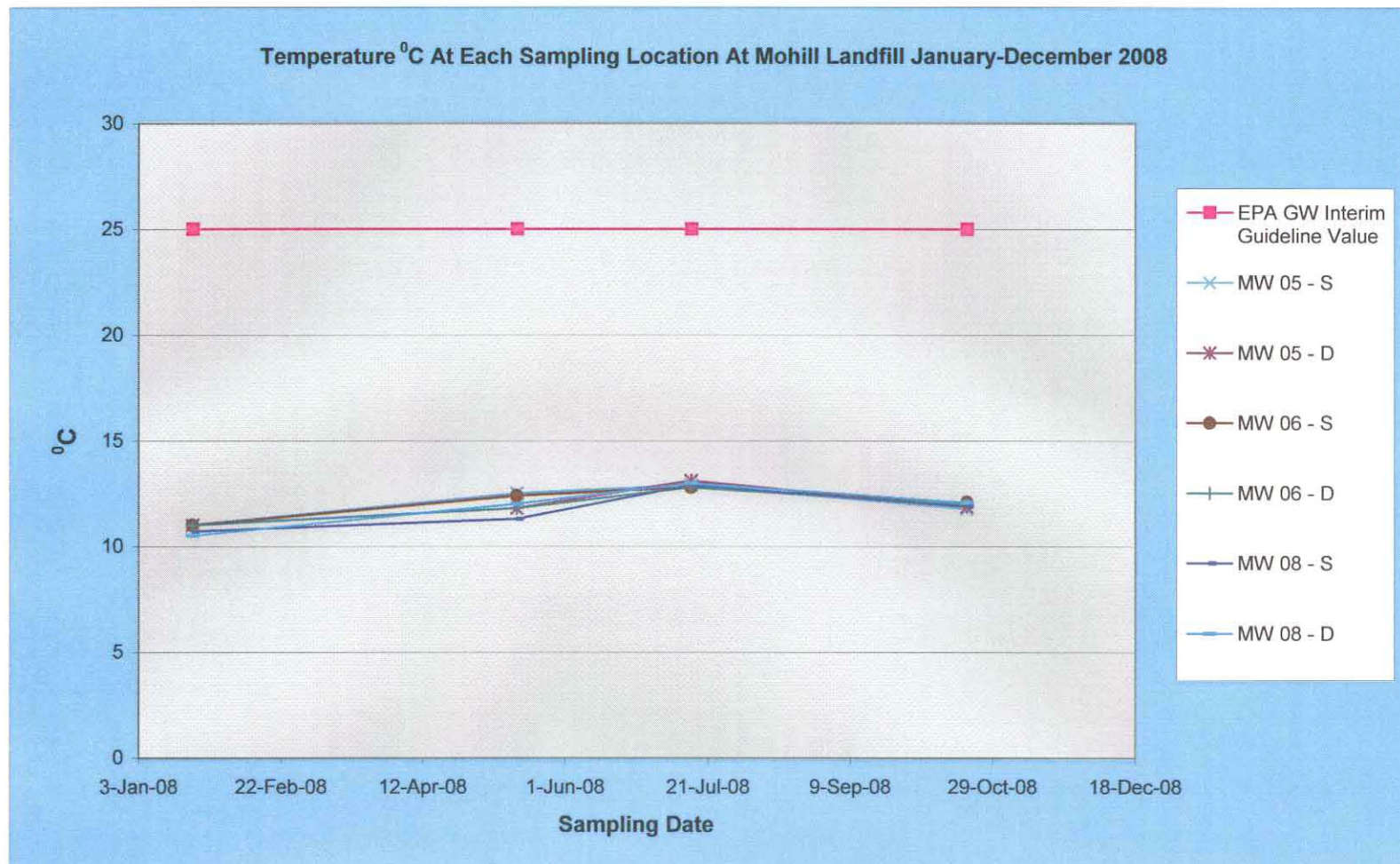


Mohill Landfill Quarterly Groundwater Monitoring 2008 - Total Organic Carbon

TOC At Each Sampling Location At Mohill Landfill January-
December 2008



Mohill Landfill Quarterly Groundwater Monitoring 2008 - Temperature



Quarterly Test Events at Mohill Landfill - Surface water

Ammoniacal Nitrogen (mg/l N) at each sampling location

EPA Annual

| Surface Water Regulations, 1989 | | | Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 9-Oct-08 | 20-Sep-07 |
|---------------------------------|----------|----------|-------|-----------|-----------|-----------|----------|-----------|
| Class A1 | Class A2 | Class A3 | | | | | | |
| 0.16 | 0.17 | 3.1 | SW 04 | <0.9 | <0.09 | 0.18 | 0.07 | 0.03 |
| 0.16 | 0.17 | 3.1 | SW 06 | 0.15 | <0.09 | <0.09 | 0.08 | 0.04 |

BOD (mg/l) at each sampling location

| Surface Water Regulations, 1989 | | | Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 9-Oct-08 | 20-Sep-07 |
|---------------------------------|----------|----------|-------|-----------|-----------|-----------|----------|-----------|
| Class A1 | Class A2 | Class A3 | | | | | | |
| 5 | 5 | 7 | SW 04 | <2 | <2 | <2 | <2 | <1.5 |
| 5 | 5 | 7 | SW 06 | <2 | <2 | <2 | <2 | <1.5 |

COD (mg/l) at each sampling location

| Surface Water Regulations, 1989 | | | Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 9-Oct-08 | 20-Sep-07 |
|---------------------------------|----------|----------|-------|-----------|-----------|-----------|----------|-----------|
| Class A1 | Class A2 | Class A3 | | | | | | |
| - | - | 40 | SW 04 | 45 | 23 | 212 | 67 | 48 |
| - | - | 40 | SW 06 | 54 | 56 | 56 | 76 | 65 |

Chloride (mg/l) at each sampling location

| Surface Water Regulations, 1989 | | | Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 9-Oct-08 | 20-Sep-07 |
|---------------------------------|----------|----------|-------|-----------|-----------|-----------|----------|-----------|
| Class A1 | Class A2 | Class A3 | | | | | | |
| 250 | 250 | 250 | SW 04 | 16.3 | 10.51 | 15.71 | 12.28 | 14 |
| 250 | 250 | 250 | SW 06 | 24.07 | 30.65 | 31.78 | 13.68 | 23 |

Dissolved Oxygen (% O₂) at each sampling location

| Surface Water Regulations, 1989 | | | Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 9-Oct-08 | 20-Sep-07 |
|---------------------------------|----------|----------|-------|-----------|-----------|-----------|----------|-----------|
| Class A1 | Class A2 | Class A3 | | | | | | |
| >60 | >50 | >30 | SW 04 | 48 | 85 | 39 | 24 | 89 |
| >60 | >50 | >30 | SW 06 | 32 | 78 | 36 | 28 | 82 |

Conductivity (uS/cm) at each sampling location

| Surface Water Regulations, 1989 | | | Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 9-Oct-08 | 20-Sep-07 |
|---------------------------------|----------|----------|-------|-----------|-----------|-----------|----------|-----------|
| Class A1 | Class A2 | Class A3 | | | | | | |
| 1000 | 1000 | 1000 | SW 04 | 369 | 616 | 631 | 234 | 417 |
| 1000 | 1000 | 1000 | SW 06 | 328 | 490 | 480 | 226 | 473 |

pH at each sampling location

| Surface Water Regulations, 1989 | | | Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 9-Oct-08 | 20-Sep-07 |
|---------------------------------|-----------|-----------|-------|-----------|-----------|-----------|----------|-----------|
| Class A1 | Class A2 | Class A3 | | | | | | |
| 5.5 - 8.5 | 5.5 - 9.0 | 5.5 - 9.0 | SW 04 | 7.6 | 7.8 | 7.6 | 7.3 | 7.7 |
| 5.5 - 8.5 | 5.5 - 9.0 | 5.5 - 9.0 | SW 06 | 7.6 | 7.8 | 7.5 | 7.3 | 8 |

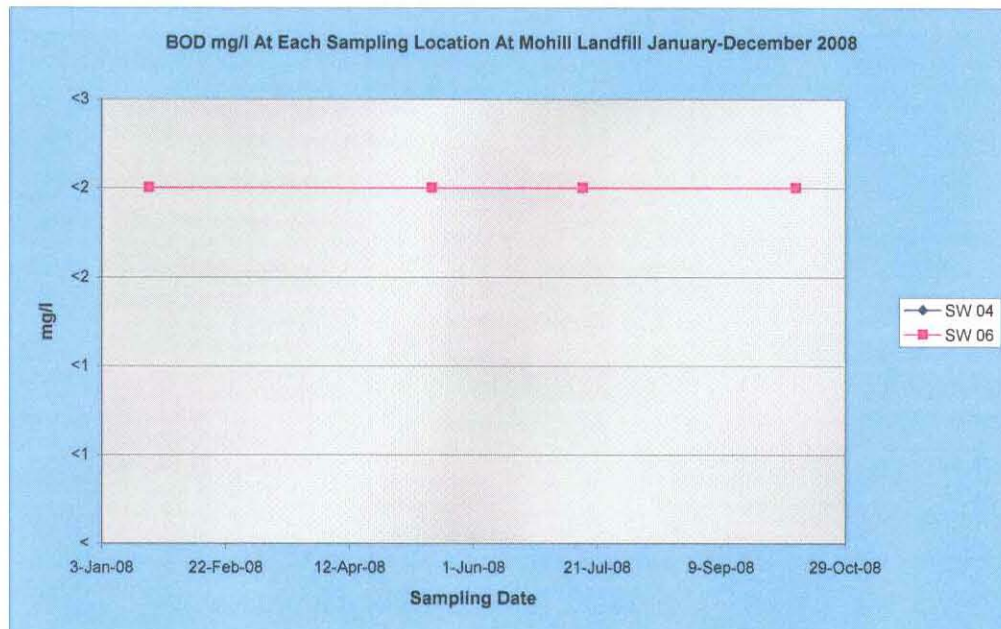
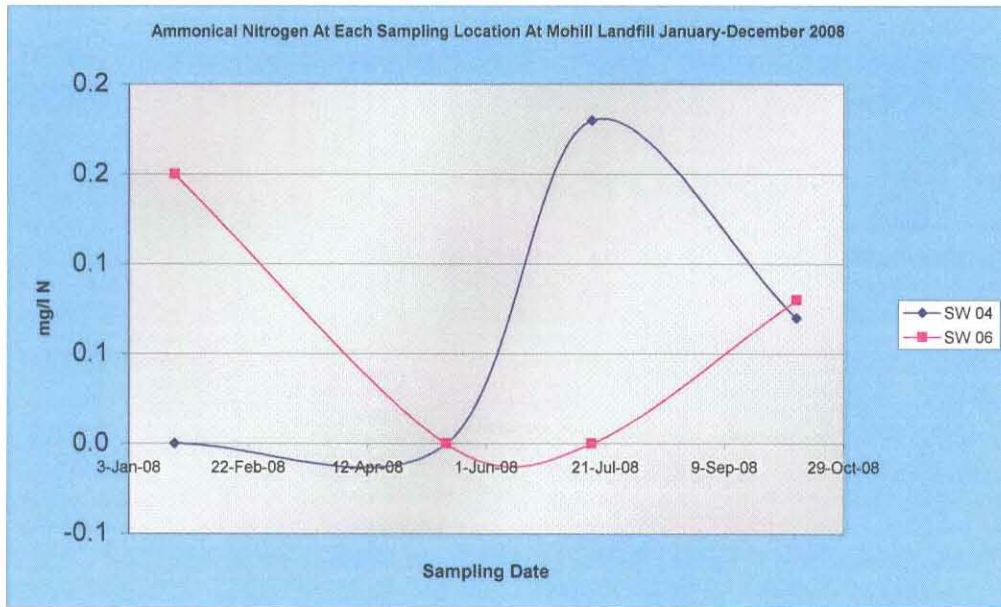
Suspended Solids (mg/l) at each sampling location

| Surface Water Regulations, 1989 | | | Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 9-Oct-08 | 20-Sep-07 |
|---------------------------------|----------|----------|-------|-----------|-----------|-----------|----------|-----------|
| Class A1 | Class A2 | Class A3 | | | | | | |
| 50 | - | - | SW 04 | 6 | <3 | 375 | 4 | <5.0 |
| 50 | - | - | SW 06 | 9 | 3 | 144 | 24 | 10 |

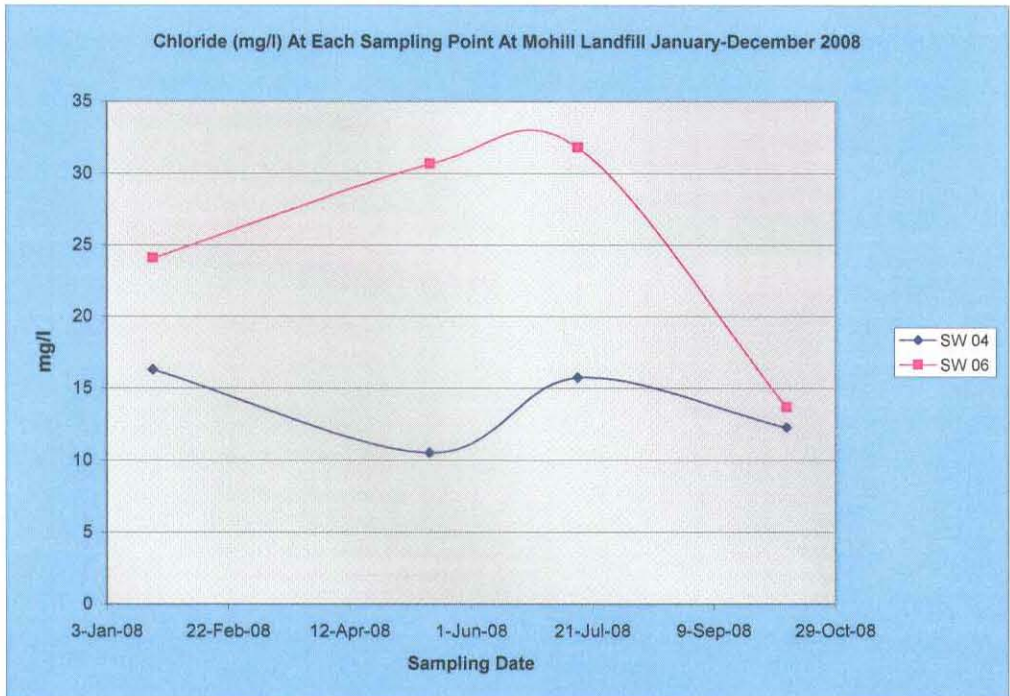
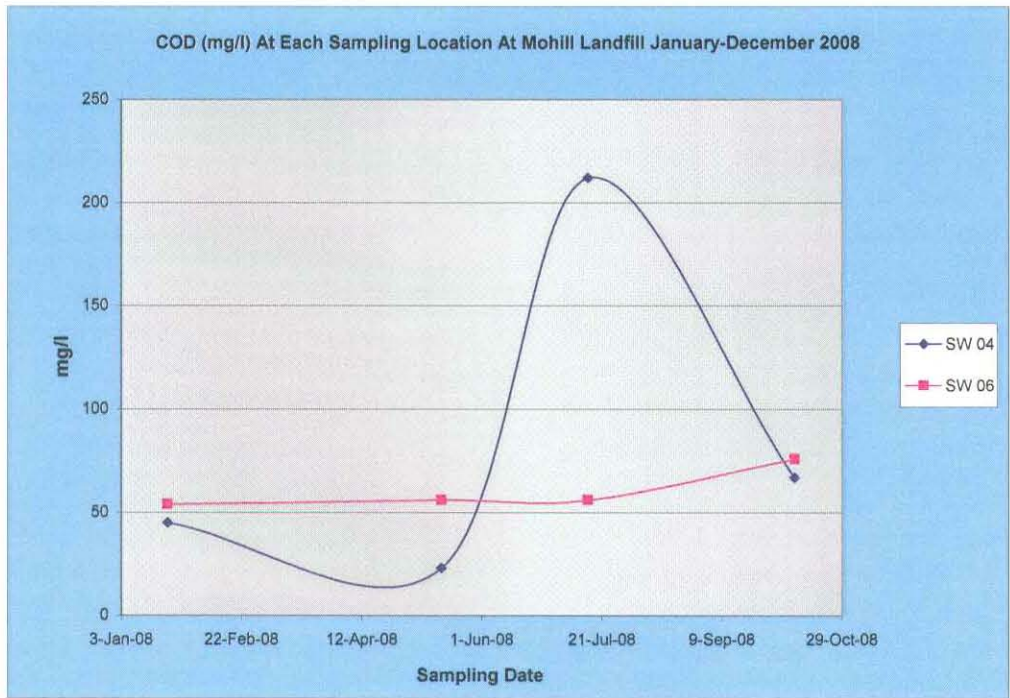
Temperature (°C) at each sampling location

| Surface Water Regulations, 1989 | | | Date | 22-Jan-08 | 15-May-08 | 15-Jul-08 | 9-Oct-08 | 20-Sep-07 |
|---------------------------------|----------|----------|-------|-----------|-----------|-----------|----------|-----------|
| Class A1 | Class A2 | Class A3 | | | | | | |
| 25 | 25 | 25 | SW 04 | 9.6 | 12.3 | 16.0 | 13.5 | 12.1 |
| 25 | 25 | 25 | SW 06 | 9.8 | 12 | 15.8 | 13.1 | 12.3 |

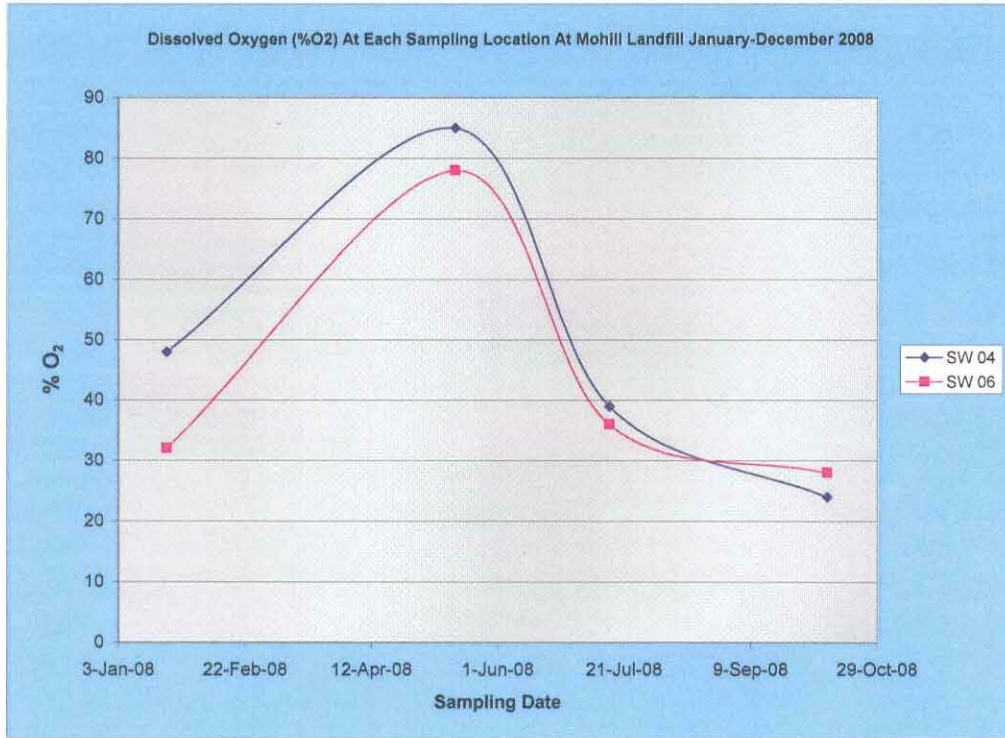
Quarterly Surface Water monitoring 2008 - Ammoniacal Nitrogen and BOD



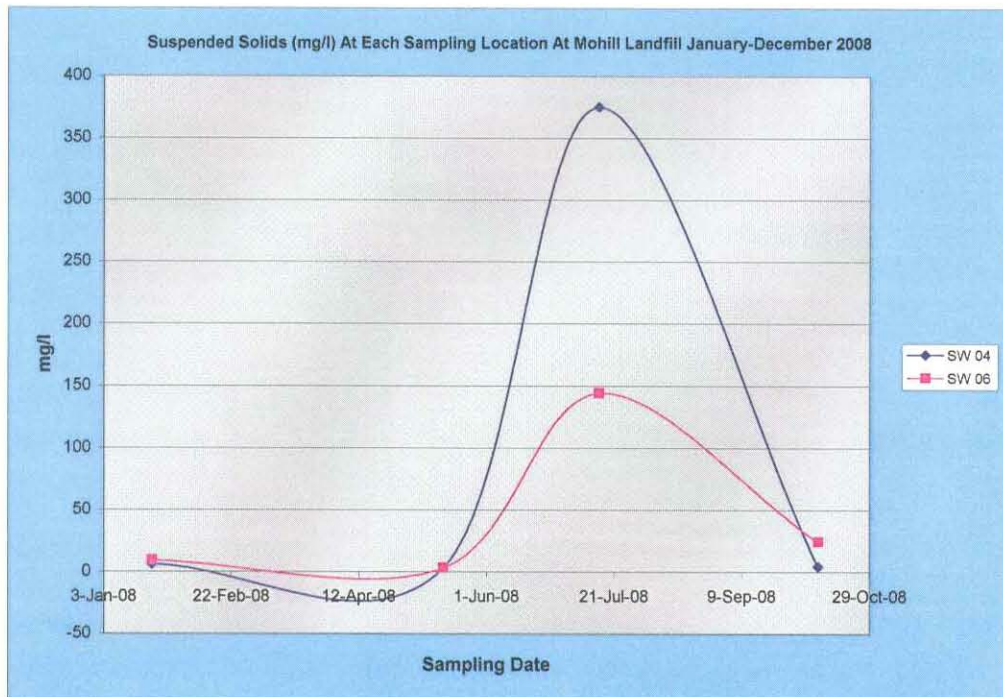
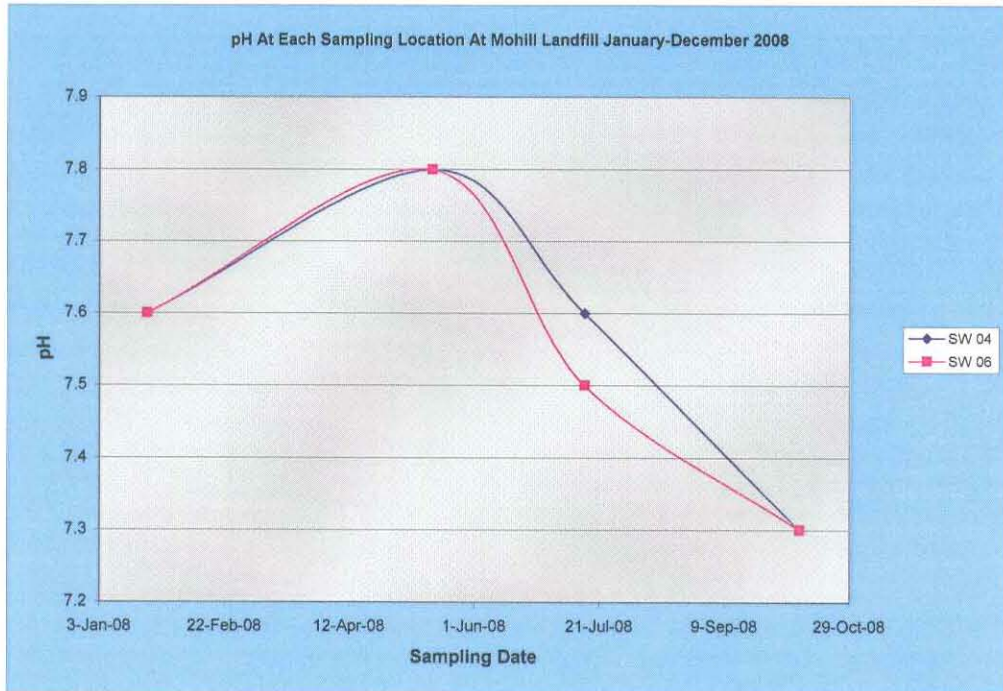
Quarterly Surface Water Monitoring 2008 - COD and Chloride



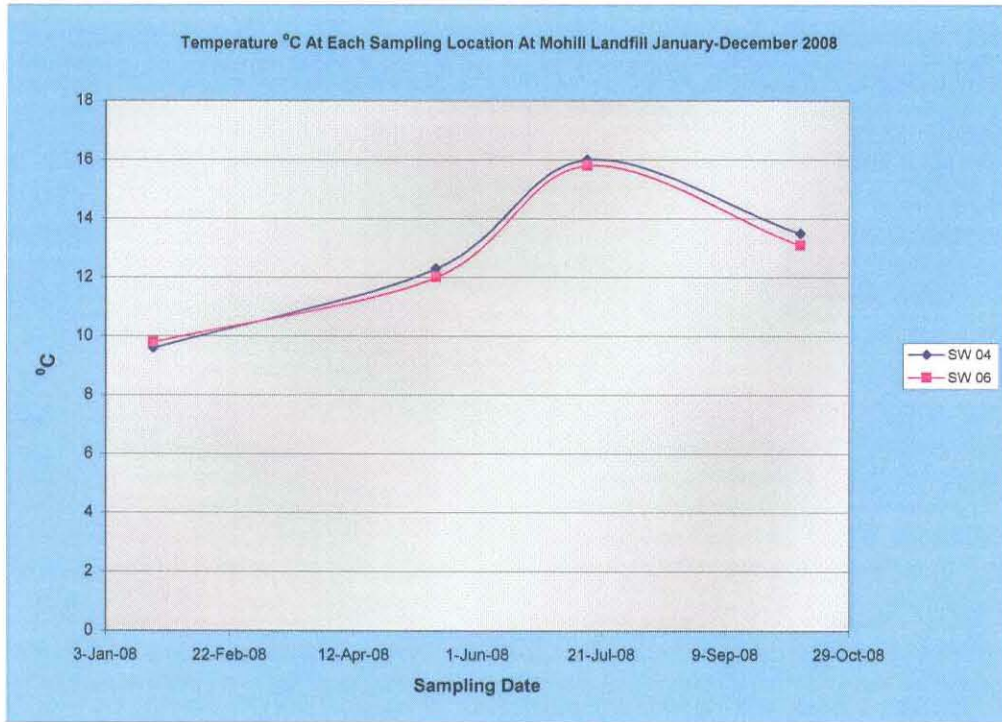
Quarterly Surface Water Monitoring 2008 - Dissolved Oxygen and Conductivity



Quarterly Surface Water Monitoring 2008 - pH and Suspended Solids



Quarterly Surface Water Monitoring 2008 - Temperature



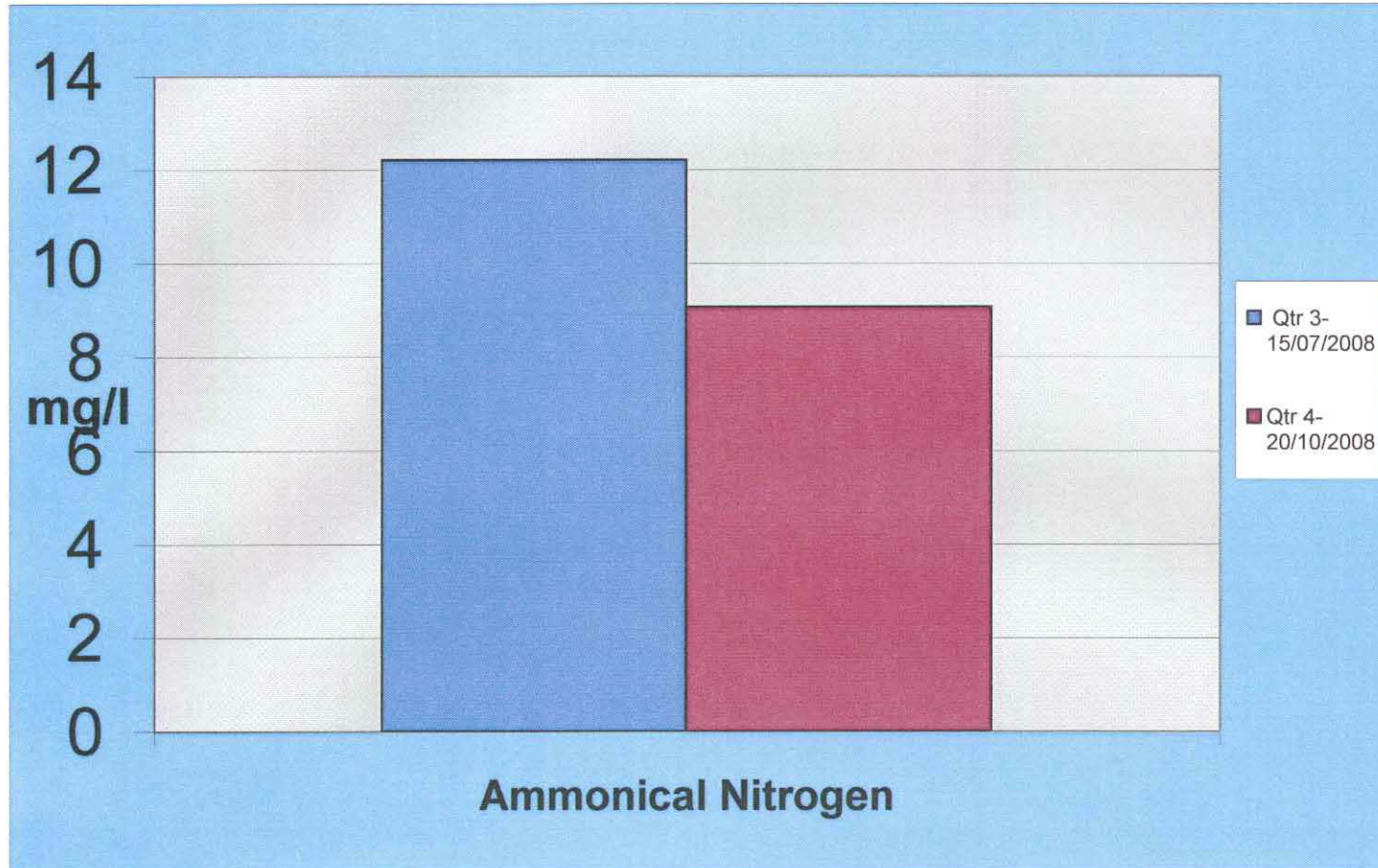
Mohill Landfill - Quarterly Leachate Monitoring 2008

EC (Quality of Surface Water Intended for the abstraction of drinking water) Regulations, 1989

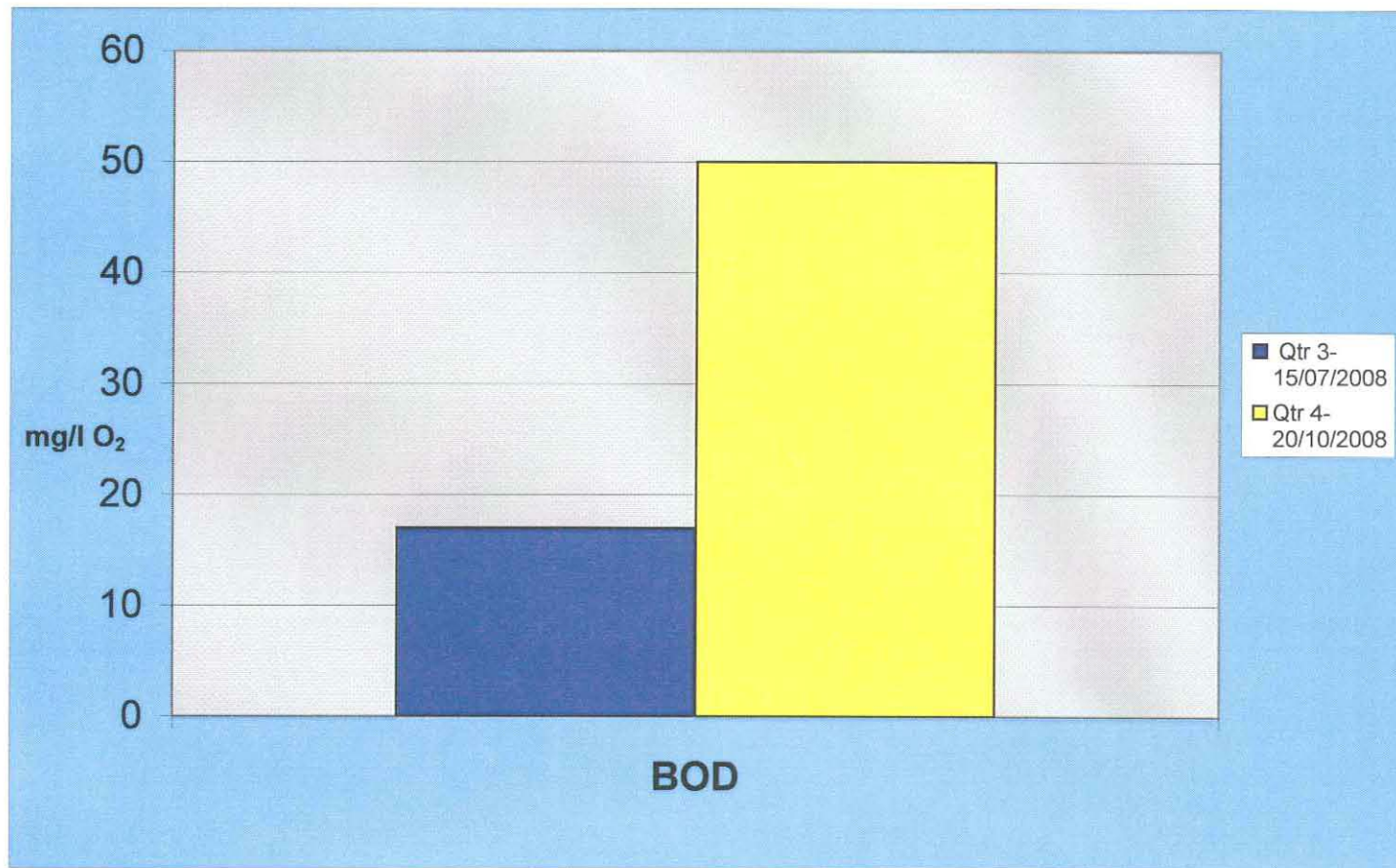
| Parameter | Units | Qtr 3-15/07/2008 | Qtr 4-20/10/2008 | A1 Waters | A2 Waters | A3 Waters |
|-------------------------|---------------------|------------------|------------------|-----------|-----------|-----------|
| Ammonical Nitrogen | mg/l | 12.21 | 9.07 | - | - | - |
| BOD | mg/l O ₂ | 17 | 50 | 5 | 5 | 7 |
| Chloride | mg/l | 149.2 | 47.64 | 250 | 250 | 250 |
| COD | mg/l O ₂ | 800 | 793 | - | - | 40 |
| pH | pH Units | 6.6 | 6.5 | 5.5-8.5 | 5.5-8.5 | 5.5-8.5 |
| Total Oxidised Nitrogen | mg/l | <0.03 | 16.72 | - | - | - |
| Temperature | °C | 15 | 13.2 | - | - | - |

* Note; Euro Environmental did not sample for Leachate in Quarters 1& 2

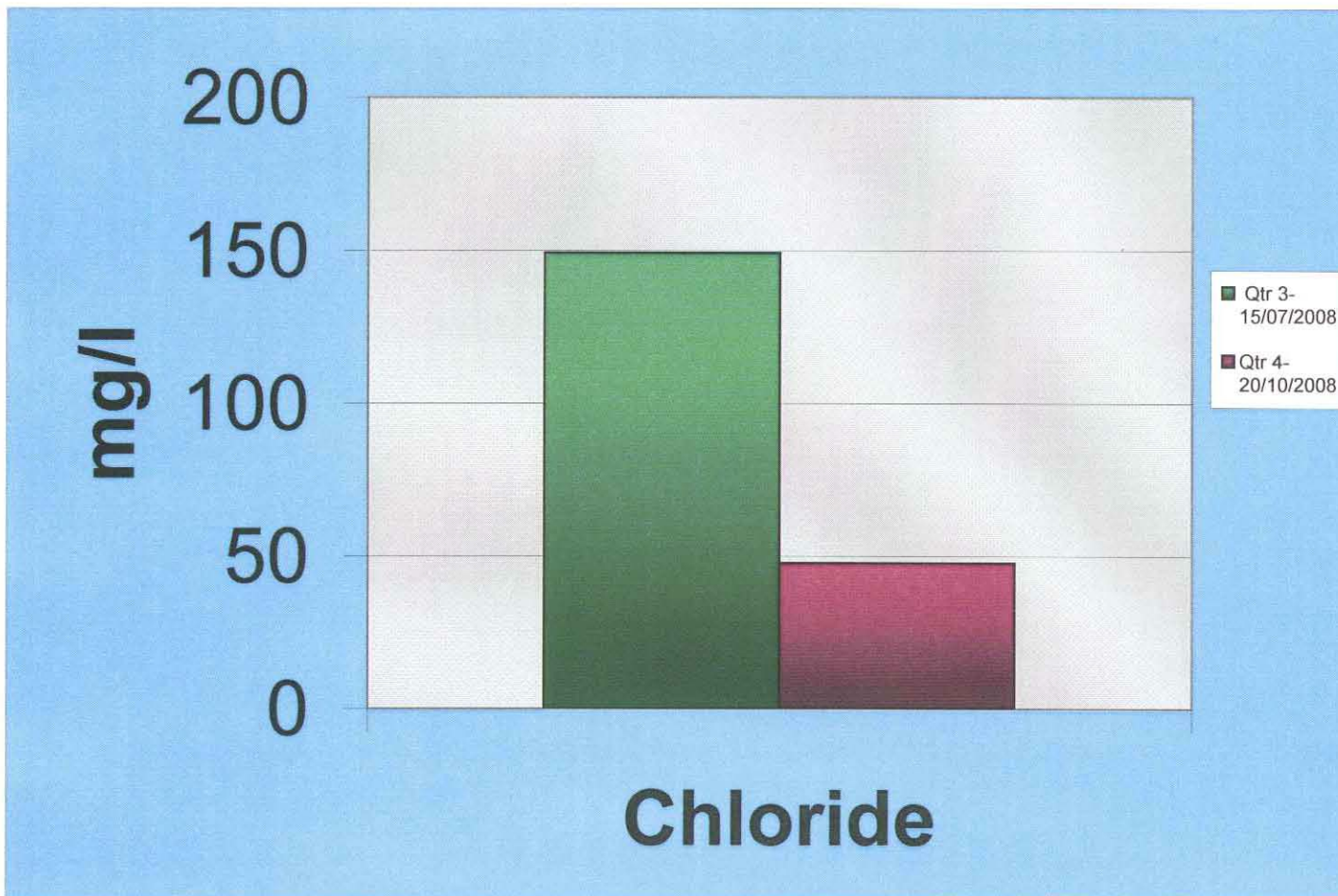
Quarterly Leachate Monitoring At Mohill Landfill 2008 - Ammonical Nitrogen



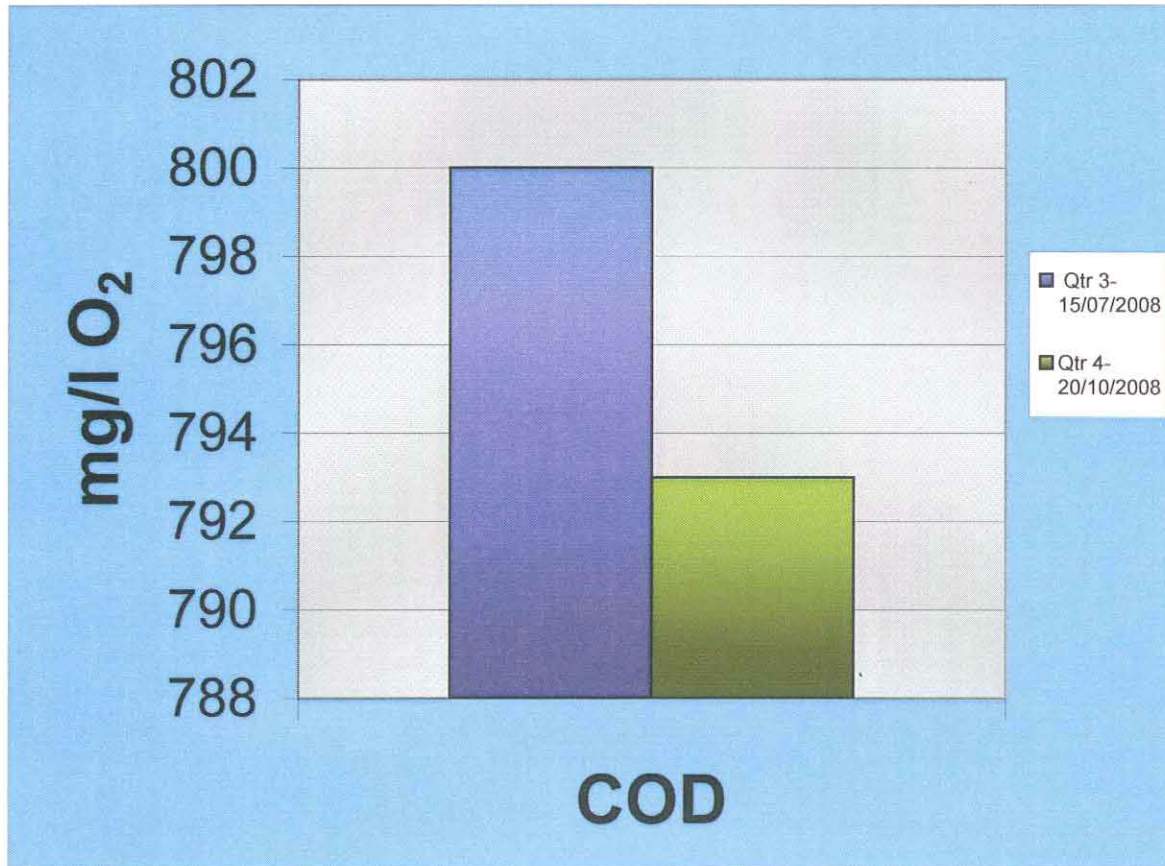
Quarterly Leachate Monitoring At Mohill Landfill 2008 - BOD



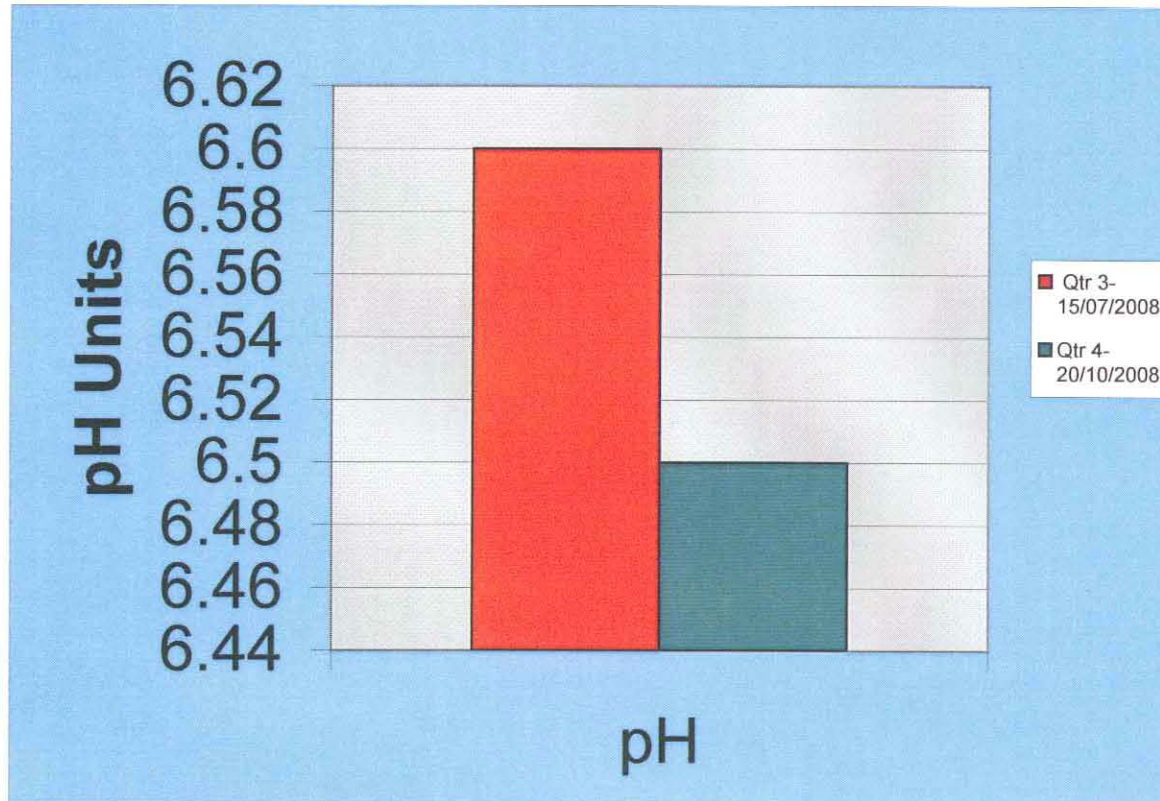
Quarterly Leachate Monitoring At Mohill Landfill 2008 - Chloride



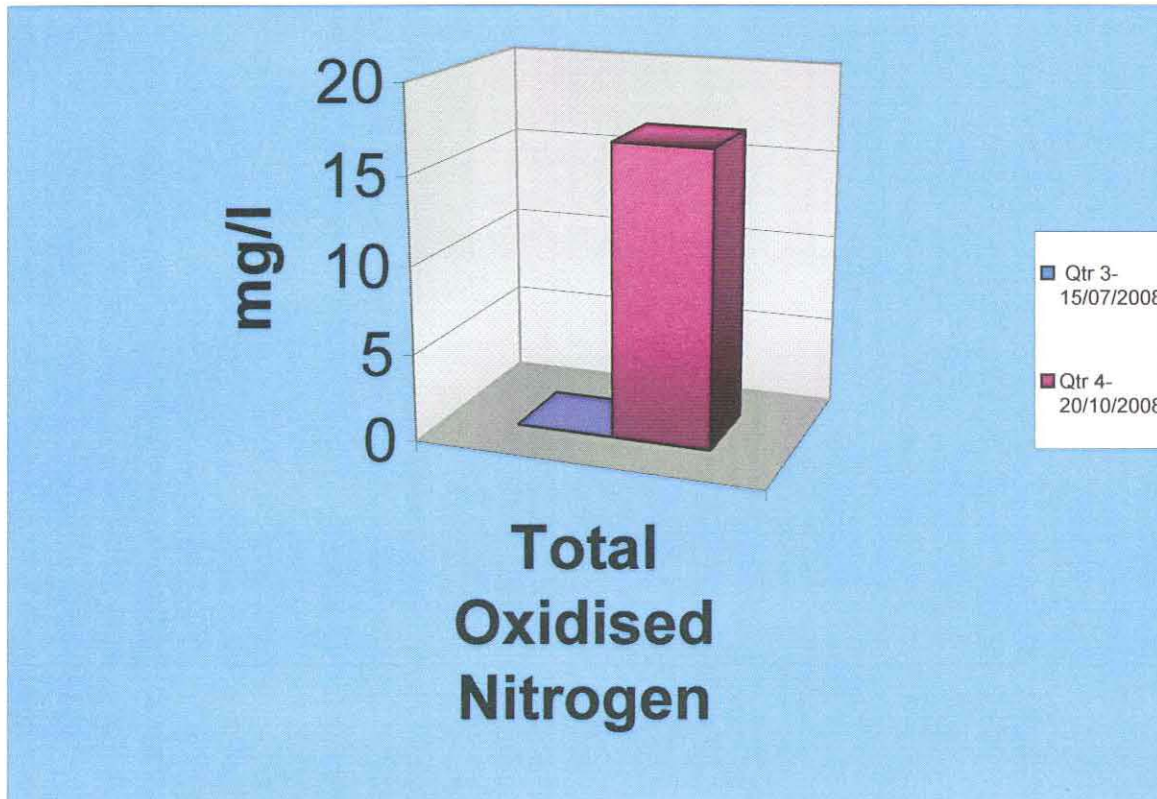
Quarterly Leachate Monitoring At Mohill Landfill 2008 - COD



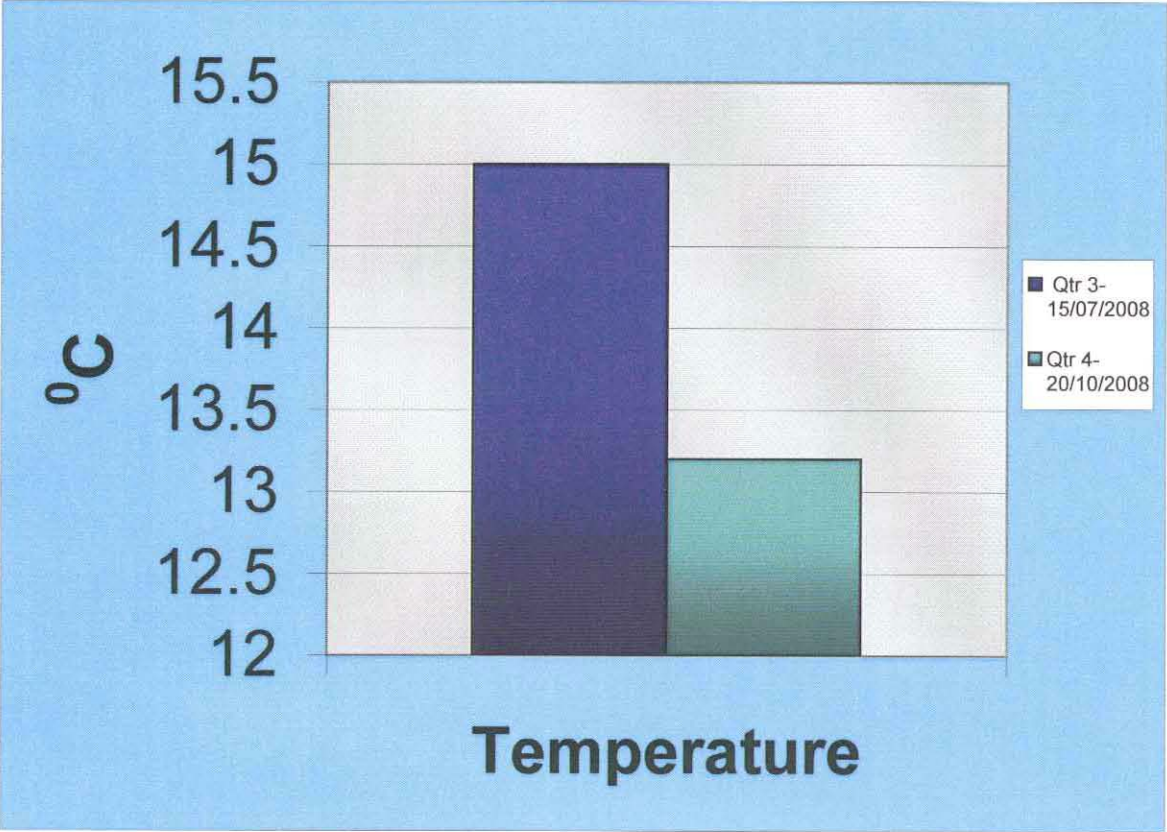
Quarterly Leachate Monitoring At Mohill Landfill 2008 - pH



Quarterly Leachate Monitoring At Mohill Landfill 2008 - Total Oxidised Nitrogen



Quarterly Leachate Monitoring At Mohill Landfill 2008 - Temperature

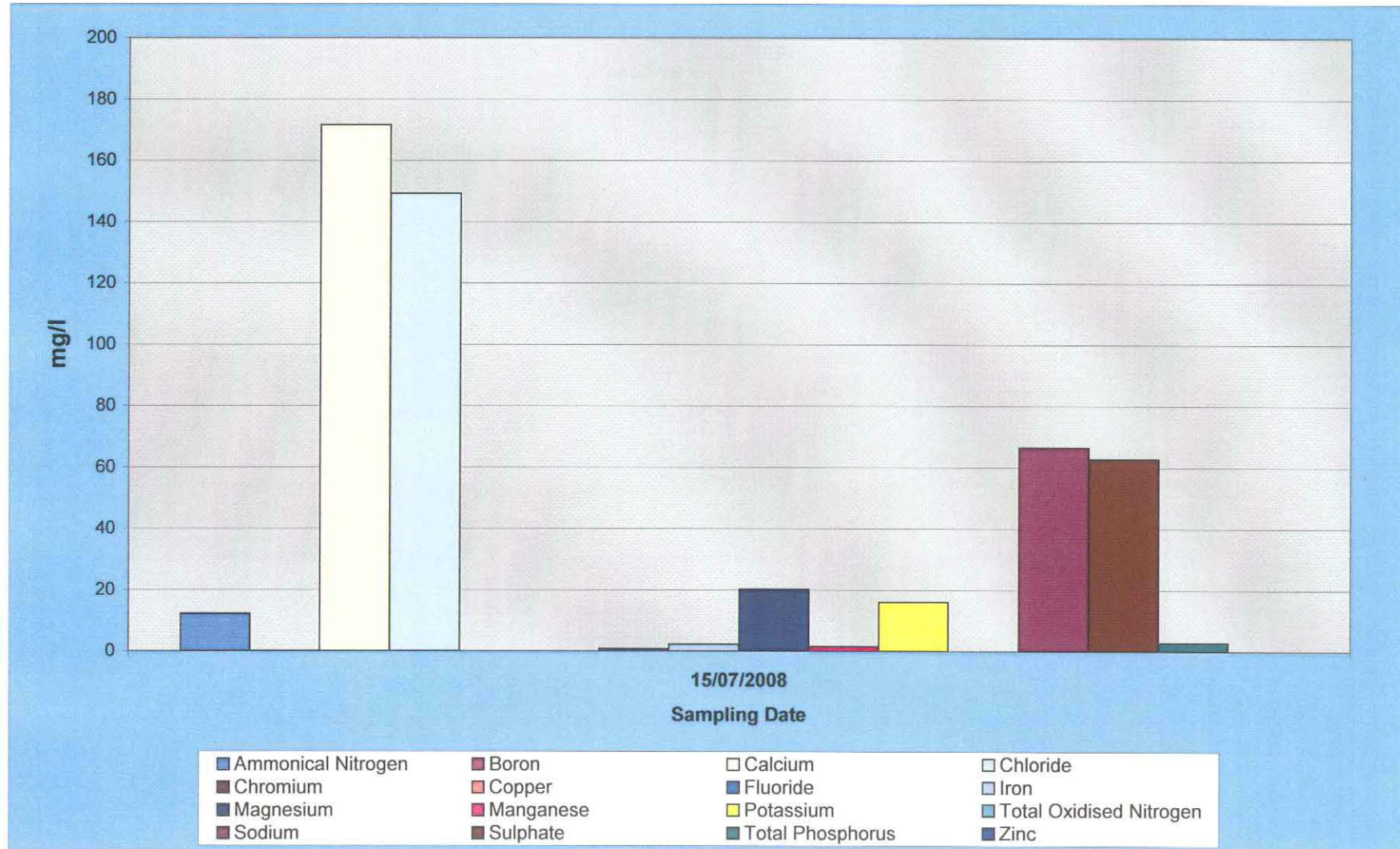


Annual Leachate Results for Mohill Landfill 2008

EC (Quality of Surface Water Intended for the abstraction of drinking water) Regulations, 1989

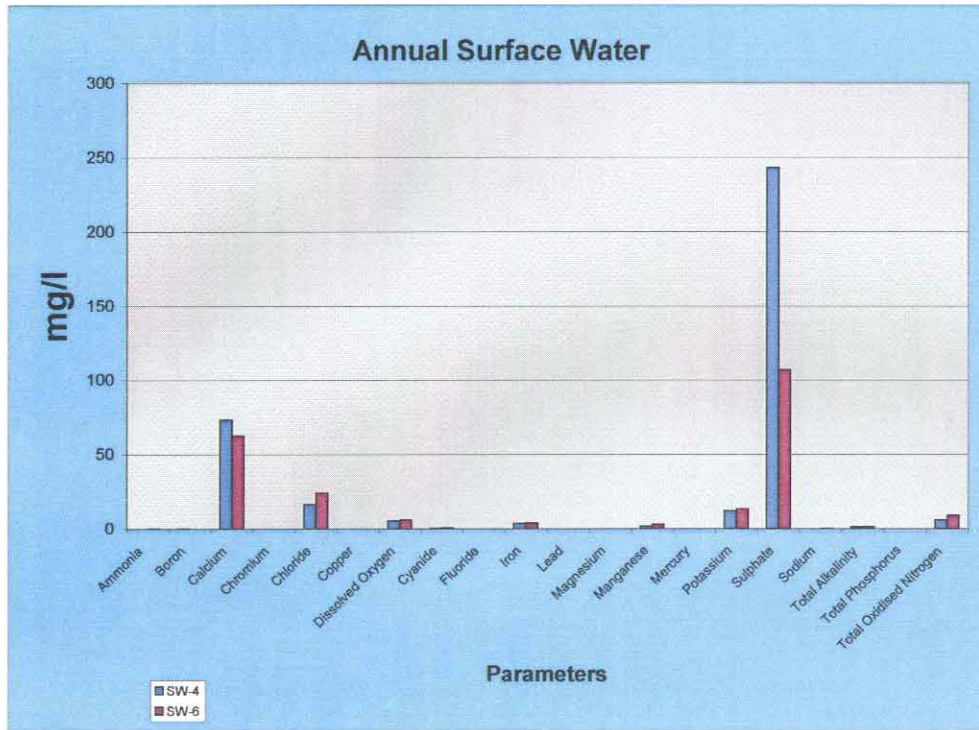
| Parameter | Units | 15-Jul-08 | A1 Waters | A2 Waters | A3 Waters |
|-------------------------|---------------------|-----------|-----------|-----------|-----------|
| Ammonical Nitrogen | mg/l | 12.21 | - | - | - |
| BOD | mg/l O ₂ | 17 | 5 | 5 | 7 |
| Boron | mg/l | 0.044 | 2 | 2 | 2 |
| Cadmium | ug/l | <.09 | 0.005 | 0.005 | 0.005 |
| Calcium | mg/l | 171.60 | - | - | - |
| Chloride | mg/l | 149.2 | 250 | 250 | 250 |
| Chromium | mg/l | <0.00093 | 0.05 | 0.05 | 0.05 |
| COD | mg/l O ₂ | 800 | - | - | 40 |
| Conductivity | us/cm | 1343 | 1000 | 1000 | 1000 |
| Copper | mg/l | 0.002 | 0.05 | 0.1 | 1 |
| Cyanide | ug/l | 0.1 | 0.05 | 0.05 | 0.05 |
| Fluoride | mg/l | 0.78 | 1 | 1.7 | 1.7 |
| Iron | mg/l | 2.213 | 0.2 | 2 | 2 |
| Magnesium | mg/l | 20.23 | - | - | - |
| Manganese | mg/l | 1.465 | 0.05 | 0.3 | 1 |
| Mercury | ug/l | <0.2 | 0.001 | 0.001 | 0.001 |
| pH | pH Units | 6.6 | 5.5-8.5 | 5.5-8.5 | 5.5-8.5 |
| Potassium | mg/l | 16 | - | - | - |
| Total Oxidised Nitrogen | mg/l | <0.03 | - | - | - |
| Sodium | mg/l | 66.5 | - | - | - |
| Sulphate | mg/l | 62.69 | 200 | 200 | 200 |
| Temperature | °C | 15 | - | - | - |
| Total Phosphorus | mg/l | 2.726 | - | - | - |
| Zinc | mg/l | 0.009 | 3 | 5 | 5 |

Annual Leachate at Mohill Landfill 2008

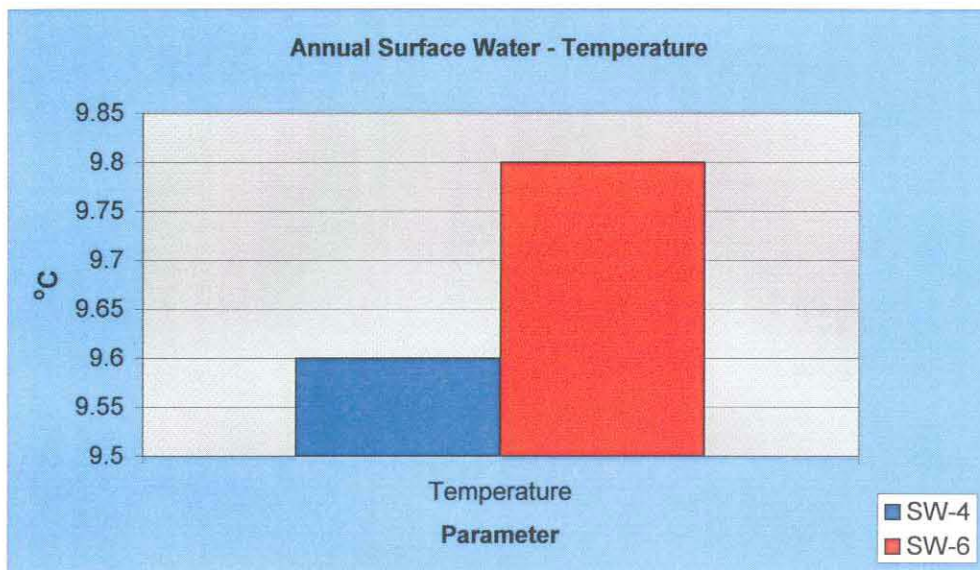
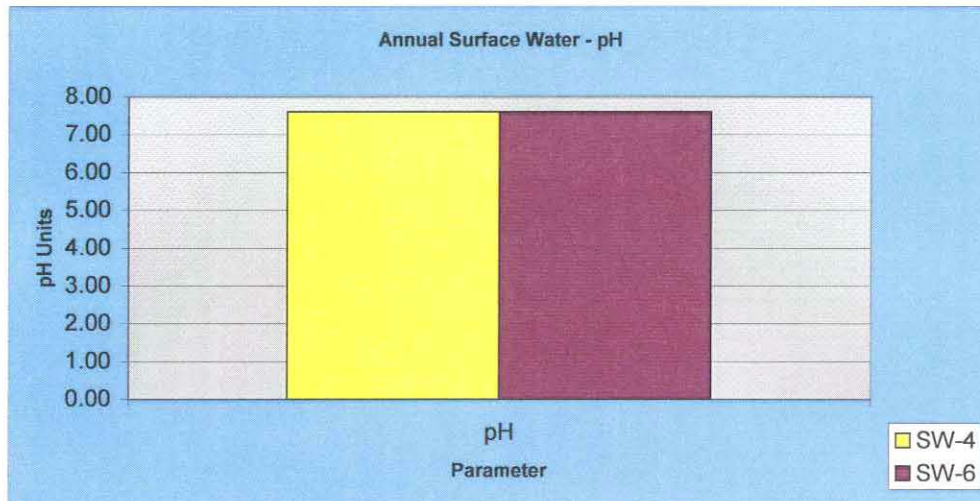


| Mohill 2008 - Annual Surface Water | | | | Mohill 2008 - Annual Ground Water | | | | | | | EPA GW Interim Guideline Value |
|------------------------------------|----------|---------|---------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------------------------------|
| Parameter | Units | SW-4 | SW-6 | Surface Water Regulations, 1989 - Class A1, A2, A3 | MW 05 - S | MW 05 - D | MW 06 - S | MW 06 - D | MW 08 - S | MW 08 - D | |
| Ammonia | mg/l | <0.09 | 0.15 | | 0.09 | <0.09 | 0.24 | 0.47 | <0.09 | 0.27 | |
| Boron | mg/l | 0.222 | 0.101 | 2 | 0.109 | 3.341 | 0.208 | 3.312 | 0.134 | 0.084 | 1 |
| Cadmium | ug/l | <0.09 | <0.09 | - | <0.09 | <0.09 | 1 | <0.09 | <0.09 | <0.09 | 5 |
| Calcium | mg/l | 73.33 | 62.81 | - | 146.2 | 36.49 | 319.1 | 32.28 | 105.7 | 103.3 | 200 |
| Chromium | mg/l | 0.003 | 0.009 | 0.05 | 0.013 | 0.001 | 0.06 | 0.002 | 0.001 | 0.003 | 0.03 |
| Chloride | mg/l | 16.3 | 24.07 | | | | | | | | 30 |
| Copper | mg/l | 0.004 | 0.007 | 0.05, 0.1, 1 | 0.008 | 0.005 | 0.053 | 0.007 | 0.005 | 0.008 | 30 |
| Conductivity | uscm | 369 | 328 | | 662 | 891 | 664 | 1191 | 840 | 633 | |
| Dissolved Oxygen | % | 48 | 32 | | 13.8 | 25 | 16.5 | 30 | 30 | 25.9 | |
| Dissolved Oxygen | mg/l | 5.4 | 6.1 | | 1.1 | 3.4 | 1.1 | 3 | 3.4 | 2.8 | |
| Cyanide | mg/l | | | | 0.01 | <0.005 | <0.005 | <0.005 | <0.005 | 0.007 | 0.01 |
| Fluoride | mg/l | | | | 0.22 | 5.62 | 0.35 | 13.04 | 0.73 | 0.15 | 1 |
| Iron | mg/l | 0.483 | 0.591 | 0.2, 2, 2 | 4.829 | 0.49 | 49.13 | 0.754 | 0.480 | 3.35 | 0.2 |
| Lead | mg/l | 0.001 | 0.001 | 0.05 | 0.003 | 0.003 | 0.027 | 0.002 | 0.002 | 0.002 | 0.01 |
| Magnesium | mg/l | 3.64 | 3.97 | - | 9.74 | 32.27 | 16.43 | 14.08 | 30.45 | 4.65 | 50 |
| Manganese | mg/l | 0.037 | 0.044 | 0.05, 0.3, 1 | 0.111 | 0.407 | 0.641 | 0.294 | 0.029 | 0.049 | 0.05 |
| Mercury | mg/l | <0.0002 | <0.0002 | | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | 0.001 |
| pH | pH units | 7.60 | 7.6 | | 7.1 | 7.5 | 7.2 | 7.6 | 7.2 | 7.3 | |
| Phenols | ug/l | | | | | | | | | | 0.5 |
| Potassium | mg/l | 1.77 | 3 | - | | | | | | | 5 |
| Sulphate | mg/l | <2.11 | <2.11 | 200 | 15 | 141 | 31 | 196 | 20 | 28 | 200 |
| Sodium | mg/l | 12.02 | 13.21 | - | | | | | | | 150 |
| Temperature | (°C) | 9.6 | 9.8 | | 11 | 11 | 11 | 11 | 10.7 | 10.5 | |
| Total Alkalinity | mg/l | 243 | 107 | No abnormal change | 492 | 448 | 425 | 425 | 458 | 265 | No abnormal change |
| Total Phosphorus | mg/l | 0.091 | 0.158 | - | 0.077 | 0.047 | 0.494 | 0.102 | 0.039 | 0.94 | |
| Total Oxidised Nitrogen | mg/l | 1.27 | 1.54 | - | | | | | | | No abnormal change |
| Zinc | mg/l | 0.0074 | 0.0111 | 3, 5, 5 | 13.40 | 7.90 | 0.139 | 0.0082 | 0.0062 | 0.014 | 0.1 |
| Faecal Coliforms | No/100ml | | | | 0 | 1 | 0 | 0 | 1 | 14 | 0 counts / 100ml |
| Total Coliforms | No/100ml | | | | 1 | 40 | 4 | 61 | 2 | 26 | 0 counts / 100ml |
| Semivolatile Organic Compounds | ug/l | | | | <1 | <1 | <1 | <1 | <1 | <1 | |
| Solids (Total Dissolved) | mg/l | 6 | 9 | | 380 | 543 | 518 | 746 | 466 | 364 | |
| Total Organic Carbon | mg/l | | | | 2.24 | 2.1 | 17.9 | 2.48 | 1.59 | 3.54 | |
| Volatile Organic Carbons | ug/l | | | | 26.659 | <1 | 31.925 | 82.518 | <1 | 75.02 | |

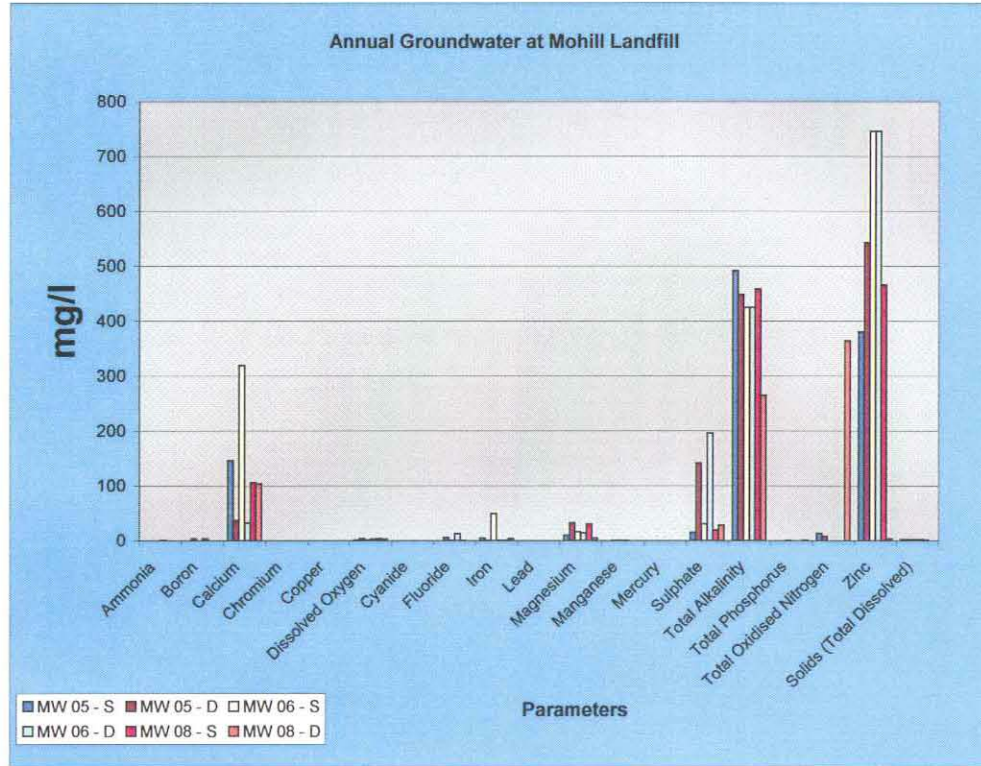
Mohill 2008 - Annual Surface Water Charts For SW 4 & SW 6



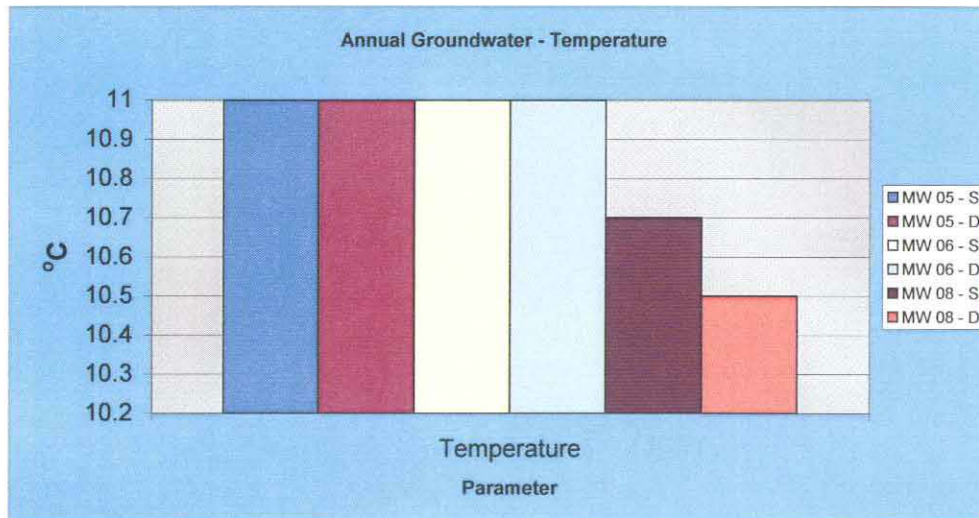
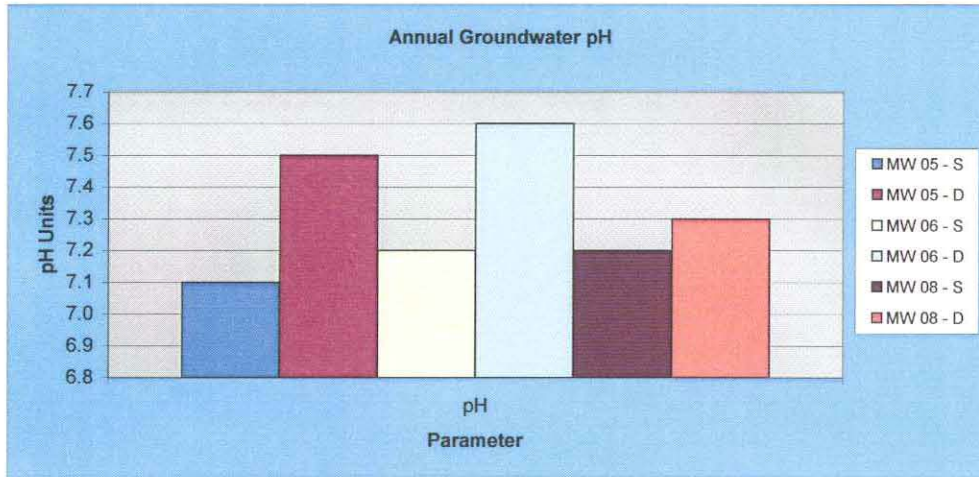
Mohill 2008 - Annual Surface Water Charts For SW 4 & SW 6



Mohill 2008 - Annual Ground Water Charts For Mohill Landfill



Mohill 2008 - Annual Ground Water Charts For Mohill Landfill



2008 Annual EPA
Results~Mohill Landfill

| Parameter | Units | SW-4 | SW-6 | Leachate | Surface Water | MW 05 - D | MW 06 - D | MW 08 - D | EPA GW Interim Guideline Value | | |
|-------------------------|----------|-----------|-----------|------------|---|-----------|-----------|-----------|--------------------------------|-----------------------|--|
| | | 4-12-2008 | 4-12-2008 | 04-12-2008 | Regulations, 1989 - Class A1, A2, A3 | 4-12-2008 | 4-12-2008 | 4-12-2008 | | | |
| Ammonia | mg/l N | 0.14 | 0.11 | 3.36 | | 1.1 | 0.84 | 0.04 | | | |
| Boron | mg/l | <0.05 | <0.05 | 0.0526 | 2 | 3.9444 | 3.2246 | 0.0535 | | 1 | |
| BOD | mg/l | <2.0 | <2.0 | <2.0 | - | nm | nm | nm | | | |
| COD | mg/l | 49 | 48 | 56 | - | nm | nm | nm | | | |
| Cadmium | ug/l | <0.10 | <0.10 | <0.10 | - | 0.2 | <0.10 | <0.10 | | 5 | |
| Calcium | mg/l | 42.46 | 46.35 | 134.74 | - | 38.16 | 33.6 | 87.97 | | 200 | |
| Chromium | mg/l | <0.001 | <0.001 | 0.0038 | 0.05 | 0.0061 | 0.0043 | <0.001 | | 0.03 | |
| Chloride | mg/l | 22 | 27 | 237 | | 12 | 15 | 44 | | 30 | |
| Conductivity | uS/cm | 284 | 322 | 1493 | | 963 | 1031 | 606 | | | |
| Copper | mg/l | <.002 | <.002 | 0.0027 | 0.05, 0.1, 1 | 0.0068 | <.003 | <.001 | | 30 | |
| Cyanide | mg/l | nm | nm | <0.05 | | <0.05 | <0.05 | <0.05 | | 0.01 | |
| Fluoride | mg/l | nm | nm | nm | | 5.39 | 7.65 | 0.24 | | 1 | |
| Iron | mg/l | 0.4734 | 0.4384 | 4.9873 | 0.2, 2, 2 | 3.0293 | 0.5422 | 0.1676 | | 0.2 | |
| Lead | mg/l | <0.001 | <0.001 | <0.001 | 0.05 | 0.007 | <0.001 | <0.001 | | 0.01 | |
| Magnesium | mg/l | 2.55 | 2.57 | 10.2 | - | 25.94 | 26.78 | 3.14 | | 50 | |
| Manganese | mg/l | 0.0539 | 0.0496 | 0.7891 | 0.05, 0.3, 1 | 0.5255 | 0.2186 | 0.0049 | | 0.05 | |
| Mercury | mg/l | <0.0001 | <0.0001 | <0.0001 | - | <0.0001 | <0.0001 | <0.0001 | | 0.001 | |
| pH | pH units | 7.5 | 7.5 | 6.7 | - | 7.8 | 7.7 | 7.2 | | | |
| Phenols | ug/l | nm | nm | nm | - | <10 | <10 | <10 | | 0.5 | |
| Potassium | mg/l | 3.22 | 3.03 | 5.89 | - | 7.35 | 5.77 | 1.23 | | 5 | |
| Sulphate | mg/l | 6.9 | 7.9 | 78.6 | 200 | 144.6 | 118.1 | 9 | | 200 | |
| Sodium | mg/l | 8.75 | 11.56 | 161.43 | - | 150.72 | 170.36 | 30.24 | | 150 | |
| Temperature | °C | 4.7 | 4.9 | 7 | - | 10.6 | 10.6 | 9.7 | | | |
| Total Alkalinity | mg/l | nm | nm | nm | No abnormal change | nm | nm | nm | | No abnormal change | |
| Ortho Phosphate | mg/l | 0.13 | 0.08 | <.03 | - | 0.04 | 0.04 | 0.02 | | | |
| Total Oxidised Nitrogen | mg/l | 0.41 | 0.60 | <.14 | - | <0.05 | <0.05 | 0.29 | | No abnormal change | |
| Zinc | mg/l | 0.0040 | 0.0041 | 0.0157 | 3, 5, 5 | 0.0166 | 0.0055 | 0.0023 | | 0.1 | |
| Faecal Coliforms | No/100ml | nm | nm | nm | | nm | nm | nm | | 0 counts / 100ml | |
| Total Coliforms | No/100ml | nm | nm | nm | | nm | nm | nm | | 0 counts / 100ml | |

nm = Not measured



Environmental Protection Agency

| PRTR# W0065 | Facility Name Mohill Landfill | Filename W0065_2008.xls |
Return Year 2008

31/03/2009 12:12

AER Returns Worksheet

Version 1.1.04

| | |
|-----------------------|------|
| REFERENCE YEAR | 2008 |
|-----------------------|------|

1. FACILITY IDENTIFICATION

| | |
|----------------------------|------------------------|
| Parent Company Name | Leitrim County Council |
| Facility Name | Mohill Landfill |
| PRTR Identification Number | W0065 |
| Licence Number | W0065-01 |

Waste or IPPC Classes of Activity

| No. | class_name |
|------|---|
| 3.1 | Deposit on, in or under land (including landfill). |
| 3.4 | Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons. |
| 3.13 | Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced. |
| 4.13 | Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced. |

| | |
|---|------------------------------|
| Address 1 | Tullybardan |
| Address 2 | Mohill |
| Address 3 | Co Leitrim |
| Address 4 | |
| Country | Ireland |
| Coordinates of Location | 506200.000 |
| River Basin District | IEGBNISH |
| NACE Code | 382 |
| Main Economic Activity | Waste treatment and disposal |
| AER Returns Contact Name | Director of Services (W0065) |
| AER Returns Contact Email Address | sscott@leitrimcoco.ie |
| AER Returns Contact Position | Environment Section |
| AER Returns Contact Telephone Number | 071-9620005 |
| AER Returns Contact Mobile Phone Number | |
| AER Returns Contact Fax Number | 0719621982 |
| Production Volume | 0.0 |
| Production Volume Units | |
| Number of Installations | 0 |
| Number of Operating Hours in Year | 0 |
| Number of Employees | 0 |
| User Feedback/Comments | Site Closed |
| Web Address | |

2. PRTR CLASS ACTIVITIES

| Activity Number | Activity Name |
|-----------------|---|
| 5d | Landfills |
| 5c | Installations for the disposal of non-hazardous waste |

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

| | |
|---|--|
| Is it applicable? | |
| Have you been granted an exemption ? | |
| If applicable which activity class applies (as per Schedule 2 of the regulations) ? | |
| Is the reduction scheme compliance route being used ? | |

4.1 RELEASES TO AIR

UNITED STATES OF AMERICA - MARIANA ISLANDS - Palau - WY99 - 2023 - WY99 - 2023 - WY99 - 2023

23/02/2023 17:47

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

| RELEASES TO AIR | | | | | | | | |
|-----------------|----------------------|--------|-------------|---|------------------|-------------------|------------------------|----------------------|
| No. Annex II | POLLUTANT Name | METHOD | | | QUANTITY | | | |
| | | M/C/E | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| 03 | Carbon dioxide (CO2) | C | Oth | Landgem US EPA package 2005 Version 3.2 | 412300000.0 | 412300000.0 | 0.0 | 0.0 |
| 01 | Methane (CH4) | C | Oth | Landgem US EPA package 2005 Version 3.2 | 153500000.0 | 153500000.0 | 0.0 | 0.0 |

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

SECTION B : REMAINING PRTR POLLUTANTS

| RELEASES TO AIR | | | | | | | | |
|-----------------|----------------|--------|-------------|----------------------------|------------------|-------------------|------------------------|----------------------|
| No. Annex II | POLLUTANT Name | METHOD | | | QUANTITY | | | |
| | | M/C/E | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | | | 0.0 | 0.0 | 0.0 | 0.0 |

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

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

| RELEASES TO AIR | | | | | | | | |
|-----------------|----------------|--------|-------------|----------------------------|------------------|-------------------|------------------------|----------------------|
| Pollutant No. | POLLUTANT Name | METHOD | | | QUANTITY | | | |
| | | M/C/E | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | | | 0.0 | 0.0 | 0.0 | 0.0 |

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

Additional Data Requested from Landfill operators

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

| Landfill: Please enter summary data on the quantities of methane flared and / or utilised | Mohill Landfill | T (Total) kg/Year | M/C/E | Method Used | | Facility Total Capacity m3 per hour |
|--|-----------------|-------------------|-------|-------------|---|-------------------------------------|
| | | | | Method Code | Designation or Description | |
| Total estimated methane generation (as per site model) | | 153500000.0 | C | Oth | Landgem US EPA package 2005 Version 3.2 | N/A |
| Methane flared | | 0.0 | | | | 0.0 (Total Flaring Capacity) |
| Methane utilised in engine/s | | 0.0 | | | | 0.0 (Total Utilising Capacity) |
| Net methane emission (as reported in Section A above) | | 153500000.0 | C | Oth | Landgem US EPA package 2005 Version 3.2 | N/A |

4.2 RELEASES TO WATERS

(PRTR: 00005 | Facility Name: Minif Landfill | Licence: 00005_2000 | Return Year: 2000)

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SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this only concerns Releases from your facility

| POLLUTANT | | RELEASERS TO WATERS | | | QUANTITY | | | |
|--------------|------|---------------------|-------------|---|------------------|-------------------|------------------------|----------------------|
| No. Annex II | Name | M/C/E | Method Code | Method Used Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | | | | 0.0 | 0.0 | 0.0 |

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

SECTION B : REMAINING PRTR POLLUTANTS

| POLLUTANT | | RELEASERS TO WATERS | | | QUANTITY | | | |
|--------------|------|---------------------|-------------|---|------------------|-------------------|------------------------|----------------------|
| No. Annex II | Name | M/C/E | Method Code | Method Used Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | | | | 0.0 | 0.0 | 0.0 |

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

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

| POLLUTANT | | RELEASERS TO WATERS | | | QUANTITY | | | |
|---------------|------|---------------------|-------------|---|------------------|-------------------|------------------------|----------------------|
| Pollutant No. | Name | M/C/E | Method Code | Method Used Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/year | F (Fugitive) KG/Year |
| | | | | | | 0.0 | 0.0 | 0.0 |

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

4.3 RELEASES TO WASTEWATER OR SEWER

SECTION A : PRTR POLLUTANTS

| OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER | | | | | | | | |
|--|--------------------------------|--------|-------------|-------------------------------------|------------------|-------------------|------------------------|----------------------|
| POLLUTANT | | METHOD | | | QUANTITY | | | |
| No. Annex II | Name | M/C/E | Method Used | | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | Method Code | Designation or Description | | | | |
| 06 | Ammonia (NH3) | E | Estimate | A non standard estimation procedure | | 39.0 | 39.0 | 0.0 |
| 18 | Cadmium and compounds (as Cd) | E | Estimate | A non standard estimation procedure | | 0.000329 | 0.000329 | 0.0 |
| 79 | Chlorides (as Cl) | E | Estimate | A non standard estimation procedure | | 545.0 | 545.0 | 0.0 |
| 19 | Chromium and compounds (as Cr) | E | Estimate | A non standard estimation procedure | | 0.004 | 0.0 | 0.0 |
| 20 | Copper and compounds (as Cu) | E | Estimate | A non standard estimation procedure | | 0.0073 | 0.0073 | 0.0 |
| 82 | Cyanides (as total CN) | E | Estimate | A non standard estimation procedure | | 0.365 | 0.365 | 0.0 |
| 23 | Lead and compounds (as Pb) | E | Estimate | A non standard estimation procedure | | 0.024 | 0.024 | 0.0 |
| 21 | Mercury and compounds (as Hg) | E | Estimate | A non standard estimation procedure | | 0.00073 | 0.00073 | 0.0 |
| 12 | Total nitrogen | E | Estimate | A non standard estimation procedure | | 0.1095 | 0.1095 | 0.0 |
| 13 | Total phosphorus | E | Estimate | A non standard estimation procedure | | 9.9499 | 9.9499 | 0.0 |

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

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

| OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER | | | | | | | | |
|--|------|--------|-------------|----------------------------|------------------|-------------------|------------------------|----------------------|
| POLLUTANT | | METHOD | | | QUANTITY | | | |
| Pollutant No. | Name | M/C/E | Method Used | | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year | F (Fugitive) KG/Year |
| | | | Method Code | Designation or Description | | | | |
| | | | | | | 0.0 | 0.0 | 0.0 |

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

4.4 RELEASES TO LAND

SECTION A : PRTR POLLUTANTS

| RELEASES TO LAND | | | | | | | |
|------------------|------|--------|-------------|----------------------------|------------------|-------------------|------------------------|
| POLLUTANT | | METHOD | | | QUANTITY | | |
| No. Annex II | Name | M/C/E | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year |
| | | | | | | 0.0 | 0.0 |

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

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

| RELEASES TO LAND | | | | | | | |
|------------------|------|--------|-------------|----------------------------|------------------|-------------------|------------------------|
| POLLUTANT | | METHOD | | | QUANTITY | | |
| Pollutant No. | Name | M/C/E | Method Code | Designation or Description | Emission Point 1 | T (Total) KG/Year | A (Accidental) KG/Year |
| | | | | | | 0.0 | 0.0 |

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

(FRT04 - W0065) Facility Name: Mohil Landfill (Filename: W0065_2008.xls) (Return Year: 2008)

9/10/2009 12:12

| Transfer Destination | European Waste Code | Hazardous | Quantity T/Year | Description of Waste | Waste Treatment Operation | Method Used | | Location of Treatment | Name and Licence / Permit No. of Recoverer / Disposer / Broker | Address of Recoverer / Disposer / Broker | Name and Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY) | Licence / Permit No. of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY) |
|----------------------|---------------------|-----------|-----------------|----------------------|---------------------------|-------------|-------------|-----------------------|--|--|--|--|
| | | | | | | M/C/E | Method Used | | | | | |
| | | | | | | | | | | | | |

* Select a row by double-clicking the Description of Waste then click the delete button