



Annual Environmental Report 2008
Clonbullogue Ash Repository
Waste Licence W0049-02

March 2009

Bord na M6na today operates 5 main subsidiary companies in more than 20 locations throughout Ireland, the UK and USA. The principal businesses are in the Energy, Resource Recovery, Horticulture, Home Heating and Wastewater Treatment and Air Pollution Abatement markets. The company also engages in an extensive rehabilitation program to develop its peat lands in an environmentally sustainable manner. The company turnover for 2007/8 was €370m.

A NEW CONTRACT WITH NATURE

Bord na M6na has long recognised the need to diversify its activities in order to secure a sustainable future. In this context we identified the energy and resource recovery sectors as appropriate areas of growth and development, given our assets, strengths and skills.

Significant challenges face Ireland in meeting the country's needs to provide secure sustainable energy and manage waste while minimising the impact on the environment.

Bord na M6na is in a strong position to contribute to dealing with these challenges. We have a unique mixture of assets, experience and innovation which will enable us to cross-link our activities in energy, water and resource recovery to provide products and services which will meet Ireland's needs. We also have the capacity to become an exemplar for others to follow in these fields.

With this background we have scoped out a new vision for the future sustainable development of Bord na M6na.

Following on from our vision, we have developed a new mission for Bord na M6na which the Company is committed to achieving.

In 1934 the Turf Development Board was formed to 'develop and improve the turf industry.' The experience of fuel shortages during the war re-enforced the Irish State's commitment to developing the country's bogs. In 1944 the TDB was asked to devise and submit a comprehensive programme, the outcome was the transformation in 1946 of the TDB into Bord na M6na. The Board was given a mandate to increase the use of peat as a fuel and in energy production. Markets for the use of moss peat in horticulture were also developed.

In 1990 Bord na M6na implemented a divisionalised and decentralised structure, designed to delegate responsibility downwards ensuring a sharper focus on each profit centre and a greater spirit of enterprise.

Group Vision

We conduct our affairs with openness, honesty and integrity.

We are Ireland's leading environmentally responsible integrated utility service provider encompassing electricity, heating solutions, resource recovery, water, horticulture and related services.

We capitalise on international opportunities where we have a competitive advantage.

We achieve continuing growth through superior customer service, outstanding quality and innovation delivered through the excellence and commitment of our people.

We engage in sustainable profitable business in the communities we serve, which is rewarding and challenging for employees and other stakeholders.

Group Mission



The vision statement defines the Company's purpose, in terms of its values.

Values are guiding beliefs about how things should be done.

The vision statement communicates both the purpose and values of Bord na Móna.

For employees, it gives direction about how they are expected to behave and inspires them to give their best.

Shared with customers, it shapes the customers' understanding of why they should work with Bord na Móna.

Bord na Móna will seek solutions that optimise the creative energy and potential of the organisation, driven by long term goals and the organisation's vision and mission.

In this context our devolved business units will align their vision and strategic planning with the global direction provided.

Consistent with our vision, innovation will once again return to the core of everything we do. We will capitalise on opportunities to cross fertilise our unique range of skills and technologies that add value and are socially and environmentally sustainable.

Greater focus will be placed on managing and developing our land assets in a responsible and sustainable manner. Our award winning initiatives at Lough Boora (Co. Offaly) and Oweninny (Co Mayo), provide shining examples of what can be achieved

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Section 1.

1.1 Introduction

The following is the Annual Environmental Report for the Clonbullogue Ash Repository, located at Cloncreen, Clonbullogue, Co Offaly. It covers the period from 1st Jan 2008 to 31st December 2008.

1.1.1. Environmental Policy



Environmental Policy Statement

Bord Na Mona Energy Limited is a commercial semi-state body with responsibility to develop Ireland's peat resources in the national interest.

Bord Na Mona Energy Limited is committed to gather and make available information on all aspects of its environmental impact and to help improve understanding among the public generally of its role and of the importance of Irish peatlands.

Bord Na Mona Energy Limited recognises the importance of peatland conservation.

Bord Na Mona Energy Limited will leave behind all areas it owns as either an economically or socially integrated resource of high environmental value.

Bord Na Mona Energy Limited seeks to conduct all aspects of its business in an environmentally sensitive manner.

- Bord Na Mona Energy Limited will establish an environmental management system specifically addressing the following impacts:
- Discharges to water
- Emissions to atmosphere
- Waste disposal
- Use of natural resources
- Noise, vibration, odour, dust and visual effects
- Natural environmental and eco-system

The environmental management system will be monitored, maintained and continually improved.

A system of regular environmental audits will be put in place.

Bord Na Mona Energy Limited will continue research and development (R&D) into all aspects of its environmental impact.

This statement is published and is available at all locations within the section and its contents are brought to the attention of all employees

1.2 Site Description

The Clonbullogue Ash Repository is located approximately 8 km South West of the Town of Edenderry and 2 km North West of Clonbullogue village. The facility is located approximately 0.75 km from the Clonbullogue to Daingean road (third class road which links the Edenderry to Tullamore Regional Road – R402). It is located on Cloncreen bog, a cut-away peatland area within the Allen Group of Bogs. The Northern, Western and Eastern sides of the landfill are bounded by raised and/or cut-away peatlands, while the Southern side is bounded by a tree line, which is subsequently bound by pastoral land.

Topographically, the Allen Group of Bogs consists of raised bogs of the Central Lowlands which have been extensively harvested by mechanised cutting. Drainage ditches evacuated in the surrounding peatlands by Bord na Mona are orientated in an East – West axis and essentially divert any seepage or drainage water from the peatlands. Drainage from the site is along a West – East drainage ditch which discharges ultimately to the Figile River. The geology of the Cloncreen site is dominated by the Upper Palaeozoic Lower Carboniferous Allenwood formation (Edenderry Limestone).

1.3 Waste Activities carried out at the Clonbullogue Ash Facility.

The functional element of the Bord na Mona Energy Ltd, Clonbullogue Ash Repository is to dispose of inert waste products (fly ash and bottom ash), arising from peat combustion within the boiler of the Edenderry Power Ltd., Peat Fired Power Station.

Further to this, Bord na Mona was successful in 2006, in a review process of the facility licence. This review was carried out as a result of Edenderry Power Ltd gaining permission to co-fuel peat with biomass and or meat and bonemeal.

The main aspect of the review was to allow a change in the type of ash that could be accepted because the previous licence only allowed for the acceptance of peat ash.

During 2008 there was 17,734 tonnes of biomass (woodchip) co fuelled in the station. This produced approximately 88.67 tonnes of biomass ash, which was transported to the repository and deposited in cell 3.

The relevant waste disposal and waste recovery activities, as per the Third and Fourth Schedules of the Waste Management Act 1996 to which this activity applies are:

Third Schedule – Waste Disposal Activities:

Activities on the site can be categorised as “deposit on, in or under land”

Fourth Schedule – waste Recovery Activities:

No activities as defined by the Fourth Schedule of the Waste Management Act 1996 will take place on-site.

Section 2: Environmental Data

2.1 Waste Quantity & Composition

2.2 Quantity

During the reporting period (1st Jan 2008 to 31st December 2008) a total of 5,565 tonnes of Bottom Ash and 28,403 tonnes of Fly Ash were disposed of in the Ash Repository. This gives a total of 33,968 tonnes for the period.

Composition

Bottom Ash & Fly Ash Composition – Mineralogy: Furnace bottom ash is a solid, coarse grained, granular ash. White fly ash is lighter and fine grained and accounts for – 80% of the ash produced from peat combustion. Compositional analysis of the fly ash indicates the presence of a large quantity of inerts which are calcium, magnesium, iron, silica and sulphur based (Calcite – CaCO_3 , Hydrated Lime – $\text{Ca}(\text{OH})_2$, Quartz – SiO_2 Brucite – $\text{Mg}(\text{OH})_2$ and Magnesium Carbonate MgCO_3 , are typically the main phases present) and trace amounts of heavy metals (Zn, Cu, Pb, B, Ni, V, Mo, Cr, As, Sr).

Bottom Ash & Fly Ash Leachate Composition: In general, the chemical quality (BOD, COD, Phosphorous – P, NH_3 – N, NO_3 – N) of the leachate associated with the fly and bottom ash samples are good. The leachate generated from peat fly ash, dominated by admixed and surface adsorbed alkali and alkaline salts, is slightly acidic due to the dissolution of the absorbed SO_2 onto the surface of dissolved organic salts. However, thereafter, the solution becomes quickly alkaline due to the hydrolysis of CaO flecks and the dissolution of $\text{Ca}(\text{OH})_2$. A significantly elevated pH is, therefore noted for both leachate samples. Only trace amounts of heavy metals (As, Sn, Hg, Cr, Zn, Cd, Pb, Co, Ni, Fe, B, Cu, Al, Ba) were detected in both leachate samples.

2.2 Remaining Capacity at Ash Site

At present the facility has just completed its eight year of operation. At current ash volumes being accepted at the facility and experiences to date in cells 1, 2 and 3, it is estimated that the remaining capacity for peat ash is approximately 878,032 tonnes to be deposited in five future cells. Ash placement in cell 2 was completed during the reporting period.

The lining of one half of cell 3 was completed during the reporting period, with ash deposition now taking place in that cell only.

Under current conditions cell 3 is expected to receive approximately three more years of ash, although this may reduce depending on whether or not biomass and or meat and bonemeal are co-fuelled with the peat in the future.

2.3 Environmental Data

2.3.1 Emissions Data

A: Dust

Dust monitoring was carried out between April and July 2008. Monitoring took place at four locations: DM01, DM02, DM03 and DM04. The Bergerhoff method of collection was used. During the period there was one non-compliance and the Agency was informed. No complaints were received at the time of the exceedance.

Due to the exceptional amount of precipitation, dust suppression was minimal during the reporting period.

Dust monitoring will be carried out at the same locations in 2009.

The results of dust monitoring are attached in Appendix 1.

B: Noise

Noise monitoring is no longer scheduled as a parameter of the Licence monitoring regime, unless requested by the Agency. Therefore no noise monitoring took place during the reporting period.

C: Ground Water, Surface Water, & Discharge To Surface Water, Leachate & Leachate Discharge

Groundwater:

Groundwater monitoring took place on a monthly basis, at bore wells MW02 – MW11. Due to cell development works MW04 became redundant during the reporting period. Wells MW08 – MW11 are bedrock with 8 and 10 being up gradient and 9 and 11 down gradient. The remaining wells are overburden and only extend into the overburden peat.

Following an amendment to the licence, the monitoring of wells MW02 and MW03 was reactivated and therefore there is no data pre 2008.

Appendix 2 contains graphs of monitoring results.

Comment:

In general ground water quality at the facility showed no great variation during the period. Elevated **ammonia** at MW2, MW3, MW5 & MW 6 can be expected as these are overburden wells located in peat. These four wells are located up gradient of the facility.

The slight elevations of **conductivity** at MW 11, is now believed to be a result of the holes discovered in the Leachate Lagoon lining system. Although elevated in comparison with other groundwater monitoring locations, results are still within the I/PV of 2500 mg/l,- Drinking Water Directive. Following repairs to the lagoon, conductivity levels at MW 11 are expected to reduce, with initial results from 2009 showing a marked decrease at that location. The above mentioned holes are dealt with in the leachate section of this report.

pH values at all wells have been satisfactory, with the more acidic overburden wells giving expected slightly lower pH values. MW11 showed no marked increase in pH levels.

Sulphate results were elevated at MW03 & MW08, as was the case in 2007. Both of these wells are up gradient, the latter being bedrock. However results are still within the I/PV of 250 mg/l,- Drinking Water Directive. Ground water **levels** have remained constant.

The graphs attached in appendix 2 are representative of the last five reporting periods (60months).

Surfacewaters:

Surfacewater monitoring took place on a quarterly basis with visual inspections, carried out weekly. The monitoring locations were at SW4, SW5, SW6, SW7 and SW8. SW4, being immediately downstream of the leachate lagoon outlet L2. SW8 being half way to the confluence of the East / West drain with the river. SW8, being at the confluence. SW5 and SW6 are up and down stream of the confluence respectively

Following an amendment to the licence, the monitoring at locations SW4, SW7 and SW8 was activated and therefore there is no data pre 2008.

Comment:

With the exception of one occasion at SW4 and SW8, results clearly show that **pH** levels in the Figile River at SW 5 (upstream), are consistently above levels recorded at the site, with no great variation between the upstream and downstream recordings, at SW6.

Suspended solids did exceed the emission limit value at SW4 on one occasion, however all monitoring locations downstream of that sampling point showed no exceedence of the emission limit value, during that monitoring event. **Ammonia** results were all below the I/PV of 4mg/l for A3 Waters. **COD** results were below Bord na Mona set trigger levels of 100 mg/l. The I/PV is 40 mg/l for A3 Waters, however background COD levels in the Figile River, at SW5, are consistently above all other locations.

The graphs attached in appendix 2 are representative of the last five reporting periods (20 Quarters).

Discharges To Surfacewater:

Discharge to surfacewater monitoring took place at SWR1. This is located at the exit to the surface water runoff, silt settlement pond and the frequency was quarterly.

Comment:

As is evident from the graph attached, **pH** values have remained constant over the last five years. **COD** results were below Bord na Mona set trigger levels of 100 mg/l. **Ammonia** results were all below the I/PV of 4mg/l for A3 Waters.

Suspended Solid results were all within the emission limit value of 35 mg/l.

The graphs attached in appendix 2 are representative of the last five reporting periods (20 Quarters).

Leachate:

Leachate monitoring took place at the sumps, LC1A, LC2A and LC3A. Monitoring also took place at the leachate lagoon L1. The monitoring frequency was bi-annual. All locations are afforded the protection of a lining system.

Comment:

As is normal all parameters were elevated at each of the monitoring locations. LC1A, LC2A and LC3A, which are located within fully lined cells and are contained. A similar situation pertains to L1, which is a fully lined Lagoon and is also designed for total containment.

However, the management of Leachate at the site was difficult due to unprecedented rainfall experienced in 2008. During February a Licensed contractor was employed to acid dose the Leachate Lagoon. This was to facilitate the discharge of leachate, as the pH levels were above emission limit values. Following on from that, lagoon pH was reduced by diluting the leachate with water from the East / West drain, although this takes more time and effort, it does not entail the use of acids on site. As a result of these discharges, the emission limit value for suspended solids was exceeded and the Agency informed.

This in turn led to, with the agreement of the Agency, a full de-sludging of the Lagoon in early 2009. As a result of this de-sludging a number of holes were discovered and are currently being repaired. A full report on all these works will be forwarded to the Agency, along with a comprehensive Leachate Management Plan.

Due to a technical amendment of the licence the leachate graphs attached in appendix 2 are representative of the last reporting period only.

Leachate Discharge:

Leachate discharge monitoring took place at L2. This is the outlet point of the leachate lagoon and the monitoring frequency was quarterly.

Comment:

With the exception of suspended solids all other parameters measured during leachate discharge events were within guideline values. There were two non-compliances in relation to suspended solids and the Agency was informed and corrective actions taken. Results show that downstream suspended solids were no way affected by these elevated results.

On two occasions on the day of quarterly monitoring, no sample was available.

In future, personnel have been instructed to co-ordinate discharge and monitoring events. This will be clearly set out in the forthcoming Leachate Management Plan.

Monitoring of Private Wells:

The monitoring of private wells is no longer a requirement of this Licence.

D Meteorology

Meteorological data was gathered from the Agency agreed weather station at Derrygreenagh Works, 10 km from the facility. August proved to be the wettest month, with 210.7mm of rainfall recorded and May proved to be the driest, with 14.6mm. Meteorological conditions did have an effect on operations at the facility, in that the unprecedented rainfall experienced in 2008, created problems, as mentioned above, in the management of Leachate.

Below is a table containing all the gathered met data for 2008.

MONTHLY VALUES OF ELEMENTS AT MIDLAND SITES IN 2008

		air temperature		MSL	CBL	
	rainfall	mean max.	mean min.	mean pressure	mean pressure	mean R.H.
January	136.4	9.1	1.6	1006.2	993.5	89
February	38.0	9.7	0.2	1018.4	1005.6	87
March	83.5	10.1	0.7	1006.2	993.5	83
April	47.2	12.8	2.2	1012.4	999.7	80
May	14.6	18.2	6.9	1015.6	1003.0	77
June	102.3	18.0	7.5	1015.4	1002.9	81
July	146.0	19.5	10.3	1011.5	999.1	85
August	210.7	18.7	11.4	1006.6	994.3	86
September	87.6	16.8	7.4	1015.7	1003.2	85
October	119.2	12.6	3.6	1011.6	999.3	86
November	67.0	9.6	3.0	1014.2	1001.8	89
December	62.8	7.4	-0.3	1017.1	1004.6	89
	mm.	degrees Celsius		hectoPascals		%

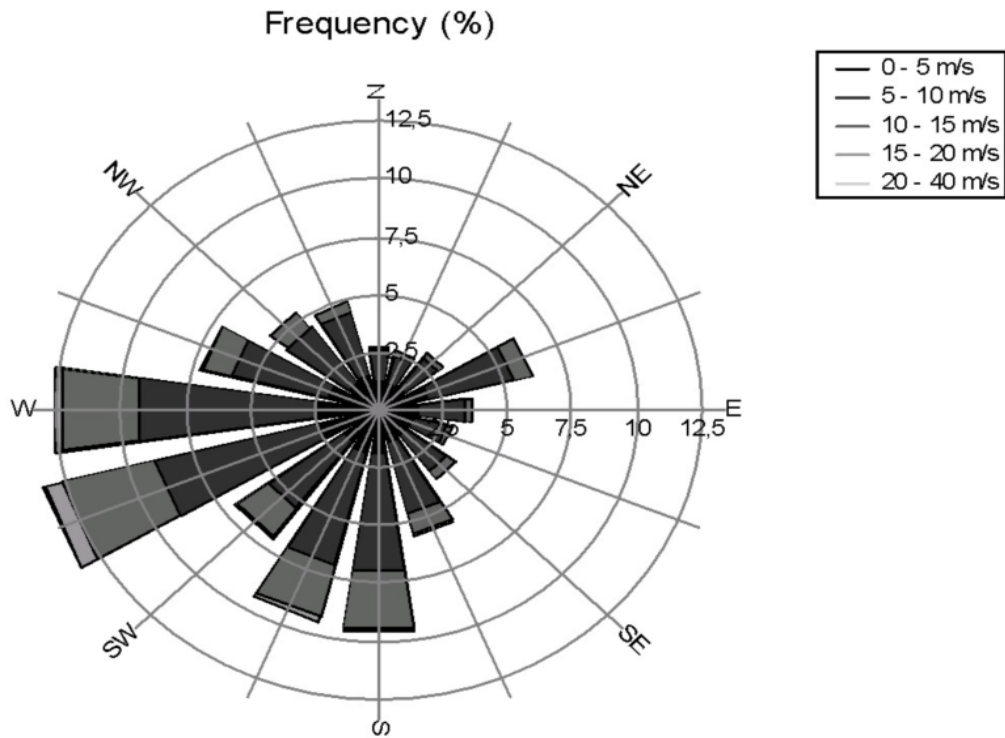
Rainfall and temperature from Derrygreenagh

Pressure and humidity from Mullingar

MSL: corrected to mean sea level

CBL: barometer
level

Wind Atlas for the Cloncreen Area



Comment:

A wind-rose for the period was unavailable for inclusion in this report. The image above is generated from a wind atlas of Ireland. It is representative of the Cloncreen area. It is not directly based on any measurements; rather it is based on a predictive model of the wind regime for the country, which has been checked against actual data when its accuracy was being assessed.

2.4 Energy Consumption

Diesel is used in the every day operation, of ash transportation, placement and dust suppression at the repository. It is envisaged that these figures will remain constant as long as there isn't a change in the plant used at the facility. The electricity usage at the facility extends to approximately 1300 kwh/year.

Machine Type	Consumption Litres/Week	Annual Consumption Megawatt/ Hours	Annual Consumption Litres
Locomotive	600	305.52	31200
Front-end Loader	954	485.78	49608
Tractor	272	138.50	14144
Excavator	480	244.42	24960
Diesel Pump	50	25.46	2600
Totals	2356	1199.69	122512

2.5 Environmental Expenditure during Reporting Period.

Environmental Expenditure 2008

Description	Cost €
Operating Costs	
Material	48,747
Wages	222,003
Monitoring Costs	
Analysis & Reports	5,946
EPA Contribution	
Fee Payable to EPA	15,983
Total	€292,678.68

2.6 Environmental Incidents / Non Compliances & Complaints

Environmental Incidents 2009

Licence: WL049-02

Works: Clonbullogue Ash Repository

	Number
Incidents	5
Requiring corrective action	
Category	
Water	3
Air	1
Procedural	1
Total	5

Environmental Complaints 2009

Licence: W0049-02

Works: Clonbullogue Ash Repository

	Number
Complaints	2
Requiring corrective action	2
Category	
Water	2
Air	
Procedural	
Miscellaneous	
Total	2

Generally, operations ran smoothly during the reporting period. There were however, five different incidents / non-compliances. These related to, elevated suspended solids on two occasions and elevated sump levels on another. There was also one dust non-compliance, where emission limit values were exceeded and one procedural non-compliance, where by ash was delivered to the site on a Sunday prior to the Agency giving consent. In all cases the Agency was informed. There were two complaints, and they were received via the Agency. The first complaint related to suspended solids in the receiving East / West drain, while the second complaint related to the alleged scorching of pasture lands approximately ten kilometres down stream of the facility. These complaints are currently being addressed.

Section 3: Environmental Management

3.1 Management & Staffing Structure

Environmental Management System Management Structure (Condition 2.6)

Management Structure (including Environmental Emergency Response Team)

Resource Manager (1)

(Eamon Mulhall)

(Resource Assistant) (2)

Transport / Quality Manager

(Justin McCarthy)

Environmental Co-ordinator (3)

(Michael Mulhall)

- (1) Overall responsibility rests with the Resource Manager.
- (2) Day to Day Transport Management (Based at the Power Station Office)
- (3) Site Management, Monitoring, Records, Reports and Inspections
- (4)

<i>Position</i>	<i>Duties & Responsibilities</i>	<i>Experience/Qualifications</i>
Resource Manager	Overall responsibility for the ongoing management of the site and maintenance of the waste licence. Delegation of authority and responsibility to ensure the effective management of the facility.	Resource Manager since 2007 Previously held other management positions. With Bord na Mona since 1977.
Resource Assistant Transport / Quality Manager	Responsibility for the transportation of ash to the facility as directed by the Resource Manager. The transport manager is based at the Power Station for the majority of the time.	Quality Manager, Derrygreenagh Works for 19 years with responsibility for transport of peat / ash and peat quality.
Environmental Co- Coordinator	Responsibility for the day to day implementation of routine compliance monitoring, maintenance of all environmental records and the environmental file and preparation of environmental reports as directed by the Resource Manager.	Environmental Co-ordinator Derrygreenagh for 2½ years. Previous experience as a supervisor in Bord na Mona for 5 years. Holder of National Skills Cert- Waste Management.

Mr Enda McDonagh. Head of Environmental Control, Bord na Mona Energy Ltd

3.2 Site Development Works

3.2.1 Development Works Undertaken during the Reporting period

Cell 3 Excavation

The specified cell floor formation levels were completed during the reporting period on the Southern half of cell 3.

Cell 3 Embankments

Following the removal of the access road across cell three, the void in the embankment was closed and shaped to a similar gradient as existing embankments.

Cell 3 Lining

The remaining Northern side of cell 3, floor area and embankment were lined during the reporting period.

The lining system used comprised of a Geo-synthetic Clay Liner overlain with a Composite Drainage Layer, as per the Agency's instruction, which was immediately covered with a minimum of 300mm of fly ash.

The placement of the ash was to afford protection to the lining layers below.

Cell 2 Capping

The remainder of cell 2 was capped during the reporting period.

3.2.2 Proposed Development - 2009

The remaining half of cell 3 will be lined, for the acceptance of meat and bonemeal ash during the summer months. The initial clearing of scrub, the diversion of an internal drain and the excavation of the floor will take place at cell 4.

Additional capping will also take place at cell 1 and anywhere else the site survey, identified, as requiring additional capping.

3.3 Restoration of Completed Cells/Phases

The capping of cell 2 is complete. An ecological survey of the capped cell 1 and cell 2 was carried out by Bord na Mona's Land Development Manager, the findings of which are outlined below.

Visual inspection of vegetation cover

The vegetation cover on the older cells is extensive, with a firm tussocky grass cover which resulted in approximately 25% of these areas developing a scrub cover of furze, willow, willow herb and birch.

The cover on the second cell is strong on the Southern third with a strong clean tussocky grass growth. The middle third is somewhat grassed and the area is being levelled for seeding this Spring. The Northern third is similar with good growth at the Power station end and the remainder is being prepared for seeding

Also the hollows between the cells are being filled with good quality topsoil and should grow excellent grass cover when seeded.

3.3.1 Topographical Survey

Site Survey

A site survey was carried out during the licence review process in 2006. Due to the nature of the waste and the unlikely scenario of any subsidence or settlement, no survey was carried out during the reporting period. In Addition the capping of cell 2 was also taking place during the reporting period a survey of the capped profile would have been outdated almost as it took place.

Therefore it was decided to complete the capping of cell 2 before any survey would take place. Although not in the calendar year 2008, a site survey was carried out in early 2009. This survey formed part of the Specified Engineering Works proposal sent to the Agency in relation to the lining of the remaining half of cell 3. It also identified to Bord na Mona areas of the capping system which required further placement of cover material to achieve the specified profile.

3.4 Achievement of Objectives & Targets 2008

Project	Description & Status
Project 1: Conduct all operations on site in accordance with the schedules and conditions of the waste licence and also in conjunction with the restoration and aftercare programme Replace the existing fleet of ash transportation buckets with 18 new buckets.	Achieved. Took delivery of 23 Ash buckets which are currently awaiting introduction into the system.
Project 2: Future cell development	Achieved
Project 3: Seed the remainder of capped cell 2	Not Achieved, although the cap is being colonised by native species naturally.
Project 4: Install electrical power to Sumps & Leachate Lagoon	Achieved
Project 5: Re-use / Recovery / Recycle Ash Waste	Ongoing. Inquiries also made into alternative re-uses of Leachate as a cement plasticizer.

Proposed Environmental Objectives & Targets for 2009

Project	Description & Status
Project 1: Conduct all operations on site in accordance with the schedules and conditions of the waste licence and also in conjunction with the restoration and aftercare programme	Continue to conduct all operations on site in accordance with the schedules and conditions of the waste licence and also in conjunction with the Restoration & Aftercare programme.
Project 2: Future cell development	Continue with the development of cell 3, to the specification set out in the review.
Project 3: Seed the remainder of capped cell 2	Grass seed the remaining section of capped cell 2.
Project 4: Leachate Management Plan	Complete a comprehensive leachate management plan. To include leachate treatment / dilution quantities, and leachate monitoring schedules.
Project 5: Alternative ash use	Continue with Research for alternative use's / re-use's of ash waste and Leachate

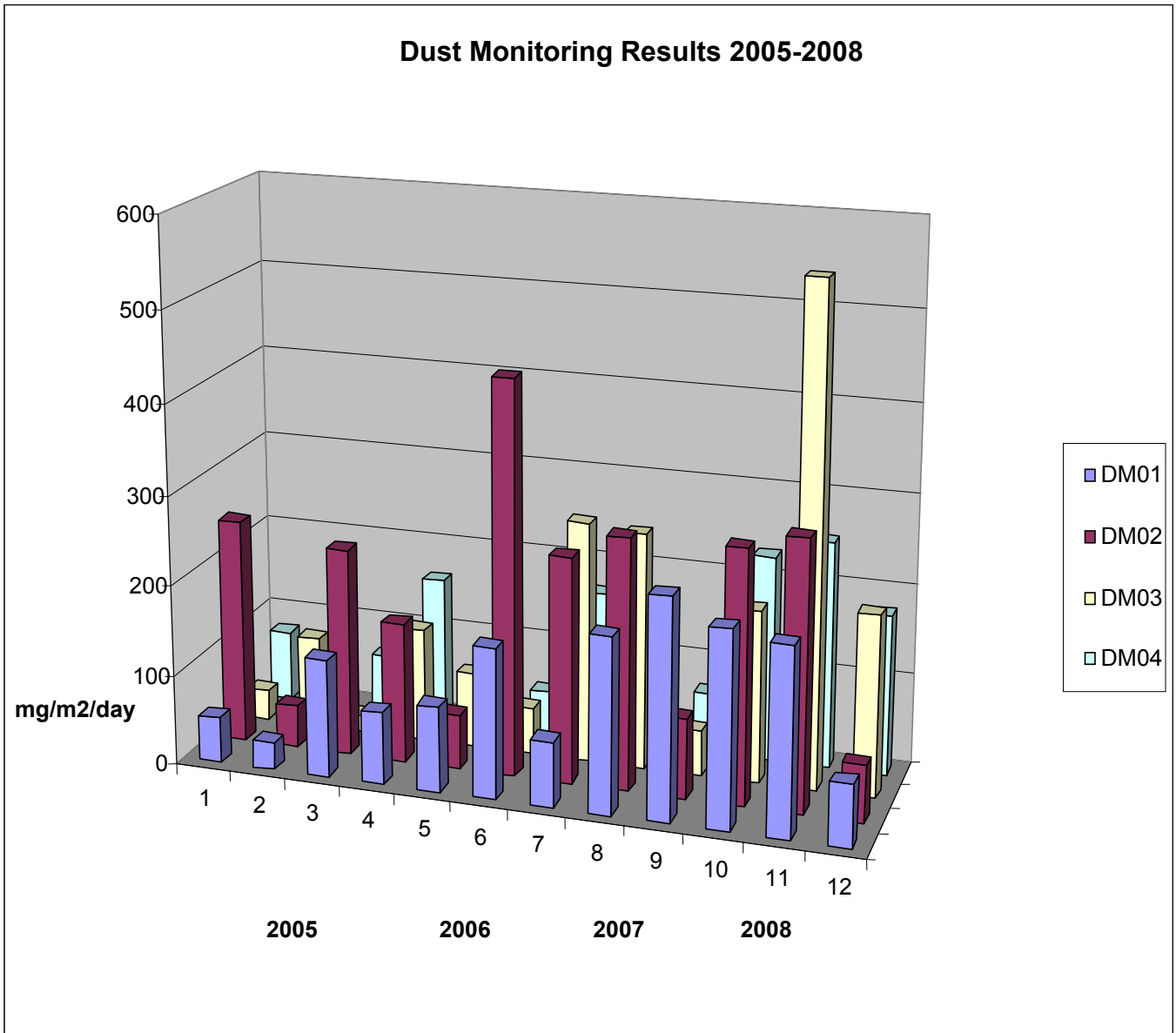
3.5 Programme for Public Information

The Bord na Mona Energy Ltd site office at the Power Station, is the main ash site office for keeping all the records associated with the ordinary day to day operation of the landfill and the Waste Licence. Documents kept here include the Annual Environmental Report, Environmental Management Programme, Schedule of Objectives and Targets, all Monitoring Data, ash tonnages and volumes, Emergency Response Procedure, Bord na Mona Energy LTD's, Environmental Policy.

Any individual wishing to view these documents may call to the office during working hours.

Appendix 1

Dust Monitoring Results

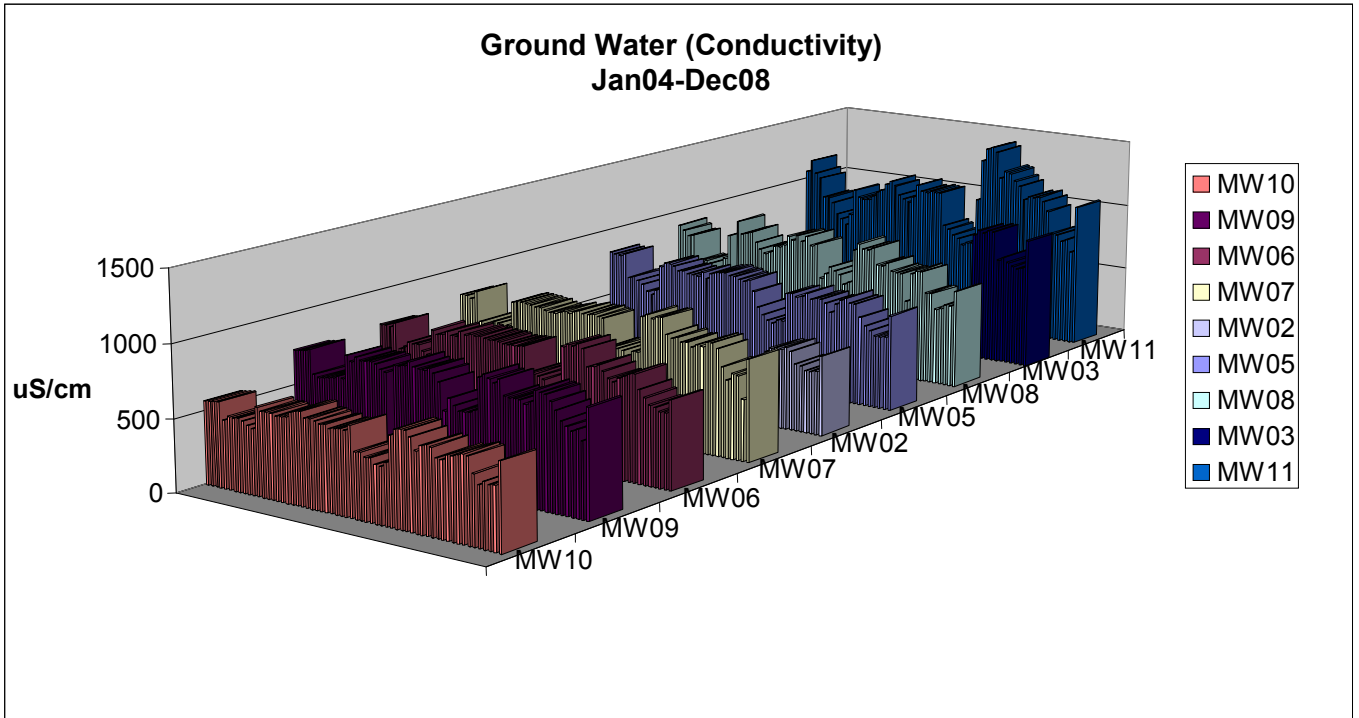


Note: Emission Limit Value = 350 mg/m²/day. There was one dust non-compliance during the reporting period and the Agency was informed and corrective action taken. No complaints were received at the time.

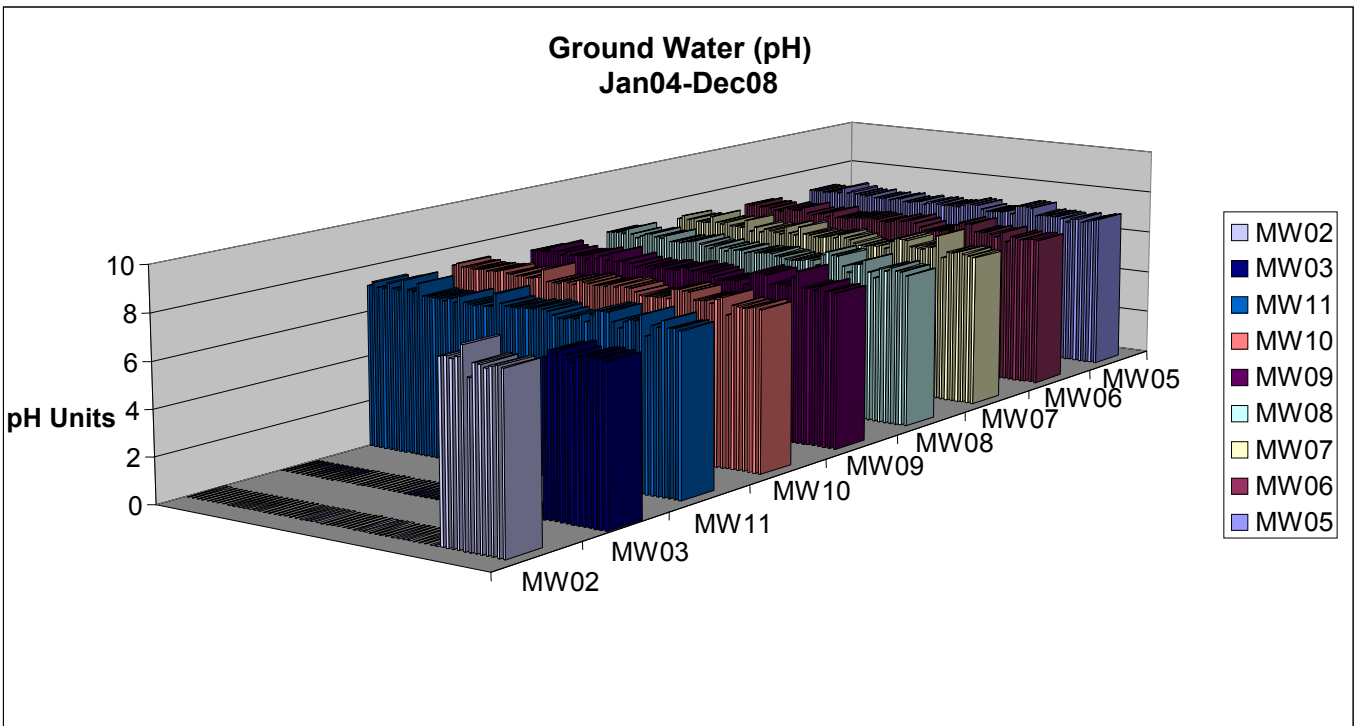
Appendix 2

Water Monitoring Results

Ground Water.

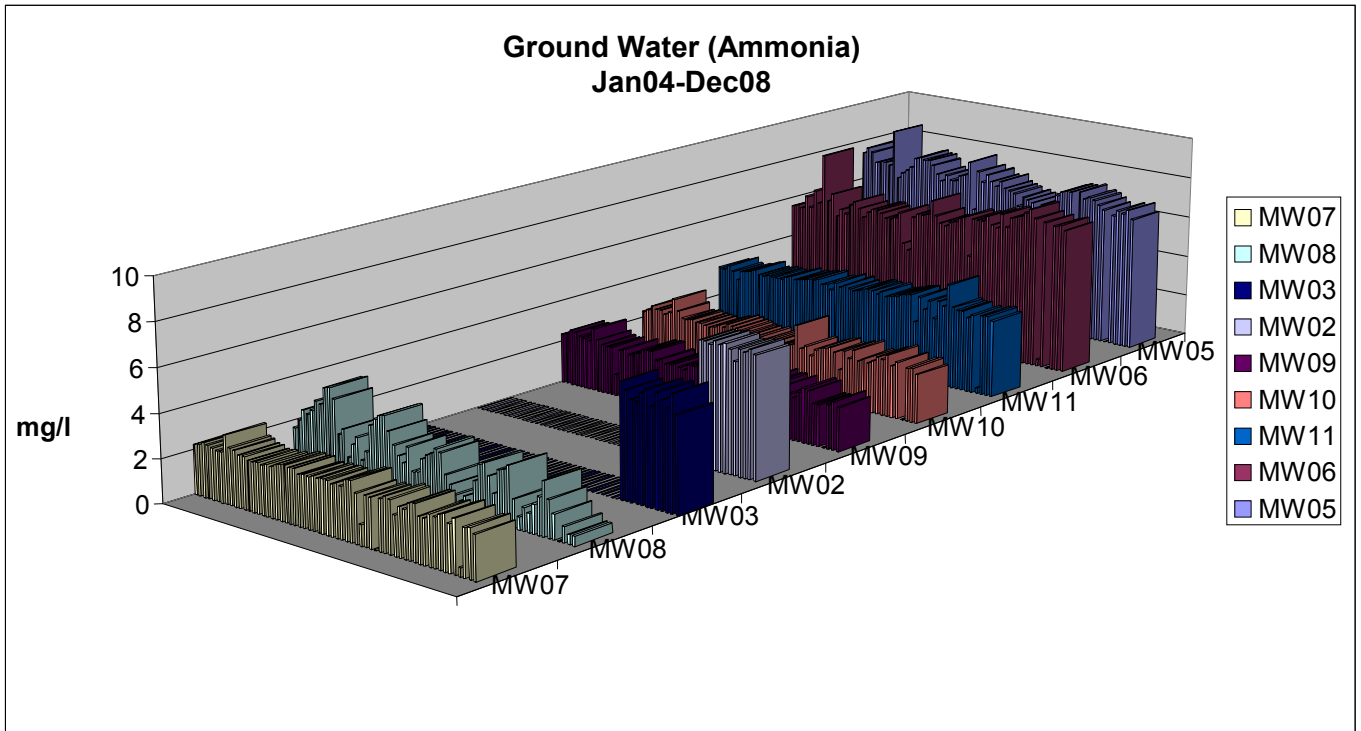


Monthly Analysis

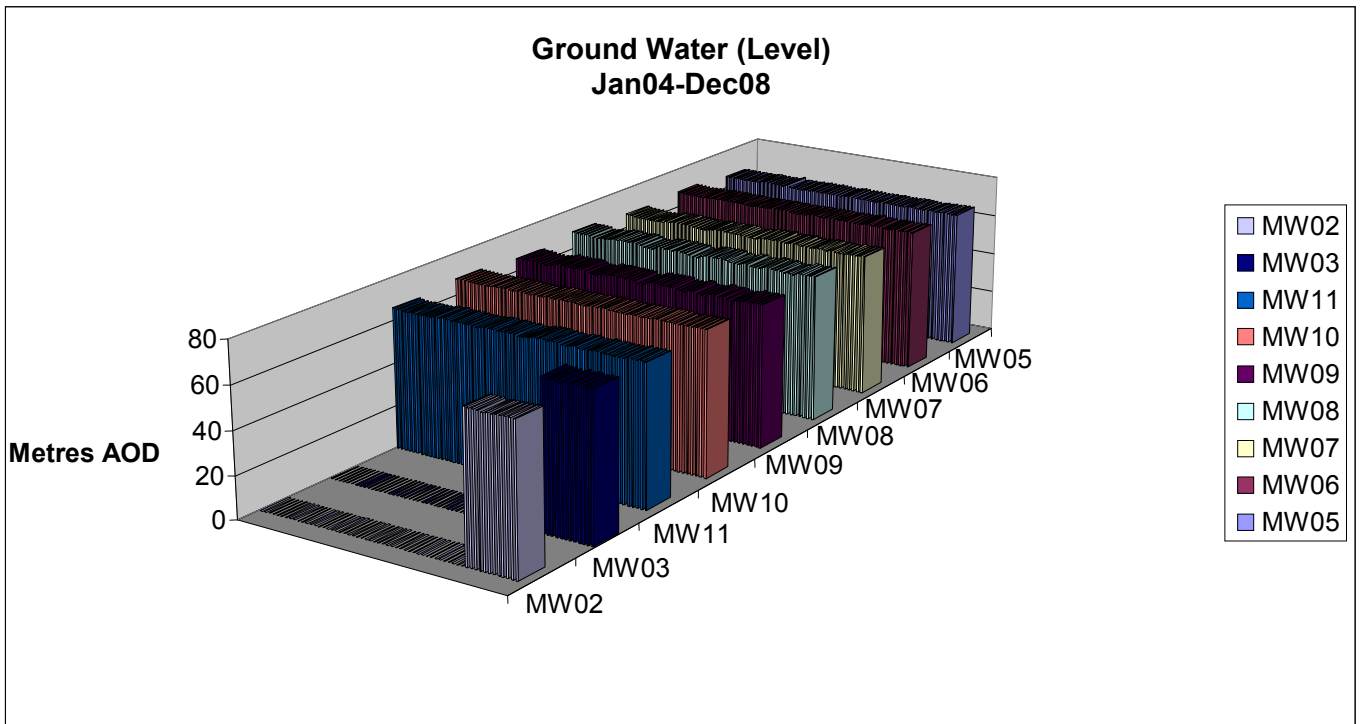


Monthly Analysis

Ground Water.

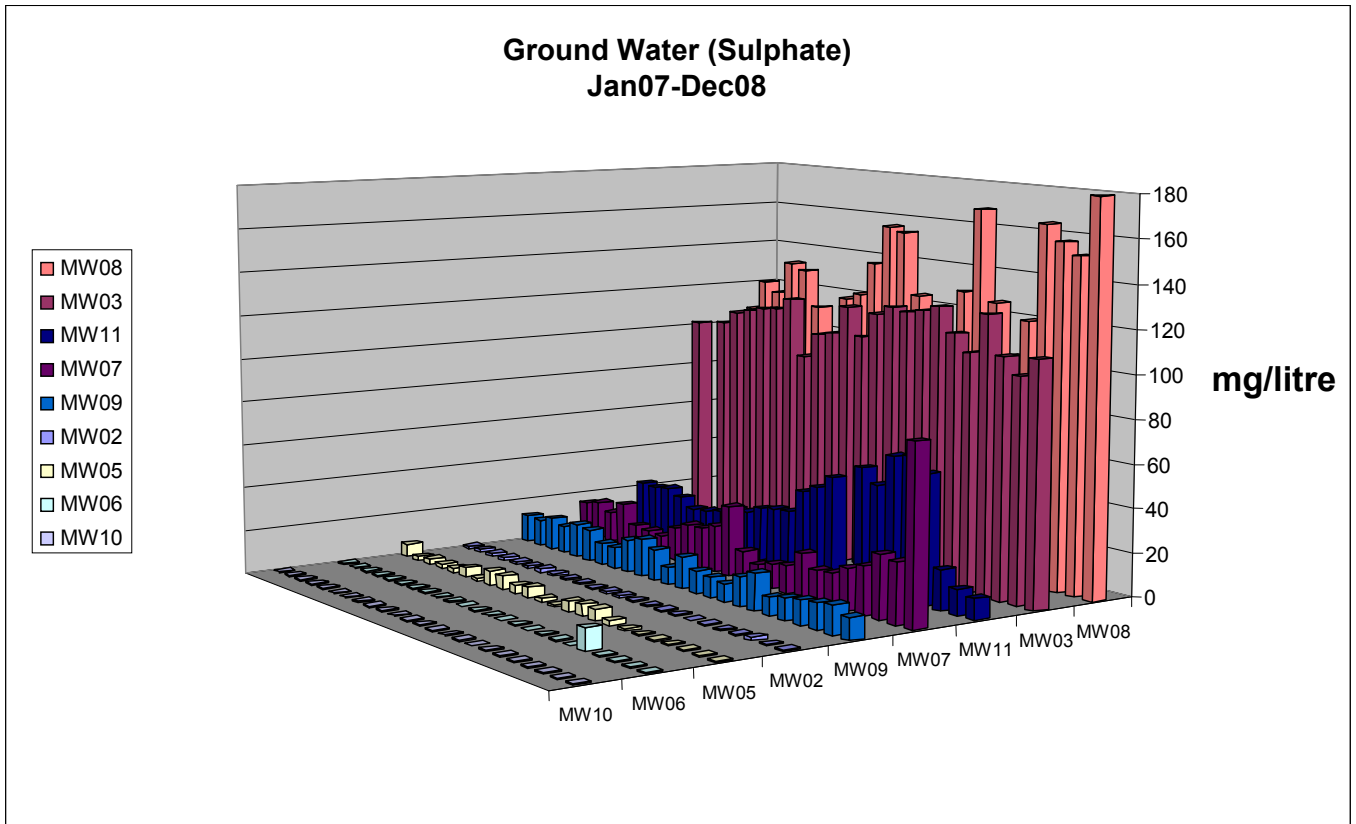


Monthly Analysis



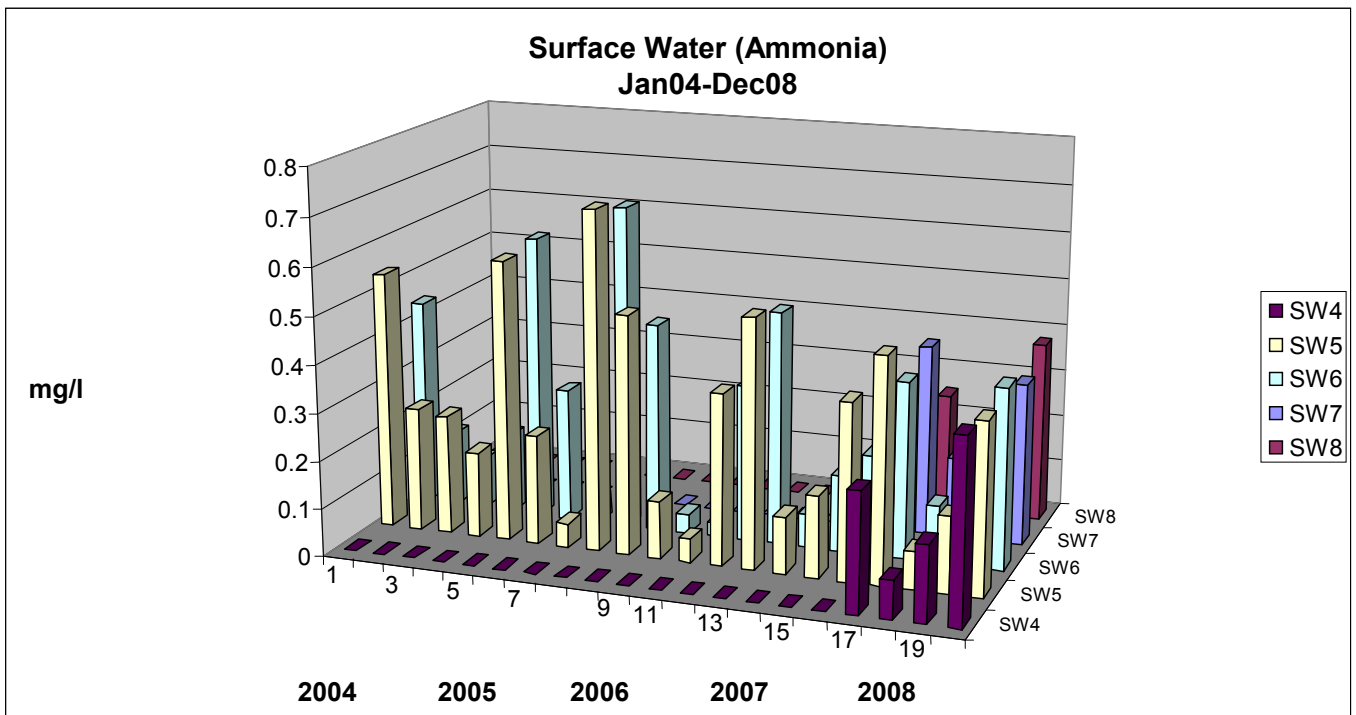
Monthly Analysis

Ground Water.

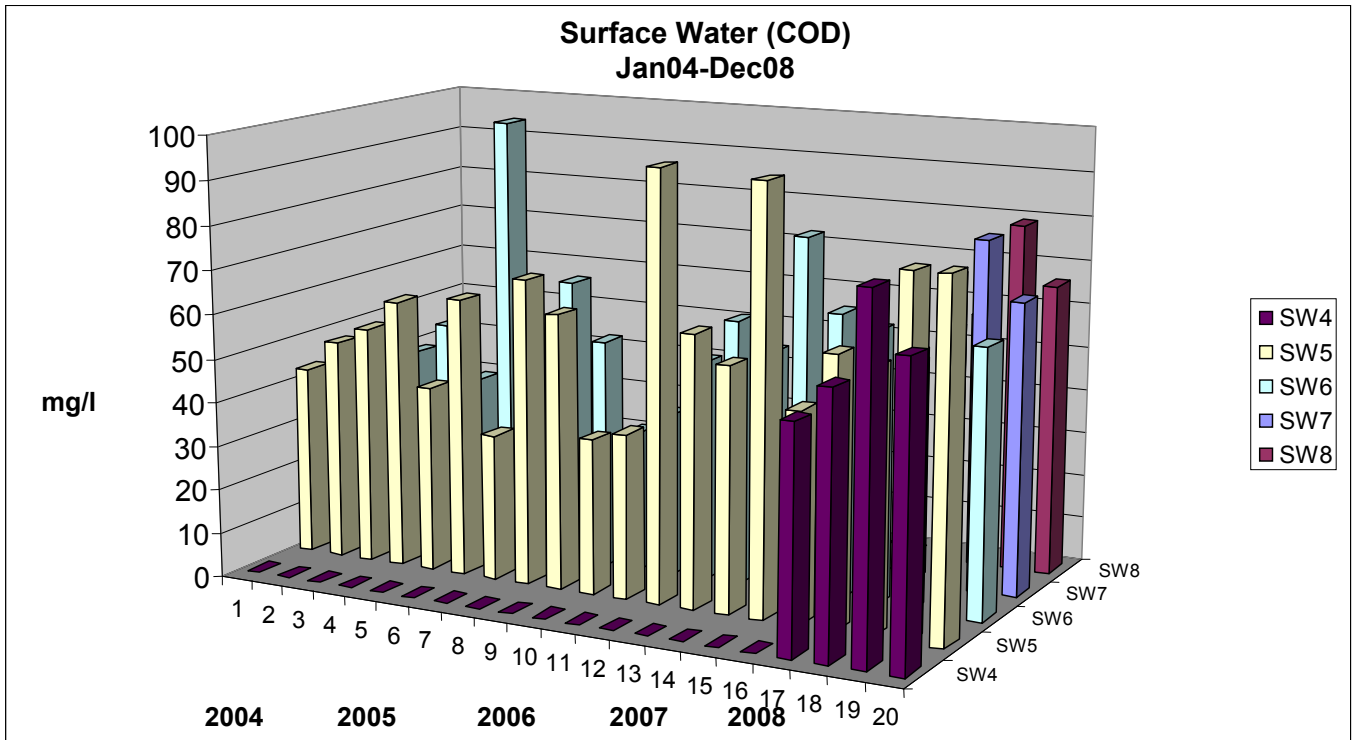


Monthly Analysis

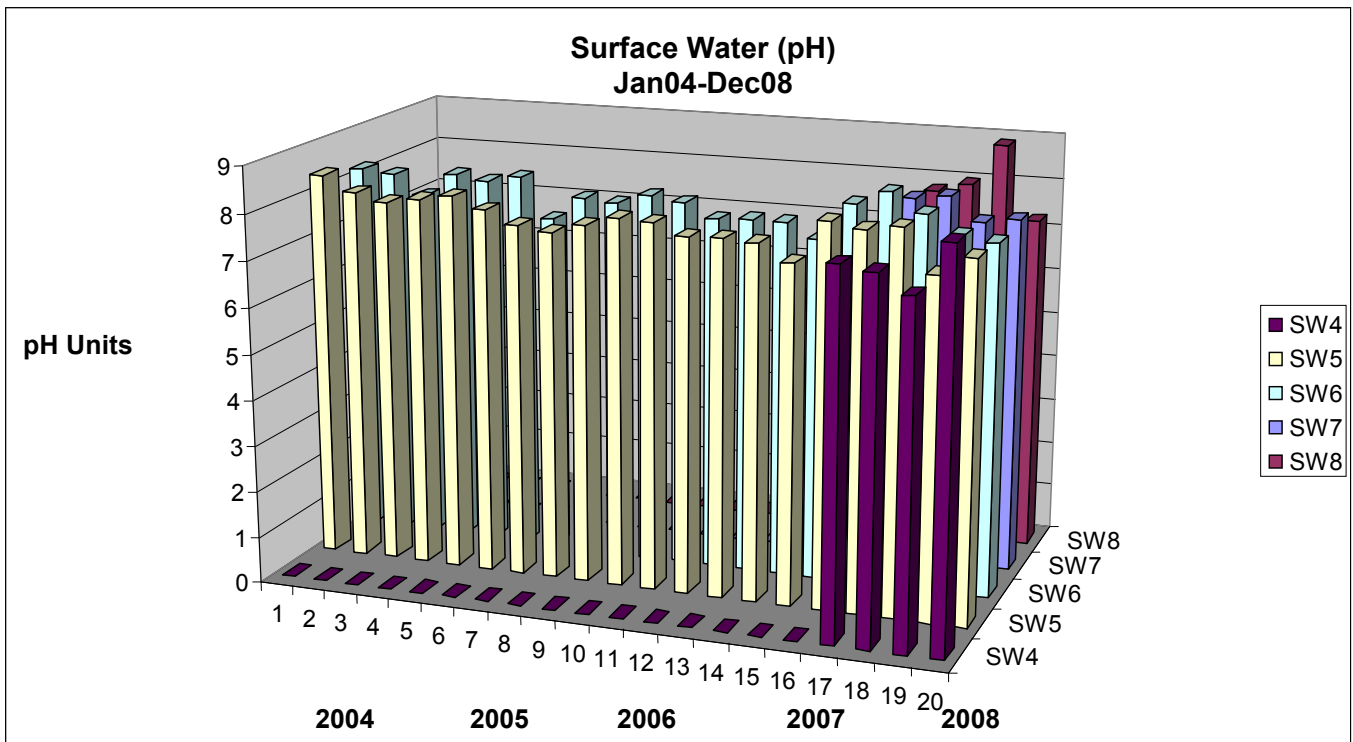
SurfaceWater.



Quarterly Analysis

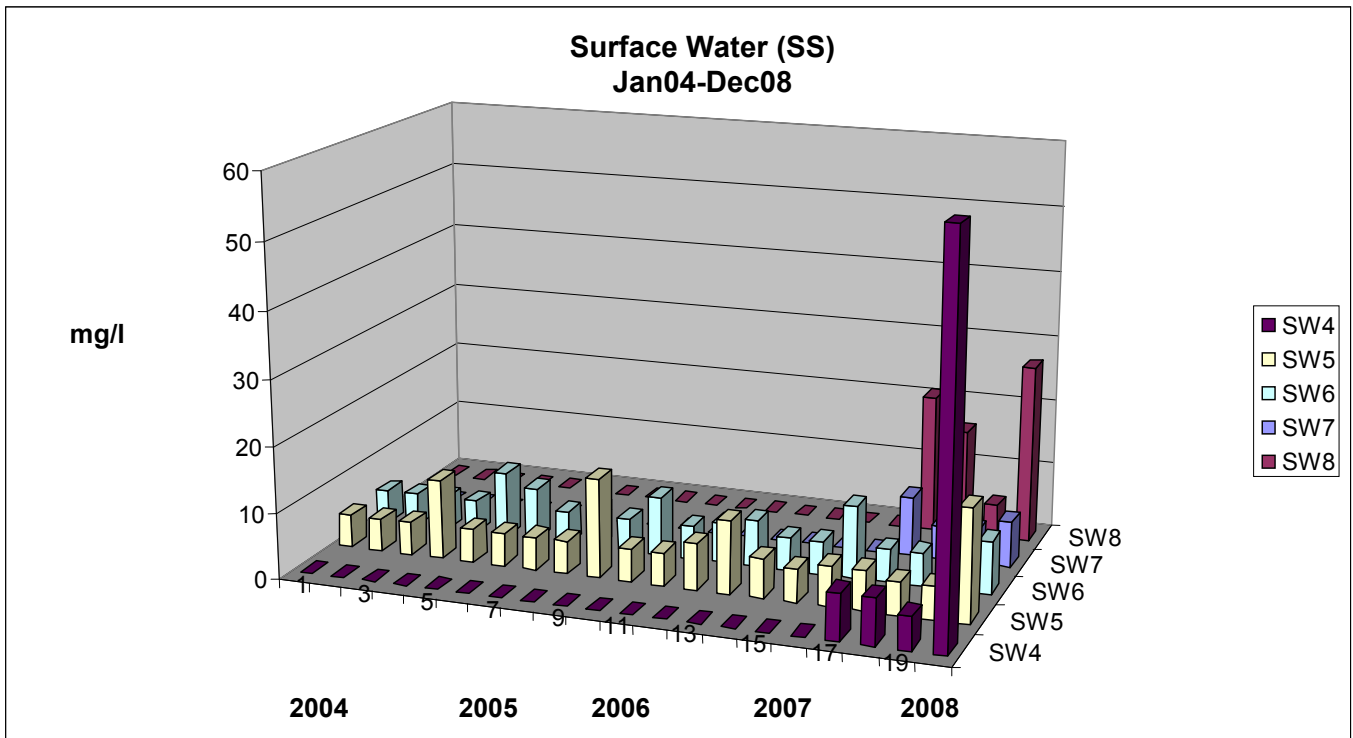


Quarterly Analysis



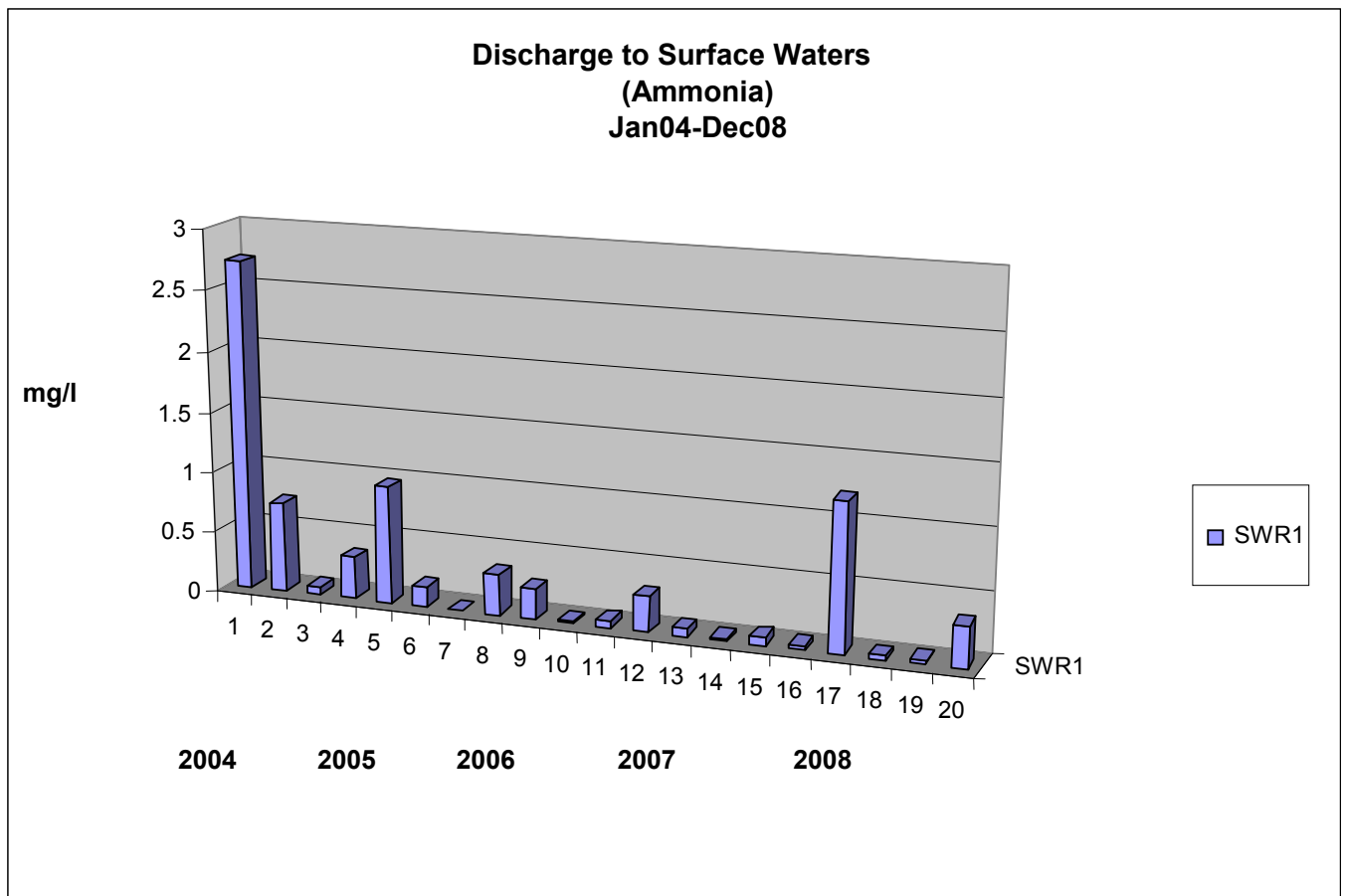
Quarterly Analysis

SurfaceWater.

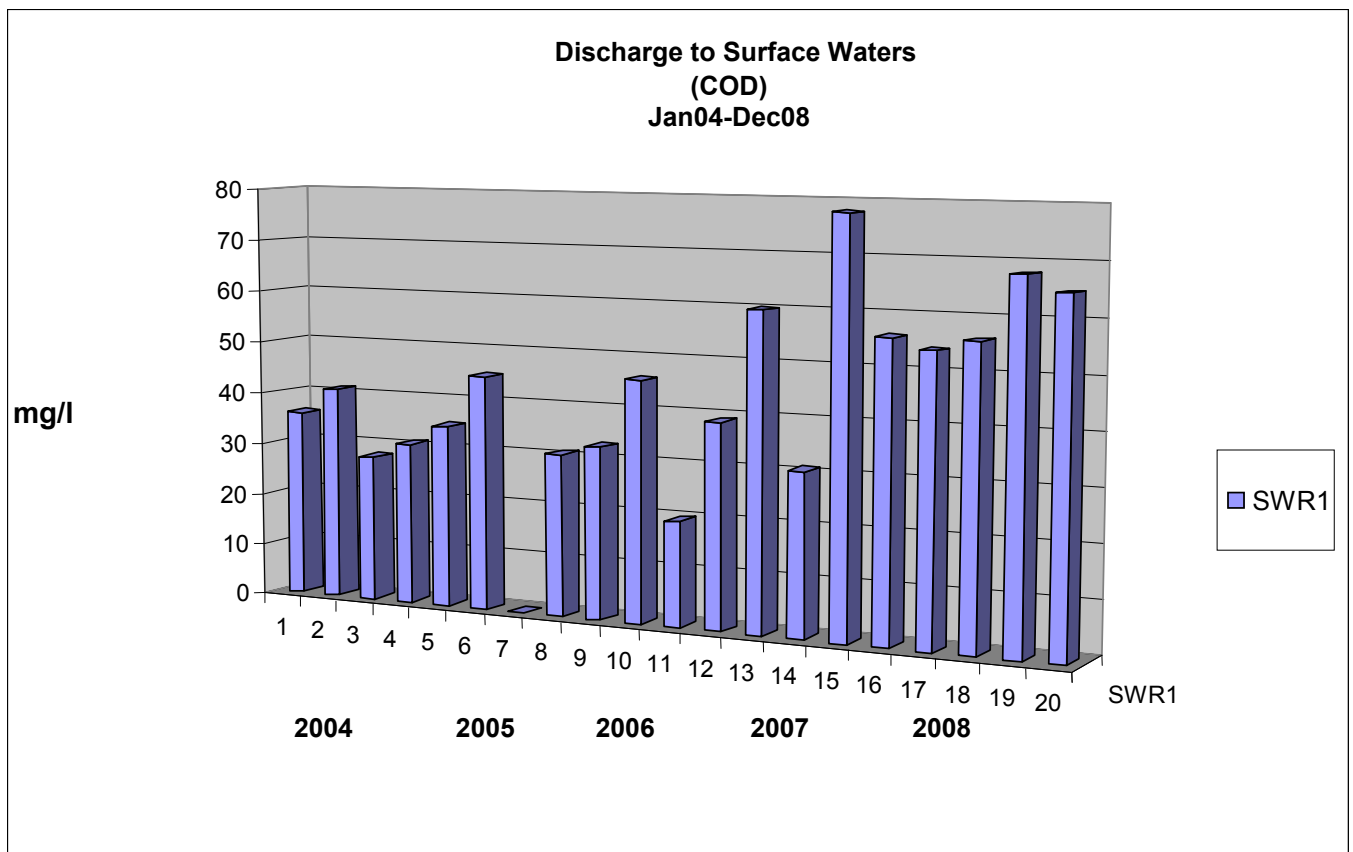


Quarterly Analysis

Discharges to Surface Waters.

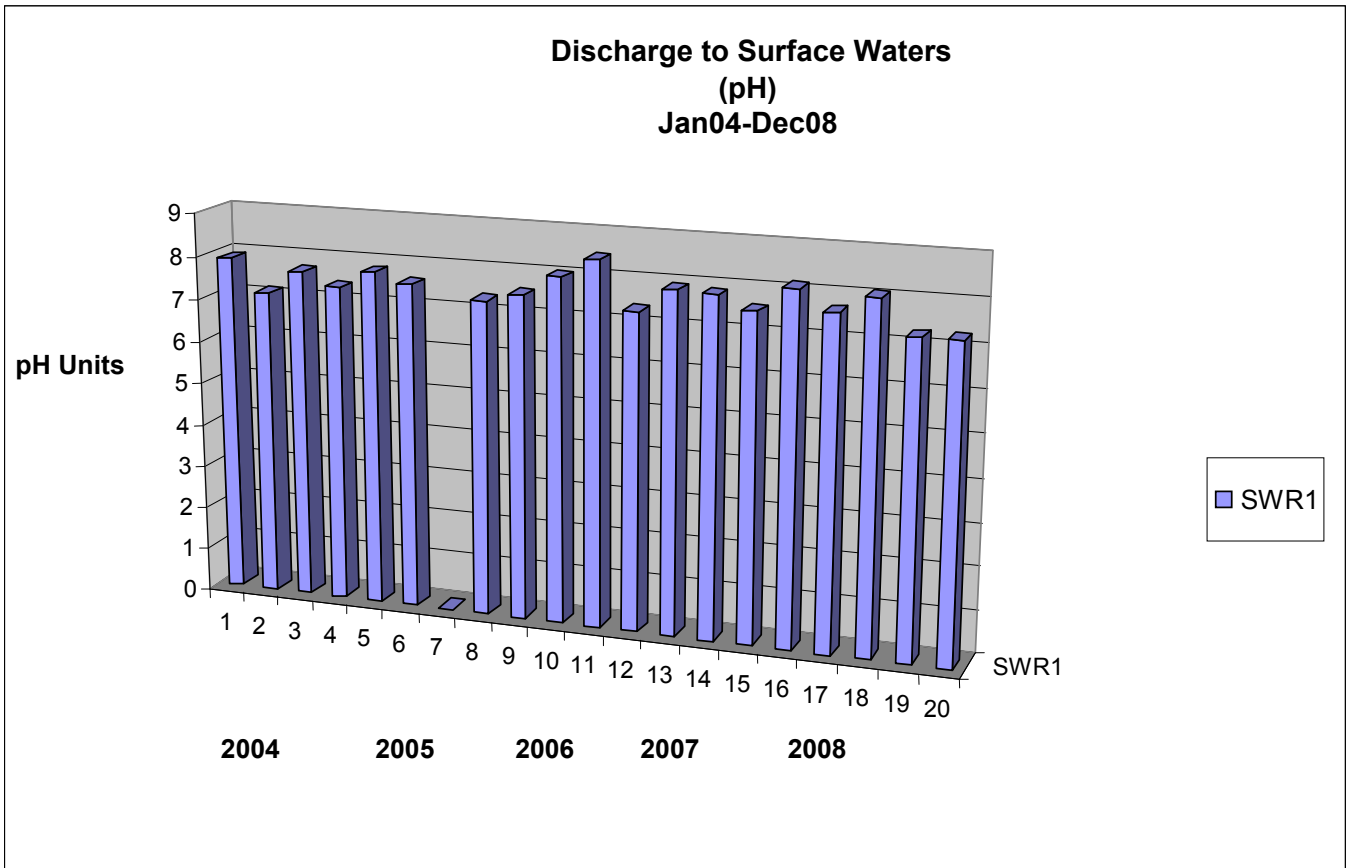


Quarterly Analysis

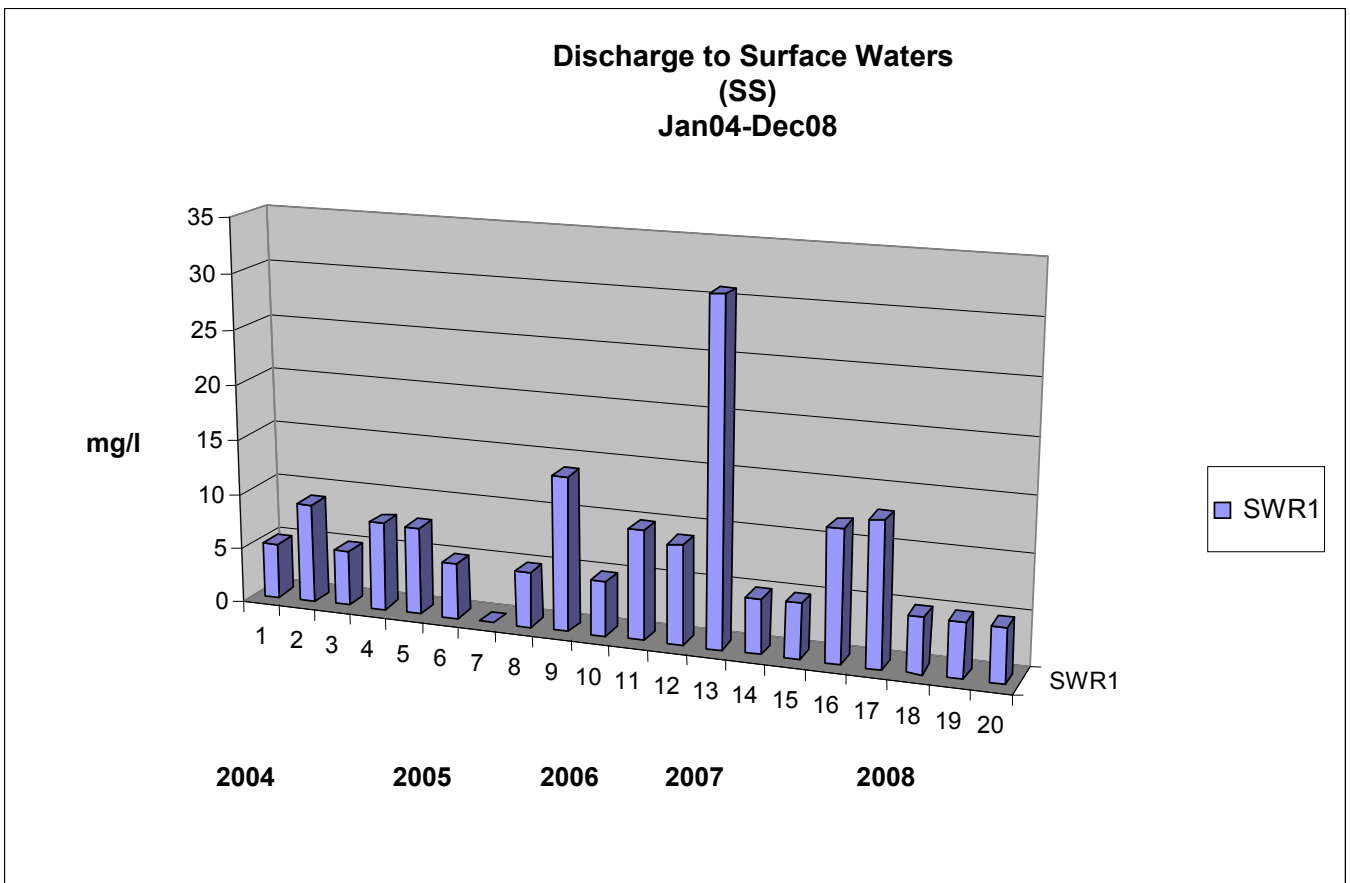


Quarterly Analysis

Discharges to Surface Waters.

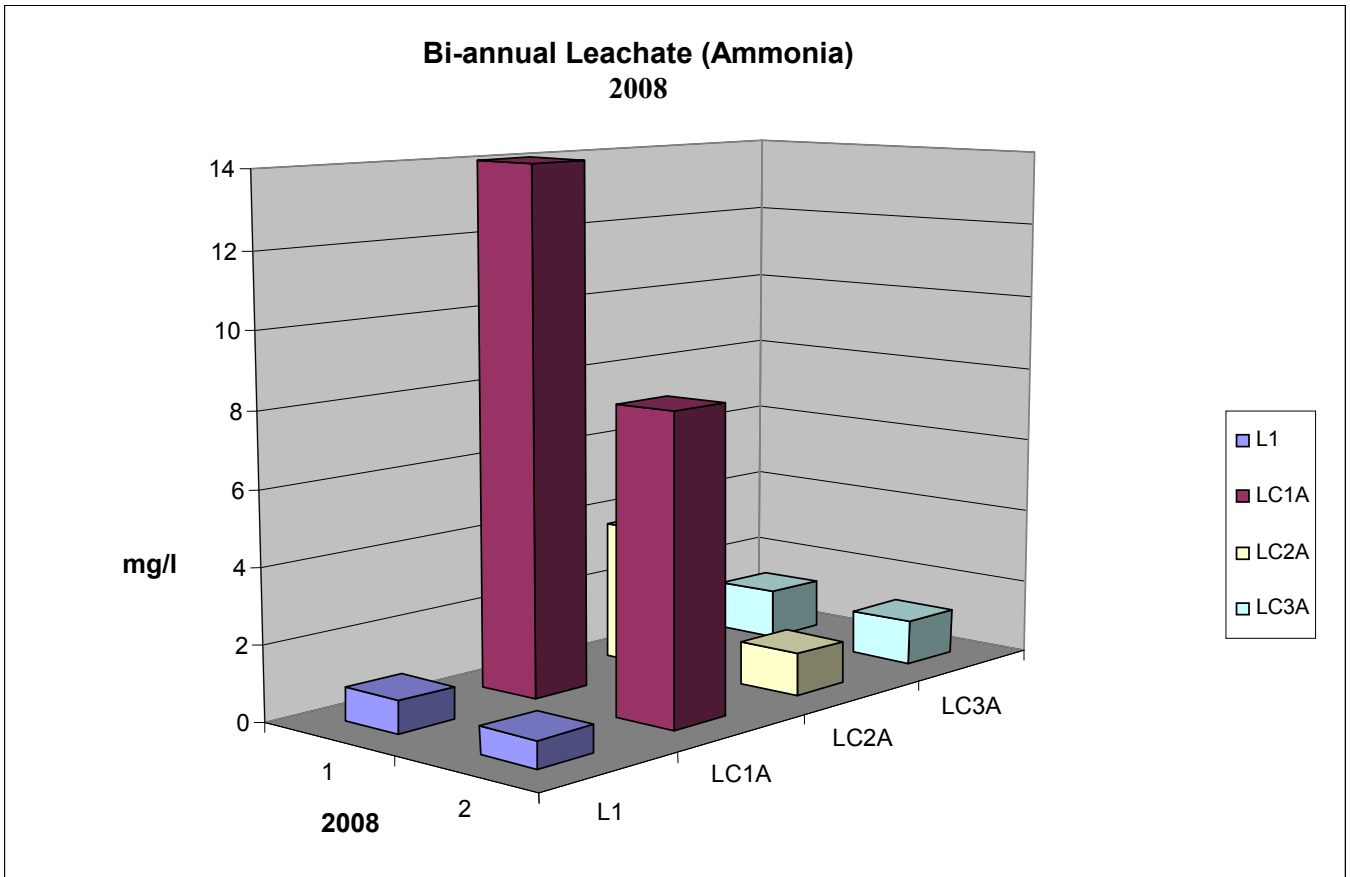


Quarterly Analysis

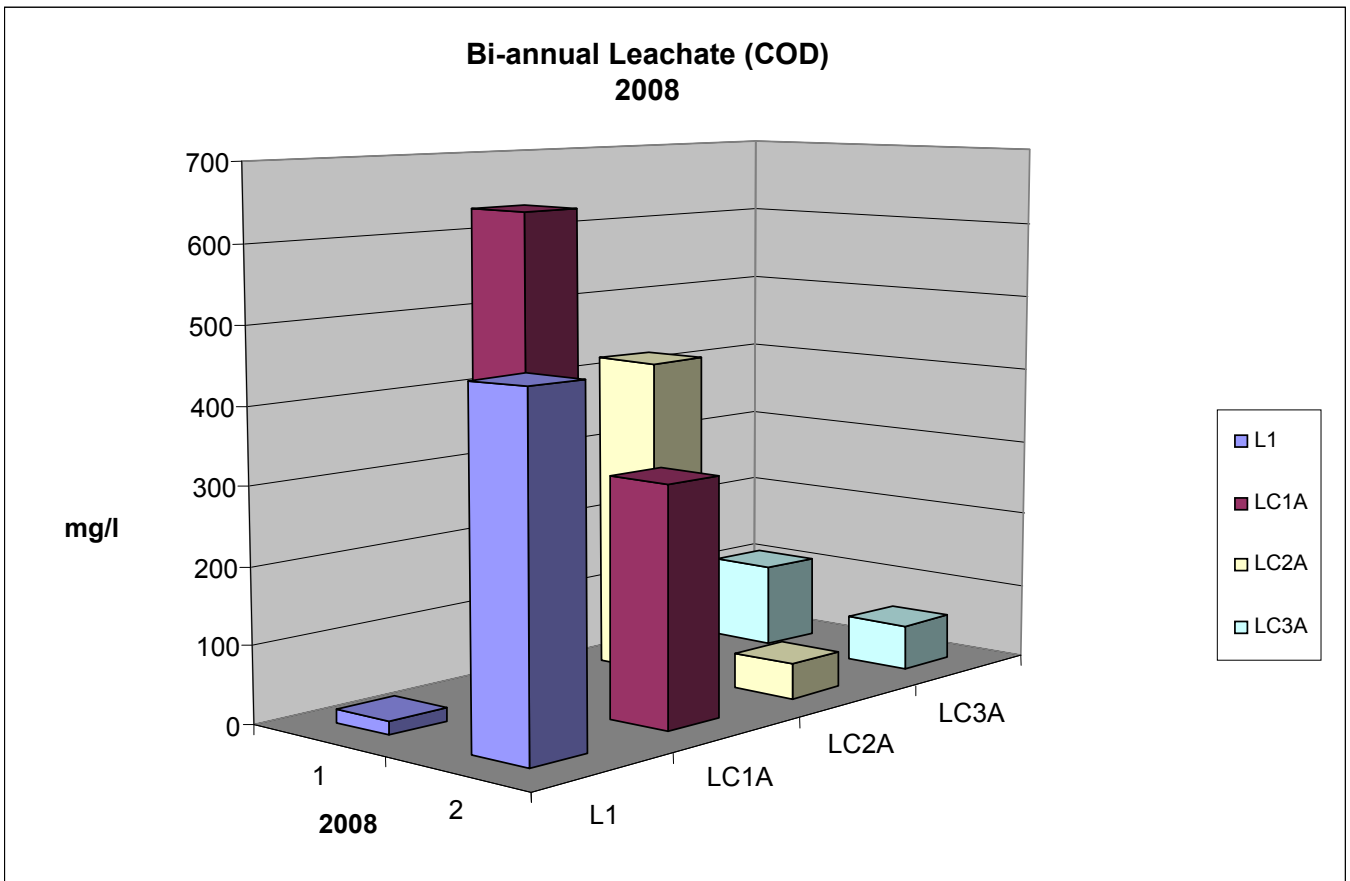


Quarterly Analysis

Leachate.

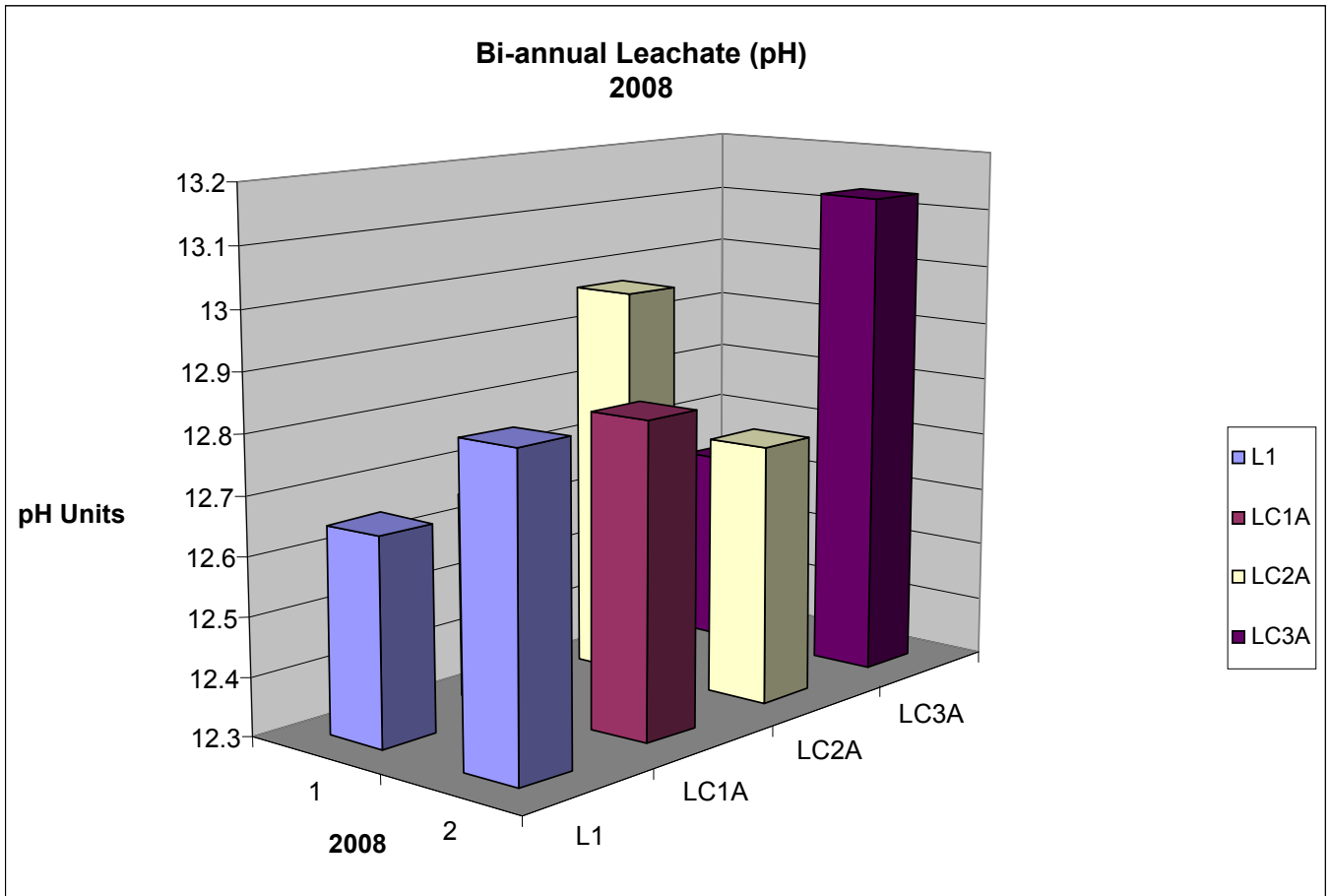


Bi-annual Analysis

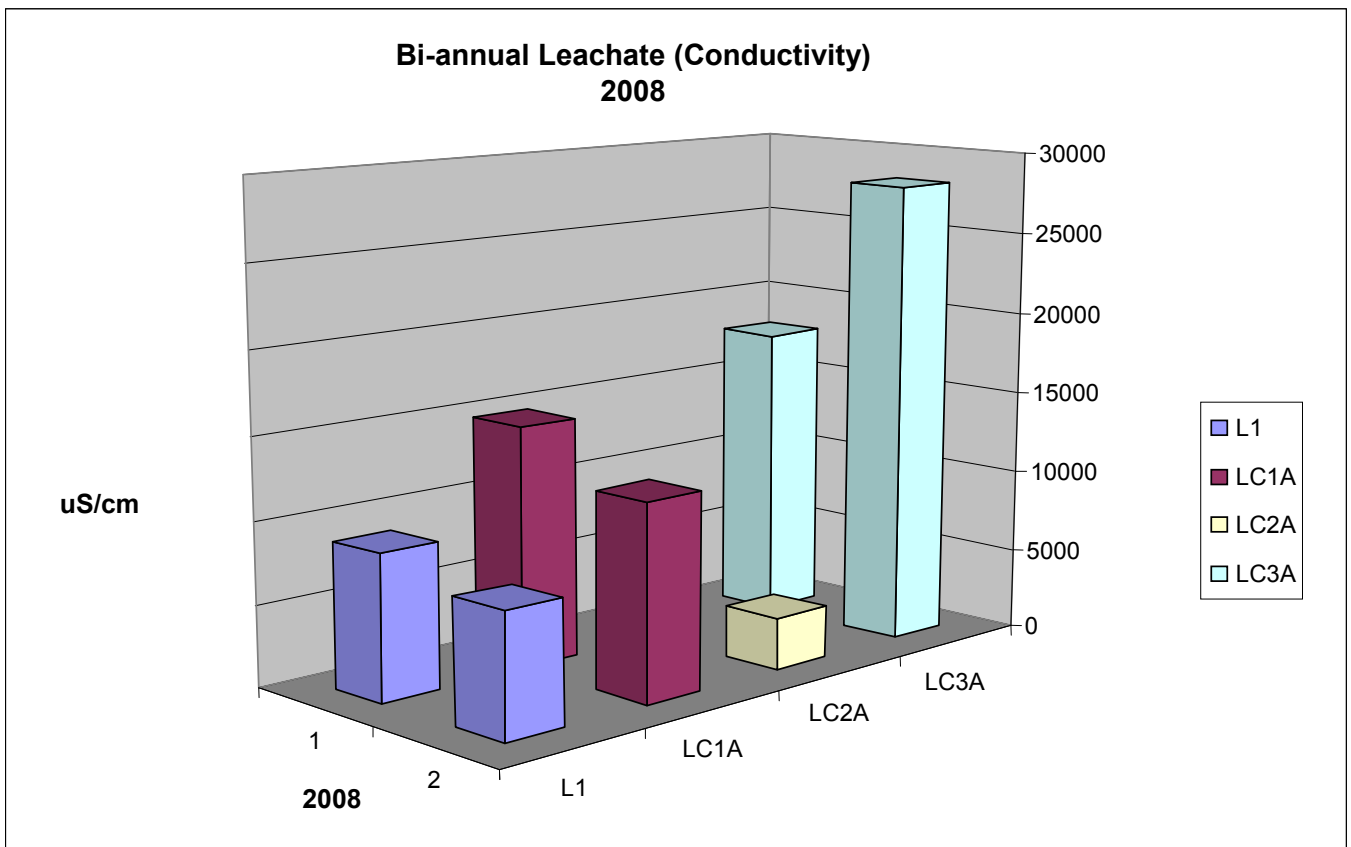


Bi-annual Analysis

Leachate.

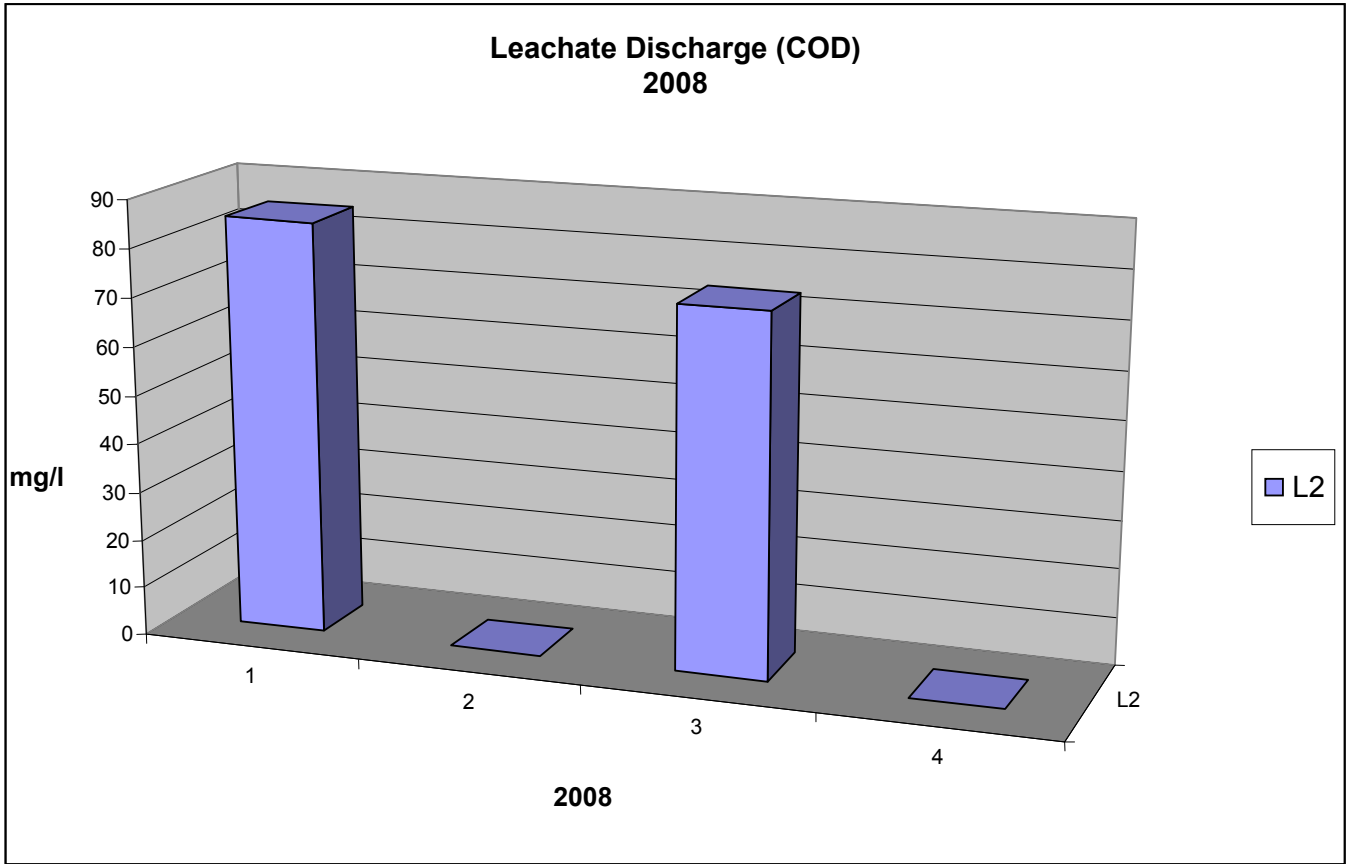


Bi-annual Analysis

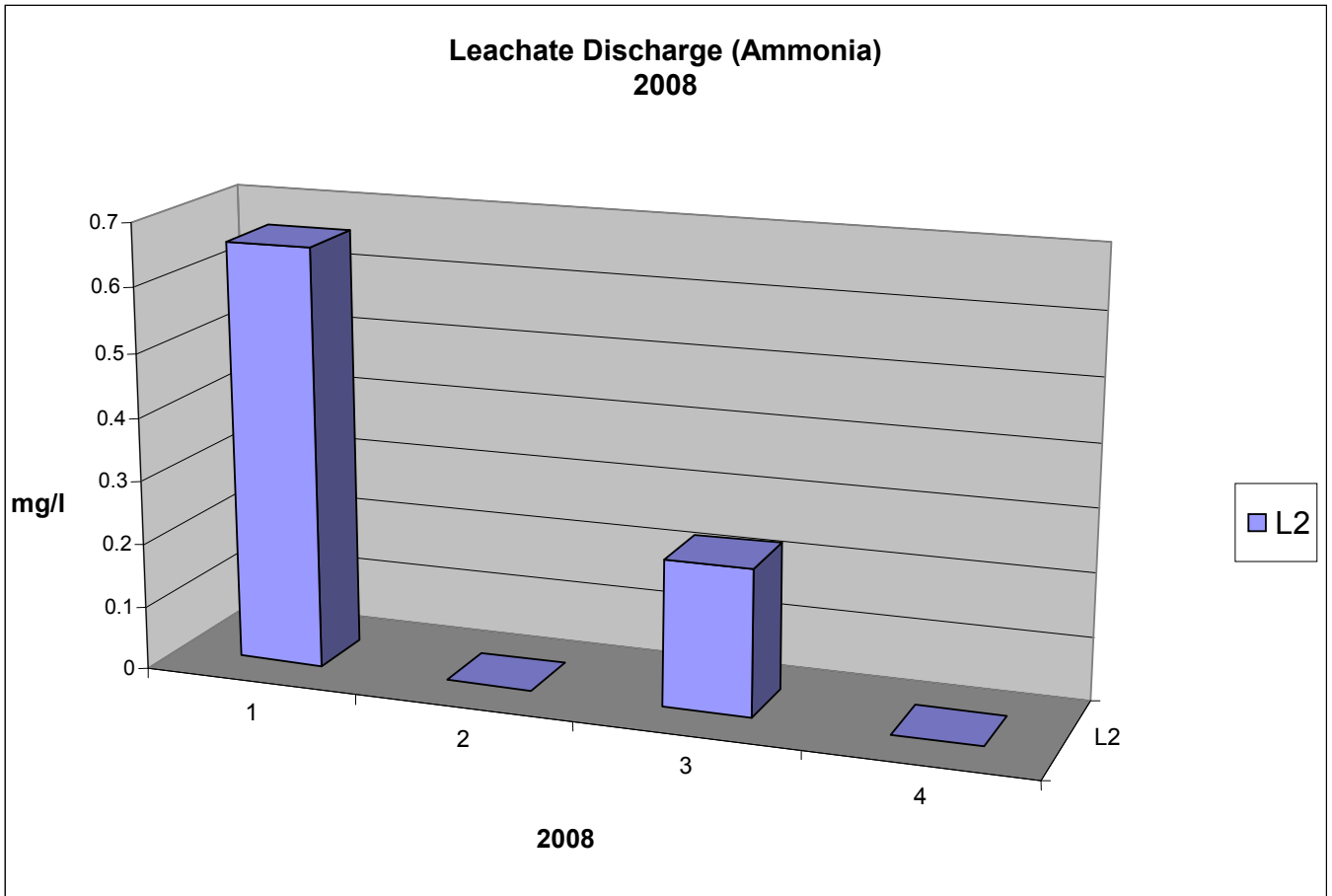


Bi-annual Analysis

Leachate Discharges L2.

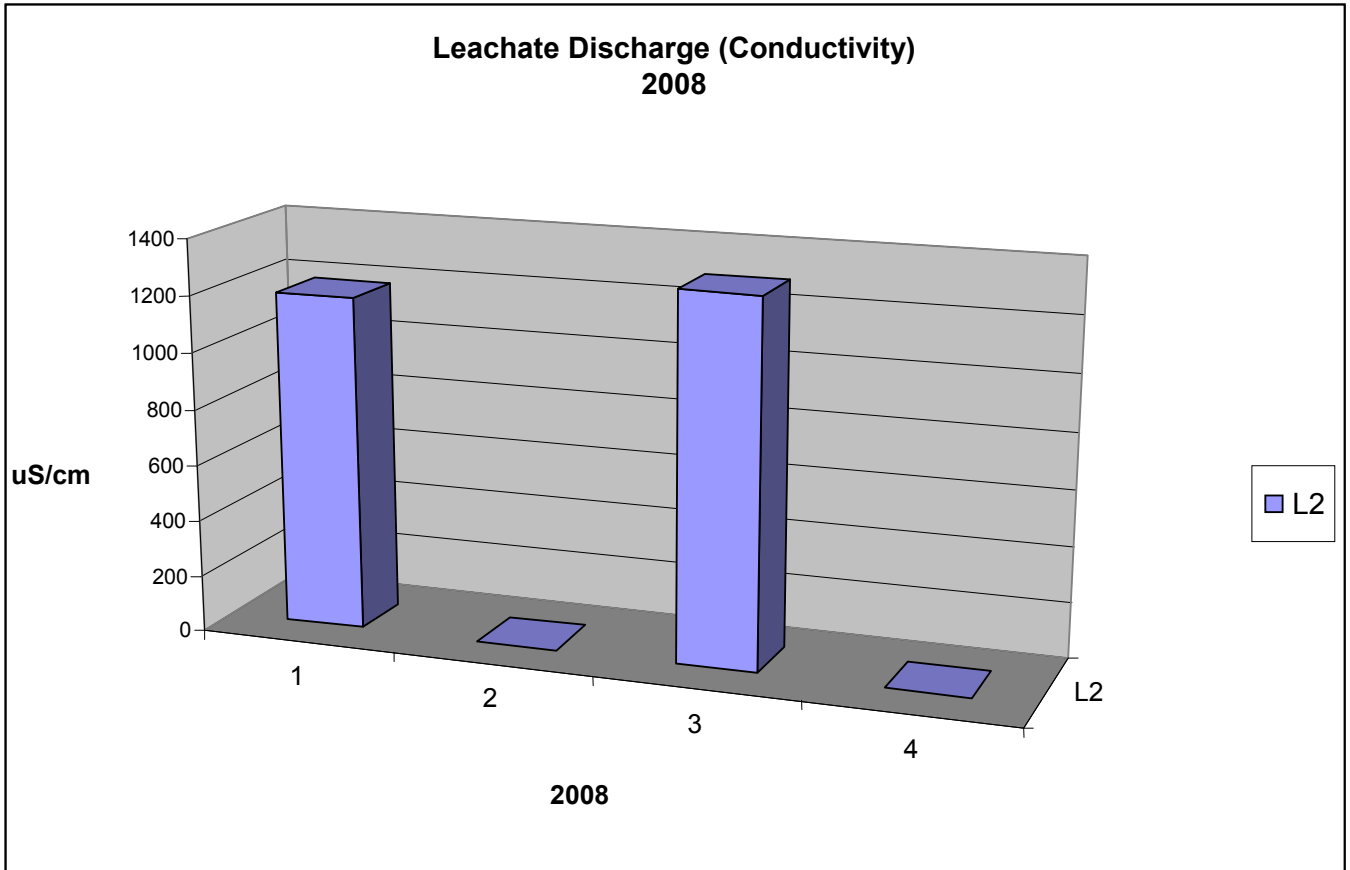


Quarterly Analysis

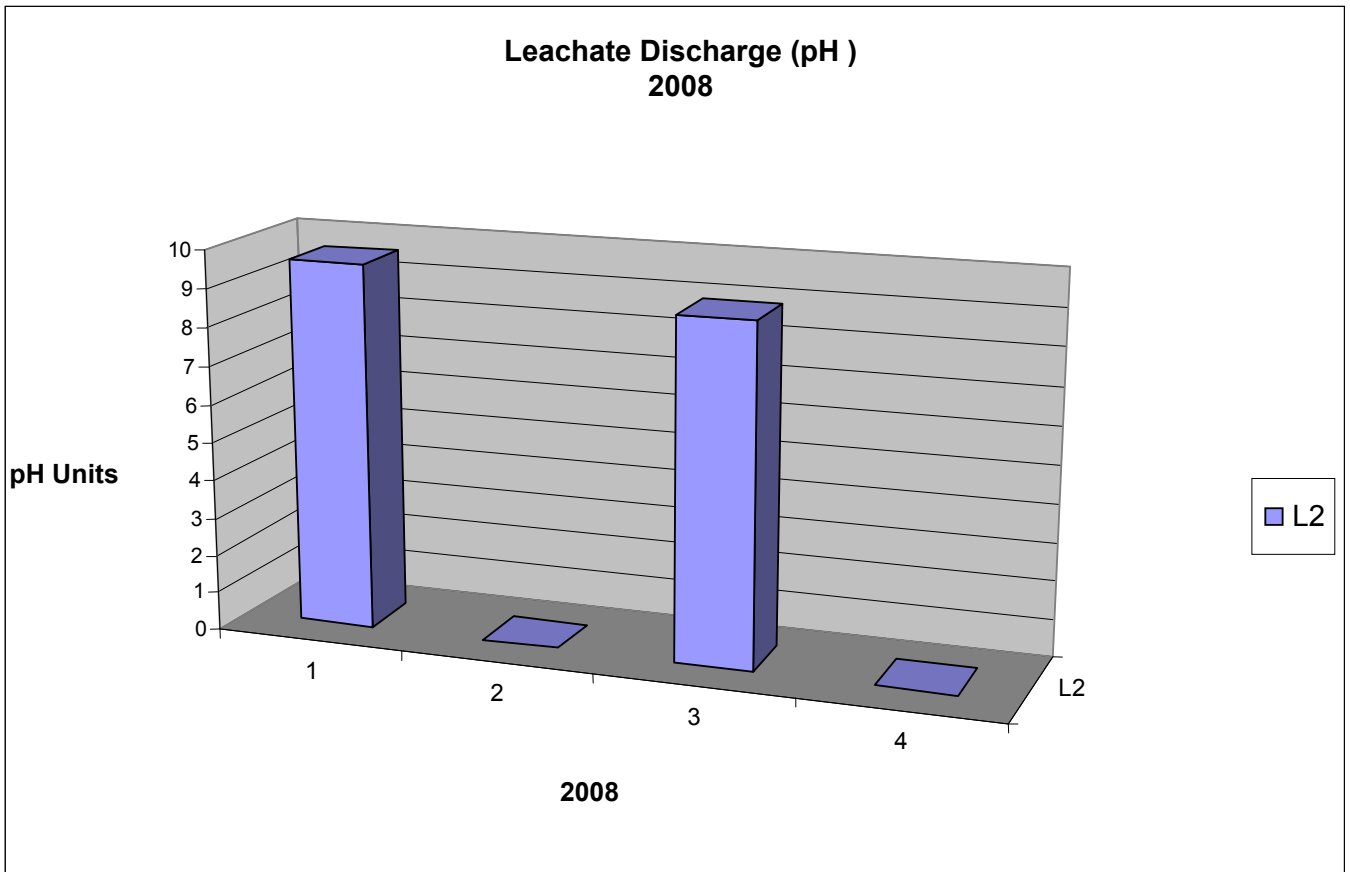


Quarterly Analysis

Leachate Discharges L2.

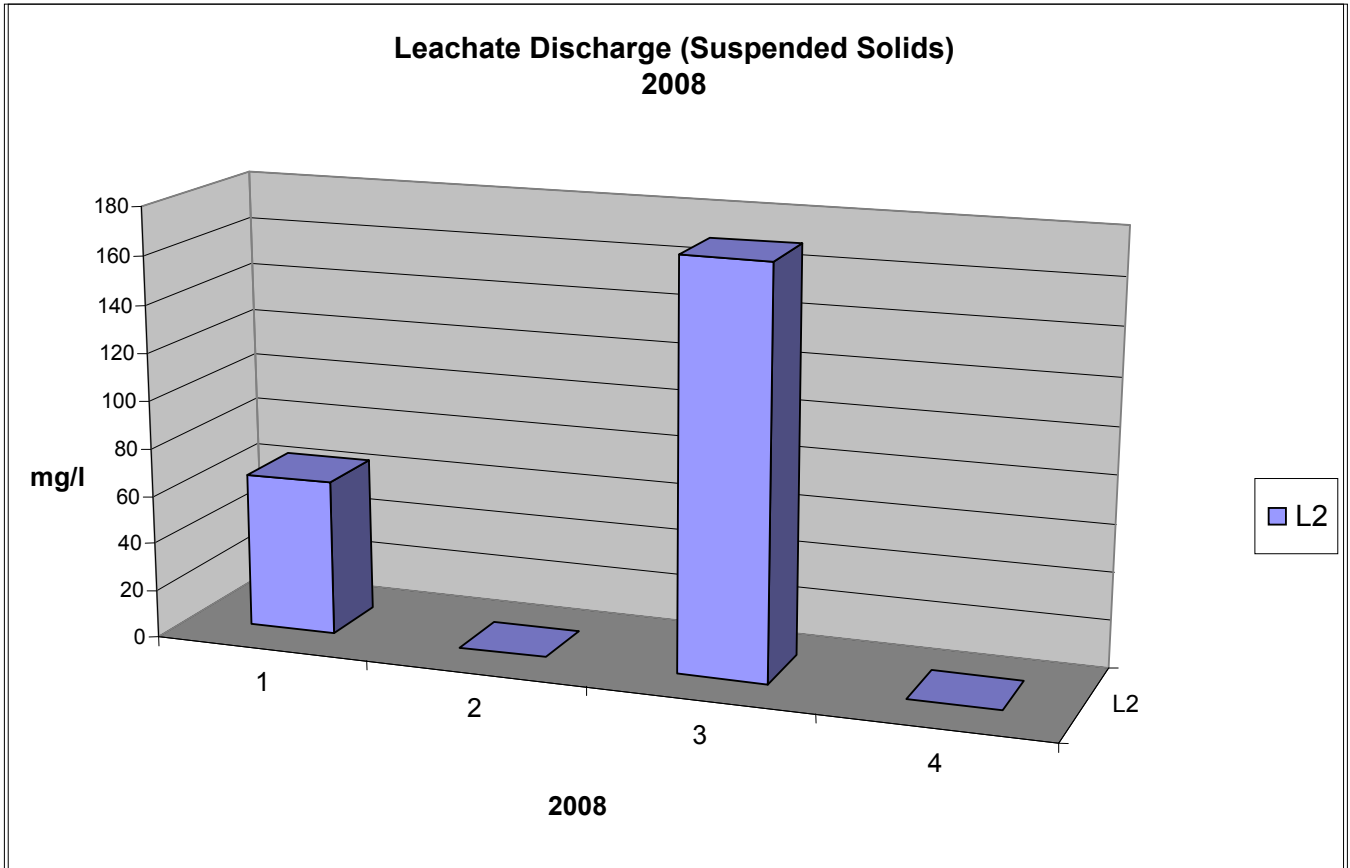


Quarterly Analysis

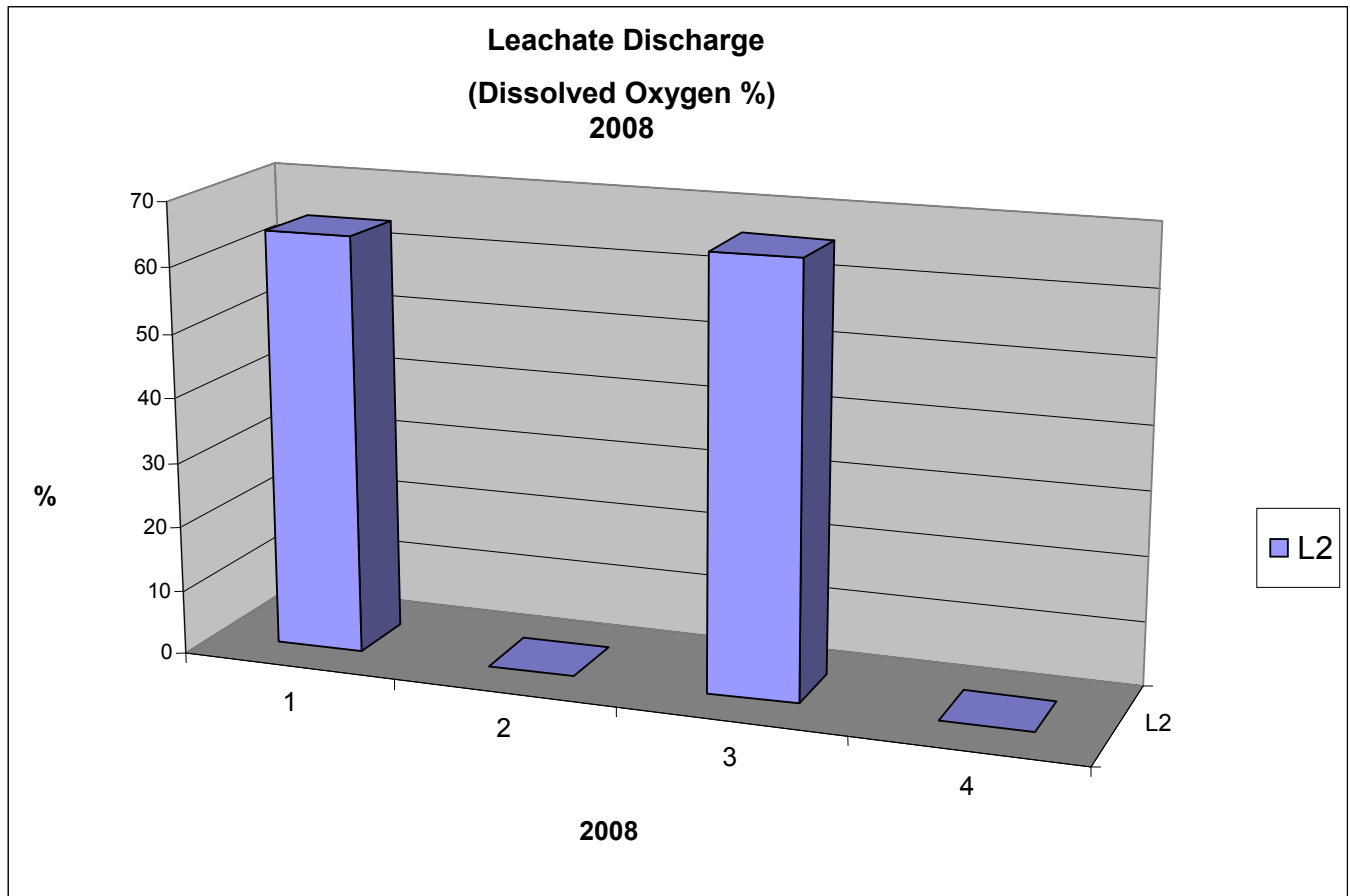


Quarterly Analysis

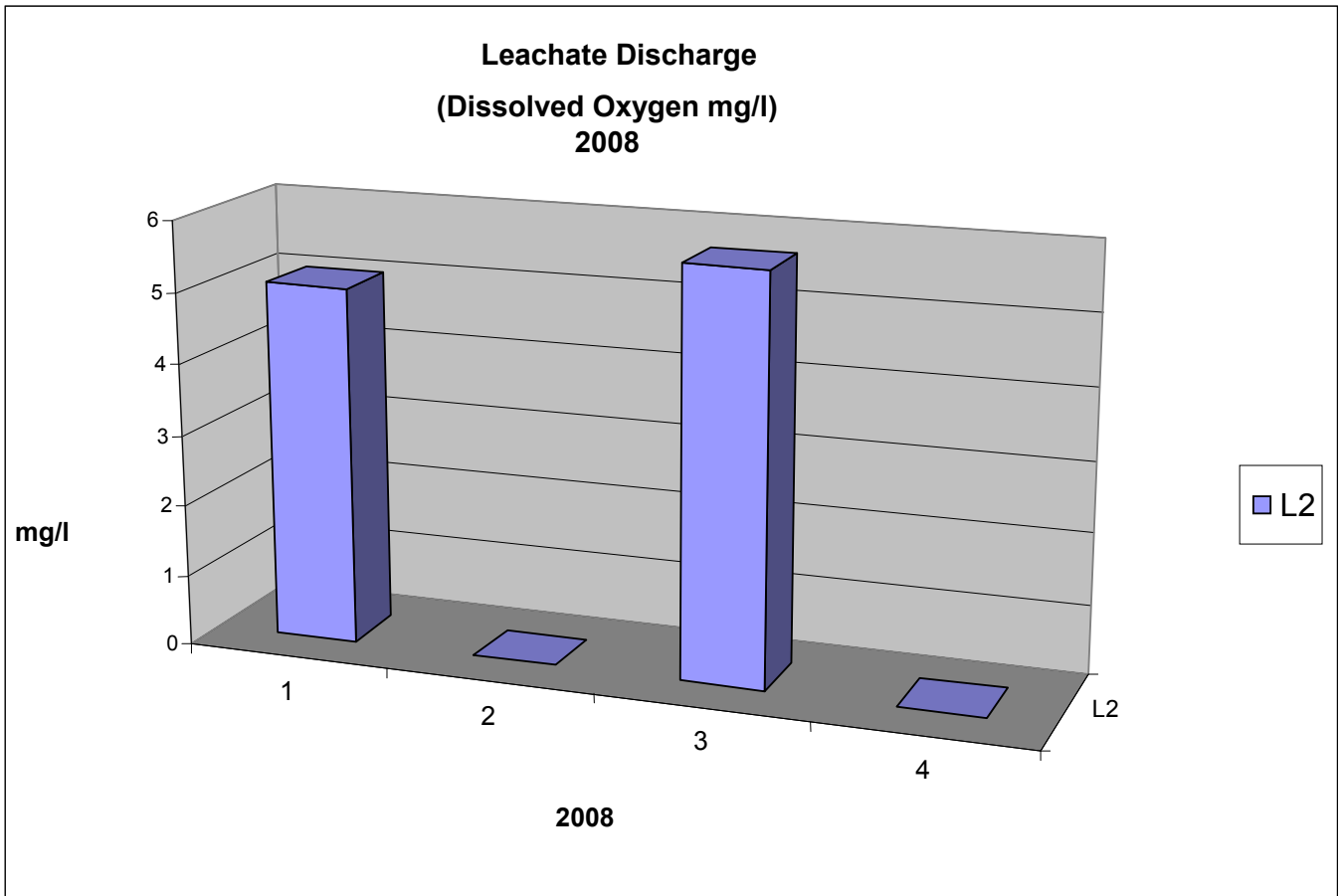
Leachate Discharges L2.



Quarterly Analysis



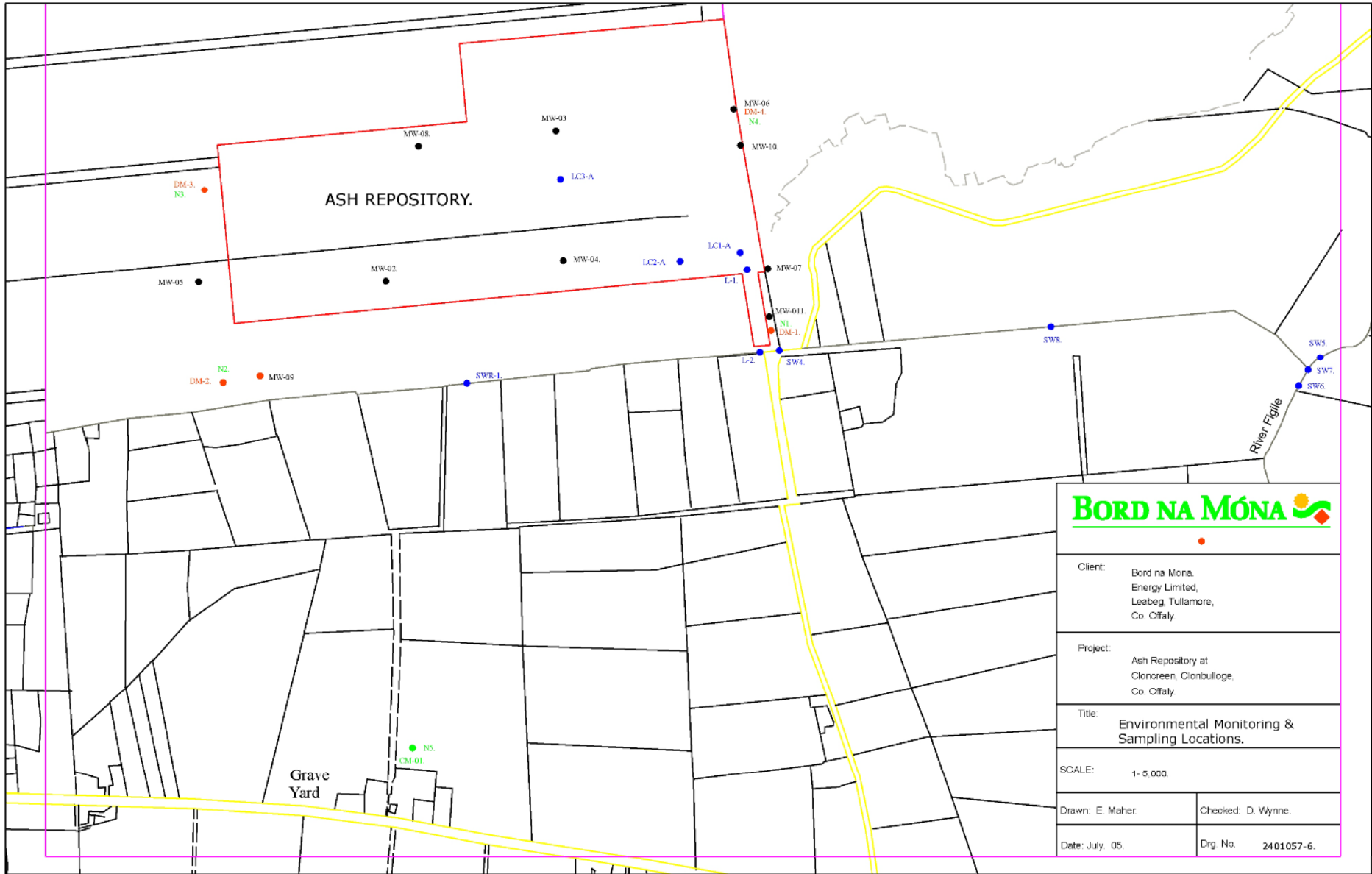
Quarterly Analysis



Quarterly Analysis

Appendix 3

Monitoring Locations



Appendix 4

AER PRTR DATA