Rilta Environmental Limited - Site 14-A1
Environmental Monitoring Programme

Annual Environmental Report
January 1st – December 31st 2010

May 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: **Annual Environmental Report – January 1st to December 31st 2010**

PROJECT NUMBER: 5965				DOCUMENT REF: 5965 – 04 – 01			
Final	Annual Environmental Report (AER)	DC	04/05/11	ST	04/05/11	DG	04/05/11
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 2010 to December 2010. 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 111,000 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 - 2010

Waste Type	Tonnes	EWC Code
Transformers	2219.67	16 02 13
Transformers	10.0	16 02 09
WEE	913.48	16 02 11

A full list of waste acceptance and transfer data is contained in Appendix B.

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 MONITORING

Surface water monitoring was conducted on a quarterly basis during 2010. The monitoring point is shown on Drawing Drawing 569-42-G006 in Appendix A. Surface water runoff from the facility is dependant on rainfall, therefore surface water sampling was only possible if precipitation occurred during or shortly before a quarterly monitoring event.

The surface water monitoring point (SW1) was dry during 3 of the 4 quarterly monitoring events (Q1, Q2 & Q3) in 2010. However a sample was obtained during the Q4 (November) monitoring event and this sample was submitted for chemical analysis as per Schedule D of the waste licence.

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 was made to the relevant drinking water standards (S.I 278 of 2007). The results for both laboratory and field analysis of surface water during 2010 are summarised in Table 4-1 & 4-2 below.

Table 4-1 In-situ Results for SW Discharge Location SW-1 – 2010

Parameter	Units	S.I. No. 278 of 2007 (Limit Values)	SW-1 Results
pH	pH units	≥ 6.5 pH 9.5 ≤	8.67
Electrical Conductivity	mS/cm	2.5	0.184
Temperature	°C	-	8.7
Dissolved Oxygen	%	-	82

Table 4-2 Laboratory Results from Surface Water Discharge Location SW-1 – 2010

Parameter	Units	S.I. No. 278 of 2007 (Limit Values)	SW-1 Results
Chemical Oxygen Demand	mg/l	-	16.9
Electrical Conductivity	mS/cm	2.5	0.16
pH	pH Units	≥ 6.5 pH 9.5 ≤	7.62

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 2010. 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 2010 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 4-3 In-situ GW Monitoring Results - 2010

Parameter	Units	IGV	SI No. 9 of 2010	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	-	7.80	7.84	7.07	7.13	7.34	7.09	7.48	7.35
Conductivity	mS/cm	1.000	1.875	0.675	0.766	0.495	0.626	0.602	0.641	0.698	0.758
Temperature	°C	25	-	6.6	6.9	8.3	7.5	14.9	11.5	10.1	10
Dissolved Oxygen	mg/l	-	-	3.61	3.31	4.08	4.97	47.4	48.9	5.52	7.57

Table 4-4 In-situ Laboratory Results [2] – 2010

Parameter	Units	IGV	SI No. 9 of 2010	Q1		Q2		Q3		Q4	
				GW1	GW 2	GW1	GW 2	GW1	GW 2	GW1	GW 2
pH	*pH units*	*6.5-9.0*	-	7.96	7.95	7.99	7.92	7.99	7.83	8.22	8.08
Conductivity	*mS/cm*	1.000	1.875	0.701	0.811	0.687	0.863	0.660	0.820	0.662	0.8
Dissolved Oxygen	*mg/l*	-	-	11	13	5.68	6.28	5.29	4.27	5.52	7.57
Chloride	*mg/l*	30	187.5	19.7	24.2	19.8	28.9	19.4	28.5	21.9	17.6
Sulphate	*mg/l*	200	187.5	124	146	122	165	111	119	89.3	89.9
Total Organic Carbon	*mg/l*	-	-	3.1	3.91	3.9	4.38	<3	5.97	<3	5.4
SVOCs	*µg/l*	-	-	<LOD	<LOD	-	-	-	-	-	-
VOC	*µg/l*	-	-	<LOD	<LOD	-	-	-	-	-	-
Metals	*µg/l*	***Note 1***	***Note 1***	<LV	<LV	-	-	-	-	-	-

Note 1: A full set of results for tested metals is available in Appendix C
<LOD: Below Laboratory Limit of Detection.
<LV: Below required limit values (LV) set out in the IGVs and SI No. 9 of 2010 for all parameters.

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

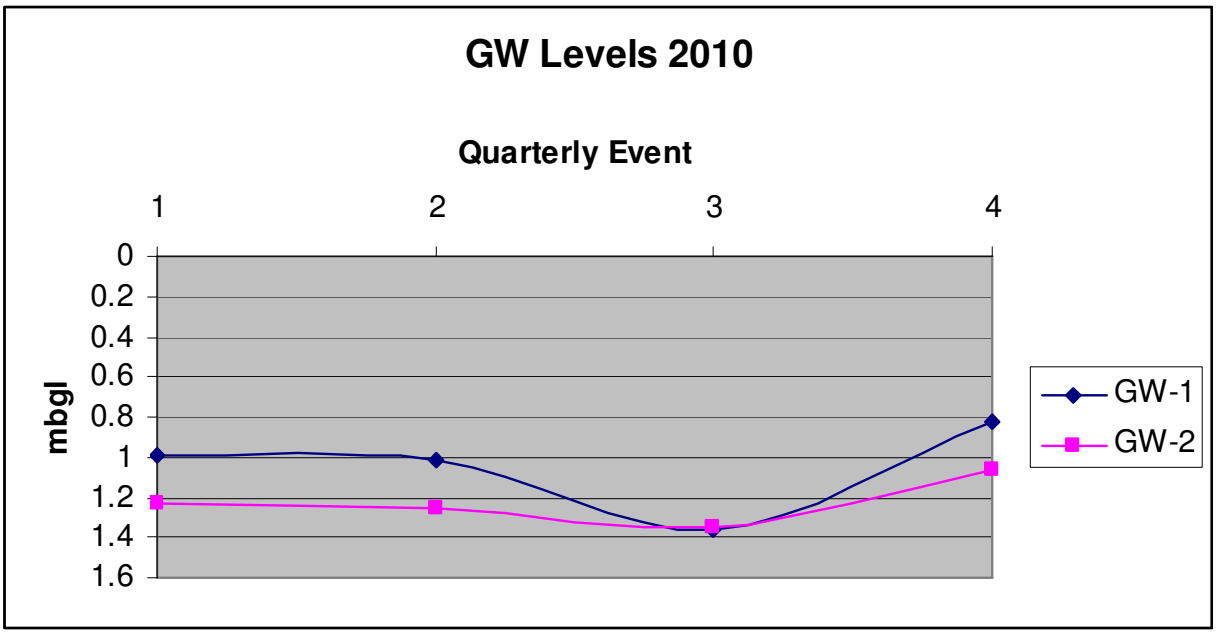


Figure 4-1 Groundwater Levels - 2010

Table 4-5 Groundwater Levels - 2010

	Units	Q1	Q2	Q3	Q4
GW-1	*mbtc*	0.99	1.01	1.36	0.82
GW-2	*mbtc*	1.235	1.25	1.35	1.065

4.4 NOISE MONITORING

Daytime and night time noise monitoring was carried out at approved noise monitoring locations (see Drawing 569-42-G006) on 1st September 2010. The full noise monitoring report from 2010 detailing the noise environment at Site 14-A1 is contained in Appendix D. Noise monitoring results obtained from the day and night time surveys carried out at the RILTA facility during 2010 are summarised in Table 4-6 and Table 4-7 below.

Table 4-6 Annual Daytime Noise Monitoring Survey - 2010

DAY TIME					
Receptor	**Time**	**Leq**	**L10**	**L90**	**Notes**
N1	17:00	61.5	65.4	48.3	Rush hour road traffic on adjacent road is dominant source. Aircraft audible, RILTA site is inaudible – no activity
N2	12:57	49.8	53.3	43.0	Passing road traffic is dominant noise source, overhead aircraft and helicopters,
N3	13:59	59.0	61.0	48.4	Alarms offsite, aircraft overhead, activity in neighbouring facility is the dominant source.

Table 4-7 Annual Night Time Noise Monitoring Survey - 2010

NIGHT TIME					
Receptor	**Time**	**Leq**	**L10**	**L90**	**Notes**
N1	01:36	53.4	49.1	38.4	Passing traffic, aircraft. Site inactive
N2	00:26	49.5	45.7	36.4	Passing traffic and distant traffic, aircraft, alarm sounding in adjacent site. Rilta site inaudible.
N3	01:03	45.8	47.5	36.4	Passing road traffic, aircraft in training overhead, fighter aircraft doing circuits.

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 N2 only, during the daytime monitoring event. Noise levels at N1 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 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, a pure tone was detected during the day at Location N2 (31.5Hz). This tone was not audible and was not detected at the same location during the night survey, and as such is thought to be from a mobile or off site source. No further pure tones were detected during the daytime or night time surveys. Full 1/3 octave frequency band analysis of all surveys is presented in Appendix D to this report.

4.5 DUST MONITORING

Dust monitoring was carried out on 3 occasions at 4 no. monitoring locations *(see Drawing 569-42-G006)* during 2010. Dust monitoring was conducted over periods during April, May and July 2010. 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 2010 are contained in Appendix E. Dusts results from Site 14-A1 during 2010 are summarised in Table 4-8 below.

Table 4-8 Dust Monitoring Results 2010

	April – May *(mg/m^2/day)*	May – June *(mg/m^2/day)*	July – August *(mg/m^2/day)*
D1	75	98.2	116
D2	72	189	127
D3	92	169	123

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 F.

5.2 ENVIRONMENTAL MANAGEMENT PROGRAMME

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

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 G.

7 PROCEDURES

An application was submitted to the Agency in 2009 requesting a transfer of licence to Rilta Environmental Ltd. and this transfer was granted on the 9th February 2010. Two new procedures requested by RILTA comprise:

- Management of PCB Holdings
- Management of Waste Transformers

8 REPORTING INCIDENTS AND COMPLAINTS SUMMARY

There were no incidents or complaints reported for Site 14-A1 during 2010.

9 REVIEW OF NUISANCE CONTROLS

There were no nuisance emissions were reported for Site 14-A1 during 2010. This will continue to be closely monitored going forward into 2011.

10 RESOURCE AND ENERGY CONSUMPTION SUMMARY

Resource consumption at the Rilta Site 14-A1 facility during 2010 is summarised in Table 10-1 below.

Table 10-1 Resourse Consumption Summary - 2010

Resource	Quantity Used	Units
Electricity	183,200	*KwH*
Diesel	1,060	*L*
Water	2,020	m^3

11 DEVELOPMENT AND INFRASTRUCTURAL WORKS

No additional development or infrastructural works were carried out or proposed during 2010.

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 H.

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

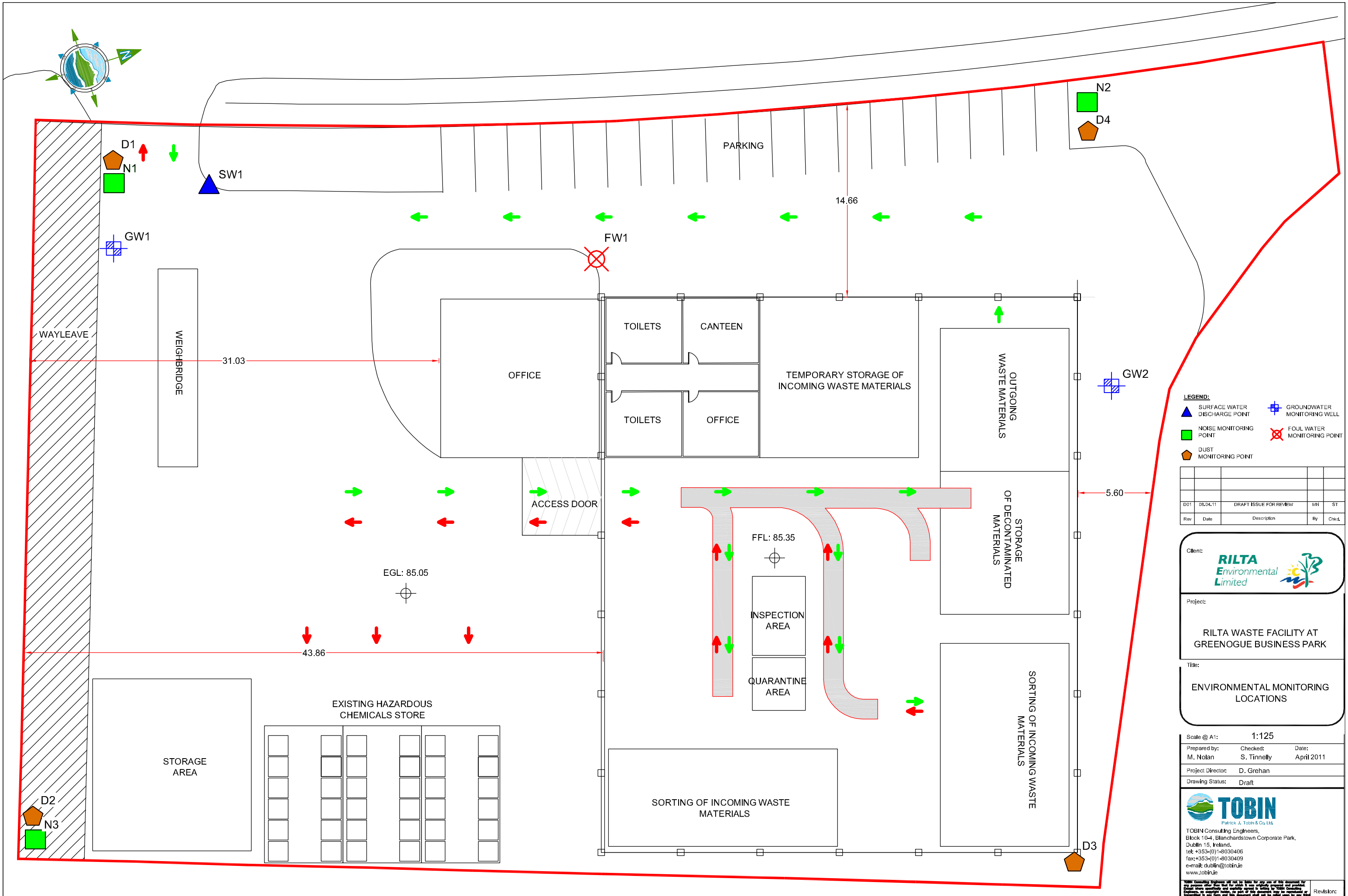
There has been no foul water produced for discharge or disposal during the reporting period 1st January to 31st December 2010.

14 ANY OTHER ITEMS SPECIFIED BY THE AGENCY

No additional requirements were specified by the agency during 2010.

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

Waste Managed

Waste Type	Tonnes	EWC Code
Transformers	2219.67	16 02 13
Transformers	10.0	16 02 09
WEE	913.48	16 02 11

Month	Ferrous Metal out kgs 191202	Non Ferrous Metal out kgs 191203	Oil out kgs 130307	Total in kgs 160213
Jan	123048	18552	51770	193370
Feb	120600	17259	91120	228980
Mar	181300	29014	62880	273200
Apr	91300	21359	47000	210780
May	87780	16284	45000	227600
Jun	81800	15220	38000	162100
Jul	80040	14508	12000	119650
Aug	100940	23320	11000	74460
Sep	115500	24210	20000	105970
Oct	136260	17228	46000	301620
Nov	165220	42150	29000	179480
Dec	55800	11840	15000	42460
Totals	1339588	250944	468770	2119670
Stock on 31/12/2010		60368		

APPENDIX C

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:	15 March 2011
Customer:	D_TOBIN_DUB
Sample Delivery Group (SDG):	100312-108
Your Reference:	
Location:	
Report No:	120758

This report directly supersedes report 120757 in its entirety.

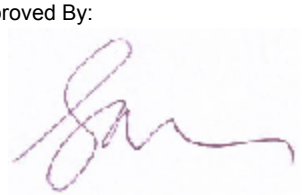
We received 2 samples on Friday March 12, 2010 and 2 of these samples were scheduled for analysis which was completed on Tuesday March 15, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 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:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
1210184	GW-1-C			12/03/2010
1210218	GW-2-C			12/03/2010

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

CERTIFICATE OF ANALYSIS

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)							
			1210184				1210218			
			Customer Sample Reference							
			GW-1-C				GW-2-C			
			AGS Reference							
			Depth (m)							
			Container							
			1l glass bottle (D)	60g VOC Dublin	PLAS BOT (D)	1l glass bottle (D)	60g VOC Dublin	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 Metals by ICP-MS	All	NDPs: 0 Tests: 2			X			X		
Mercury Dissolved	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		
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2	X			X				
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2	X			X				
VOC MS (W)	All	NDPs: 0 Tests: 2		X			X			

CERTIFICATE OF ANALYSIS

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

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	GW-1-C	GW-2-C				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	12/03/2010	12/03/2010				
			Date Received	12/03/2010	12/03/2010				
			SDG Ref	100312-108	100312-108				
			Lab Sample No.(s)	1210184	1210218				
			AGS Reference						
Organic Carbon, Total	<3 mg/l	TM090		3.1 #	3.91 #				
Conductivity (at 20 deg.C)	<0.005 mS/cm	TM120		0.701 #	0.811 #				
Arsenic Dissolved	<0.75 µg/l	TM152		0.648 #	2.06 #				
Cadmium Dissolved	<0.22 µg/l	TM152		<0.1 #	<0.1 #				
Chromium Dissolved	<1 µg/l	TM152		8.03 #	9.3 #				
Copper Dissolved	<1.6 µg/l	TM152		<0.85 #	<0.85 #				
Lead Dissolved	<0.4 µg/l	TM152		0.04 #	0.031 #				
Manganese Dissolved	<1 µg/l	TM152		0.335 #	9.54 #				
Nickel Dissolved	<1.5 µg/l	TM152		3.04 #	3.14 #				
Zinc Dissolved	<5 µg/l	TM152		1.52 #	1.39 #				
Mercury Dissolved	<0.01 µg/l	TM183		0.0149 #	<0.01 #				
Sulphate	<2 mg/l	TM184		124 #	146 #				
Chloride	<2 mg/l	TM184		19.7 #	24.2 #				
pH value	<1 pH Units	TM256		7.96 #	7.95 #				

CERTIFICATE OF ANALYSIS

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

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 the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	GW-1-C	GW-2-C
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/03/2010	12/03/2010
			Date Received	12/03/2010	12/03/2010
			SDG Ref	100312-108	100312-108
			Lab Sample No.(s)	1210184	1210218
			AGS Reference		
Atrazine	<1 µg/l	TM231		<1	<1
Simazine	<1 µg/l	TM231		<1	<1
Dichlorvos	<0.01 µg/l	TM231		<0.01	<0.01
Mevinphos	<0.01 µg/l	TM231		<0.01	<0.01
Tecnazene	<0.01 µg/l	TM231		<0.01	<0.01
Hexachlorobenzene	<0.01 µg/l	TM231		<0.01	<0.01
Trifluralin	<0.01 µg/l	TM231		<0.01	<0.01
Alpha-BHC (Lindane)	<0.01 µg/l	TM231		<0.01	<0.01
Quintozene (PCNB)	<0.01 µg/l	TM231		<0.01	<0.01
Diazinon	<0.01 µg/l	TM231		<0.01	<0.01
Triallate	<0.01 µg/l	TM231		<0.01	<0.01
Etrimphos	<0.01 µg/l	TM231		<0.01	<0.01
Gamma-BHC (Lindane)	<0.01 µg/l	TM231		<0.01	<0.01
Disulphoton	<0.01 µg/l	TM231		<0.01	<0.01
Propetamphos	<0.01 µg/l	TM231		<0.01	<0.01
Heptachlor	<0.01 µg/l	TM231		<0.01	<0.01
Chlorpyriphos methyl	<0.01 µg/l	TM231		<0.01	<0.01
Dimethoate	<0.01 µg/l	TM231		<0.01	<0.01
Aldrin	<0.01 µg/l	TM231		<0.01	<0.01
Chlorothalonil	<0.01 µg/l	TM231		<0.01	<0.01
Pirimiphos-methyl	<0.01 µg/l	TM231		<0.01	<0.01
Beta-BHC (Lindane)	<0.01 µg/l	TM231		<0.01	<0.01
Chlorpyriphos	<0.01 µg/l	TM231		<0.01	<0.01
Telodrin	<0.01 µg/l	TM231		<0.01	<0.01
Methyl Parathion	<0.01 µg/l	TM231		<0.01	<0.01
Isodrin	<0.01 µg/l	TM231		<0.01	<0.01
Malathion	<0.01 µg/l	TM231		<0.01	<0.01
Fenthion	<0.01 µg/l	TM231		<0.01	<0.01
Fenitrothion	<0.01 µg/l	TM231		<0.01	<0.01
Heptachlor Epoxide	<0.01 µg/l	TM231		<0.01	<0.01
Triadimefon	<0.01 µg/l	TM231		<0.01	<0.01
Pendimethalin	<0.01 µg/l	TM231		<0.01	<0.01
Parathion	<0.01 µg/l	TM231		<0.01	<0.01
o,p'-DDE	<0.01 µg/l	TM231		<0.01	<0.01
Chlorfenvinphos	<0.01 µg/l	TM231		<0.01	<0.01

CERTIFICATE OF ANALYSIS

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

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 the individual compounds within the samples are not corrected for this recovery.

			GW-1-C	GW-2-C				
Customer Sample R								
Depth (m)			.	.				
Sample Type			Water(GW/SW)	Water(GW/SW)				
Date Sampled			12/03/2010	12/03/2010				
Date Received			12/03/2010	12/03/2010				
SDG Ref			100312-108	100312-108				
Lab Sample No.(s)			1210184	1210218				
AGS Reference								
Component	**LOD/Units**	**Method**						
Endosulphan I	<0.01 µg/l	TM231	<0.01	<0.01				
Trans-chlordane	<0.01 µg/l	TM231	<0.01	<0.01				
Cis-chlordane	<0.01 µg/l	TM231	<0.01	<0.01				
p,p'-DDE	<0.01 µg/l	TM231	<0.01	<0.01				
Dieldrin	<0.01 µg/l	TM231	<0.01	<0.01				
o,p'-TDE(DDD)	<0.01 µg/l	TM231	<0.01	<0.01				
Endrin	<0.01 µg/l	TM231	<0.01	<0.01				
o,p'-DDT	<0.01 µg/l	TM231	<0.01	<0.01				
p,p'-TDE(DDD)	<0.01 µg/l	TM231	<0.01	<0.01				
Ethion	<0.01 µg/l	TM231	<0.01	<0.01				
Endosulphan II	<0.01 µg/l	TM231	<0.01	<0.01				
p,p'-DDT	<0.01 µg/l	TM231	<0.01	<0.01				
Carbophenothion	<0.01 µg/l	TM231	<0.01	<0.01				
o,p'-Methoxychlor	<0.01 µg/l	TM231	<0.01	<0.01				
Triazophos	<0.01 µg/l	TM231	<0.01	<0.01				
p,p'-Methoxychlor	<0.01 µg/l	TM231	<0.01	<0.01				
Endosulphan Sulphate	<0.01 µg/l	TM231	<0.01	<0.01				
Permethrin I	<0.01 µg/l	TM231	<0.01	<0.01				
Phosalone	<0.01 µg/l	TM231	<0.01	<0.01				
Permethrin II	<0.01 µg/l	TM231	<0.01	<0.01				
Azinphos-methyl	<0.01 µg/l	TM231	<0.01	<0.01				
Azinphos-ethyl	<0.01 µg/l	TM231	<0.01	<0.01				

CERTIFICATE OF ANALYSIS

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

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 the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	GW-1-C	GW-2-C				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	12/03/2010	12/03/2010				
			Date Received	12/03/2010	12/03/2010				
			SDG Ref	100312-108	100312-108				
			Lab Sample No.(s)	1210184	1210218				
			AGS Reference						
1,2,4-Trichlorobenzene	<1 µg/l	TM176		<1	<1				
1,2-Dichlorobenzene	<1 µg/l	TM176		<1	<1				
1,3-Dichlorobenzene	<1 µg/l	TM176		<1	<1				
1,4-Dichlorobenzene	<1 µg/l	TM176		<1	<1				
2,4,5-Trichlorophenol	<1 µg/l	TM176		<1	<1				
2,4,6-Trichlorophenol	<1 µg/l	TM176		<1	<1				
2,4-Dichlorophenol	<1 µg/l	TM176		<1	<1				
2,4-Dimethylphenol	<1 µg/l	TM176		<1	<1				
2,4-Dinitrotoluene	<1 µg/l	TM176		<1	<1				
2,6-Dinitrotoluene	<1 µg/l	TM176		<1	<1				
2-Chloronaphthalene	<1 µg/l	TM176		<1	<1				
2-Chlorophenol	<1 µg/l	TM176		<1	<1				
2-Methylnaphthalene	<1 µg/l	TM176		<1	<1				
2-Methylphenol	<1 µg/l	TM176		<1	<1				
2-Nitroaniline	<1 µg/l	TM176		<1	<1				
2-Nitrophenol	<1 µg/l	TM176		<1	<1				
3-Nitroaniline	<1 µg/l	TM176		<1	<1				
4-Bromophenylphenylether	<1 µg/l	TM176		<1	<1				
4-Chloro-3-methylphenol	<1 µg/l	TM176		<1	<1				
4-Chloroaniline	<1 µg/l	TM176		<1	<1				
4-Chlorophenylphenylether	<1 µg/l	TM176		<1	<1				
4-Methylphenol	<1 µg/l	TM176		<1	<1				
4-Nitrophenol	<1 µg/l	TM176		<1	<1				
4-Nitroaniline	<1 µg/l	TM176		<1	<1				
Azobenzene	<1 µg/l	TM176		<1	<1				
Acenaphthylene	<1 µg/l	TM176		<1	<1				
Acenaphthene	<1 µg/l	TM176		<1	<1				
Anthracene	<1 µg/l	TM176		<1	<1				
Bis(2-chloroethyl)ether	<1 µg/l	TM176		<1	<1				
Bis(2-chloroethoxy)methane	<1 µg/l	TM176		<1	<1				
Bis(2-ethylhexyl) phthalate	<2 µg/l	TM176		<2	<2				
Benzo(a)anthracene	<1 µg/l	TM176		<1	<1				
Butylbenzyl phthalate	<1 µg/l	TM176		<1	<1				
Benzo(b)fluoranthene	<1 µg/l	TM176		<1	<1				
Benzo(k)fluoranthene	<1 µg/l	TM176		<1	<1				

CERTIFICATE OF ANALYSIS

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

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 the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	GW-1-C	GW-2-C				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	12/03/2010	12/03/2010				
			Date Received	12/03/2010	12/03/2010				
			SDG Ref	100312-108	100312-108				
			Lab Sample No.(s)	1210184	1210218				
			AGS Reference						
Benzo(a)pyrene	<1 µg/l	TM176		<1	<1				
Benzo(ghi)perylene	<1 µg/l	TM176		<1	<1				
Carbazole	<1 µg/l	TM176		<1	<1				
Chrysene	<1 µg/l	TM176		<1	<1				
Dibenzofuran	<1 µg/l	TM176		<1	<1				
Di-n-butyl phthalate	<1 µg/l	TM176		<1	<1				
Diethyl phthalate	<1 µg/l	TM176		<2	<2				
Dibenzo(a,h)anthracene	<1 µg/l	TM176		<1	<1				
Dimethyl phthalate	<1 µg/l	TM176		<1	<1				
Di-n-Octyl phthalate	<5 µg/l	TM176		<5	<5				
Fluoranthene	<1 µg/l	TM176		<1	<1				
Fluorene	<1 µg/l	TM176		<1	<1				
Hexachlorobenzene	<1 µg/l	TM176		<1	<1				
Hexachlorobutadiene	<1 µg/l	TM176		<1	<1				
Pentachlorophenol	<1 µg/l	TM176		<1	<1				
Phenol	<1 µg/l	TM176		<1	<1				
N-nitrosodi-n-propylamine	<1 µg/l	TM176		<1	<1				
Hexachloroethane	<1 µg/l	TM176		<1	<1				
Nitrobenzene	<1 µg/l	TM176		<1	<1				
Naphthalene	<1 µg/l	TM176		<1	<1				
Isophorone	<1 µg/l	TM176		<1	<1				
Hexachlorocyclopentadiene	<1 µg/l	TM176		<1	<1				
Phenanthrene	<1 µg/l	TM176		<1	<1				
Indeno (1,2,3-cd) Pyrene	<1 µg/l	TM176		<1	<1				
Pyrene	<1 µg/l	TM176		<1	<1				

CERTIFICATE OF ANALYSIS

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

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 the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	GW-1-C	GW-2-C
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/03/2010	12/03/2010
			Date Received	12/03/2010	12/03/2010
			SDG Ref	100312-108	100312-108
			Lab Sample No.(s)	1210184	1210218
			AGS Reference		
Dichlorodifluoromethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Chloromethane	<1.7 µg/l	TM208		<1.7 #	<1.7 #
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	<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 #
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 #

CERTIFICATE OF ANALYSIS

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

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 the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	GW-1-C	GW-2-C			
			Depth (m)	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	12/03/2010	12/03/2010			
			Date Received	12/03/2010	12/03/2010			
			SDG Ref	100312-108	100312-108			
			Lab Sample No.(s)	1210184	1210218			
			AGS Reference					
Ethylbenzene	<2.5 µg/l	TM208		<2.5 #	<2.5 #			
p/m-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-Isopropyltoluene	<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	<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:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

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
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		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
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		
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:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

Test Completion Dates

Lab Sample No(s)	1210184	1210218
Customer Sample Ref.	GW-1-C	GW-2-C
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
Anions by Kone (w)	07-Apr-2010	07-Apr-2010
Conductivity (at 20 deg.C)	17-Mar-2010	17-Mar-2010
Dissolved Metals by ICP-MS	16-Mar-2010	16-Mar-2010
Mercury Dissolved	16-Mar-2010	16-Mar-2010
Mineral Oil C10-40 Aqueous (W)	16-Mar-2010	16-Mar-2010
OC, OP Pesticides and Triazine Herb	17-Mar-2010	17-Mar-2010
pH Value	23-Mar-2010	17-Mar-2010
SVOC MS (W) - Aqueous	24-Mar-2010	24-Mar-2010
Total Organic and Inorganic Carbon	07-Apr-2010	07-Apr-2010
VOC MS (W)	18-Mar-2010	18-Mar-2010

CERTIFICATE OF ANALYSIS

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

SDG:	100312-108	**Location:**		**Order Number:**	
Job:	D_TOBIN_DUB-5	**Customer:**	Tobin	**Report Number:**	120758
Client Reference:		**Attention:**	David Corrigan	**Superseded Report:**	120757

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

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date:	20 April 2010		
Customer:	D_TOBIN_GWY-42		
Sample Delivery Group (SDG):	100416-87	**Report No.:**	80943
Your Reference:	5965		
Location:	Rialta Site 14A1		

We received 2 samples on Friday April 16, 2010 and 2 of these samples were scheduled for analysis which was completed on Tuesday April 20, 2010. 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:

Iain Swinton

Operations Director - Land UK & Ireland

UKAS TESTING
1291

GROUP

Validated

ALcontrol Laboratories Analytical Services

SDG:	100416-87	**Customer:**	Tobin
Job:	D_TOBIN_GWY-42	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1735
Location:	Rialta Site 14A1	**Report No:**	80943

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Sampled Date
1408173	GW1		16/04/2010
1408182	GW2		16/04/2010

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

Validated

ALcontrol Laboratories Analytical Services

SDG:	100416-87	**Customer:**	Tobin
Job:	D_TOBIN_GWY-42	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1735
Location:	Rialta Site 14A1	**Report No:**	80943

LIQUID

Results Legend

X Test

N No Determination Possible

		Lab Sample No(s)	1408173		1408182		Total
		Customer Sample Ref.	GW1		GW2		
		Depth (m)					
		Container	1l glass bottle (D)	PLAS BOT (D)	1l glass bottle (D)	PLAS BOT (D)	
Anions by Kone (w)	All			X		X	0 2
Conductivity (at 20 deg.C)	All			X		X	0 2
Dissolved Oxygen by Probe	All			X		X	0 2
pH Value	All			X		X	0 2
Total Organic and Inorganic Carbon	All		X		X		0 2

Validated

ALcontrol Laboratories Analytical Services

SDG:	100416-87	**Customer:**	Tobin
Job:	D_TOBIN_GWY-42	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1735
Location:	Rialta Site 14A1	**Report No:**	80943

Test Completion dates

SDG reference: 100416-87

Lab Sample No(s)	1408173	1408182
Customer Sample Ref.	GW1	GW2
Depth		
Type	LIQUID	LIQUID
Anions by Kone (w)	19/04/2010	19/04/2010
Conductivity (at 20 deg.C)	20/04/2010	20/04/2010
Dissolved Oxygen by Probe	19/04/2010	19/04/2010
pH Value	19/04/2010	19/04/2010
Total Organic and Inorganic	20/04/2010	20/04/2010

Validated

ALcontrol Laboratories Analytical Services

SDG:	100416-87	**Customer:**	Tobin
Job:	D_TOBIN_GWY-42	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1735
Location:	Rialta Site 14A1	**Report No:**	80943

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
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 Ref.	GW1	GW2
			Depth (m)		
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/04/2010	16/04/2010
			Date Received	16/04/2010	16/04/2010
			SDG Ref	100416-87	100416-87
			Lab Sample No.(s)	1408173	1408182
Oxygen, dissolved	<1 mg/l	TM046		5.68 #	6.28 #
Organic Carbon, Total	<3 mg/l	TM090		3.9 #	4.38 #
Conductivity @ 20 deg.C	<0.014 mS/cm	TM120		0.687 #	0.863 #
Sulphate	3 mg/l	TM184		122 #	165 #
Chloride	<2 mg/l	TM184		19.8 #	28.9 #
pH	<1 pH Units	TM256		7.99 #	7.92 #

Table of Results - Appendix

SDG Number : 100416-87 **Client :** Tobin **Client Ref :** 5965

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]
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.

APPENDIX

APPENDIX

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH_4 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.
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 the major 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.

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)	GS 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 INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

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 (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

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).

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.

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

ALcontrol Laboratories

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

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date:	07 July 2010		
Customer:	D_TOBIN_DUB-21		
Sample Delivery Group (SDG):	100705-60	**Report No.:**	89567
Your Reference:	Water Samples 02/07/10		
Location:	Water Samples 02/07/10		

We received 2 samples on Friday July 02, 2010 and 2 of these samples were scheduled for analysis which was completed on Wednesday July 07, 2010. 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:

Iain Swinton

Operations Director - Land UK & Ireland

UKAS TESTING
1291

GROUP

Validated

ALcontrol Laboratories Analytical Services

SDG:	100705-60	**Customer:**	Tobin
Job:	D_TOBIN_DUB-21	**Attention:**	David Corrigan
Client Reference:	Water Samples 02/07/10	**Order No.:**	1798
Location:	Water Samples 02/07/10	**Report No:**	89567

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Sampled Date
1779695	GW1 Z		02/07/2010
1779706	GW2 Z		02/07/2010

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

Validated

ALcontrol Laboratories Analytical Services

SDG:	100705-60	**Customer:**	Tobin
Job:	D_TOBIN_DUB-21	**Attention:**	David Corrigan
Client Reference:	Water Samples 02/07/10	**Order No.:**	1798
Location:	Water Samples 02/07/10	**Report No:**	89567

LIQUID

Results Legend

X Test

N No Determination Possible

		Lab Sample No(s)	1779695		1779706		Total
		Customer Sample Ref.	GW1		GW2		
		Depth (m)					
		Container	1l glass bottle (D)	PLAS BOT (D)	1l glass bottle (D)	PLAS BOT (D)	
Anions by Kone (w)	All			X		X	0 2
Conductivity (at 20 deg.C)	All			X		X	0 2
Dissolved Oxygen by Probe	All			X		X	0 2
pH Value	All			X		X	0 2
Total Organic and Inorganic Carbon	All		X		X		0 2

Validated

ALcontrol Laboratories Analytical Services

SDG:	100705-60	**Customer:**	Tobin
Job:	D_TOBIN_DUB-21	**Attention:**	David Corrigan
Client Reference:	Water Samples 02/07/10	**Order No.:**	1798
Location:	Water Samples 02/07/10	**Report No:**	89567

Test Completion dates

SDG reference: 100705-60

Lab Sample No(s)	1779695	1779706
Customer Sample Ref.	GW1	GW2
Depth		
Type	LIQUID	LIQUID
Anions by Kone (w)	07/07/2010	07/07/2010
Conductivity (at 20 deg.C)	07/07/2010	07/07/2010
Dissolved Oxygen by Probe	06/07/2010	06/07/2010
pH Value	07/07/2010	07/07/2010
Total Organic and Inorganic	06/07/2010	06/07/2010

Validated

ALcontrol Laboratories Analytical Services

SDG:	100705-60	**Customer:**	Tobin
Job:	D_TOBIN_DUB-21	**Attention:**	David Corrigan
Client Reference:	Water Samples 02/07/10	**Order No.:**	1798
Location:	Water Samples 02/07/10	**Report No:**	89567

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
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 Ref.	GW1	GW2
			Depth (m)		
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/07/2010	02/07/2010
			Date Received	02/07/2010	02/07/2010
			SDG Ref	100705-60	100705-60
			Lab Sample No.(s)	1779695	1779706
Oxygen, dissolved	<1 mg/l	TM046		5.29 #	4.27 #
Organic Carbon, Total	<3 mg/l	TM090		<3 #	5.97 #
Conductivity @ 20 deg.C	<0.014 mS/cm	TM120		0.66 #	0.82 #
Sulphate	<3 mg/l	TM184		111 #	119 #
Chloride	<2 mg/l	TM184		19.4 #	28.5 #
pH	<1 pH Units	TM256		7.99 #	7.83 #

Table of Results - Appendix

SDG Number : 100705-60 **Client :** Tobin **Client Ref :** Water Samples 02/07/10

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]
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.

APPENDIX

APPENDIX

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH_4 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.
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 the major 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.

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)	GS 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 INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

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 (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

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).

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.

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

ALcontrol Laboratories

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

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date:	24 November 2010		
Customer:	D_TOBIN_DUB-10		
Sample Delivery Group (SDG):	101110-80	**Report No.:**	104504
Your Reference:	5965		
Location:	Rialta Site 14A1		

We received 3 samples on Wednesday November 10, 2010 and 3 of these samples were scheduled for analysis which was completed on Friday November 12, 2010. 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:

Iain Swinton

Business Director - Land, UK & Ireland

UKAS TESTING
1291

GROUP

Validated

ALcontrol Laboratories Analytical Services

SDG:	101110-80	**Customer:**	Tobin
Job:	D_TOBIN_DUB-10	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1943
Location:	Rialta Site 14A1	**Report No:**	104504

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
2379625	GW1			10/11/2010
2379702	GW2			10/11/2010
2379768	SW1			10/11/2010

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

Validated

ALcontrol Laboratories Analytical Services

SDG:	101110-80	**Customer:**	Tobin
Job:	D_TOBIN_DUB-10	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1943
Location:	Rialta Site 14A1	**Report No:**	104504

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	2379625	2379768	2379702
			Customer Sample Ref.	GW1	SW1	GW2
			AGS Ref.			
			Depth (m)			
			Container	1l glass bottle (D)	PLAS BOT (D)	PLAS BOT (D)	1l glass bottle (D)	PLAS BOT (D)
Anions by Kone (w)	All	NDPs: 0 Tests: 2			X			X
COD Unfiltered	All	NDPs: 0 Tests: 1				X		
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 3			X	X		X
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 2			X			X
pH Value	All	NDPs: 0 Tests: 3			X	X		X
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2		X			X	

Validated

ALcontrol Laboratories Analytical Services

SDG	101110-80	**Customer:**	Tobin
Job:	D_TOBIN_DUB-10	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1943
Location:	Rialta Site 14A1	**Report No:**	104504

Test Completion Dates

Lab Sample No(s)	2379625	2379702	2379768
Customer Sample Ref.	GW1	GW2	SW1
AGS Ref.			
Depth			
Type	LIQUID	LIQUID	LIQUID
Anions by Kone (w)	12/11/2010	12/11/2010	
COD Unfiltered			11/11/2010
Conductivity (at 20 deg.C)	12/11/2010	12/11/2010	12/11/2010
Dissolved Oxygen by Probe	11/11/2010	11/11/2010	
pH Value	11/11/2010	11/11/2010	11/11/2010
Total Organic and Inorganic Carbon	11/11/2010	11/11/2010	

Validated

ALcontrol Laboratories Analytical Services

SDG	101110-80	**Customer:**	Tobin
Job:	D_TOBIN_DUB-10	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1943
Location:	Rialta Site 14A1	**Report No:**	104504

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
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.

Customer Sample Ref.	GW1	GW2	SW1
Depth (m)			
Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
Date Sampled	10/11/2010	10/11/2010	10/11/2010
Date Received	10/11/2010	10/11/2010	10/11/2010
SDG Ref	101110-80	101110-80	101110-80
Lab Sample No.(s)	2379625	2379702	2379768
AGS Reference			

Component	LOD/Units	Method			
Oxygen, dissolved	<1 mg/l	TM046	5.52 #	7.57 #	
Organic Carbon, Total	<3 mg/l	TM090	<3 #	5.4 #	
COD, unfiltered	<7 mg/l	TM107			16.9 #
Conductivity @ 20 deg.C	<0.014 mS/cm	TM120	0.662 #	0.8 #	0.16 #
Sulphate	<3 mg/l	TM184	89.3 #	89.9 #	
Chloride	<2 mg/l	TM184	21.9 #	17.6 #	
pH	<1 pH Units	TM256	8.22 #	8.08 #	7.62 #

Table of Results - Appendix

SDG Number : 101110-80 **Client :** D_TOBIN_DUB **Client Ref :** 5965

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		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
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.

SDG	101110-80	**Customer:**	Tobin
Job:	D_TOBIN_DUB-10	**Attention:**	David Corrigan
Client	5965	**Order No.:**	1943
Location:	Rialta Site 14A1	**Report No:**	104504

APPENDIX

APPENDIX

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH_4 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.
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 the major 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.

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)	GS 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 INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

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 (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

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).

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.

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

APPENDIX D

Annual Noise Monitoring Report

Rilta Environmental Limited - Site 14-A1
Environmental Monitoring Programme

Annual Noise Survey Report
October 2010

October 2010

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: **2010 Annual noise survey**

PROJECT NUMBER: 5965				DOCUMENT REF: 5965 – 04 – 01			
Final	2010 Annual Noise Survey	DC/BS	19/10/10	BS	19/10/10	DG	19/10/10
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 1st September 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 1st September 2010. 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 southwestern 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 northwestern corner of the site. Aircraft, road traffic and adjacent facilities were the main noise contributors at N2.

Location N3

N3 is located at the southeastern 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	17:00	61.5	65.4	48.3	Rush hour road traffic on adjacent road is the dominant noise source. Overhead aircraft were also audible. The RILTA Facility was inaudible.
N2	12:57	49.8	53.3	43.0	Passing road traffic is the dominant noise source, overhead aircraft and helicopters were also audible. The RILTA Facility was inaudible.
N3	13:59	59.0	61.0	48.4	Alarms offsite, aircraft overhead, activity in neighbouring site is the dominant noise source. The RILTA Facility was inaudible
NIGHT TIME					
N1	01:36	53.4	49.1	38.4	Passing traffic & aircraft is the dominant noise source. The RILTA Facility was inaudible.
N2	00:26	49.5	45.7	36.4	Passing traffic and distant traffic, aircraft, alarm sounding in adjacent site is the dominant noise sources. The RILTA Facility was inaudible.
N3	01:03	45.8	47.5	36.4	Passing road traffic, aircraft in training overhead and fighter aircraft doing circuits is the dominant noise source. 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 given 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.

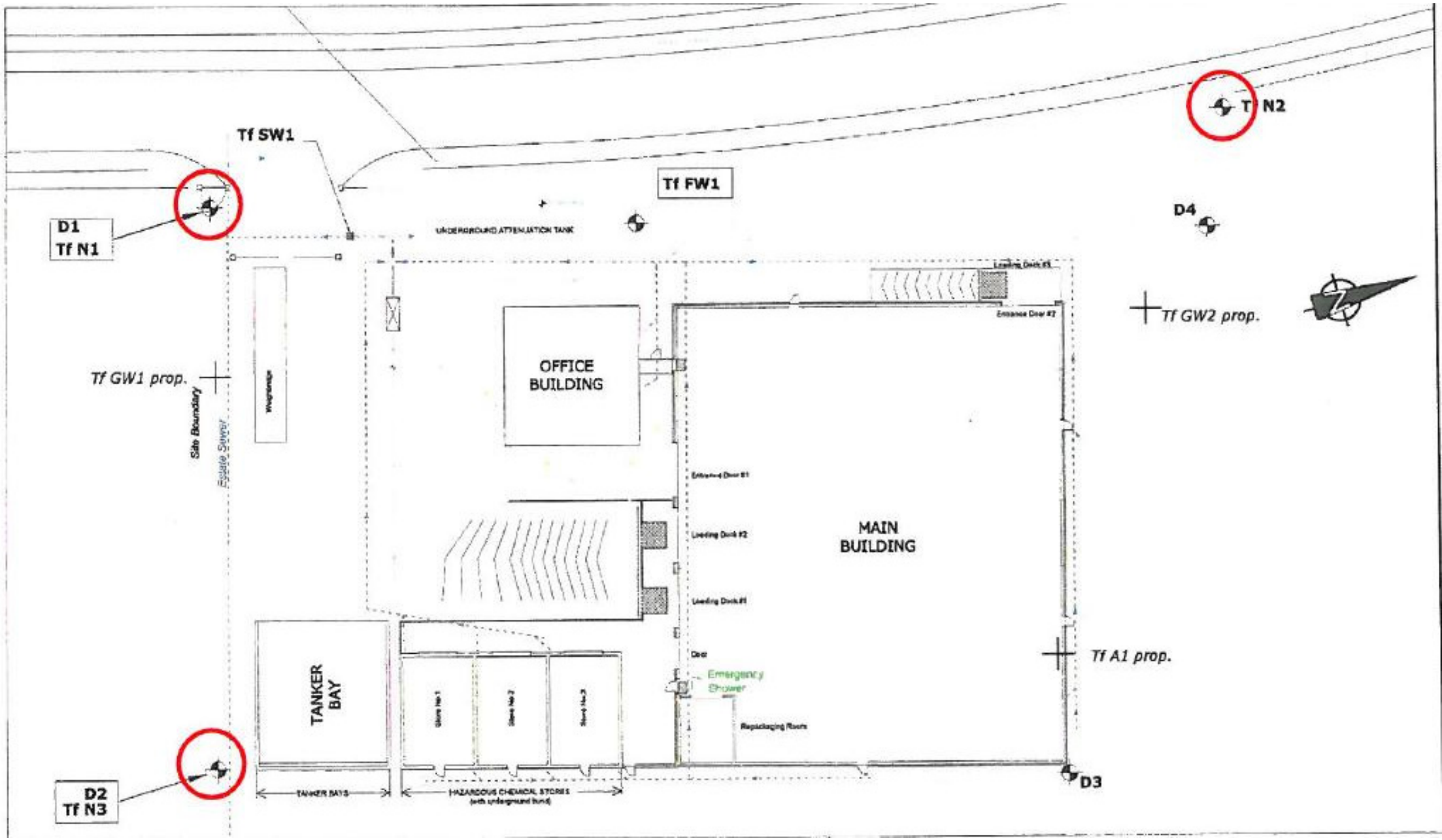
The A-weighted equivalent continuous sound pressure level (LAeq, 30 min) recorded at the RILTA facility was less than 55 dB(A) at noise monitoring location N2 only, during the daytime monitoring event. Noise levels at N1 and N3 exceeded the 55 dB(A) limit due to noise from external sources such as low 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 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, a pure tone was detected during the day at Location N2 (31.5Hz). This tone was not audible and was not detected at the same location during the night survey, and as such is thought to be from a mobile or off site source. No further pure tones were detected during the daytime or night time surveys. Full 1/3 octave frequency band analysis of all surveys is presented in Appendix B to this report.

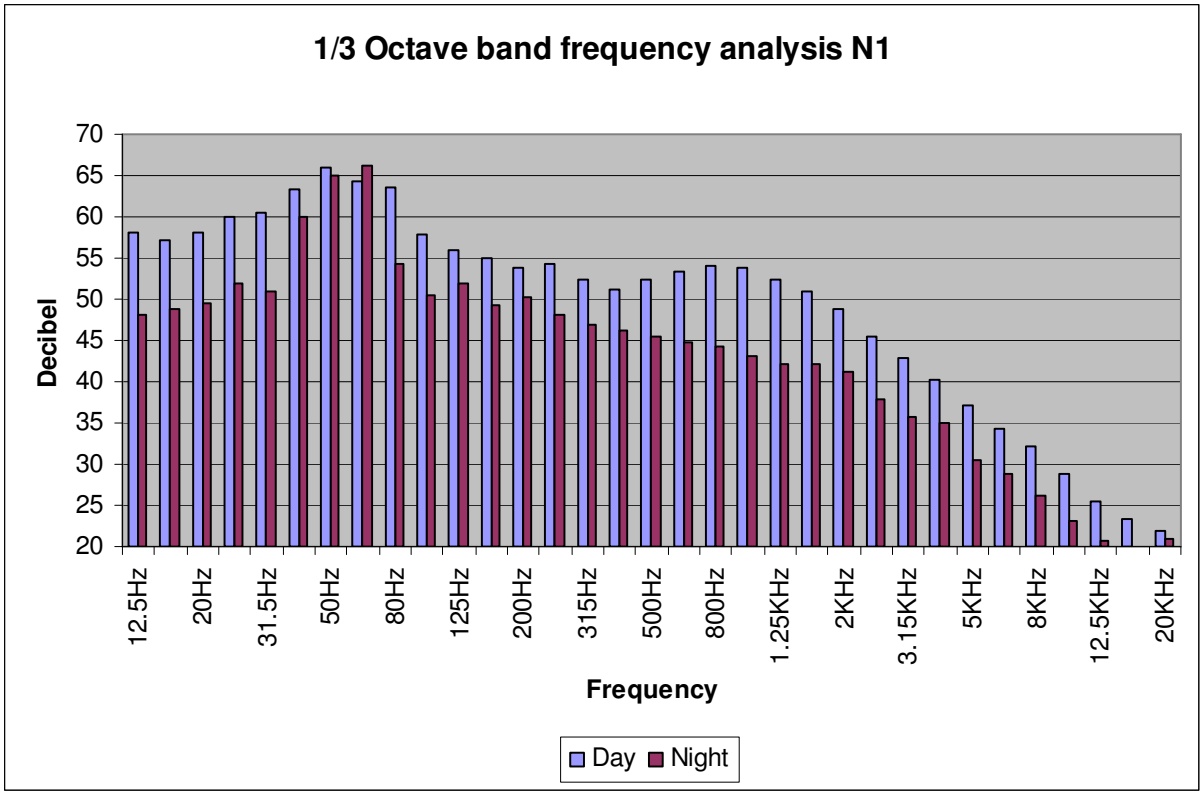
APPENDIX A

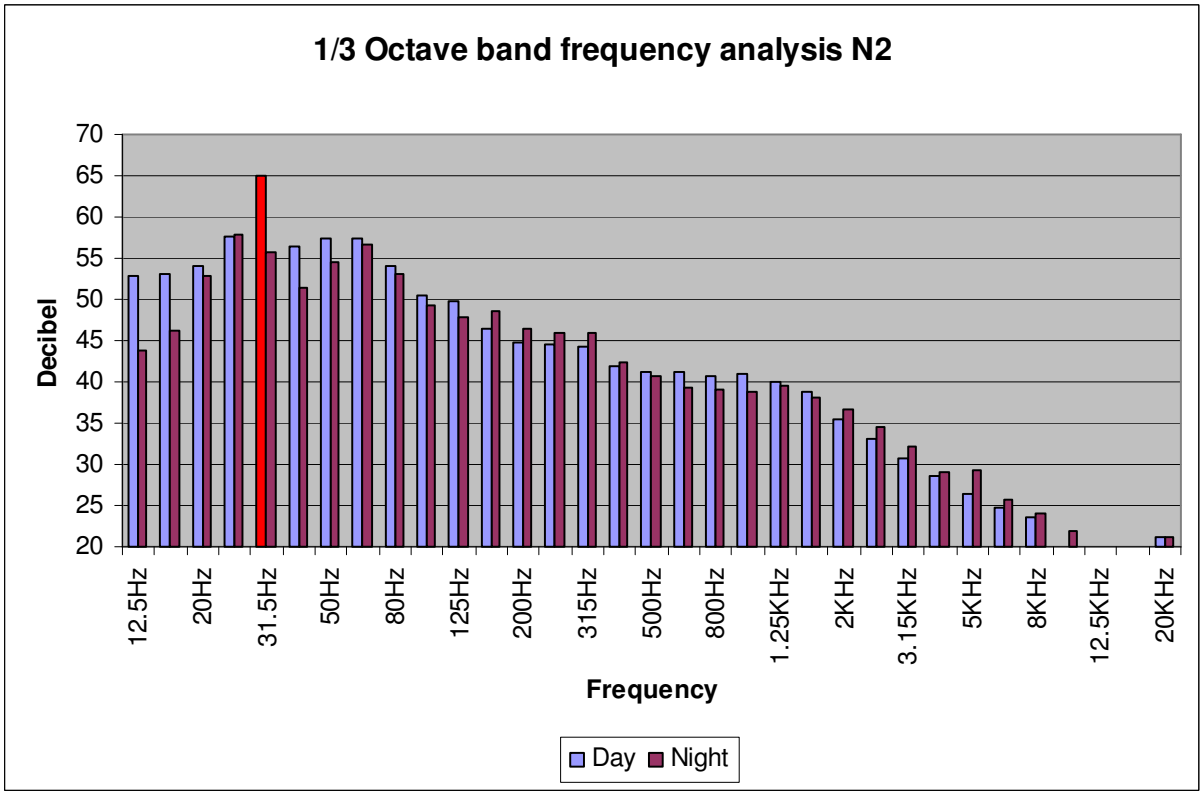
Monitoring Location Map

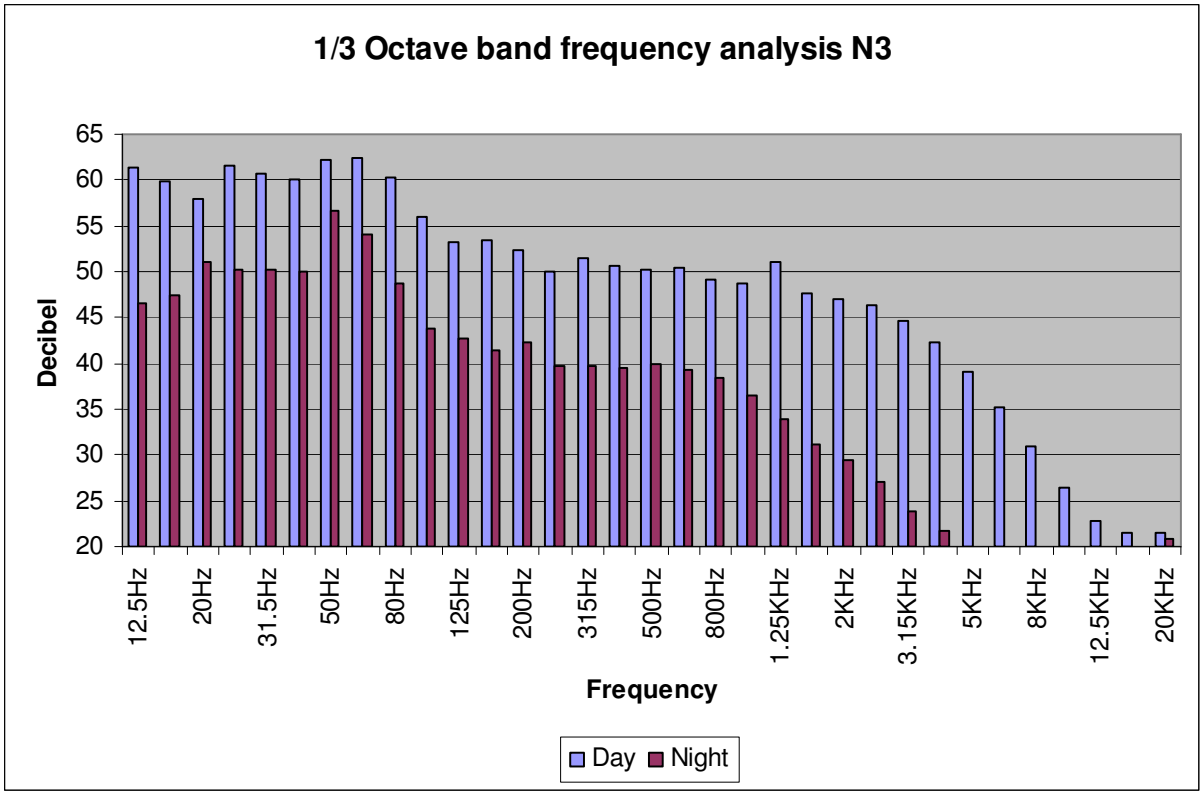

Tf SW1
Tf FW1
T N2
D1
Tf N1
D4
UNDERGROUND ATTENUATION TANK
Tf GW2 prop.
Tf GW1 prop.
Site Boundary
Estate Sewer
Wayfarer
OFFICE BUILDING
Loading Dock #3
Entrance Door #2
Entrance Door #1
Loading Dock #2
Loading Dock #1
MAIN BUILDING
Door
Emergency Shower
Repackaging Room
Tf A1 prop.
TANKER BAY
Store No 1
Store No 2
Store No 3
TANKER BAYS
HAZARDOUS CHEMICAL STORES
(with underground bund)
D2
Tf N3
D3

APPENDIX B

1/3 Octave Band Frequency Analysis


1/3 Octave band frequency analysis N1
Decibel
70
65
60
55
50
45
40
35
30
25
20
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25KHz
2KHz
3.15KHz
5KHz
8KHz
12.5KHz
20KHz
Frequency
Day
Night


1/3 Octave band frequency analysis N2
Decibel
70
65
60
55
50
45
40
35
30
25
20
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25KHz
2KHz
3.15KHz
5KHz
8KHz
12.5KHz
20KHz
Frequency
Day
Night


1/3 Octave band frequency analysis N3
Decibel
65
60
55
50
45
40
35
30
25
20
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25KHz
2KHz
3.15KHz
5KHz
8KHz
12.5KHz
20KHz
Frequency
Day
Night

APPENDIX E

Dust Monitoring Results

ALcontrol Laboratories

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

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date:	19 May 2010		
Customer:	D_TOBIN_DUB-12		
Sample Delivery Group (SDG):	100510-37	**Report No.:**	84177
Your Reference:	5965		
Location:	Rilta Environmental Site 14 A1		

We received 4 samples on Friday May 07, 2010 and 4 of these samples were scheduled for analysis which was completed on Wednesday May 19, 2010. 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:

Iain Swinton

Operations Director - Land UK & Ireland

Validated

ALcontrol Laboratories Analytical Services

SDG:	100510-37	**Customer:**	Tobin
Job:	D_TOBIN_DUB-12	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1756
Location:	Rilta Environmental Site 14 A1	**Report No:**	84177

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Sampled Date
1517922	D1		
1517929	D2		
1517932	D3		
1517937	D4		

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

Validated

ALcontrol Laboratories Analytical Services

SDG:	100510-37	**Customer:**	Tobin
Job:	D_TOBIN_DUB-12	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1756
Location:	Rilta Environmental Site 14 A1	**Report No:**	84177

LIQUID

Results Legend X Test N No Determination Possible							
	Lab Sample No(s)	1517922	1517929	1517932	1517937		Total
	Customer Sample Ref.	D1	D2	D3	D4		
	Depth (m)						
	Container	2l glass bottle	2l glass bottle	2l glass bottle	2l glass bottle		
Dust in Water	All		X	X	X	X	0 4

Validated

ALcontrol Laboratories Analytical Services

SDG:	100510-37	**Customer:**	Tobin
Job:	D_TOBIN_DUB-12	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1756
Location:	Rilta Environmental Site 14 A1	**Report No:**	84177

Test Completion dates

SDG reference: 100510-37

Lab Sample No(s)	1517922	1517929	1517932	1517937
Customer Sample Ref.	D1	D2	D3	D4
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
Dust in Water	19/05/2010	19/05/2010	19/05/2010	19/05/2010

Validated

ALcontrol Laboratories Analytical Services

SDG:	100510-37	**Customer:**	Tobin
Job:	D_TOBIN_DUB-12	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1756
Location:	Rilta Environmental Site 14 A1	**Report No:**	84177

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
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 Ref.	D1	D2	D3	D4
			Depth (m)				
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	07/05/2010	07/05/2010	07/05/2010	07/05/2010
			Date Received	100510-37	100510-37	100510-37	100510-37
			SDG Ref	1517922	1517929	1517932	1517937
			Lab Sample No.(s)				
Total volume received	ml	TM253		174	188	180	178
Dust, Total	<0.026 mg/m2/day	TM253		75	98.2	70.2	116
Dust, Organic	mg/m2/day	TM253		17.9	31	44	46.4
Dust, Inorganic	mg/m2/day	TM253		57.1	67.3	26.2	69.6

Table of Results - Appendix

SDG Number : 100510-37 **Client :** Tobin **Client Ref :** 5965

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]
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.

APPENDIX

APPENDIX

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH_4 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.
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 the major 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.

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)	GS 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 INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

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 (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

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).

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.

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

ALcontrol Laboratories

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

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date:	17 June 2010		
Customer:	D_TOBIN_DUB-16		
Sample Delivery Group (SDG):	100608-46	**Report No.:**	87501
Your Reference:	5965		
Location:	Rilta Site 14A1		

We received 4 samples on Friday June 04, 2010 and 4 of these samples were scheduled for analysis which was completed on Thursday June 17, 2010. 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:

Iain Swinton

Operations Director - Land UK & Ireland

Validated

ALcontrol Laboratories Analytical Services

SDG:	100608-46	**Customer:**	Tobin
Job:	D_TOBIN_DUB-16	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1776
Location:	Rilta Site 14A1	**Report No:**	87501

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Sampled Date
1657758	D1 1		04/06/2010
1657766	D2 1		04/06/2010
1657772	D3 1		04/06/2010
1657776	D4 1		04/06/2010

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

Validated

ALcontrol Laboratories Analytical Services

SDG:	100608-46	**Customer:**	Tobin
Job:	D_TOBIN_DUB-16	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1776
Location:	Rilta Site 14A1	**Report No:**	87501

LIQUID

Results Legend

X Test

N No Determination Possible

		Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Container	Total
		1657758	D1		1l glass bottle (D)	
		1657766	D2		1l glass bottle (D)	
		1657772	D3		1l glass bottle (D)	
		1657776	D4		1l glass bottle (D)	
Dust in Water	All	X	X	X	X	0 4

Validated

ALcontrol Laboratories Analytical Services

SDG:	100608-46	**Customer:**	Tobin
Job:	D_TOBIN_DUB-16	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1776
Location:	Rilta Site 14A1	**Report No:**	87501

Test Completion dates

SDG reference: 100608-46

Lab Sample No(s)	1657758	1657766	1657772	1657776
Customer Sample Ref.	D1	D2	D3	D4
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
Dust in Water	17/06/2010	17/06/2010	17/06/2010	17/06/2010

Validated

ALcontrol Laboratories Analytical Services

SDG	100608-46	**Customer:**	Tobin
Job:	D_TOBIN_DUB-16	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1776
Location:	Rilta Site 14A1	**Report No:**	87501

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
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 Ref.	Depth (m)	Sample Type	Date Sampled	Date Received	SDG Ref	Lab Sample No.(s)
			D1		Water(GW/SW)	04/06/2010	04/06/2010	100608-46	1657758
			D2		Water(GW/SW)	04/06/2010	04/06/2010	100608-46	1657766
			D3		Water(GW/SW)	04/06/2010	04/06/2010	100608-46	1657772
			D4		Water(GW/SW)	04/06/2010	04/06/2010	100608-46	1657776
Dust, Total	<0.026 mg/m2/day	TM253	72						
Dust, Organic	mg/m2/day	TM253	26.2						
Dust, Inorganic	mg/m2/day	TM253	45.8						
			189						
			122						
			127						
			97						
			66.7						
			50.6						
			92.3						
			55.4						
			76.2						

Table of Results - Appendix

SDG Number : 100608-46 **Client :** Tobin **Client Ref :** 5965

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]
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.

APPENDIX

APPENDIX

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH_4 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.
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 the major 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.

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)	GS 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 INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

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 (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

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).

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.

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

ALcontrol Laboratories

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

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date:	17 August 2010		
Customer:	D_TOBIN_DUB-25		
Sample Delivery Group (SDG):	100803-49	**Report No.:**	93846
Your Reference:	5965		
Location:	Site 14-A1		

We received 4 samples on Tuesday August 03, 2010 and 4 of these samples were scheduled for analysis which was completed on Wednesday August 11, 2010. 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:

Iain Swinton

Operations Director - Land UK & Ireland

Validated

ALcontrol Laboratories Analytical Services

SDG:	100803-49	**Customer:**	Tobin
Job:	D_TOBIN_DUB-25	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1826
Location:	Site 14-A1	**Report No:**	93846

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
1904181	D1			03/08/2010
1904184	D2			
1904188	D3			03/08/2010
1904193	D4			03/08/2010

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

Validated

ALcontrol Laboratories Analytical Services

SDG:	100803-49	**Customer:**	Tobin
Job:	D_TOBIN_DUB-25	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1826
Location:	Site 14-A1	**Report No:**	93846

LIQUID

Results Legend

X Test

N No Determination Possible

		Lab Sample No(s)	1904181	1904184	1904188	1904193	Total
		Customer Sample Ref.	D1	D2	D3	D4	
		AGS Ref.					
		Depth (m)					
		Container	1l green glass bottle	1l green glass bottle	1plastic	1l green glass bottle	
Dust in Water	All		X	X	X	X	0 4

Validated

ALcontrol Laboratories Analytical Services

SDG:	100803-49	**Customer:**	Tobin
Job:	D_TOBIN_DUB-25	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1826
Location:	Site 14-A1	**Report No:**	93846

Test Completion dates

SDG reference: 100803-49

Lab Sample No(s)	1904181	1904184	1904188	1904193
Customer Sample Ref.	D1	D2	D3	D4
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
Dust in Water	11/08/2010	11/08/2010	11/08/2010	11/08/2010

Validated

ALcontrol Laboratories Analytical Services

SDG	100803-49	**Customer:**	Tobin
Job:	D_TOBIN_DUB-25	**Attention:**	David Corrigan
Client Reference:	5965	**Order No.:**	1826
Location:	Site 14-A1	**Report No:**	93846

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
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 Ref.	Depth (m)	Sample Type	Date Sampled	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			D1		Water(GW/SW)	03/08/2010	03/08/2010	100803-49	1904181	
Dust, Total	<0.026 mg/m2/day	TM253	92.2							
Dust, Organic	mg/m2/day	TM253	63.9							
Dust, Inorganic	mg/m2/day	TM253	28.3							
			D2		Water(GW/SW)		03/08/2010	100803-49	1904184	
Dust, Total	<0.026 mg/m2/day	TM253	169							
Dust, Organic	mg/m2/day	TM253	93.3							
Dust, Inorganic	mg/m2/day	TM253	75.6							
			D3		Water(GW/SW)	03/08/2010	03/08/2010	100803-49	1904188	
Dust, Total	<0.026 mg/m2/day	TM253	129							
Dust, Organic	mg/m2/day	TM253	80							
Dust, Inorganic	mg/m2/day	TM253	48.9							
			D4		Water(GW/SW)	03/08/2010	03/08/2010	100803-49	1904193	
Dust, Total	<0.026 mg/m2/day	TM253	123							
Dust, Organic	mg/m2/day	TM253	83.3							
Dust, Inorganic	mg/m2/day	TM253	40							

Table of Results - Appendix

SDG Number : 100803-49 **Client :** Tobin **Client Ref :** 5965

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]
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.

APPENDIX

APPENDIX

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH_4 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.
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 the major 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.

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)	GS 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 INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

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 (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

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).

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.

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

APPENDIX F

Environmental Management Plan (EMP)

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 10	N
2	Promote best practice in the processing of waste generated on site.	Assess implications of food regulations and formulate waste minimization plan accordingly.	Sept 10	Y
3	Reduce fugitive emissions.	Annual monitoring of fugitive emissions.	Ongoing	Y

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	Yes No
5	Promote best practice for mixing incompatible wastes.	Complete re-assessment of storage in Bays 4 and 7 and implement findings All corrosive wastes moved to Bay 7.	June 2010	Yes

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 Waste Acceptance criteria updated and laboratory capabilities enhanced to ensure best results. Reduce volume of Xylene by 5%	Ongoing Dec 2010	Yes No
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. Waste Acceptance criteria updated. Investigate the JLJ reverse osmosis system as a means of secondary/tertiary form of treatment Biological Treatment plant piloted in its stead	Ongoing Oct 2010	Yes No

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.	Ongoing	Yes
		Review site landscaping project to enhance the visual aspect of the site. Plans to erect visual barrier put on hold Jan 2011	Sept 2010	Yes
		Monitor adjoining river on a yearly basis.	Ongoing	Yes
		Maintain a 'complaints register' and review annually.	Ongoing	Yes
		Liaise with industrial neighbours on a quarterly basis	Ongoing	Yes
		Implement 'closed door' policy system	Ongoing	Yes
		Investigate the effectiveness of general site extraction fans	August 2010	No
9	Fire Safety	Complete building fire safety review and implement findings. In draft form	September 2010	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***	***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	
9	Fire Safety	Complete building fire safety review and implement findings.	September 2011	
10	To Be Energy Efficient	Complete energy audit	Dec 2011	

APPENDIX G

Pollutant Release and Transfer Register (PRTR)

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.12

REFERENCE YEAR	2010

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	Parkview House
Address 2	Beech Hill
Address 3	Clonskeagh
Address 4	Co. 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 (W0185)
AER Returns Contact Email Address	colm.hussey@rilta.ie
AER Returns Contact Position	Facility Manager
AER Returns Contact Telephone Number	01 4010250
AER Returns Contact Mobile Phone Number	0879176264
AER Returns Contact Fax Number	014018080
Production Volume	0.0
Production Volume Units	
Number of Installations	1
Number of Operating Hours in Year	2600

Number of Employees	8
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?	No
Have you been granted an exemption ?	No
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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
306	COD	C	OTH	COD measured x Average Rainfall (700mm) x outdoor surface area (4000m2)	47.32	47.32	0.0	0.0

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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
To Other Countries	16 02 11	Yes	913.48	discarded equipment containing chlorofluorocarbons, HCFC, HFC	R4	M	Weighed	Abroad	TechRec NI,6180804	Killyman,Dungannon,Co. Tyrone,BT71 7EF,United Kingdom	TechRec NI,6180804,Killyman,Dungannon,Co. Tyrone,BT71 7EF,United Kingdom	Killyman,Dungannon,Co. Tyrone,BT71 7EF,United Kingdom
Within the Country	19 12 02	No	1339.56	ferrous metal	R4	M	Weighed	Offsite in Ireland	Hegarty Metals ,WP05-04	Ballysimon Road,.,Limerick,.,Ireland		
Within the Country	**19 12 03**	**No**	250.94	non-ferrous metal	R4	M	Weighed	Offsite in Ireland	Hegarty Metals ,WP05-04	Ballysimon Road,.,Limerick,.,Ireland		
Within the Country	13 03 07	Yes	468.77	mineral-based non-chlorinated insulating and heat transmission oils	R9	M	Weighed	Offsite in Ireland	Rilta Environmental ,W0192-03	402 Greenogue Business Park,Rathcoole,Co. Dublin,.,Ireland	Rilta Environmental ,W0192-03,402 Greenogue Business Park,Rathcoole,Co. Dublin,.,Ireland	402 Greenogue Business Park,Rathcoole,Co. Dublin,.,Ireland

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

APPENDIX H

Staffing Structure

Rilta Environmental Management Structure