

# ESB Moneypoint



## ANNUAL ENVIRONMENTAL REPORT 2013.

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2013

## Introduction

IPPC Licence Number **605-03**

### 1.2 Name and Location

Electricity Supply Board  
Moneypoint Generating Station  
Kilrush  
Co Clare.

### 1.3 Description of Activities

The production of energy in combustion plant, rated thermal input of which is greater than 50 MW.

Moneypoint Station has three identical generating units, each of which generate 305MW giving a total electricity generating capacity of 915MWe. These units are conventional, independent steam generating units, each with boiler, turbine and auxiliary plant. The boilers can operate on either coal or heavy fuel oil. In practice, HFO is only used as an occasional supplement for coal (approximately 30,000 tonnes of HFO pa. Approximately 2,000,000 tonnes of coal are consumed each year.

Note: This report covers Environmental activities for the period of January 2013 to December 2013.

We had one EPA audit in 2013 and two minor non conformances resulting due to setting of trigger levels for emissions to water;  
All non conformances were closed out and the EPA notified.

We had two SGS ISO 14001 surveillance audits in 2013. In total we had 2 minor non-conformances;  
relating to the control of actions within the Environmental Management System and the Environmental control in relation to the Mobile Plant workshop on site.

#### 1.4 Moneypoint Environmental Policy and Key Objectives.

Moneypoint Generating Station is part of ESB Power Generation Business Unit. It exports approximately 855 Megawatts of electricity produced from steam generation plant burning coal and /or heavy fuel oil. The station location, on the Shannon Estuary, encompasses areas of significant environmental importance. Environmental monitoring stations are strategically placed at external locations. These demonstrate that the operation of Moneypoint does not have a significant impact on the environment.

##### **In Moneypoint, we believe that:**

- The protection of the environment is an integral part of good business practice.
- We have a duty to behave as a good corporate citizen and we must produce electricity with the minimum impact on our neighbours.
- We must be committed to the minimisation of waste production and to the safe and efficient recycling of the ash produced as a product of combustion.
- We must produce electricity as efficiently as possible and optimise plant operation to minimise losses.
- We must be open in all our dealings and be responsive to the public in relation to our operations.

##### **To this end, we will:**

- Establish and regularly review environmental performance for our business to ensure full compliance with ESB standards and E.U./ National legislation on the environment.
- Take account of environmental considerations in all planning and decision making.
- Review our environmental programme annually to ensure continual improvement in our environmental performance.
- Operate according to IPCL No: 605-03 and GHG Permit No. IE-GHG 070-10381
- Develop and maintain an Environmental Management System to ISO 14001.
- Develop and regularly review management processes, operational procedures and audit capabilities to ensure that the systems put in place to prevent environmental damage function effectively.
- Put in place systems to reduce waste production and to monitor and ensure the safe disposal of waste produced.
- Put in place systems and resources to minimise the risk of environmental accidents.
- Draw up emergency response plans to deal with accidental pollution.
- Ensure that suppliers of goods and services are considerate of the environmental impact of their dealings with Moneypoint by advising them of our environmental policy and the environmental standards required of them.
- Seek to actively promote environmental awareness among our staff.
- Provide the necessary training and support for staff on environmental matters.
- Publicly report on an annual basis on our environmental performance.
- Record and respond swiftly to all complaints on environmental matters.
- This policy has corporate body endorsement.
- Comply the ESB Group Biodiversity policy.
- Comply with the statutory and regulatory biodiversity requirements
- Support the National Biodiversity Plan.
- Minimise the impacts of our activities on biodiversity
- Conserve and, if possible, enhance the biological diversity of the ESB Moneypoint Site

Signed: *Brendan Kennedy*  
Station Manager

Date: 30.08.2013

### ***1.5 Environmental Management Structure and Responsibility***

Environmental Management is fully integrated into all aspects of management on site. The management structure is shown in [figure 1.1](#). The Environmental Co-ordinator is responsible for the co-ordination of all environmental activity at the station. The Environmental Co-ordinator along with the environmental specialist works with the management team and environmental management group to ensure that:

- The station complies with or betters the requirements of any environmental provisions specified under its IPC licence, other licences, planning permission and environmental legislation.
- The Station's EMS is operated and maintained to the required standard.
- By way of audit and review cycle, the EMS is effective, is adaptive to changing circumstances and is delivering continuous improvement.

### 1.6 Organisational Chart

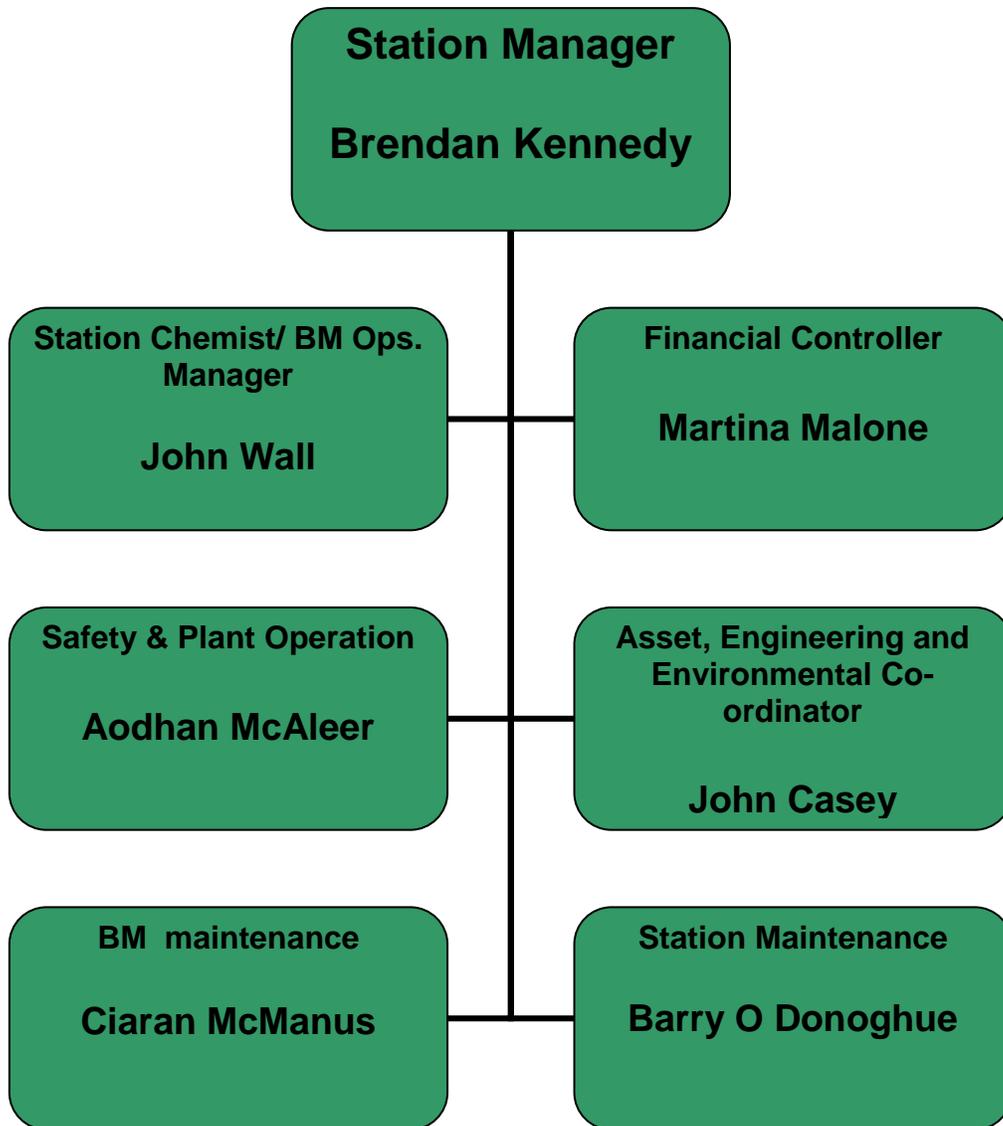


FIGURE 1.1

### 3 Emissions to Water

ESB Moneypoint has ten licensed emission points discharging to the Shannon Estuary.

- SW1 Ash Disposal Area – Surface Drain
- SW2 Surface Drain No 2
- SW3 Foul Drain No 1
- SW4 Surface Drain No 3
- SW4A Band Screen Wash Water
- SW5 Surface Drain No 4
- SW6 Surface Drain No 5
- SW7 Surface Drain No 6
- SW8 Cooling Water Outfall
- SW9 Surface Drain No 9
- SW10 Foul Drain No 2
- SW11 Foul Drain No 11
- SW13 Surface Drain No 8
- SW14 Coal yard FGD lagoon
- SW15 To be agreed

#### Drawing Ref: Station Drains MP325727 Appendix 4

Monitoring of these emission points is carried out in accordance with Schedule B2 of Moneypoints IPC license.

A summary of the monitoring results for emissions to water at each of the above emission points is presented in the following tables.

The analytical data contained in the following tables has been generated by completing a routine discharge point sampling and analysis programme. The analysis is completed by a combination of ESB laboratory staff and contract laboratories. A database is maintained on-site from which the summary data has been extracted.

#### 3.1 Surface discharges to water

**SW1:** This discharge point collects water from the ash Storage area located to the north of the main station.

2013	Date	pH	Conductivity µS/cm	S.S(mg/l)	CO D	TOC	Tot N2	Orthophosphates-	SO4	Chloride
1st quarter	23-Jan-13	6.5	795	0	New Licence requirements – not required in first quarter					
2nd quarter	11-Apr-13	6.6	865	16						
3rd quarter	29-Jul-13	6.6	16620	122	220	9.76	6.34	0.010	1224.5	5107.82
4th quarter	31-Oct-13	6.6	5890	12	10	3.15	3.65	0.010	555.95	1877.05
No ELV										

NF= No Flow

**SW2:** This discharge point collects water from unit 3 sample rack, unit 3 blow down tank and the area north east of the waste storage compound. There is also surface water from north side of the boilers between the main plant and the FGD plant.

2013	Date	pH	S.S(mg/l)	Min.oil(ppm)	Conductivity	Ammonia
1 <sup>st</sup> quarter	23-Jan-13	7.8	68	0.0025	1850	0.05
2 <sup>nd</sup> quarter	11-Apr-13	8.1	4	<0.01	842	0.04
3 <sup>rd</sup> quarter	29-Jul-13	8.2	30	<0.01	1031	0.29
4 <sup>th</sup> quarter	31-Oct-13	8.3	9	<0.01	997	0.27
<b>Emission limit value</b>		<b>6.0-10</b>	<b>100</b>	<b>20</b>		<b>0.6</b>

**SW 3:** This discharge point manages water from the temporary canteen septic tank. This is currently out of service.

2013	Date	BOD	S.S(mg/l)	Comment
1 <sup>st</sup> quarter	23-Jan-13	No flow		Septic Tank is out of service
2 <sup>nd</sup> quarter	11-Apr-13	No flow		
3 <sup>rd</sup> quarter	29-Jul-13	No flow		
4 <sup>th</sup> quarter	31-Oct-13	No flow		
<b>Emission limit value</b>		<b>20</b>	<b>30</b>	

NF= No Flow

**SW 4:** This discharge point collects water from the band screen wash water discharge and the area around the hydrogen plant located to the south

2013	Date	pH	S.S(mg/l)	Conductivity	Comment
1 <sup>st</sup> quarter	23-Jan-13	No Flow	-	-	No flow at this point – water now being recycled back to Turbine Hall
2 <sup>nd</sup> quarter	11-Apr-13	No Flow	-	-	
3 <sup>rd</sup> quarter	29-Jul-13	No Flow	-	-	
4 <sup>th</sup> quarter	31-Oct-13	No Flow	-	-	
<b>Emission limit value</b>		<b>6.0-10</b>	<b>100</b>		

**SW 5:** This discharge point collects water from the area around unit 3 cascade building sump and surrounding surface drains. The cascade sump captures drains associated with the turbine hall and due to its position below sea level is a pumped drainage system

2013	Date	pH	S.S(mg/l)	Min.oil(ppm)	Conductivity	Comment
1 <sup>st</sup> quarter	23-Jan-13	No Flow				Water being recycled back to Turbine Hall
2 <sup>nd</sup> quarter	11-Apr-13	No Flow	-	-	-	
3 <sup>rd</sup> quarter	29-Jul-13	No Flow	-	-	-	
4 <sup>th</sup> quarter	31-Oct-13	No Flow	-	-	-	
<b>Emission limit value</b>				<b>20</b>		

**SW 6:** This discharge point collects water from the area around units 1 and 2 cascade buildings and associated surface drains. The cascade sump captures drains associated with the turbine hall and due to its position below sea level is a pumped drainage system

2013	Date	pH	S.S(mg/l)	Min.oil(ppm)	Conductivity	Ammonia(mg/l)
1 <sup>st</sup> quarter	23-Jan-13	7.6	14	0.941	226	0.0
2 <sup>nd</sup> quarter	11-Apr-13	8.2	12	0.38	3855	0.01
3 <sup>rd</sup> quarter	29-Jul-13	8.3	50	0.33	36100	0.12
4 <sup>th</sup> quarter	31-Oct-13	7.8	32	0.0025	6290	0.07
<b>Emission limit value</b>				<b>20</b>		

**SW 7:** This discharge point collects water from several areas including units 1 & 2 sample rack, units 1 & 2 ash tank overflow pipe, area around administration courtyard, around fire pump house and compressor house.

2013	Date	pH	S.S(mg/l)	Min.oil(ppm)	Conductivity	Ammonia(mg/l)	Chlorine (mg/l)	TDS (mg/l)
1 <sup>st</sup> quarter	23-Jan-13	7.7	3	0.0025	362	0.0	Not required in Old licence	
2 <sup>nd</sup> quarter	11-Apr-13	8	5	<0.01	481	0.45		
3 <sup>rd</sup> quarter	29-Jul-13	8.6	50	0.5	1320	0.09	0.21	Not read
4 <sup>th</sup> quarter	31-Oct-13	7.9	19	0.0025	398	0.07	0.19	Not Read
<b>Emission limit value</b>		<b>6.0-9.5</b>		<b>20</b>		<b>0.6</b>	<b>0.5</b>	<b>10,000</b>

**SW 8:** This discharge point manages water from condenser cooling water outfall. Figure is average throughout the year.

2013	Chlorine(ppm)	Temp rise (°c)
Average	0.08	8.1
Max	0.25	15.1 (MWth < 1590)
Min	0	4.7
<b>Emission limit value</b>	<b>0.5</b>	<b>15 or 1590 MWth</b>

\*Average Temperature recorded over year.

**SW 9:** This discharge point collects water from the area north east of the water treatment building also water drainage from the main coal stockpile

2013	Date	pH	S.S(mg/l)	Min.oil(ppm)	Conductivity	Comment
1 <sup>st</sup> quarter	23-Jan-13	Nf	Nf	Nf	Nf	No access due to ongoing works in

						area
2 <sup>nd</sup> quarter	11-Apr-13	7.5	20	0.0025	1112	
3 <sup>rd</sup> quarter	29-Jul-13	8.2	14	<0.01	1452	
4 <sup>th</sup> quarter	31-Oct-13	8.3	14	0.0025	0	
<b>Emission limit value</b>		<b>6.0-9.5</b>	<b>100</b>	<b>20</b>		

**SW 10:** This discharge point manages water from the station septic tank outlet.

2013	Date	BOD	S.S(mg/l)	Comment
1 <sup>st</sup> quarter	23-Jan-13	8	17	
2 <sup>nd</sup> quarter	11-Apr-13	2	12	
3 <sup>rd</sup> quarter	29-Jul-13	Nf	Nf	Discharge pump o/o/o – now resolved
4 <sup>th</sup> quarter	31-Oct-13	nf	nf	Discharge pump o/o/o – now resolved
<b>Emission limit value</b>		<b>20</b>	<b>30</b>	

**SW 11:** This discharge point collects water from the jetty septic tank outlet. This system is no longer in service

2013	Date	BOD	S.S(mg/l)	Comment
1 <sup>st</sup> quarter	23-Jan-13	No flow		Unit no longer in service
2 <sup>nd</sup> quarter	11-Apr-13	No flow		
3 <sup>rd</sup> quarter	29-Jul-13	No flow		
4 <sup>th</sup> quarter	31-Oct-13	No flow		
<b>Emission limit value</b>				

NF= No Flow

**SW 13:** This discharge point collects water from the area around the strategic coal stockpile. This is located at the eastern end of the main coal yard.

2013	Date	pH	S.S(mg/l)	Conductivity
1 <sup>st</sup> quarter	23-Jan-13	7	1.4	1447
2 <sup>nd</sup> quarter	11-Apr-13	7.1	7	3910
3 <sup>rd</sup> quarter	29-Jul-13	7.5	11	-
4 <sup>th</sup> quarter	31-Oct-13	7.1	7	-
<b>Emission limit value</b>		<b>6.0-9.5</b>	<b>100</b>	

**Note: NF = No Flow**

### 3.2 Toxicity/ Leachate Analysis:

## Annual Toxicity SW1 Results 2013

Parameter	Test Species	Limits	2012 Results
Toxicity	Tisbe Battagliai	n/a	<3.1 TU
16/01/13	Vibrio Fischeri	n/a	<2.2 TU

Parameter	Test Species	Limits	2012 Results
Toxicity	Tisbe Battagliai	n/a	<3.1 TU
28 & 29/8/13	Vibrio Fischeri	n/a	<2.2 TU

## 3.3 Annual Metals

## Ash Leachate Results 2013

Lead µg/l	0.046
Dissolved Aluminium µg/l	20.1
Dissolved Arsenic µg/l	2.93
Dissolved Barium mg/	16.2
Dissolved Boron µg/l	3180
Dissolved Cadmium µg/l	0.592
Dissolved Chromium µg/l	49
Dissolved Copper µg/l	1.97
Dissolved Iron mg/l	<0.019
Dissolved Mercury µg/l	<0.01
Dissolved Molybdenum µg/l	622
Dissolved Nickel µg/l	1.99
Dissolved Selenium µg/l	34.4
Dissolved Tin µg/l	<0.36
Dissolved Zinc µg/l	1.67
pH	6.73

## 3.3 Ash farm Metals 2013

Quarterly samples of PFA (pulverised Fuel Ash) and Bottom ash are taken and analysed in an accredited labs off site, all analysis reports are maintained at the station.

Component	Units	Date Sampled			Date Sampled			Date Sampled			Date Sampled		
		14/01/2013			16/06/2013			10/09/2013			16/10/2013		
		Bottom Ash	FGD Product	Fly Ash	Bottom Ash	FGD Product	Fly Ash	Bottom Ash	FGD Product	Fly Ash	Bottom Ash	FGD Product	Fly Ash
pH	mg/kg	9.33	Not Tested in Q1	9.13	8.84	8.61	11.3	10.2	12.7	10.1	9.69	11.6	10.8
Aluminium	mg/kg	6440		21900	2990	14900	20100	13200	11100	19500	9000	9250	24300
Arsenic	mg/kg	4.03		31	3.04	23.9	28.4	6.22	18.3	29.4	3.35	9.69	33.3
Barium	mg/kg	186		460	88	96.5	486	324	147	485	213	101	1130
Boron	mg/kg	46		97.7	11.8	130	229	53.7	142	198	35	326	292
Cadmium	mg/kg	0.425		1.4	0.168	0.742	0.922	0.29	1.02	1.14	0.146	0.415	0.681
Chromium	mg/kg	15		50.7	10.4	20	42.2	14.6	33.8	41.5	9.66	14.6	33
Copper	mg/kg	6.32		25	3.94	18.6	23.9	11.2	181	23.1	7.15	9.37	27.1
Iron	mg/kg	15900		29400	10200	13600	24400	12700	29500	24600	10400	8110	23700
Lead	mg/kg	4.4		14.8	1.5	7.44	9.52	5	164	8.74	4	4.71	13
Mercury	mg/kg	<0.14		0.241									
Molybdenum	mg/kg	2.24		3.78	0.894	4.52	15.2	3	22.8	7.66	0.966	3.44	8.53
Nickel	mg/kg	11.9		28.2	9.15	24.2	27.8	12.5	33.3	25.7	10.4	19.1	26.6
Selenium	mg/kg	<1		19.6	<1	37.3	24	<1	21.9	17.1	<1	37.2	7.21
Tin	mg/kg	<0.24	0.992	<0.24	2.6	1.22	0.615	49.7	1.16	<0.24	<0.24	1.48	
Zinc	mg/kg	16.2	74.9	9.67	35.3	70.5	35	1960	67.2	14.8	28.7	68.4	

### 3.4 Emissions to Water Non-Compliance Summary

The table below highlights the exceedences in relation to suspended solids, Ammonia and pH for 2013, it can be seen that a notable reduction in suspended solids resulted upon implementation of control measures as proposed to the EPA in 2010/2011.

Discharge Point	SW 1	SW 2	SW 3	SW 4	SW4 a	SW 5	SW 6	SW 7	SW 8	SW 9	SW 10	SW 11	SW 13	TOTAL
JAN														
FEB														
MAR														
APR														
MAY														
JUNE		1*						1*						2
JULY														
AUG														
SEPT														
OCT														
NOV														
DEC														
TOTAL /YEAR														2

\* EPA Tested - The methodology of these tests is under discussion

**Note:** Reports for all above have been forwarded to the EPA and closed out.

### 3.5 Comparison between EPA and ESB surface water monitoring results

During the year the EPA paid the site a number of visits to collect samples from the surface water discharge points, parallel samples were taken each time and the comparison of the results are listed below.

Date	Sample Number	pH	Suspended Solids ppm	Ammonia ppm N	Results
26-Jun-13	SW1P	7.3	15.2		Mpt Results
26-Jun-13	SW1P	7.4	16	0.14	EPA Results
26-Jun-13	SW2DP	7.4	17.8	0.045	Mpt Results
26-Jun-13	SW2DP	7.5	17	8.1	EPA Results
26-Jun-13	SW4AP	7.9			Mpt Results
26-Jun-13	SW4AP	8			EPA Results
26-Jun-13	SW6DP	8.2			Mpt Results
26-Jun-13	SW6DP	8.1			EPA Results
26-Jun-13	SW7DP	7.4	0.4	0.069	Mpt Results
26-Jun-13	SW7DP	7.6		6	EPA Results
26-Jun-13	SW8P	8.1			Mpt Results
26-Jun-13	SW8P	8			EPA Results
26-Jun-13	SW9DP	7.5	14		Mpt Results
26-Jun-13	SW9DP	7.4	16		EPA Results
26-Jun-13	SW13DP	7.1	7.4		Mpt Results
26-Jun-13	SW13DP	7	8		EPA Results

Date	Sample Number	pH	Suspended Solids ppm	Ammonia ppm N	Results
04-Sep-13	SW1P	6.8	7.6	0.41	Mpt Results
04-Sep-13	SW1P	6.9	6	0.53	EPA Results
04-Sep-13	SW2DP	7.6	9.8	0.29	Mpt Results
04-Sep-13	SW2DP	7.8	9	0.27	EPA Results
04-Sep-13	SW4AP	8		0.09	Mpt Results
04-Sep-13	SW4AP	7.9			EPA Results
04-Sep-13	SW6DP	7.9	19	0.12	Mpt Results
04-Sep-13	SW6DP	8			EPA Results
04-Sep-13	SW7DP	8	0.2	0.09	Mpt Results
04-Sep-13	SW7DP	8.1		0.11	EPA Results
04-Sep-13	SW8P	7.9		0.04	Mpt Results
04-Sep-13	SW8P	7.9			EPA Results
04-Sep-13	SW9DP	8	7.2	0.47	Mpt Results
04-Sep-13	SW9DP	7.9	8		EPA Results
04-Sep-13	SW13DP	7.4	9.8	0.34	Mpt Results
04-Sep-13	SW13DP	7.5	11		EPA Results

#### ***4 Emissions to Atmosphere***

##### ***4.1 Iso-kinetic Dust sample results 2013***

A number of iso-kinetic dust monitors are located around the site at dust sensitive locations the results of this monitoring are listed below, Additional dust monitoring stations were installed in 2011.

Site	Undissolved Solids	Based on 12 Month's
	Avg mg/m <sup>2</sup> /day	
<b>Ash Farm 1</b>	<b>47.80</b>	<b>12</b>
<b>Ash Farm 2</b>	<b>62.93</b>	<b>12</b>
<b>Ash Farm 3</b>	<b>60.77</b>	<b>12</b>
<b>Gate A</b>	<b>38.23</b>	<b>12</b>
<b>Coal-yard1</b>	<b>64.76</b>	<b>12</b>
<b>Coal-yard 2</b>	<b>66.32</b>	<b>12</b>
<b>Coal-yard 3</b>	<b>72.72</b>	<b>12</b>
<b>Coal-yard 4</b>	<b>75.19</b>	<b>12</b>

#### 4.2 Emission Summary Report - *Calendar monthly mean values*

##### Unit 1 (A1 - 1)

	Period End Date	Units	NOx	SO2	Dust
Average	31/01/2013	kg/hr	101	162	7
Average	28/02/2013	kg/hr	137	198	8
Average	31/03/2013	kg/hr	331	259	10
Average	30/04/2013	kg/hr	297	220	9
Average	31/05/2013	kg/hr	209	133	7
Average	30/06/2013	kg/hr	283	284	8
Average	31/07/2013	kg/hr	287	219	8
Average	31/08/2013	kg/hr	234	107	8
Average	30/09/2013	kg/hr	450	444	18
Average	31/10/2013	kg/hr	191	95	8
Average	30/11/2013	kg/hr	240	179	12
Average	31/12/2013	kg/hr	299	255	14

##### Unit 2 (A1 - 2)

	Period End Date	Units	NOx	SO2	Dust
Average	31/01/2013	kg/hr	178	914	30
Average	28/02/2013	kg/hr	114	852	34
Average	31/03/2013	kg/hr	71	773	41
Average	30/04/2013	kg/hr	118	890	70
Average	31/05/2013	kg/hr	147	764	4
Average	30/06/2013	kg/hr	196	722	4
Average	31/07/2013	kg/hr	471	730	12
Average	31/08/2013	kg/hr	571	461	20
Average	30/09/2013	kg/hr	599	486	23
Average	31/10/2013	kg/hr	359	693	7
Average	30/11/2013	kg/hr	0	0	0
Average	31/12/2013	kg/hr	0	0	0

##### Unit 3 (A1 - 3)

	Period End Date	Units	NOx	SO2	Dust
Average	31/01/2013	kg/hr	119	128	2
Average	28/02/2013	kg/hr	150	146	2
Average	31/03/2013	kg/hr	275	155	2
Average	30/04/2013	kg/hr	214	270	3
Average	31/05/2013	kg/hr	155	94	2
Average	30/06/2013	kg/hr	246	231	4
Average	31/07/2013	kg/hr	210	297	5
Average	31/08/2013	kg/hr	0	0	0

Average	30/09/2013	kg/hr	0	0	0
Average	31/10/2013	kg/hr	199	375	7
Average	30/11/2013	kg/hr	176	170	2
Average	31/12/2013	kg/hr	151	232	2

#### 4.3 Emissions to Atmosphere Non-compliance Summary

Year	Non-compliance	Cause	Corrective Action
2010	Failure to control dust in ash storage area.	Ash dust blown off surface of ash storage area	Revised ash storage area management.
2011	No Non compliances		
2012	No Non compliances		
2013	No Non compliances		

#### Mass emissions for 2013

	NOx	SO2	Dust
Unit 1	2004.7	1682.6	77.6
Unit 2	1758.7	4279.1	133.8
Unit 3	1128.1	1201.5	13

The station mass emissions were within the limits as set out in our licence and also within the NERP limits as set out in 2008 NERP national agreement.

## 5 Waste Management Report

ESB Moneypoint produced 184,757.375 tonnes of waste in 2013, of which 183.294 tonnes were classified as hazardous

Management of waste on site is in compliance with condition 7 of our licence.

The tables below summarise the volumes and categories of waste generated in 2012

<b>Summary of Waste Information for 2013</b>	<b>2013</b>
Item	<b>Tonnes</b>
Total quantity of waste produced in 2013	184,757.375
total quantity of waste disposed of on-site	183,529
total quantity of waste disposed of off-site	1,228.3745
total quantity of waste recovered on-site	0
total quantity of waste recovered off-site	1055.26
Quantity of non-hazardous waste produced in 2013	687.843
quantity of non-hazardous waste disposed of on-site	18,3529
quantity of non-hazardous waste disposed of off-site	1,045.0805
quantity of non-hazardous waste recovered on-site	0
quantity of non-hazardous waste recovered off-site	919.46
Quantity of hazardous waste produced in 2012	183.294
quantity of hazardous waste disposed of on-site	
quantity of hazardous waste disposed of off-site	183.294
quantity of hazardous waste recovered on-site	0
quantity of hazardous waste recovered off-site	135.8

**Hazardous Waste 2013**

<b>Hazardous Waste 2013</b>					
<b>Waste</b>	<b>EWC Code</b>	<b>Qty (Tonnes)</b>	<b>Collected By</b>	<b>Destination</b>	<b>Licence Reg No</b>
Oily Water	13 05 07	135.8	ENVA	Portlaoise, Co. Laois	184-1
Solid Oily Waste	15 02 02	27.11	ENVA	Portlaoise, Co. Laois	184-1
Oily Waste	13 08 02	16.34	ENVA	Portlaoise, Co. Laois	184-1
Empty Drums	15 01 10	1.746	ENVA	Portlaoise, Co. Laois	184-1
UN Drums	15 01 10	0.18	ENVA	Portlaoise, Co. Laois	184-1
Fluorescent Tubes	20 01 21*	0.392	Irish Lamp Recycling	Athy, Co. Kildare	WFP-KE-14-0072-01
Light Fittings	20 01 35*	1.726	Irish Lamp Recycling	Athy, Co. Kildare	WFP-KE-14-0072-01
		<b>183.294</b>	<b>Tonnes</b>		

**Non-Hazardous Waste 2013**

<b>Non-Hazardous Waste 2013</b>						
<b>Waste</b>	<b>EWC Code</b>	<b>Qty (Tonnes)</b>	<b>Disposed Reused Recycled</b>	<b>Collected By</b>	<b>Destination</b>	<b>Collection Permit</b>
BROWN BIN	20 01 08	2.7225	Disposed	Clean Ireland	Cree, Co. Clare	WCP/LK073/04c
DRY RECYCABLES	20 01 01	16.262	Recycled	Clean Ireland	Cree, Co. Clare	WCP/LK073/04c
METAL	17 04 05	0.199	Recycled	Clean Ireland	Cree, Co. Clare	WCP/LK073/04c
METAL	17 04 05	121.405	Recycled	United Metals	Eastway, Limerick	WFP/LK/2010/147/R1
METAL	17 04 05	332.541	Recycled	ClearCircle	Ballysimon, Limerick	WCP-LK-08-589-01
MIXED WASTE	20 03 01	122.902	Disposed	Clean Ireland	Cree, Co. Clare	WCP/LK073/04c
PAPER	15 01 01	2	Recycled	Clean Ireland	Cree, Co. Clare	WCP/LK073/04c
SKIP WASTE	20 03 01	395.437	Recycled	Clean Ireland	Cree, Co. Clare	WCP/LK073/04c
TIMBER	15 01 03	51.612	Reused	Clean Ireland	Cree, Co. Clare	WCP/LK073/04c
PULVERISED FUEL ASH	10 01 02	105580	Disposed		Moneypoint Landfill	Mpt. Landfill Licence 605-03
FURNACE BOTTOM ASH	10 01 01	16736	Disposed		Moneypoint Landfill	Mpt. Landfill Licence 605-03
FGD PULVERISED FUEL ASH	10 01 02	14003	Disposed		Moneypoint FGD Landfill	Mpt. Landfill Licence 605-03
FGD BY-PRODUCT	10 01 05	46678	Disposed		Moneypoint FGD Landfill	Mpt. Landfill Licence 605-03
CEMENT	10 13 01	502	Disposed		Moneypoint FGD Landfill	Mpt. Landfill Licence 605-03
COMPOST		30	Disposed		Moneypoint Landfill	Mpt. Landfill Licence 605-03
		<b>184574.0805</b>	<b>Tonnes</b>			

## 6 Energy and Water Consumption

Energy and water consumption figures for 2013 are shown in following Tables below.

### 6.1 Energy Consumption MW

Year	Coal	Distillate Oil	HFO	House Load
2010	3,756,872	3,441	63,086	400,620
2011	3,805,774	3,365	72,279	465,840
2012	4,795,411	1,679	73,217	506,270
2013	4,039,998	4,521	101,305	431,287

### 6.2 Energy Generated MW

Year	MW hrs Generated
2010	3,823,400
2011	3,882,000
2012	4,869,180
2013	4577112

### 6.3 Water Consumption m<sup>3</sup>

Breakdown of water usage (2013)	Quantity (m3)
Domestic Water	77590
Towns Water	2752
Fire fighting system	48433
Boiler Water	405000
FGD Abatement Water	429813
Other Water	417497
Recycled Water	90000

**Total Water used on site m3 1381085**

**Total water used from council supply m3 1291085**

**7. Environmental Incidents and Complaints**

**7.1 Complaints Summary**

Summary of complaints by category during 2013								
Category	Dust	Air	Odour	Noise	Water	Procedural	Misc.	Total
January	1							1
February								
March								
April	1							1
May	1							1
June								
July	1			1				2
August								
September								
October								
November								
December								
<b>TOTAL/YEAR</b>								<b>5</b>

**Note: Reports for all above have been forwarded to the EPA and closed out.**

**7.2 Incidents Summary**

There was one incidents of significant environmental impact on site in 2013, there were a number of environmental exceedences as per the ELV's set out in the IPPC licence a report for each of these was sent to the EPA throughout the 2013 year -up operation.

**7.3 Queries received Summary**

A number of queries were made to the station in relation to the operation and performance of the emissions abatement equipment installed on site; these queries were answered with information forwarded on. Site tours were given to a number of schools and colleges.

## **8.0 Management of the Activity**

### **8.1 Environmental Management Programme 2013**

#### **ENVIRONMENTAL MANAGEMENT PROGRAMME 2013**

<b><u>Description</u></b>		
<b>ENERGY MANAGEMENT</b>		
Lighting energy reduction-SG rooms	30%	Further works planned for 2014
Implement sustainability projects	70%	
Continue use of energy efficient devices	40%	Further works planned for 2014
Influence Energy use behaviour	100%	
Energy Audit	40%	Further audits planned
<b>WASTE MANAGEMENT</b>		
Maintain waste segregation to < 10 % Mixed waste	80%	Delays in waste shed construction. Commissioned Q1 2014.
Continue to investigate market for ash	80%	Discussions ongoing with potential customers.
Investigate market for FGD product	50%	Initial discussions have taken place.
New waste recycling centre	100%	
Packaging reduction	70%	Discussions ongoing with suppliers.
<b>Water Management</b>		
Water usage audit	100%	
Turbine Drains water recycle project	50%	Materials purchased. Installation 2014.
Continue project to repairs on Domestic water supply	100%	
<b>Air Emissions Management</b>		
Monitor new CEMS equipment	100%	
Proactive management of fugitive dust	80%	Equipment installed.
Optimise emissions abatement equipment	90%	
Preperation for IED	100%	Plant being proven at present.
<b>Misc</b>		
IPPCL Compliance		Ongoing
ISO 14001 compliance		Ongoing
Continue community project With local schools		Ongoing
Support SEAPT exercise		Ongoing
Maintain local forum		Ongoing

**8.2 Environmental Management Programme 2014**

**ENVIRONMENTAL MANAGEMENT PROGRAMME 2014**

**ENERGY MANAGEMENT**

- Lighting energy reduction projects in switch gear rooms
- Continue Biodiversity Project
- Influence Energy conservation use behaviour
- Lighting energy reduction projects in switch gear rooms

**WASTE MANAGEMENT**

- Maintain waste segregation to < 10 % Mixed waste
- Continue to Investigate market for Ash
- Continue to Investigate market for FGD product
- Repairs to Bunds identified in 2013 Inspection and 2014 Testing
- Drains Improvement works

**Water Management**

- Water usage audit
- Turbine Drains water recycle project

**Air Emissions Management**

- Monitor New CEMS equipment
- Proactive management of fugitive dust
- Abatement Plant Availability Improvement Project

**Misc**

- IPPCL Compliance
- ISO 14001 compliance
- Continue community project With local schools
- Support SEAPT
- Maintain Local Forum

**9.0 PER Report for 2013**

**Facility Identification**

Name	ESB Moneypoint
IPC Register Number	605-03

Reporting Period	1 <sup>st</sup> January - 31 <sup>st</sup> December 2013
National Grid Reference	E 103555 N 151533
Employee No.	237

### **Pollutant Summary**

Pollutant Name	Output to Air (tonnes)			
	NERP Data			
	A1-1	A1-2	A1-3	Total
Sulphur Dioxide (SO <sub>2</sub> )	1682.6	4279.1	1201.5	
Nitrogen Oxides (as NO <sub>2</sub> )	2004.7	1758.7	1128.1	
Carbon Dioxide	See total	See total	See total	3,885,991
Particulate	77.6	133.8	13	

### **NCV of fuels used Moneypoint**

Year	Coal NCV MJ/kg	HFO NCV MJ/kg	LFO NCV MJ/kg
2013	24.65	40.43	43.31
2012	24.69	40.60	43.31
2011	24.67	40.67	43.31
2010	24.73	40.48	43.31

**Estimated Heavy Metals Emission for Moneypoint in 2013 based on:**

- Fuel burn in 2013 and KEMA test results in 2003
- E'on Testing carried out in conjunction with the acceptance tests for the NOx and SOx abatement equipment
- Further station testing carried out during the operation of the plant throughout 2010

Heavy metals emissions are conservatively based on results of a 2003 study carried out by KEMA, this calculation methodology is utilised at periods where no emissions abatement is being carried out. For all other periods in the plants operation additional data will be used in the calculation methodology used for emissions reporting. Because of the new emissions abatement equipment the heavy metals emissions have been reduced partially due to the increased efficiency of the bag filtration system employed in the SOx abatement plant but also due to the chemical reactions involved in both the NOx SCR process and the SOx FGD process .

To be updated

<b>Trace Element</b>	<b>Emission kg/yr</b>
<b>As</b>	<b>26.1</b>
<b>B</b>	<b>18615.4</b>
<b>Cd</b>	<b>1.4</b>
<b>Cr</b>	<b>28.4</b>
<b>Cu</b>	<b>15.4</b>
<b>Hg</b>	<b>13.3</b>
<b>Mo</b>	<b>10.9</b>
<b>Ni</b>	<b>26.8</b>
<b>Pb</b>	<b>11.8</b>
<b>Se</b>	<b>691.4</b>
<b>V</b>	<b>94.3</b>
<b>Zn</b>	<b>105.6</b>

## **10.0 Licence Specific Reports**

### **10.1 Noise Monitoring Reports**

All results of these tests show that the station is clearly compliant with the requirements of its noise IPPCL set at (Leq30) 55db Day and 45db Night.

Summary of report at end of AER

### **10.2 Report on List I and List II Substance Reductions**

The use of hydrazine for water treatment was replaced with an alternative Carbohydrazide based product in 2011 thereby removing the list II substance from site.

### **10.3 Review of Environmental Liabilities Insurance Cover**

Environmental liabilities Risk assessment was submitted to the EPA in September of 2012.

### **10.4 Bund Testing**

Moneypoint completed year three of the three yearly cycles of bund tests in 2013 and all repairs identified are on a programme for completion in 2014.

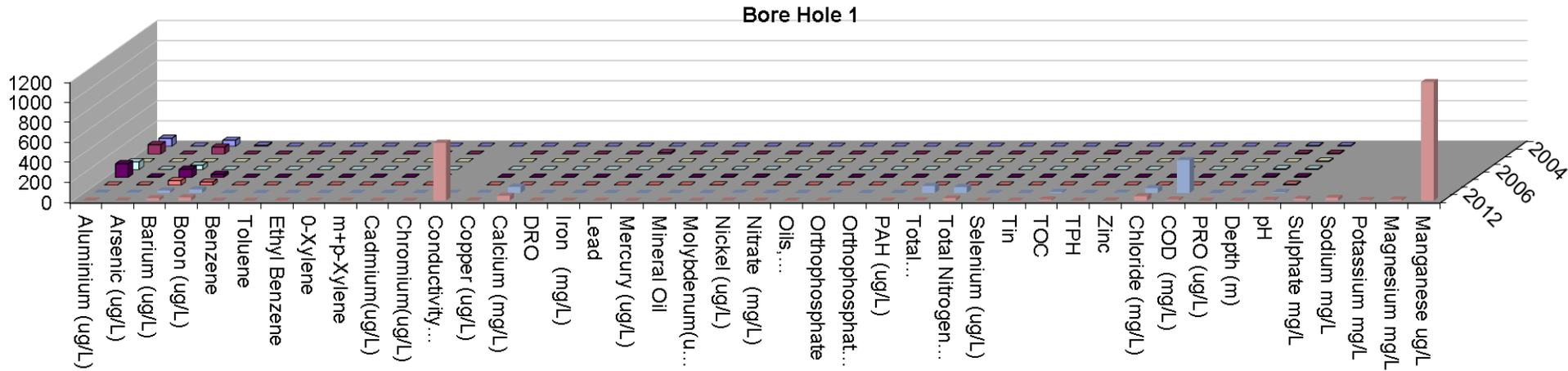
Future testing will use the guidance form provided by the agency.

### **10.5 Tank and Pipeline Test & Inspection Report**

Drains survey completed in 2012, a number of drain sections were identified as requiring repair work and this repair work will be carried out during 2014

### 10.6 Groundwater Monitoring

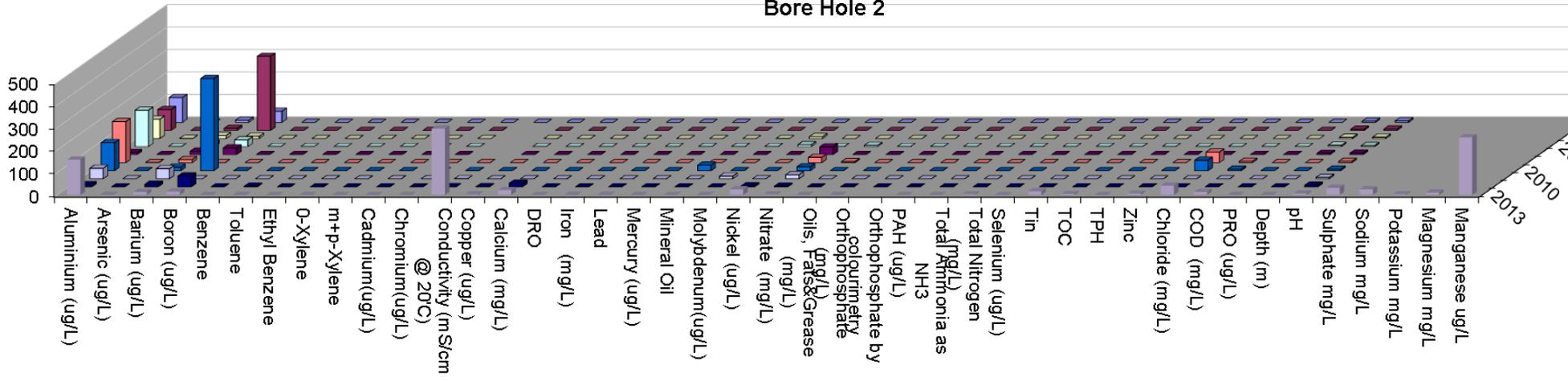
Borehole one  
 Location; North perimeter of ASA  
 Historic analysis results;



Comments; Bore hole is showing indications of ground water contamination, site location is to the north west of the ASA an area of the site where operations have ceased for a number of years. High levels of phosphate and ammonia were detected.

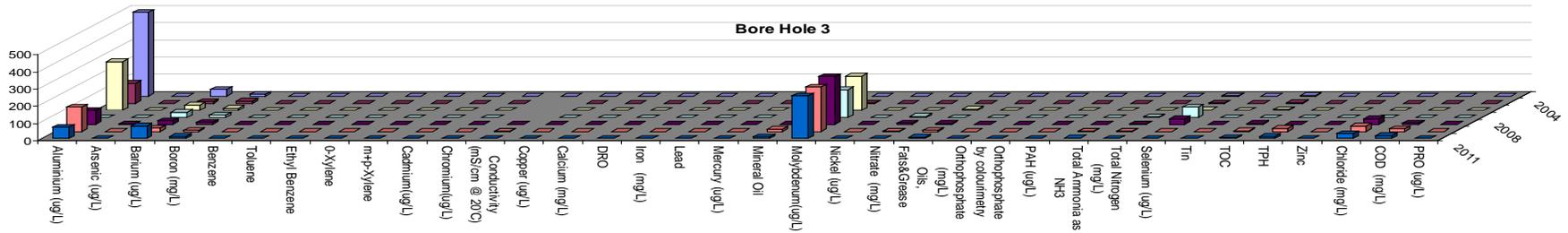
Borehole two  
 Location; North eastern side of ASA  
 Historic analysis results;

Bore Hole 2



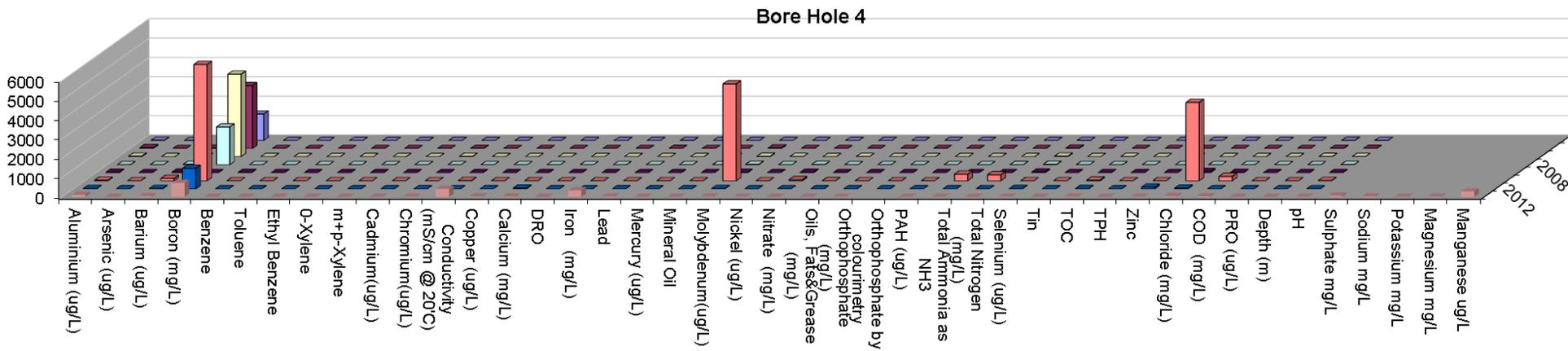
Comments; ??? Manganese – query with JW - All analysis results within guideline values

Borehole three  
 Location; Adjacent to BH 2  
 Historic analysis results;



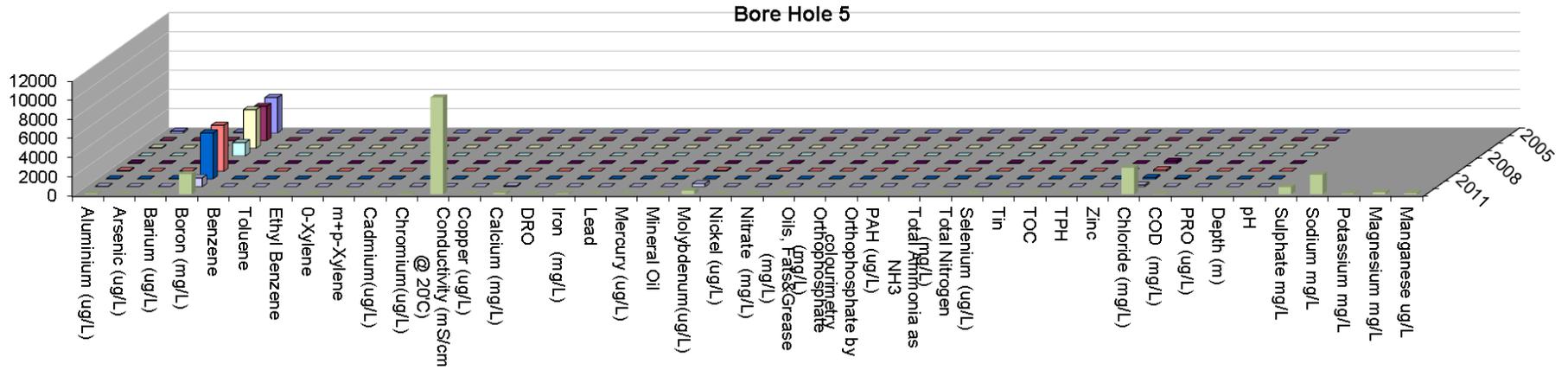
Comments; Chloride and Ammonia levels are marginally above guideline limits. Suggested saline influence. Borehole no longer accessible.

Borehole four  
 Location; South perimeter of ASA  
 Historic analysis results;



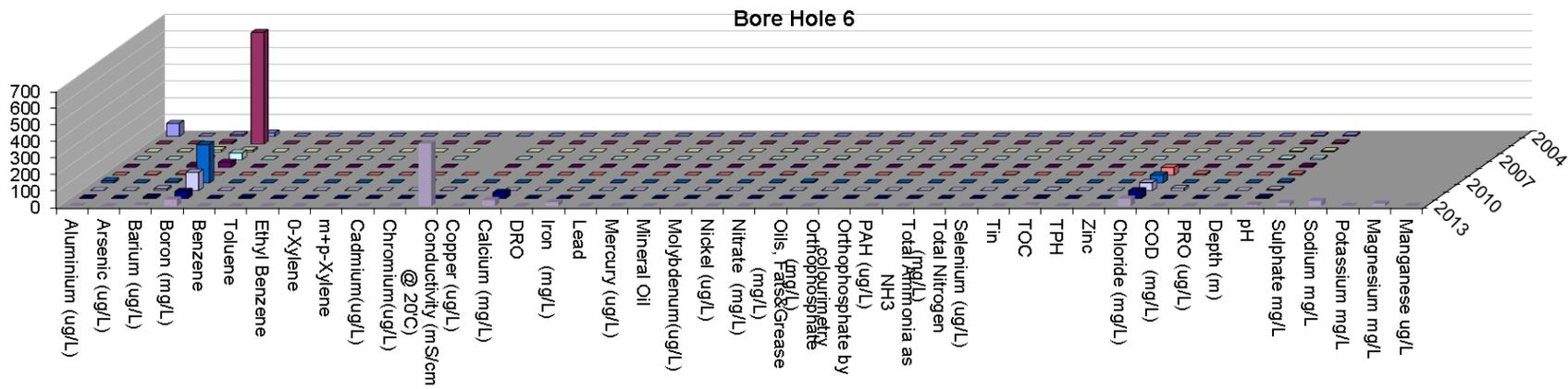
Comments; Boron and chloride are above guideline limits, this is indicative of a saline influence.

Borehole five  
 Location; Outside the ASA adjacent to BH4  
 Historic analysis results;



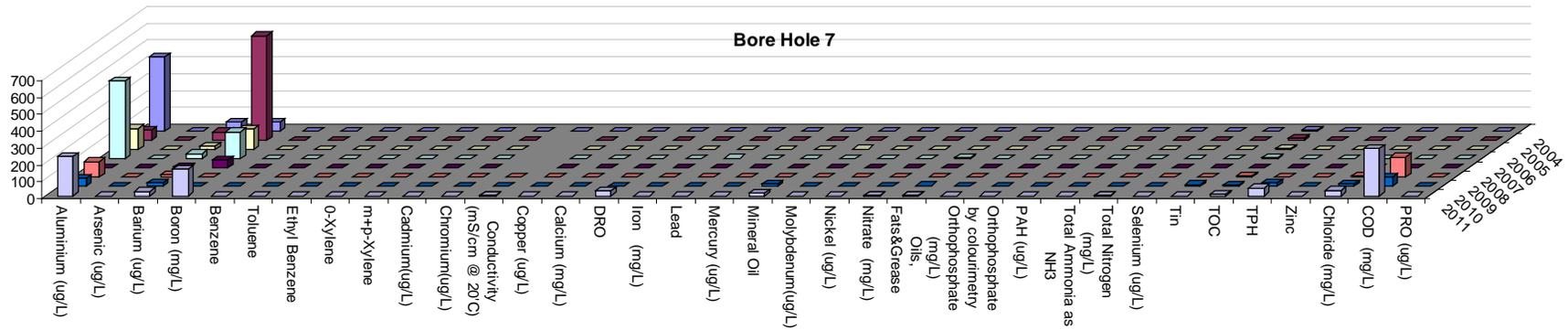
Comments; Boron and chloride are above guideline limits, this is indicative of a saline influence.

Borehole six  
 Location; North area within ASA  
 Historic analysis results;



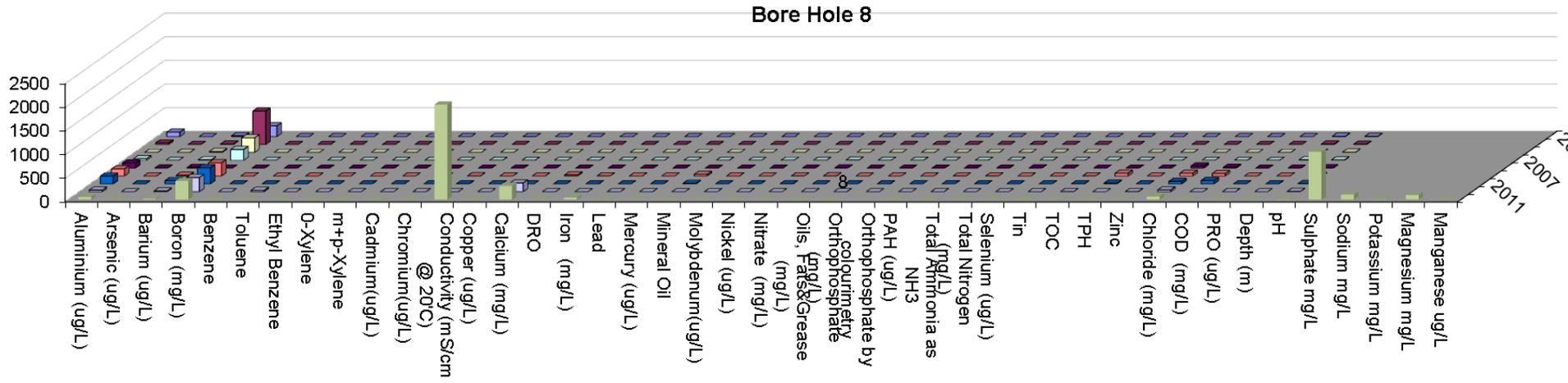
Comments; Chloride are above guideline limits

Borehole seven  
 Location; Within 400kv electrical compound  
 Historic analysis results;



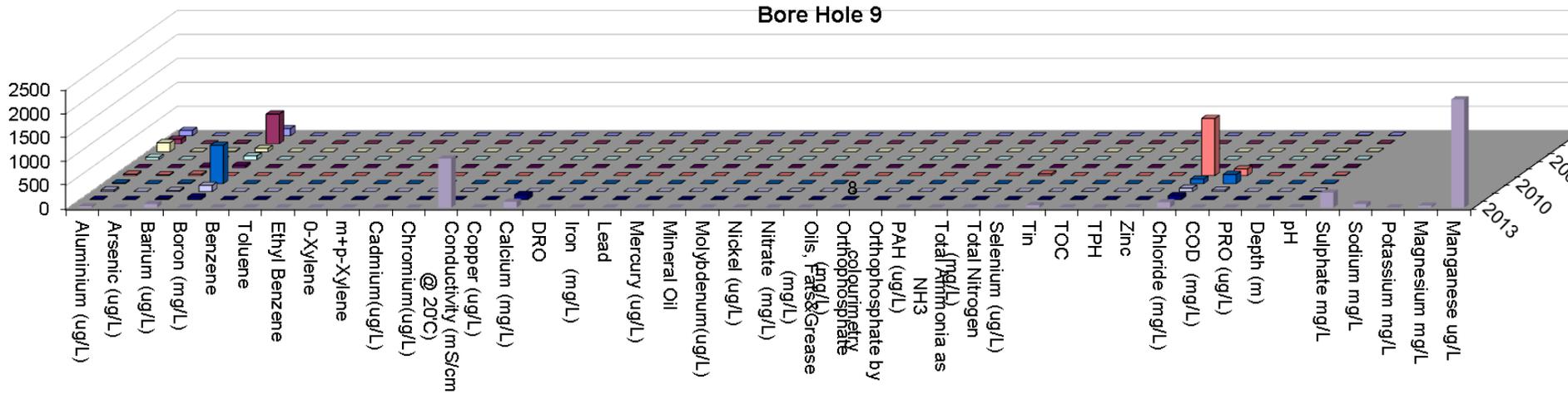
Comments; Borehole no longer accessible.

Borehole eight  
 Location; West of FGD landfill area A  
 Historic analysis results;



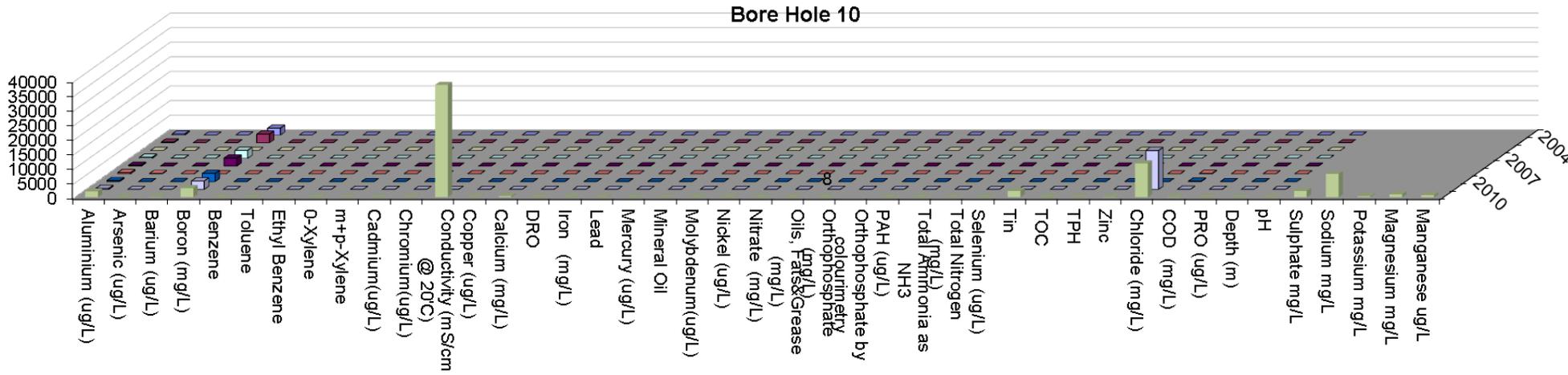
Comments; Chloride levels above guideline limits

Borehole nine  
 Location; South east of the site adjacent to foreshore  
 Historic analysis results;



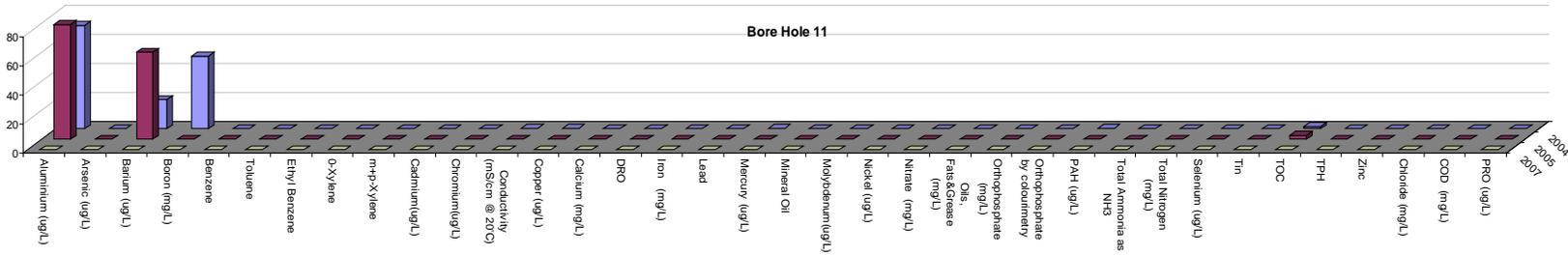
Comments; Chloride levels above guideline limits

Borehole ten  
 Location; Under coal transfer towers to the south east of the site.  
 Historic analysis results;



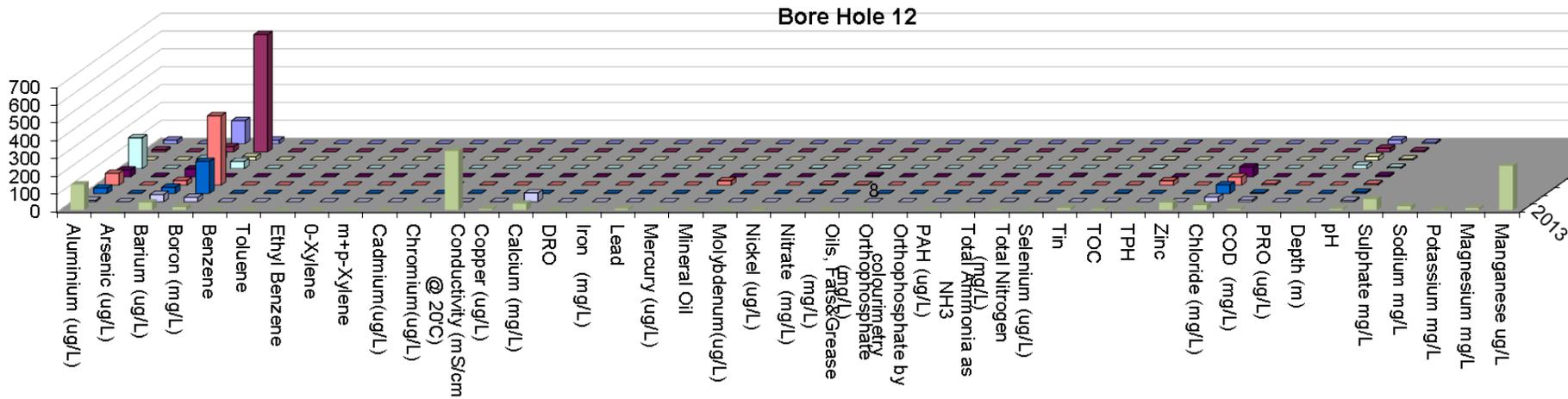
Comments; Bore hole provided no sample for 2012

Borehole eleven  
 Location; North of Stack A1-2  
 Historic analysis results;



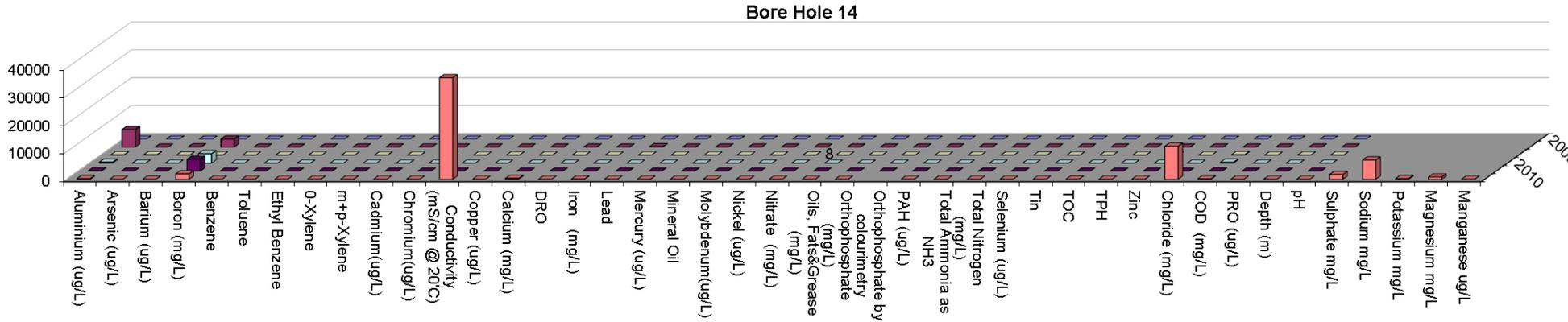
Comments; Borehole no longer available

Borehole twelve  
 Location; Contractor lay-down area to the west of the main station  
 Historic analysis results



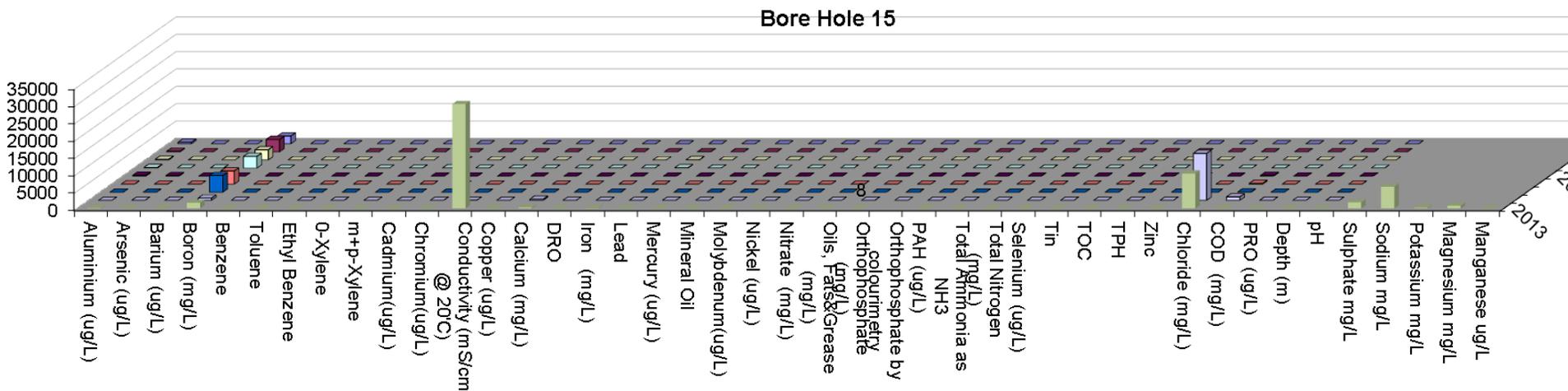
Comments; Chloride is above guideline limits

Borehole fourteen  
 Location; At the foreshore directly in front of the main station  
 Historic analysis results;



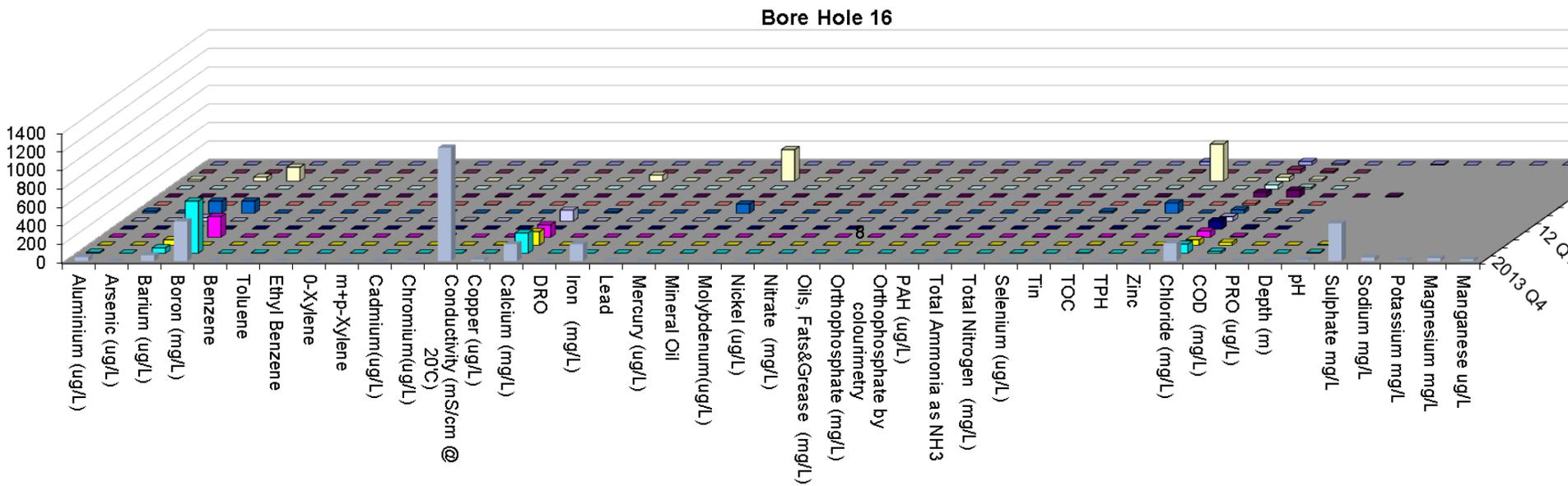
Comments; No sample available in 2012

Borehole fifteen  
 Location; Carpark beside main canteen  
 Historic analysis results;



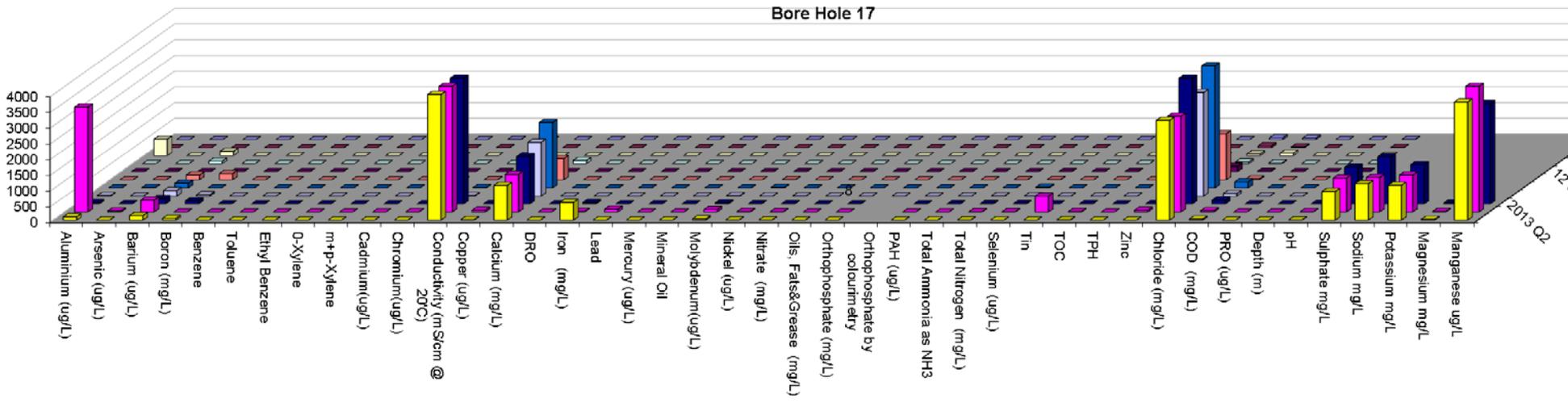
Comments; Chloride is above guideline limits

Borehole sixteen  
 Location; North west of FGD landfill area A  
 Historic analysis results;



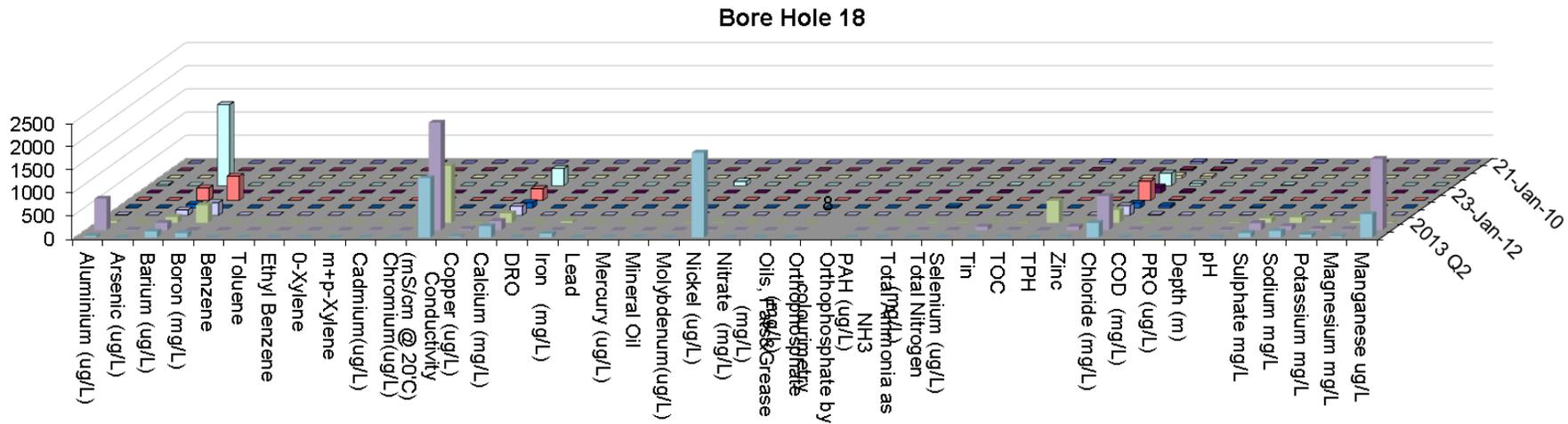
Comments; Chloride is above guideline limits

Borehole seventeen  
 Location; North area of FGD landfill area A  
 Historic analysis results;



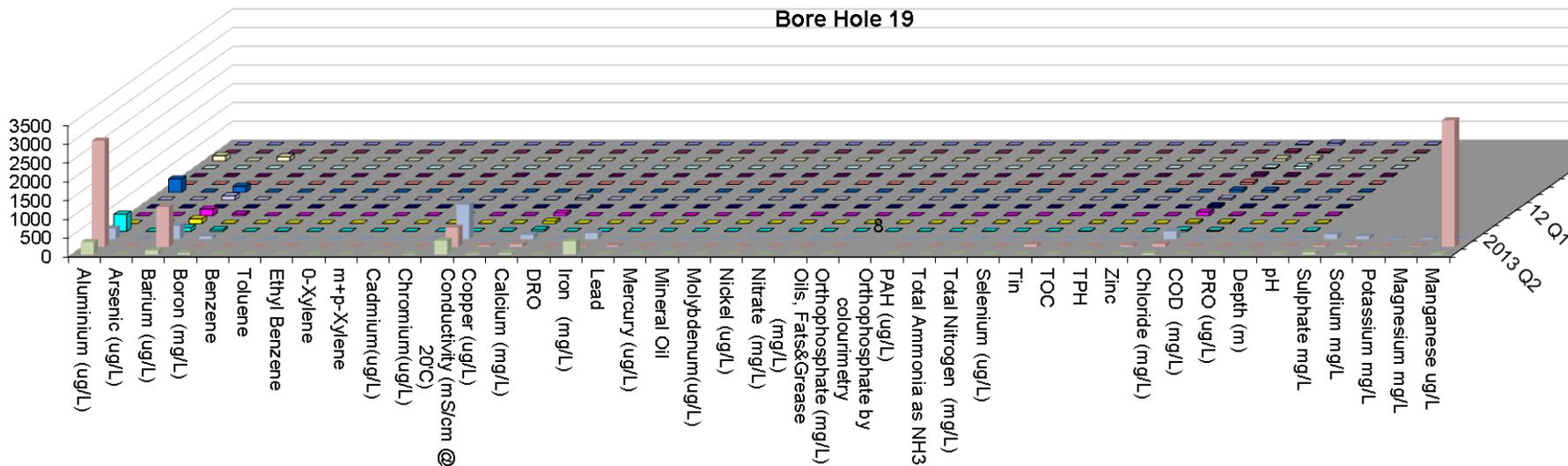
Comments; Chloride is above guideline limits

Borehole eighteen  
 Location; North west of FGD landfill area A  
 Historic analysis results;



Comments; Chloride is above guideline limits

Borehole nineteen  
 Location; East of FGD landfill area A  
 Historic analysis results;



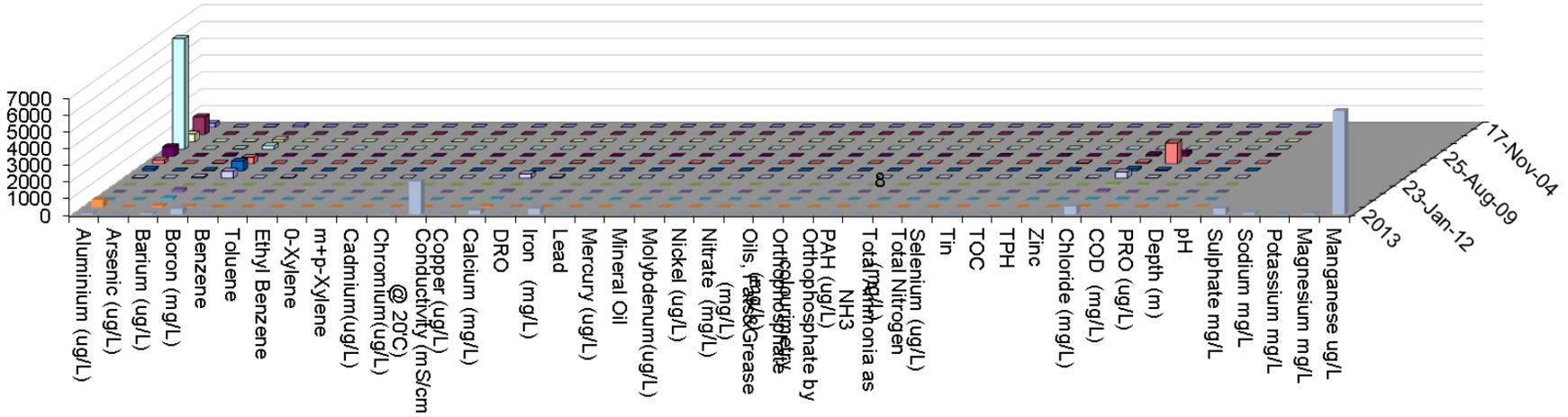
Comments; Alluminium and Chloride are above guideline limits

Borehole twenty-one

Location; Beside contractors building to the east of the coal stocks

Historic analysis results;

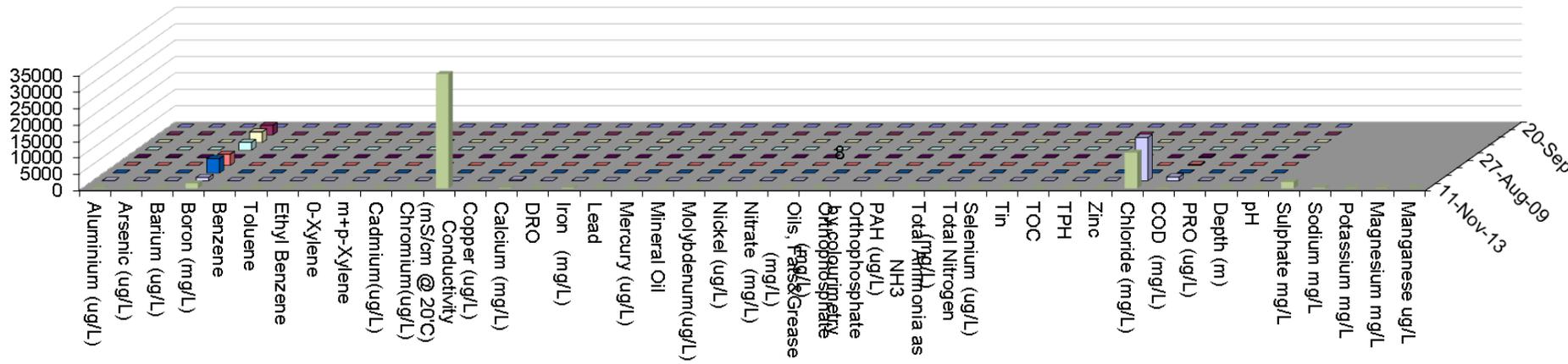
Bore Hole 21



Comments; Chloride levels are above guideline limits

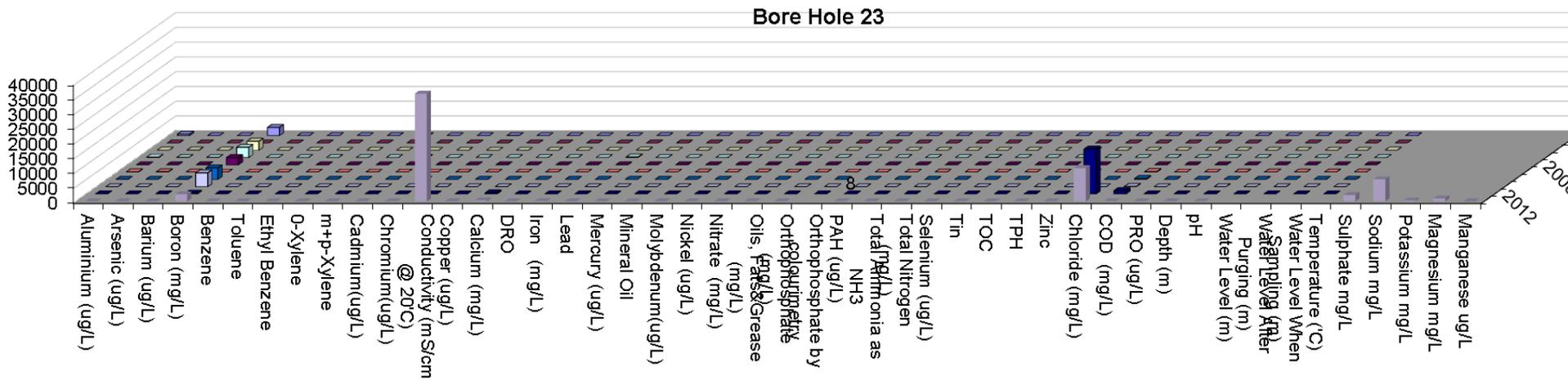
Borehole twenty two  
 Location; The south of the site beside the foreshore  
 Historic analysis results;

Bore Hole 22



Comments; Boron, chloride and conductivity are above guideline limits. Possible saline influence.

Borehole twenty three  
 Location; Foreshore to the south west of the station  
 Historic analysis results;

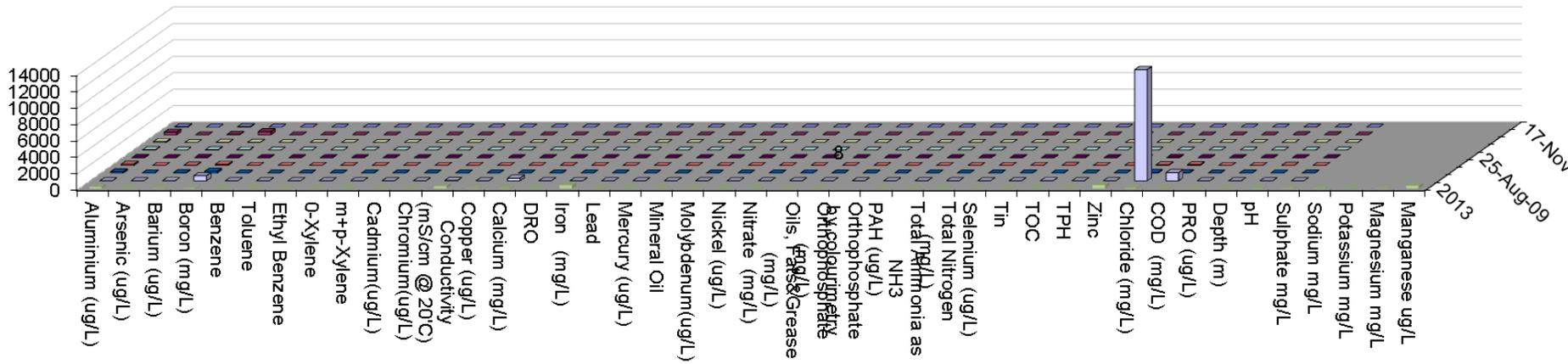


Comments; Boron, chloride and conductivity are above guideline limits. Possible saline influence.

Borehole twenty six  
 Location; Foreshore to the south west of the station  
 Historic analysis results;



Bore Hole 27A



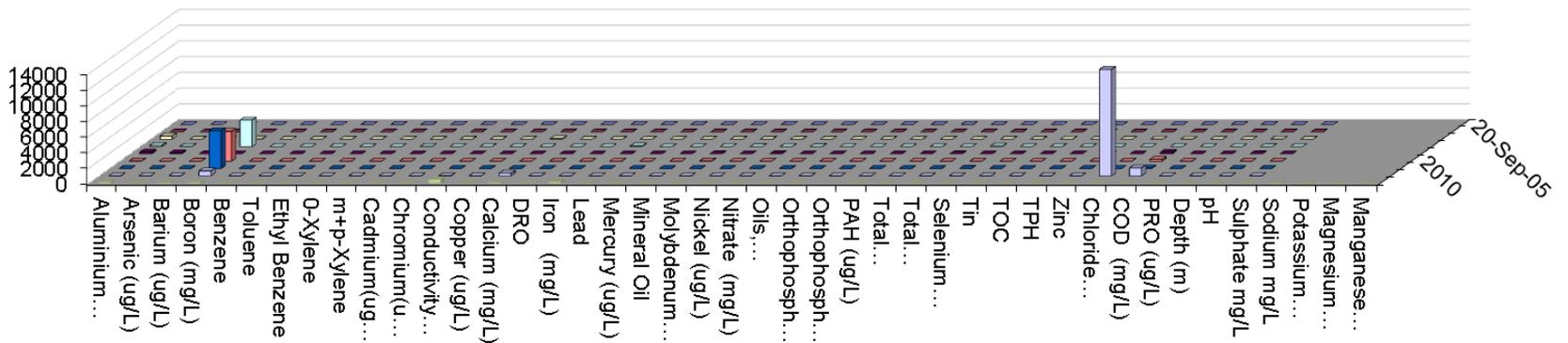
Comments; Chloride and conductivity are above guideline limits. Possible saline influence.

Borehole twenty eight

Location; Site lay down area to the west of the station

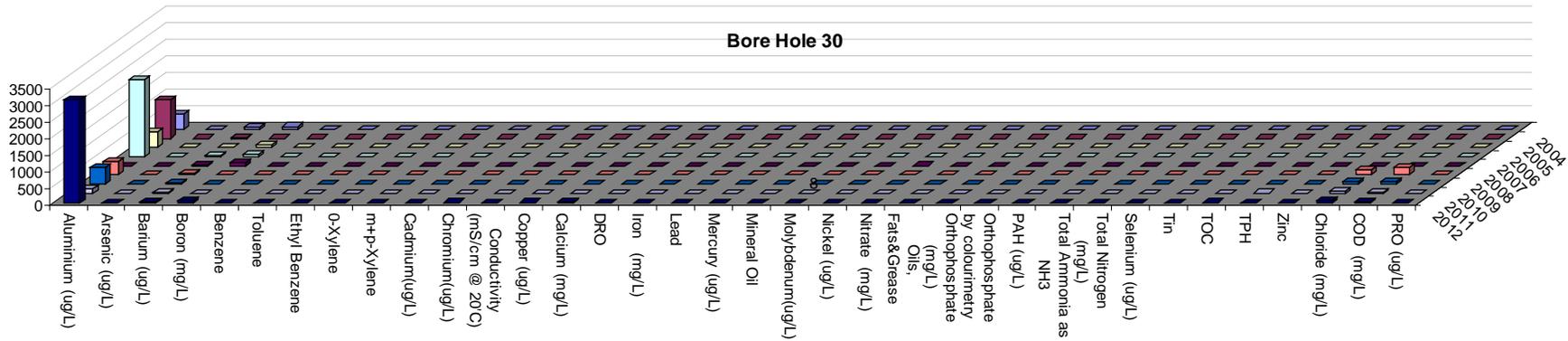
Historic analysis results;

Bore Hole 28



Comments; Chloride and conductivity are above guideline limits. Possible saline influence.

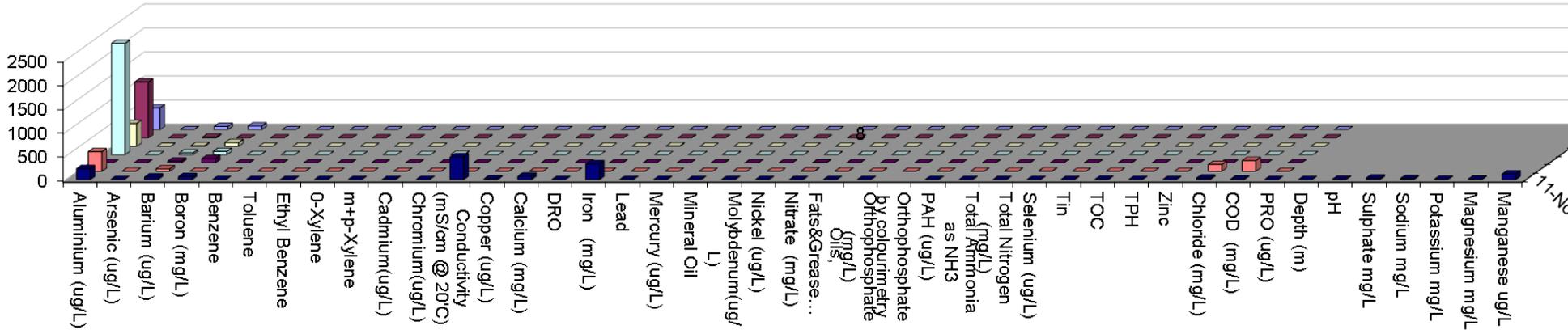
Borehole thirty  
 Location; Western perimeter of ASA  
 Historic analysis results;



Comments; No results for 2013. Aluminium and chloride levels are above guideline limits.

Borehole thirty one  
 Location; Western perimeter of ASA  
 Historic analysis results;

Bore Hole 31



**Borehole Analysis 2013**

Borehole	BH 1	BH 2	BH 4	BH 5	BH 6
Aluminium (ug/L)	1.495	156.7	106.4	65.46	2.034
Arsenic (ug/L)	1.44	0.468	0.302	0.571	<0.10
Barium (ug/L)	23.74	12.89	34.61	26.58	5.049
Boron (ug/L)	32.65	15.02	721.3	2107	39.79
Cadmium(ug/L)	<0.09	0.103	0.098	0.29	<0.09
Chromium(ug/L)	<2.14	<2.14	11.21	16.97	<2.14
Conductivity (mS/cm @ 20'C)	577	295	414	10100	376
Copper (ug/L)	0.234	2.267	16.76	10.61	<0.11
Calcium (mg/L)	48.2	21.44	20.22	134.3	36.85
Iron (mg/L)	0.1456	0.208	339.3	63.86	23.62
Lead(ug/l)	<0.02	0.603	12.27	0.643	<0.02
Mercury (ug/L)	<0.04	<0.04	<0.04	<0.04	<0.04
Molybdenum(ug/L)	<5	<5	11.85	376.3	<5
Nickel (ug/L)	0.234	24.47	2.033	0.363	<0.14
Nitrate (mg/L)	<0.110	2.310	<0.110	4.780	<0.110
Orthophosphate	0.102	<0.005	2.283	0.006	0.005
PAH (ug/L)	<0.10	<0.10	<0.10	<0.10	<0.10
Total Ammonia as NH3 (mg/l)	2.246	<0.01	0.011	0.304	<0.01
Total Nitrogen (mg/L)	22.96	2.87	1.12	5.37	1.21
Selenium (ug/L)	<0.47	<0.47	3.586	8.08	<0.47
Tin	<2.8	15.85	<2.8	<2.8	<2.8
TOC	10.90	3.87	12.0	6.43	4.40
TPH	<1	<1	<1	<1	<1
Zinc	1.153	5.838	2.426	<0.41	<0.41
Chloride (mg/L)	45.51	41.41	42.22	2778.03	45.94
COD (mg/L)	11	13	30	30	<5
pH	6.9	6.1	6.9	6.7	7.2
Sulphate mg/L	19.07	31.84	61.09	750.32	18.96
Sodium mg/L	29.31	24.5	27.09	2048	32.49
Potassium mg/L	6.125	2.849	7.217	77.31	2.06
Magnesium mg/L	11.66	9.988	12.45	204.6	15.25
Manganese ug/L	1183	256.4	282.4	115	1.175

**Borehole Analysis 2013**

Borehole	BH 8	BH 9	BH 10	BH 12	BH 14
Aluminium (ug/L)	57.34	27.48	1958	143.7	217.6
Arsenic (ug/L)	<0.10	<0.10	11.23	0.757	1.267
Barium (ug/L)	18.56	75.67	55.63	42.94	32.855
Boron (ug/L)	394.5	<4.33	3090	17.09	1964
Cadmium(ug/L)	<0.09	<0.09	0.096	<0.09	<0.09
Chromium(ug/L)	<2.14	<2.14	3.522	<2.14	<2.14
Conductivity (mS/cm @ 20'C)	2010	1020	38500	332	36400
Copper (ug/L)	0.205	0.551	25.2	6.775	0.54
Calcium (mg/L)	292.6	121.1	385.3	36.28	317.5
Iron (mg/L)	40.18	0.025	6.351	0.6488	59.91
Lead(ug/l)	0.032	0.06	19.79	7.185	<0.02
Mercury (ug/L)	<0.04	<0.04	<0.04	<0.04	<0.04
Molybdenum(ug/L)	<5	<5	9.358	<5	11.48
Nickel (ug/L)	0.254	1.003	4.254	1.412	1.412
Nitrate (mg/L)	<0.110	<0.110	<0.110	0.440	<0.110
Orthophosphate	<0.005	<0.005	0.019	<0.005	0.018
PAH (ug/L)	<0.10	<0.10	<0.10	<0.10	<0.10
Total Ammonia as NH3 (mg/l)	0.021	0.011	0.341	0.055	0.319
Total Nitrogen (mg/L)	1.18	<1.00	<1.00	1.01	1.68
Selenium (ug/L)	1.831	<0.47	0.765	<0.47	0.856
Tin	<2.8	49.15	2158	10.78	<2.8
TOC	2.73	3.70	31.5	4.13	19.7
TPH	1318.96 ug/L	<1	<1	<1	4307.98 ug/L
Zinc	<0.41	7.802	49.19	42.12	0.54
Chloride (mg/L)	66	109.34	11583.94	27.05	11841.9
COD (mg/L)	<5	<5	52	6	165
pH	7.0	7.0	7.3	7.0	7.7
Sulphate mg/L	1011.73	314.35	2149.88	61.37	1715.69
Sodium mg/L	108.7	72.28	7950	21.92	6891
Potassium mg/L	4.855	3.551	315.2	2.98	238.1
Magnesium mg/L	97.18	39.96	951.3	12.27	804.7
Manganese ug/L	1.931	2256	688.5	248.5	4.109

**Borehole Analysis 2013**

Borehole	BH 15	BH 16 Q2	BH 16 Q3	BH 16 Q4
Aluminium (ug/L)	116.4	8.417	326.1	44.8
Arsenic (ug/L)	0.5	<0.10	1.298	<0.10
Barium (ug/L)	14.54	69.92	129.5	62.94
Boron (ug/L)	1590	397	154.9	428.9
Cadmium(ug/L)	<0.09	<0.09	0.388	<0.09
Chromium(ug/L)	<2.14	<2.14	<2.14	2.163
Conductivity (mS/cm @ 20'C)	30100	1150	725	1225
Copper (ug/L)	13.19	0.644	9.292	14.9
Calcium (mg/L)	256.9	166.70	101.4	182.5
Iron (mg/L)	71.4	9.731	2.057	184.3
Lead(ug/l)	0.396	<0.02	3.42	1.172
Mercury (ug/L)	<0.04	<0.04	<0.04	<0.04
Molybdenum(ug/L)	<5	<5	<5	<5
Nickel (ug/L)	0.239	0.743	4.032	1.503
Nitrate (mg/L)	1.110	<0.110	<0.110	<0.110
Orthophosphate	0.037	<0.005	<0.005	<0.005
PAH (ug/L)	<0.10	<0.10	<0.10	<0.10
Total Ammonia as NH3 (mg/l)	0.253	0.068	0.17	0.199
Total Nitrogen (mg/L)	1.67	<1.00	<1.00	<1.00
Selenium (ug/L)	<0.47	0.96	0.531	<0.47
Tin	3.634	<2.8	4.37	<2.8
TOC	8.71	5.38	4.37	3.73
TPH	<1	<1	1442.09 ug/L	<1
Zinc	2.18	<0.41	26.62	0.549
Chloride (mg/L)	10076.18	166.14	73.86	193.35
COD (mg/L)	25	<5	11	<5
pH	6.9	7.1	6.8	7.0
Sulphate mg/L	1716.47	240.34	168.85	407.41
Sodium mg/L	6275	55.52	33.51	38.47
Potassium mg/L	208.2	8.547	5.36	6.393
Magnesium mg/L	780.7	35.89	18	31.37
Manganese ug/L	2.426	8.543	2444	19.45

**Borehole Analysis 2013**

Borehole	BH 17 Q2	BH 17 Q3	BH 17 Q4	BH 18 Q2	BH 18 Q3	BH 18 Q4
Aluminium (ug/L)	48.27	3342	106.2	35.27	680.3	34.67
Arsenic (ug/L)	0.58	35.43	0.173	0.791	5.779	<0.10
Barium (ug/L)	172	380.6	141.2	125.8	157	129
Boron (ug/L)	99.36	<4.33	56.15	380.1	<4.33	92.47
Cadmium(ug/L)	0.249	0.456	0.157	<0.09	0.38	0.428
Chromium(ug/L)	<2.14	6.09	<2.14	<2.14	<2.14	<2.14
Conductivity (mS/cm @ 20'C)	16620	13340	13900	1229	2320	1283
Copper (ug/L)	0.76	56.84	12.47	2.65	23.31	14.91
Calcium (mg/L)	1505	1203	1106.0	202.4	197.2	246.10
Iron (mg/L)	47.11	19.59	564.1	32.83	1.644	84.19
Lead(ug/l)	<0.02	91.12	1.588	0.102	7.377	1.246
Mercury (ug/L)	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Molybdenum(ug/L)	34.27	75.84	43.01	5.77	<5	<5
Nickel (ug/L)	3.962	14.06	3.2	2.034	9.893	1832
Nitrate (mg/L)	4.670	8.640	3.710	0.800	1.330	1.310
Orthophosphate	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PAH (ug/L)	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Ammonia as NH3 (mg/l)	1.161	0.823	1.469	<0.01	0.012	0.015
Total Nitrogen (mg/L)	6.39	10.35	5.40	1.93	1.9	1.88
Selenium (ug/L)	6.385	9.727	1.337	3.162	1.376	0.642
Tin	<2.8	509.5	<2.8	<2.8	73.57	<2.8
TOC	5.55	14	8.36	4.82	4.34	5.16
TPH	<1	<1	<1	475.31	<1	<1
Zinc	5.74	56.88	<0.41	<0.41	75.73	5.049
Chloride (mg/L)	5257	3045.1	3171.76	274.2	735.04	315.91
COD (mg/L)	124	44	35	6	13	<5
pH	6.8	6.8	6.3	7.1	6.9	7.0
Sulphate mg/L	1167.03	1083.69	908.85	94.75	150.01	96.36
Sodium mg/L	1498	1101.01	1159	114.1	84.41	141.8
Potassium mg/L	1251	1179	1111	54.74	26.74	65.84
Magnesium mg/L	34.05	18.04	24.05	30.25	19.79	23.59
Manganese ug/L	3195	8233	3762	12.7	1538	504.2

**Borehole Analysis 2013**

Borehole	BH 19 Q2	BH 19 Q3	BH 19 Q4	BH 21	BH 22
Aluminium (ug/L)	279	2838	341.8	68.71	70
Arsenic (ug/L)	0.619	5.553	<0.10	<0.10	0.346
Barium (ug/L)	354.8	1065	118.6	68.38	14.46
Boron (ug/L)	72.24	<4.33	45.29	338.6	1496
Cadmium(ug/L)	<0.09	0.53	<0.09	0.117	<0.09
Chromium(ug/L)	<2.14	<2.14	12.47	21.7	<2.14
Conductivity (mS/cm @ 20'C)	922	517	376	1968	34900
Copper (ug/L)	2.276	35.84	18.18	10.61	7.774
Calcium (mg/L)	116.2	71.99	44.82	248.6	90.59
Iron (mg/L)	159.6	16.89	358.8	348	176.8
Lead(ug/l)	0.191	39.37	1.5	1.157	0.406
Mercury (ug/L)	<0.04	<0.04	<0.04	<0.04	<0.04
Molybdenum(ug/L)	<5	<5	<5	<5	<5
Nickel (ug/L)	0.41	8.728	<0.14	2.969	<0.14
Nitrate (mg/L)	1.420	<0.110	0.690	1.780	0.110
Orthophosphate	0.009	<0.005	<0.005	<0.005	0.014
PAH (ug/L)	<0.10	<0.10	<0.10	<0.10	<0.10
Total Ammonia as NH3 (mg/l)	<0.01	<0.01	<0.01	1.603	0.285
Total Nitrogen (mg/L)	2.54	<1.00	1.25	3.66	<1.00
Selenium (ug/L)	0.809	1.067	<0.47	<0.47	<0.47
Tin	<2.8	68.37	<2.8	<2.8	8.208
TOC	3.75	4.87	7.18	5.89	13.80
TPH	<1	<1	<1	<1	<1
Zinc	<0.41	43.1	<0.41	<0.41	<0.41
Chloride (mg/L)	206.94	82.14	36.14	477.18	10898.83
COD (mg/L)	<5	7	<5	<5	40
pH	7.5	7.4	7.7	6.5	7.7
Sulphate mg/L	125	34.54	60.95	361.79	1943.13
Sodium mg/L	75.05	35.21	24.46	100.8	164.3
Potassium mg/L	9.335	5.523	3.532	9.653	33.4
Magnesium mg/L	27.17	16.67	10.15	47.22	50.16
Manganese ug/L	3.281	3378	20.72	6161	1.804

**Borehole Analysis 2013**

Borehole	BH 23	BH 26	BH 27	BH 28	BH 31
Aluminium (ug/L)	15.33	92.92	188.5	119	230.5
Arsenic (ug/L)	0.721	0.33	<0.1	<0.1	<0.1
Barium (ug/L)	10.24	15.3	16.98	64.61	53.09
Boron (ug/L)	2380	3292	52.13	103.7	63.31
Cadmium(ug/L)	<0.09	0.094	<0.09	0.099	<0.09
Chromium(ug/L)	<2.14	3.121	3.64	5.529	<2.14
Conductivity (mS/cm @ 20'C)	36500	36600	271	462	472
Copper (ug/L)	9.125	13.24	12.74	8.864	13.72
Calcium (mg/L)	291.8	308.9	16.79	88.54	71.67
Iron (mg/L)	68.2	159	376.9	181.5	328.4
Lead(ug/l)	<0.02	0.791	1.027	0.644	0.814
Mercury (ug/L)	<0.04	<0.04	<0.04	<0.04	<0.04
Molybdenum(ug/L)	<5	6.689	<5	<5	<5
Nickel (ug/L)	<0.14	0.672	1.031	0.824	1.092
Nitrate (mg/L)	<0.110	<0.110	0.940	0.440	<0.110
Orthophosphate	0.012	0.006	<0.005	<0.005	<0.005
PAH (ug/L)	<0.10	<0.10	<0.10	<0.10	<0.10
Total Ammonia as NH3 (mg/l)	0.355	0.339	0.029	0.114	0.115
Total Nitrogen (mg/L)	<1.00	<1.00	1.50	1.00	<1.00
Selenium (ug/L)	<0.47	0.624	<0.47	<0.47	<0.47
Tin	6.265	7.32	<2.8	<2.8	<2.8
TOC	1.43	6.72	2.90	4.05	3.87
TPH	<1	<1	<1	<1	<1
Zinc	<0.41	<0.41	411	<0.41	<0.41
Chloride (mg/L)	11242.03	11236.19	58.12	36.7	34.52
COD (mg/L)	20	35	<5	<5	9
pH	7.8	7.6	6.4	7.3	7.0
Sulphate mg/L	2138.78	2180.24	10.61	16.78	33.31
Sodium mg/L	7446	7606	23.35	19.19	20.36
Potassium mg/L	247.3	255	5.019	13.31	4.602
Magnesium mg/L	949.3	962.3	6.236	5.143	10.9
Manganese ug/L	1.98	3.006	314.8	10.01	116.5

## 10.7 Annual Landfill Status Report

<b>Landfill Name</b>	<b>Ash Storage Area</b>
<b>Licence Number</b>	<b>605-03</b>
<b>Landfill Location</b>	<b>Moneypoint, Kilrush, Co Clare</b>
<b>Owner and Operator</b>	<b>ESB</b>
<b>Area occupied by waste</b>	<b>387,000 m<sup>2</sup></b>
Volume and composition of waste deposited in the preceding year	Pulverised Fuel Ash ~ 105,580 tonnes Furnace Bottom Ash ~ 16,736 tonnes
<b>Methods of Depositing</b>	<b>Fill, Compact and Cover</b>
Time and duration of depositing	Varies: minimum 8AM to 5PM 5 days a week maximum 8AM to 8PM 7 days a week
Total Accumulated quantities of waste deposited	2.854 m <sup>3</sup> (estimated)
Stability Checks Undertaken	None required
Results of Monitoring Programme:	
a) Surface Water Monitoring	Refer to Section 3.1
b) Groundwater Monitoring	Refer to Section 10.6
c) Leachate Monitoring	Refer to Section 3.2
d) Waste Stability ,levels, Void Monitoring	None
e) Meteorological Monitoring	2013 Rainfall 930 mm
f) Dust Monitoring – in ASA	51.7 mg/m <sup>2</sup> /day (yearly ave)
Summary of Monitoring Non Compliance & Corrective Actions	Refer to Section 2.3 and 7.1
Revisions to Landfill Operational Plan	None in 2013
Summary of any developmental / remedial works carried out in the preceding year	
Calculated Remaining Capacity	145,000m <sup>3</sup>
Calculated final capacity of site	3 m <sup>3</sup> (estimated)
Year in which final capacity of site is expected to be reached	It is not possible to predict an exact date in which the ASA will reach capacity as ash markets dictate the level of ash storage
Progress on restoration of completed cells	In accordance with the current license a new restoration and closure plan for the completed cells will be produced.

### 10.8 FGD By-Product Landfill Status Report

<b>Landfill Name</b>	<b>FGD By-Product Landfill</b>
<b>Licence Number</b>	<b>605-03</b>
<b>Landfill Location</b>	<b>Moneypoint, Kilrush, Co Clare</b>
<b>Owner and Operator</b>	<b>ESB</b>
<b>Area occupied by waste</b>	<b>160,000 m<sup>2</sup></b>
Volume and composition of waste deposited in the preceding year	Pulverised Fuel Ash ~ 14,003 tonnes FGD By-Product ~ 46,678 tonnes Cement ~ 502 tonnes
Methods of Depositing	Fill, Compact and Cover
Time and duration of depositing	8AM to 5PM 5 to 7 days a week
Total Accumulated quantities of waste deposited	395,000 tonnes (estimated)
Stability Checks Undertaken	Report submitted for first sub-cell
Results of Monitoring Programme:	Bund containment layer sufficient
b) Groundwater Monitoring	Refer to Section 10.6
e) Meteorological Monitoring	2013 Rainfall 930 mm
f) Dust Monitoring – in FGD by-product landfill	69.8 mg/m <sup>2</sup> /day (yearly avg)
Summary of Monitoring Non Compliance & Corrective Actions	Refer to section 2.3 and 7.1
Revisions to Landfill Operational Plan	None in 2013
Summary of any developmental / remedial works carried out in the preceding year	Cell 1d has reached 90% capacity with work due to commence on final capping of the remainder of cell 1
Calculated Remaining Capacity	653,000 m <sup>3</sup> (for area A) and 3,000,000 m <sup>3</sup> (for area B)
Year in which final capacity of site is expected to be reached	2025

### 4.9 Review of Residuals Management Plan

The revised ELRA submitted to the EPA in January of 2014.

Appendix 1 Noise Report 2013

Meas	Date of Monitoring	Period	Start Time	Monitoring Location	Monitoring Location	LAeq	LA90	LA10	L <sub>Amax</sub>	L <sub>Amin</sub>	Tonal or Impulsive	If Tonal or Impulsive, was penalty applied?	Comments	Is site compliant with Noise Limits?
				On Site	NSL	dB	dB	dB	dB	dB				
Meas002	19/11/2013	Day	17:42	-	NSL1	49.7	41.6	54.1	64.4	38.7	No	-	Low level steady state background noise from the Power Station, occasional reversing sirens on site. HGV traffic on N67.	Yes
Meas006	19/11/2013	Eve	20:31	-	NSL1	47.1	38.8	50.4	63.9	36.5	No	-	Low level steady state background noise from the Power Station, occasional reversing sirens on site. HGV traffic on N67.	Yes
Meas007	19/11/2013	Night	22:02	-	NSL1	46.5	40.3	49.1	62.4	37.7	No	-	Low level steady state background noise from the Power Station, occasional reversing sirens on site. HGV traffic on N67. Foliage noise from increasing wind.	Yes
Meas003	19/11/2013	Day	18:19	-	NSL2	54.5	34.6	48.9	83.2	32.3	No	-	Power Station audible in traffic lulls as low level steady state background noise, busy traffic on N67 is dominant source.	Yes
Meas004	19/11/2013	Eve	19:03	-	NSL2	44.5	37.3	46.1	67.7	32.2	No	-	Power Station audible in traffic lulls as low level steady state background noise, busy traffic on N67 is dominant source.	Yes
Meas008	19/11/2013	Night	23:15	-	NSL2	52.2	48.2	54.8	66.8	45.6	No	-	Power Station audible in traffic lulls as low level steady state background noise, busy traffic on damp N67 is dominant source. Foliage noise is a significant source over Power Station noise from increasing wind.	Yes
Meas001	19/11/2013	Day	17:09	-	NSL3	55.3	46.4	57.3	79.4	41.5	No	-	Vanes on FGD plant within Power Station dominant source until turned off after 22 mins. After this, steady state low level noise from Power Station and occasional reversing sirens audible in site.	Yes
Meas005	19/11/2013	Eve	19:50	-	NSL3	49.7	40.4	53.6	70.7	36.6	No	-	Power Station audible in traffic lulls as low level steady state background noise, busy traffic on N67 is dominant source. Occasional reversing sirens audible on site.	Yes
Meas008	19/11/2013	Night	22:36	-	NSL3	47.4	41.4	50	64	38.9	No	-	Power Station audible in traffic lulls as low level steady state background noise, busy traffic on N67 is dominant source. Occasional reversing sirens audible on site. Foliage noise dominant to Power Station noise in increasing breeze.	Yes

## INTRODUCTION

Allegro Acoustics was retained by ESB – Moneypoint Power Station to undertake day, evening and night time environmental noise monitoring at three locations in the vicinity of Moneypoint Power Station in Kilrush, Co. Clare. Moneypoint Power Station is operational 24 hours per day, seven days per week when “on line” and generating power. Otherwise, the facility occasionally comes off line during which time it is shut down.

Environmental noise monitoring was carried out to determine if the power station is in compliance with the noise limits as applicable to the facility by the IPPC License P0605-03 and the EPA document NG4 (Reference 1).

The site on which the power station is located is bordered to the South and East by the River Shannon and to the West and North by agricultural lands.

## SCOPE OF WORKS

Noise monitoring was undertaken to verify compliance or otherwise with IPPC License P0605-03 for the facility. Cognisance was also paid to the methodologies and noise emission limits as outlined in Guidance Note for Noise: License Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) (Reference 1).

Noise monitoring was undertaken by Mr Barry Sheridan of Allegro Acoustics on the 19th of November 2013. This report presents the results of the noise monitoring and discusses the findings.

### Noise Monitoring Locations

Noise monitoring was undertaken at a total of three locations during day, evening and night time. The noise measurement locations are detailed in Table 1 and outlined on a schematic for the facility in Figure 1 below.

### Monitoring Points

- NSL1 North East of Power Station - Residential
- NSL2 North of Power Station - Residential
- NSL3 North East of Power Station at Y junction - Residential



Figure 1: Noise Monitoring Locations.

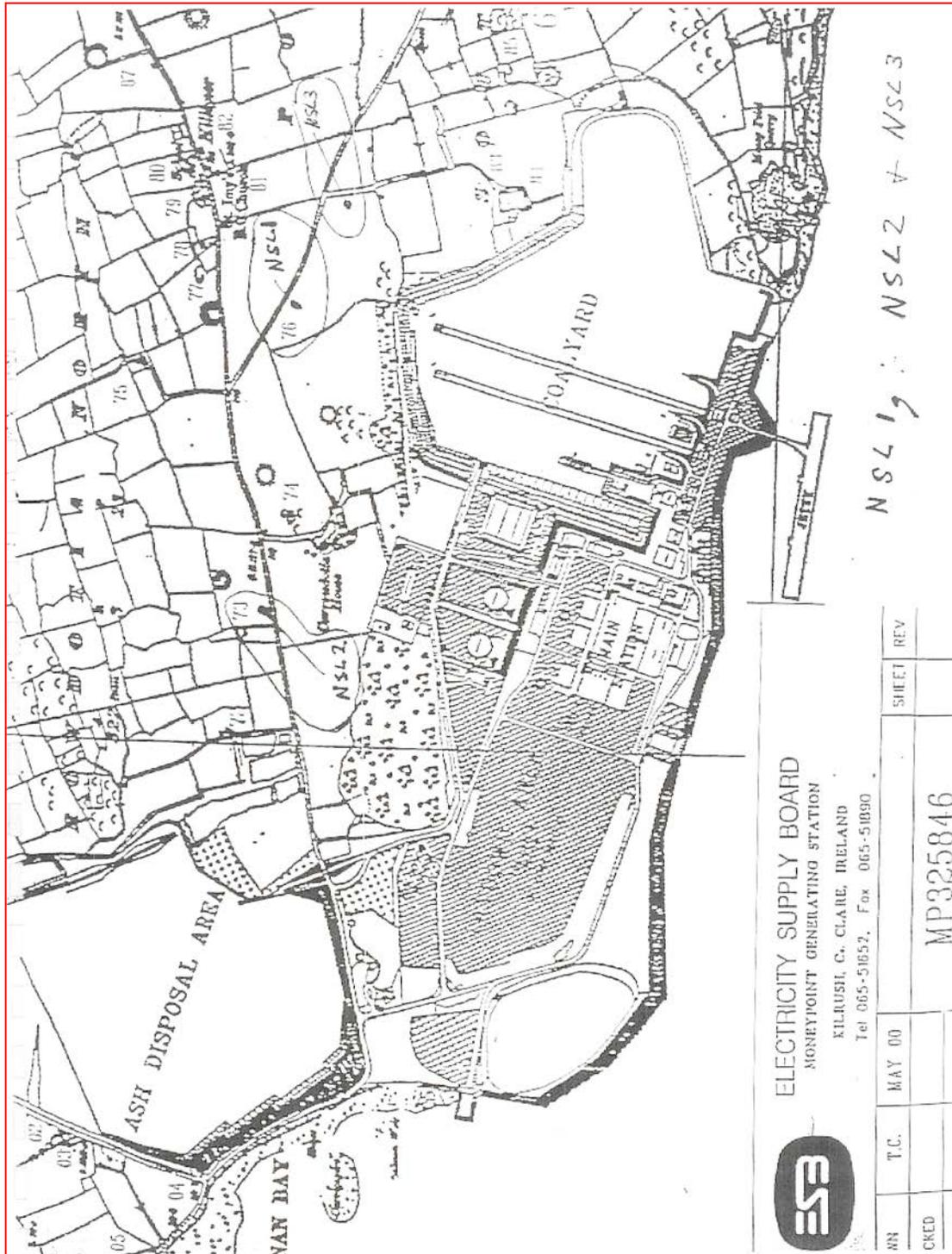
### Survey Instrumentation and Methodology

The precise noise monitoring locations were chosen according to the guidelines in Guidance Note for Noise: NG4 (Reference 1) and ISO 1996: Acoustics – Description and Measurement of Environmental Noise (Reference 2). In all cases, the sound level meter (SLM) was mounted

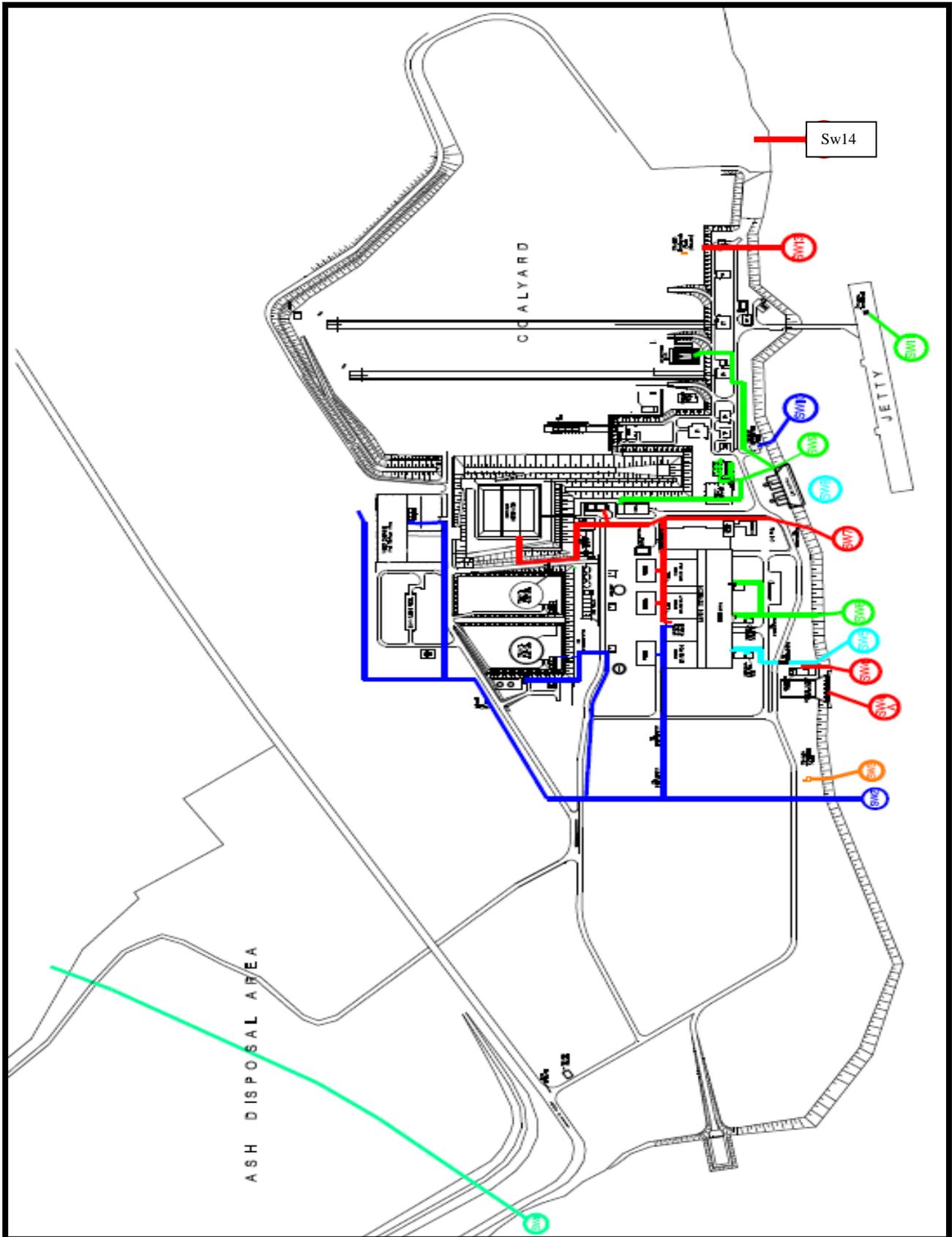
on a tripod at 1.5m above ground level and at least 3.5m away from any sound reflecting surfaces. The SLM was oriented towards the facility of interest for each measurement taken. A Bruel and Kjaer UA-1650 windshield with auto detect was placed on the microphone to reduce any wind interference during measurements.

The measurements were made using a Bruel and Kjaer Type 2250 Sound Level Meter (SLM) which measures simultaneously in every 1/3rd octave frequency band from 12.5Hz to 20 kHz. The SLM was calibrated before, during and after the noise monitoring survey was carried out using a Bruel and Kjaer acoustic calibrator. Calibration certification, SLM serial number, calibrator used and microphone serial number for the SLM are presented in the factory calibration certificate as displayed in Appendix C. The Bruel and Kjaer Type 2250 SLM is a Class 1 instrument in accordance with IEC 61672 regulations. The Time Weighting used was Fast and the Frequency Weighting was A-weighted as per IEC 61672.

Appendix 2 Site map



Appendix 3 Location of Surface water sample locations





Environmental Protection Agency

| PRTR# : P0605 | Facility Name : Electricity Supply Board | Filename : P0605\_2013.xls | Return Year : 2013 |

**Guidance to completing the PRTR workbook**

# AER Returns Workbook

Version 1.1.18

<b>REFERENCE YEAR</b>	2013
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**1. FACILITY IDENTIFICATION**

Parent Company Name	Electricity Supply Board
Facility Name	Electricity Supply Board
PRTR Identification Number	P0605
Licence Number	P0605-03

Waste or IPPC Classes of Activity

No.	class_name
2.1	The operation of combustion installations with a rated thermal input equal to or greater than 50MW The recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.
11.1	

Address 1	Moneypoint Generating Station
Address 2	Killimer
Address 3	Kilrush
Address 4	County Clare
	Clare
Country	Ireland
Coordinates of Location	-9.42267 52.6075
River Basin District	IEGBNISH
NACE Code	3511
Main Economic Activity	Production of electricity
AER Returns Contact Name	John Casey
AER Returns Contact Email Address	john.casey2@esb.ie
AER Returns Contact Position	Environmental Co-ordinator/Asset Manager
AER Returns Contact Telephone Number	0659080421
AER Returns Contact Mobile Phone Number	0872785876
AER Returns Contact Fax Number	016388225
Production Volume	915.0
Production Volume Units	3
Number of Installations	3
Number of Operating Hours in Year	0
Number of Employees	185
User Feedback/Comments	
Web Address	www.esb.ie

**2. PRTR CLASS ACTIVITIES**

Activity Number	Activity Name
1(c)	Thermal power stations and other combustion installations
50.1	General

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

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

**4. WASTE IMPORTED/ACCEPTED ONTO SITE**

Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	No
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4.1 RELEASES TO AIR

[Link to previous years emissions data](#)

| PRTR# : P0605 | Facility Name : Electricity Supply Board | Filename : P0605\_2013.xls | Return Year : 2013 |

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR									
No. Annex II	POLLUTANT Name	M/C/E	METHOD			Emission Point 1	QUANTITY		
			Method Code	Method Used Designation or Description			T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
03	Carbon dioxide (CO2)	M	PER	10381	As in GHG : IE-GHG070-	3886791608.61544	3886791608.61544	0.0	0.0
02	Carbon monoxide (CO)	C	SSC	VGB as per IPCC		375312.3021	375312.3021	0.0	0.0
07	Non-methane volatile organic compounds (NMVOC)	C	SSC	VGB as per IPCC		16680.54676	16680.54676	0.0	0.0
05	Nitrous oxide (N2O)	C	SSC	VGB as per IPCC		20850.68345	20850.68345	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	M	PER	10849 (1996)	As per EN 14181 to ISO	4891500.0	4891500.0	0.0	0.0
11	Sulphur oxides (SOx/SO2)	M	PER	10849 (1996)	As per EN 14181 to ISO	7163200.0	7163200.0	0.0	0.0
17	Arsenic and compounds (as As)	C	MAB	Based on fuel data		24.5	24.5	0.0	0.0
18	Cadmium and compounds (as Cd)	C	MAB	Based on fuel data		1.3	1.3	0.0	0.0
19	Chromium and compounds (as Cr)	C	MAB	Based on fuel data		26.6	26.6	0.0	0.0
20	Copper and compounds (as Cu)	C	MAB	Based on fuel data		14.4	14.4	0.0	0.0
21	Mercury and compounds (as Hg)	C	MAB	Based on fuel data		11.2	11.2	0.0	0.0
22	Nickel and compounds (as Ni)	C	MAB	Based on fuel data		25.0	25.0	0.0	0.0
23	Lead and compounds (as Pb)	C	MAB	Based on fuel data		11.1	11.1	0.0	0.0
86	Particulate matter (PM10)	C	MAB	Based on fuel data		213180.0	213180.0	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	M/C/E	METHOD			Emission Point 1	QUANTITY		
			Method Code	Method Used Designation or Description			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	M/C/E	METHOD			Emission Point 1	QUANTITY		
			Method Code	Method Used Designation or Description			T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
236	Vanadium (as V)	C	MAB			88.1	88.1	0.0	0.0
210	Dust	M	MAB			224400.0	224400.0	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

Electricity Supply Board

T (Total) kg/Year	M/C/E	METHOD		Facility Total Capacity m3 per hour
		Method Code	Designation or Description	
Total estimated methane generation (as per site model)	0.0			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)	0.0			N/A

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

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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

RELEASES TO WATERS					QUANTITY		
POLLUTANT	Method Used	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year		
No. Annex 1	Name	M/C/E	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

**SECTION B : REMAINING PRTR POLLUTANTS**

RELEASES TO WATERS					QUANTITY		
POLLUTANT	Method Used	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year		
No. Annex 1	Name	M/C/E	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

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

RELEASES TO WATERS					QUANTITY											
Pollutant No.	Pollutant Name	M/C/E	Method Used		SW1 Ash disposal area	SW2 SURFACE DRAIN #2	SW4 SURFACE DRAIN #3	SW5 S.D.#6	SW7 S.D.#6	SW8 C.W OUTFAL L	SW9	SW10 FOLL DRAIN 2	SW13 S.D.#8	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
			Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	Emission Point 5	Emission Point 6	Emission Point 7	Emission Point 8	Emission Point 9			
183	BCO	M	OTH	assuming max flow rate and based on 4 samples only	0.0	0.0	0.0	0.0	0.0	0.0	0.0	91.25	0.0	91.25	0.0	0.0
324	Mineral oils	E	OTH	assuming max flow rate and based on 4 samples only	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
249	Suspended Solids	E	OTH	assuming max flow rate and based on 4 samples only	0	5117.3	0	1917.61975	348.575	0	288.35	269.188	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

[Link to previous years emissions data](#)

| PRTR#: P0605 | Facility Name : Electricity Supply Board | Filename : P0605\_2013.xls | Return Year

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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				
						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 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

[Link to previous years emissions data](#)

| PRTR# : P0605 | Facility Name : Electricity Supply Board | Filename : P0605\_2013.xls | Return Year : 2013 |

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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	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	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 | PRTR#: P0605 | Facility Name : Electricity Supply Board | Filename : P0605\_2013.xls | Return Year : 2013 |

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Please enter all quantities on this sheet in Tonnes

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Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	10 01 01	No	16736.0	bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)	D1	C	Volume Calculation	Onsite of generati	MONEYPOINT Ash Storage Area,Moneypoint ASA IPPC Licence 605-03	Kilrush,Co Clare,...,Ireland		
Within the Country	10 01 02	No	105580.0	coal fly ash	D1	C	Volume Calculation	Onsite of generati	MONEYPOINT Ash Storage Area,Moneypoint ASA IPPC Licence 605-03	Kilrush,Co Clare,...,Ireland		
Within the Country	10 01 02	No	14003.0	coal fly ash	D1	C	Volume Calculation	Onsite of generati	MONEYPOINT FGD By-Product Landfill,IPPC Licence 605-03	Kilrush,Co Clare,...,Ireland		
Within the Country	10 01 05	No	46,678	calcium-based reaction wastes from flue-gas desulphurisation in solid form	D1	C	Volume Calculation	Onsite of generati	MONEYPOINT FGD By-Product Landfill,IPPC Licence 605-03	Kilrush,Co Clare,...,Ireland		
Within the Country	10 13 01	No	502.0	waste preparation mixture before thermal processing	D1	C	Volume Calculation	Onsite of generati	MONEYPOINT FGD By-Product Landfill,IPPC Licence 605-03	Kilrush,Co Clare,...,Ireland		
Within the Country	13 05 07	Yes	135.8	oily water from oil/water separators	R9	M	Volume Calculation	Offsite in Ireland	ENVA,184-1	and	LINDERSCHIMDT.....,Germany	
Within the Country	15 01 01	No	2.0	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	CLEAN IRELAND,WCP/LK/073/07D	Cree,Kilrush,Co Clare,..,Ireland		
Within the Country	15 01 03	No	51.612	wooden packaging	R3	M	Weighed	Offsite in Ireland	CLEAN IRELAND,WCP/LK/073/07D	Cree,Kilrush,Co Clare,..,Ireland		
Within the Country	15 02 02	Yes	27.11	Soild waste/Oily rags	D10	M	Weighed	Offsite in Ireland	ENVA,184-1	and	LINDERSCHIMDT.....,Germany	
To Other Countries	16 06 01	Yes	0.0	Batteries	R4	M	Weighed	Abroad	ENVA,184-1	and	CAMPINE.....,Belgium	CAMPINE.....,Belgium
Within the Country	17 04 05	No	0.199	iron and steel	R4	M	Weighed	Offsite in Ireland	CLEAN IRELAND,WCP/LK/073/07D	Cree,Kilrush,Co Clare,..,Ireland		
Within the Country	17 04 05	No	121.405	iron and steel	R3	M	Weighed	Offsite in Ireland	United Metals,WFP/LK/2010/147/R 1	Eastway,Business Park,Limerick,na,Ireland 403,Greenogue Business Pk,Rathcoole,Co Dublin,Ireland		
Within the Country	17 06 05	Yes	0.0 (18)	construction materials containing asbestos	R5	M	Weighed	Offsite in Ireland	RILTA,WCP/LK/056/02b Irish Lamp Recycling,WFP-KE-14-0072-01	Dublin,Ireland	AGR ENSORGUNG GMBH.....,Germany	.....,Germany
To Other Countries	20 01 21	Yes	0.392	fluorescent tubes and other mercury-containing waste	R4	M	Weighed	Abroad	Irish Lamp Recycling,WFP-KE-14-0072-01	Athy,Kildare,...,na,Ireland	DELA.....,Germany	.....,Germany
Within the Country	20 01 35	Yes	1.726	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and and 20 01 23 containing hazardous components	R1	M	Weighed	Offsite in Ireland	Irish Lamp Recycling,WFP-KE-14-0072-01	Athy,Kildare,...,Ireland	Irish Lamp Recycling,WFP-KE-14-0072-01,Athy,Kildare,...,na,Ireland	Athy,Kildare,...,na,Ireland
Within the Country	20 01 36	No	0.0	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	R4	M	Weighed	Offsite in Ireland	CLEAN IRELAND,WCP/LK/073/07D	Cree,Kilrush,Co Clare,..,Ireland		
Within the Country	20 03 01	No	122.902	mixed municipal waste	D1	M	Weighed	Offsite in Ireland	CLEAN IRELAND,WCP/LK/073/07D	Cree,Kilrush,Co Clare,..,Ireland		
Within the Country	20 03 99	No	0.0	municipal wastes not otherwise specified	D1	C	Volume Calculation	Onsite of generati	MONEYPOINT Ash Storage Area,Moneypoint ASA IPPC Licence 605-02	Kilrush,Co Clare,...,Ireland		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	13 08 02	Yes	16.34	other emulsions	R9	M	Weighed	Offsite in Ireland	ENVA,184-1	CLONIMINAM,IND ESTATE,PORTLAOISE,,Ireland	Enva,184-1,Portlaoise,Laoise,,na,Ireland	Portlaoise,Laoise,,na,Ireland
Within the Country	15 01 10	Yes	1.926	packaging containing residues of or contaminated by dangerous substances	R9	M	Weighed	Offsite in Ireland	ENVA,184-1	CLONIMINAM,IND ESTATE,PORTLAOISE,,Ireland	Enva,184-1,Portlaoise,Laoise,,na,Ireland	Portlaoise,Laoise,,na,Ireland
Within the Country	20 01 08	No	2.7225	biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	CLEAN IRELAND,WCP/LK/073/07D	Cree,Kilrush,Co Clare,,Ireland		
Within the Country	20 01 01	No	16.262	paper and cardboard	R3	M	Weighed	Offsite in Ireland	CLEAN IRELAND,WCP/LK/073/07D	Cree,Kilrush,Co Clare,,Ireland		
Within the Country	20 03 01	No	14.368	mixed municipal waste	D1	M	Weighed	Offsite in Ireland	CLEAN IRELAND,WCP/LK/073/07D	Cree,Kilrush,Co Clare,,Ireland		
Within the Country	20 03 01	No	395.437	mixed municipal waste	R3	M	Weighed	Offsite in Ireland	CLEAN IRELAND,WCP/LK/073/07D	Cree,Kilrush,Co Clare,,Ireland		
Within the Country	17 04 05	No	332.541	iron and steel	R4	M	Weighed	Offsite in Ireland	Clear Circle,WCP-LK-08-589-01	Ballysimon Road,,Limerick,,Ireland		
Within the Country	02 03 04	No	30.0	materials unsuitable for consumption or processing	R3	E	Weighed	Onsite of generation	MONEYPOINT Ash Storage Area,Moneypoint ASA IPPC Licence 605-03	Kilrush,Co Clare,,Ireland		

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