



Certificate of Analysis

CHEMEX
The Business of Science

Chemex Report Number: DEMO - VOC

Client Name and Address: John Smith
Unit J Broad Lane Ind. Estate
Cottenham
Cambridge
CB24 8SW

Chemex Quote No: 09C0209
Order No: 12345
Client Project Code: 67890

Date of Sample Receipt: 01 January 2009
Turnaround: 10 Day

Any opinions or interpretations expressed in this report are outside the scope of UKAS accreditation. No guarantees are given that this data is representative of the whole or any other part of the site from which the samples originated. Tests covered by this certificate were conducted in accordance with Chemex method procedures, which may not accord in every detail with published methods. Should this report require incorporation into client report, it must be used in its entirety.

Any queries regarding this report should be addressed in the first instance, to our client liaison officers, contact details as below.

Authorised:

Katherine O'Neill BSc Hons
Project Manager

Rasa Cooke MSc BSc
Quality Assurance Dep.

Date report issued: 07 January 2009

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Sample Receipt Date:	Time:	SDG:
03 JANUARY 2009	09:05	A

TABLE OF SAMPLES ANALYSED

Sampling Date / Time:	Analysis Date	Client ID:	Bottle No:	Lab ID:	Matrix:
20/12/08 10:30	05/01/09	BH1 8.0M	50000	08A25A01A	LOAM
20/12/08 10:40	05/01/09	BH2 4.0M	60000	08A25A01A	CLAY

PROJECT NOTES

Volatile organics analyses were carried out according to the in-house method 8270/S/2.1.

Samples arrived at Chemex at 4.5 °C.

CHEMEX ENVIRONMENTAL INTERNATIONAL
VOLATILE ORGANICS

Project No : 08A25A Project code: DEMO Turnaround: STD

7 Jan 09 14:27

Lab Sample ID :	08A25A01A	08A25A02A	1125BLKD
Client ID :	BH1 8.0M	BH2 4.0M	BLANK
Bottle No :	50000	60000	BLANK1125D
Matrix :	SOIL	SOIL	SOIL
Volume/Weight :	4.800	4.500	5.000
Level :	LOW	LOW	LOW
Methanol Extract Vol (ul):			
Percent Moisture :	20.2	13.6	
Scaling Factor :	1.31	1.29	1.0

Status

	COMPOUND			Concentration ug/Kg
UN	Dichlorodifluoromethane_____	<3.9	<3.9	<3
UMN	Chloromethane_____	<1.3	<1.3	<1
UMN	Vinyl chloride_____	<1	<1	<0.8
UMN	Bromomethane_____	<1.3	<1.3	<1
UMN	Chloroethane_____	<1.7	<1.7	<1.3
UMN	Trichlorofluoromethane_____	<2	<1.9	<1.5
UN	Acetone_____	25	8	<5
UN	Diethyl ether_____	<2.6	<2.6	<2
UMN	1,1-Dichloroethene_____	<2.6	<2.6	<2
UMN	Carbon disulfide_____	<2.6	<2.6	<2
UN	Allyl chloride_____	<2.6	<2.6	<2
UMN	Methylene chloride_____	<2.6	<2.6	<2
UMN	Trans-1,2-dichloroethene_____	<1.3	<1.3	<1
UMN	tert-butyl methyl ether_____	<1.3	<1.3	<1
UMN	1,1-Dichloroethane_____	120	65	<1.1
UN	2-Butanone_____	<6.5	<6.4	<5
UMN	cis-1,2-Dichloroethene_____	<1.3	<1.3	<1
UN	2,2-Dichloropropane_____	<1	<1	<0.8
UMN	Chloroform_____	<1.3	<1.3	<1
UN	Tetrahydrofuran_____	<26	<26	<20
UMN	1,1,1-Trichloroethane_____	<1	<1	<0.8
UMN	1,2-Dichloroethane_____	<1.3	<1.3	<1
UN	1-Chlorobutane_____	<1.3	<1.3	<1
UN	1,1-Dichloropropene_____	<1.3	<1.3	<1
UMN	Benzene_____	<1	<1	<0.8
UMN	Carbon tetrachloride_____	<1.3	<1.3	<1
UN	2-Nitropropane_____	<2.6	<2.6	<2
UN	Methyl methacrylate_____	<2.6	<2.6	<2
UN	2-Hexanone_____	<2	<1.9	<1.5
UMN	4-Methyl-2-pentanone_____	<1.3	<1.3	<1
UMN	1,2-Dichloropropane_____	<1	<1	<0.8
UMN	Trichloroethene_____	<1.3	<1.3	<1
UN	Dibromomethane_____	<1.3	<1.3	<1
UMN	Bromodichloromethane_____	<0.65	<0.64	<0.5
UMN	trans-1,3-Dichloropropene_____	<1.3	<1.3	<1
UMN	cis-1,3-Dichloropropene_____	<1	<1	<0.8
UMN	Toluene_____	<1.3	<1.3	<1

CHEMEX ENVIRONMENTAL INTERNATIONAL
VOLATILE ORGANICS

Project No : 08A25A Project code: DEMO Turnaround: STD

7 Jan 09 14:27

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Bottle No :	50000	60000	BLANK1125D
Matrix :	SOIL	SOIL	SOIL
Volume/Weight :	4.800	4.500	5.000
Level :	LOW	LOW	LOW
Methanol Extract Vol (ul):			
Percent Moisture :	20.2	13.6	
Scaling Factor :	1.31	1.29	1.0

Status

	COMPOUND			Concentration ug/Kg
UMN	1,1,2-Trichloroethane_____	<1	<1	<0.8
UN	1,3-Dichloropropane_____	<1	<1	<0.8
U*N	Ethyl methacrylate_____	<2.6	<2.6	<2
UMN	Dibromochloromethane_____	<3.9	<3.9	<3
UN	1,2-Dibromoethane_____	<1.3	<1.3	<1
UMN	Tetrachloroethene_____	<1.3	<1.3	<1
UMN	Chlorobenzene_____	<1.3	<1.3	<1
UN	1,1,1,2-Tetrachloroethane__	<1.3	<1.3	<1
UMN	Ethyl benzene_____	26	16	<2
UMN	m&p-Xylene_____	150	170	<1.5
UMN	Styrene_____	<1.3	<1.3	<1
UMN	Bromoform_____	<1.3	<1.3	<1
UMN	o-Xylene_____	36	52	<1
UMN	1,1,2,2-Tetrachloroethane__	<1.3	<1.3	<1
UN	1,2,3-Trichloropropane_____	<1.3	<1.3	<1
UN	Isopropylbenzene_____	<1.3	<1.3	<1
UN	trans-1,4-Dichloro-2-butene_	<2.6	<2.6	<2
UN	Bromobenzene_____	<1.3	<1.3	<1
UN	2-Chlorotoluene_____	<1.3	<1.3	<1
UN	n-Propylbenzene_____	<1.3	<1.3	<1
UN	4-Chlorotoluene_____	<1.3	<1.3	<1
UN	1,3,5-Trimethylbenzene_____	<1.3	<1.3	<1
UN	Pentachloroethane_____	<2.6	<2.6	<2
UN	1,2,4-Trimethylbenzene_____	<1.3	<1.3	<1
UN	tert-Butylbenzene_____	<1.3	<1.3	<1
UN	1,3-Dichlorobenzene_____	<1.3	<1.3	<1
UN	sec-Butylbenzene_____	<1.3	<1.3	<1
UN	1,4-Dichlorobenzene_____	<1.3	<1.3	<1
UN	4-Isopropyltoluene_____	<1.3	<1.3	<1
UN	1,2-Dichlorobenzene_____	<1.3	<1.3	<1
UN	n-Butylbenzene_____	<6.5	<6.4	<5
UN	Hexachloroethane_____	<2.6	<2.6	<2
UN	1,2-Dibromo-3-chloropropane	<2.6	<2.6	<2
U*N	1,2,4-Trichlorobenzene_____	<1.3	<1.3	<1
U*N	Naphthalene_____	<1.3	<1.3	<1
U*N	1,2,3-Trichlorobenzene_____	<1.3	<1.3	<1
U*N	Hexachlorobutadiene_____	<1.3	<1.3	<1

U = Accredited to ISO 17025 M = Accredited to MCERTS Soil Standard
 U* = Waters only Accredited to ISO 17025 N = Waters only Accredited to New Jersey Standard

APPENDIX 1

1. With exception of metals analysis, the data for all soil samples are expressed as the dry weight concentration and samples are analysed on an 'as submitted' basis, Data for soils and similar solid samples are calculated on the basis of dry weight (drying temperature 105°C) according to the SOP 1190.
For metals analyses, soil samples are air dried at <30°C over night, crushed and sieved through a 250µm sieve before taking a sub-sample for digestion. The digestion of sample on 'as submitted' basis is carried out only when requested by the client.
2. Sample data for all matrices are presented without correction for concentrations detected in the method blank or recovery unless indicated in the Project Notes.
3. Sample duplicates, matrix spike or matrix spike duplicates will be run upon request, but an additional charge may be incurred.
4. Whilst we hold MCERTS accreditation for sand, loam and clay, or any material where these constitute the major part of the sample, other materials would require additional validation and quality control to satisfy the MCERTS Standard. Any data failing to comply with the MCERTS Standard will be flagged or identified in the Project Notes. Occasionally, the nature of samples will result in data being generated that fails to satisfy the requirements of the MCERTS Standard. Moreover, under certain circumstances, the level of analytes present or the sample matrix may make it necessary to adopt modified procedures. Full details of such changes and the subsequent effect upon accreditation status will be recorded in the Project Notes.
5. Data in this report have been presented in Chemex's less than (<) method detection limit (MDL) format. This format reports concentrations detected below the MDL as < the appointed scaled MDL for a particular compound, having taken into account any dilutions, weights or volumes taken and percent moisture as applicable.
6. Method Detection Limit (MDL) is the estimated minimum concentration of the analyte in a sample that can be detected with a prescribed level of confidence of distinguishing that samples concentration from a method background signal.
7. In the case of samples containing a relatively high concentration of co-extractable organic material, it may be necessary to deviate from the standard protocol by adjusting the amount of sample taken for analysis, or the volume of the final extract prior to analysis. This is done to optimise the concentration of the analytes in solution with respect to the calibration range of instruments.
The effect of a dilution of this kind is to raise the level of the method detection limit of the analysis and also to enhance the apparent background level of any traces of target compounds present. In order to be able to make a valid comparison of the sample data with blank levels, and with the appropriate detection limits, a scaling factor for each sample will be applied, as follows: applicable MDL = protocol MDL x scaling factor.
8. We always endeavour to take a representative sub sample from the received sample. Large stones, organic substances are removed from the soil samples. Where water samples contain sediment, the sample is decanted and the sediment not included in the extraction process.
9. The US EPA recommended temperature range for sample storage is $4 \pm 2^{\circ}\text{C}$.
10. A table containing the dates of analysis of each parameter is not routinely included in the report, but is available upon request.
11. We will always endeavour to meet requested turnarounds times wherever possible, but this cannot be absolutely guaranteed due to so many variables beyond our control.
12. Metals in water are performed on a filtered sample, and therefore represent environmentally available metals- total metals must be requested separately.
13. Mercury results on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

Last updated January 2009