



Tobin
Block 10 - 4
Blanchardstown Corporate Park
Dublin

Attention: Siobhan Tinnelly

CERTIFICATE OF ANALYSIS

Date: 23 February 2012
Customer: D_TOBIN_DUB
Sample Delivery Group (SDG): 120215-38
Your Reference: 6301
Location: Drehid, Co.Kildare
Report No: 171792

We received 3 samples on Tuesday February 14, 2012 and 3 of these samples were scheduled for analysis which was completed on Thursday February 23, 2012. 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.

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Consent of copyright owner required for any other use.

Approved By:

Sonia McWhan

Operations Manager



CERTIFICATE OF ANALYSIS

Validated

SDG: 120215-38
Job: D_TOBIN_DUB-41
Client Reference: 6301

Location: Drehid, Co.Kildare
Customer: Tobin
Attention: Siobhan Tinnelly

Order Number: 2267
Report Number: 171792
Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
5174175	D10			
5174177	D11			
5174174	D9			

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

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CERTIFICATE OF ANALYSIS

Validated

SDG: 120215-38
Job: D_TOBIN_DUB-41
Client Reference: 6301

Location: Drehid, Co.Kildare
Customer: Tobin
Attention: Siobhan Tinnelly

Order Number: 2267
Report Number: 171792
Superseded Report:

LIQUID			
Results Legend <input checked="" type="checkbox"/> Test <input type="checkbox"/> No Determination Possible	Lab Sample No(s)	5174174 5174175 5174177	
	Customer Sample Reference	D9	D11
	AGS Reference		
	Depth (m)		
	Container	2.5l Glass 2.5l Glass 2.5l Glass	2.5l Glass 2.5l Glass 2.5l Glass
Dust	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

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Superseded Report:

Table with columns: Results Legend, Customer Sample R, D9, D10, D11, Component, LOD/Units, Method. Includes data for Dust, Total, Organic, and Inorganic.

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Table of Results - Appendix

Table with 5 columns: Method No, Reference, Description, Wet/Dry Sample, Surrogate Corrected. Row 1: TM253, Dust is collected either using a "Frisbee" collector... The Determination of Dust, NA.

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

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Test Completion Dates

Lab Sample No(s)	5174174	5174175	5174177
Customer Sample Ref.	D9	D10	D11
AGS Ref.			
Depth			
Type	LIQUID	LIQUID	LIQUID
Dust	20-Feb-2012	23-Feb-2012	20-Feb-2012

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Appendix

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC 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 all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples 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 analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

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 the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY				
ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOX THERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOX THERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOX THERM	HPLC
PHENOLS BY GCMS	WET	DOM	SOX THERM	GC-MS
HERBICIDES	D&C	HEXANE ACETONE	SOX THERM	GC-MS
PESTICIDES	D&C	HEXANE ACETONE	SOX THERM	GC-MS
EPH (DRO)	D&C	HEXANE ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE ACETONE	END OVER END	GC-FID
EPH CWGBY GC	D&C	HEXANE ACETONE	END OVER END	GC-FID
PCBAROCLOR 1254/PCB CON	D&C	HEXANE ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE ACETONE	MICROWAVE TM218.	GC-MS
>C6C40	WET	HEXANE ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE ACETONE	SHAKER	GC-FID
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DOM ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY			
ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREESULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTOCPOPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (R)	TCE	STIRRED EXTRACTION (STIR-BAR)	R
MINERAL OIL BY R	TCE	STIRRED EXTRACTION (STIR-BAR)	R
GLYCOLS	NONE	DIRECT INJECTION	GC FID

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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