Rilta Environmental Limited - Site 14-A1 Environmental Monitoring Programme



Annual Environmental Report January 1st – December 31st 2011

March 2012

TOBIN CONSULTING ENGINEERS







REPORT

PROJECT:

Rilta Environmental Ltd, Site 14-A1

CLIENT:

Rilta Environmental Ltd.

Site No. 14A1, Greenogue Business Park, Rathcoole, County Dublin.

COMPANY:

TOBIN Consulting Engineers Block 10-4,

Blanchardstown Corporate Park, Dublin 15.

www.tobin.ie



DOCUMENT AMENDMENT RECORD

Client: Rilta Environmental Ltd.

Project: Rilta Site 14-A1

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

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





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1 INTRODUCTION

The Environmental Protection Agency (EPA) issued Rilta Environmental Ltd. (Rilta) with Waste Licence Reg. No. W0185-01 for its facility at Site 14-A1, Greenogue Business Park, Rathcoole, County Dublin on 09th February 2010. (transfer of waste license). The facility is located within an industrial estate approximately 2 km east of Newcastle village and approximately 2.5km west of Rathcoole village. Rilta have been operating at the facility since 2009. Rilta retained Tobin Consulting Engineers (TOBIN) to prepare the Annual Environmental Report (AER) for the reporting period January 2011 to December 2011. This report has been prepared in accordance with Condition 11.6 and Schedule E of the waste licence and a site layout map is provided in Appendix A.

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

Condition 11.6 states:

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

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





2 WASTE ACTIVITIES AND RECORDS

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

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

Table 2-1 Waste Acceptance - Categories and Quantities

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 3-1Waste Received - 2011

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

4 REPORT ON EMISSIONS/RESULTS AND INTERPRETATIONS OF ENVIRONMENTAL MONITORING

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

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

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

4.1 SURFACE WATER RUN OFF MONITORING

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

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





4.2 WASTEWATER MONITORING

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

4.3 GROUNDWATER MONITORING

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

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

However no groundwater ELVs have been set out in the licence. As no ELVs are set out comparison has been made to the relevant interim guideline values¹ (IGV) as published by the Agency. The results for both laboratory and field analysis of the groundwater during 2011 are summarised in Table 4-3 and Table 4-4 below.

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





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

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

Table 4-2Laboratory Results [2] – 2011

Parameter	Units	IGV	Q1		G	Q2		Q3		Q4	
	Ginto		GW1	GW 2	GW1	GW 2	GW1	GW 2	GW1	GW 2	
рН	pH units	6.5-9.0	8.17	7.81	810	8.0	8.13	8.2	7.46	7.27	
Conductivity	mS/cm	1.000	0.363	0.885	0.597	0.817	0.618	0.745	0.541	0.680	
Dissolved Oxygen	mg/l	-	3.71	4.84	6.36	3.94	7.43	6.98	5.13	4.57	
Chloride	mg/l	30	13.9	29.9	20.5	27.5	20	25	20	26	
Sulphate	mg/l	200	46.9	169	94	127	89.6	115	81.5	116	
Total Organic Carbon	mg/l	-	46.9	6.24	<3	5.66	<3	4.79	4.52	3.77	
SVOCs	µg/l	-	-	-	-	-	-	-	-	-	
VOC	µg/l	-	-	-	-	-	-	-	-	-	
Metals	ua/l	Note 1	_		<igv< th=""><th><igv< th=""><th>-</th><th>_</th><th>-</th><th>-</th></igv<></th></igv<>	<igv< th=""><th>-</th><th>_</th><th>-</th><th>-</th></igv<>	-	_	-	-	
	P9/1				Limits*	Limits					

Note 1: *With the exception of Barium

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









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





4.4 NOISE MONITORING

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

Table 4-4 Annual Daytime Noise Monitoring Survey - 2011

	DAY TIME							
Receptor	Time	Leq	L10	L90	Notes			
NII	00.14	62.6	67 4	40.2	Rush hour road traffic on adjacent road is the dominant noise source.			
NI	09:14	03.0	67.4	49.Z	Overhead aircraft were also audible. The RILTA Facility was inaudible.			
NO	00.20	F0 9	64.2	10.0	Passing road traffic is the dominant noise source, overhead aircraft			
IN Z	08:38	59.8	04.Z	48.8	and helicopters were also audible. The RILTA Facility was inaudible.			
NO	00.00	62.0	66.1	10.2	Aircraft overhead, activity in neighbouring site is the dominant noise			
113	08:00	02.0	00.1	49.Z	source. The RILTA Facility was inaudible			

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

	NIGHT TIME						
Receptor	Time	Leq	L10	L90	Notes		
N 1	22.11	40 G	10 0	27.2	Passing traffic & aircraft is the dominant noise source. The RILTA		
NI	25.11	49.0	46.0	57.5	Facility was inaudible.		
NO	22.26	47.0	10.0	42.0	Passing traffic and distant traffic, aircraft, activity in adjacent sites is		
NZ	22:30	47.0	40.0	42.0	the dominant noise sources. The RILTA Facility was inaudible.		
NO	22.00	гог	F7 2	20.6	Passing road traffic, aircraft overhead and truck movements in the		
N3	22:00	52.5	57.5	39.0	facility to the south. The RILTA Facility was inaudible.		

The noise emission limits as per Schedule C of Waste Licence 0185 - 01 are 55 dB (A) for daytime and 45 dB (A) for night time. These levels specifically relate to noise emissions arising from the facility, measured at any noise sensitive location.

Noise levels recorded at the 3 no. EPA agreed noise monitoring locations contain noise emissions from adjacent industrial sites, low flying aircraft and traffic on the internal road network of the industrial estate. Noise emissions from the RILTA facility were inaudible during both the daytime and night time monitoring. Note that the EPA agreed noise monitoring locations are all on site and do not reflect emissions at noise sensitive locations.

The A-weighted equivalent continuous sound pressure level (LAeq, 30 min) recorded at the RILTA facility was less than 55 dB(A) at noise monitoring location at none of the noise monitoring locations, during the daytime monitoring event. Noise levels at N1, N2 and N3 exceeded the 55 dB (A) limit due to noise from external sources such as low flying aircraft from nearby Baldonnell Airport, passing traffic on the internal roads of the industrial estate, distant traffic on the N7 and activities in adjacent sites.





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

There were no impulsive noise emissions audible at any of the monitoring locations during the daytime or night time monitoring period. With regard to tonal emissions, no pure tones were detected during either the day or night time monitoring at the facility.

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

4.5 DUST MONITORING

Dust monitoring was carried out at 4 no. monitoring locations (see Drawing 569-42-G006) during August and September 2011. The dust results for all 4 no. monitoring locations were below the required ELV (350mg/m²/day) set out in waste licence 185-02, during all monitoring events in 2010. A full set of laboratory dust results from 2011 are contained in Appendix D. Dusts results from Site 14-A1 during 2011 are summarised in Table 4-8 below.

	•		
	February – March (<i>mg/m²/day</i>)	May - June (mg/m²/day)	August - Septe (<i>mg/m²/da</i>
D1	60	107	53.4
D2	210	237	137
D3	39.3	152	69.8
D4	84.1	86.9	14.4

Table 4-6 Dust Monitoring Results 2011

4.6 AIR EMISSION MONITORING

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





5 OBJECTIVES AND TARGETS OF ENVIRONMENTAL MANAGEMENT SYSTEM

5.1 SCHEDULE OF ENVIRONMENTAL OBJECTIVES AND TARGETS

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

5.2 ENVIRONMENTAL MANAGEMENT PROGRAMME

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

6 POLLUTANT RELEASE AND TRANSFER REGISTER (PRTR)

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

7 PROCEDURES

There were no new procedures for 2011.

8 REPORTING INCIDENTS AND COMPLAINTS SUMMARY

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

9 REVIEW OF NUISANCE CONTROLS

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

10 RESOURCE AND ENERGY CONSUMPTION SUMMARY

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

Resource	Quantity Used	Units
Electricity	46,200	KwH
Diesel	820	Ĺ
Water	642	m ³

Table 10-1 Resource Consumption Summary - 2011





11 DEVELOPMENT AND INFRASTRUCTURAL WORKS

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

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

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

12.1 MANAGEMENT AND STAFFING STRUCTURE

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

12.2 PROGRAMME FOR PUBLIC INFORMATION

RILTA maintains a 'Public File' which contains all correspondence between RILTA and the Agency, all waste data and monitoring data as required by waste licence W0185-01. This file is available for viewing during normal office hours.

13 FOUL WATER

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

14 ANY OTHER ITEMS SPECIFIED BY THE AGENCY

No additional requirements were specified by the agency during 2011.



APPENDIX A

Monitoring Location Map



APPENDIX B

Laboratory Results



Tobin Block 10 - 4 Blanchardstown Corporate Park Dublin

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

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

We received 2 samples on Thursday February 17, 2011 and 2 of these samples were scheduled for analysis which was completed on Tuesday February 22, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

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

Approved By:

Sonia McWhan Operations Manager



ALcontrol I	Laboratories	CER	TIFICATE OF ANAL	YSIS		Validated
SDG:	110217-142	Location:	Rilta Site 14-A1	Order Number:	2022	
Client Reference:	5965	Attention:	David Corrigan	Superseded Rep	ort:	
		Receiv	ved Sample Ov	erview		
Lab Sample No(s) Custome	er Sample Ref.	AG	S Ref. Dept	:h (m)	Sampled Date
2892513		GW1				17/02/2011

17/02/2011

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

GW2

2892514

ALcontrol L	aboratori	es							Validated
			CE	:R	IFI	CATE OF ANALYSIS			
SDG:	110217-142	2 1 IB_40	Location:		Rilta Tobir	Site 14-A1	Order Number: Report Number:	2022 117181	
Client Reference:	5965	500-49	Attention	:	David	d Corrigan	Superseded Report:	11/101	
						1			
Results Legend		l ah Samnlo	No(s)	289	289				
Results Legend			10(3)	1251:	12514				
X Test				ω	4				
No Determina	ation					1			
Possible		Custom	or						
		Sample Refe	rence	GW	GW				
		oumple Reid		<u> </u>	N				
						-			
		AGS Refer	ence						
			01100						
						-			
		Danith (n							
		Depth (r	n)						
	-					-			
				11 PL	11 PL				
		Contain	or	AS E ass t	AS E ass t				
		Contain	ei	OT (OT (
				₀₽	₀₽				
Anions by Kone (w)		All	NDPs: 0						
			Tests: 2	×	×				
Conductivity (at 20 deg C)		A11		^	^				
Conductivity (at 20 deg.C)	, ,		Tests: 2						
				X	X				
Dissolved Oxygen by Prob	be i	All	NDPs: 0						
			16515. 2	X	X				
pH Value		All	NDPs: 0						
			Tests: 2	×	×				
Total Organic and Inorgan	nic	All							
Carbon			Tests: 2						
				x	x				

ALcontrol Laboratories

CERTIFICATE OF ANALYSIS

Validated

Results Legend		Customer Sample R	GW1	GW2		
# ISO17025 accredited. M mCERTS accredited. Son-conforming work. aq Aqueous / setticd sample. diss.filt Dissolved / filtered sample. diss.filt Total / unfiltered sample. * subcontracted test. * % recovery of the surrogate standar check the efficiency of the method. results of the individual compounds within the samples are not correcter	rd to The i	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW) 17/02/2011 17/02/2011 110217-142 2892513	Water(GW/SW) 17/02/2011 17/02/2011 110217-142 2892514		
this recovery.						
Component Oxygen, dissolved	LOD/Ui <0.3 r	nits Method ng/l TM046	3.71	4.84		
Organic Carbon, Total	<3 m	ig/l TM090	# <3	# 6.24	 	
Conductivity @ 20 deg.C	<0.00	05 TM120	# 0.363	# 0.885	 	
Sulphate	<u>mS/c</u> <2 m	m ıg/l TM184	# 46.9	# 169		
Chloride	<2 m	ig/l TM184	# 13.9	# 29.9		
pН	<1 p	H TM256	# 8.17	# 7.81		
	Unit	S	#	#		

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

Table of Results - Appendix

REPOR			_			_	Results	expressed a	as (e.g.) 1.03E-07 is equivalent t	to 1.03x10-7	
NDP	No Determination	Possible	#	ISO 17025 Accredited		*	Subcontracted Test M		MCERTS Accredite	MCERTS Accredited	
NFD	No Fibres Detect	ed	PFD	Possible Fibres Detected	Possible Fibres Detected			EC	Equivalent Carbon (Aromatics C8-C35	i)	
Note: Metho	d detection limits	are not always achievable	due to vario	us circumstances beyond our c	ontrol						
M	ethod No		Refer	ence			Description		Wet/Dry Sample ¹	Surrogate Corrected	
	TM046	Method 4500G, AV	VWA/API	HA, 20th Ed., 1999	Measurer	nent of Di	ssolved 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				I				
	TM120	Method 2510B, AV BS 2690: Part 9:19	VWA/APH 970	IA, 20th Ed., 1999 /	Determina Meter	Determination of Electrical Conductivity using a Conductivity Meter					
	TM184	EPA Methods 325.	1 & 325.2	2,	The Deter Kone Spe	rmination ectrophoto	of Anions in Aqueous Matrices us metric Analysers	ing the			
	TM256	The measurement the Laboratory det Natural, Treated an 1978. ISBN 011 75	of Electri erminatio nd Waste 51428 4.	cal Conductivity and n of pH Value of waters. HMSO,	Determina Meter	ation of pl	H in Water and Leachate using the	e GLpH pH	4		

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

ALcontrol	Laboratories					Validated
		CEF	RTIFICATE OF ANALY	SIS		
SDG:	110217-142	Location:	Rilta Site 14-A1	Order Number: 2	2022	
Job:	D_TOBIN_DUB-49	Customer:	Tobin	Report Number: 1	17181	
Client Reference:	5965	Attention:	David Corrigan	Superseded Report:		

Test Completion Dates

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

ALcontrol I	Laboratories			•		Validated
		CEF	RIFICATE OF ANALYSI	5		
SDG:	110217-142	Location:	Rilta Site 14-A1	Order Number:	2022	
Job:	D_TOBIN_DUB-49	Customer:	Tobin	Report Number:	117181	
Client Reference:	5965	Attention:	David Corrigan	Superseded Report:		

CERTIFICATE OF ANALYSIS

SDG:	110217-142	Location:	Rilta Site 14-A
Job:	D_TOBIN_DUB-49	Customer:	Tobin
Client Reference:	5965	Attention:	David Corrigan

Appendix

 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 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 Dimethylphenol, 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.

 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.

Order Number: Report Number: Superseded Report:

2022 117181

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	d/C Or Wet	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSS
SOLVENT EXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DOM	SOXTHERM	IATROSCAN
ELEMENTALSULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLSBYGOMS	WET	DOM	SOXTHERM	GCMS
HERBICIDES D&C		HEXANEACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANEACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANEACETONE	END OVEREND	GCFD
EPH (MINOL)	D&C	HEXANEACETONE	END OVEREND	GCFID
EPH (CLEANED UP)	D&C	HEXANEACETONE	END OVEREND	GCFID
EPH ONG BYGC	D&C	HEXANEACETONE	END OVEREND	GCFD
POB TOT / POB CON	D&C	HEXANEACETONE	END OVEREND	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MCROWAVE TM218.	GCMS
C8-C40(C6-C40)EZ FLASH	WET	HEXANEACETONE	SHAVER	GCEZ
POLVAROMATIC HYDROCARBONS RARD GC	WET	HEXANEACETONE	SHAVER	900 EZ
SEM VOLATILEORGANIC COMPOUNDS	WET	DOMACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSS
PAHMS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
EPH	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
EPHCMG	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
MINERALOIL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
POB 7 CONGENERS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
POB TOTAL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
SVOC	DOM	LIQUID'LIQUID SHAKE	GCMS
FREESULPHUR	DOM	SOLID PHASE EXTRACTION	HPLC
PEST 00P/0PP	DOM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERES	DOM	LIQUID/LIQUID SHAKE	GCMS
PHENOLSMS	DOM	SOLID PHASE EXTRACTION	GCMS
TH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERALOIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

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

Asbestos Type	Common Name
Chrysofile	WhiteAsbestos
Amosite	BrownAsbestos
Croddalte	Blue Asbestos
Fibrous Adindite	-
Florous Anthophylite	-
Fibrous Trendite	-

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.



Tobin Block 10 - 4 Blanchardstown Corporate Park Dublin

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

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

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

We received 2 samples on Thursday May 19, 2011 and 2 of these samples were scheduled for analysis which was completed on Monday June 06, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

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

Approved By:

Sonia McWhan Operations Manager



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	_aboratories	CER	TIFICATE OF ANAL	YSIS			Validated
SDG:	110519-144	Location:	Rilta Site 14- A1	Order I	lumber:	2088	
Job:	D_TOBIN_DUB-66	Customer:	Tobin	Report	Number:	132431	
Client Reference:	5965	Attention:	David Corrigan	Supers	eded Report:	132390	
		Receiv	ved Sample Ov	erview			
Lab Sample No(s) Custome	r Sample Ref.	AG	S Ref.	Depth (m)		Sampled Date
3493715		GW1					19/05/2011

19/05/2011

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

GW2

3493716

	aborator	ies	CF	=D	ти	FIC	۰ ۸	т	= 1				Validate	d
SDG: Job: Client Reference:	110519-14 D_TOBIN_ 5965	4 _DUB-66	Location: Customer	-1 \ r:	Ril To	ta S bin	Site	14-	A1	(Order Number: Report Number: Superseded Report:	2088 132431 132390		
	0000		Attention		Da		001	nya				102030	 	
Results Legend		I ab Sample I	No(s)			349		6	349					
			10(0)			3715		-	3716					
X Test														
No Determination Possible		Custome Sample Refer	Customer Sample Reference			GW1	GW2		GWÐ					
		AGS Refere	nce											
		Depth (m)											
		Containe	r	11 glass bottle (D)	H2SO4 (Dublin)	PLAS BOT (D)	11 place hottle (D)	H2SO4 (Dublin)	PI AS BOT (D)					
Ammoniacal Nitrogen		All	NDPs: 0 Tests: 2		X			x						
Anions by Kone (w)		All	NDPs: 0 Tests: 2			x			×					
Conductivity (at 20 deg.C)		All	NDPs: 0 Tests: 2			x			x					
Cyanide Comp/Free/Total/Thiocyana	ate	All	NDPs: 0 Tests: 2	x			x							
Dissolved Metals by ICP-M	S	All	NDPs: 0 Tests: 2			x			x					
Dissolved Oxygen by Probe	9	All	NDPs: 0 Tests: 2			x			×					
Fluoride		All	NDPs: 0 Tests: 2			x			×					
Mercury Dissolved		All	NDPs: 0 Tests: 2	x			×							
Mineral Oil C10-40 Aqueou	s (W)	All	NDPs: 0 Tests: 2	x			x							
OC, OP Pesticides and Tria Herb	azine	All	NDPs: 0 Tests: 2	x			x							
pH Value		All	NDPs: 0 Tests: 2			x			×					
Silicon Dissolved by ICP-OF	ES	All	NDPs: 0 Tests: 2			x			×					
SVOC MS (W) - Aqueous		All	NDPs: 0 Tests: 2	x		2	×							
TBT/TPT/DBT (W)*		All	NDPs: 0 Tests: 2	x		2	×							
Total Organic and Inorganic Carbon		All	NDPs: 0 Tests: 2	x			x							

ALcontrol Laboratories CERTIFICATE OF ANALYSIS											
SDG: 1105 ⁴ Job: D_TC Client Reference: 5965	19-144 Location BIN_DUB-66 Custome Attentior	: Rilta r: Tobir i: Davio	Site 14- A ı I Corrigan	1 Ord Rep Sup	er Number: ort Number: erseded Report:	2088 132431 132390					
LIQUID Results Legend	Lab Sample No(s)	3493715	3493716								
No Determination Possible	Customer Sample Reference	GW1	GW2								
	AGS Reference										
	Depth (m)										
	Container	PLAS BOT (D) H2SO4 (Dublin) 60g VOC Dublin 11 glass bottle (D)	PLAS BOT (D) H2SO4 (Dublin) 60g VOC Dublin 11 glass bottle (D)								
VOC MS (W)	All NDPs: 0 Tests: 2	×	x								

ALcontrol Laboratories

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CERTIFICATE OF ANALYSIS

Validated

# ISO17025 accredited. M mCERTS accredited. M mCERTS accredited. § Non-conforming work. aq Aqueous / settled sample. diss.fit Dissolved / filtered sample. tot.unfitt Total / unfiltered sample. * Subcontracted test. * % recovery of the surrogate standar check the efficiency of the method. results of individual compounds wit samples aren't corrected for the rec (F) Trigger breach confirmed Component	# ISO17025 accredited. M mCERTS accredited. § Non-conforming work. aq Aqueous / settled sample. sits.fit Disolved / fittered sample. • Subcontracted test. • Age covery of the surrogate standard to cheevery • Age covery of the surrogate standard to cheevery • Age covery of the surrogate standard to cheevery • Age covery of the surogate standard to cheevery •		(m) ype Water(GW/SW) led 19/05/2011 ved 19/05/2011 Ref 110519-144 .(s) 3493715 nce	Gw2 Water(GW/SW) 19/05/2011 19/05/2011 110519-144 3493716		
Oxygen, dissolved	<0.3 r	ng/l TM046	6.36 #	3.94		
Organic Carbon, Total	<3 m	ig/l TM090) <3 #	5.66		
Ammoniacal Nitrogen as N	<0.2 r	ng/l TM099	<0.2 #	0.315 #		
Fluoride	<0.5 r	ng/l TM104	<0.5	<0.5		
Conductivity @ 20 deg.C	<0.00 mS/c	05 TM120 m	0.597	0.817 #		
Silicon (diss.filt)	<0.0 mg/	95 TM129 I	4.07	3.67		
Antimony (diss.filt)	<0.1 µg/l	6 TM152	2 0.206 #	1.87 #		
Arsenic (diss.filt)	<0.1 µg/l	2 TM152	2 0.894 #	1.66 #		
Barium (diss.filt)	0.0> ا/ <u>م</u> ر	3 TM152	2 115 #	78.2 #		
Beryllium (diss.filt)	0.0> µg/l	7 TM152	e <0.07 #	<0.07 #		
Boron (diss.filt)	<9.4	µg/l TM152	e <9.4 #	40.6		
Cadmium (diss.filt)	<0.1 J	µg/l TM152	2 <0.1 #	0.158 #		
Chromium (diss.filt)	<0.2 µg/l	2 TM152	2 10.8 #	17.1 #		
Cobalt (diss.filt)	0.0> ا/µg	6 TM152	2 0.267 #	0.536 #		
Copper (diss.filt)	0.8> ا/یم	5 TM152	2 1.57 #	3.11 #		
Lead (diss.filt)	0.0> ا/µg	2 TM152	2 0.08	0.056 #		
Molybdenum (diss.filt)	<0.2 µg/l	4 TM152	2 1.4 #	2.56 #		
Nickel (diss.filt)	<0.1 µg/l	5 TM152	2.34	5.61 #		
Phosphorus (diss.filt)	<6.3	µg/l TM152	e <6.3 #	23.1 #		
Selenium (diss.filt)	<0.3 µg/l	9 TM152	2 1.3 #	6.68 #		
Silver (diss.filt)	<1.5	µg/l TM152	<1.5	<1.5		
Tellurium (diss.filt)	<2 µ	g/l TM152	<2	<2		
Thallium (diss.filt)	<0.9 µg/l	6 TM152	<0.96	<0.96		
Tin (diss.filt)	0.3> ابg/I	6 TM152	2 <0.36 #	0.824 #		
Uranium (diss.filt)	<1.5	µg/l TM152	<1.5	3.89		
Titanium (diss.filt)	<1.5	µg/l TM152	2 <1.5 #	<1.5 #		
Vanadium (diss.filt)	<0.2 µg/l	24 TM152	2 3.49 #	5.2 #		
Zinc (diss.filt)	<0.4 µg/l	1 TM152	2 1.8 #	4.67 #		
Mineral oil >C10 C40 (aq)	<10 µ	ug/l TM172	<10	<10		
Mercury (diss.filt)	0.0> ا/وµ	1 TM183	<0.01	<0.01		
Sulphate	<2 m	ig/l TM184	94.2	127 #		
Chloride	<2 m	ig/l TM184	20.5	27.5		
Nitrite as NO2	<0.0 mg/	5 TM184	<0.05	<0.05		
Phosphate (ortho) as PO4	<0.0 mg/	5 TM184	<0.05	<0.05 #		
Cyanide, Total	<0.0 mg/	5 TM227	<0.05 #	<0.05		

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Validated

# ISO17025 accredited. M mCERTS accredited. § Non-conforming work. a Aqueous / settled asample. Depth (m)		GW1	GW2			
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted test. ** % recovery of the surrogate standa check the efficiency of the method.	rd to The	Sample Type Date Sampled Date Received SDG Ref Lab Sample No (e)	Water(GW/SW) 19/05/2011 19/05/2011 110519-144 3493715	Water(GW/SW) 19/05/2011 19/05/2011 110519-144 3493716		
results of individual compounds wi samples aren't corrected for the rec (F) Trigger breach confirmed	tnin covery	AGS Reference				
Component Cyanide, Free	<0.05	TM227	<0.05	<0.05		
рН	<1 pH Units	H TM256	8.1 #	#	 	
		_				

ALcontrol Laboratories CERTIFICATE OF ANALYSIS 110519-144 Rilta Site 14- A1 2088 SDG: Location: Order Number: Job: D_TOBIN_DUB-66 Customer: Tobin Report Number: 132431 David Corrigan **Client Reference:** 5965 Attention: Superseded Report: 132390 **OC, OP Pesticides and Triazine Herb** Customer Sample R GW2 GW1 ISO17025 accredited mCERTS accredited. # M Non-conforming work Depth (m) Aqueous / settled sample Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted test. % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery Trigger breach confirmed Water(GW/SW) Water(GW/SW) Sample Type diss filt 19/05/2011 19/05/2011 19/05/2011 19/05/2011 tot.un Date Sampled Date Received ... SDG Ref 110519-144 110519-144 3493715 3493716 Lab Sample No.(s) AGS Reference (F) LOD/Units Method Component <0.1 TM231 <0.1 Atrazine <0.1 µg/l Simazine <0.1 µg/l TM231 <0.1 <0.1 Mevinphos <0.1 µg/l TM231 <0.1 <0.1 Dichlorvos TM231 <0.1 <0.1 <0.1 µg/l TM231 Hexachlorobenzene <0.1 <0.1 <0.1 µg/l Diazinon TM231 <0.1 <0.1 <0.1 µg/l TM231 Heptachlor <0.1 <0.1 <0.1 µa/l Propetamphos <0.1 µg/l TM231 <0.1 <0.1 Dimethoate TM231 <0.1 µg/l <0.1 <0.1 Chlorothalonil <0.1 µg/l TM231 <0.1 <0.1 Aldrin <0.1 µg/l TM231 <0.1 <0.1 Pirimiphos-methyl <0.1 µg/l TM231 <0.1 <0.1 Isodrin TM231 <0.1 <0.1 <0.1 µg/l Methyl parathion <0.1 µg/l TM231 <0.1 <0.1 Malathion TM231 <0.1 <0.1 <0.1 µg/l Fenthion <0.1 µg/l TM231 <0.1 <0.1 TM231 Fenitrothion <0.1 µg/l <0.1 <0.1 Parathion <0.1 µg/l TM231 <0.1 <0.1

Validated

Permethrin I

Permethrin II

Pendimethalin

Chlorfenvinphos

o,p-TDE (DDD)

o,p-DDE

p,p-DDE

Dieldrin

o,p-DDT

Endrin

Ethion

p,p-DDT

p,p-TDE (DDD)

o,p-Methoxychlor

Carbophenothion

TM231

<0.1 µg/l

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Endosulphan sulphate

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

OC, OP Pesticides and Triazine Herb

Results Legend		Cust	tomer Sample R	GW1	GW2		
# ISO 17025 accredited. M mCERTS accredited. § Non-conforming work. aq Aqueous / settled sample. diss.fit Dissolved / filtered sample. otunnfit Total / unfittered sample. * Subcontracted test. * wiccovery of the surrogate standard to che the efficiency of the method. The results of individual compounds within samples arent corrected for the recovery (F) Trigger breach confirmed		Depth (m) Sample Type Date Sampled Date Received SDG Ref b Sample No.(s) AGS Reference	Water(GW/SW) 19/05/2011 19/05/2011 11/0519-144 3493715	Water(GW/SW) 19/05/2011 19/05/2011 11/0519-144 3493716			
Component	LOD/U	nits	Method				
Phosalone	<0.1	µg/l	TM231	<0.1	<0.1		
Azinphos-ethyl	<0.1	µg/l	TM231	<0.1	<0.1		
Azinphos-methyl	<0.1	µg/l	TM231	<0.1	<0.1		
Pentachloroethane	<0.1	µg/l	TM231	<0.1	<0.1		
Hexachloroethane	<0.1	µg/l	TM231	<0.1	<0.1		
1,3.5-Trichlorobenzene	<0.1	µg/l	TM231	<0.1	<0.1		
1,2,4-Trichlorobenzene	<0.1	µg/l	TM231	<0.1	<0.1		
1,2,3-Trichlorobenzene	<0.1	µg/l	TM231	<0.1	<0.1		
Hexachlorobutadiene	<0.1	µg/l	TM231	<0.1	<0.1		
1,2,4,5-Tetrachlorobenzen e	<0.1	µg/l	TM231	<0.1	<0.1		
Dichlobenil	<0.1	µg/l	TM231	<0.1	<0.1		
Pentachlorobenzene	<0.1	µg/l	TM231	<0.1	<0.1		
alpha-Hexachlorocyclohex ane (HCH / Lindane)	<0.1	µg/l	TM231	<0.1	<0.1		
beta-Hexachlorocyclohexa ne (HCH / Lindane)	<0.1	µg/l	TM231	<0.1	<0.1		
gamma-Hexachlorocycloh exane (HCH / Lindane)	<0.1	µg/l	TM231	<0.1	<0.1		
Propyzamide	<0.1	µg/l	TM231	<0.1	<0.1		
delta-Hexachlorocyclohexa ne (HCH / Lindane)	<0.1	µg/l	TM231	<0.1	<0.1		
trans-Chlordane (gamma)	<0.1	µg/l	TM231	<0.1	<0.1		
alpha-Endosulphan	<0.1	µg/l	TM231	<0.1	<0.1		
cis-Chlordane (alpha)	<0.1	µg/l	TM231	<0.1	<0.1		
beta-Endosulphan	<0.1	µg/l	TM231	<0.1	<0.1		
Iprodione	<0.1	µg/l	TM231	<0.1	<0.1		
Propiconazole I	<0.1	µg/l	TM231	<0.1	<0.1		
Propiconazole II	<0.1	µg/l	TM231	<0.1	<0.1		
Fluroxypyr	<0.1	µg/l	TM231	<0.2	<0.2		
p,p-Methoxychlor	<0.1	µg/l	TM231	<0.1	<0.1		
Methacriphos	<0.1	µg/l	TM231	<0.1	<0.1		
Tributylphosphate	<0.1	µg/l	TM231	<0.1	<0.1		
Sulfotep	<0.1	µg/l	TM231	<0.1	<0.1		
Phorate	<0.1	µg/l	TM231	<0.1	<0.1		
Fonofos	<0.1	µg/l	TM231	<0.1	<0.1		
Phosphamidon I	<0.1	µg/l	TM231	<0.1	<0.1		
Disulfoton	<0.1	µg/l	TM231	<0.1	<0.1		
Phosphamidon II	<0.1	µg/l	TM231	<0.1	<0.1		
Chlorpyriphos methyl	<0.1	µg/l	TM231	<0.1	<0.1		

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CERTIFICATE OF ANALYSIS

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OC, OP Pesticides and Triazine Herb

Results Legend		Cust	tomer Sample R	GW1	GW2		
# ISO17025 accredited. M mCERTS accredited. § Non-conforming work. aq Aqueous / settled sample. diss.fit Dissolved / filtered sample. tot.unfit Total / unfiltered sample. * Subcontracted test. * % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed Component LOD/Units		La	Depth (m) Sample Type Date Sampled Date Received SDG Ref b Sample No.(s) AGS Reference	Water(GW/SW) 19/05/2011 19/05/2011 110519-144 3493715	Water(GW/SW) 19/05/2011 19/05/2011 110519-144 3493716		
Component	LOD/U	nits	Method	• •			
Triphenylphosphate	<0.1	µg/l	TM231	<0.1	<0.1		
Phosmet	<0.1	µg/l	TM231	<0.1	<0.1		
o-ethyl 4-nitrophenyl phosphonothioate (EPN)	<0.1	µg/l	TM231	<0.1	<0.1		
Coumaphos	<0.1	µg/l	TM231	<0.1	<0.1		
cis-Heptachlor epoxide	<0.1	µg/l	TM231	<0.1	<0.1		
CERTIFICATE OF ANALYSIS

Validated

SVOC MS (W) - Aqueous

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SVOC MS (W) - Aqueous	i			-		-	
Results Legend # ISO17025 accredited. M mCERTS accredited. § Non-conforming work. aq Aqueous / settled sample. diss.fit Dissolved / filtered sample. tot.unfit Total / unfiltered sample.		Customer Sample R Depth (m) Sample Type Date Sampled	GW1	GW2 			
* Subcontracted test. ** % recovery of the surrogate standar	rl to	Date Received	19/05/2011	19/05/2011			
check the efficiency of the method.	The	SDG Ref Lab Sample No (s)	110519-144 3493715	110519-144 3493716			
results of individual compounds wit samples aren't corrected for the rec	hin overy	AGS Reference					
(F) Trigger breach confirmed		aita Mathad					
1.2.4-Trichlorobenzene	<1 u	a/l TM176	<1	<1	 		
(aq)	· •	3					
1,2-Dichlorobenzene (aq)	<1 µ	g/l TM176	<1	<1	 		
1,3-Dichlorobenzene (aq)	<1 µ	g/l TM176	<1	<1			
1,4-Dichlorobenzene (aq)	<1 µ	g/l TM176	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µ	g/l TM176	<1	<1			
2,4,6-Trichlorophenol (aq)	<1 µ	g/l TM176	<1	<1			
2,4-Dichlorophenol (aq)	<1 µ	g/l TM176	<1	<1			
2,4-Dimethylphenol (aq)	<1 µ	g/l TM176	<1	<1			
2,4-Dinitrotoluene (aq)	<1 µ	g/l TM176	<1	<1			
2,6-Dinitrotoluene (aq)	<1 µ	g/l TM176	<1	<1			
2-Chloronaphthalene (aq)	<1 µ	g/I IM176	<1	<1			
2-Chlorophenol (aq)	<1 µ	g/I IM176	<1	<1			
2-Methylnaphthalene (aq)	<1 µ	g/I IM176	<1	<1			
2-Methylphenol (aq)	<1 µ	g/I IM176	<1	<1			
2-Nitroaniline (aq)	<1 µ	g/I IM176	<1	<1			
2-Nitrophenol (aq)	<1 µ	g/I IM176	<1	<1			
3-Nitroaniline (aq)	<1 µ	g/l TM176	<1	<1			
4-Bromophenylphenylether (aq)	<1 µ	g/I IM176	<1	<1			
4-Chloro-3-methylphenol (aq)	<1 µ	g/I IM176	<1	<1			
4-Chloroaniline (aq)	<1 µ	g/I IM176	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µ	g/l TM176	<1	<1			
4-Methylphenol (aq)	<1 µ	g/l TM176	<1	<1			
4-Nitrophenol (aq)	<1 µ	g/l TM176	<1	<1			
4-Nitroaniline (aq)	<1 µ	g/l TM176	<1	<1			
Azobenzene (aq)	<1 µ	g/l TM176	<1	<1			
bis(2-Chloroethyl)ether (aq)	<1 µ	g/l TM176	<1	<1			
bis(2-Chloroethoxy)methan e (aq)	<1 µ	g/l TM176	<1	<1			
bis(2-Ethylhexyl) phthalate (aq)	<2 µ	g/l TM176	<2	<2			
Butylbenzyl phthalate (aq)	<1 µ	g/l TM176	<1	<1			
Benzo(k)fluoranthene (aq)	<1 µ	g/l TM176	<1	<1			
Carbazole (aq)	<1 µ	g/l TM176	<1	<1			
Dibenzofuran (aq)	<1 µ	g/l TM176	<1	<1			
n-Dibutyl phthalate (aq)	<1 µ	g/l TM176	<1	<1			
Diethyl phthalate (aq)	<1 µ	g/l TM176	<1	<1			
Dimethyl phthalate (aq)	<1 µ	g/l TM176	<1	<1			

CERTIFICATE OF ANALYSIS

Validated

SVOC MS (W) - Aqueous

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- Results Legend	0	Sustamor Sample P	0)4/4	011/2		
Kosine Legend Kesine	d to The hin overy	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	GW1 Water (GW/SW) 19/05/2011 19/05/2011 110519-144 3493715	GW2 Water (GW/SW) 19/05/2011 19/05/2011 110519-144 3493716		
Component	LOD/Unit	s Method				
n-Dioctyl phthalate (aq)	<5 µg/l	I TM176	<5	<5		
Hexachlorobenzene (aq)	<1 µg/l	I TM176	<1	<1		
Hexachlorobutadiene (aq)	<1 µg/l	I TM176	<1	<1		
Pentachlorophenol (aq)	<1 µg/l	I TM176	<1	<1		
Phenol (aq)	<1 µg/l	I TM176	<1	<1		
n-Nitroso-n-dipropylamine	<1 µg/l	I TM176	<1	<1		
Hexachloroethane (aq)	<1 µg/l	I TM176	<1	<1		
Nitrobenzene (aq)	<1 µg/l	I TM176	<1	<1		
Isophorone (aq)	<1 µg/l	I TM176	<1	<1		
Hexachlorocyclopentadien	<1 µg/l	I TM176	<1	<1		
SVOC TIC (aq)	-	TM176	See Attached	See Attached		
SVOC Derivatised (aq)	-	TM176	Not Detected	Not Detected		

	poratories		CERT	IFICATE OF A	NALYSIS		L	Validated
SDG: Job:	110519-144 D_TOBIN_DUI	3-66	Location: R Customer: To	ilta Site 14- A1 obin		Order Number: Report Number:	2088 132431	
TRT/TPT/DRT (W)*	5965		Attention: D	avid Corrigan		Superseded Repo	nt: 132390	
Results Legend # ISO17025 accredited. M mCERTS accredited. § Non-conforming work. aq Aquoous' settled sample. diss.fit Disolved / filtered sample. totumfit Total / unfiltered sample. * Subcontracted test. * % recovery of the surrogat check the efficiency of the results of individual comport samples aren't corrected for (F) Trigger breach confirmed	e standard to method. The punds within or the recovery	Customer Sample R Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	GW1 Water(GW/SW) 19/05/2011 19/05/2011 1105/9-144 3493715	GW2 Water(GW/SW) 19/05/2011 19/05/2011 110519-144 3493716				
Component	LOD/Ur	nits Method		.5000				
	<0.0 ng/l	2 SUB	<5	<5000				
Triphenyl tin*	<0.0 ng/l	5 SUB	<20	<20000				
Dibutyl tin*	<0.0 ng/l	2 SUB	<5	<5000				
Tetrabutyl tin*	<0.0 ng/l	2 SUB	<5	<5000				

CERTIFICATE OF ANALYSIS

Validated

VOC MS (W)

Results Legend ISO17025 accredited. M mCERTs accredited. Sincerofited. Sinceroficed. Sinceroficed sample. tot.unfilt Total / unfiltered sample. * Subcontracted test. * Wrecontracted test. ** % recovery of the surrogate standar	d to	Customer Sample R Depth (m) Sample Type Date Sampled Date Received	GW1 Water(GW/SW) 19/05/2011 19/05/2011 11/0519-144	GW2 Water(GW/SW) 19/05/2011 19/05/2011 110519-144		
check the efficiency of the method. results of individual compounds wit samples aren't corrected for the rec (F) Trigger breach confirmed	The hin overy	Lab Sample No.(s) AGS Reference	3493715	3493716		
Component	LOD/Uni	ts Method				
Dibromofluoromethane**	%	TM208	102	103		
Toluene-d8**	%	TM208	100	100		
4-Bromofluorobenzene**	%	TM208	98.9	96.4		
Dichlorodifluoromethane	<7 µg/	/I TM208	<7 #	<7 #		
Chloromethane	<9 µg,	/I TM208	<9 #	<9 #		
Vinyl chloride	<1.2 µç	g/I TM208	<1.2 #	<1.2 #		
Bromomethane	<2 µg/	/I TM208	<2 #	<2 #		
Chloroethane	<2.5 µç	g/I TM208	<2.5 #	<2.5 #		
Trichlorofluoromethane	<1.3 µç	g/I TM208	<1.3 #	<1.3 #		
1,1-Dichloroethene	<1.2 µç	g/I TM208	<1.2 #	<1.2 #		
Carbon disulphide	<1.3 µç	g/I TM208	<1.3 #	<1.3 #		
Dichloromethane	<3.7 με	g/I TM208	<3.7 #	<3.7 #		
Methyl tertiary butyl ether (MTBE)	<1.6 µç	g/I TM208	<1.6 #	<1.6 #		
trans-1,2-Dichloroethene	<1.9 µį	g/I TM208	<1.9 #	<1.9 #		
1,1-Dichloroethane	<1.2 µç	g/I TM208	<1.2 #	<1.2 #		
cis-1,2-Dichloroethene	<2.3 µç	g/I TM208	<2.3 #	<2.3 #		
2,2-Dichloropropane	<3.8 µç	g/I TM208	<3.8 #	<3.8 #		
Bromochloromethane	<1.9 µç	g/I TM208	<1.9 #	<1.9 #		
Chloroform	<1.8 µç	g/I TM208	<1.8 #	<1.8 #		
1,1,1-Trichloroethane	<1.3 µ(g/I TM208	<1.3 #	<1.3 #		
1,1-Dichloropropene	<1.3 µç	g/I TM208	<1.3 #	<1.3 #		
Carbontetrachloride	<1.4 µç	g/I TM208	<1.4 #	<1.4 #		
1,2-Dichloroethane	<3.3 µç	g/I TM208	<3.3	<3.3		
Benzene	<1.3 µ(g/I TM208	<1.3 #	<1.3 #		
Trichloroethene	<2.5 µç	g/I TM208	<2.5 #	<2.5 #		
1,2-Dichloropropane	<3 µg,	/I TM208	<3 #	<3 #		
Dibromomethane	<2.7 με	g/I TM208	<2.7 #	<2.7 #		
Bromodichloromethane	<0.9 µថ	g/I TM208	<0.9 #	<0.9 #		
cis-1,3-Dichloropropene	<1.9 µç	g/I TM208	<1.9 #	<1.9 #		
Toluene	<1.4 µç	g/I TM208	<1.4 #	<1.4 #		
trans-1,3-Dichloropropene	<3.5 µç	g/I TM208	<3.5	<3.5		
1,1,2-Trichloroethane	<2.2 µç	g/I TM208	<2.2 #	<2.2 #		
1,3-Dichloropropane	<2.2 µç	g/I TM208	<2.2 #	<2.2		
Tetrachloroethene	<1.5 µç	g/I TM208	<1.5 #	<1.5 #		
Dibromochloromethane	<1.7 µថ្	g/I TM208	<1.7	<1.7 #		

CERTIFICATE OF ANALYSIS

Validated

VOC MS (W)

Results Legend		Custon	ner Sample R	GW1	GW2			
# ISO17025 accredited.								
M mCERTS accredited.								
ag Aqueous / settled sample.			Depth (m)					
diss.filt Dissolved / filtered sample.			Sample Type	Water(GW/SW)	Water(GW/SW)			
tot.unfilt Total / unfiltered sample.			Date Sampled	19/05/2011	19/05/2011			
** % recovery of the surrogate standar	d to	D	Date Received	19/05/2011	19/05/2011			
check the efficiency of the method.	The	l ah G	SDG Ref	3/03715	3/03716			
results of individual compounds wit	hin		Sample No.(S)	5455715	3433710			
(F) Trigger breach confirmed	overy	A	33 Kelerence					
Component		nite	Method					
1.2 Dibromoothono	<0.0	ua/I	TM209	<0.0	<0.0	_		
1,2-Dibromoethane	<2.3	µg/i	111/200	<2.3 "	<2.5	щ		
				#		#		
Chlorobenzene	<3.5	µg/l	TM208	<3.5	<3.5			
				#		#		
1,1,1,2-Tetrachloroethane	<1.3	µg/l	TM208	<1.3	<1.3			
				#		#		
Ethylbenzene	<2.5	ua/l	TM208	<25	<2.5			
2019.001.20110		- gr		 #		#		
m n Yulene	<25	ua/l	TM208	<25	<25			
п,р-дујене	~2.5	μy/i	1101200	~2.5	~2.5	4		
				. – #		#	 	
o-Xylene	<1.7	µg/I	TM208	<1./	<1./			
				#		#		
Styrene	<1.2	µg/l	TM208	<1.2	<1.2			
				#		#		
Bromoform	<3 u	g/l	TM208	<3	<3			
	- "	~		#	-	#		
Isopropylbenzene	<14	ua/l	TM208	<1.4	<1 4			
isopiopyiserizerie	51.4	MA(1	111200	ب .۱۲	×1.4	#		
			TMOOO	#		#		
1,1,2,2-1 etrachloroethane	<5.2	µg/I	I IVI208	<5.2	<5.2			
1,2,3-Trichloropropane	<7.8	µg/l	TM208	<7.8	<7.8			
				#		#		
Bromobenzene	<2 u	a/l	TM208	<2	<2			
	r.	5		#		#		
Propylbanzana	<26		TM208	~2.6	<26	m		
Гюрушендене	~2.0	μy/i	1101200	~2.0	~2.0	4		
			T 14000	#		#	 	
2-Chlorotoluene	<1.9	µg/I	TM208	<1.9	<1.9			
				#		#		
1,3,5-Trimethylbenzene	<1.8	µg/l	TM208	<1.8	<1.8			
				#		#		
4-Chlorotoluene	<1.9	ua/l	TM208	<1.9	<1.9			
		- 3.		#		#		
tert Butylbenzene	<2 II	a/I	TM208	~?	-2	"		
lert-butyibenzene	~2 µ	y/i	1101200	~~ #	~2	#		
	.4.7		T14000	#	.4.7	#		
1,2,4-1 rimetnyibenzene	<1.7	µg/i	TM208	<1.7	<1.7			
				#		#	 	
sec-Butylbenzene	<1.7	µg/l	TM208	<1.7	<1.7			
				#		#		
4-iso-Propyltoluene	<2.6	µg/l	TM208	<2.6	<2.6			
. ,				#		#		
1.3-Dichlorobenzene	<2.2	ua/l	TM208	<2.2	<2.2			
.,		- 3 . 1		#	·2	#		
1.4 Dichlorobenzono	-0 T ·		TM200	#	-07	π		
1,4-DIGHIOLODELIZELIE	~2.7	µy/i	1 11/200	NZ.1	SZ.1	щ		
	-		T1 100	#	-	#		
n-Butylbenzene	<2 µ	g/I	I M208	<2	<2			
				#		#		
1,2-Dichlorobenzene	<3.7	µg/l	TM208	<3.7	<3.7			
1,2-Dibromo-3-chloropropa	<9.8	µg/l	TM208	<9.8	<9.8			
ne		- -			-			
124-Trichlorobenzene	<23	ua/l	TM208	<2.3	<23			
.,_, + +++++++++++++++++++++++++++++++++	-2.0	~Y'		-2.0 #	-2.0	#		
Hovepharebutediass	-05	ua/!	TMOOO		-0 5	#		
Hexachioroputadiene	<2.5	µy/I		<2.5	<2.5			
				#		#		
tert-Amyl methyl ether	<1 µ	g/l	TM208	<1	<1			
(TAME)				#		#		
Naphthalene	<3.5	µg/l	TM208	<3.5	<3.5			
· ·		Ĩ		#		#		
1.2.3-Trichlorobenzene	<3.1	ua/l	TM208	<3.1	<3.1			
.,_,5 116116165612616	.0.1	~ 3 , 1		-5.1	-0.1	#		
135 Trichlorobonzono	<10 ·		TM200	-10	~10	π		
1,3,3-THCHIOLODENZENE	<10	ı'yı	i IVI∠Uŏ	< IU	<10			
			T					

CERTIFICATE OF ANALYSIS

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Table of Results - Appendix

REPO	RT KEY							Results expressed	d as (e.g.) 1.03E-07 is equivale	nt to 1.03x10-7	
NDP	No Determination	on Possible	#	ISO 17025 Accredited		*	Subcontracted Test	м	MCERTS Accred	lited	
NFD	No Fibres Detec	cted	PFD Possible Fibres Detected			»	Result previously reported (Incremental reports only)	EC	Equivalent Carb (Aromatics C8-0	on C35)	
Note: Meth	od detection limit	s are not always achievable o	due to vario	us circumstances beyond our c	ontrol					,	
N	lethod No		Refe	rence			Description		Wet/Dry Sample ¹	Surrogate Corrected	
	SUB				Subcontra	acted Tes	st		Cumpio		
	TM046	Method 4500G, AV	VWA/API	HA, 20th Ed., 1999	Measurer	ment of D	issolved Oxygen by Oxy	gen Meter			
	TM061	Method for the Det EPH,Massachuset	erminatio ts Dept.o	n of f EP, 1998	Determina GC-FID (ation of E C10-C40)	xtractable Petroleum Hy	drocarbons by			
	TM090	Method 5310, AWM Modified: US EPA	VA/APH/ Method 4	A, 20th Ed., 1999 / 15.1 & 9060	Determination in Water a	ation of T and Wast	otal Organic Carbon/Tota e Water	al Inorganic Carbo	n		
	TM099	BS 2690: Part 7:19	68 / BS (6068: Part2.11:1984	Determina Analyser	ation of A	mmonium in Water Sam	ples using the Kor	ne		
	TM104	Method 4500F, AW	/WA/APH	IA, 20th Ed., 1999	Determina	ation of F	luoride using the Kone A	nalyser			
	TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970			Determina Meter	Determination of Electrical Conductivity using a Conductivity Meter					
	TM129	Method 3120B, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 3050B			Determina	ation of N	letal Cations by IRIS Em	ission Spectromet	er		
	TM152	Method 3125B, AV	IA, 20th Ed., 1999	Analysis o	of Aqueou	us Samples by ICP-MS					
	TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria			EPH in Waters						
	TM176	EPA 8270D Semi- by Gas Chromatog (GC/MS)	/olatile C raphy/Ma	organic Compounds ass Spectrometry	Determina	Determination of SVOCs in Water by GCMS					
	TM183	BS EN 23506:2002 0 580 38924 3	2, (BS 60	68-2.74:2002) ISBN	Determina by PSA C	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry					
	TM184	EPA Methods 325.	1 & 325.	2,	The Dete Kone Spe	rmination ectrophote	of Anions in Aqueous M ometric Analysers	atrices using the			
	TM208	Modified: US EPA	Method 8	3260b & 624	Determina GC-MS ir	ation of V Waters	olatile Organic Compour	nds by Headspace	1		
	TM227	Standard methods and wastewaters 2 Method 4500.	for the e 0th Editio	xamination of waters on, AWWA/APHA	Determina Cyanide a	rmination of Total Cyanide, Free (Easily Liberatable) nide and Thiocyanate					
	TM231	Agilent 6890 Gas (an Agilent 5973 Ma	Chromato ass Seleo	graph system using tive Detector (MSD)	Determina Pesticides	ation of C s and Tria	organochlorine and Organ azine Herbicides by GCN	nophosphorus 1S			
	TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.			Determina Meter	ation of p	H in Water and Leachate	e using the GLpH p	DH		

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

	Laboratories	CEF	RTIFICATE OF ANALYS	SIS	l
SDG:	110519-144	Location:	Rilta Site 14- A1	Order Number:	2088
Job:	D_TOBIN_DUB-66	Customer:	Tobin	Report Number:	132431
Client Reference:	5965	Attention:	David Corrigan	Superseded Report:	132390

Test Completion Dates

Validated

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

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

SVOC Tentatively Identified Compounds

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

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

MAY INCLUDE PREVIOUSLY QUANTIFIED RESULTS

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

SVOC Tentatively Identified Compounds

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

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

MAY INCLUDE PREVIOUSLY QUANTIFIED RESULTS

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



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

T +44 (0)1462 480400 F +44 (0)1462 480403 E rpsmh@rpsgroup.com W www.mountainheath.com

Analytical Report

ALcontrol Hawarden	Report No:	11-22739/1
Unit7-8, Hawarden Business Park	Date Received:	23/05/2011
Hawarden, Deeside	Date Tested:	02/06/2011 to 03/06/2011
Flintshire, CH5 3US	Date Issued:	06/06/2011
	Page:	1 of 1
For the attention of: Alcontrol Chester (Schedulers)	By email	

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

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

him.

Robin T R Macdonald Operational Director

CERTIFICATE OF ANALYSIS

SDG:	110519-144	Location:	Rilta Site 14- A1
Job:	D_TOBIN_DUB-66	Customer:	Tobin
Client Reference:	5965	Attention:	David Corrigan

Appendix

 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 NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

 Order Number:
 2088

 Report Number:
 132431

 Superseded Report:
 132390

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	d/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSS
SOLVENT EXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DOM	SOXTHERM	ATROSCAN
ELEMENTALSUPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLSBYGOMS	WET	DOM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANEACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANEACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANEACETONE	END OVEREND	GCFD
EPH (MINOL)	D&C	HEXANEACETONE	END OVEREND	GCFD
EPH (OLEANED UP)	D&C	HEXANEACETONE	END OVEREND	GCFD
EPH CMG BYGC	D&C	HEXANEACETONE	END OVEREND	GCFD
POB TOT / POB CON	D&C	HEXANE/ACETONE	END OVEREND	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MCROWAVE TM218.	GCMS
08-040(06-040) EZ FLASH	WET	HEXANEACETONE	SHAVER	GCEZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANEACETONE	SHAVER	60-EZ
SEM VOLATILEORGANIC COMPOUNDS	WET	DOMACETONE	SONCATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
BH	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
EPHONG	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
MINERALOIL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
PCB 7 CONGENERS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
SVOC	DOM	LIQUID/LIQUID SHAKE	GCMS
FREESULPHUR	DOM	SOLID PHASE EXTRACTION	HPLC
PEST CCP/OPP	DOM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DOM	LIQUID/LIQUID SHAKE	GCMS
PHENOLSMS	DOM	SOLID PHASE EXTRACTION	GCMS
TIH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERALOIL by R	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

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

Asbestos Type	Common Name
Chrysofile	WhiteAsbestos
Amoste	BrownAsbestos
Orodolite	Blue Asbestos
Fibrous Adinalte	-
Forous Anthophylite	-
Fibrous Trendile	-

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.



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

Tobin Block 10 - 4 Blanchardstown Corporate Park Dublin

Attention: Mary Lynch

CERTIFICATE OF ANALYSIS

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

We received 2 samples on Thursday August 04, 2011 and 2 of these samples were scheduled for analysis which was completed on Tuesday August 16, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:

Sonia McWhan Operations Manager



ALcontrol Laboratories CERTIFICATE OF ANALYSIS							
SDG:	110805-35	Location:	Site 14A1		Order Number:	2142	
Job: Client Reference:	5965	Attention:	Mary Lynch		Superseded Report:	145441	
Received Sample Overview							
Lab Sample No(s	s) Customer	Sample Ref.		AGS Ref.	Depth (m))	Sampled Date
4037805	G	W1					04/08/2011
4037806	G	W2					04/08/2011

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

ALcontrol Laboratories						Validated	
			CE	:R	ΓIFI	CATE OF ANALYSIS	
SDG:	110805-35		Location:		Site '	14A1 Order Number: 2142	
Job: Client Deference:	D_TOBIN_	DUB-72	Customer	r:	Tobir	n Report Number: 145441	
Client Reference:	5965		Attention		iviary	Lynch Superseded Report:	
LIQUID							
Results Legend		Lab Sample	No(s)	403	403		
				7805	7806		
X Test				01	0,		
	tion -						
No Determina Possible	uon						
		Custome	er				
		Sample Refe	rence	M M	SW2		
		-					
					-		
		AGS Refere	ence				
		Danith (m					
		Depth (m	1)				
				≐ _	≐_		
				glas	glas		
		Containe	er	s BC	s BC		
				ottle	ottle		
				θų	٥U		
Anions by Kone (w)		All	NDPs: 0				
			Tests: 2				
				X	X		
Conductivity (at 20 deg.C)		All	NDPs: 0				
			Tests: 2	v	v		
				^	^		
Dissolved Oxygen by Prob	be	All	NDPs: 0				
			16515. 2	X	X		
pH Value		All					
			Tests: 2				
				X	X		
Total Organic and Inorgan	ic	All	NDPs: 0				
Carbon			Tests: 2		V		
				×	×		

()

CERTIFICATE OF ANALYSIS

Validated

Results Legend # ISO17025 accredited.		Customer Sample R	GW1	GW2		
M mCERTS accredited. § Deviating sample.		Depth (m)				
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample.		Sample Type	Water(GW/SW)	Water(GW/SW)		
tot.unfilt Total / unfiltered sample. * Subcontracted test.		Date Sampled Date Received	04/08/2011 04/08/2011	04/08/2011 04/08/2011		
** % recovery of the surrogate standar check the efficiency of the method.	rd to The	SDG Ref	110805-35	110805-35		
results of individual compounds with samples aren't corrected for the reco	hin overy	Lab Sample No.(s) AGS Reference	4037805	4037806		
(F) Trigger breach confirmed		ite Beath and				
Oxygen, dissolved	<0.3 m	ng/I TM046	7.43	6.98	 	
			#	#		
Organic Carbon, Total	<3 m	g/I I M090	<3 & #	4.79 & #		
Conductivity @ 20 deg.C	<0.00	05 TM120	0.618	0.745	 	
Quinhata	mS/cr	m	#	#		
Sulphate	<2 m	g/i 11/1184	89.6	115 #		
Chloride	<2 m	g/l TM184	20	25		
nH	<1 nl	H TM256	# 8.13	#	 	
pri	Units	8	#	#		

ALcontrol	Laboratories					Validated
		CEF	RTIFICATE OF ANALYSIS			
SDG:	110805-35	Location:	Site 14A1	Order Number:	2142	
Job:	D_TOBIN_DUB-72	Customer:	Tobin	Report Number:	145441	
Client Reference:	5965	Attention:	Mary Lynch	Superseded Report:		

Notification of Deviating Samples

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

Note : Test results may be compromised

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

Table of Results - Appendix

REPOF	RT KEY						Results	expressed a	is (e.g.) 1.03E-07 is equivalent to	1.03x10-7
NDP	No Determination	on Possible	#	ISO 17025 Accredited		*	Subcontracted Test	м	MCERTS Accredited	
NFD	No Fibres Detec	ted	PFD	Possible Fibres Detected		»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)	
Note: Metho	od detection limits	are not always achievable of	due to vario	us circumstances beyond our c	ontrol					
М	ethod No		Refer	ence			Description		Wet/Dry S Sample ¹ C	urrogate orrected
	TM046 Method 4500G, AWWA/APHA, 20th Ed., 1999					nent of D	ssolved Oxygen by Oxygen Meter	r		
	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, AW BS 2690: Part 9:19	/WA/APH 070	IA, 20th Ed., 1999 /	Determination of Electrical Conductivity using a Conductivity Meter					
	TM184	EPA Methods 325.	1 & 325.2	2,	The Deter Kone Spe	rmination ectrophote				
	TM256	The measurement the Laboratory dete Natural, Treated ar 1978. ISBN 011 75	of Electri erminatio nd Waste 1428 4.	cal Conductivity and n of pH Value of waters. HMSO,	Determina Meter	ation of p	H in Water and Leachate using the	e GLpH pH	1	

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

ALcontrol	Laboratories				Validated
		CEF	RTIFICATE OF	ANALYSIS	
SDG:	110805-35	Location:	Site 14A1	Order Number: 2142	
Job:	D_TOBIN_DUB-72	Customer:	Tobin	Report Number: 145442	
Client Reference:	5965	Attention:	Mary Lynch	Superseded Report:	

Test Completion Dates

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

CERTIFICATE OF ANALYSIS

SDG:	110805-35	Location:	Site 14A1	
Job:	D_TOBIN_DUB-72	Customer:	Tobin	
Client Reference:	5965	Attention:	Mary Lynch	

Appendix

 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 NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

SOLID MATRICES EXTRACTION SUMMARY

Order Number:

Report Number: Superseded Report: 2142

145441

ANALYSIS	d.C Or Wet	EXTRACTION SOLVENT	EXTRACTION METHOD	analysis
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVIMETRIC
CYOLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLS BY GOMS	WET	DOM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANEACETONE	BNDOWEREND	GC-FID
eph (Min Ol)	D&C	HEXANEACETONE	ENDOWEREND	GC-FID
EPH (CLEANED UP)	D&C	HEXANEACETONE	BNDOWEREND	GC-FID
EPH CWGBY GC	D&C	HEXANEACETONE	BNDOWEREND	GC-FID
PCBTOT /PCB CON	D&C	HEXANEACETONE	BNDOWEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MOROWAVE TM218.	GC-MS
08-040 (06-040) EZ FLASH	WET	HEXANEACETONE	SHAKER	GC-FZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANEACETONE	SHAKER	CC-EZ
SEM VOLATILEORGANIC COMPOUNDS	WET	DOMACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSS
PAHMS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
BH	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
EPH CWG	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
MINERALOIL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
POB 700NGENERS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
POB TOTAL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
SVOC	DOM	LIQUID/LIQUID SHAKE	GCMS
FREESULPHUR	DOM	SOLD PHASE EXTRACTION	HPLC
PEST COP/OPP	DOM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DOM	LIQUID/LIQUID SHAKE	GCMS
PHENOLSMS	DOM	SOLID PHASE EXTRACTION	GCMS
TIH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT NJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

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

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

Visual Estimation Of Fibre Content

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

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

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

Asbestos Type	Common Name
Chrysofile	White Asbestos
Amoste	BrownAsbestos
Oroddalte	Blue Asbestos
Fibrous Adindite	-
Forous Anthophylite	-
Fibrous Trendile	-



Tobin Block 10 - 4 Blanchardstown Corporate Park Dublin

Attention: Orla McAlister

CERTIFICATE OF ANALYSIS

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

We received 2 samples on Tuesday October 04, 2011 and 2 of these samples were scheduled for analysis which was completed on Sunday October 16, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

Approved By:

Sonia McWhan Operations Manager



	Laboratories	CER		YSIS		Validated
SDG: Job: Client Reference:	111004-39 D_TOBIN_DUB-16 5965	Location: Customer: Attention:	Rilta Site 14A-1 Tobin Orla McAlister	Order Number: Report Number: Superseded Report:	2172 155004	
		Receiv	ved Sample Ov	erview		
Lab Sample No((s) Custom	er Sample Ref.	AG	S Ref. Depth (I	n)	Sampled Date
4425351		GW1				03/10/2011

03/10/2011

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

GW2

4425352

	aborator	ries	CF	ERT	[IFI	CATE OF ANALYSIS			Validated
SDG: Job: Client Reference:	111004-39 D_TOBIN_ 5965) _DUB-16	Location: Customer Attention	F: : (Rilta Tobin Orla I	Site 14A-1 McAlister	Order Number: Report Number: Superseded Report:	2172 155004	
LIQUID Results Legend		Lab Sample	No(s)	4425351	4425352				
N No Determina Possible	ation	Custome Sample Refe	er rence	GW1	GW2				
		AGS Refere	nce						
		Depth (n))						
		Containe	r	PLAS BOT (D) 1I glass bottle (D)	PLAS BOT (D) 1l glass bottle (D)				
Anions by Kone (w)		All	NDPs: 0 Tests: 2	×	×				
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 2	x	x				
Dissolved Oxygen by Pro	be	All	NDPs: 0 Tests: 2	×	x				
pH Value		All	NDPs: 0 Tests: 2	x	x				
Total Organic and Inorgan Carbon	nic	All	NDPs: 0 Tests: 2	×	×				

()

CERTIFICATE OF ANALYSIS

Validated

Results Legend # ISO17025 accredited. M mCERTS accredited. S Deviating sample. aq Aqueous / settled sample. diss.fit Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. Subcontracted test. * % recovery of the surrogate standar check the efficiency of the method. results of individual compounds wit samples arent corrected for the rec (F) Trigger breach confirmed	d to The hin overy	Customer Sample R Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	GW1 Water(GW/SW) 03/10/2011 04/10/2011 111004-39 4425351	GW2 Water(GW/SW 03/10/2011 04/10/2011 111004-39 4425352)		
Component Oxygen, dissolved	LOD/Un <0.3 m	ng/l TM046	5.13	4.57	4		
Organic Carbon, Total	<3 m	g/l TM090	4.52 8 #	3.77	# 8#		
Conductivity @ 20 deg.C	<0.00 mS/cr	05 TM120 m	0.541 #	0.68	#		
Sulphate	<2 m	g/I TM184	81.5 #	116	#		
Chloride	<2 m	g/I TM184	20 #	26.4	#		
рН	<1 pł Units	H TM256	7.46 #	7.27	#		



Notification of Deviating Samples

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

Note : Test results may be compromised

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

Table of Results - Appendix

REPORT KEY	•					Resul	ts expressed a	as (e.g.) 1.03E-07 is equivalent to 1.03x10-7				
NDP No Deter	NDP No Determination Possible # ISO 17025 Accredited				*	Subcontracted Test	м	MCERTS Accredited				
NFD No Fibres	es Detected PFD Possible Fibres Detected				»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)				
Note: Method detectio	limits are not always achievable	due to vario	us circumstances beyond our c	ontrol								
Method N)	Refe	rence			Description		Wet/Dry Surrogate Sample ¹ Corrected				
TM046	Method 4500G, AV	WWA/API	HA, 20th Ed., 1999	Measurer	nent of D	ssolved Oxygen by Oxygen Mete	er					
TM090	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, AV BS 2690: Part 9:19	VWA/APH 970	IA, 20th Ed., 1999 /	Determination of Electrical Conductivity using a Conductivity Meter								
TM184	EPA Methods 325	.1 & 325.3	2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers								
TM256	The measurement the Laboratory det Natural, Treated a 1978. ISBN 011 75	of Electri erminatio nd Waste 51428 4.	cal Conductivity and n of pH Value of waters. HMSO,	Determina Meter	ation of p	H in Water and Leachate using th	ne GLpH pH	1				

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

CERTIFICATE OF ANALYSIS

Validated

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

Test Completion Dates

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

CERTIFICATE OF ANALYSIS

SDG:	111004-39	Location:	Rilta Site 14A-1	С
Job:	D_TOBIN_DUB-16	Customer:	Tobin	R
Client Reference:	5965	Attention:	Orla McAlister	S

Appendix

 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 NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

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

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

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

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

6. When requested, the individual sub sample scheduled will be screened in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected". If no asbestos fibre type found, If asbestos. Is an asbestos fibre type is found it will be reported as detected (for each fibre type found). If asbestos is present either as asbestos containing material or loose fibres no further analysis will be undertaken. The quantity of asbestos present is not determined unless specifically requested.

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

Order Number: Report Number: Superseded Report:

SOLID MATRICES EXTRACTION SUMMARY

2172

155004

ANALYSIS	d.C Or Wet	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYOLOHEXANE EXT. MATTER	D&C	CYOLOHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLS BY GOMS	WET	DOM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANEACETONE	BNDOWEREND	GC-FD
EPH (MIN OL)	D&C	HEXANEACETONE	BNDOWEREND	GC-FD
EPH (CLEANED UP)	D&C	HEXANEACETONE	BNDOVEREND	GC-FID
EPH CWGBY GC	D&C	HEXANEACETONE	BNDOWEREND	GC-FD
PCBTOT /POB CON	D&C	HEXANEACETONE	BNDOWEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MICROWAVE TM218.	GC-MS
08-040 (06-040) EZ FLASH	WET	HEXANEACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANEACETONE	SHAKER	CC-EZ
SEM VOLATILEORGANIC COMPOUNDS	WET	DOMACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
BH	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
EPHCWG	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
MINERALOIL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
POB 7 CONGENERS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
POB TOTAL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
SVOC	DOM	LIQUID/LIQUID SHAKE	GCMS
FREESULPHUR	DOM	SOLID PHASE EXTRACTION	HPLC
PEST COP/OPP	DOM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DOM	LIQUID/LIQUID SHAKE	GCMS
PHENOLSMS	DOM	SOLID PHASE EXTRACTION	GCMS
TFH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERALOIL by R	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

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

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

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.

Asbestos Type

Chrvenile

Amosite

Onidaite

Fibrous Adindite

Fibrous Anthophylite

Fibras Trendie

Common Name

White Ashestos

Brown Asbestos

Blue Ashestros

-

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

APPENDIX C

Annual Noise Monitoring Report

Rilta Environmental Limited - Site 14-A1 Environmental Monitoring Programme



Annual Noise Survey Report June 2011

July 2011 Revision: Final

TOBIN CONSULTING ENGINEERS







REPORT

PROJECT:

Rilta Environmental Ltd, Site 14-A1

CLIENT:

Rilta Environmental Ltd.

Site No. 14A1, Greenogue Business Park, Rathcoole, County Dublin.

COMPANY:

TOBIN Consulting Engineers Block 10-4,

Blanchardstown Corporate Park, Dublin 15.

www.tobin.ie



DOCUMENT AMENDMENT RECORD

Client: Rilta Environmental Ltd

Project: Rilta Site 14-A1

Title: 2011 Annual Noise Survey

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





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2	AN	INUAL NOISE SURVEY	. 1
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	2.2	MEASUREMENT PROCEDURE	.1
	2.3	RESULTS OF NOISE SURVEY	.2
3	CO	NCLUSION	. 3

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APPENDICES

Appendix A – Noise Monitoring Locations map Appendix B – 1/3 Octave band Frequency Analysis Results





1 INTRODUCTION

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

2 ANNUAL NOISE SURVEY

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

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

2.1 INSTRUMENTATION

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

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

2.2 MEASUREMENT PROCEDURE

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

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

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





2.3 RESULTS OF NOISE SURVEY

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

Table 2-1	Noise Monitoring Locatior
Table 2-1	Noise Monitoring Locatio

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

Location N1

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

Location N2

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

Location N3

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

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

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





3 CONCLUSION

The noise emission limits as per Schedule C of Waste Licence 0185 - 01 are 55 dB(A) for daytime and 45 dB(A) for night time. These levels specifically relate to noise emissions arising from the facility, measured at any noise sensitive location.

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

Noise levels recorded at the 3 no. EPA agreed noise monitoring locations contain noise emissions from adjacent industrial sites, low flying aircraft and traffic on the internal road network of the industrial estate. Noise emissions from the RILTA facility were inaudible during both the daytime and night time monitoring. Note that the EPA agreed noise monitoring locations are all on site and do not reflect emissions at noise sensitive locations.

The A-weighted equivalent continuous sound pressure level (LAeq, 30 min) recorded at the RILTA facility was less than 55 dB(A) at noise monitoring location at none of the noise monitoring locations, during the daytime monitoring event. Noise levels at N1, N2 and N3 exceeded the 55 dB(A) limit due to noise from external sources such as low flying aircraft from nearby Baldonnell Airport, passing traffic on the internal roads of the industrial estate, distant traffic on the N7 and activities in adjacent sites.

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

There were no impulsive noise emissions audible at any of the monitoring locations during the daytime or night time monitoring period. With regard to tonal emissions, no pure tones were detected during either the day or night time monitoring at the facility.

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




APPENDIX A

Monitoring Location Map







APPENDIX B

1/3 Octave Band Frequency Analysis







Figure 3-1 N1 Daytime Frequency Analysis



Figure 3-2 N1 Night Time Frequency Analysis











Figure 3-4 N2 Night Time Frequency Analysis







Figure 3-5 N3 Daytime Frequency Analysis



Figure 3-6 N3 Night Time Frequency Analysis



APPENDIX D

Dust Monitoring Results



Tobin Consulting Engineers

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: 31 March 2011 D_TOBIN_GWY 110316-75 5965 Rilta Site 14-A1 123279

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

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

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

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

Approved By:

Sonia McWhan Operations Manager



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

D4

3088240

ALcontrol Laboratories CERTIFICATE OF ANALYSIS												
SDG: Job: Client Reference:	110316-75 D_TOBIN_GW 5965	Y-44	Location: Custome Attention	r: :	Rilta Tobii Davi	Site 14-A1 n Consulting Engineers d Corrigan	Order Number: Report Number: Superseded Report:	2039 123279				
LIQUID Results Legend		Lab Sample N	lo(s)	3088237 3088236	3088240 3088239							
No Determination Possible Customer Sample Referen			r ence	U2 D1	D4							
	AGS Refere		nce									
)									
	Container		11 glass bottle (D) 11 glass bottle (D)	11 glass bottle (D) 11 glass bottle (D)								
Dust in Water	All		NDPs: 0 Tests: 4	<mark>x</mark> x	x x							

ALcontrol Laboratories

CERTIFICATE OF ANALYSIS

Validated

Results Legend		Cust	tomer Sample R	D1	D2	D3	D4	
# ISO17025 accredited. M mCERTS accredited. § Non-conforming work. aq Aqueous / settled sample. isis.fit Disolved / filtered sample. tot.unfitt Total / unfiltered sample. * subcontracted test. -* % recovery of the surrogate standar check the efficiency of the method. - results of the individual compounds	rd to The	Lat	Depth (m) Sample Type Date Sampled Date Received SDG Ref b Sample No.(s)	Water(GW/SW) 16/03/2011 110316-75 3088236	Water(GW/SW) 16/03/2011 110316-75 3088237	Water(GW/SW) 16/03/2011 110316-75 3088239	Water(GW/SW) 16/03/2011 110316-75 3088240	
within the samples are not corrected this recovery.	d for		AGS Reference					
Component	LOD/U	nits	Method					
Dust, Total	<0.0	26 2/da	TM253	60	211	39.3	81.4	
Dust, Organic	1119/1112	./ua	TM253	23.6	135	24.3	25	
Dust, Inorganic	mg/m2	2/da	TM253	36.4	76.4	15	56.4	
	mg/m2	2/da						

_													
	ALcontrol L	aboratories									Va	alidated	
				CER	TIFICATE		IALYSIS						
SDG: 110316-75 Location				Location:	Location: Rilta Site 14-A1				Order Number: 2039				
Job:		D_TOBIN_GWY-44 Customer:				Tobin Consulting Engineers Report I			er:	123279			
Client	Reference:	5965		Attention:	David Corrigan			Superseded	Report:				
	Table of Poculte Annondix												
	i able of Results - Appendix												
REPOR	RT KEY							Results	expressed a	as (e.g.) 1.03E-0	7 is equivale	nt to 1.03x10-7	
NDP	No Determination	Possible	#	ISO 17025 Accredited		* Subcontracted Test M				MCE	ERTS Accred	lited	
NFD	No Fibres Detecte	ed	PFD	Possible Fibres Detected		»	Result previously repor (Incremental reports on	ted ly)	EC	Equ (Ar	ivalent Carbo omatics C8-(on C35)	
Note: Meth	od detection limits	are not always achievable o	due to vario	ous circumstances beyond	our control								
Μ	lethod No		Refe	rence			Descript	on		١	Wet/Dry Sample ¹	Surrogate Corrected	
TM253 Dust is collected either using a "Frisbee" collector this is the "Stockholm" method or using a "jam jar" collector, this is the "Berghoff" method						rmination	of Dust						

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

SDG:	DG: 110316-75		Location:	Rilta Site 1	4-A1		Order Number:	2039		
Job:	D_TOBIN_GWY-44		Customer: Tobin Consulting Eng			ers	Report Number:	123279		
Client Reference:	5965		Attention:	David Corr	igan		Superseded Report:			
L	ab Sample No(s)	3088236	3088237	3088239	3088240					
			163			Dates				
Custo	mer Sample Ref.	D1	D2	D3	D4					
	AGS Ref.									
	Depth									
	Туре	LIQUID	LIQUID	LIQUID	LIQUID					
ust in Water	ĺ	31 Mar 2011	31 Mar 2011	31 Mar 2011	31 Mar 2011					

CERTIFICATE OF ANALYSIS

SDG:	110316-75	Location:	Rilta Site 14-A1	Ord
Job:	D_TOBIN_GWY-44	Customer:	Tobin Consulting Engineers	Rep
Client Reference:	5965	Attention:	David Corrigan	Sup

Appendix

 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 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 Dimethylphenol, 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.

Order Number: Report Number: Superseded Report: 2039 123279

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DOM	SOXTHERM	IATROSCAN
ELEMENTALSULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLSBYGOMS	WET	DOM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANEACETONE	END OVEREND	GCFD
EPH (MINOL)	D&C	HEXANEACETONE	END OVEREND	GC-FID
EPH (OLEANED UP)	D&C	HEXANEACETONE	END OVEREND	GC-FID
EPH CWG BYGC	D&C	HEXANEACETONE	END OVEREND	GC-FID
POB TOT / POB CON	D&C	HEXANEACETONE	END OVEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MCROWAVE TM218.	GCMS
08-040(06-040) EZ FLASH	WET	HEXANEACETONE	SHAVER	GCEZ
POL VAROMATIC HYDROCARBONS RARD GC	WET	HEXANEACETONE	SHAVER	GCEZ
SEM VOLATILEORGANIC COMPOUNDS	WET	DOMACETONE	SONCATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSS
PAHMS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
BPH .	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
EPHCWG	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
MINERALOIL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
PCB 7 CONGENERS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
SVOC	DOM	LIQUID/LIQUID SHAKE	GCMS
FREESULPHUR	DOM	SOLD PHASE EXTRACTION	HPLC
PEST OCP/OPP	DOM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DOM	LIQUID/LIQUID SHAKE	GCMS
PHENOLSMS	DOM	SOLID PHASE EXTRACTION	GCMS
TIH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by R	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT NJECTION	GCMS

Identification of Asbestos in Bulk Materials

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

Asbestos Type	Common Name
Chrysofile	WhiteAsbestos
Amoste	BrownAsbestos
Crodidalte	Blue Asbestos
Fibrous Adindite	-
Fibrous Anthophylite	-
Fibrous Trendile	-

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.



Tobin Block 10 - 4 Blanchardstown Corporate Park Dublin

Attention: David Corrigan

CERTIFICATE OF ANALYSIS

Date: Customer: Sample Delivery Group (SDG): Your Reference: Location: Report No: 29 June 2011 D_TOBIN_DUB 110616-119 5965 Rilta - Site 14-A1 136567

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

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

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

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

Approved By:

Sonia McWhan Operations Manager

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

Received Sample Overview

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

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

ALcontrol L	_aboratorie	es							Validated
			CE	R	IFI	CATE OF ANALYSIS			
SDG: Job: Client Reference:	110616-119 D_TOBIN_DUE 5965	3-68	Location: Customer: Attention:	: -	Rilta - Fobin David	Site 14-A1 Corrigan	Order Number: Report Number: Superseded Report:	2113 136567 135995	
LIQUID Results Legend		Lab Sample No	o(s)	368582	368583 368583				
X Test	ation			õ õ	<u> </u>				
Possible		Customer Sample Refere	nce ⁵	D2	D4				
			ce						
		Container		2l glass bottle	2l glass bottle 2l glass bottle				
Dust in Water	A	NI	NDPs: 0 Tests: 4	<mark>x</mark> x	x x				

ALcontrol Laboratories

CERTIFICATE OF ANALYSIS

Validated

_								
# M § aq diss.filt tot.unfilt	Results Legend ISO17025 accredited. mCERTS accredited. Non-conforming work. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample.		Customer Sample Ref Depth (m Sample Typ Date Sample Dete Sample	D1	D2 Water(GW/SW) 16/06/2011	D3 Water(GW/SW) 16/06/2011	D4 Water(GW/SW) 16/06/2011	
**	% recovery of the surrogate standard	d to	SDG Re	f 110616-119	110616-119	110616-119	110616-119	
	check the efficiency of the method. I results of individual compounds with	he	Lab Sample No.(s	3685828	3685829	3685831	3685832	
(F)	samples aren't corrected for the reco Trigger breach confirmed	overy	AGS Reference					
Compo	nent	LOD/Un	its Method					
Dust, To	otal	< 0.02	6 TM253	107	237	152	86.9	
Dust, O	rganic	mg/m2/0	day TM253	38.7	103	71.4	42.3	
Dust, In	organic	mg/m2/o	day TM253	67.9	134	81	44.6	
			_					
			_					
			_					
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			_					

										<u> </u>			
	ALCONTROL L	aboratories.								Va	lidated		
				CER	TIFICATE								
SDG:		110616-119		Location:	Rilta - Site 14-A1		Order Numbe	er:	2113				
Job:		D_TOBIN_DUB-68		Customer:	Tobin		Report Numb	er:	136567				
Client	Reference:	5965		Attention:	David Corrigan		Superseded	Report:	135995				
				-		4	A 11						
	Table of Results - Appendix												
REPOF	RT KEY						••	Results e	xpressed as (e.g.) 1.	.03E-07 is equiva	alent to 1.03x10-7		
NDP	No Determination	Possible	#	ISO 17025 Accredited		*	Subcontracted Test	м	MCE	RTS Accredit	ted		
NFD	No Fibres Detecte	ad	PFD	Possible Fibres Detected	I	»	Result previously reported (Incremental reports only)	EC	Equi (Arc	valent Carbo matics C8-C	n 35)		
Note: Method	detection limits are not a	always achievable due to various	circumstance	s beyond our control									
м	lethod No		Refe	rence			Description		v S	Vet/Dry ample ¹	Surrogate Corrected		
	TM253	Dust is collected either "Stockholm" method or "Berghoff" method.	using a "Fr using a "ja	isbee" collector this is the m jar" collector, this is the	The Determ	ination of D	ust						

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

	aboratories.		CE						Validated
SDG: Job: Client Reference:	110616-119 D_TOBIN_DUB-68 5965		Location: Customer: Attention:	Rilta - Site 14 Tobin David Corriga	I E OF A N I-A1 an	AL 1 313	Order Number: Report Number: Superseded Report:	2113 136567 135995	
Test Completion Dates									
La	ab Sample No(s)	3685828	3685829	3685831	3685832				
Custo	mer Sample Ref.	D1	D2	D3	D4				
	AGS Ref.								
	Depth								
	Туре	LIQUID	LIQUID	LIQUID	LIQUID				
Dust in Water		27-Jun-2011	27-Jun-2011	27-Jun-2011	27-Jun-2011				

ALcontrol	Laboratories					Validated
		CEF	RTIFICATE OF ANALYS	SIS		
SDG:	110616-119	Location:	Rilta - Site 14-A1	Order Number:	2113	
Job:	D_TOBIN_DUB-68	Customer:	Tobin	Report Number:	136567	
Client Reference:	5965	Attention:	David Corrigan	Superseded Report:	135995	

ALcontrol Laboratories

CERTIFICATE OF ANALYSIS

SDG:	110616-119	Location:	Rilta - Site 14-A
Job:	D_TOBIN_DUB-68	Customer:	Tobin
Client Reference:	5965	Attention:	David Corrigan

Appendix

 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 NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

 Order Number:
 2113

 Report Number:
 136567

 Superseded Report:
 135995

SOLID MATRICES EXTRACTION SUMMARY

ANA LYSIS	D/C OR WET	EXTRAC TION SO LVENT	EXTRACTION METH OD	ANALYSIS	
SOL VENTEXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVMETRIC	
CYCLO HEXANE EXT. MATTER	D&C	CYCLO HEXANE	SOXTHERM	GRAVMETRIC	
THN LAYER CHR OMATOG RAPHY	D&C	DCM	SOXTHERM	ATROSCAN	
ELEMENTALSULPHUR	D&C	DCM	SO XTHERM	HPLC	
PHENOLSBYGOMS	WET	DCM	SOXTHERM	GC-MS	
HERBICIDES	HERBICIDES D&C		SOXTHERM	GC-MS	
PESTICDES	D&C	HEXANEACETONE	SO XTHERM	GC-MS	
EPH (DRO)	D&C	HEXANEACETONE	END OVER END	GC-FD	
EPH (MINOL)	D&C	HEXANEACETONE	END OVER END	GC-FD	
EPH (CLEANED UP)	D&C	HEXANEACETONE	END OVER END	GC-FD	
EPH CWG BY G C	D&C	HEXANEACETONE	END OVER END	GC-FD	
PCB TOT/ PCB CON	D&C	HEXANEACETONE	END OVER END	GC-MS	
POL YARO MATIC HYDRO CARBONS (MS)	WET	HEXANEACETONE	MICRO WAVE TM218.	GC-MS	
C8-C40(C6-C40)EZ FLASH	WET	HEXANEACETONE	SHAKER	GC-EZ	
POL YARO MATIC HYDRO CARBONS RAPID G C	POL YARO MATC HYDRO CARBONS RAPID G C WET HEXANE		SHAKER	GC-EZ	
SEM VO LATILE O RGANIC Compo unds	WET	DCMACETO NE	SONICATE	GC-MS	

LIQUID MATRICES EXTRACTION SUMMARY

ANA LYSIS	EXTRAC TION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	HEXANE	STIRREDEXTRACTION(STIR -BAR)	GCMS
EPH	HEXANE	STIRREDEXTRACTION(STIR -BAR)	GC FD
EPH CWG	HEXANE	STIRREDEXTRACTION(STIR -BAR)	GC FD
MN ER AL OIL	HEXANE	STIRREDEXTRACTION(STIR -BAR)	GC FD
PCB 7 CONGENERS	HEXANE	STIRREDEXTRACTION(STIR -BAR)	GCMS
PCB TOTAL	HEXANE	STIRREDEXTRACTION(STIR -BAR)	GCMS
SVOC	DCM	LIQUID/LIQ UD SHAKE	GCMS
FREESULPHUR	DCM	SOL D PHASE EXTRACTION	HPLC
PESTOCP/OPP	DCM	LIQUID/LIQ UD SHAKE	GCMS
TRIAZNE HERBS	DCM	LIQUID/LIQ UD SHAKE	GCMS
PHENOLSMS	DCM	SOL D PHASE EXTRACTION	GCMS
TPH by INFRARED (R)	TCE	LIQUID/LIQ UD SHAKE	HPLC
MN ER AL OIL by R	TCE	LIQUID/LIQ UD SHAKE	HPLC
GLYCOLS	NONE	DIRECTNJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

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

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

Visual Estimation Of Fibre Content

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

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

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

Asbe stos Type	Common Name
Chrysofile	White Asbestos
Amosite	Brow n Asbestos
Cro d dolite	Blue Asbe stos
Fibrous Act nolite	-
Fib 10 us Anthop hyll ite	-
Fibrous Trerrol ite	-



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

Tobin Block 10 - 4 Blanchardstown Corporate Park Dublin

Attention: Mary Lynch

CERTIFICATE OF ANALYSIS

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

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

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

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

Approved By:

Sonia McWhan Operations Manager



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

	ALcontrol	Laborato	ries							Validated
				C	ER	TIF	ICATE OF ANALYSIS			
SD	G:	110902-12	23	Location	:	Site	14A1	Order Number:	2156	
Job):	D_TOBIN	_DUB-72	Custome	r:	Tobi	lin 	Report Number:	149762	
Clie	ent Reference:	5965	1	Attention	:	Mary	y Lynch	Superseded Report:		
LIQ	UID									
Resu	ults Legend		Lab Sample	No(s)	4218	4218	421			
_				(.)	8192	8196 8196	R 190			
)	C Test				N +	1010				
	No Determin	ation								
	Possible		Custom	~~						
			Custom	er						
			Sample Refe	erence	<u>→</u>	4 20 6	4			
			AGS Refer	ence						
					\vdash		-			
			Depth (I	n)						
					11 g					
			O surfacia		ass	ass ass				
			Contain	er	bott					
							3			
Dust			All	NDPs: 0						
				Tests: 4	x	(X X	×			

ALcontrol Laboratories

CERTIFICATE OF ANALYSIS

				UERI	IFICATE OF A	INAL 1 313			
SDG: Job: Client Reference:	11090 D_TO 5965	2-123 BIN_DUI	B-72	Location: S Customer: T Attention: M	ite 14A1 obin Iary Lynch		Order Number: Report Number: Superseded Repo	2156 149762	
	0000			Auchuon. N			euporoouou nopo		
_									
Results Leger # ISO17025 accredited.	nd		Customer Sample R	D1	D2	D3	D4		
M mCERTS accredited.									
aq Aqueous / settled samp	le.		Depth (m) Sample Type	Water(GW/SW)	Water(CW/SW)	Water(GW/SW)	Water(CW/SW/)		
tot.unfilt Total / unfiltered sample	pie. e.		Date Sampled	-	-	-	-		
* Subcontracted test. ** % recovery of the surro	gate standar	rd to	Date Received	02/09/2011	02/09/2011	02/09/2011	02/09/2011		
check the efficiency of t	the method.	The	Lab Sample No.(s)	4218192	4218194	4218195	4218196		
samples aren't correcte	d for the rec	overy	AGS Reference						
(F) Trigger breach confirme	ed								
Component		LOD/Ur	nits Method	E2.4	107	60.9	14.4		
Dust, Total		<0.02	20 1 M 255	55.4	137	09.0	14.4		
		mg/mz	/ua						
					+				

4		abaratorias									Va	lidatad
(1), '		abulatories		CEE							Va	llualeu
					THE							
SDG:		110902-123		Location:	Site 14A1			Order Numbe	r:	2156		
Job:		D_TOBIN_DUB-72		Customer:	Tobin			Report Numb	er:	149762		
Client	Reference:	5965		Attention:	Mary Lynch			Superseded F	Report:			
I able of Results - Appendix												
REPOF	RT KEY							Results	expressed as	s (e.g.) 1.03E-07	' is equivalen	t to 1.03x10-7
NDP	No Determination	Possible	#	ISO 17025 Accredited		*	Subcontracted Test		м	MCE	RTS Accredit	ted
NFD	No Fibres Detecte	ed	PFD	Possible Fibres Detected	I	»	Result previously repor (Incremental reports on	ted ly)	EC	Equi (Arc	valent Carbo matics C8-C3	n 35)
Note: Methe	od detection limits a	are not always achievable d	ue to vario	us circumstances beyond	our control							
М	lethod No		Refe	rence			Descript	ion		v S	Vet/Dry ample 1	Surrogate Corrected
	TM253	Dust is collected eit	her usin	g a "Frisbee"	The Dete	rmination	of Dust					
		collector this is the '	'Stockho	olm" method or using								
		a "jam jar" collector,	, this is t	he "Berghoff"								
				-								

method.

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C.

NA = not applicable.

ALcontrol Laboratories								Validated		
CERTIFICATE OF ANALYSIS										
SDG: Job: Client Reference:	110902-123 D_TOBIN_DUB-72 5965		Location: Customer: Attention:	Site 14A1 Tobin Mary Lyncl	h		Order Number: Report Number: Superseded Report:	2156 149762		
Test Completion Dates										
L	ab Sample No(s)	4218192	4218194	4218195	4218196					
Custo	mer Sample Ref.	D1	D2	D3	D4					
	AGS Ref.									
	Depth									
	Туре	LIQUID	LIQUID	LIQUID	LIQUID					
Dust		13-Sep-2011	13-Sep-2011	13-Sep-2011	13-Sep-2011					

CERTIFICATE OF ANALYSIS

SDG:	110902-123	Location:	Site 14A1	
Job:	D_TOBIN_DUB-72	Customer:	Tobin	
Client Reference:	5965	Attention:	Mary Lynch	

Appendix

 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 NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

Order Number: Report Number: Superseded Report:

SOLID MATRICES EXTRACTION SUMMARY

2156

149762

ANALYSIS	dic Or Wet	EXTRACTION SOLVENT	EXTRACTION METHOD	analysis
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOXTHERM	GRAVIMETRIC
CYOLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVMETRIC
ELEMENTALSULPHUR	D&C	DOM	SOXTHERM	HPLC
PHENOLS BY GOMS	WET	DOM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANEACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANEACETONE	BNDOWEREND	GC-FID
EPH (MIN OL)	D&C	HEXANEACETONE	BNDOWEREND	GC-FID
EPH (CLEANED UP)	D&C	HEXANEACETONE	BNDOWEREND	GC-FID
EPH CWGBY GC	D&C	HEXANEACETONE	BNDOWEREND	GC-FID
PCBTOT /POB CON	D&C	HEXANEACETONE	BNDOWEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANEACETONE	MOROWAVE TM218.	GC-MS
03-040 (03-040) EZ FLASH	WET	HEXANEACETONE	SHAKER	GC-FZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANEACETONE	SHAKER	GC-EZ
SEM VOLATILEORGANIC COMPOUNDS	WET	DOMACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
BH	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
EPH CWG	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
MINERALOIL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCFID
POB 700NGENERS	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
POB TOTAL	HEXANE	STIRREDEXTRACTION(STIR-BAR)	GCMS
SVOC	DOM	LIQUID/LIQUID SHAKE	GCMS
FREESULPHUR	DOM	SOLD PHASE EXTRACTION	HPLC
PEST OCP/OPP	DOM	LIQUID/LIQUID SHAKE	GCMS
TRAZINE HERBS	DOM	LIQUID/LIQUID SHAKE	GCMS
PHENOLSMS	DOM	SOLID PHASE EXTRACTION	GCMS
TFH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HFLC
MINERAL OIL by R	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT NJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

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

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratorices (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 HSG 264.

Asbestos Type

Chrvenile

Amosite

Onidaite

Fibrous Adindite

Fibrous Anthophylite

Fibrous Trendie

Common Name

White Ashestos

Brown Asbestos

Blue Ashestos

-

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

APPENDIX E

Environmental Management Plan

RILTA ENVIRONMENTAL Ltd.

ENVIRONMENTAL MANAGEMENT SYSTEM

ENVIRONMENTAL MANAGEMENT PLAN

ER-003

In accordance with **ISO 14001**

RILTA ENVIRONMENTAL ENVIRONMENTAL MANAGEMENT SYSTEM Environmental Management Programme

<u>ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE</u> <u>ACHIEVEMENT OF OBJECTIVES AND TARGETS</u>

EMP Ref.	Objective	Environmental Management Programme for the implementation of objectives.	Completion Date	Complet ed (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	

Issue No.	007	Compiled by:	Colm Hussey
		Name/Position	Facility & Environmental
			Manager
Date:	March 2011	Reviewed by:	Eftim Ivanoff
		Name/Position	Operations Director

RILTA ENVIRONMENTAL	Issue No. 007
ENVIRONMENTAL MANAGEMENT SYSTEM	Date: March 2011
Environmental Management Plan	Page 2 of 8

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.	Ongoing	
		Investigate the possibility of building a wall at the north end of the site to control litter and other contaminants from reaching the river.	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	

Issue No.	007	Compiled by: Name/Position	Colm Hussey Facility & Environmental Manager
Date:	March 2011	Reviewed by: Name/Position	Eftim Ivanoff Operations Director

RILTA ENVIRONMENTAL	Issue No. 007
ENVIRONMENTAL MANAGEMENT SYSTEM	Date: March 2011
Environmental Management Plan	Page 3 of 8

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	Ongoing	
		Reduce volume of Xylene by 5%	Dec 2011	
7	Optimize the quality of effluent discharged to	Offer the customer free sample analysis for waste in order to get as much waste pre-tested as possible.	Ongoing	
	sewer	Investigate tertiary treatment of effluent.	Oct 2011	

Issue No.	007	Compiled by: Name/Position	Colm Hussey Facility & Environmental Manager
Date:	March 2011	Reviewed by: Name/Position	Eftim Ivanoff Operations Director

RILTA ENVIRONMENTAL	Issue No. 007
ENVIRONMENTAL MANAGEMENT SYSTEM	Date: March 2011
Environmental Management Plan	Page 4 of 8

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	
	in gire out	Monitor adjoining river on a yearly basis.	Ongoing	Y
		Maintain a 'complaints register' and review annually.	Ongoing	
		Liaise with industrial neighbours on a quarterly basis	Ongoing	
		Implement 'closed door' policy system	Ongoing	
9	Fire Safety	Complete building fire safety review and implement findings.	September 2011	
10	To Be Energy Efficient	Complete energy audit	Dec 2011	
		Set up security system to prevent unlawful usage of Diesel	July 2011	Yes
		Set up system to assess diesel usage efficiency	Dec 2011	

Issue No.	007	Compiled by: Name/Position	Colm Hussey Facility & Environmental Manager
Date:	March 2011	Reviewed by: Name/Position	Eftim Ivanoff Operations Director

RILTA ENVIRONMENTAL Ltd.

ENVIRONMENTAL MANAGEMENT SYSTEM



ENVIRONMENTAL MANAGEMENT PLAN

ER-003

In accordance with **ISO 14001**
ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE ACHIEVEMENT OF OBJECTIVES AND TARGETS

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

Issue No.	008	Compiled by: Name/Position	Colm Hussey Facility & Environmental Manager
Date:	Jan 2012	Reviewed by:	Eftim Ivanoff
		Name/Position	Operations Director

RILTA ENVIRONMENTAL	Issue No. 008
ENVIRONMENTAL MANAGEMENT SYSTEM	Date: Jan 2012
Environmental Management Plan	Page 2 of 8

EMP	Objective	Target	Environmental Management Programme for	Responsible	Completion	Completed
Ref.	Improve site	Implement weekly	the implementation of objectives.	Person	Date Feb 12	(Y/N)
5	housekeeping.	'Friday tidy up'	responsibility between sections.	CII	100 12	
			Assign a responsible person for each group and post the rota.	СН	Feb 12	
			Assess effectiveness and meet with responsible persons	СН	Apr 12	
4	Reduce trade	Install a treated effluent re-use tank	Further investigate treated effluent polishing	EI/CH	June 12	
	to foul sewer		System			
			Implement system if approved.	EI/DG	Sept 12	
			Assess polished effluent for general site use	EI/CH	Oct 12	
			Install Tank if approved by EPA	EI/CH	Feb 13	
			Expand use through the whole site	EI	June 13	

Issue No.	008	Compiled by:	Colm Hussey
		Name/Position	Facility & Environmental Manager
Date:	Jan 2012	Reviewed by:	Eftim Ivanoff
		Name/Position	Operations Director

RILTA ENVIRONMENTAL	Issue No. 008
ENVIRONMENTAL MANAGEMENT SYSTEM	Date: Jan 2012
Environmental Management Plan	Page 3 of 8

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

Issue No.	008	Compiled by:	Colm Hussey
		Name/Position	Facility & Environmental Manager
Date:	Jan 2012	Reviewed by:	Eftim Ivanoff
		Name/Position	Operations Director

RILTA ENVIRONMENTAL	Issue No. 008
ENVIRONMENTAL MANAGEMENT SYSTEM	Date: Jan 2012
Environmental Management Plan	Page 4 of 8

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

Issue No.	008	Compiled by:	Colm Hussey
		Name/Position	Facility & Environmental Manager
Date:	Jan 2012	Reviewed by:	Eftim Ivanoff
		Name/Position	Operations Director

RILTA ENVIRONMENTAL	Issue No. 008
ENVIRONMENTAL MANAGEMENT SYSTEM	Date: Jan 2012
Environmental Management Plan	Page 5 of 8

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

Issue No.	008	Compiled by:	Colm Hussey
		Name/Position	Facility & Environmental Manager
Date:	Jan 2012	Reviewed by:	Eftim Ivanoff
		Name/Position	Operations Director

APPENDIX F

Pollutant Release and Transfer Register (PRTR)



Version 1.1.13

| PRTR# : W0185 | Facility Name : Rilta Environmental Limited | Filename : W0185_2011.xls | Return Year : 2011 |

Guidance to completing the PRTR workbook

AER Returns Workbook

REFERENCE YEAR 2011

1. FACILITY IDENTIFICATION

Parent Company Name	Rilta Environmental Limited
Facility Name	Rilta Environmental Limited
PRTR Identification Number	W0185
Licence Number	W0185-01

Waste or IPPC Classes of Activity

No.	class_name
	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
4.13	produced.
	Blending or mixture prior to submission to any activity referred to in
3.11	a preceding paragraph of this Schedule.
	Repackaging prior to submission to any activity referred to in a
3.12	preceding paragraph of this Schedule.
	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
3.13	concerned is produced.
3.7	*****
	Use of waste obtained from any activity referred to in a preceding
4.11	paragraph of this Schedule.
	Exchange of waste for submission to any activity referred to in a
4.12	preceding paragraph of this Schedule.
	Recycling or reclamation of organic substances which are not used
	as solvents (including composting and other biological
4.2	transformation processes).
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
Address 1	Site No 14A1
Address 2	Greenogue Business Park
Address 3	Rathcoole
Address 4	County Dublin
	Dublia
Country	Jupini
Coordinates of Location	-6 47708 53 2000
Biver Basin District	-0.47700 33.2333 ΙΕΕΔ
NACE Code	3832
Main Economic Activity	Becovery of sorted materials
AER Beturns Contact Name	Colm Hussey
AER Returns Contact Email Address	colm.hussev@rilta.ie
AER Returns Contact Position	Facility Manager
AER Returns Contact Telephone Number	014018000

AER Returns Contact Mobile Phone Number	0879176264
AER Returns Contact Fax Number	014018080
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	0
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(a)	Installations for the recovery or disposal of hazardous waste
5(c)	Installations for the disposal of non-hazardous waste
50.1	General
3. SOLVENTS REGULATIONS (S.I. No. 543 of 20	02)
Is it applicable?	
Have you been granted an exemption ?	
If applicable which activity class applies (as per	
Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being	
used ?	

AER Returns Workbook

4.1 RELEASES TO AIR Link to previous years emissions data

| PRTR# : W0185 | Facility Name : Rilta Environmental Limited | Filename : W0185_2011.xls | Return Year : 2011 |

28/03/2012 11:34

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

	RELEASES TO AIR		Please enter all quantities	in this section in KO	Gs				
POLLUTANT				METHOD	QUANTITY				
			Method Used						
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
					0.0	1	0.0	0 00	

Additional Data Requested from Landfill operators												
For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:												
Landfill:	Rilta Environmental Limited				_							
Please enter summary data on the												
quantities of methane flared and / or												
utilised			Meth	nod Used								
				Designation or	Facility Total Capacity m3							
	T (Total) kg/Year	M/C/E	Method Code	Description	per hour							
Total estimated methane generation (as per												
site model)	0.0				N/A							
Methane flared	0.0				0.0	(Total Flaring Capacity)						
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)						
Net methane emission (as reported in Section												
A above)	0.0				N/A							

4.2 RELEASES TO WATERS Link to previous years emissions data | PRTR# : W0185 | Facility Name : Rilta Environmental Limited | Filename : W0185_2011.xls | Return Year : 2011 | 28/03/2012 11:31 SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS should NOT be submitted under AER / PRTR Reporting as this Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requir RELEASES TO WATERS 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

		Please enter all quantities in this section in KGs						
PO						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 KC	is			
PO				QUANTITY				
				Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.	0.0	0.0

4.3 RELEASES TO WASTEWATER OR SEWER

| PRTR# : W0185 | Facility Name : Rilta Environmental Limited | Filename : W0185_2011.xls | Return Y€ 28/03/2012 11:35

SECTION A : PRTR POLLUTANTS

OFFSITE TRA	ISFER OF POLLUTANTS DESTINED FOR WASTE-W	ATER TRE	ATMENT OR SEWER		Please enter all quantities in this section in KGs				
PO		METHO	D	QUANTITY					
			Met	hod 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	0.00	0.0	

Link to previous years emissions data

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

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

OFFSITE TRAM	SFER OF POLLUTANTS DESTINED FOR WASTE-WA	ATER TRE/	ATMENT OR SEWER		Please enter all quantities in this section in KGs				
PO		METHO	D	QUANTITY					
			Met	hod Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
					0.0	0.	0.0	0.0	

4.4 RELEASES TO LAND

Link to previous years emissions data | PRTR# : W0185 | Faci

28/03/2012 11:36

SECTION A : PRTR POLLUTANTS

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

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

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

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

AER Returns Workbook

28/3/2012 11:36

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE PRTR#: W0185 Facility Name : Rita Environmental Limited Flename : W0185_2011.xls Return Year : 2011										28/03/2012 11:36		
			Please enter	all quantities on this sheet in Tonnes								. 3
Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	M/C/E	Method Used Method Used	Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destinatio Facility <u>Non Haz Waste</u> Name and Licence/Permit No of Recover/Disposer	n <u>Haz Waste</u> : Address of Next : Destination Facility <u>Non Haz Waste</u> : Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Dispose (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination Le. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
											Rilta Environmental	
											Ltd,W192-3,402 Greenogue	
										402 Greenogue Business	Business Park,	402 Greenogue Business
				mineral-based non-chlorinated insulating					Rilta Environmental	Park,.,Rathcoole,Co.	,Rathcoole,Co.	Park, ,Rathcoole,Co.
Within the Country	13 03 07	Yes	256.22	2 and heat transmission oils	R9	М	Weighed	Offsite in Ireland	Ltd,w0192-3	Dublin, Ireland	Dublin,Ireland	Dublin,Ireland
	10 10 00	N1.	1010.0	A familia an atal			147-1-1-1-1	Official to be local	Hegarty Metals, Permit No.	Dock Road,.,		
within the Country	19 12 02	NO	1242.8	a terrous metal	R4	IVI	weigned	Offsite in Ireland	WP 05/04	Limerick,.,ireland		
Within the Country	10 10 00	No	E4 67	non-forrous motal	D4	м	Weighed	Offeite in Ireland	Hegarty Metals, Permit No.	Limorick Iroland		
within the Country	19 12 03	INO	54.67	discarded equipment containing	R4	IVI	weighed	Offsite in Ireland	WF 05/04	Dungannon Co	Tech Rec NI Dungannon	Dungannon Co
Within the Country	16 02 11	Voc	796.0	chlorofluorocarbons HCEC HEC	D4	м	Woighod	Offeito in Iroland	Toch Roc NI	Tyrono Iroland	Co. Turono Iroland	Tyropo Iroland
Within the Country	10 02 11	103	700.0	onioronacrocarbons, HOLO, HEO	114		T cignica	Charle in fielding	roon noo nij.	ryrone, ireland	,.,oo. ryrono,ireland	ryiono,irotand

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

APPENDIX G

Staffing Structure

<u>Rilta Environmental Management Structure</u>



