Rilta Environmental Limited - Site 14-A1
Environmental Monitoring Programme

RILTA Environmental Limited

Annual Environmental Report
January 1st – December 31st 2011

March 2012

TOBIN CONSULTING ENGINEERS

TOBIN

REPORT

PROJECT:

Rilta Environmental Ltd,
Site 14-A1

CLIENT:

Rilta Environmental Ltd.
Site No. 14A1,
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: **Rilta Site 14-A1**

Title: **Annual Environmental Report – January 1st to December 31st 2011**

PROJECT NUMBER: 5965				DOCUMENT REF: 5965 – 04 – 01			
DRAFT	Annual Environmental Report (AER)	BS	22/03/11	ST		DG	
Revision	**Description & Rationale**	**Originated**	**Date**	**Checked**	**Date**	**Authorised**	**Date**
TOBIN Consulting Engineers							

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1 INTRODUCTION

The Environmental Protection Agency (EPA) issued Rilta Environmental Ltd. (Rilta) with Waste Licence Reg. No. W0185-01 for its facility at Site 14-A1, Greenogue Business Park, Rathcoole, County Dublin on 09th February 2010. (transfer of waste license). The facility is located within an industrial estate approximately 2 km east of Newcastle village and approximately 2.5km west of Rathcoole village. Rilta have been operating at the facility since 2009. 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 11.6 and Schedule E of the waste licence and a site layout map is provided in Appendix A.

This report addresses Condition 11.6 of the waste licence for the facility.

Condition 11.6 states:

11.6.1 - The licensee shall submit to the Agency for its agreement, by 31st March each year an Annual Environmental Report (AER).

11.6.2 - The AER shall include as a minimum the information specified in *Schedule F: Content of Annual Environmental Report* and shall be prepared in accordance with any relevant written guidance issued by the Agency.

2 WASTE ACTIVITIES AND RECORDS

The RILTA facility at Site 14-A1 is a fully engineered and contained industrial site. It is licensed to accept 60,000 tonnes per annum as set out in Schedule A and summarised in Table 2-1 below.

Table 2-1 Waste Acceptance - Categories and Quantities

Waste Type [Note 1]	Maximum (Tonnes Per Annum) [Note 2]
Household	7,000
Sewage Sludge	2,000
Construction and Demolition (C&D)	1,000
Industrial Sludge	2,000
Commercial and Industrial Waste	15,000
Hazardous Waste as listed in Table E.2.2 entitled 'Hazardous waste Types and Quantities' of the application.	33,000
TOTAL	**60,000**

Note 1: Other waste types compatible with facility operation may be accepted subject to prior written agreement by the Agency.

Note 2: There shall be no increase or variation in any of the waste types accepted without prior written agreement by the Agency.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Act, 1996:

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);**

This activity relates to the shredding of waste materials, including, household hazardous waste containers and metals, plastics, card and paper. Physico-chemical treatment may be carried out on effluents to meet discharge criteria.

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

This activity relates to bulking-up of waste on-site prior to shipment of waste for disposal off-site.

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

This activity relates to the baling and repackaging of various waste types prior to disposal off-site.

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;**

This activity relates to the storage of hazardous and non-hazardous waste at the facility prior to disposal off-site.

Licensed Waste Disposal Activities, Fourth Schedule of the Waste Management Act, 1996.

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

This activity relates to the recycling of various organic substances including, wood, paper/cardboard, textile materials and vegetable oils.

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

This activity relates to the dismantling, shredding, baling and recycling of various metal wastes.

Class 4: **Recycling or reclamation of other inorganic materials;**

This activity is limited to the reclamation of refrigerator gasses.

Class 11: **Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule:**

This activity is to make provision for the acceptance on-site for transfer to an appropriate facility of waste that has been obtained from any activity referred to previously in the Schedule.

Class 12: **Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule;**

This activity refers to the exchange of certain waste types and their packaging for further processing off-site

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;**

This activity is limited to the storage of waste at the facility prior to off-site recovery.

3 WASTES MANAGED

3.1 WASTE RECEIVED

Waste Data received for Rilta Site 14-A1 is summarised in Table 3-1 below.

Table 3-1 Waste Received - 2011

Waste Type	Tonnes	EWC Code
Transformers	1831.50	16 02 13
WEE	786	16 02 11

4 REPORT ON EMISSIONS/RESULTS AND INTERPRETATIONS OF ENVIRONMENTAL MONITORING

TOBIN implements a comprehensive environmental monitoring programme at Site 14-A1. This monitoring programme includes the assessment of:

- Surface Water;
- Groundwater;
- Wastewater;
- Noise; and
- Dust.

All monitoring locations are indicated on Drawing 569-42-G006 in Appendix A.

4.1 SURFACE WATER RUN OFF MONITORING

Assessment of Surface water run-off was monitored on a quarterly basis during 2011. The monitoring point is shown on Drawing 569-42-G006 in Appendix A. Schedule D of the waste license requests that pH, electrical conductivity and chemical oxygen demand are analysed, however no emission limit values (ELV) have been set out in the licence. As no ELVs are set out comparison would be made to the relevant surface water standards.

Surface water runoff from the facility is dependent on rainfall, therefore surface water sampling was only possible if precipitation occurred during or shortly before a quarterly monitoring event. The surface water run-off monitoring point (SW1) was dry during all 4 of the 4 quarterly monitoring events (Q1, Q2 & Q3 &Q4) in 2014. Hence no sample was submitted for chemical analysis as per Schedule D of the waste licence.

4.2 WASTEWATER MONITORING

The facility is designed to collect wastewater from floor wash downs in the warehouse building and discharge to it to the municipal sewer which serves the industrial estate. However, as putrescible wastes are not accepted at the facility and floor wash downs are not required there is no wastewater discharge to sewer from the facility.

4.3 GROUNDWATER MONITORING

Groundwater monitoring was conducted quarterly at two monitoring points (GW1 & GW2) as shown on Drawing 569-42-G006 *(see Appendix A),* during 2011. Monitoring was conducted in accordance with Schedule D of the waste licence.

Schedule D of the waste license requests that groundwater is analysed for pH, electrical conductivity, dissolved oxygen, total organic carbon, sulphate and chloride on a quarterly basis and that List 1 & 2 organic substances and metals are analysed on an annual basis.

However no groundwater ELVs have been set out in the licence. As no ELVs are set out comparison has been made to the relevant interim guideline values[1] (IGV) as published by the Agency. The results for both laboratory and field analysis of the groundwater during 2011 are summarised in Table 4-3 and Table 4-4 below.

[1] EPA Interim Report – 'Towards setting guideline values for the protection of groundwater in Ireland'.

Table 4-1 In-situ GW Monitoring Results - 2011

Parameter	Units	IGV	Q1		Q2		Q3		Q4	
			GW-1	GW-2	GW-1	GW-2	GW-1	GW-2	GW-1	GW-2
pH	pH units	6.5 – 9.5	8.12	7.96	7.72	7.43	8.01	8.4	7.48	7.12
Conductivity	mS/cm	1.000	0.421	0.832	0.513	0.653	0.546	0.617	0.517	0.617
Temperature	°C	25	11.8	11.4	10.9	9.3	15.3	11.5	13.1	11.5
Dissolved Oxygen	mg/l	-	4.9	5.4	2.76	1.35	27.6	23.1	2.9	2.1

Table 4-2 Laboratory Results [2] – 2011

Parameter	Units	IGV	Q1		Q2		Q3		Q4	
			GW1	GW 2	GW1	GW 2	GW1	GW 2	GW1	GW 2
pH	*pH units*	*6.5-9.0*	8.17	7.81	810	8.0	8.13	8.2	7.46	7.27
Conductivity	*mS/cm*	1.000	0.363	0.885	0.597	0.817	0.618	0.745	0.541	0.680
Dissolved Oxygen	*mg/l*	-	3.71	4.84	6.36	3.94	7.43	6.98	5.13	4.57
Chloride	*mg/l*	30	13.9	29.9	20.5	27.5	20	25	20	26
Sulphate	*mg/l*	200	46.9	169	94	127	89.6	115	81.5	116
Total Organic Carbon	*mg/l*	-	46.9	6.24	<3	5.66	<3	4.79	4.52	3.77
SVOCs	*µg/l*	-	-	-	-	-	-	-	-	-
VOC	*µg/l*	-	-	-	-	-	-	-	-	-
Metals	*µg/l*	***Note 1***	-		<IGV Limits*	<IGV Limits	-	-	-	-

Note 1: *With the exception of Barium

[2] A full set of Laboratory Results are contained in Appendix C.

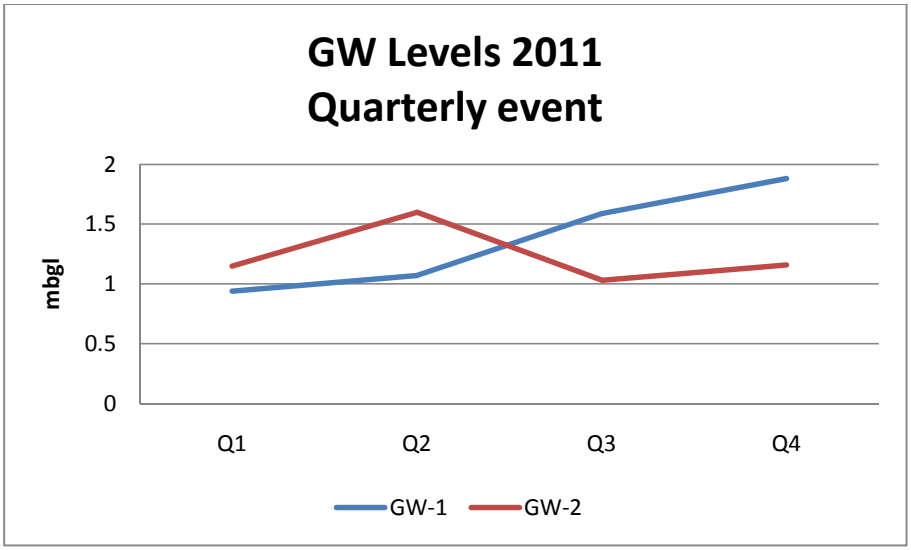


Figure 4-1 Groundwater Levels - 2011

Table 4-3 Groundwater Levels - 2011

	Units	Q1	Q2	Q3	Q4
GW-1	*mbgl*	0.94	1.07	1.59	1.88
GW-2	*mbgl*	1.15	1.6	1.03	1.16

4.4 NOISE MONITORING

Daytime and night time noise monitoring was carried out at approved noise monitoring locations (see Drawing 569-42-G006) on 29th and 30th June 2011. The full noise monitoring report from 2011 detailing the noise environment at Site 14-A1 is contained in Appendix C. Noise monitoring results obtained from the day and night time surveys carried out at the RILTA facility during 2011 are summarised in Table 4-6 and Table 4-7 below.

Table 4-4 Annual Daytime Noise Monitoring Survey - 2011

DAY TIME					
Receptor	Time	Leq	L10	L90	Notes
N1	09:14	63.6	67.4	49.2	Rush hour road traffic on adjacent road is the dominant noise source. Overhead aircraft were also audible. The RILTA Facility was inaudible.
N2	08:38	59.8	64.2	48.8	Passing road traffic is the dominant noise source, overhead aircraft and helicopters were also audible. The RILTA Facility was inaudible.
N3	08:00	62.0	66.1	49.2	Aircraft overhead, activity in neighbouring site is the dominant noise source. The RILTA Facility was inaudible

Table 4-5 Annual Night Time Noise Monitoring Survey - 2011

NIGHT TIME					
Receptor	Time	Leq	L10	L90	Notes
N1	23:11	49.6	48.0	37.3	Passing traffic & aircraft is the dominant noise source. The RILTA Facility was inaudible.
N2	22:36	47.0	48.8	42.0	Passing traffic and distant traffic, aircraft, activity in adjacent sites is the dominant noise sources. The RILTA Facility was inaudible.
N3	22:00	52.5	57.3	39.6	Passing road traffic, aircraft overhead and truck movements in the facility to the south. The RILTA Facility was inaudible.

The noise emission limits as per Schedule C of Waste Licence 0185 – 01 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.

Noise levels recorded at the 3 no. 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 inaudible during both the daytime and 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 at none of the noise monitoring locations, during the daytime monitoring event. Noise levels at N1, N2 and N3 exceeded the 55 dB (A) limit due to noise from external 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.

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) was more than 45 dB(A) (night time) at all monitoring locations. As the RILTA facility was inaudible the recorded exceedances are attributed to extraneous noise sources such as traffic on the internal industrial estate road network, truck movements in adjacent facilities or low flying aircraft from nearby Baldonnell Airport.

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, no pure tones were detected during either the day or night time monitoring at the facility.

Full 1/3 octave frequency band analysis of all surveys is presented in Appendix C to this report.

4.5 DUST MONITORING

Dust monitoring was carried out at 4 no. monitoring locations *(see Drawing 569-42-G006)* during August and September 2011. The dust results for all 4 no. monitoring locations were below the required ELV (350mg/m^2/day) set out in waste licence 185-02, during all monitoring events in 2010. A full set of laboratory dust results from 2011 are contained in Appendix D. Dusts results from Site 14-A1 during 2011 are summarised in Table 4-8 below.

Table 4-6 Dust Monitoring Results 2011

	February – March *(mg/m^2/day)*	May - June *(mg/m^2/day)*	August - September *(mg/m^2/day)*
D1	60	107	53.4
D2	210	237	137
D3	39.3	152	69.8
D4	84.1	86.9	14.4

4.6 AIR EMISSION MONITORING

The air emission point TfA1 *(as per drawing 569-42-G006),* is no longer in use and as such does not have a monitoring requirement.

5 OBJECTIVES AND TARGETS OF ENVIRONMENTAL MANAGEMENT SYSTEM

5.1 SCHEDULE OF ENVIRONMENTAL OBJECTIVES AND TARGETS

Details of the Environmental Management Programmes (EMP) for the RILTA Site 14-A1 facility are contained in Appendix E.

5.2 ENVIRONMENTAL MANAGEMENT PROGRAMME

Details of the 2010 and 2011 EMPs for the RILTA Site 14-A1 facility are contained in Appendix E.

6 POLLUTANT RELEASE AND TRANSFER REGISTER (PRTR)

Details of the 2010 Pollutant Release Transfer Register (PRTR) for the RILTA facility 14-A1 are contained in Appendix F.

7 PROCEDURES

There were no new procedures for 2011.

8 REPORTING INCIDENTS AND COMPLAINTS SUMMARY

There were no incidents or complaints reported for Site 14-A1 during 2011.

9 REVIEW OF NUISANCE CONTROLS

There were no nuisance emissions were reported for Site 14-A1 during 2011. This will continue to be closely monitored going forward into 2012.

10 RESOURCE AND ENERGY CONSUMPTION SUMMARY

Resource consumption at the Rilta Site 14-A1 facility during 2011 is summarised in Table 10-1 below.

Table 10-1 Resource Consumption Summary - 2011

Resource	Quantity Used	Units
Electricity	46,200	*KwH*
Diesel	820	*L*
Water	642	m^3

11 DEVELOPMENT AND INFRASTRUCTURAL WORKS

No additional development or infrastructural works were carried out or proposed during 2011.

12 REPORTS ON FINANCIAL PROVISION MADE UNDER THIS LICENCE, MANAGEMENT AND STAFFING STRUCTURE OF THE FACILITY, AND A PROGRAMME FOR PUBLIC INFORMATION

A proposal in respect of financial provision was submitted to the agency as part of W185-02 licence transfer to RILTA.

12.1 MANAGEMENT AND STAFFING STRUCTURE

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

12.2 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 W0185-01. This file is available for viewing during normal office hours.

13 FOUL WATER

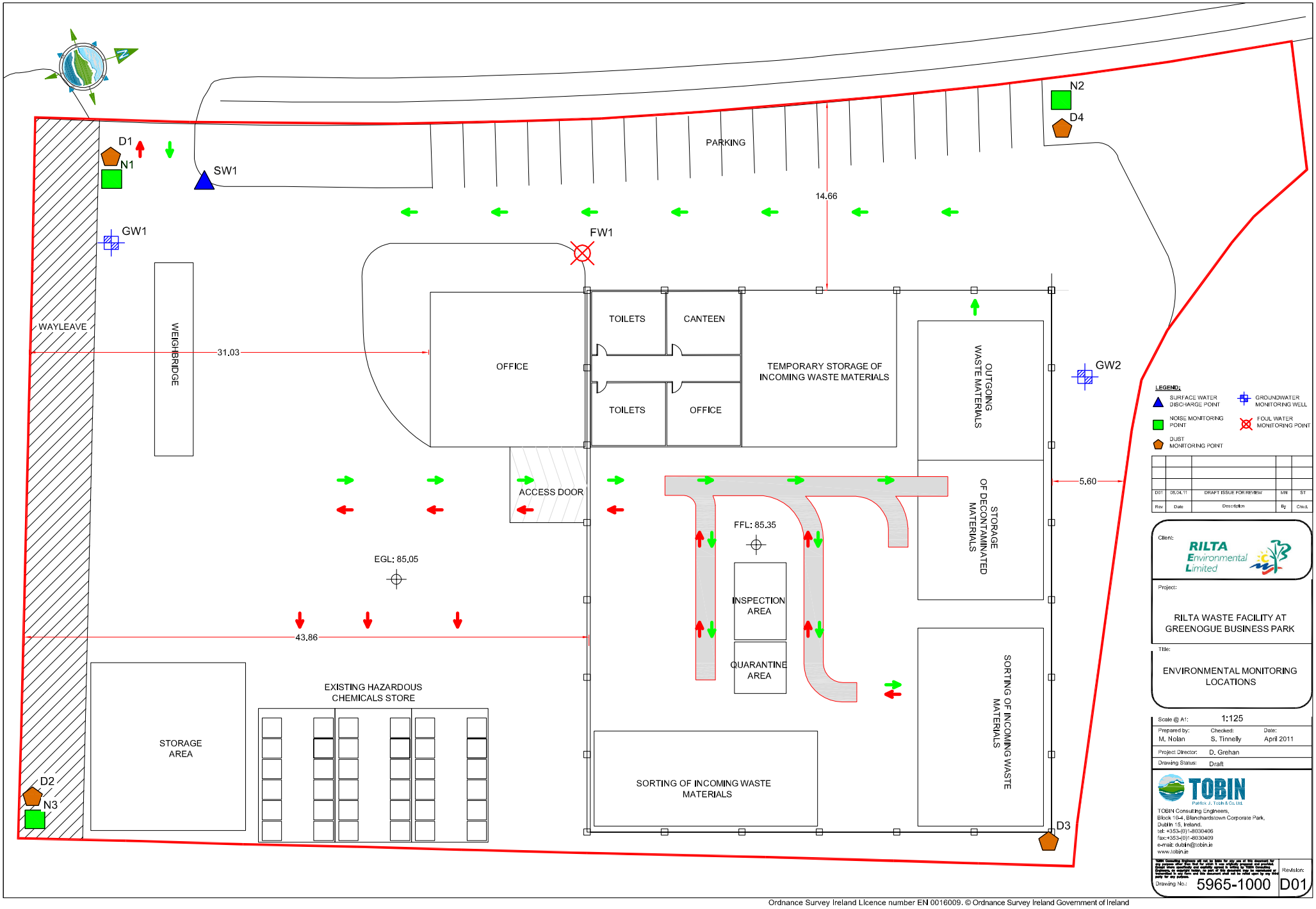
There has been 15,920kg foul water produced for discharge or disposal during the reporting period 1st January to 31st December 2011, this was disposed of in the neighbouring RILTA site (W0192-03).

14 ANY OTHER ITEMS SPECIFIED BY THE AGENCY

No additional requirements were specified by the agency during 2011.

APPENDIX A

Monitoring Location Map



APPENDIX B

Laboratory Results

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:	22 February 2011
Customer:	D_TOBIN_DUB
Sample Delivery Group (SDG):	110217-142
Your Reference:	5965
Location:	Rilta Site 14-A1
Report No:	117181

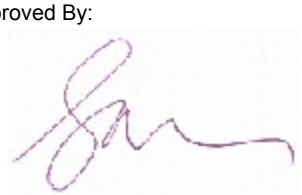
We received 2 samples on Thursday February 17, 2011 and 2 of these samples were scheduled for analysis which was completed on Tuesday February 22, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of 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

UKAS TESTING
1291

CERTIFICATE OF ANALYSIS

SDG:	110217-142	**Location:**	Rilta Site 14-A1	**Order Number:**	2022
Job:	D_TOBIN_DUB-49	**Customer:**	Tobin	**Report Number:**	117181
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
2892513	GW1			17/02/2011
2892514	GW2			17/02/2011

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

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Job:	D_TOBIN_DUB-49	**Customer:**	Tobin	**Report Number:**	117181
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	2892513	2892514
			Customer Sample Reference	GW1	GW2
			AGS Reference		
			Depth (m)		
			Container	1l glass bottle (D) / PLAS BOT (D)	1l glass bottle (D) / PLAS BOT (D)
Anions by Kone (w)	All	NDPs: 0 Tests: 2		X	X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 2		X	X
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 2		X	X
pH Value	All	NDPs: 0 Tests: 2		X	X
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2	X	X	

CERTIFICATE OF ANALYSIS

SDG:	110217-142	**Location:**	Rilta Site 14-A1	**Order Number:**	2022
Job:	D_TOBIN_DUB-49	**Customer:**	Tobin	**Report Number:**	117181
Client Reference:	5965	**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	GW1	GW2
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/02/2011	17/02/2011
			Date Received	17/02/2011	17/02/2011
			SDG Ref	110217-142	110217-142
			Lab Sample No.(s)	2892513	2892514
			AGS Reference		
Oxygen, dissolved	<0.3 mg/l	TM046		3.71 #	4.84 #
Organic Carbon, Total	<3 mg/l	TM090		<3 #	6.24 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.363 #	0.885 #
Sulphate	<2 mg/l	TM184		46.9 #	169 #
Chloride	<2 mg/l	TM184		13.9 #	29.9 #
pH	<1 pH Units	TM256		8.17 #	7.81 #

CERTIFICATE OF ANALYSIS

SDG:	110217-142	**Location:**	Rilta Site 14-A1	**Order Number:**	2022
Job:	D_TOBIN_DUB-49	**Customer:**	Tobin	**Report Number:**	117181
Client Reference:	5965	**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
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
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.

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Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	2892513	2892514
Customer Sample Ref.	GW1	GW2
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
Anions by Kone (w)	22-Feb-2011	22-Feb-2011
Conductivity (at 20 deg.C)	21-Feb-2011	21-Feb-2011
Dissolved Oxygen by Probe	18-Feb-2011	18-Feb-2011
pH Value	18-Feb-2011	18-Feb-2011
Total Organic and Inorganic Carbon	18-Feb-2011	18-Feb-2011

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Client Reference:	5965	**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 RARD 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 MDHS 100.

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:	06 June 2011
Customer:	D_TOBIN_DUB
Sample Delivery Group (SDG):	110519-144
Your Reference:	5965
Location:	Rilta Site 14- A1
Report No:	132431

This report has been revised and directly supersedes 132390 in its entirety.

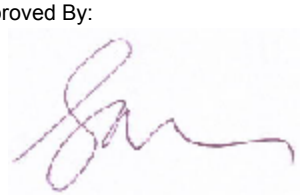
We received 2 samples on Thursday May 19, 2011 and 2 of these samples were scheduled for analysis which was completed on Monday June 06, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 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:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3493715	GW1			19/05/2011
3493716	GW2			19/05/2011

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

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	3493715	3493716
			Customer Sample Reference	GW1	GW2
			AGS Reference		
			Depth (m)		
			Container	1l glass bottle (D) / 60g VOC Dublin / H2SO4 (Dublin) / PLAS BOT (D)	1l glass bottle (D) / 60g VOC Dublin / H2SO4 (Dublin) / PLAS BOT (D)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 2			X / X
Anions by Kone (w)	All	NDPs: 0 Tests: 2			X / X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 2			X / X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2	X	X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2			X / X
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 2			X / X
Fluoride	All	NDPs: 0 Tests: 2			X / X
Mercury Dissolved	All	NDPs: 0 Tests: 2	X	X	
Mineral Oil C10-40 Aqueous (W)	All	NDPs: 0 Tests: 2	X	X	
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 2	X	X	
pH Value	All	NDPs: 0 Tests: 2			X / X
Silicon Dissolved by ICP-OES	All	NDPs: 0 Tests: 2			X / X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2	X	X	
TBT/TPT/DBT (W)*	All	NDPs: 0 Tests: 2	X	X	
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2	X	X	

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			3493715	GW1			1l glass bottle (D)
							60g VOC Dublin
							H2SO4 (Dublin)
							PLAS BOT (D)
			3493716	GW2			1l glass bottle (D)
							60g VOC Dublin
							H2SO4 (Dublin)
							PLAS BOT (D)
VOC MS (W)	All	NDPs: 0 Tests: 2					
			X				
			X				

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

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 R	GW1	GW2
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	19/05/2011	19/05/2011
			SDG Ref	110519-144	110519-144
			Lab Sample No.(s)	3493715	3493716
			AGS Reference		
Oxygen, dissolved	<0.3 mg/l	TM046		6.36 #	3.94 #
Organic Carbon, Total	<3 mg/l	TM090		<3 #	5.66 #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		<0.2 #	0.315 #
Fluoride	<0.5 mg/l	TM104		<0.5 #	<0.5 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.597 #	0.817 #
Silicon (diss.filt)	<0.05 mg/l	TM129		4.07	3.67
Antimony (diss.filt)	<0.16 µg/l	TM152		0.206 #	1.87 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.894 #	1.66 #
Barium (diss.filt)	<0.03 µg/l	TM152		115 #	78.2 #
Beryllium (diss.filt)	<0.07 µg/l	TM152		<0.07 #	<0.07 #
Boron (diss.filt)	<9.4 µg/l	TM152		<9.4 #	40.6 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	0.158 #
Chromium (diss.filt)	<0.22 µg/l	TM152		10.8 #	17.1 #
Cobalt (diss.filt)	<0.06 µg/l	TM152		0.267 #	0.536 #
Copper (diss.filt)	<0.85 µg/l	TM152		1.57 #	3.11 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.08 #	0.056 #
Molybdenum (diss.filt)	<0.24 µg/l	TM152		1.4 #	2.56 #
Nickel (diss.filt)	<0.15 µg/l	TM152		2.34 #	5.61 #
Phosphorus (diss.filt)	<6.3 µg/l	TM152		<6.3 #	23.1 #
Selenium (diss.filt)	<0.39 µg/l	TM152		1.3 #	6.68 #
Silver (diss.filt)	<1.5 µg/l	TM152		<1.5	<1.5
Tellurium (diss.filt)	<2 µg/l	TM152		<2	<2
Thallium (diss.filt)	<0.96 µg/l	TM152		<0.96	<0.96
Tin (diss.filt)	<0.36 µg/l	TM152		<0.36 #	0.824 #
Uranium (diss.filt)	<1.5 µg/l	TM152		<1.5	3.89
Titanium (diss.filt)	<1.5 µg/l	TM152		<1.5 #	<1.5 #
Vanadium (diss.filt)	<0.24 µg/l	TM152		3.49 #	5.2 #
Zinc (diss.filt)	<0.41 µg/l	TM152		1.8 #	4.67 #
Mineral oil >C10 C40 (aq)	<10 µg/l	TM172		<10	<10
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #
Sulphate	<2 mg/l	TM184		94.2 #	127 #
Chloride	<2 mg/l	TM184		20.5 #	27.5 #
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	<0.05 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

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 R	GW1	GW2
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	19/05/2011	19/05/2011
			SDG Ref	110519-144	110519-144
			Lab Sample No.(s)	3493715	3493716
			AGS Reference		
Cyanide, Free	<0.05 mg/l	TM227		<0.05 #	<0.05 #
pH	<1 pH Units	TM256		8.1 #	8 #

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

OC, OP Pesticides and Triazine Herb

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 R	GW1	GW2
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	19/05/2011	19/05/2011
			SDG Ref	110519-144	110519-144
			Lab Sample No.(s)	3493715	3493716
			AGS Reference		
Atrazine	<0.1 µg/l	TM231		<0.1	<0.1
Simazine	<0.1 µg/l	TM231		<0.1	<0.1
Mevinphos	<0.1 µg/l	TM231		<0.1	<0.1
Dichlorvos	<0.1 µg/l	TM231		<0.1	<0.1
Hexachlorobenzene	<0.1 µg/l	TM231		<0.1	<0.1
Diazinon	<0.1 µg/l	TM231		<0.1	<0.1
Heptachlor	<0.1 µg/l	TM231		<0.1	<0.1
Propetamphos	<0.1 µg/l	TM231		<0.1	<0.1
Dimethoate	<0.1 µg/l	TM231		<0.1	<0.1
Chlorothalonil	<0.1 µg/l	TM231		<0.1	<0.1
Aldrin	<0.1 µg/l	TM231		<0.1	<0.1
Pirimiphos-methyl	<0.1 µg/l	TM231		<0.1	<0.1
Isodrin	<0.1 µg/l	TM231		<0.1	<0.1
Methyl parathion	<0.1 µg/l	TM231		<0.1	<0.1
Malathion	<0.1 µg/l	TM231		<0.1	<0.1
Fenthion	<0.1 µg/l	TM231		<0.1	<0.1
Fenitrothion	<0.1 µg/l	TM231		<0.1	<0.1
Parathion	<0.1 µg/l	TM231		<0.1	<0.1
Pendimethalin	<0.1 µg/l	TM231		<0.1	<0.1
Chlorfenvinphos	<0.1 µg/l	TM231		<0.1	<0.1
o,p-DDE	<0.1 µg/l	TM231		<0.1	<0.1
p,p-DDE	<0.1 µg/l	TM231		<0.1	<0.1
o,p-TDE (DDD)	<0.1 µg/l	TM231		<0.1	<0.1
Dieldrin	<0.1 µg/l	TM231		<0.1	<0.1
o,p-DDT	<0.1 µg/l	TM231		<0.1	<0.1
Endrin	<0.1 µg/l	TM231		<0.1	<0.1
Ethion	<0.1 µg/l	TM231		<0.1	<0.1
p,p-TDE (DDD)	<0.1 µg/l	TM231		<0.1	<0.1
p,p-DDT	<0.1 µg/l	TM231		<0.1	<0.1
o,p-Methoxychlor	<0.1 µg/l	TM231		<0.1	<0.1
Carbophenothion	<0.1 µg/l	TM231		<0.1	<0.1
Triazophos	<0.1 µg/l	TM231		<0.1	<0.1
Permethrin I	<0.1 µg/l	TM231		<0.1	<0.1
Endosulphan sulphate	<0.1 µg/l	TM231		<0.1	<0.1
Permethrin II	<0.1 µg/l	TM231		<0.1	<0.1

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

OC, OP Pesticides and Triazine Herb

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 R	GW1	GW2				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	19/05/2011	19/05/2011				
			Date Received	19/05/2011	19/05/2011				
			SDG Ref	110519-144	110519-144				
			Lab Sample No.(s)	3493715	3493716				
			AGS Reference						
Phosalone	<0.1 µg/l	TM231		<0.1	<0.1				
Azinphos-ethyl	<0.1 µg/l	TM231		<0.1	<0.1				
Azinphos-methyl	<0.1 µg/l	TM231		<0.1	<0.1				
Pentachloroethane	<0.1 µg/l	TM231		<0.1	<0.1				
Hexachloroethane	<0.1 µg/l	TM231		<0.1	<0.1				
1,3.5-Trichlorobenzene	<0.1 µg/l	TM231		<0.1	<0.1				
1,2,4-Trichlorobenzene	<0.1 µg/l	TM231		<0.1	<0.1				
1,2,3-Trichlorobenzene	<0.1 µg/l	TM231		<0.1	<0.1				
Hexachlorobutadiene	<0.1 µg/l	TM231		<0.1	<0.1				
1,2,4,5-Tetrachlorobenzene	<0.1 µg/l	TM231		<0.1	<0.1				
Dichlobenil	<0.1 µg/l	TM231		<0.1	<0.1				
Pentachlorobenzene	<0.1 µg/l	TM231		<0.1	<0.1				
alpha-Hexachlorocyclohexane (HCH / Lindane)	<0.1 µg/l	TM231		<0.1	<0.1				
beta-Hexachlorocyclohexane (HCH / Lindane)	<0.1 µg/l	TM231		<0.1	<0.1				
gamma-Hexachlorocyclohexane (HCH / Lindane)	<0.1 µg/l	TM231		<0.1	<0.1				
Propyzamide	<0.1 µg/l	TM231		<0.1	<0.1				
delta-Hexachlorocyclohexane (HCH / Lindane)	<0.1 µg/l	TM231		<0.1	<0.1				
trans-Chlordane (gamma)	<0.1 µg/l	TM231		<0.1	<0.1				
alpha-Endosulphan	<0.1 µg/l	TM231		<0.1	<0.1				
cis-Chlordane (alpha)	<0.1 µg/l	TM231		<0.1	<0.1				
beta-Endosulphan	<0.1 µg/l	TM231		<0.1	<0.1				
Iprodione	<0.1 µg/l	TM231		<0.1	<0.1				
Propiconazole I	<0.1 µg/l	TM231		<0.1	<0.1				
Propiconazole II	<0.1 µg/l	TM231		<0.1	<0.1				
Fluroxypyr	<0.1 µg/l	TM231		<0.2	<0.2				
p,p-Methoxychlor	<0.1 µg/l	TM231		<0.1	<0.1				
Methacriphos	<0.1 µg/l	TM231		<0.1	<0.1				
Tributylphosphate	<0.1 µg/l	TM231		<0.1	<0.1				
Sulfotep	<0.1 µg/l	TM231		<0.1	<0.1				
Phorate	<0.1 µg/l	TM231		<0.1	<0.1				
Fonofos	<0.1 µg/l	TM231		<0.1	<0.1				
Phosphamidon I	<0.1 µg/l	TM231		<0.1	<0.1				
Disulfoton	<0.1 µg/l	TM231		<0.1	<0.1				
Phosphamidon II	<0.1 µg/l	TM231		<0.1	<0.1				
Chlorpyriphos methyl	<0.1 µg/l	TM231		<0.1	<0.1				

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

OC, OP Pesticides and Triazine Herb

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 R	GW1	GW2				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	19/05/2011	19/05/2011				
			Date Received	19/05/2011	19/05/2011				
			SDG Ref	110519-144	110519-144				
			Lab Sample No.(s)	3493715	3493716				
			AGS Reference						
Triphenylphosphate	<0.1 µg/l	TM231		<0.1	<0.1				
Phosmet	<0.1 µg/l	TM231		<0.1	<0.1				
o-ethyl 4-nitrophenyl phosphonothioate (EPN)	<0.1 µg/l	TM231		<0.1	<0.1				
Coumaphos	<0.1 µg/l	TM231		<0.1	<0.1				
cis-Heptachlor epoxide	<0.1 µg/l	TM231		<0.1	<0.1				

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

SVOC MS (W) - Aqueous

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 R	GW1	GW2
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	19/05/2011	19/05/2011
			SDG Ref	110519-144	110519-144
			Lab Sample No.(s)	3493715	3493716
			AGS Reference		
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

SVOC MS (W) - Aqueous

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 R	GW1	GW2				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	19/05/2011	19/05/2011				
			Date Received	19/05/2011	19/05/2011				
			SDG Ref	110519-144	110519-144				
			Lab Sample No.(s)	3493715	3493716				
			AGS Reference						
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5				
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1				
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1				
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1				
Phenol (aq)	<1 µg/l	TM176		<1	<1				
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1				
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1				
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1				
Isophorone (aq)	<1 µg/l	TM176		<1	<1				
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1				
SVOC TIC (aq)	-	TM176		See Attached	See Attached				
SVOC Derivatised (aq)	-	TM176		Not Detected	Not Detected				

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

TBT/TPT/DBT (W)*

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 R	GW1	GW2
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	19/05/2011	19/05/2011
			SDG Ref	110519-144	110519-144
			Lab Sample No.(s)	3493715	3493716
			AGS Reference		
Tributyl tin*	<0.02 ng/l	SUB		<5	<5000
Triphenyl tin*	<0.05 ng/l	SUB		<20	<20000
Dibutyl tin*	<0.02 ng/l	SUB		<5	<5000
Tetrabutyl tin*	<0.02 ng/l	SUB		<5	<5000

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

VOC MS (W)

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 R	GW1	GW2			
			Depth (m)	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/05/2011	19/05/2011			
			Date Received	19/05/2011	19/05/2011			
			SDG Ref	110519-144	110519-144			
			Lab Sample No.(s)	3493715	3493716			
			AGS Reference					
Dibromofluoromethane**	%	TM208		102	103			
Toluene-d8**	%	TM208		100	100			
4-Bromofluorobenzene**	%	TM208		98.9	96.4			
Dichlorodifluoromethane	<7 µg/l	TM208		<7 #	<7 #			
Chloromethane	<9 µg/l	TM208		<9 #	<9 #			
Vinyl chloride	<1.2 µg/l	TM208		<1.2 #	<1.2 #			
Bromomethane	<2 µg/l	TM208		<2 #	<2 #			
Chloroethane	<2.5 µg/l	TM208		<2.5 #	<2.5 #			
Trichlorofluoromethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #			
1,1-Dichloroethene	<1.2 µg/l	TM208		<1.2 #	<1.2 #			
Carbon disulphide	<1.3 µg/l	TM208		<1.3 #	<1.3 #			
Dichloromethane	<3.7 µg/l	TM208		<3.7 #	<3.7 #			
Methyl tertiary butyl ether (MTBE)	<1.6 µg/l	TM208		<1.6 #	<1.6 #			
trans-1,2-Dichloroethene	<1.9 µg/l	TM208		<1.9 #	<1.9 #			
1,1-Dichloroethane	<1.2 µg/l	TM208		<1.2 #	<1.2 #			
cis-1,2-Dichloroethene	<2.3 µg/l	TM208		<2.3 #	<2.3 #			
2,2-Dichloropropane	<3.8 µg/l	TM208		<3.8 #	<3.8 #			
Bromochloromethane	<1.9 µg/l	TM208		<1.9 #	<1.9 #			
Chloroform	<1.8 µg/l	TM208		<1.8 #	<1.8 #			
1,1,1-Trichloroethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #			
1,1-Dichloropropene	<1.3 µg/l	TM208		<1.3 #	<1.3 #			
Carbontetrachloride	<1.4 µg/l	TM208		<1.4 #	<1.4 #			
1,2-Dichloroethane	<3.3 µg/l	TM208		<3.3	<3.3			
Benzene	<1.3 µg/l	TM208		<1.3 #	<1.3 #			
Trichloroethene	<2.5 µg/l	TM208		<2.5 #	<2.5 #			
1,2-Dichloropropane	<3 µg/l	TM208		<3 #	<3 #			
Dibromomethane	<2.7 µg/l	TM208		<2.7 #	<2.7 #			
Bromodichloromethane	<0.9 µg/l	TM208		<0.9 #	<0.9 #			
cis-1,3-Dichloropropene	<1.9 µg/l	TM208		<1.9 #	<1.9 #			
Toluene	<1.4 µg/l	TM208		<1.4 #	<1.4 #			
trans-1,3-Dichloropropene	<3.5 µg/l	TM208		<3.5 #	<3.5 #			
1,1,2-Trichloroethane	<2.2 µg/l	TM208		<2.2 #	<2.2 #			
1,3-Dichloropropane	<2.2 µg/l	TM208		<2.2 #	<2.2 #			
Tetrachloroethene	<1.5 µg/l	TM208		<1.5 #	<1.5 #			
Dibromochloromethane	<1.7 µg/l	TM208		<1.7 #	<1.7 #			

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

VOC MS (W)

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 R	GW1	GW2
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	19/05/2011	19/05/2011
			SDG Ref	110519-144	110519-144
			Lab Sample No.(s)	3493715	3493716
			AGS Reference		
1,2-Dibromoethane	<2.3 µg/l	TM208		<2.3 #	<2.3 #
Chlorobenzene	<3.5 µg/l	TM208		<3.5 #	<3.5 #
1,1,1,2-Tetrachloroethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Ethylbenzene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
m,p-Xylene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
o-Xylene	<1.7 µg/l	TM208		<1.7 #	<1.7 #
Styrene	<1.2 µg/l	TM208		<1.2 #	<1.2 #
Bromoform	<3 µg/l	TM208		<3 #	<3 #
Isopropylbenzene	<1.4 µg/l	TM208		<1.4 #	<1.4 #
1,1,2,2-Tetrachloroethane	<5.2 µg/l	TM208		<5.2	<5.2
1,2,3-Trichloropropane	<7.8 µg/l	TM208		<7.8 #	<7.8 #
Bromobenzene	<2 µg/l	TM208		<2 #	<2 #
Propylbenzene	<2.6 µg/l	TM208		<2.6 #	<2.6 #
2-Chlorotoluene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
1,3,5-Trimethylbenzene	<1.8 µg/l	TM208		<1.8 #	<1.8 #
4-Chlorotoluene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
tert-Butylbenzene	<2 µg/l	TM208		<2 #	<2 #
1,2,4-Trimethylbenzene	<1.7 µg/l	TM208		<1.7 #	<1.7 #
sec-Butylbenzene	<1.7 µg/l	TM208		<1.7 #	<1.7 #
4-iso-Propyltoluene	<2.6 µg/l	TM208		<2.6 #	<2.6 #
1,3-Dichlorobenzene	<2.2 µg/l	TM208		<2.2 #	<2.2 #
1,4-Dichlorobenzene	<2.7 µg/l	TM208		<2.7 #	<2.7 #
n-Butylbenzene	<2 µg/l	TM208		<2 #	<2 #
1,2-Dichlorobenzene	<3.7 µg/l	TM208		<3.7	<3.7
1,2-Dibromo-3-chloropropane	<9.8 µg/l	TM208		<9.8	<9.8
1,2,4-Trichlorobenzene	<2.3 µg/l	TM208		<2.3 #	<2.3 #
Hexachlorobutadiene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #
Naphthalene	<3.5 µg/l	TM208		<3.5 #	<3.5 #
1,2,3-Trichlorobenzene	<3.1 µg/l	TM208		<3.1 #	<3.1 #
1,3,5-Trichlorobenzene	<10 µg/l	TM208		<10	<10

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

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
SUB		Subcontracted Test		
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B	Determination of Metal Cations by IRIS Emission Spectrometer		
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		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM231	Agilent 6890 Gas Chromatograph system using an Agilent 5973 Mass Selective Detector (MSD)	Determination of Organochlorine and Organophosphorus Pesticides and Triazine Herbicides by GCMS		
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:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

Test Completion Dates

Lab Sample No(s)	3493715	3493716
Customer Sample Ref.	GW1	GW2
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
Ammoniacal Nitrogen	23-May-2011	23-May-2011
Anions by Kone (w)	27-May-2011	25-May-2011
Conductivity (at 20 deg.C)	27-May-2011	27-May-2011
Cyanide Comp/Free/Total/Thiocyanate	27-May-2011	27-May-2011
Dissolved Metals by ICP-MS	23-May-2011	24-May-2011
Dissolved Oxygen by Probe	22-May-2011	20-May-2011
Fluoride	25-May-2011	20-May-2011
Mercury Dissolved	23-May-2011	23-May-2011
Mineral Oil C10-40 Aqueous (W)	31-May-2011	31-May-2011
OC, OP Pesticides and Triazine Herb	02-Jun-2011	02-Jun-2011
pH Value	23-May-2011	23-May-2011
Silicon Dissolved by ICP-OES	25-May-2011	25-May-2011
SVOC MS (W) - Aqueous	27-May-2011	27-May-2011
TBT/TPT/DBT (W)*	06-Jun-2011	06-Jun-2011
Total Organic and Inorganic Carbon	25-May-2011	25-May-2011
VOC MS (W)	26-May-2011	26-May-2011

CERTIFICATE OF ANALYSIS

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

ALcontrol Laboratories

SVOC Tentatively Identified Compounds

Job Number - 110519-144
Customer - Tobin
Sample Identity - 3499800/3527263-GW2[]-WATER
Sample Type [Units] - Water - µg/l
Date Acquired - 26/05/11
Date Reported - 27/05/11
Analyst - H Alford

Tentative Compound Identification	Retention Time min	Concentration µg/l
C20-28 aliphatic hydrocarbons	11.12-14.04	152

MAY INCLUDE PREVIOUSLY QUANTIFIED RESULTS
Please Note: the identification and semi-quantification of these tentatively identified compounds is outside the scope of the UKAS accreditation for this method

ALcontrol Laboratories

SVOC Tentatively Identified Compounds

Job Number - 110519-144
Customer - Tobin
Sample Identity - 3499885/3527229-GW1[]-WATER
Sample Type [Units] - Water - µg/l
Date Acquired - 26/05/11
Date Reported - 27/05/11
Analyst - H Alford

Tentative Compound Identification	Retention Time min	Concentration µg/l
C20-28 aliphatic hydrocarbons	11.12-14.0	114

MAY INCLUDE PREVIOUSLY QUANTIFIED RESULTS
Please Note: the identification and semi-quantification of these tentatively identified compounds is outside the scope of the UKAS accreditation for this method

RPS Mountainheath

2 Shaftesbury Industrial Centre, Icknield Way, Letchworth, Hertfordshire SG6 1HE

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Analytical Report

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Hawarden, Deeside
Flintshire, CH5 3US

Report No:	11-22739/1
Date Received:	23/05/2011
Date Tested:	02/06/2011 to 03/06/2011
Date Issued:	06/06/2011
Page:	1 of 1

For the attention of: Alcontrol Chester (Schedulers) **By email**

2 water samples received from ALcontrol Hawarden (O/N: 174310; Project: 110519-144) in 500ml green glass bottles were analysed as shown below. Analytical methods employed are available on request.

Laboratory reference			188820 3499400 GW2	188821 3499812 GW1
dibutyltin (low level)	*[1002-53-5]*	ng/l as Sn	< 5	< 5
tetrabutyltin (low level)	*[1461-25-2]*	ng/l as Sn	< 5	< 5
tributyltin (low level)	*[56573-85-4]*	ng/l as Sn	< 5	< 5
triphenyltin (low level)	*[668-34-8]*	ng/l as Sn	< 20	< 20

Robin T R Macdonald
Operational Director

SDG:	110519-144	**Location:**	Rilta Site 14- A1	**Order Number:**	2088
Job:	D_TOBIN_DUB-66	**Customer:**	Tobin	**Report Number:**	132431
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	132390

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	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MINOIL)	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	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
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	GCMS

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 (IR)	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

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: Mary Lynch

CERTIFICATE OF ANALYSIS

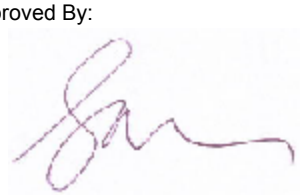
Date:	16 August 2011
Customer:	D_TOBIN_DUB
Sample Delivery Group (SDG):	110805-35
Your Reference:	5965
Location:	Site 14A1
Report No:	145441

We received 2 samples on Thursday August 04, 2011 and 2 of these samples were scheduled for analysis which was completed on Tuesday August 16, 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:	110805-35	**Location:**	Site 14A1	**Order Number:**	2142
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	145441
Client Reference:	5965	**Attention:**	Mary Lynch	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
4037805	GW1			04/08/2011
4037806	GW2			04/08/2011

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

CERTIFICATE OF ANALYSIS

SDG:	110805-35	**Location:**	Site 14A1	**Order Number:**	2142
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	145441
Client Reference:	5965	**Attention:**	Mary Lynch	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	4037805	4037806
			Customer Sample Reference	GW1	GW2
			AGS Reference		
			Depth (m)		
			Container	1l glass bottle (D) / PLAS BOT (D)	1l glass bottle (D) / PLAS BOT (D)
Anions by Kone (w)	All	NDPs: 0 Tests: 2		X	X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 2		X	X
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 2		X	X
pH Value	All	NDPs: 0 Tests: 2		X	X
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2	X	X	

CERTIFICATE OF ANALYSIS

SDG:	110805-35	**Location:**	Site 14A1	**Order Number:**	2142
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	145441
Client Reference:	5965	**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	GW1	GW2			
			Depth (m)	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	04/08/2011	04/08/2011			
			Date Received	04/08/2011	04/08/2011			
			SDG Ref	110805-35	110805-35			
			Lab Sample No.(s)	4037805	4037806			
			AGS Reference					
Oxygen, dissolved	<0.3 mg/l	TM046		7.43 #	6.98 #			
Organic Carbon, Total	<3 mg/l	TM090		<3 § #	4.79 § #			
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.618 #	0.745 #			
Sulphate	<2 mg/l	TM184		89.6 #	115 #			
Chloride	<2 mg/l	TM184		20 #	25 #			
pH	<1 pH Units	TM256		8.13 #	8.2 #			

CERTIFICATE OF ANALYSIS

SDG:	110805-35	**Location:**	Site 14A1	**Order Number:**	2142
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	145441
Client Reference:	5965	**Attention:**	Mary Lynch	**Superseded Report:**	

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
4043633	GW2		LIQUID	Total Organic and Inorganic Carbon	Organic Carbon, Total	Sample holding time exceeded
4043638	GW1		LIQUID	Total Organic and Inorganic Carbon	Organic Carbon, Total	Sample holding time exceeded

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

SDG:	110805-35	**Location:**	Site 14A1	**Order Number:**	2142
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	145441
Client Reference:	5965	**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
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
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:	110805-35	**Location:**	Site 14A1	**Order Number:**	2142
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	145441
Client Reference:	5965	**Attention:**	Mary Lynch	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	4037805	4037806
Customer Sample Ref.	GW1	GW2
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
Anions by Kone (w)	16-Aug-2011	16-Aug-2011
Conductivity (at 20 deg.C)	11-Aug-2011	11-Aug-2011
Dissolved Oxygen by Probe	07-Aug-2011	07-Aug-2011
pH Value	08-Aug-2011	08-Aug-2011
Total Organic and Inorganic Carbon	15-Aug-2011	15-Aug-2011

SDG:	110805-35	**Location:**	Site 14A1	**Order Number:**	2142
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	145441
Client Reference:	5965	**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.

ALcontrol Laboratories

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

Tobin
Block 10 - 4
Blanchardstown Corporate Park
Dublin

Attention: Orla McAlister

CERTIFICATE OF ANALYSIS

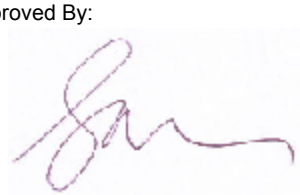
Date:	16 October 2011
Customer:	D_TOBIN_DUB
Sample Delivery Group (SDG):	111004-39
Your Reference:	5965
Location:	Rilta Site 14A-1
Report No:	155004

We received 2 samples on Tuesday October 04, 2011 and 2 of these samples were scheduled for analysis which was completed on Sunday October 16, 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:	111004-39	**Location:**	Rilta Site 14A-1	**Order Number:**	2172
Job:	D_TOBIN_DUB-16	**Customer:**	Tobin	**Report Number:**	155004
Client Reference:	5965	**Attention:**	Orla McAlister	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
4425351	GW1			03/10/2011
4425352	GW2			03/10/2011

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

CERTIFICATE OF ANALYSIS

SDG:	111004-39	**Location:**	Rilta Site 14A-1	**Order Number:**	2172
Job:	D_TOBIN_DUB-16	**Customer:**	Tobin	**Report Number:**	155004
Client Reference:	5965	**Attention:**	Orla McAlister	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)			
			4425351			4425352
			Customer Sample Reference			
			GW1			GW2
			AGS Reference			
			Depth (m)			
			Container			
			1l glass bottle (D)	PLAS BOT (D)	1l glass bottle (D)	PLAS BOT (D)
Anions by Kone (w)	All	NDPs: 0 Tests: 2		X		X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 2		X		X
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 2		X		X
pH Value	All	NDPs: 0 Tests: 2		X		X
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2	X		X	

CERTIFICATE OF ANALYSIS

SDG:	111004-39	**Location:**	Rilta Site 14A-1	**Order Number:**	2172
Job:	D_TOBIN_DUB-16	**Customer:**	Tobin	**Report Number:**	155004
Client Reference:	5965	**Attention:**	Orla McAlister	**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	GW1	GW2
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/10/2011	03/10/2011
			Date Received	04/10/2011	04/10/2011
			SDG Ref	111004-39	111004-39
			Lab Sample No.(s)	4425351	4425352
			AGS Reference		
Oxygen, dissolved	<0.3 mg/l	TM046		5.13 #	4.57 #
Organic Carbon, Total	<3 mg/l	TM090		4.52 § #	3.77 § #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.541 #	0.68 #
Sulphate	<2 mg/l	TM184		81.5 #	116 #
Chloride	<2 mg/l	TM184		20 #	26.4 #
pH	<1 pH Units	TM256		7.46 #	7.27 #

CERTIFICATE OF ANALYSIS

SDG:	111004-39	**Location:**	Rilta Site 14A-1	**Order Number:**	2172
Job:	D_TOBIN_DUB-16	**Customer:**	Tobin	**Report Number:**	155004
Client Reference:	5965	**Attention:**	Orla McAlister	**Superseded Report:**	

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
4432935	GW1		LIQUID	Total Organic and Inorganic Carbon	Organic Carbon, Total	Sample holding time exceeded
4432952	GW2		LIQUID	Total Organic and Inorganic Carbon	Organic Carbon, Total	Sample holding time exceeded

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

SDG:	111004-39	**Location:**	Rilta Site 14A-1	**Order Number:**	2172
Job:	D_TOBIN_DUB-16	**Customer:**	Tobin	**Report Number:**	155004
Client Reference:	5965	**Attention:**	Orla McAlister	**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
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved Oxygen by Oxygen Meter		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
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:	111004-39	**Location:**	Rilta Site 14A-1	**Order Number:**	2172
Job:	D_TOBIN_DUB-16	**Customer:**	Tobin	**Report Number:**	155004
Client Reference:	5965	**Attention:**	Orla McAlister	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	4425351	4425352
Customer Sample Ref.	GW1	GW2
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
Anions by Kone (w)	10-Oct-2011	10-Oct-2011
Conductivity (at 20 deg.C)	05-Oct-2011	06-Oct-2011
Dissolved Oxygen by Probe	06-Oct-2011	05-Oct-2011
pH Value	06-Oct-2011	06-Oct-2011
Total Organic and Inorganic Carbon	16-Oct-2011	16-Oct-2011

SDG:	111004-39	**Location:**	Rilta Site 14A-1	**Order Number:**	2172
Job:	D_TOBIN_DUB-16	**Customer:**	Tobin	**Report Number:**	155004
Client Reference:	5965	**Attention:**	Orla McAlister	**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 asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. Is an asbestos fibre type is found it will be reported as detected (for each fibre type found). If asbestos is present either as asbestos containing material or loose fibres no further analysis will be undertaken. The quantity of asbestos present is not determined unless specifically requested.

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)	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 (IR)	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.

APPENDIX C

Annual Noise Monitoring Report

Rilta Environmental Limited - Site 14-A1
Environmental Monitoring Programme

Annual Noise Survey Report
June 2011

July 2011

Revision: Final

TOBIN CONSULTING ENGINEERS

TOBIN
Patrick J. Tobin & Co. Ltd.

REPORT

PROJECT:

Rilta Environmental Ltd,
Site 14-A1

CLIENT:

Rilta Environmental Ltd.
Site No. 14A1,
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:	**Rilta Site 14-A1**
Title:	**2011 Annual Noise Survey**

PROJECT NUMBER: 5965				DOCUMENT REF: 5965 – 04 – 01			
Final	2011 - Annual Noise Survey	DC	08/07/11	BS	08/07/11	DG	08/07/11
Revision	**Description & Rationale**	**Originated**	**Date**	**Checked**	**Date**	**Authorised**	**Date**
TOBIN Consulting Engineers							

TABLE OF CONTENTS

TABLES & APPENDICES

APPENDICES

1 INTRODUCTION

Rilta Environmental Ltd. (hereafter referred to as RILTA) retained TOBIN Consulting Engineers (TOBIN) to conduct annual noise monitoring at its Site 14-A1 facility, as per Schedule D of Waste Licence 185-01. Site 14-A1 is located in Greenogue Business Park, Rathcoole, County Dublin. This report includes details of the noise monitoring conducted during the annual survey which was conducted on 29th & 30th June 2010.

2 ANNUAL NOISE SURVEY

The noise survey was carried out within the site boundary at 3 no. monitoring locations agreed with the EPA as per drawing 569 –42 –108 (see Appendix A). Weather conditions during monitoring were dry and calm with no breeze. The following conditions were adhered to in undertaking the survey:

- Measurement of noise levels was undertaken using Type 1 instrumentation;
- Cognisance was taken of the EPA's 'Environmental Noise Survey Guidance Document, 2003; and
- The survey was carried out in accordance with ISO 1996 Acoustics - Description and Measurement of Environmental Noise: Parts 1/2/3.

2.1 INSTRUMENTATION

The following instrumentation was used in the environmental noise monitoring survey:

- One Larson Davis 824 Precision Integrating Sound Level Analyser/Data logger with Real-Time Frequency Analyser Facility;
- Wind Shield Type: Larson Davis 2120 Windscreen; and
- Calibration Type: Larson Davis Precision Acoustic Calibrator Model CA200.

2.2 MEASUREMENT PROCEDURE

Daytime and night time noise monitoring was carried out on the 29th (night) & 30th (day) of June 2011. Noise monitoring was undertaken for 30 minute intervals at 3 no. agreed EPA locations, as per Schedule D of Waste Licence 185-01. All the environmental noise analysers had data logging facilities set on real-time, the logged data was later downloaded via a personal computer using software. One third octave frequency analysis was taken at the locations using the 824 Precision Integrating Sound Level Analyser/Data logger with real-time frequency analyser facility.

The measurement locations were all away from reflecting surfaces and at 1.5m height above local ground.

All acoustic instrumentation was calibrated before and after the survey period and no drift of calibration was observed (calibration level 114dB at 1000Hz).

2.3 RESULTS OF NOISE SURVEY

The noise monitoring locations are described in Table 2-1 and illustrated in drawing 569 – 42 – 108 (see Appendix A). The results of the noise survey are summarised in Table 2-2 and the 1/3 octave frequency analysis data is given in graphical format in Appendix B.

Table 2-1 Noise Monitoring Locations

Monitoring Location	Description
N1	South western boundary of site
N2	North western boundary of site
N3	South eastern boundary of site

Location N1

Noise monitoring location N1 is located at the site entrance, at the south western site boundary. Noise at this location was dominated in both the day and night period by Baldonnel air traffic and passing traffic on the internal industrial estate roads.

Location N2

N2 is located in the north western corner of the site. Aircraft, road traffic and adjacent facilities were the main noise contributors at N2.

Location N3

N3 is located at the south eastern site boundary. At this location, activity from neighbouring facilities, truck movements and aviation traffic dominated the noise sources.

Table 2-2 Noise Monitoring Results – dB(A) and 30 minute intervals

Receptor	Time	Leq	L10	L90	Notes
					DAY TIME
N1	09:14	63.6	67.4	49.2	Rush hour road traffic on adjacent road is the dominant noise source. Overhead aircraft were also audible. The RILTA Facility was inaudible.
N2	08:38	59.8	64.2	48.8	Passing road traffic is the dominant noise source, overhead aircraft and helicopters were also audible. The RILTA Facility was inaudible.
N3	08:00	62.0	66.1	49.2	Aircraft overhead, activity in neighbouring site is the dominant noise source. The RILTA Facility was inaudible
Receptor	Time	Leq	L10	L90	NIGHT TIME
N1	23:11	49.6	48.0	37.3	Passing traffic & aircraft is the dominant noise source. The RILTA Facility was inaudible.
N2	22:36	47.0	48.8	42.0	Passing traffic and distant traffic, aircraft, activity in adjacent sites is the dominant noise sources. The RILTA Facility was inaudible.
N3	22:00	52.5	57.3	39.6	Passing road traffic, aircraft overhead and truck movements in the facility to the south. The RILTA Facility was inaudible.

3 CONCLUSION

The noise emission limits as per Schedule C of Waste Licence 0185 – 01 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.

The noise emissions from RILTA Environmental Ltd. are summarised in Table 2-2 above.

Noise levels recorded at the 3 no. 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 inaudible during both the daytime and 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 at none of the noise monitoring locations, during the daytime monitoring event. Noise levels at N1, N2 and N3 exceeded the 55 dB(A) limit due to noise from external 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.

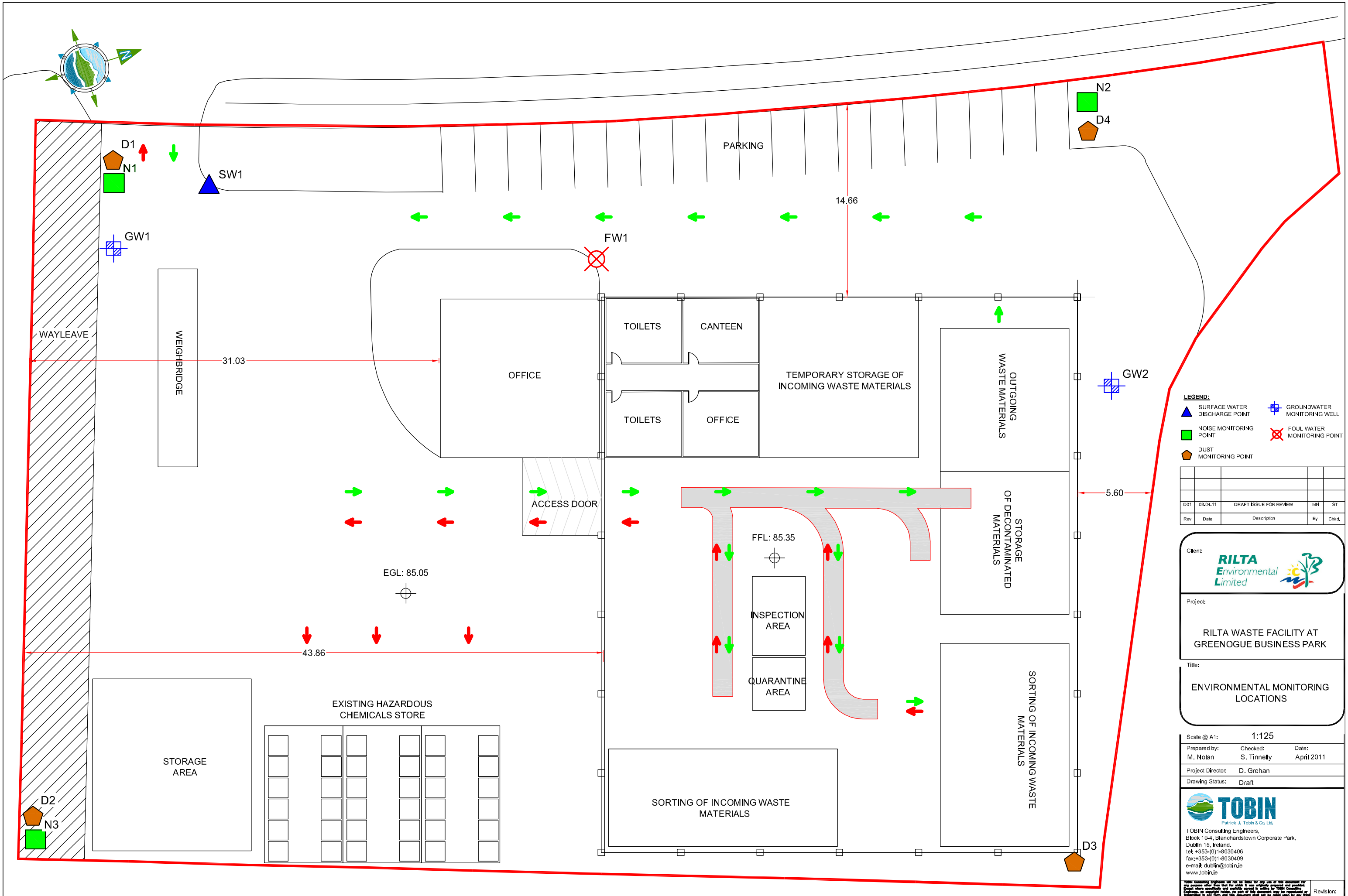
No noise emissions due to the RILTA facility were generally audible during the night time monitoring period. During the night time monitoring period the A-weighted equivalent continuous sound pressure level (LAeq, 30 min) was more than 45 dB(A) (night time) at all monitoring locations. As the RILTA facility was inaudible the recorded exceedances are attributed to extraneous noise sources such as traffic on the internal industrial estate road network, truck movements in adjacent facilities or low flying aircraft from nearby Baldonnell Airport.

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, no pure tones were detected during either the day or night time monitoring at the facility.

Full 1/3 octave frequency band analysis of all surveys is presented in Appendix B to this report.

APPENDIX A

Monitoring Location Map



Rev	Date	Description	By	Chkd
D01	08.04.11	DRAFT ISSUE FOR REVIEW	MN	ST

Client: RILTA Environmental Limited

Project: RILTA WASTE FACILITY AT GREENOGUE BUSINESS PARK

Title: ENVIRONMENTAL MONITORING LOCATIONS

Scale @ A1:	1:125	
Prepared by: M. Nolan	Checked: S. Tinnelly	Date: April 2011
Project Director:	D. Grehan	
Drawing Status:	Draft	

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Drawing No.: 5965-1000 Revision: D01

APPENDIX B

1/3 Octave Band Frequency Analysis

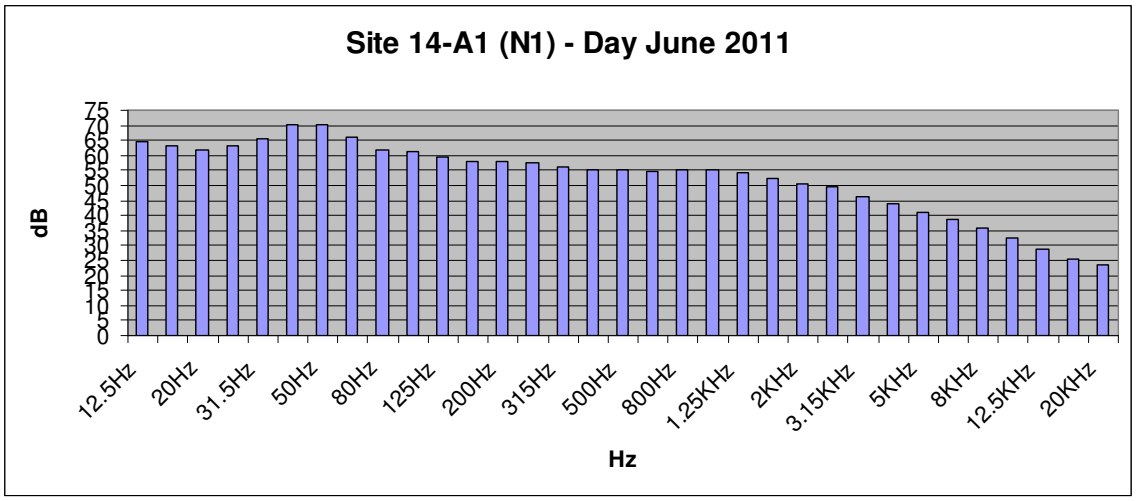


Figure 3-1 N1 Daytime Frequency Analysis

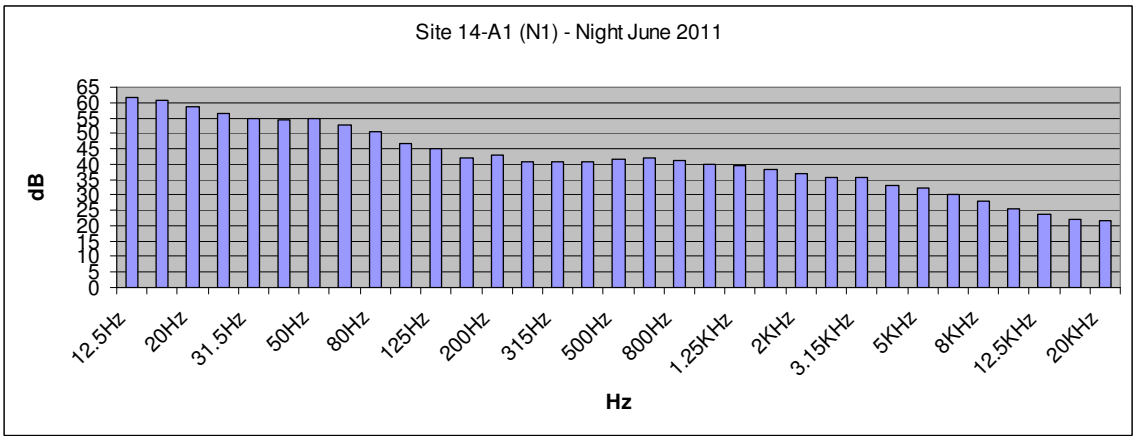


Figure 3-2 N1 Night Time Frequency Analysis

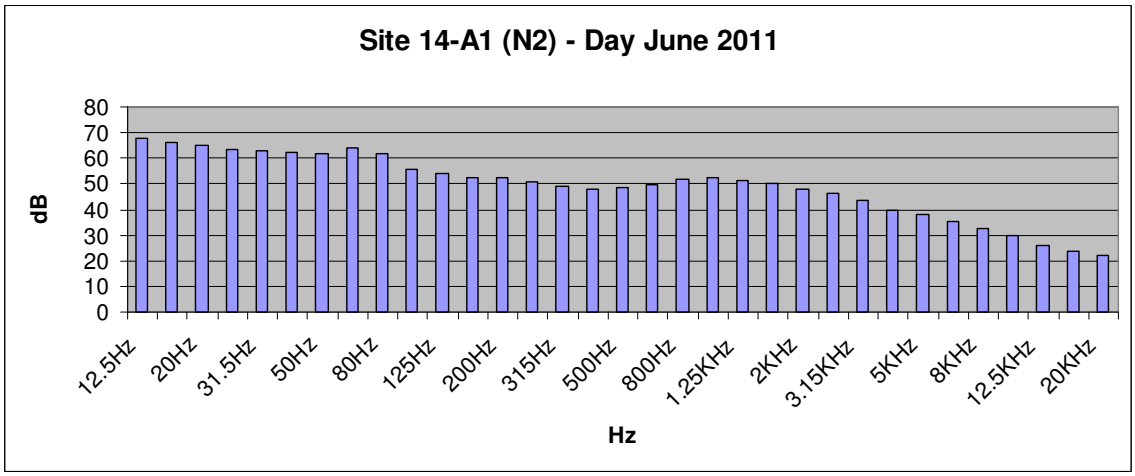


Figure 3-3 N2 Daytime Frequency Analysis

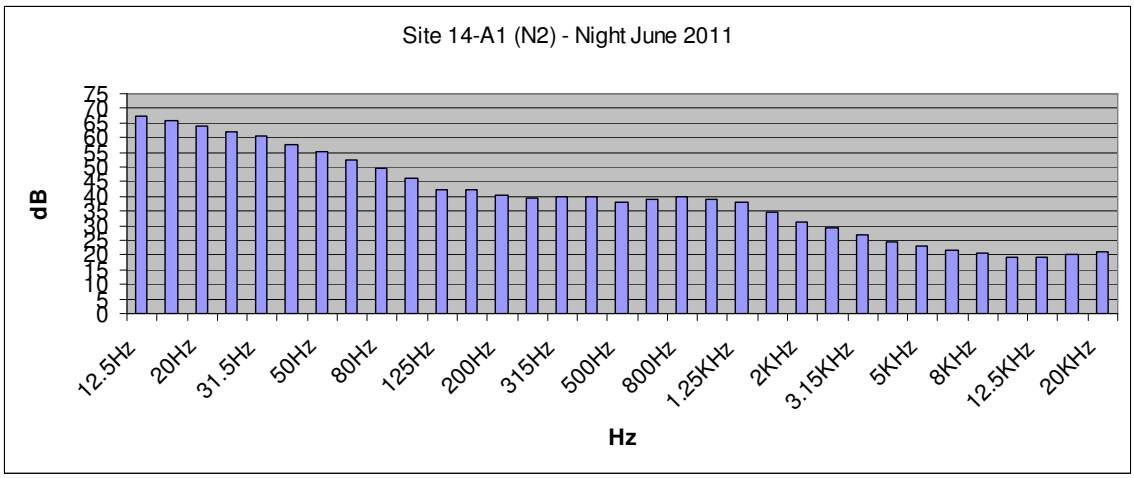


Figure 3-4 N2 Night Time Frequency Analysis

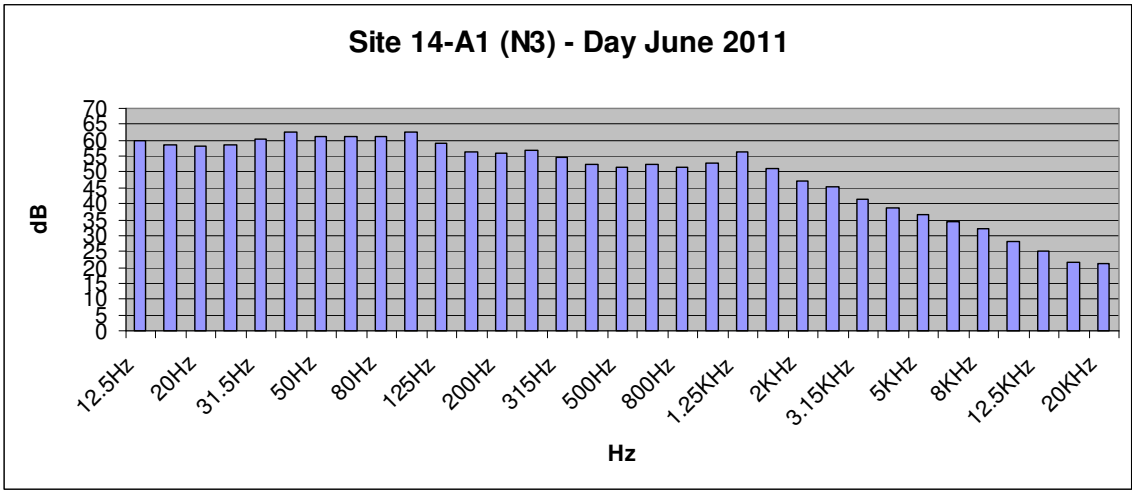


Figure 3-5 N3 Daytime Frequency Analysis

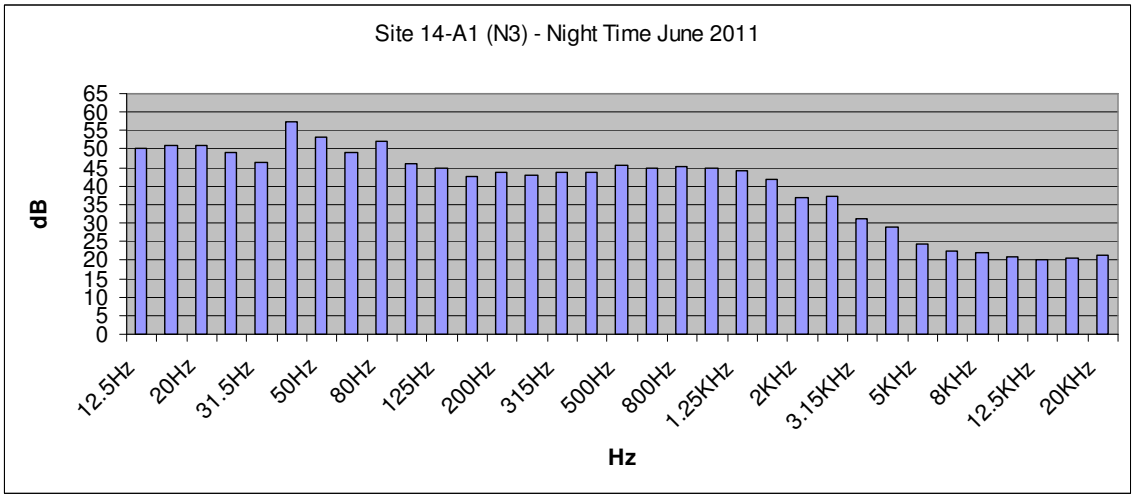


Figure 3-6 N3 Night Time Frequency Analysis

APPENDIX D

Dust Monitoring Results

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):	110316-75
Your Reference:	5965
Location:	Rilta Site 14-A1
Report No:	123279

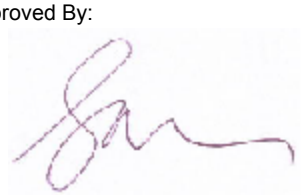
We received 4 samples on Wednesday March 16, 2011 and 4 of these samples were scheduled for analysis which was completed on Thursday March 31, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 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:	110316-75	**Location:**	Rilta Site 14-A1	**Order Number:**	2039
Job:	D_TOBIN_GWY-44	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123279
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3088236	D1			
3088237	D2			
3088239	D3			
3088240	D4			

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

CERTIFICATE OF ANALYSIS

SDG:	110316-75	**Location:**	Rilta Site 14-A1	**Order Number:**	2039
Job:	D_TOBIN_GWY-44	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123279
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)			3088236	3088237	3088239	3088240
Customer Sample Reference			D1	D2	D3	D4
AGS Reference						
Depth (m)						
Container			1l glass bottle (D)	1l glass bottle (D)	1l glass bottle (D)	1l glass bottle (D)
Dust in Water	All	NDPs: 0 Tests: 4	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	110316-75	**Location:**	Rilta Site 14-A1	**Order Number:**	2039
Job:	D_TOBIN_GWY-44	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123279
Client Reference:	5965	**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	110316-75	110316-75	110316-75	110316-75		
			Lab Sample No.(s)	3088236	3088237	3088239	3088240		
			AGS Reference						
Dust, Total	<0.026 mg/m2/da	TM253		60	211	39.3	81.4		
Dust, Organic	mg/m2/da	TM253		23.6	135	24.3	25		
Dust, Inorganic	mg/m2/da	TM253		36.4	76.4	15	56.4		

CERTIFICATE OF ANALYSIS

SDG:	110316-75	**Location:**	Rilta Site 14-A1	**Order Number:**	2039
Job:	D_TOBIN_GWY-44	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123279
Client Reference:	5965	**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:	110316-75	**Location:**	Rilta Site 14-A1	**Order Number:**	2039
Job:	D_TOBIN_GWY-44	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123279
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	3088236	3088237	3088239	3088240
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

CERTIFICATE OF ANALYSIS

SDG:	110316-75	**Location:**	Rilta Site 14-A1	**Order Number:**	2039
Job:	D_TOBIN_GWY-44	**Customer:**	Tobin Consulting Engineers	**Report Number:**	123279
Client Reference:	5965	**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):	110616-119
Your Reference:	5965
Location:	Rilta - Site 14-A1
Report No:	136567

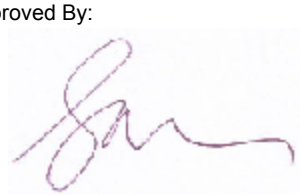
This report has been revised and directly supersedes 135995 in its entirety.

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:	110616-119	**Location:**	Rilta - Site 14-A1	**Order Number:**	2113
Job:	D_TOBIN_DUB-68	**Customer:**	Tobin	**Report Number:**	136567
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	135995

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3685828	D1			16/06/2011
3685829	D2			16/06/2011
3685831	D3			16/06/2011
3685832	D4			16/06/2011

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

CERTIFICATE OF ANALYSIS

SDG:	110616-119	**Location:**	Rilta - Site 14-A1	**Order Number:**	2113
Job:	D_TOBIN_DUB-68	**Customer:**	Tobin	**Report Number:**	136567
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	135995

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			3685828	D1			2 glass bottle
			3685829	D2			2 glass bottle
			3685831	D3			2 glass bottle
			3685832	D4			2 glass bottle
Dust in Water	All	NDPs: 0 Tests: 4					
			X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	110616-119	**Location:**	Rilta - Site 14-A1	**Order Number:**	2113
Job:	D_TOBIN_DUB-68	**Customer:**	Tobin	**Report Number:**	136567
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	135995

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	110616-119	110616-119	110616-119	110616-119		
			Lab Sample No.(s)	3685828	3685829	3685831	3685832		
			AGS Reference						
Dust, Total	<0.026 mg/m2/day	TM253		107	237	152	86.9		
Dust, Organic	mg/m2/day	TM253		38.7	103	71.4	42.3		
Dust, Inorganic	mg/m2/day	TM253		67.9	134	81	44.6		

CERTIFICATE OF ANALYSIS

SDG:	110616-119	**Location:**	Rilta - Site 14-A1	**Order Number:**	2113
Job:	D_TOBIN_DUB-68	**Customer:**	Tobin	**Report Number:**	136567
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	135995

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:	110616-119	**Location:**	Rilta - Site 14-A1	**Order Number:**	2113
Job:	D_TOBIN_DUB-68	**Customer:**	Tobin	**Report Number:**	136567
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	135995

Test Completion Dates

Lab Sample No(s)	3685828	3685829	3685831	3685832
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:	110616-119	**Location:**	Rilta - Site 14-A1	**Order Number:**	2113
Job:	D_TOBIN_DUB-68	**Customer:**	Tobin	**Report Number:**	136567
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	135995

SDG:	110616-119	**Location:**	Rilta - Site 14-A1	**Order Number:**	2113
Job:	D_TOBIN_DUB-68	**Customer:**	Tobin	**Report Number:**	136567
Client Reference:	5965	**Attention:**	David Corrigan	**Superseded Report:**	135995

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

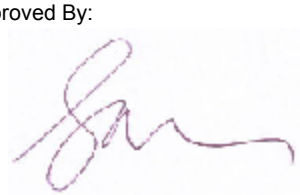
Date:	13 September 2011
Customer:	D_TOBIN_DUB
Sample Delivery Group (SDG):	110902-123
Your Reference:	5965
Location:	Site 14A1
Report No:	149762

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:	110902-123	**Location:**	Site 14A1	**Order Number:**	2156
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	149762
Client Reference:	5965	**Attention:**	Mary Lynch	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
4218192	D1			
4218194	D2			
4218195	D3			
4218196	D4			

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

CERTIFICATE OF ANALYSIS

SDG:	110902-123	**Location:**	Site 14A1	**Order Number:**	2156
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	149762
Client Reference:	5965	**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
			421192	D1			1l glass bottle (D)
			421194	D2			1l glass bottle (D)
			421195	D3			1l glass bottle (D)
			421196	D4			1l glass bottle (D)
Dust	All	NDPs: 0 Tests: 4	X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	110902-123	**Location:**	Site 14A1	**Order Number:**	2156
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	149762
Client Reference:	5965	**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	D3	D4		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	-	-	-	-		
			Date Received	02/09/2011	02/09/2011	02/09/2011	02/09/2011		
			SDG Ref	110902-123	110902-123	110902-123	110902-123		
			Lab Sample No.(s)	4218192	4218194	4218195	4218196		
			AGS Reference						
Dust, Total	<0.026 mg/m2/da	TM253		53.4	137	69.8	14.4		

CERTIFICATE OF ANALYSIS

SDG:	110902-123	**Location:**	Site 14A1	**Order Number:**	2156
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	149762
Client Reference:	5965	**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
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:	110902-123	**Location:**	Site 14A1	**Order Number:**	2156
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	149762
Client Reference:	5965	**Attention:**	Mary Lynch	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	4218192	4218194	4218195	4218196
Customer Sample Ref.	D1	D2	D3	D4
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
Dust	13-Sep-2011	13-Sep-2011	13-Sep-2011	13-Sep-2011

SDG:	110902-123	**Location:**	Site 14A1	**Order Number:**	2156
Job:	D_TOBIN_DUB-72	**Customer:**	Tobin	**Report Number:**	149762
Client Reference:	5965	**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 E

Environmental Management Plan

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 F

Pollutant Release and Transfer Register (PRTR)

Environmental Protection Agency

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	W0185
Licence Number	W0185-01

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	##
4.11	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
4.12	Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.
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.

Address 1	Site No 14A1
Address 2	Greenogue Business Park
Address 3	Rathcoole
Address 4	County Dublin
	Dublin
Country	Ireland
Coordinates of Location	-6.47708 53.2999
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

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	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

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

Additional Data Requested from Landfill operators

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

Landfill: 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 | PRTR# : W0185 | Facility Name : Rilta Environmental Limited | Filename : W0185_2011.xls | Return Year : 2011 | 28/03/2012 11:31

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

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
					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
					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

4.4 RELEASES TO LAND Link to previous years emissions data | PRTR# : W0185 | Facility Name : Rilta Environmental Limited | Filename : W0185_2011.xls | Return Year : 2011 | 28/03/2012 11:36

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

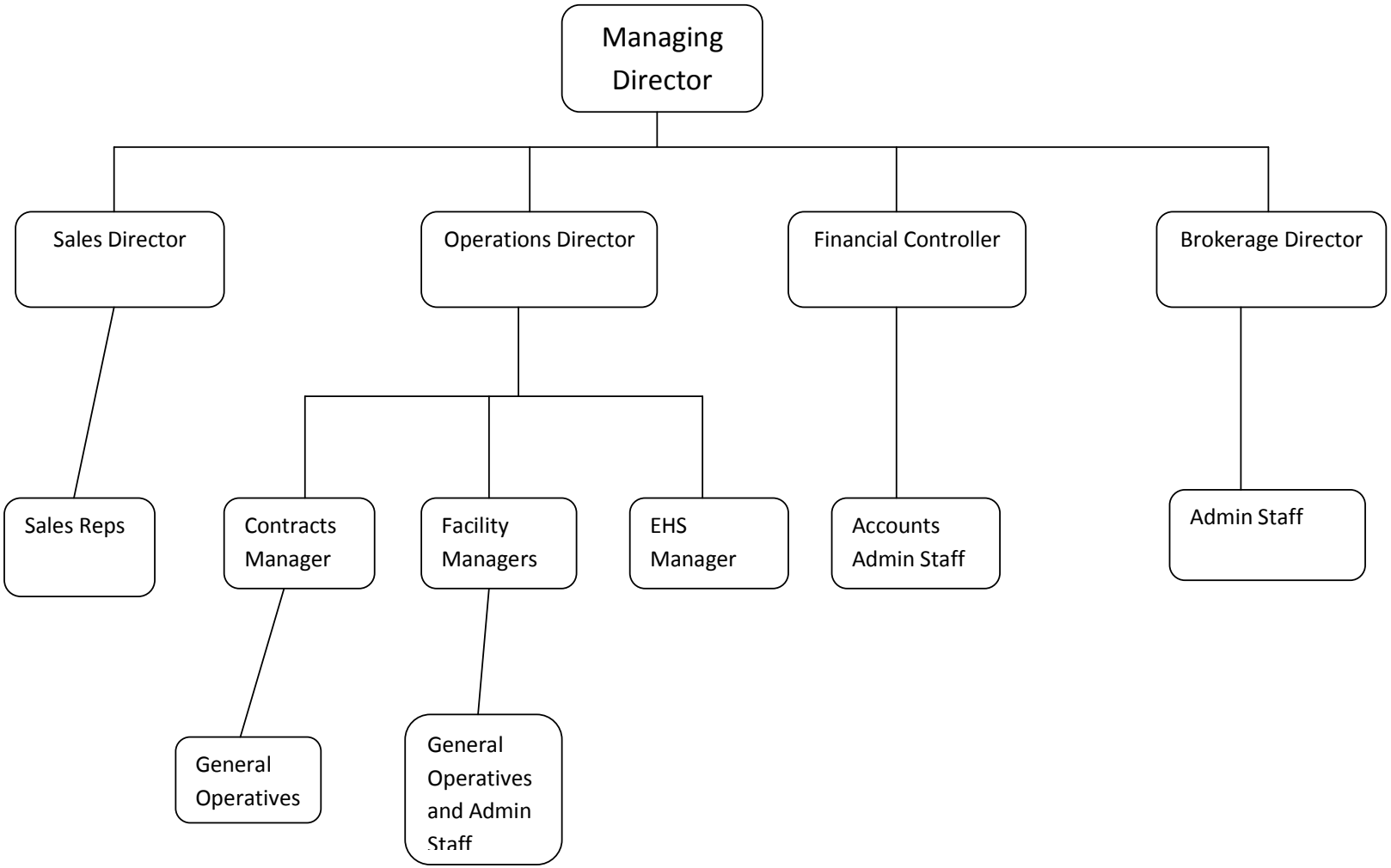
Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : 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					
Within the Country	13 03 07	Yes	256.22	mineral-based non-chlorinated insulating and heat transmission oils	R9	M	Weighed	Offsite in Ireland	Rilta Environmental Ltd,w0192-3	402 Greenogue Business Park,.,Rathcoole,Co. Dublin,Ireland	Rilta Environmental Ltd,W192-3,402 Greenogue Business Park, ,Rathcoole,Co. Dublin,Ireland	402 Greenogue Business Park, ,Rathcoole,Co. Dublin,Ireland
Within the Country	19 12 02	No	1242.8	ferrous metal	R4	M	Weighed	Offsite in Ireland	Hegarty Metals,Permit No. WP 05/04	Dock Road,., Limerick,.,Ireland		
Within the Country	19 12 03	No	54.67	non-ferrous metal	R4	M	Weighed	Offsite in Ireland	Hegarty Metals,Permit No. WP 05/04	Dock Road,., Limerick,.,Ireland		
Within the Country	16 02 11	Yes	786.0	discarded equipment containing chlorofluorocarbons, HCFC, HFC	R4	M	Weighed	Offsite in Ireland	Tech Rec NI,.	Dungannon, ,., Co. Tyrone,Ireland	Tech Rec NI,.,Dungannon, ,.,Co. Tyrone,Ireland	Dungannon,.,.,Co. Tyrone,Ireland
Within the Country												

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

APPENDIX G

Staffing Structure

Rilta Environmental Management Structure



TOBIN

Patrick J. Tobin & Co. Ltd