Rilta Environmental Ltd.

RILTA Environmental Limited

Annual Environmental Report (AER), Site 402, Greenogue Business Park.

January 1st – December 31st 2011

March 2012

TOBIN

REPORT

PROJECT:

Rilta Environmental Ltd.
Site 402 – Environmental Monitoring

CLIENT:

Rilta Environmental Ltd,
Block 402,
Greenogue Business Park,
Rathcoole,
County Dublin

COMPANY:

TOBIN Consulting Engineers
Block 10-4
Blanchardstown Corporate Park
Dublin 15

www.tobin.ie

DOCUMENT AMENDMENT RECORD

Client:	Rilta Environmental Ltd.
Project:	Greenogue Monitoring
Title:	Annual Environmental Report Rilta Environmental Ltd.

PROJECT NUMBER: 3084				**DOCUMENT REF:** 3084 – 04 – 01			
DRAFT	Annual Environmental Report	BS	22/03/12				
Revision	**Description & Rationale**	**Originated**	**Date**	**Checked**	**Date**	**Authorised**	**Date**
TOBIN Consulting Engineers							

Table of Contents

List of Tables

List of Figures

Appendices

1 INTRODUCTION

The Environmental Protection Agency (EPA) issued Rilta Environmental Ltd. (RILTA) with Waste Licence Reg. No. W0192-03 for its site at Block 402, Greenogue Business Park, Rathcoole, County Dublin on 22nd July 2010. The facility is located within an industrial estate approximately 2 km east of Newcastle village and approximately 2.5km west of Rathcoole village. The facility has been in operation since 2004. RILTA retained Tobin Consulting Engineers (TOBIN) to prepare the Annual Environmental Report (AER) for the reporting period January 2011 to December 2011. This report has been prepared in accordance with Condition 11.10 and Schedule E of the waste licence.

This report addresses Condition 11.10 of the waste licence for the facility.

Condition 11.10 states:

'The licensee shall submit to the Agency by the 31st March of each year an AER covering the previous calendar year. This report which shall be to the satisfaction of the Agency shall include as a minimum the information specified in Schedule E: Annual Environmental Report, of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency'.

1.1 WASTE ACTIVITIES AND RECORDS

The RILTA facility is a fully engineered and contained industrial site. It is licensed to accept 111,000 tonnes of waste material per annum, as set out in Schedule A of the waste licence and summarised in Table 2-1 below.

Table 1.1 Waste Acceptance Tonnages as per Waste Licence 192–03

Waste Type		Maximum (Tonnes Per Annum) Note 3
Non-Hazardous Wastes Note 1,2	Commercial Waste	500
	Construction & Demolition Waste	500
	Industrial Sludges	1,000
	Other Industrial Waste	3,000
Non Hazardous Waste Total		5000
Hazardous Wastes		
EWC Code	Description *	
*13 05 03**	Interceptor sludges	10,000
*16 07 08**	Waste containing oil	2,000
*16 10 01**	Aqueous liquid waste containing dangerous substances	1,500
*17 05 03**	Soil and stones containing dangerous substances	60,000
*17 06 01** & *17 06 05**	Insulation materials and construction materials containing asbestos.	
Other Note 4		24,400
Hazardous Waste Total		106,000
Total		**111,000**

Note 1: Any proposals to accept other compatible non-hazardous waste types must be agreed in advance with the Agency.

Note 2: Excluding putrescible waste.

Note 3: The limitations on individual hazardous and non-hazardous waste types may be varied with the agreement of the agency subject to the individual total limits for hazardous and non-hazardous waste staying the same.

Note 4: Hazardous waste types as detailed in Attachment H.1 of the review application for this licence Reg No: 192-03 or may be otherwise agreed in advance with the agency.

Waste activities at the facility are restricted to those outlined in *Part 1 – Schedule of Activities Licensed.*

Licensed Waste Disposal Activities, in accordance with the 3rd Schedule of the Waste Management Act, 1996 to 2010:

Class 7: Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination), which results in final compounds or mixtures, which are disposed of by means of any activity referred to in paragraphs 1 to 10 of this Schedule (including evaporation, drying and calcination);

Class 11: Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule;

Class 12: Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule; and

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

Licensed Waste Disposal Activities, 4th Schedule of the Waste Management Acts 1996 to 2010.

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

Class 3: Recycling or reclamation of metals and metal compounds;

Class 4: Recycling or reclamation of other inorganic materials;

Class 6: Recovery of components used for pollution abatement;

Class 8: Oil re-refining or other re-uses of oil; and

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

2 EMISSIONS FROM THE FACILITY

Schedule C of Waste Licence 192-03 requires RILTA to carry out noise, air, dust, surface water, groundwater and wastewater emissions monitoring. The locations of these monitoring points are shown on Drawing 1250/01/1002, as submitted to the Environmental Protection Agency on the 28th of February 2005 and attached in Appendix A.

Monthly, quarterly and annual monitoring was carried out during the period 1st January 2011 to 31st December 2011. All monitoring results and reports have been submitted to the agency as required by Condition 11 and Schedule C of the waste licence. The following is a summary of the results and findings from the 2011 monitoring period.

2.1 GROUNDWATER EMISSIONS

Groundwater monitoring was conducted on a quarterly basis at 3 no. groundwater monitoring locations as set out Drawing 1250/01/1002 *(see Appendix A)*. Results for all 4 quarterly monitoring events were furnished to the agency as part of the environmental monitoring reports sent in April, July and October 2011 and January 2012.

2.1.1 Groundwater Monitoring (BH1)

The following is a summary of the values recorded for each parameter at BH1.

pH:

The pH of groundwater analysed from BH1 ranged from 7.57 to 8.17 during 2011. Results from all monitoring events had values within the normal pH range ($6.5 \geq pH \leq 9.5$) set out in the EPA Interim Guideline Values[1] (IGV) and reflects the natural background condition of the groundwater.

Conductivity:

The conductivity concentrations in BH1 ranged from 506µS/cm to 849µS/cm during 2011. Results from all monitoring events were within the normal electrical conductivity range and were considerably lower than the IGV limit (1000 µS/cm), reflecting normal background groundwater concentrations.

Heavy metals:

Concentrations of mercury in BH1 were below the laboratory limit of detection (LOD) (1), during all monitoring events in 2011. Concentrations of arsenic in BH1 ranged from 0.327 µg/l to 1.16 µg/l, during 2011. Copper, chromium, cadmium, boron, nickel, iron, lead and zinc were all analysed as part of the annual groundwater suite of parameters for BH1 during Q2 2010. All concentrations of heavy metals at BH1 during 2011 were below the required limit levels set out in the EPA.

[1] From the EPA Interim Report – 'TOWARDS SETTING GUIDELINE VALUES FOR THE PROTECTION OF GROUNDWATER IN IRELAND'

Inorganic:

The following inorganic parameters were analysed at BH1 during Q2 2011, as part of the annual groundwater suite: total alkalinity, cyanide, chloride, sulphate, potassium, sodium, calcium and magnesium. These parameters all had results within the limit values specified in the EPA IGVs, with the exception of chloride (48.8mg/l) which exceeded the EPA IGV (30mg/l).

Pesticide:

No concentrations of pesticides were detected during any monitoring event at BH1 during 2011.

List 1/11 Organic Substances, Mineral Oil, BTEX:

Concentrations of list 1/11 organic substances (VOCs & SVOCs), mineral oil and BTEX were below the laboratory LOD[2] during all groundwater monitoring events at BH1 during 2011.

2.1.2 Groundwater monitoring point 2 (BH2)

The following is a summary of the values recorded for each parameter at BH2.

pH:

The pH of groundwater analysed from BH2 ranged from 7.71 to 9.34 during 2011. Results from all monitoring events had values within the normal pH range set out in the IGVs ($6.5 \geq pH \leq 9.5$) and reflects the natural background condition of the groundwater.

Conductivity:

The conductivity concentrations in BH3 ranged from 317µS/cm to 627µS/cm during 2011. Results from all monitoring events were within the normal electrical conductivity range and were considerably lower than the IGV limit (1000 µS/cm), reflecting normal background groundwater concentrations.

Heavy metals:

Concentrations of arsenic at BH2 ranged from 5.01 – 7.42µg/l during 2011. This concentration is within the IGV limit of 10 µg/l. Similar to 2010, all groundwater sampled at BH2 had concentrations of mercury below the laboratory LOD (<0.01 µg/l).

Copper, chromium, cadmium, boron, nickel, iron, lead and zinc were all analysed as part of the annual groundwater suite of parameters for BH2, during Q2 2011. All concentrations of metals tested at BH2 during 2011 were below the required limit levels set out in the EPA IGVs, with the exception of boron (121mg/l) which exceeded the EPA IGV (100mg/l).

[2] TPG CWG - Limit of Detection

Inorganic:

The following inorganic parameters were analysed at BH2 during Q3 2011, as part of the annual groundwater suite: total alkalinity, cyanide, chloride, sulphate, potassium, sodium, calcium and magnesium. These parameters all had results within the limit values specified in the EPA IGVs, with the exception of chloride (36.5mg/l) which exceeded the EPA IGV (30mg/l), and Potassium (6.29mg/l) which exceeded the EPA IGV (5mg/l).

Pesticide:

No concentrations of pesticides were detected during any monitoring event at BH2 during 2011.

List 1/11 Organic Substances, Mineral Oil, BTEX:

All groundwater sampled at BH2 from January to December 2011 had concentrations of mineral oil and BTEX below the laboratory LOD.

List1/11 substances were detected at BH2 during monitoring events in 2010. Volatile organic compounds (VOCs) were present in the form of methyl tertiary butyl ether (MTBE) during 2011 – 8.79µg/l during Q2. Concentrations of semi volatile organic compounds (SVOC) were not detected (were all below their respective laboratory LODs) at BH2 during 2011.

Although VOCs were detected in BH2 during 2011, all were below their respective IGV limit values.

2.1.3 Groundwater monitoring point 3 (BH3)

The following is a summary of the values recorded for each parameter at BH3.

pH:

The pH of the analysed groundwater from BH3 ranged from 7.66 to 10.20 during 2011. The reported pH values for BH3 were outside the pH range ($6.5 \geq pH \leq 9.5$) set out in the EPA IGV during Q4 (10.2). As discussed in the previous AER 2010, pH levels at BH3 are assumed to be elevated due to the use of alkaline cements and backfill construction material, which was used during the installation of underground tanks at the facility. While still elevated the pH measured at BH3 does appear to be receding relative to historic ph results.

Conductivity:

The conductivity within BH3 ranged from 361µS/cm to 1490µS/cm during Q2 2011. It is suggested that the higher conductivity concentration to the north of the site may be attributable to backfill material from the construction of the underground tanks, where significant alkaline cements and construction fill were placed within the environs of the facility prior to the installation of BH3.

Heavy metals:

Concentrations of arsenic at BH3 ranged from 6.43 – 9.86/l during 2011. Similar to 2009, all groundwater sampled at BH3 had concentrations of mercury below the laboratory LOD (<0.01 µg/l).

Copper, chromium, cadmium, boron, nickel, iron, lead and zinc were all analysed at BH3 during Q2 2011, as part of the annual groundwater testing suite of parameters. All concentrations of metals tested at BH2 during 2011 were below the required limit levels set out in the EPA IGVs, with the exception of boron (102mg/l) which exceeded the EPA IGV (100mg/l), and Sulphate (226mg/l) which exceeded the EPA IGV (200mg/l).

Inorganic:

The following inorganic parameters were analysed at BH3 during Q2 2011 as part of the annual groundwater suite: total alkalinity, cyanide, chloride, sulphate, potassium, sodium, calcium and magnesium. These parameters all had results within the limit values specified in the EPA IGVs, with the exception of chloride (58.7mg/l) which exceeded the EPA IGV (30mg/l) and the potassium (8.5mg/l) concentration at BH3 slightly exceeded the IGV (5mg/l).

Pesticide:

No Pesticide concentrations were detected during any monitoring event at BH3 during 2011.

List 1/11 Organic Substances, Mineral Oil, BTEX:

Mineral oil concentrations were below the laboratory limit of detection during all monitoring events at BH3 in 2011. BTEX[3] concentrations at BH3 were found to be <10µg/l during all monitoring events in 2011.

List1/11 substances were detected at BH3 during all 4 monitoring events in 2010. VOCs in the form of MTBE were detected at BH3 during Q2 (12.2µg/l), and toluene (1.62µg/l) during Q2 2011.

Concentrations of semi volatile organic compounds were not detected (were all below their respective laboratory LODs) at BH3 during 2011.

Although VOCs and SVOCs were detected at BH3 during 2011 all parameters were below their respective IGVs.

2.2 SURFACE WATER EMISSIONS

Surface water monitoring was conducted on a quarterly basis at 3 no. surface water monitoring locations, as set out Drawing 1250/01/1002 *(see Appendix A).* Results for all 4 quarterly monitoring events were furnished to the agency as part of the environmental monitoring reports sent in April, July and October 2011 and January 2012.

[3] TPG CWG - Limit of detection

2.2.1 Surface Water Monitoring

Results from all surface water monitoring locations indicate that surface water quality at the RILTA facility is within normal chemical range and is consistent with natural uncontaminated surface waters. The following is a summary of parameter concentrations at all surface water monitoring locations.

pH:

The values at all surface water monitoring locations are within the normal range (6.5 ≥ pH ≤ 9.5) set out in SI No. 278 of 2007[4] and reflect the natural conditions of this surface water feature.

Table 2.1 Surface Water pH Results - 2011

pH	Q1	Q2	Q3	Q4
SW1	8.44	8.07	8.37	8.07
SW2	8.41	8.07	8.40	7.94
SW3	7.53	7.2	7.88	7.91

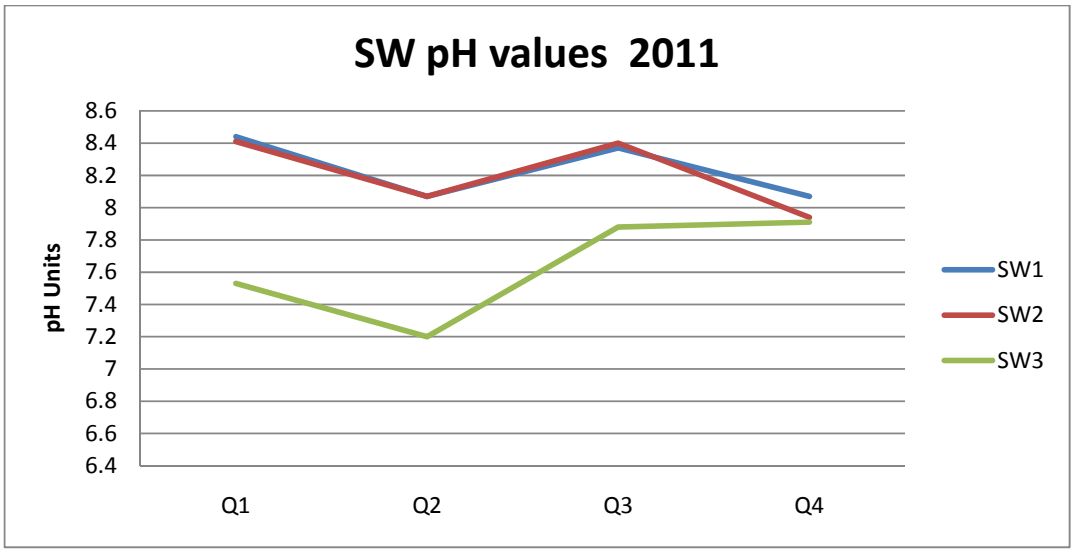


Figure 2-1 Surface Water pH Results - 2011

Chemical Oxygen Demand:

The chemical oxygen demand for at all monitoring locations was consistent with historic monitoring results from the site. Concentrations were slightly elevated in SW3 with a peak concentration of 31.8mg/l during Q3. There is no limit for surface water COD set out in waste licence 192-03 or SI No. 278 of 2007. COD results from 2010 are summarised in Table 2-2 below.

[4] SI No 278 of 2007 – European Communities (Drinking Water) (No. 2) Regulations

Table 2.2 Surface Water COD Results - 2011

COD	Q1	Q2	Q3	Q4
SW1	7.60	17.7	8.37	13.3
SW2	7.71	16.3	7.66	13.6
SW3	31.8	13.5	60	14.8

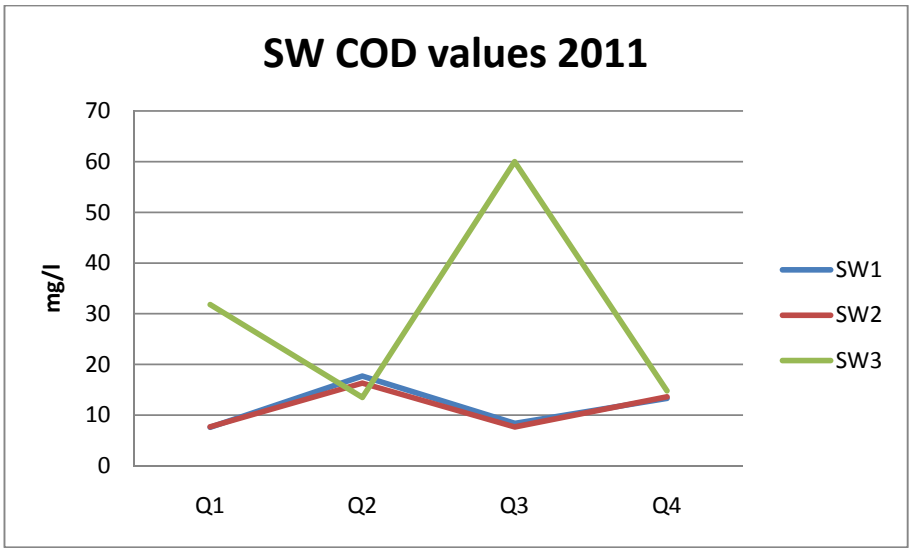


Figure 2-2 Surface Water COD Results - 2011

Suspended Solids:

The concentrations of suspended solids at all surface water monitoring locations were below the limit levels set out in waste licence 192–03 (35mg/l) for all monitoring events during 2010.

Table 2.3 Surface Water Total Suspended Solids Results - 2011

TSS	Q1	Q2	Q3	Q4
SW1	7	<2	<2	<2
SW2	4.5	<2	<2	<2
SW3	8.5	2	8	2.5

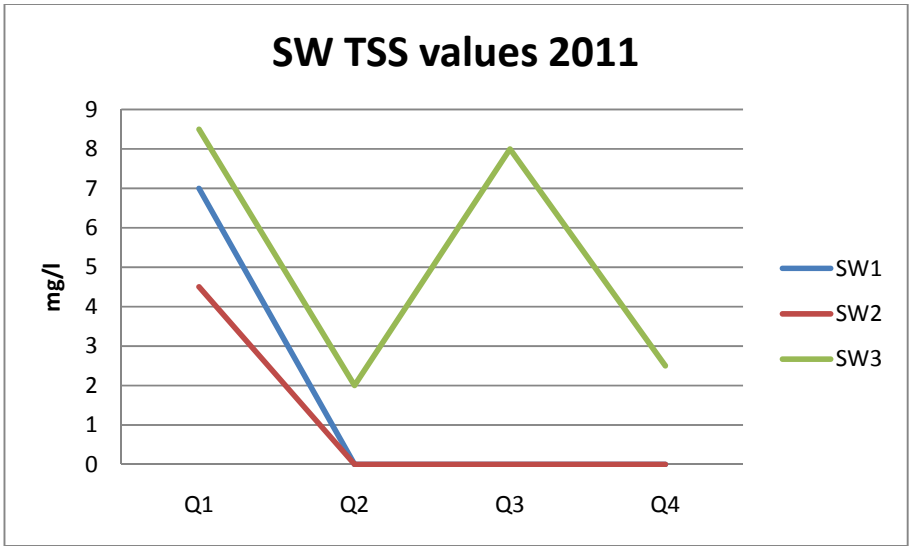


Figure 2-3 Surface Water Total Suspended Solids Results - 2011

Mineral Oils:

Concentrations of Mineral Oil were below the licence limit (5,000ug/l) at all monitoring locations during 2011. Although SW3 had concentrations above the laboratory LOD (10ug/l) it remained significantly below the limit value set out in W192-03 (5000ug/l).

Table 2.4 Surface Water Mineral Oil Results - 2011

Mineral Oil	Q1	Q2	Q3	Q4
SW1	<10	<10	<10	<10
SW2	<10	<10	<10	<10
SW3	210	336	418	418

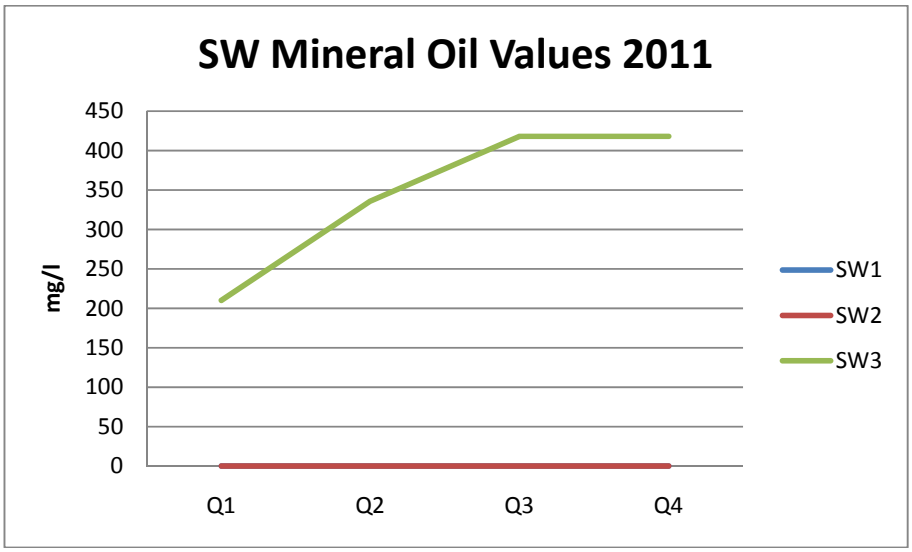


Figure 2-4 Surface Water Mineral Oil Results – 2010

2.3 WASTEWATER EMISSIONS

Waste water monitoring was conducted on a monthly basis at 1 no. monitoring location, as per Schedule C of the waste licence 192-03 and illustrated on Drawing 1250/01/1002 *(see Appendix A).* Results for all 12 no. monitoring events were furnished to the agency as part of the quarterly environmental monitoring reports sent to the Agency in April, July and October 2011, and January 2012.

2.3.1 Wastewater Monitoring

The concentration of pH was within the required licence limit (6.5 ≥ pH ≤ 10) during all monitoring events in 2011. A summary of the reported monthly pH concentrations is contained in Table 3-1 and Figure 3-1 below.

The concentration of mineral oil at WW1 was below the required licence limit during all monitoring events in 2011. A summary of the reported monthly mineral oil concentrations is contained in Table 3-1 and illustrated in Figure 3-2 below.

Concentrations of zinc, copper, chromium, lead, nickel, arsenic, benzene, toluene, ethyl-benzene and total xylene were all below respective licence limits during 2011. The reported monthly WW1 concentrations for these parameters are summarised in Table 3-1 and illustrated in Figure 3-2 below.

Concentrations of BOD, COD, sulphate, surfactants, suspended solids and ammonical nitrogen[5] were all below respective licence limits during 2011. A summary of the reported monthly WW1 concentrations for these parameters is contained in Table 2.5 and illustrated in Figure 2-8 below.

The total wastewater volume emitted during 2011 was 45835m³ (45835000 litres).

[5] Ammonical nitrogen was added to the WW1 monthly parameters in 2010, as part of licence 192-03.

Table 2.5 Wastewater Results - 2011

Parameter	Units	2011											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
pH	*pH units*	7.14	8.48	7.73	8.23	7.26	7.62	8.63	8.07	7.24	6.51	6.08	6.97
BOD	*mg/l*	2.23	70.9	125	166	2.47	<1	28.1	20.2	<60	73.9	2.25	17.8
COD	*mg/l*	11.1	198	254	342	19.2	<7	333	84.9	29.1	136	37.6	96.6
Sulphate SO_4	*mg/l*	25.3	38.8	54.4	62.4	26.5	24.2	51.6	37.8	35.4	37.3	28.7	30.9
Surfactants	*mg/l*	0.0899	0.34	0.393	0.384	0.116	0.057	0.782	0.356	0.815	0.138	0.067	0.109
Zinc Zn	*µg/l*	159	5.05	11.3	863	362	82	557	358	90.2	395	70.4	127
Copper Cu	*µg/l*	30.4	22.3	10.3	15.4	6.07	44	113	54	32.8	52.8	332	492
Chromium	*µg/l*	<3	<3	<3	12.4	<3	<3	5.16	<3	<3	4.72	4.2	5.74
Lead	*µg/l*	<0.02	<0.02	0.091	0.075	0.097	0.045	<0.02	0.331	0.99	<0.02	0.849	2.01
Nickel	*µg/l*	6.11	27	37.7	412	12.6	3.91	311	92.9	12.4	27.8	27.7	21
Arsenic	*µg/l*	<2	<2	<2	<2	<2	<2	2.56	<2	3.52	4.14	1.66	3.17
Benzene	*µg/l*	2.11	4.33	3.52	6.54	<1.3	<1.3	26.7	<1	2.15	1.09	<1	2.02
Toluene	*µg/l*	<1.4	20.3	28.4	70.4	<1.4	<1.4	122	<1	8.72	10.6	<1	7.16
Ethylbenzene	*µg/l*	<2.5	<2.5	<2.5	7.99	<2.5	<2.5	8.64	<1	<1	<1	<1	<1
Total Xylene	*µg/l*	<5.66	8.6	12.8	55.6	<4.5	<1.7	77.5	<1	11.11	28.2	<1	13.02
Suspended Solids	*mg/l*	5	12.5	14.5	28.6	<6	41.3	32.5	<6	25	74	4	28.5
Ammonical Nitrogen	*mg/l*	0.317	5.62	6.81	35.2	4.69	2.33	13.8	4.72	29.1	9.95	9.58	20.1
Mineral Oil	*µg/l*	<10	209	<10	1820	<10	<10	468	78.5	2320	< 10	< 10	75.2

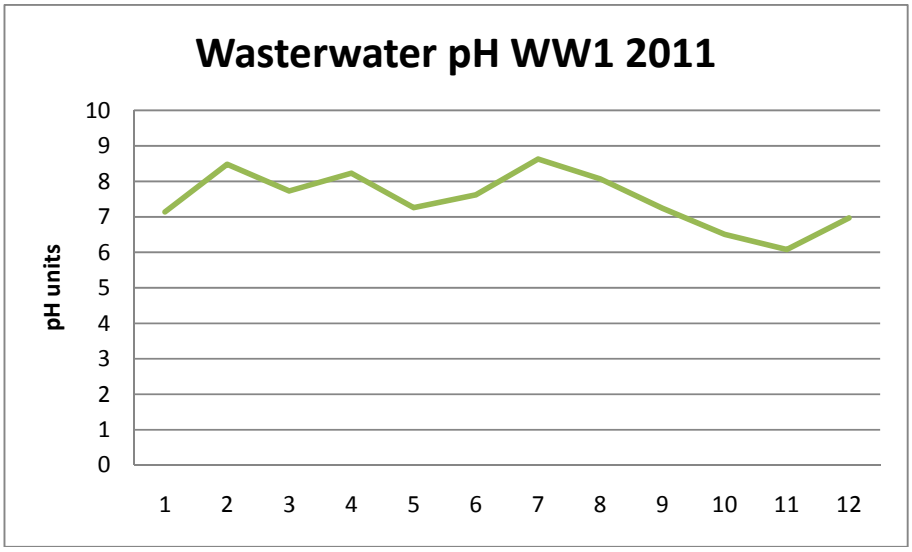


Figure 2-5 Wastewater – pH Trend Data 2011

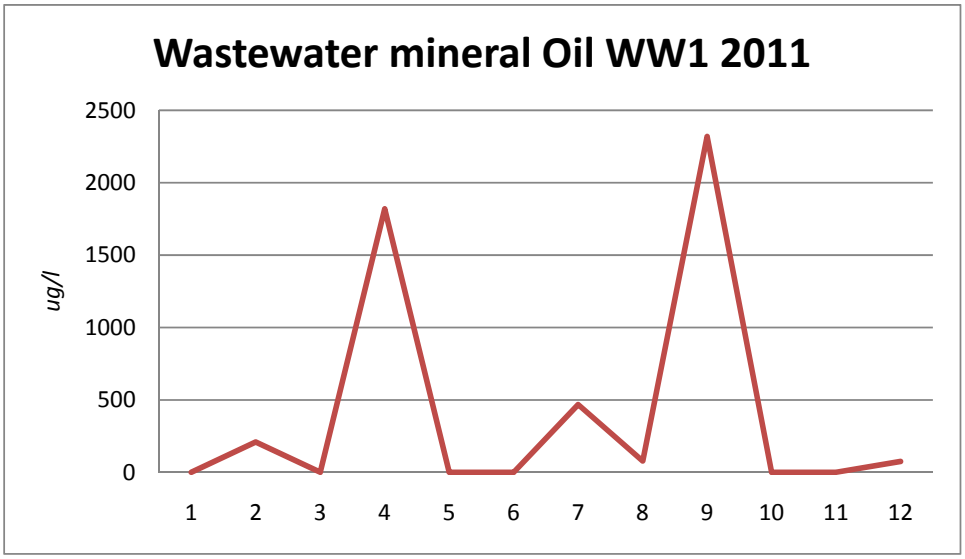


Figure 2-6 Wastewater – Mineral Oil Trend Data 2011

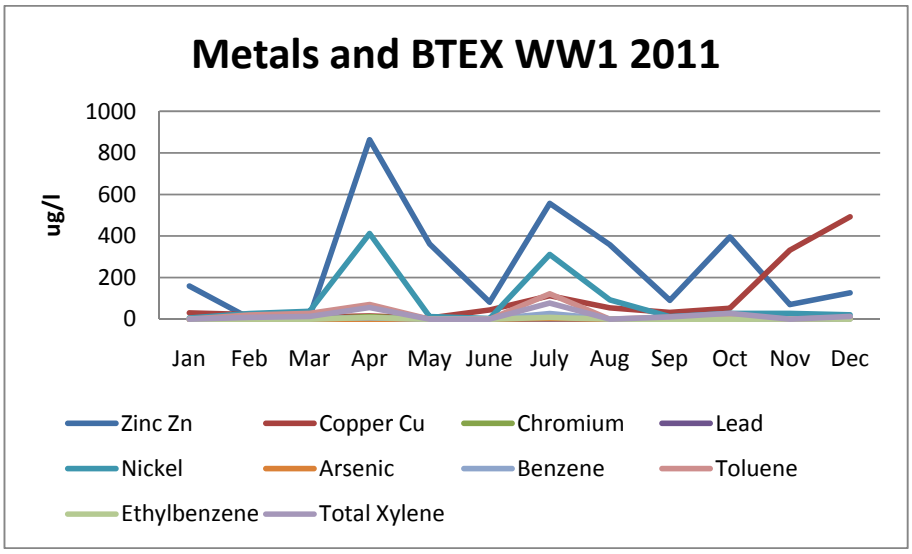


Figure 2-7 Wastewater – Metals and BTEX Trend Data 2011

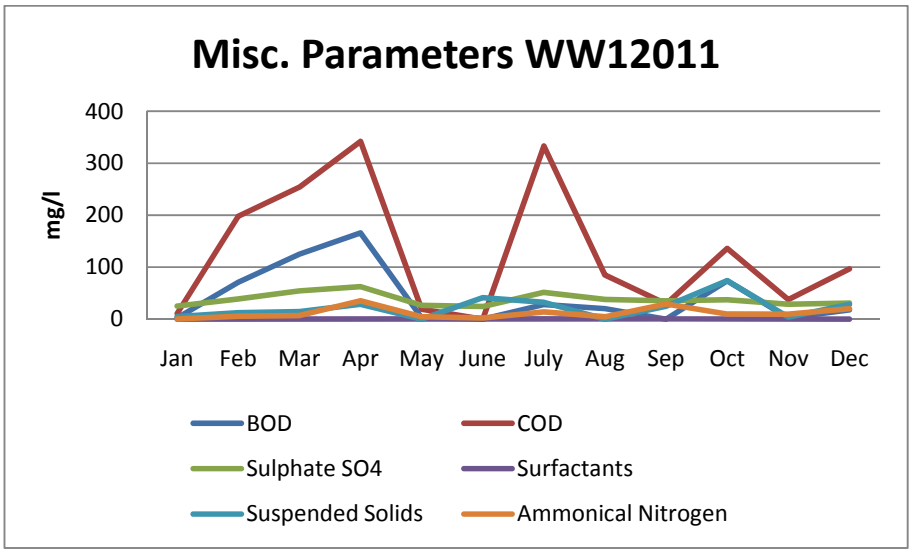


Figure 2-8 Wastewater – Miscellaneous Parameter Trend Data 2011

3 WASTE MANAGEMENT RECORD

The following tables summarise the types and quantities of waste handled over the period 1st January 2011 to 31st December 2011, at RILTA's Greenogue facility.

Table 3.1 Waste Types & Quantities - 2011

Waste Type	EWC Code	Weight/ Tonnes
Oil containing drilling muds and wastes	01 05 05*	105.18
Agrochemical waste containing dangerous substances	02 01 08*	6.39
Wastes not otherwise specified	02 02 99	3.54
Minerals unsuitable for consumption or processing	02 03 04	0.26
Materials unsuitable for consumption or processing	02 07 04	173.129
Oil spills	05 01 05*	56.585
sulphuric acid and sulphurous acid	06 01 01*	20.734
Hydrochloric acid	06 01 02*	7.225
Nitric acid and nitrous acid	06 01 05*	52.925
other acids	06 01 06*	103.666
Wastes not otherwise specified	06 01 99	0.135
sodium and potassium hydroxide	06 02 04*	25.246
Other bases	06 02 05*	80.087
Wastes containing mercury	06 04 04*	0.025
Sludges from on-site effluent treatment containing dangerous substances	06 05 02*	26.38
Activated carbon from chlorine production	06 07 02*	0.35
Spent activated carbon (except 06 07 02)	06 13 02*	1
wastes not otherwised specified	07 01 99	6.16
waste plastic	07 02 13	0.09
Wastes not otherwise specified	07 02 99	0.42
Aqueous washing liquids and mother liquors	07 05 01*	33.74
Other organic solvents, washing liquids and mother liquids	07 05 04*	1.825
Other filter cake and spent absorbents	07 05 10*	25.48
Sludges from on-site effluent treatment containing dangerous substances	07 05 11*	0.87
Waste paint and varnish containing organic solvents or other dangerous substances	08 01 11*	217.226
Sludges from paint or varnish containing organic solvents or other dangerous substances	08 01 13*	18.66
Waste coating powders	08 02 01	0.48
aqueous liquid waste containing ink	08 03 08	22.45
waste ink containing dangerous substances	08 03 12*	111.794
Ink sludges containing dangerous substances	08 03 14*	0.626
Waste printing toner other than those mentioned in 08 03 17	08 03 18	0.56
Waste adhesives and sealents containing organic solvents or other dangerous substances	08 04 09*	4.884
Waste adhesives and sealents other than those mentioned in 08 04 09	08 04 10	0.51
Aqueous liquids waste containing adhesives or sealents other than those	08 04 16	5.74

mentioned in 08 04 15		
Water based developer and activator solutions	09 01 01*	53.455
Solvent based developer solutions	09 01 03*	0.53
Fixer solutions	09 01 04*	88.925
Bleach solutions and bleach fixer solutions	09 01 05*	2.22
Bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04)	10 01 01	278.94
Tornier Orthopedics Ireland Ltd, metal filings....21/09/2011	10 01 01	1.32
	10 01 04	1.935
Oil fly ash and boiler dust	10 01 04*	3.56
Bottom ash, slag and boiler dust from co-incineration containing dangerous substances	10 01 14*	122.58
Aqueous sludges from boiler cleansing containing dangerous substances	10 01 22*	140.42
wastes from cement based composite materials other than those mentioned in 10 13 09 and 10 13 10	10 13 11	2.805
Pickling acids	11 01 05*	204.34
Sludges and filter cakes containing dangerous substances	11 01 09*	285.366
Sludges and filter cakes other than those mentioned in 11 01 09	11 01 10	36.2
Aqueous rinsing liquids containing dangerous substances	11 01 11*	6.23
Aqueous rinsing liquids other than those mentioned in 11 01 11	11 01 12	2.94
Degreasing wastes containing dangerous substances	11 01 13*	6.7
Zinc ash	11 05 02	1.3
solid wastes from gas treatment	11 05 03*	3.21
spent flux	11 05 04*	4.98
Machining emulsions and solutions free of halogens	12 01 09*	1490.217
Aqueous washing liquids	12 03 01*	4.37
	13 01 10*	14.095
Mineral-based chlorinated engine, gear and lubricating oils	13 02 04*	0.94
Mineral based non-chlorinated engine, gear and lubricating oils	13 02 05*	40.916
synthetic engine, gear and lubricating oils	13 02 06*	24.691
Other engine, gear and lubricating oils	13 02 08*	2606.121
Insulating or heat transmission oils containing PCBs	13 03 01*	2.3
Mineral based non-chlorinated insulating and heat transmission oils	13 03 07*	354.212
Other insulating and heat transmission oils	13 03 10*	9.91
Bilge oils from other navigation	13 04 03*	176.7
Soilds from grit chambers and oil/water separators	13 05 01*	13.846
Interceptor sludges	13 05 03*	828.87
oily water from oil/water separators	13 05 07*	9369.868
fuel oil and diesel	13 07 01*	196.112
petrol	13 07 02*	11.9
other fuels (including mixtures)	13 07 03*	387.432
wastes not otherwised specified	13 08 99*	32.12
other halogenated solvents and solvent mixtures	14 06 02*	2.4
other solvents and solvent mixtures	14 06 03*	112.665
Plastic packaging	15 01 02	0.195
Metallic packaging	15 01 04	0.157

packaging containing residues of or contaminated by dangerous substances	15 01 10*	1521.905
Absorbants, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	15 02 02*	716.423
Oil filters	16 01 07*	6.614
	16 01 11*	0.4
Brake fluids	16 01 13*	0.24
Antifreeze fluids containing dangerous substances	16 01 14*	2.46
Antifreeze fluids other than those mentioned in 16 01 14*	16 01 15	24.479
Ferrous metal	16 01 17	68.383
Transformers and capacitors containing PCBs	16 02 09*	26.32
Discarded equipment containing haz components other than those mentioned in 16 02 09 to 16 02 12	16 02 13*	4.546
Discarded equipment other than those mentioned in 16 02 09 to 16 02 13	16 02 14	21.17
Components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16	1.02
Inorganic wastes containing dangerous substances	16 03 03*	10.313
Inorganic wastes other than those mentions in 16 03 03	16 03 04	3.22
organic wastes containing dangerous substances	16 03 05*	3.61
Gases in pressure containers (including halons) containing dangerous substances	16 05 04*	11.037
Lab chemicals, consisting of or containing dangerous substances, including mixtures of lab chemicals	16 05 06*	72.982
Discarded inorganic chemicals consisting of or containing dangerous substances	16 05 07*	117.715
Discarded organic chemicals consisting of or containing dangerous substances	16 05 08*	47.432
Discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08	16 05 09*	0.909
Batteries Lead/Acid	16 06 01*	6209.816
Batteries Ni/Cd	16 06 02*	7.572
Batteries Alkaline	16 06 04*	17.998
Batteries Li/Ion	16 06 05*	0.397
Wastes containing oil	16 07 08*	819.665
Wastes containing other dangerous substances	16 07 09*	75.289
wastes not otherwised specified	16 07 99	330.2
peroxides	16 09 03*	0.38
Oxidising substances, otherwise not specified	16 09 04*	2.28
aqueous liquid wastes containing dangerous substances	16 10 01*	1385.468
Aqueous liquid	16 10 02*	212.627
Bituminous mixtures containng coal tar	17 03 01*	1027.52
Coal tar and tarred products, Soil and stones containing dangerous substances	17 05 03*	200.1
Soil and stones other than those mentioned in 17 05 03	17 05 04	5
Asbestos	17 06 01*	1282.295
Asbestos	17 06 03*	2.28
Asbestos	17 06 05*	4305.099
Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	17 09 04	0.085

Sharps (except 18 01 03)	18 01 01	0.375
Chemicals consisting of or containing dangerous substances	18 01 06*	49.147
Medicines other than those mentioned in 18 01 08	18 01 09	3.215
Chemicals consisting of or containing dangerous substances	18 02 05*	20.46
Medicines other than those mentioned in 18 02 07	18 02 08	75.255
Bottom ash and slag containing dangerous substances	19 01 11*	93.48
Fly ash other than other than those mentioned in 19 01 13	19 01 14	0.17
Premixed wastes composed only of non-haz wastes	19 02 03	2.48
Sludges from physio/chemical treatment containing dangerous substances	19 02 05*	17.05
Oil and concentrates from separation	19 02 07*	225.37
Other wastes containing dangerous substances	19 02 11*	5.82
Landfill leachate other than those mentioned in 19 07 02	19 07 03	30090.26
Sludges containing dangerous substances from biological treatment of industrial waste water	19 08 11*	41.66
Sludges from biological treatment of industrial waste other than those mentioned in 19 08 11	19 08 12	25.68
Sludges from water clarification	19 09 02	709.96
Spent activated carbon	19 09 04	1.56
Other wastes (including mixtures of materials) from mechanical treatment of waste containing dangerous substances	19 12 11*	4.93
other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	19 12 12	62.74
Glass	20 01 02	0.2
Pesticides	20 01 19*	16.448
Fluorescent tubes and other mercury-containing waste	20 01 21*	0.165
Discarded equipment containing chloroflurocarbons	20 01 23*	2.26
Edible oil and fat	20 01 25	2.46
Paints, inks, adhesives and resins containing dangerous substances	20 01 27*	408.258
detergents containing dangerous substances	20 01 29*	8.986
medicines other than those mentioned in 20 01 31	20 01 32	4.65
discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	0.08
WEEE	20 01 36*	0.151
Street cleaning residue	20 03 03	18.86
Municipal wastes not otherwise specified	20 03 99	63.26

As per Waste Licence No: 192-03, RILTA is allowed to accept up to 111,000 tonnes/year of waste consisting of hazardous waste, commercial waste, construction and demolition waste, industrial sludges and industrial waste at the facility.

The above table shows that the total volume of waste accepted by RILTA from January 1st 2011 to December 31st 2011 was 78,964.72 tonnes.

4 RESOURSE CONSUMPTION SUMMARY

The main energy use at RILTA includes:

- Gas
- Electricity
- Water

A review of electricity and gas bills for the period from 01/01/11 to 31/12/11 shows that RILTA used the following quantities.

Table 4.1 Resource and Energy Consumption - 2011

Energy	Units	Figures for 2011	Figures for 2010	Figures for 2009	Figures for 2008
Gas	KwH	52,240	175,932	525,347	1,663,901
Electricity	KwH	422,566	422,560	472,300	477,591
Water	m^3	19,420*	13132	8,880	9,122
Diesel	L	75,800	9888	10,843	11,667

*Water loss due to leaks caused by frost in late 2010 has now been rectified.

5 COMPLAINTS SUMMARY

There were no complaints received during 2011.

6 ENVIRONMENTAL MANAGEMENT

6.1 SCHEDULE OF ENVIRONMENTAL OBJECTIVES AND TARGETS

Details of the Environmental Management Programmes (EMP) for the RILTA facility are contained in Appendix B.

6.2 ENVIRONMENTAL MANAGEMENT PROGRAMME

Details of the 2010 and 2011 EMPs for the RILTA facility are contained in Appendix B.

7 POLLUTANT RELEASE AND TRANSFER REGISTER (PRTR)

Details of the 2011 Pollutant Release Transfer Register (PRTR) for the RILTA facility will be transmitted to the EPA directly, by RILTA.

8 NOISE MONITORING

The noise emission limits given in Waste Licence 192-03 are 55 dB(A) for daytime and 45 dB(A) for night time. These levels specifically relate to noise emissions arising from the facility, measured at any noise sensitive location. A more detailed noise monitoring report for this period is contained in Appendix D.

The noise emissions from RILTA Environmental Ltd. are given in Table 8-1 and Table 8-2 below.

Table 8.1 RILTA Daytime Noise – 2011

DAY TIME					
Receptor	Time	Leq	L10	L90	Notes
N1	11:24	52.8	54.7	48.2	Plant not audible, Passing traffic, adjacent facility truck movements and aircraft overhead dominant at this location
N2	10:41	49.9	51.59	47.0	Aircraft noise dominant, noise from adjoining facility, RILTA facility audible.
N3	10:06	55.9	69.9	47.3	Over head aircraft dominant, trucks and adjacent site noise audible, RILTA facility mainly inaudible.
N4	12:24	56.5	58.9	52.7	Passing traffic is dominant, overhead aircraft, facility inaudible and refrigerated trucks stopping on the internal haul road.

Table 8.2 RILTA Night Time Noise – 2011

NIGHT TIME					
Receptor	Time	Leq	L10	L90	Notes
N1	23:44	57.6	42.3	35.2	Passing traffic to adjacent facility and overhead aircraft dominant. – Facility was not in operation or audible.
N2	22:35	43.0	44.9	38.1	Stream audible, aircraft overhead, distant road traffic,
N3	22:01	46.2	44.4	35.1	RILTA facility was not audible or in operation, noise from neighbouring facilities and stream with distant aircraft also audible.
N4	23:10	45.6	41.7	34.0	Passing traffic on internal industrial estate roads.

Noise levels recorded at the four EPA agreed noise monitoring locations contain noise emissions from adjacent industrial sites, low flying aircraft and traffic on the internal road network of the industrial estate. Noise emissions from the RILTA facility were audible only during daytime monitoring and not audible during the night time monitoring. Note that the EPA agreed noise monitoring locations are all on site and do not reflect emissions at noise sensitive locations.

The A-weighted equivalent continuous sound pressure level (Laeq, 30 min) recorded at the RILTA facility was less than 55 dB(A) at noise monitoring location N1 and N2 only, during the daytime monitoring event. Where the measured Laeq, 30 min exceeded 55 dB(A), this was due to the addition of extraneous noise sources such as low flying aircraft from nearby Baldonnell Airport, passing traffic on the internal roads of the industrial estate, distant traffic on the N7 and activities in adjacent sites. This is evident from the L10 and L90 results presented in Table 8.1 above.

No noise emissions due to the RILTA facility were generally audible during the night time monitoring period. During the night time monitoring period the A-weighted equivalent continuous sound pressure level (Laeq, 30 min) exceeded 45 dB(A) (night time) limit at N1 only. The exceedance at N1 was directly attributable to extraneous noise sources such as traffic on the industrial estate road network and low

flying aircraft from nearby Baldonnell Airport. This is evident from the L10 and L90 results presented in Table 8.2 above.

There were no impulsive noise emissions audible at any of the monitoring locations during the daytime or night time monitoring period. With regard to tonal emissions, tonal components were present at 1 no. daytime monitoring location (N4). However, no tonal emissions at these frequencies were recorded at any other monitoring location during the day or night time monitoring event.

There was a pure tone at 25Hz measured at monitoring location N4 (Day Monitoring). The tone at this frequency was not present at the same location during the night time survey. The tone at N4 (25Hz) was not observed at any other monitoring location during either the day or night time monitoring events, and as such is unlikely to have originated due to RILTA activities.

There were no tonal components recorded during any of the night time monitoring events.

Full 1/3 octave frequency band analysis of both day and night time surveys is presented in Appendix D.

9 AMBIENT MONITORING

9.1 DUST

According to Schedule E of the waste licence, dust monitoring is required at the facility three times a year (twice between May and September), at monitoring locations illustrated on Drawing 1250/01/1002 *(see Appendix A).* Dust monitoring was carried out at four separate locations at the 4 no. corner boundaries of the RILTA facility. The samples were delivered to Alcontrol Laboratories for analysis.

The results for each sample location D1, D2, D3 and D4 are included in Appendix E. In summary the air quality at all monitoring locations was good, with no exceedances recorded during the 2011 monitoring period except at D3 in June 2011. The dust deposition limit of 350 mg/m^2/day was exceeded once during 2011 and the highest recorded concentration for the site (364mg/m^2/day) was recorded during the June monitoring event at D3.

Table 9.1 Dust Monitoring Results – 2011

Monitoring Period	D1	D2	D3	D4	Source of Dust
	mg/m^2/d	mg/m^2/d	mg/m^2/d	mg/m^2/d	
March 2011	110	24.1	171	103	No Exceedances
June 2011	90	161	364	151	One Exceedance D3
Sept 2011	194	136	58.6	*	No Exceedances

***Note:** A dust jar had been placed at D4 on 4th August 2011, but it was taken prior to collection and as such there are no results for D4 for this period.

9.2 VOC EMISSIONS

Odour Monitoring Ireland were commissioned by Rilta Environmental Limited to perform volatile organic compound (VOC) monitoring of the three licensed emission points located within the facility. All results from the 2011 monitoring were in compliance with required limits.

The full report from OMI detailing ambient emissions from the RILTA facility is contained in Appendix F.

10 TANK AND PIPELINE TESTING AND INSPECTION REPORT

As per Condition 11 of waste licence 192-03, any reports on integrity testing of bunds or tanks will be furnished to the agency upon completion. Previous bund tests were reported to the Agency in the 2008 and 2009 AER and thus, were not due to be carried out within this reporting period. These tests will be completed in 2012.

11 ENERGY EFFICIENCY AUDIT REPORT

The energy audit was completed in 2008 and the details were furnished to the Agency. Another audit is due for completion in 2012.

11.1 WATER DEMAND AND TRADE EFFLUENT DISCHARGE

While considerable water is used throughout the site 445m3 of treated effluent were re-used in 2011 for cleaning purposes and in decanter cooling systems.

11.2 EFFICIENCY OF USE OF RAW MATERIALS/ REDUCTION IN WASTE GENERATED

The main raw material used on site is paint. RILTA has managed the use of solvent based paints to reduce the totals used in 2011 as described below.

Table 11.1 Raw Material usage 2011

	2011	2010
56% Solids Paint	2,200 L	3,100 L
65% Solids Paint	6,100L	4,800L
Xylene	200L	400L
Acetone	25L	100L

12 DEVELOPMENT / INFRASTRUCTURAL WORKS

Rilta is currently operating a trial treatment plant with a view to upgrading it to a full plant in 2012.

13 FINANCIAL PROVISION

A proposal in respect of financial provision was updated and furnished to the Agency in 2011.

13.1 MANAGEMENT AND STAFFING STRUCTURE

Details of the management and staffing structure are contained in Appendix G.

13.2 PROGRAMME FOR PUBLIC INFORMATION

RILTA maintains a 'Public File' which contains all correspondence between RILTA and the Agency, all waste data and monitoring data as required by waste licence 0192-03. This file is available for viewing during normal office hours.

14 DECOMMISSIONING MANAGEMENT PLAN

This was submitted to the Agency in April 2011.

14.1 PREVENTION OF ENVIRONMENTAL DAMAGE AND REMEDIAL ACTIONS (ENVIRONMENTAL LIABILITIES)

This was submitted to the Agency in April 2011.

14.2 ENVIRONMENTAL LIABILITIES RISK ASSESSMENT (ELRA)

This was submitted to the Agency in April 2011.

APPENDIX A

Site Maps

Site Location Map

Monitoring Location Map

Monitoring Point Locations (to National Grid Reference)

Groundwater Monitoring Points
BH1 E301555, N 228440
BH2 E301600, N228550
BH3 E301630, N228555

Underground Settlement Tank Monitoring Points
GW1 E301630, N228515
GW2 E301650, N228540
GW3 E301625, N228540

Surface Water/Invertebrate Monitoring Points
SW1/KS1 E301670, N228562
SW2/KS2 E301565, N228555
SW3 (Proposed) E301480, N228560

Dust Monitoring Points
D1 E301630, N228450
D2 E301580, N228550
D3 E301670, N228555
D4 E301630, N228420

Noise Monitoring Points
N1 E301630, N228450
N2 E301580, N228550
N3 E301670, N228555
N4 E301630, N228420

Air Monitoring Points
A1 E301620, N228440
A2 E301630, N228445
A3 E301630, N228460

Waste Water Monitoring Point
EFF (Proposed) E301655, N228530

Legend:

- Licence Boundary
- Surface Water Monitoring Points
- Invertebrate Kick Sampling Monitoring Points
- Dust Monitoring Points
- Noise Monitoring Points
- Waste Water Monitoring Point
- Groundwater Monitoring Points
- Underground Settlement Tank Monitoring Points
- Air Monitoring Points

KS1
SW1
D3
N3
BUNDED TANK AREA
BH3
SW3
BH2
VEHICLE WASH AREA
SW2
KS2
D2
N2
DOCK LEVELLER
GW2
GW3
EFF
RACKED STORAGE
GW1
WASTE TREATMENT CENTRE 1858 SQ.M
STATION 1859 SQ.M
HAZARDOUS WASTE TRANSFER
CONTAMINATED SOIL STORAGE
A3
A1
DRUM CENTRE 1858 SQ.M
A2
OFFICE BLOCK 400 SQ.M
WEIGHBRIDGE
DOCK LEVELLER
D1
N1
BH1
GATE
D4
N4
ELECTRICAL SWITCHROOM

Notes:

1. Figured Dimensions only to be taken from this drawing
2. All Drawings to be checked by the Contractor on site
3. Engineer to be informed of any discrepancies before any work commences
4. All levels relate to Ordnance Survey Datum at Malin Head

suffix	revisions	date	by

Client

Drawing Title
SITE LAYOUT PLAN

Project
INTEGRATED WASTE MANAGEMENT FACILITY, GREENOGUE, CO. DUBLIN

Scale: 1/500

Drawn by	Checked by	Date
MARKCONROY	DAMIENGREHAN	January 2007

ENGINEER IN CHARGE: DAMIEN GREHAN

TOBIN
Patrick J. Tobin & Co. Ltd.
Block 19-3
Blanchardstown Corporate Park
Dublin 15.
Ireland
Tel. 01 8030401
Fax. 01 8030410
email info@tobin.ie

Drawing No.
1250/01/1002

Rev.

APPENDIX B

Environmental Management Programme 2011 & 2012

RILTA ENVIRONMENTAL Ltd.

ENVIRONMENTAL MANAGEMENT SYSTEM

ENVIRONMENTAL MANAGEMENT PLAN

ER-003

In accordance with
ISO 14001

ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE ACHIEVEMENT OF OBJECTIVES AND TARGETS

EMP Ref.	***Objective***	***Environmental Management Programme for the implementation of objectives.***	***Completion Date***	***Completed (Y/N)***
1	Increase environmental awareness among RILTA staff.	Develop and issue quarterly e-mail environmental bulletin.	June 11	
2	Promote best practice in the processing of waste generated on site.	Extend Green bin system to all office and warehouse areas.	Sept 11	
3	Reduce fugitive emissions.	Annual monitoring of fugitive emissions.	Ongoing	

EMP Ref.	***Objective***	***Environmental Management Programme for the implementation of objectives.***	***Completion Date***	***Completed (Y/N)***
4	Improve site housekeeping.	Insist that only fully and correctly labeled drums/IBCs are accepted on site. Investigate the possibility of building a wall at the north end of the site to control litter and other contaminants from reaching the river.	Ongoing tbc	
5	Reduce trade effluent sent to foul sewer	Investigate tertiary treatment of effluent with a view of re-using treated aqueous waste.	Oct 2011	

EMP Ref.	***Objective***	***Environmental Management Programme for the implementation of objectives.***	***Completion Date***	***Completed (Y/N)***
6	Reduce use of hazardous raw materials used on site.	Implement the 'treat waste with waste' best practice method on an ongoing basis Reduce volume of Xylene by 5%	Ongoing Dec 2011	
7	Optimize the quality of effluent discharged to sewer	Offer the customer free sample analysis for waste in order to get as much waste pre-tested as possible. Investigate tertiary treatment of effluent.	Ongoing Oct 2011	

EMP Ref.	***Objective***	***Environmental Management Programme for the implementation of objectives.***	***Completion Date***	***Completed (Y/N)***
8	To be a good and considerate neighbour.	Complete noise monitoring. Monitor adjoining river on a yearly basis. Maintain a 'complaints register' and review annually. Liaise with industrial neighbours on a quarterly basis Implement 'closed door' policy system	Ongoing Ongoing Ongoing Ongoing Ongoing	Y
9	Fire Safety	Complete building fire safety review and implement findings.	September 2011	
10	To Be Energy Efficient	Complete energy audit Set up security system to prevent unlawful usage of Diesel Set up system to assess diesel usage efficiency	Dec 2011 July 2011 Dec 2011	Yes

RILTA ENVIRONMENTAL Ltd.

ENVIRONMENTAL MANAGEMENT SYSTEM

ENVIRONMENTAL MANAGEMENT PLAN

ER-003

In accordance with
ISO 14001

ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE ACHIEVEMENT OF OBJECTIVES AND TARGETS

EMP Ref.	***Objective***	***Target***	***Environmental Management Programme for the implementation of objectives.***	***Responsible Person***	***Completion Date***	***Completed (Y/N)***
1	Increase environmental awareness among RILTA staff.	Develop and issue quarterly e-mail environmental bulletin.	Confirm content IT to design email template Input information Distribute	CH ONE51 IT CK CH	June 12 June 12 August 12 August 12	
2	Promote best practice in the processing of waste generated on site.	Change current method of disposing dry sludge to prevent leachate production	Confirm most suitable site Assess most suitable method of transport Assess most suitable method of storage prior to transport which doesn't allow for leachate accumulation 1st load exported	RS/SC RS/SC EI/CH DG	Mar 12 Apr 12 May 12 June 12	

EMP Ref.	***Objective***	***Target***	***Environmental Management Programme for the implementation of objectives.***	***Responsible Person***	***Completion Date***	***Completed (Y/N)***
3	Improve site housekeeping.	Implement weekly 'Friday tidy up'	Draw up groupings to share tidy up responsibility between sections. Assign a responsible person for each group and post the rota. Assess effectiveness and meet with responsible persons	CH CH CH	Feb 12 Feb 12 Apr 12	
4	Reduce trade effluent sent to foul sewer	Install a treated effluent re-use tank	Further investigate treated effluent polishing system Implement system if approved. Assess polished effluent for general site use Install Tank if approved by EPA Expand use through the whole site	EI/CH EI/DG EI/CH EI/CH EI	June 12 Sept 12 Oct 12 Feb 13 June 13	

EMP Ref.	***Objective***	***Target***	***Environmental Management Programme for the implementation of objectives.***	***Responsible Person***	***Completion Date***	***Completed (Y/N)***
5	Reduce use of hazardous raw materials used on site.	Implement the 'treat waste with waste' best practice method on an ongoing basis Reduce volume of Xylene by 5%	Source suitable waste streams for treatment Laboratory approval for the usage of wastes for treatment Investigate the possible usage of waste solvents in instead of product.		Ongoing Ongoing Dec 2012	
6	Optimize the quality of effluent discharged to sewer	As No. 4	As No. 4			

EMP Ref.	***Objective***	***Target***	***Environmental Management Programme for the implementation of objectives.***	***Responsible Person***	***Completion Date***	***Completed (Y/N)***
7	To be a good and considerate neighbour.	No complaints	Complete noise monitoring.	CH	Ongoing	
			Monitor adjoining river on a yearly basis.	CH	Ongoing	
			Maintain a 'complaints register' and review annually.	CH	Ongoing	
			Liaise with industrial neighbours on a quarterly basis	CH	Ongoing	
			Implement 'closed door' policy system	CM/DG	Ongoing	
			Cold cutting at the cedar site to take place inside with doors close	DG	Ongoing	

EMP Ref.	***Objective***	***Target***	***Environmental Management Programme for the implementation of objectives.***	***Responsible Person***	***Completion Date***	***Completed (Y/N)***
8	To Be Energy Efficient	Reduce Water and electricity usage	Complete targeted energy audit. Assess findings of audit. Implement findings of audit if economically and practically feasible.	CH CH/EI CH/EI	Apr 12 May 12 Dec 12	

APPENDIX C

Pollutant Release and Transfer Register (PRTR)

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.13

REFERENCE YEAR	2011

1. FACILITY IDENTIFICATION

Parent Company Name	Rilta Environmental Limited
Facility Name	Rilta Environmental Limited
PRTR Identification Number	W0192
Licence Number	W0192-03

Waste or IPPC Classes of Activity

No.	class_name
4.13	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.
3.11	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.12	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
3.13	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.
3.7	##
4.2	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
4.6	Recovery of components used for pollution abatement.
4.8	Oil re-refining or other re-uses of oil.

Address 1	Block 402, Grant's Drive
Address 2	Greenogue Business Park
Address 3	Rathcoole
Address 4	County Dublin
	Dublin
Country	Ireland
Coordinates of Location	-8.48281 51.8695
River Basin District	IEEA
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
AER Returns Contact Name	Colm Hussey
AER Returns Contact Email Address	colm.hussey@rilta.ie
AER Returns Contact Position	Facility Manager
AER Returns Contact Telephone Number	014018000
AER Returns Contact Mobile Phone Number	0879176264

AER Returns Contact Fax Number	014018080
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(a)	Installations for the recovery or disposal of hazardous waste
5(c)	Installations for the disposal of non-hazardous waste
50.1	General

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

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

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : W0192 | Facility Name : Rilta Environmental Limited | Filename : W0192_2011.xls | Return Year : 2011 | 28/03/2012 10:46

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

RELEASES TO AIR					Please enter all quantities in this section in KGs					
POLLUTANT		METHOD						QUANTITY		
			Method Used							
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
351	**Total Organic Carbon (as C)**	C	OTH	Calculated using bi-annual TOC measurment x 1000hrs operation time	22.0	150.0	210.0	382.0	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: Rilta Environmental Limited

Please enter summary data on the quantities of methane flared and / or utilised			Method Used			
	T (Total) kg/Year	**M/C/E**	**Method Code**	**Designation or Description**	**Facility Total Capacity m3 per hour**	
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

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

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

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

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

* 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

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
20	Copper and compounds (as Cu)	C	OTH	average value measured x total volume dischared (35835m)	4.6	4.6	0.0	0.0
62	Benzene	C	OTH	average value measured x total volume dischared (35835m)	0.2	0.2	0.0	0.0
17	Arsenic and compounds (as As)	C	OTH	average value measured x total volume dischared (35835m)	0.11	0.11	0.0	0.0
65	Ethyl benzene	C	OTH	average value measured x total volume dischared (35835m)	0.13	0.13	0.0	0.0
22	Nickel and compounds (as Ni)	C	OTH	average value measured x total volume dischared (35835m)	3.78	3.78	0.0	0.0
23	Lead and compounds (as Pb)	C	OTH	average value measured x total volume dischared (35835m)	0.02	0.02	0.0	0.0
73	Toluene	C	OTH	average value measured x total volume dischared (35835m)	1.0	1.0	0.0	0.0
78	Xylenes	C	OTH	average value measured x total volume dischared (35835m)	8.38	8.38	0.0	0.0
					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 B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
303	BOD	C	OTH	average value measured x total volume dischared (35835m)	2176.24	2176.24	0.0	0.0
306	COD	C	OTH	average value measured x total volume dischared (35835m)	5914.54	5914.54	0.0	0.0
324	Mineral oils	C	OTH	average value measured x total volume dischared (35835m)	19.21	19.21	0.0	0.0
343	Sulphate	C	OTH	average value measured x total volume dischared (35835m)	1731.18	1731.18	0.0	0.0
240	**Suspended Solids**	C	OTH	average value measured x total volume dischared (35835m)	1061.44	1061.44	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# : W0192 | Facility Name : Rilta Environmental Limited | Filename : W0192_2011.xls | Return Year : 2011 | 28/03/2012 10:48

SECTION A : PRTR POLLUTANTS

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

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

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
To Other Countries	02 07 04	No	238.16	materials unsuitable for consumption or processing	R10	M	Weighed	Abroad	Kompostsysteme Nord GmbH,108ZEB026	Industriepark 6,D-27777, Ganderkesee,.,Germany		
To Other Countries	06 01 06	Yes	225.28	other acids	R6	M	Weighed	Abroad	REVATECH SA,.	Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium	REVATECH SA,.,Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium	Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium
To Other Countries	06 03 14	No	171.28	solid salts and solution other than those mentioned in 06 03 11 and 06 03 13	R5	M	Weighed	Abroad	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung,783/240406	3-7+31 Gottlieb-Daimler Strasse,DE 33334, Gutersloo,.,Germany		
To Other Countries	06 05 02	Yes	395.6	sludges from on-site effluent treatment containing dangerous solutions	D9	M	Weighed	Abroad	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung,783/240406	3-7+31 Gottlieb-Daimler Strasse,DE 33334, Gutersloo,.,Germany	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung,783/240406,3-7+31 Gottlieb-Daimler Strasse,DE 33334,Gutersloo,.,Germany	3-7+31 Gottlieb-Daimler Strasse,DE 33334,Gutersloo,.,Germany
To Other Countries	07 05 04	Yes	99.98	other organic solvents, washing liquids and mother liquors	D10	M	Weighed	Abroad	Sava Gmbh & Co,.	1 Osterweute,Ce25541,Brunsbuttel,.,Germany	Sava Gmbh & Co,.,1 Osterweute,Ce25541,Brunsbuttel,.,Germany	1 Osterweute,Ce25541,Brunsbuttel,.,Germany
To Other Countries	09 01 05	Yes	126.9	bleach solutions and bleach fixer solutions	R4	M	Weighed	Abroad	Remondis Production GmbH,WML/0707M01	Brunnenstrasse 138,DE 44536, Lunen,.,Germany	Remondis Production GmbH,WML/0707M01,Brunnenstrasse 138,DE 44536,Lunen,.,Germany	Brunnenstrasse 138,DE 44536,Lunen,.,Germany
To Other Countries	10 01 09	Yes	182.26	sulphuric acid	R5	M	Weighed	Abroad	Lafarge Activité Plâtre,.	rue Marcel Demonque,500,Zone du Pôle Technologique Agro Parc,F-84915 Avignon Cedex 9,France	Lafarge Activité Plâtre,.,rue Marcel Demonque,500,Zone du Pôle Technologique Agro Parc,F-84915 Avignon Cedex 9,France	rue Marcel Demonque,500,Zone du Pôle Technologique Agro Parc,F-84915 Avignon Cedex 9,France
To Other Countries	10 01 04	Yes	65.6	oil fly ash and boiler dust	R5	M	Weighed	Abroad	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung,783/240406	3-7+31 Gottlieb-Daimler Strasse,DE 33334, Gutersloo,.,Germany	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung,783/240406,3-7+31 Gottlieb-Daimler Strasse,DE 33334,Gutersloo,.,Germany	3-7+31 Gottlieb-Daimler Strasse,DE 33334,Gutersloo,.,Germany
To Other Countries	11 01 05	Yes	91.8	pickling acids	R4	M	Weighed	Abroad	REVATECH SA,.	Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium	REVATECH SA,.,Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium	Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium
To Other Countries	11 01 09	Yes	118.62	sludges and filter cakes containing dangerous substances	R5	M	Weighed	Abroad	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung,783/240406	3-7+31 Gottlieb-Daimler Strasse,DE 33334, Gutersloo,.,Germany	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung,783/240406,3-7+31 Gottlieb-Daimler Strasse,DE 33334,Gutersloo,.,Germany	3-7+31 Gottlieb-Daimler Strasse,DE 33334,Gutersloo,.,Germany
To Other Countries	11 05 02	No	72.58	zinc ash	R4	M	Weighed	Abroad	Rezinal NV,.	Industriezone Zolder-Lummen Zuid,Dellestraat 17,BEB-3550 Heusden-Zolder,.,Belgium		
To Other Countries	13 02 08	Yes	196.48	other engine, gear and lubricating oils	R9	M	Weighed	Abroad	North Refinery,2009-35-003/24 MV	Oosterwierum 25, 9936 HJ , Farmsum , P.O. Box 215 9930 AE Delfzijl, The Netherlands	North Refinery,2009-35-003/24 MV,Oosterwierum 25, 9936 HJ, Farmsum, P.O. Box 215 9930 AE Delfzijl, The Netherlands	Oosterwierum 25, 9936 HJ, Farmsum, P.O. Box 215 9930 AE Delfzijl, The Netherlands
To Other Countries	13 07 02	Yes	55.94	petrol	R9	M	Weighed	Abroad	North Refinery,2009-35-003/24 MV	Oosterwierum 25, 9936 HJ , Farmsum , P.O. Box 215 9930 AE Delfzijl, The Netherlands	North Refinery,2009-35-003/24 MV,Oosterwierum 25, 9936 HJ, Farmsum, P.O. Box 215 9930 AE Delfzijl, The Netherlands	Oosterwierum 25, 9936 HJ, Farmsum, P.O. Box 215 9930 AE Delfzijl, The Netherlands
To Other Countries	14 06 03	Yes	12.73	other solvents and solvent mixtures	R1	M	Weighed	Abroad	RCN Chemie GmbH,.	Daimlerstrasse 26,.,Goch,.,Germany	RCN Chemie GmbH,.,Daimlerstrasse 26,.,Goch,.,Germany	Daimlerstrasse 26,.,Goch,.,Germany

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					
To Other Countries	14 06 03	Yes	405.17	other solvents and solvent mixtures	R1	M	Weighed	Abroad	Afvalstoffen Terminal Moerdijk B.V.,821780	Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,., The Netherlands	Afvalstoffen Terminal Moerdijk B.V,821780,Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,.,Netherlands	Industrieterrein - Seaport M152,Vlasweg 12,.,4782 PW Moerdijk,Netherlands
To Other Countries	15 01 10	Yes	35.38	packaging containing residues of or contaminated by dangerous substances	R3	M	Weighed	Abroad	Nehlsen Gmbh & Co.,A-4187HH	Neiderlassung Nehlsen-Plimp,Betriebsstatte Bremen,Louis-Krages Strasse 10,Bremen,Germany	Nehlsen Gmbh & Co.,A-4187HH,Neiderlassung Nehlsen-Plimp,Betriebsstatte Bremen,Louis-Krages Strasse 10,Bremen,Germany	Neiderlassung Nehlsen-Plimp,Betriebsstatte Bremen,Louis-Krages Strasse 10,Bremen,Germany
To Other Countries	15 01 02	No	29.33	plastic packaging	R3	M	Weighed	Abroad	JFC Plastics Ltd,CB/NN5475LM	Unit 6 Goldicote Business Park, Ettington,Nr Stratford-Upon- Avon Warwickshire, CV37 7NB,United Kingdom		
To Other Countries	15 02 02	Yes	212.18	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R1	M	Weighed	Abroad	Afvalstoffen Terminal Moerdijk B.V.,821780	Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,., The Netherlands	Afvalstoffen Terminal Moerdijk B.V,.,Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,.,Netherlands	Industrieterrein - Seaport M152,Vlasweg 12,.,4782 PW Moerdijk,Netherlands
Within the Country	15 01 04	No	546.8	metallic packaging	R4	M	Weighed	Offsite in Ireland	A1 Metal,WMP007d	Acragar,.,Mountmellick,Co. Laois,Ireland		
Within the Country	16 02 14	No	3.92	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Offsite in Ireland	Electrical Waste Ireland,Permit No. WFP-DS-09-0012-01	Jordanstown drive,Unit 648 Greenogue Business Park,Rathcoole,Co. Dublin,Ireland		
To Other Countries	16 05 04	Yes	12.68	gases in pressure containers (including halons) containing dangerous substances	D10	M	Weighed	Abroad	Remondis Production GmbH,WML/0707M01	Brunnenstrasse 138,DE 44536, Lunen,.,Germany	Remondis Production GmbH,WML/0707M01,Brunnenstrasse 138,DE 44536,Lunen,.,Germany	Brunnenstrasse 138,DE 44536,Lunen,.,Germany
To Other Countries	16 05 06	Yes	64.29	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals	R1	M	Weighed	Abroad	Afvalstoffen Terminal Moerdijk B.V.,821780	Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,., The Netherlands	Afvalstoffen Terminal Moerdijk B.V,821780,Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,.,Netherlands	Industrieterrein - Seaport M152,Vlasweg 12,.,4782 PW Moerdijk,Netherlands
To Other Countries	16 05 07	Yes	134.08	discarded inorganic chemicals consisting of or containing dangerous substances	R6	M	Weighed	Abroad	REVATECH SA,.	Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium	REVATECH SA,.,Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium	Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium
Within the Country	16 06 01	Yes	5.64	lead batteries	R4	M	Weighed	Offsite in Ireland	The Recycling Village Ltd., WP2007/20	Unit 4 Tinure Business Park,.,Monasterboice,Co. Louth,Ireland	The Recycling Village Ltd,WP2007/20,Unit 4 Tinure Business Park,.,Monasterboice,Co. Louth,Ireland	Unit 4 Tinure Business Park,.,Monasterboice,Co. Louth,Ireland
To Other Countries	16 06 01	Yes	6222.34	lead batteries	R4	M	Weighed	Abroad	HJ Enthoven & Sons,BL5598	Darley Dale Smelter,South Darley,Derbyshire,DE4 2LP,United Kingdom	HJ Enthoven & Sons,BL5598,Darley Dale Smelter,South Darley,Derbyshire,DE4 2LP,United Kingdom	Darley Dale Smelter,South Darley,Derbyshire,DE4 2LP,United Kingdom
Within the Country	16 06 02	Yes	21.76	Ni-Cd batteries	R4	M	Weighed	Offsite in Ireland	The Recycling Village Ltd., WP2007/20	Unit 4 Tinure Business Park,.,Monasterboice,Co. Louth,Ireland	The Recycling Village Ltd,WP2007/20,Unit 4 Tinure Business Park,.,Monasterboice,Co. Louth,Ireland	Unit 4 Tinure Business Park,.,Monasterboice,Co. Louth,Ireland
To Other Countries	16 06 02	Yes	2.33	Ni-Cd batteries	R4	M	Weighed	Abroad	HJ Enthoven & Sons,BL5598	Darley Dale Smelter,South Darley,Derbyshire,DE4 2LP,United Kingdom	HJ Enthoven & Sons,BL5598,Darley Dale Smelter,South Darley,Derbyshire,DE4 2LP,United Kingdom	Darley Dale Smelter,South Darley,Derbyshire,DE4 2LP,United Kingdom
Within the Country	16 06 04	No	11.7	alkaline batteries (except 16 06 03)	R4	M	Weighed	Offsite in Ireland	The Recycling Village Ltd., WP2007/20	Unit 4 Tinure Business Park,.,Monasterboice,Co. Louth,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					
To Other Countries	16 06 04	No	2.33	alkaline batteries (except 16 06 03)	R4	M	Weighed	Abroad	HJ Enthoven & Sons,BL5598	Darley Dale Smelter,South Darley,Derbyshire,DE4 2LP,United Kingdom		
Within the Country	16 06 05	No	7.57	other batteries and accumulators	R4	M	Weighed	Offsite in Ireland	The Recycling Village Ltd., WP2007/20	Unit 4 Tinure Business Park,.,Monasterboice,Co. Louth,Ireland		
To Other Countries	16 06 05	No	2.33	other batteries and accumulators	R4	M	Weighed	Abroad	HJ Enthoven & Sons,BL5598	Darley Dale Smelter,South Darley,Derbyshire,DE4 2LP,United Kingdom		
To Other Countries	16 10 01	Yes	104.08	aqueous liquid wastes containing dangerous substances	D8	M	Weighed	Abroad	Afvalstoffen Terminal Moerdijk B.V.,821780	Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,., The Netherlands	Afvalstoffen Terminal Moerdijk B.V.,821780,Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,.,Netherlands	Industrieterrein - Seaport M152,Vlasweg 12,.,4782 PW Moerdijk,Netherlands
To Other Countries	16 10 01	Yes	553.66	aqueous liquid wastes containing dangerous substances	D8	M	Weighed	Abroad	REVATECH SA,.	Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium	REVATECH SA,.,Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium	Zoning l'Industrial D'Ehein,B 4480 ENGIS,.,.,Belgium
To Other Countries	16 10 01	Yes	200.5	aqueous liquid wastes containing dangerous substances	D8	M	Weighed	Abroad	Sava Gmbh & Co,.	1 Osterweute,Ce25541,Brunsbuttel,.,Germany	Sava Gmbh & Co,.,1 Osterweute,Ce25541,Brunsbuttel,.,Germany	1 Osterweute,Ce25541,Brunsbuttel,.,Germany
To Other Countries	17 05 03	Yes	30.23	soil and stones containing dangerous substances	D5	M	Weighed	Abroad	GVE Gesellschaft GmbH,.	Gottlieb-Daimler-Strasse 22,33334 Gütersloh,.,.,Germany	GVE Gesellschaft GmbH,.,Gottlieb-Daimler-Strasse 22,33334 Gütersloh,.,.,Germany	Gottlieb-Daimler-Strasse 22,33334 Gütersloh,.,.,Germany
To Other Countries	17 05 03	Yes	151.17	soil and stones containing dangerous substances	D5	M	Weighed	Abroad	Buckh GmbH,KGA53F00502	Rappenburg, 21502 Wiershop,.,.,Germany	Buckh GmbH,KGA53F00502,Rappenburg,21502 Wiershop,.,.,Germany	Rappenburg,21502 Wiershop,.,.,Germany
To Other Countries	17 05 03	Yes	3338.64	soil and stones containing dangerous substances	D5	M	Weighed	Abroad	Terracon GmbH ,.	74-76 Hovestrasse,20539 Hamburg,.,.,Germany	Terracon GmbH ,., 74-76 Hovestrasse,20539 Hamburg ,.,., Germany	74-76 Hovestrasse,20539 Hamburg ,.,., Germany
Within the Country	17 05 04	No	8347.28	soil and stones other than those mentioned in 17 05 03	R13	M	Weighed	Offsite in Ireland	KTK Landfill, W0081-03	Brownstown and Carnalway,Kilcullen Co. Kildare W0081-03,Co. Kildare,.,Ireland		
To Other Countries	17 06 01	Yes	38.01	insulation materials containing asbestos	D5	M	Weighed	Abroad	GVE Gesellschaft GmbH,.	Gottlieb-Daimler-Strasse 22,33334 Gütersloh,.,.,Germany	GVE Gesellschaft GmbH,.,Gottlieb-Daimler-Strasse 22,33334 Gütersloh,.,.,Germany	Gottlieb-Daimler-Strasse 22,33334 Gütersloh,.,.,Germany
To Other Countries	17 06 01	Yes	940.22	insulation materials containing asbestos	D5	M	Weighed	Abroad	Otto Dorner,.	Hovestraße 70,20539 Harburg,.,.,Germany	Otto Dorner,.,Hovestraße 70,20539 Harburg,.,.,Germany	Hovestraße 70,20539 Harburg,.,.,Germany
To Other Countries	17 06 01	Yes	332.37	insulation materials containing asbestos	D5	M	Weighed	Abroad	Buckh GmbH,KGA53F00502	Rappenburg, 21502 Wiershop,.,.,Germany	Buckh GmbH,KGA53F00502,Rappenburg,21502 Wiershop,.,.,Germany	Rappenburg,21502 Wiershop,.,.,Germany
To Other Countries	17 06 05	Yes	1204.17	construction materials containing asbestos (18)	D5	M	Weighed	Abroad	GVE Gesellschaft GmbH,.	Gottlieb-Daimler-Strasse 22,33334 Gütersloh,.,.,Germany	GVE Gesellschaft GmbH,.,Gottlieb-Daimler-Strasse 22,33334 Gütersloh,.,.,Germany	Gottlieb-Daimler-Strasse 22,33334 Gütersloh,.,.,Germany
To Other Countries	17 06 05	Yes	136.51	construction materials containing asbestos (18)	D5	M	Weighed	Abroad	Otto Dorner,.	Hovestraße 70,20539 Harburg,.,.,Germany	Otto Dorner,.,Hovestraße 70,20539 Harburg,.,.,Germany	Hovestraße 70,20539 Harburg,.,.,Germany
To Other Countries	17 06 05	Yes	2938.1	construction materials containing asbestos (18)	D5	M	Weighed	Abroad	Buckh GmbH,KGA53F00502	Rappenburg, 21502 Wiershop,.,.,Germany	Buckh GmbH,KGA53F00502,Rappenburg,21502 Wiershop,.,.,Germany	Rappenburg,21502 Wiershop,.,.,Germany
To Other Countries	18 01 09	No	10.31	medicines other than those mentioned in 18 01 08	R1	M	Weighed	Abroad	Afvalstoffen Terminal Moerdijk B.V.,821780	Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,., The Netherlands		
To Other Countries	18 02 08	No	26.62	medicines other than those mentioned in 18 02 07	R1	M	Weighed	Abroad	Afvalstoffen Terminal Moerdijk B.V.,821780	Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,., The Netherlands		

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					
To Other Countries	19 01 11	Yes	211.1	bottom ash and slag containing dangerous substances	D9	M	Weighed	Abroad	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung,783/240406	3-7+31 Gottlieb-Daimler Strasse,DE 33334, Guterslo,.,Germany	Zimmermann Sonderabfallentsorgung und Verwertung & Co KG Fesstoffkonditionierung,783/240406,3-7+31 Gottlieb-Daimler Strasse,DE 33334,Guterslo,.,Germany	3-7+31 Gottlieb-Daimler Strasse,DE 33334,Guterslo,.,Germany
Within the Country	19 02 99	No	45835.0	wastes not otherwise specified	D8	M	Weighed	Offsite in Ireland	Ringsend WWTW,.	Pigeon House Road,Ringsend,.,Dublin 4,Ireland		
To Other Countries	19 03 04	Yes	2329.78	wastes marked as hazardous, partly (20) stabilised	R12	M	Weighed	Abroad	Terracon GmbH ,.	74-76 Hovestrasse,20539 Hamburg,.,.,Germany	Terracon GmbH ,., 74-76 Hovestrasse,20539 Hamburg ,.,., Germany	74-76 Hovestrasse,20539 Hamburg ,.,., Germany
Within the Country	20 01 21	Yes	0.2	fluorescent tubes and other mercury-containing waste	R4	M	Weighed	Offsite in Ireland	Irish Lamp Recycling,.	Blackpark,Kilkenny Rd.,Athy,Co. Kildare,Ireland	Irish Lamp Recycling,.,Blackpark,Kilkenny Rd,Athy,Co. Kildare,Ireland	Blackpark,Kilkenny Rd,Athy,Co. Kildare,Ireland
To Other Countries	**20 01 27**	**Yes**	49.88	paint, inks, adhesives and resins containing dangerous substances	R1	M	Weighed	Abroad	Geocycle,.	Rue de Courrière 49,B - 7181 Seneffe ,.,.,Belgium	Geocycle S.A. ,.,Rue de Courrière 49,B - 7181 Seneffe ,.,.,Belgium	Rue de Courrière 49,B - 7181 Seneffe ,.,.,Belgium
To Other Countries	20 01 27	Yes	679.34	paint, inks, adhesives and resins containing dangerous substances	R1	M	Weighed	Abroad	Afvalstoffen Terminal Moerdijk B.V.,821780	Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,., The Netherlands	Afvalstoffen Terminal Moerdijk B.V,821780,Industrieterrein - Seaport M152,Vlasweg 12,4782 PW Moerdijk,.,Netherlands	Industrieterrein - Seaport M152,Vlasweg 12,.,4782 PW Moerdijk,Netherlands
To Other Countries	20 01 27	Yes	211.4	paint, inks, adhesives and resins containing dangerous substances	R3	M	Weighed	Abroad	Nehlsen Gmbh & Co.,A-4187HH	Neiderlassung Nehlsen-Plimp,Betriebsstatte Bremen,Louis-Krages Strasse 10,Bremen,Germany	Nehlsen Gmbh & Co.,A-4187HH,Neiderlassung Nehlsen-Plimp,Betriebsstatte Bremen,Louis-Krages Strasse 10,Bremen,Germany	Neiderlassung Nehlsen-Plimp,Betriebsstatte Bremen,Louis-Krages Strasse 10,Bremen,Germany
To Other Countries	20 01 27	Yes	84.58	paint, inks, adhesives and resins containing dangerous substances	D9	M	Weighed	Abroad	Recyfuel SA,P-ENV07-01	Zoning Industrail d'Ehin,Engis,B4480,.,Belgium	Recyfuel SA,P-ENV07-01,Zoning Industrial d'ehin,Engis,B4480,.,Belgium	Zoning Industrial d'ehin,Engis,B4480,.,Belgium
To Other Countries	20 01 36	No	3.8	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	R4	M	Weighed	Abroad	Wincanton WEEE Facility,EPR/BP3495SL	Fawsley Drive,Unit 10 Heartslands Business Park,Daventry,Northants NN11 5UG,United Kingdom		

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

APPENDIX D

Annual Noise Monitoring Report - 2011

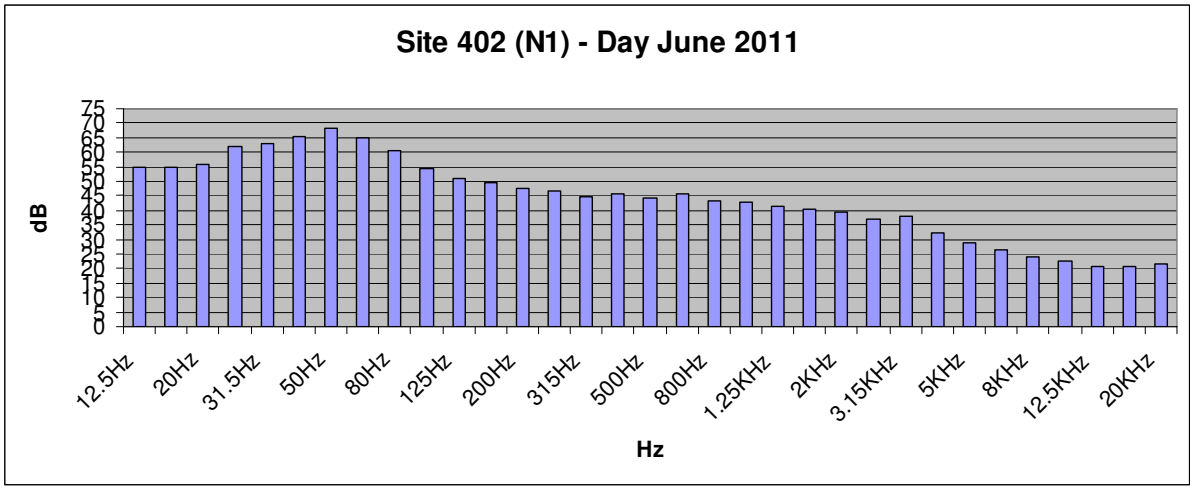


Figure 1 N1 Daytime Frequency Analysis

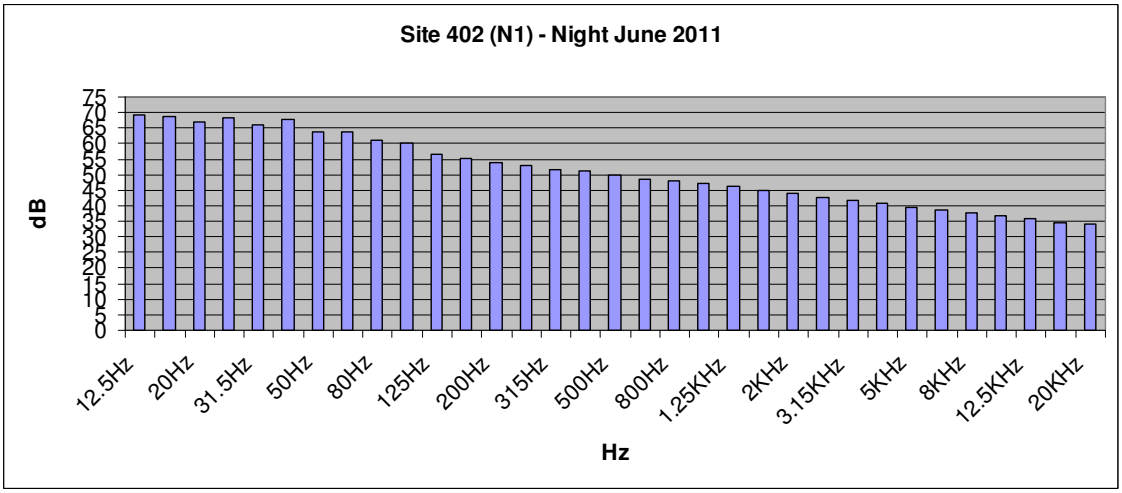


Figure 2 N1 Night Time Frequency Analysis

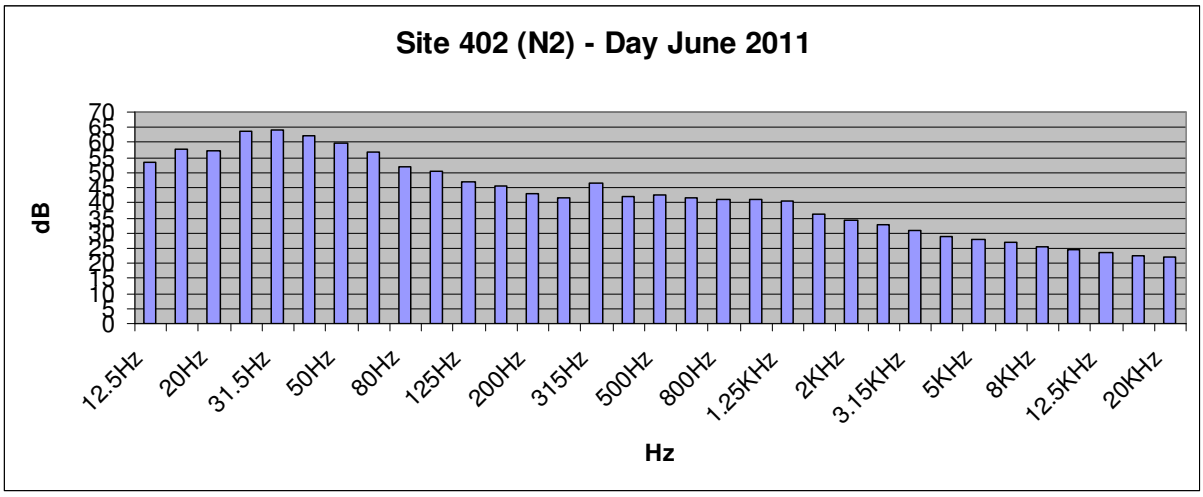


Figure 3 N2 Daytime Frequency Analysis

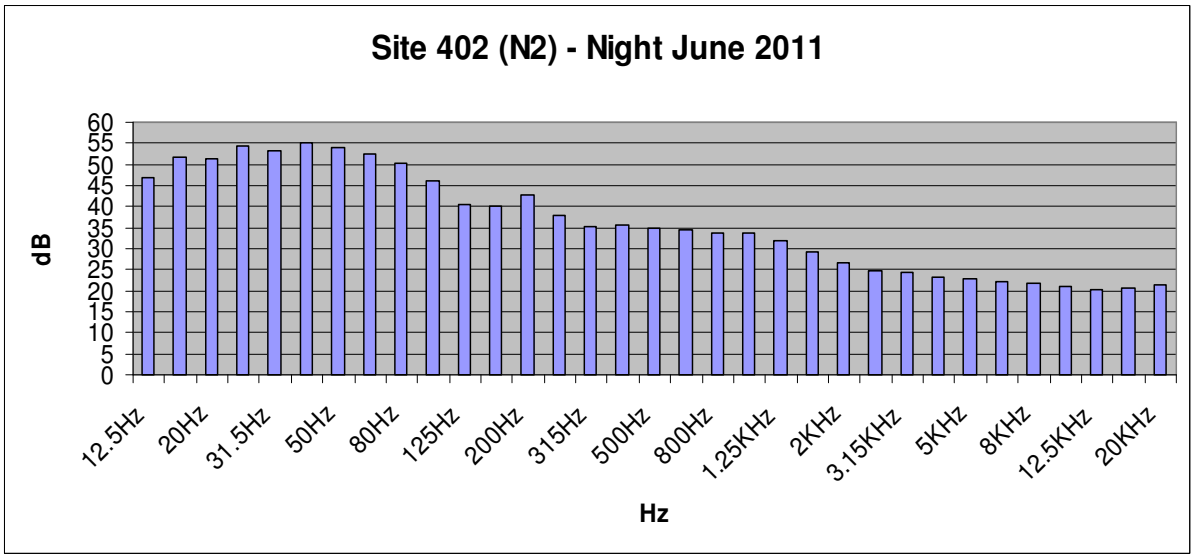


Figure 4 N2 Night Time Frequency Analysis

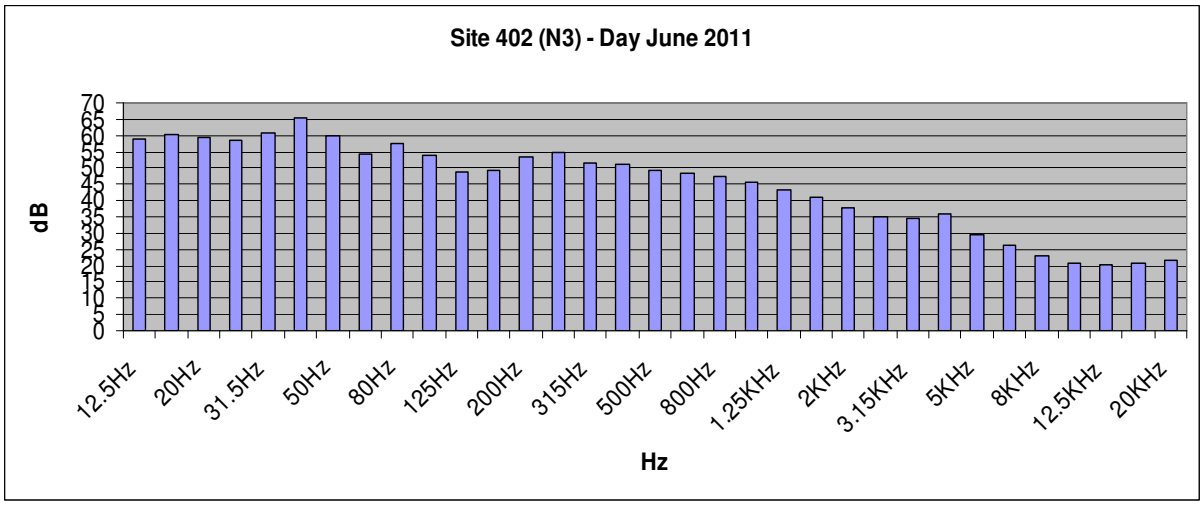


Figure 5 N3 Daytime Frequency Analysis

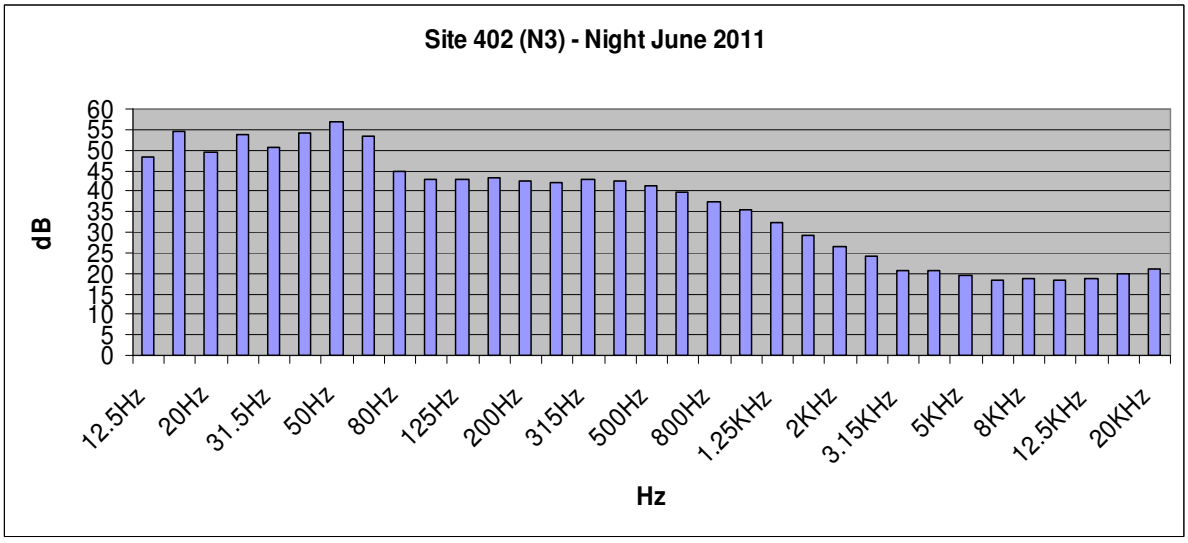


Figure 6 N3 Night Time Frequency Analysis

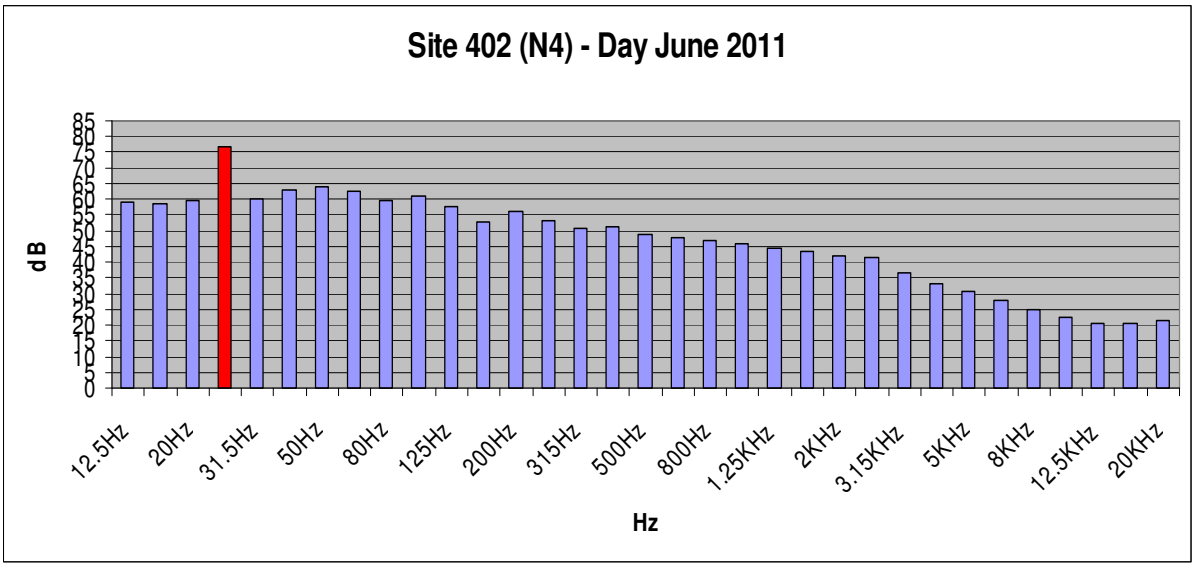


Figure 7 N4 Daytime Frequency Analysis

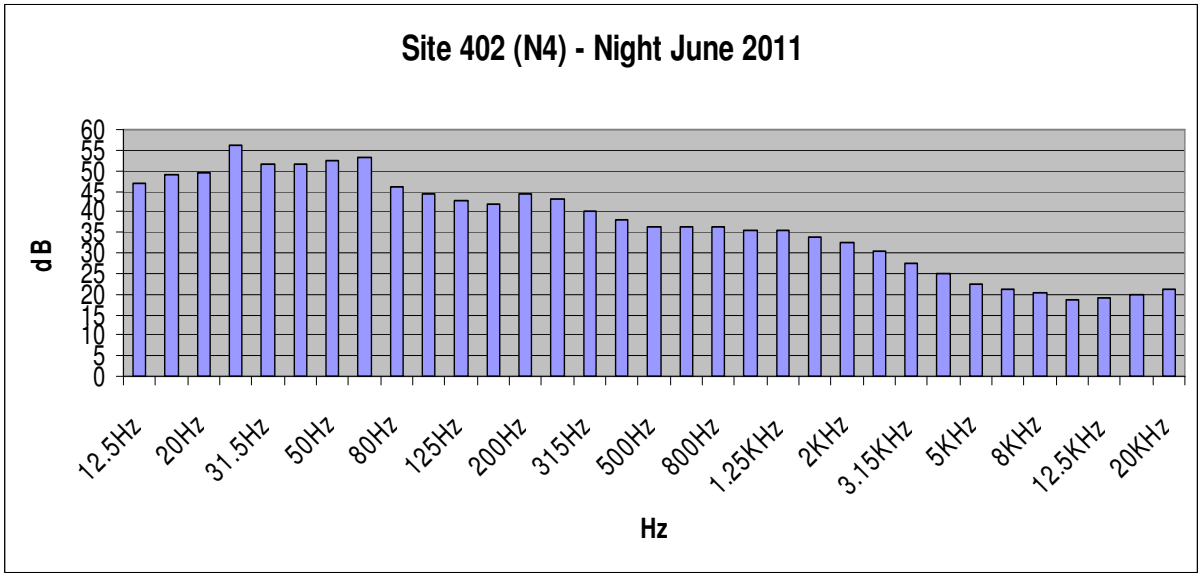


Figure 8 N4 Night Time Frequency Analysis

APPENDIX E

Laboratory Dust Monitoring Results - 2011

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Tobin Consulting Engineers

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date:	31 March 2011
Customer:	D_TOBIN_GWY
Sample Delivery Group (SDG):	110316-68
Your Reference:	3084
Location:	Rilta Site 402
Report No:	123278

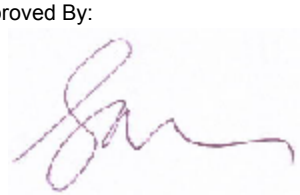
We received 4 samples on Wednesday March 16, 2011 and 4 of these samples were scheduled for analysis which was completed on Thursday March 31, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	110316-68	**Location:**	Rilta Site 402	**Order Number:**	2040
Job:	D_TOBIN_GWY-43	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123278
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3088025	D1			
3088026	D2			
3088027	D3			
3088028	D4			

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	110316-68	**Location:**	Rilta Site 402	**Order Number:**	2040
Job:	D_TOBIN_GWY-43	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123278
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			3088025	D1			1l glass bottle (D)
			3088026	D2			1l glass bottle (D)
			3088027	D3			1l glass bottle (D)
			3088028	D4			1l glass bottle (D)
Dust in Water	All	NDPs: 0 Tests: 4	X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	110316-68	**Location:**	Rilta Site 402	**Order Number:**	2040
Job:	D_TOBIN_GWY-43	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123278
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	D1	D2	D3	D4		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	-	-	-	-		
			Date Received	16/03/2011	16/03/2011	16/03/2011	16/03/2011		
			SDG Ref	110316-68	110316-68	110316-68	110316-68		
			Lab Sample No.(s)	3088025	3088026	3088027	3088028		
			AGS Reference						
Dust, Total	<0.026 mg/m2/da	TM253		110	24.1	171	103		
Dust, Organic	mg/m2/da	TM253		27	16.1	29.3	35.1		
Dust, Inorganic	mg/m2/da	TM253		82.8	8.05	142	68.4		

CERTIFICATE OF ANALYSIS

SDG:	110316-68	**Location:**	Rilta Site 402	**Order Number:**	2040
Job:	D_TOBIN_GWY-43	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123278
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM253	Dust is collected either using a “Frisbee” collector this is the “Stockholm” method or using a “jam jar” collector, this is the “Berghoff” method.	The Determination of Dust		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	110316-68	**Location:**	Rilta Site 402	**Order Number:**	2040
Job:	D_TOBIN_GWY-43	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123278
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	3088025	3088026	3088027	3088028
Customer Sample Ref.	D1	D2	D3	D4
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
Dust in Water	31-Mar-2011	31-Mar-2011	31-Mar-2011	31-Mar-2011

SDG:	110316-68	**Location:**	Rilta Site 402	**Order Number:**	2040
Job:	D_TOBIN_GWY-43	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123278
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH-MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS-MS	DCM	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC-MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Tobin
Block 10 - 4
Blanchardstown Corporate Park
Dublin

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date:	29 June 2011
Customer:	D_TOBIN_DUB
Sample Delivery Group (SDG):	110616-118
Your Reference:	3084
Location:	Rialta Site 402
Report No:	136569

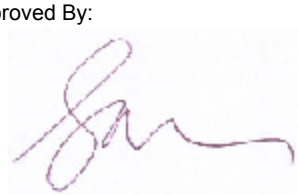
This report has been revised and directly supersedes 135996 in its entirety.

We received 4 samples on Thursday June 16, 2011 and 4 of these samples were scheduled for analysis which was completed on Wednesday June 29, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	110616-118	**Location:**	Rialta Site 402	**Order Number:**	2114
Job:	D_TOBIN_DUB-67	**Customer:**	Tobin	**Report Number:**	136569
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	135996

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3685788	D1			16/06/2011
3685789	D2			16/06/2011
3685790	D3			16/06/2011
3685791	D4			16/06/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	110616-118	**Location:**	Rialta Site 402	**Order Number:**	2114
Job:	D_TOBIN_DUB-67	**Customer:**	Tobin	**Report Number:**	136569
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	135996

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			3685788	D1			2 glass bottle
			3685789	D2			2 glass bottle
			3685790	D3			2 glass bottle
			3685791	D4			2 glass bottle
Dust in Water	All	NDPs: 0 Tests: 4					
			X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	110616-118	**Location:**	Rialta Site 402	**Order Number:**	2114
Job:	D_TOBIN_DUB-67	**Customer:**	Tobin	**Report Number:**	136569
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	135996

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample Ref.	D1	D2	D3	D4		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	16/06/2011	16/06/2011	16/06/2011	16/06/2011		
			Date Received	16/06/2011	16/06/2011	16/06/2011	16/06/2011		
			SDG Ref	110616-118	110616-118	110616-118	110616-118		
			Lab Sample No.(s)	3685788	3685789	3685790	3685791		
			AGS Reference						
Dust, Total	<0.026 mg/m2/day	TM253		90	161	364	151		
Dust, Organic	mg/m2/day	TM253		37.1	88.6	122	62.9		
Dust, Inorganic	mg/m2/day	TM253		52.9	72.1	242	88.6		

CERTIFICATE OF ANALYSIS

SDG:	110616-118	**Location:**	Rialta Site 402	**Order Number:**	2114
Job:	D_TOBIN_DUB-67	**Customer:**	Tobin	**Report Number:**	136569
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	135996

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM253	Dust is collected either using a “Frisbee” collector this is the “Stockholm” method or using a “jam jar” collector, this is the “Berghoff” method.	The Determination of Dust		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	110616-118	**Location:**	Rialta Site 402	**Order Number:**	2114
Job:	D_TOBIN_DUB-67	**Customer:**	Tobin	**Report Number:**	136569
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	135996

Test Completion Dates

Lab Sample No(s)	3685788	3685789	3685790	3685791
Customer Sample Ref.	D1	D2	D3	D4
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
Dust in Water	27-Jun-2011	27-Jun-2011	27-Jun-2011	27-Jun-2011

CERTIFICATE OF ANALYSIS

SDG:	110616-118	**Location:**	Rialta Site 402	**Order Number:**	2114
Job:	D_TOBIN_DUB-67	**Customer:**	Tobin	**Report Number:**	136569
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	135996

SDG:	110616-118	**Location:**	Rialta Site 402	**Order Number:**	2114
Job:	D_TOBIN_DUB-67	**Customer:**	Tobin	**Report Number:**	136569
Client Reference:	3084	**Attention:**	David Corrigan	**Superseded Report:**	135996

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MINOL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT/ PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C6-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (R)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Tobin
Block 10 - 4
Blanchardstown Corporate Park
Dublin

Attention: Mary Lynch

CERTIFICATE OF ANALYSIS

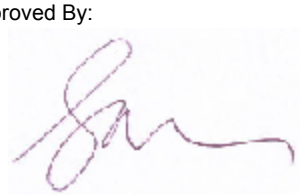
Date:	13 September 2011
Customer:	D_TOBIN_DUB
Sample Delivery Group (SDG):	110902-120
Your Reference:	3084
Location:	Site 402
Report No:	149906

We received 4 samples on Friday September 02, 2011 and 4 of these samples were scheduled for analysis which was completed on Tuesday September 13, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	110902-120	**Location:**	Site 402	**Order Number:**	2155
Job:	D_TOBIN_DUB-71	**Customer:**	Tobin	**Report Number:**	149906
Client Reference:	3084	**Attention:**	Mary Lynch	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
4217962	D1			02/09/2011
4217963	D2			02/09/2011
4217965	D4			02/09/2011
4217967	WW1			02/09/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	110902-120	**Location:**	Site 402	**Order Number:**	2155
Job:	D_TOBIN_DUB-71	**Customer:**	Tobin	**Report Number:**	149906
Client Reference:	3084	**Attention:**	Mary Lynch	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			4217962	4217967	4217963	4217965	
			D1	WW1	D2	D4	
			1l glass bottle (D)	0.5l glass bottle (AL	PLAS BOT (D)	1l glass bottle (D)	1l glass bottle (D)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1			X		
Anions by Kone (w)	All	NDPs: 0 Tests: 1			X		
BOD True Total	All	NDPs: 0 Tests: 1			X		
COD Unfiltered	All	NDPs: 0 Tests: 1			X		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1			X		
Dust	All	NDPs: 0 Tests: 3	X			X	X
Methylene blue active substances	All	NDPs: 0 Tests: 1			X		
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 1		X			
pH Value	All	NDPs: 0 Tests: 1			X		
Suspended Solids	All	NDPs: 0 Tests: 1			X		
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1			X		
VOC MS (W)	All	NDPs: 0 Tests: 1		X			

ALcontrol Laboratories

Validated

CERTIFICATE OF ANALYSIS

SDG:	110902-120	**Location:**	Site 402	**Order Number:**	2155
Job:	D_TOBIN_DUB-71	**Customer:**	Tobin	**Report Number:**	149906
Client Reference:	3084	**Attention:**	Mary Lynch	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	D1	D2	D4	WW1		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	02/09/2011	02/09/2011	02/09/2011	02/09/2011		
			Date Received	02/09/2011	02/09/2011	02/09/2011	02/09/2011		
			SDG Ref	110902-120	110902-120	110902-120	110902-120		
			Lab Sample No.(s)	4217962	4217963	4217965	4217967		
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022					25 § #		
BOD, unfiltered	<1 mg/l	TM045					<60 #		
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099					29.1 #		
COD, unfiltered	<7 mg/l	TM107					275 #		
Copper (diss.filt)	<0.85 µg/l	TM152					32.8 #		
Lead (diss.filt)	<0.02 µg/l	TM152					0.99 #		
Nickel (diss.filt)	<0.15 µg/l	TM152					12.4 #		
Zinc (diss.filt)	<0.41 µg/l	TM152					90.2 #		
Mineral oil >C10 C40 (aq)	<10 µg/l	TM172					2320		
Sulphate	<2 mg/l	TM184					35.4 #		
Arsenic (tot.unfilt)	<2 µg/l	TM191					3.52 #		
Chromium (tot.unfilt)	<3 µg/l	TM191					<3 #		
Surfactants, Anionic (MBAS)	<0.05 mg/l	TM249					0.815		
Dust, Total	<0.026 mg/m2/da	TM253		194	136	58.6			
pH	<1 pH Units	TM256					7.24 #		

CERTIFICATE OF ANALYSIS

SDG:	110902-120	**Location:**	Site 402	**Order Number:**	2155
Job:	D_TOBIN_DUB-71	**Customer:**	Tobin	**Report Number:**	149906
Client Reference:	3084	**Attention:**	Mary Lynch	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Customer Sample R	WW1
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	02/09/2011
Date Received	02/09/2011
SDG Ref	110902-120
Lab Sample No.(s)	4217967
AGS Reference	

Component	LOD/Units	Method	
Toluene-d8**	%	TM208	94.7 §
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	67.5 § #
Benzene	<1 µg/l	TM208	2.15 § #
Toluene	<1 µg/l	TM208	8.72 § #
Ethylbenzene	<1 µg/l	TM208	<1 § #
m,p-Xylene	<1 µg/l	TM208	3.71 § #
o-Xylene	<1 µg/l	TM208	7.4 § #

CERTIFICATE OF ANALYSIS

SDG:	110902-120	**Location:**	Site 402	**Order Number:**	2155
Job:	D_TOBIN_DUB-71	**Customer:**	Tobin	**Report Number:**	149906
Client Reference:	3084	**Attention:**	Mary Lynch	**Superseded Report:**	

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
4217997	WW1		LIQUID	VOC MS (W)	Benzene	Sample holding time exceeded
4217997	WW1		LIQUID	VOC MS (W)	Ethylbenzene	Sample holding time exceeded
4217997	WW1		LIQUID	VOC MS (W)	m,p-Xylene	Sample holding time exceeded
4217997	WW1		LIQUID	VOC MS (W)	Methyl tertiary butyl ether (MTBE)	Sample holding time exceeded
4217997	WW1		LIQUID	VOC MS (W)	o-Xylene	Sample holding time exceeded
4217997	WW1		LIQUID	VOC MS (W)	Toluene	Sample holding time exceeded
4217997	WW1		LIQUID	VOC MS (W)	Toluene-d8**	Sample holding time exceeded
4239406	WW1		LIQUID	Suspended Solids	Suspended solids, Total	Sample holding time exceeded

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

SDG:	110902-120	**Location:**	Site 402	**Order Number:**	2155
Job:	D_TOBIN_DUB-71	**Customer:**	Tobin	**Report Number:**	149906
Client Reference:	3084	**Attention:**	Mary Lynch	**Superseded Report:**	

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM191	Standard Methods for the examination of waters and wastewaters 16th Edition, ALPHA, Washington DC, USA. ISBN 0-87553-131-8.	Determination of Unfiltered Metals in Water Matrices by ICP-MS		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM249	Standard Methods for the Examination of Water and Wastewater. 20th Edition. 1998	The Determination of Methylene Blue Active Substances in Waters		
TM253	Dust is collected either using a “Frisbee” collector this is the “Stockholm” method or using a “jam jar” collector, this is the “Berghoff” method.	The Determination of Dust		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	110902-120	**Location:**	Site 402	**Order Number:**	2155
Job:	D_TOBIN_DUB-71	**Customer:**	Tobin	**Report Number:**	149906
Client Reference:	3084	**Attention:**	Mary Lynch	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	4217962	4217963	4217965	4217967
Customer Sample Ref.	D1	D2	D4	WW1
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
Ammoniacal Nitrogen				07-Sep-2011
Anions by Kone (w)				09-Sep-2011
BOD True Total				08-Sep-2011
COD Unfiltered				04-Sep-2011
Dissolved Metals by ICP-MS				08-Sep-2011
Dust	13-Sep-2011	13-Sep-2011	13-Sep-2011	
Methylene blue active substances				07-Sep-2011
Mineral Oil C10-40 Aqueous (W)				13-Sep-2011
pH Value				07-Sep-2011
Suspended Solids				12-Sep-2011
Total Metals by ICP-MS				08-Sep-2011
VOC MS (W)				13-Sep-2011

SDG:	110902-120	**Location:**	Site 402	**Order Number:**	2155
Job:	D_TOBIN_DUB-71	**Customer:**	Tobin	**Report Number:**	149906
Client Reference:	3084	**Attention:**	Mary Lynch	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT/PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH-MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS-MS	DCM	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC-MS

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

APPENDIX F

OMI – Emissions Report 2011

ODOUR & ENVIRONMENTAL ENGINEERING CONSULTANTS

Unit 32 De Granville Court, Dublin Rd, Trim, Co. Meath

Tel: +353 46 9437922
Mobile: +353 86 8550401
E-mail: info@odourireland.com
www.odourireland.com

ROUND 1 2011-MONITORING OF VOC EXHAUST STACKS CONCENTRATIONS AT RILTA LTD, BLOCK 402, GREENOGUE BUSINESS PARK, RATHCOOLE, CO. DUBLIN

PERFORMED BY ODOUR MONITORING IRELAND ON BEHALF OF RILTA ENVIRONMENTAL LIMITED

PREPARED BY:	Dr. John Casey
ATTENTION:	Mr. Colm Hussey
LICENCE NUMBER:	WL00192-03
LICENCE HOLDER:	Rilta Environmental Limited
FACILITY NAME:	Block 402, Grants's Drive
DATE OF MONITORING VISIT:	16th Dec. 2011
NAME AND ADDRESS OF CLIENT ORGANISATION:	Rilta Environmental Ltd., Block 402, Grants's Drive, Greenogue Business Park, Rathcoole, Co. Dublin
NAME AND ADDRESS OF MONITORING ORGANISATION:	Odour Monitoring Ireland, Unit 32 DeGranville Court, Dublin Road, Trim, Co. Meath
DATE OF REPORTING:	09th Jan. 2012
NAME AND THE FUNCTION OF THE PERSON APPROVING THE REPORT:	Dr. Brian Sheridan, Managing Partner, Odour Monitoring Ireland
REPORT NUMBER:	201230(1)
REVIEWERS:	

TABLE OF CONTENTS

This document is submitted as part of environmental monitoring carried out by Odour Monitoring Ireland. The results reported are representative of actual conditions on the day of monitoring.

Respectively submitted,

Brian Sheridan B.Sc. M.Sc. (Agr) Ph.D (Eng).

For and on behalf of Odour Monitoring Ireland™

DOCUMENT AMENDMENT RECORD

Client: ***Rilta Environmental Limited***

Title: Round 1 2011 - Monitoring of VOC concentrations at Rilta Environmental Ltd., Block 402, Greenogue Business Park, Rathcoole, Co. Dublin

Project Number: 201230(1)			**Document Reference:** 201230(1)		
201230(1)	Document for review	JWC	BAS	BAS	09/01/2012
Revision	**Purpose/Description**	**Originated**	**Checked**	**Authorised**	**Date**

Part 1 - Executive Summary

The results of the monitoring exercise are contained in Section 2 of this report.

- Mass emissions for location A1, A2 and A3 are in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.
- Volume flow for locations A1, A2 and A3 were in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.

1.1 Monitoring Objectives

Odour Monitoring Ireland were commissioned by Rilta Environmental Limited to perform Volatile Organic Compound (VOC) monitoring of three licensed emission points located within the facility. The survey was carried out on the 16th December 2011. The monitoring was carried out at this facility as part of compliance monitoring with the requirements of Waste licence W0192-03. The emissions testing was carried out by Odour Monitoring Ireland on behalf of Rilta Environmental Limited.

1.2 Special Monitoring Requirements

There were no special monitoring requirements for this campaign.

1.3 The substances to be monitored at each emission point

The parameters listed in *Table 1.1* were monitored using the appropriate instrumentation as illustrated in *Table 1.1*. All monitoring was carried out in accordance with Environmental Protection Agency Office of Environmental Enforcement (OEE) Air Emission Monitoring Guidance Note 2 (AG2).

Table 1.1. Monitored parameters and techniques

Sample location	Parameter	Analytical method
A1, A2, A3	Volumetric airflow rate & Temperature (^{0}C)	Pitot in accordance with EN13284-1:2002. MGO coated K type thermocouple and PT100
A1, A2, A3	Total Organic Carbon (TOC)	EN13649:2002 analysis via Gas Chromatography in an UKAS accredited lab.

This report presents details of this monitoring programme. This environmental monitoring was carried out Dr. John Casey, Managing Partner, Odour Monitoring Ireland on the 16th December 2011. Results and Conclusions are presented herein.

2. Monitoring Results

This section will present the results of the monitoring exercise.

2.1 Operating Information

Emission Point Reference	Date	Process Type	Process Duration	Fuel	Feedstock	Abatement	Load
A1	16/12/2011	Drum washer	Continuous	N/A	Air emission from washing processes	No	Air emission from washing processes
A2	16/12/2011	Drum painter	Continuous	N/A	Air emission from paint processes	No	Air emission from paint processes
A3	16/12/2011	Drum dryer	Continuous	N/A	Air emission from drying processes	No	Air emission from drying processes

2.2 Monitoring Result Reference Conditions

Emission Point Reference	Temperature (K)	Pressure	Moisture Correction	Oxygen Correction (%)
A1	K	101.3	Yes	None
A2	K	101.3	Yes	None
A3	K	101.3	Yes	None

2.3. Sampling Location Summary

Comment	Yes/No
Recommended 5 hydraulic diameters straight length before sampling plane	Yes*
Recommended 2 hydraulic diameters straight length after sampling plane	Yes*
Ports number <1.5m - 2 ports >1.5m - 4 ports	2 ports*
Appropriate port size	Yes
Suitable working platform	Yes

Note: *Airflow rate in accordance with EN13284 with exception of location A1 due to access issues airflow rate was performed at one plane on the base of the stack.

2.4. Sampling time runs

Parameter	Approx. Sampling period per location
Volumetric air flow rate	Manually calculated
Stack gas temp	38 minutes
T A Luft Organics	35 minutes

Table 2.5. Measurement results and emission limit values within Waste licence 192-03 - Schedule B

Emission Point	Temperature (Kelvin)	Limit Volumetric airflow rate ($Nm^3\ hr^{-1}$)	Measured Volumetric airflow rate ($Nm^3\ hr^{-1}$)
A1	288.15	5,292	2,624
A2	288.15	5,292	4,304
A3	294.15	2,520	1,940

Table 2.6. Results of monitoring at Emission Point A1

Library/ID	Conc. of VOC ($mgC/\ Nm^3$)	Mass Flow of Speciated VOC (kg/hr)
Beta Pinene	0.48	-
Limonene	5.39	-
Toluene	0.88	-
Total Organic Carbon (TOC as carbon)	9.8 mgC/Nm^3	0.13 kg/hr
Total Organic Carbon (TOC as carbon) Limit value	-	1.0 kg/hr

Table 2.7. Results of monitoring at Emission Point A2

Library/ID	Conc. of VOC (mgC/Nm^3)	Mass Flow of Speciated VOC (kg/hr)
Ethylbenzene	0.51	-
Mep-Xylene	2.03	-
O-Xylene	0.62	-
Toluene	1.46	-
Total Organic Carbon (TOC as carbon)	8.7 mgC/Nm^3	0.04 kg/hr
Total Organic Carbon (TOC as carbon) Limit value	-	0.10 kg/hr

Table 2.8. Results of VOC Monitoring at Emission Point A3.

Library/ID	Conc. of Speciated VOC (mg Nm^{-3} as C)	Mass Flow of Speciated VOC (kg/hr)
Ethylbenzene	0.70	-
Mep-Xylene	2.71	-
O-Xylene	1.04	-
Toluene	1.46	-
Total Organic Carbon (TOC as carbon)	12 mgC/Nm^3	0.03 kg/hr
Total Organic Carbon (TOC as carbon) Limit value	-	0.30 kg/hr

Mass emissions for location A1, A2 and A3 are in compliance with emission limit values as set out in Schedule B of Waste licence 192-03. Volume flow for locations A1, A2 and A3 were in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.

4. Conclusions

The following conclusions were drawn from the study:

- Mass emissions for location A1, A2 and A3 are in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.
- Volume flow for locations A1, A2 and A3 were in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.

5. *Appendix I*-Sampling, analysis

5.1.1 Location of Sampling

Rilta Environmental Ltd., Block 402, Grants's Drive, Greenogue Business Park, Rathcoole, Co. Dublin

5.1.2 Date & Time of Sampling

16th December 2011

5.1.3 Personnel Present During Sampling

Dr. John Casey, Odour Monitoring Ireland, Trim, Co. Meath.
MCERTS: MM0674

5.1.4 Instrumentation check list

Federal Method 2 S type pitot and MGO coated thermocouple;
L type pitot tube
Testo 400 handheld and appropriate probes.
SKC sample pumps and Bios Primary calibrator and glass impingers.

ODOUR & ENVIRONMENTAL ENGINEERING CONSULTANTS

Unit 32 De Granville Court, Dublin Rd, Trim, Co. Meath

Tel: +353 46 9437922
Mobile: +353 86 8550401
E-mail: info@odourireland.com
www.odourireland.com

ROUND 2 2011-MONITORING OF VOC EXHAUST STACKS CONCENTRATIONS AT RILTA LTD, BLOCK 402, GREENOGUE BUSINESS PARK, RATHCOOLE, CO. DUBLIN

PERFORMED BY ODOUR MONITORING IRELAND ON BEHALF OF RILTA ENVIRONMENTAL LIMITED

PREPARED BY:	Dr. John Casey
ATTENTION:	Mr. Colm Hussey
LICENCE NUMBER:	WL00192-03
LICENCE HOLDER:	Rilta Environmental Limited
FACILITY NAME:	Block 402, Grants's Drive
DATE OF MONITORING VISIT:	12th Jan. 2012
NAME AND ADDRESS OF CLIENT ORGANISATION:	Rilta Environmental Ltd., Block 402, Grants's Drive, Greenogue Business Park, Rathcoole, Co. Dublin
NAME AND ADDRESS OF MONITORING ORGANISATION:	Odour Monitoring Ireland, Unit 32 DeGranville Court, Dublin Road, Trim, Co. Meath
DATE OF REPORTING:	25th Jan. 2012
NAME AND THE FUNCTION OF THE PERSON APPROVING THE REPORT:	Dr. Brian Sheridan, Managing Partner, Odour Monitoring Ireland
REPORT NUMBER:	201254(1)
REVIEWERS:	

TABLE OF CONTENTS

This document is submitted as part of environmental monitoring carried out by Odour Monitoring Ireland. The results reported are representative of actual conditions on the day of monitoring.

Respectively submitted,

Brian Sheridan B.Sc. M.Sc. (Agr) Ph.D (Eng).

For and on behalf of Odour Monitoring Ireland™

DOCUMENT AMENDMENT RECORD

Client: ***Rilta Environmental Limited***

Title: Round 2 2011 - Monitoring of VOC concentrations at Rilta Environmental Ltd., Block 402, Greenogue Business Park, Rathcoole, Co. Dublin

Project Number: 201254(1)			**Document Reference:** 201254(1)		
201254(1)	Document for review	JWC	BAS	BAS	25/01/2012
Revision	**Purpose/Description**	**Originated**	**Checked**	**Authorised**	**Date**

Part 1 - Executive Summary

The results of the monitoring exercise are contained in Section 2 of this report.

- Mass emissions for location A1, A2 and A3 are in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.
- Volume flow for locations A1, A2 and A3 were in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.

1.1 Monitoring Objectives

Odour Monitoring Ireland were commissioned by Rilta Environmental Limited to perform Volatile Organic Compound (VOC) monitoring of three licensed emission points located within the facility. The survey was carried out on the 12th January 2012. The monitoring was carried out at this facility as part of compliance monitoring with the requirements of Waste licence W0192-03. The emissions testing was carried out by Odour Monitoring Ireland on behalf of Rilta Environmental Limited.

1.2 Special Monitoring Requirements

There were no special monitoring requirements for this campaign.

1.3 The substances to be monitored at each emission point

The parameters listed in *Table 1.1* were monitored using the appropriate instrumentation as illustrated in *Table 1.1*. All monitoring was carried out in accordance with Environmental Protection Agency Office of Environmental Enforcement (OEE) Air Emission Monitoring Guidance Note 2 (AG2).

Table 1.1. Monitored parameters and techniques

Sample location	Parameter	Analytical method
A1, A2, A3	Volumetric airflow rate & Temperature (^{0}C)	Pitot in accordance with EN13284-1:2002. MGO coated K type thermocouple and PT100
A1, A2, A3	Total Organic Carbon (TOC)	EN13649:2002 analysis via Gas Chromatography in an UKAS accredited lab.

This report presents details of this monitoring programme. This environmental monitoring was carried out Dr. John Casey, Managing Partner, Odour Monitoring Ireland on the 12th January 2012. Results and Conclusions are presented herein.

2. Monitoring Results

This section will present the results of the monitoring exercise.

2.1 Operating Information

Emission Point Reference	Date	Process Type	Process Duration	Fuel	Feedstock	Abatement	Load
A1	12/01/2012	Drum washer	Continuous	N/A	Air emission from washing processes	No	Air emission from washing processes
A2	12/01/2012	Drum painter	Continuous	N/A	Air emission from paint processes	No	Air emission from paint processes
A3	12/01/2012	Drum dryer	Continuous	N/A	Air emission from drying processes	No	Air emission from drying processes

2.2 Monitoring Result Reference Conditions

Emission Point Reference	Temperature (K)	Pressure	Moisture Correction	Oxygen Correction (%)
A1	K	101.3	Yes	None
A2	K	101.3	Yes	None
A3	K	101.3	Yes	None

2.3. Sampling Location Summary

Comment	Yes/No
Recommended 5 hydraulic diameters straight length before sampling plane	Yes*
Recommended 2 hydraulic diameters straight length after sampling plane	Yes*
Ports number <1.5m - 2 ports >1.5m - 4 ports	2 ports*
Appropriate port size	Yes
Suitable working platform	Yes

Note: *Airflow rate in accordance with EN13284 with exception of location A1 due to access issues airflow rate was performed at one plane on the base of the stack.

2.4. Sampling time runs

Parameter	Approx. Sampling period per location
Volumetric air flow rate	Manually calculated
Stack gas temp	30 minutes
T A Luft Organics	45 minutes

Table 2.5. Measurement results and emission limit values within Waste licence 192-03 - Schedule B

Emission Point	Temperature (Kelvin)	Limit Volumetric airflow rate ($Nm^3\ hr^{-1}$)	Measured Volumetric airflow rate ($Nm^3\ hr^{-1}$)
A1	285.15	5,292	2,574
A2	289.15	5,292	4,902
A3	282.15	2,520	1,974

Table 2.6. Results of monitoring at Emission Point A1

Library/ID	Conc. of VOC ($mgC/\ Nm^3$)	Mass Flow of Speciated VOC (kg/hr)
Total Organic Carbon (TOC as carbon)	0.88 mgC/Nm^3	0.002 kg/hr
Total Organic Carbon (TOC as carbon) Limit value	-	1.0 kg/hr

Table 2.7. Results of monitoring at Emission Point A2

Library/ID	Conc. of VOC (mgC/Nm^3)	Mass Flow of Speciated VOC (kg/hr)
Total Organic Carbon (TOC as carbon)	18.79 mgC/Nm^3	0.04 kg/hr
Total Organic Carbon (TOC as carbon) Limit value	-	0.10 kg/hr

Table 2.8. Results of VOC Monitoring at Emission Point A3.

Library/ID	Conc. of Speciated VOC (mg Nm^{-3} as C)	Mass Flow of Speciated VOC (kg/hr)
Total Organic Carbon (TOC as carbon)	20.11 mgC/Nm^3	0.09 kg/hr
Total Organic Carbon (TOC as carbon) Limit value	-	0.30 kg/hr

Mass emissions for location A1, A2 and A3 are in compliance with emission limit values as set out in Schedule B of Waste licence 192-03. Volume flow for locations A1, A2 and A3 were in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.

4. Conclusions

The following conclusions were drawn from the study:

- Mass emissions for location A1, A2 and A3 are in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.
- Volume flow for locations A1, A2 and A3 were in compliance with emission limit values as set out in Schedule B of Waste licence 192-03.

5. *Appendix I*-Sampling, analysis

5.1.1 Location of Sampling

Rilta Environmental Ltd., Block 402, Grants's Drive, Greenogue Business Park, Rathcoole, Co. Dublin

5.1.2 Date & Time of Sampling

12th Jan. 2012

5.1.3 Personnel Present During Sampling

Dr. John Casey, Odour Monitoring Ireland, Trim, Co. Meath.
MCERTS: MM0674

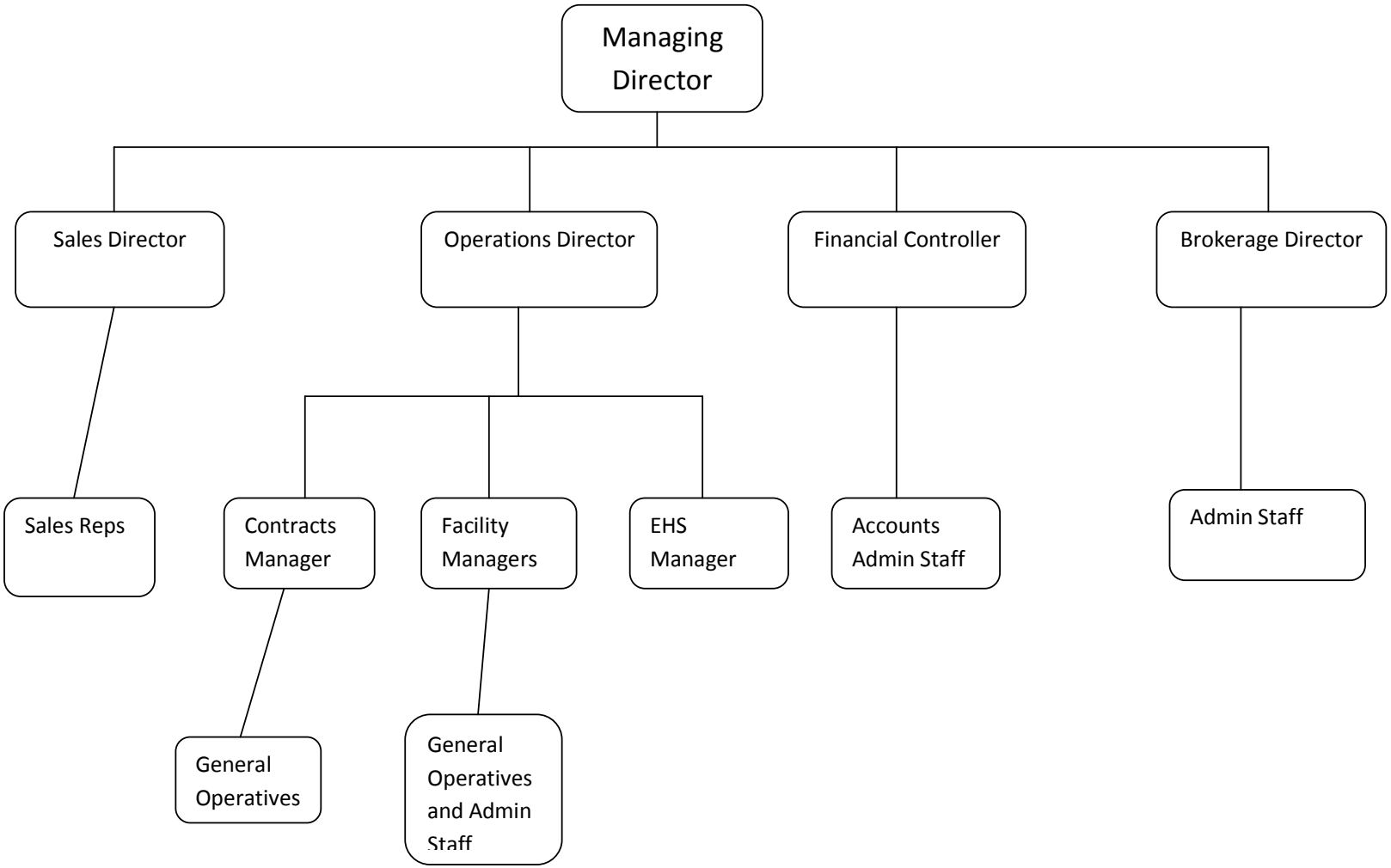
5.1.4 Instrumentation check list

Federal Method 2 S type pitot and MGO coated thermocouple;
L type pitot tube
Testo 400 handheld and appropriate probes.
SKC sample pumps and Bios Primary calibrator and glass impingers.

APPENDIX G

Management & Staffing Structure - 2011

Rilta Environmental Management Structure



TOBIN

Patrick J. Tobin & Co. Ltd

NATIONAL NETWORK

Galway Dublin Cork Limerick Castlebar Dundalk