IAN FARMER ASSOCIATES

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Zyox Limited
Swallow House
Shilton Industrial Estate
Shilton
Coventry
CV7 9JY

6th December 2013

For the attention of Mr S Westhorpe

Dear Steve,

LAND ADJ. 126 MAIN ROAD, SHEEPY MAGNA (21163)

Ian Farmer Associates were instructed to undertake soil sampling from the above-mentioned property in order to provide a brief top- and sub-soil contamination assessment.

Three pits were excavated (HP1 to HP3) through any topsoil into the underlying subsoil, with HP2 being extended to a depth of 1.0mbgl. HP1 comprised grass over a dark brown clayey topsoil with concrete fragments to the full extent of the pit at 0.50m. HP2 comprised topsoil to a depth of 0.15m, overlying brown, gravelly clay subsoil to a depth of 0.40m. Soft to firm, gravelly clay was then present to the base of the pit at a depth of 1.00m. HP3 was similar to HP2, comprising topsoil to 0.2m and similar subsoil to the extent of the pit at 0.35m

A sample from each of the pits within the top half metre was analysed in the laboratory for a general suite of commonly occurring contaminants, and the results are included in Test Report No.13-48730.

The results detailed in the report have been compared against Environment Agency Soil Guideline Values (SGV) in the first instance, or equivalent internally or externally derived assessment criteria where no SGV is available. The results were not elevated above screening levels for residential land use and as such, IFA consider the material represented by the sample tested to be fit for purpose within residential gardens and landscaping.

Should you require any further information, please don't hesitate to call.

Yours Sincerely
For Ian Farmer Associates (1998) Limited

A.C Owen
Principal Environmental Geologist

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Analytical Report Number : 13-48730

Project / Site name:	Sheepy Magna	**Samples received on:**	02/12/2013
Your job number:	21163	**Samples instructed on:**	02/12/2013
Your order number:	28703	**Analysis completed by:**	04/12/2013
Report Issue Number:	1	**Report issued on:**	04/12/2013
Samples Analysed:	3 soil samples		

Signed:

Dr Claire Stone
Quality Manager
For & on behalf of i2 Analytical Ltd.

Signed:

Rexona Rahman
Customer Services Manager
For & on behalf of i2 Analytical Ltd.

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 13-48730

Project / Site name: Sheepy Magna
Your Order No: 28703

Lab Sample Number				301560	301561	301562		
Sample Reference				HP1	HP2	HP3		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.50	0.35	0.35		
Date Sampled				28/11/2013	28/11/2013	28/11/2013		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	24	13	14		
Total mass of sample received	kg	0.001	NONE	2.0	2.0	2.0		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
General Inorganics								
pH	pH Units	N/A	MCERTS	8.0	7.8	7.3		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Water Soluble Sulphate (Soil Equivalent)	g/l	0.0025	MCERTS	0.065	0.026	0.019		
Water Soluble Sulphate as SO_4 (2:1)	mg/kg	2.5	MCERTS	65	26	19		
Water Soluble Sulphate (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.033	0.013	0.0095		
Organic Matter	%	0.1	MCERTS	3.0	2.5	1.7		
Total Phenols								
Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10		
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	< 1.6		
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.8	6.3	5.7		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	< 0.2	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	19	16		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	39	15	16		
Lead (aqua regia extractable)	mg/kg	2	MCERTS	220	36	37		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	15	13	12		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	290	120	110		
Petroleum Hydrocarbons								
TPH1 (C10 - C40)	mg/kg	10	MCERTS	140	< 10	< 10		

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Analytical Report Number : 13-48730

Project / Site name: Sheepy Magna

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
301560	HP1	None Supplied	0.50	Brown topsoil and clay.
301561	HP2	None Supplied	0.35	Brown topsoil and sand with vegetation.
301562	HP3	None Supplied	0.35	Brown topsoil and sand with vegetation.

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Project / Site name: Sheepy Magna

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-UK	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by extraction with water followed by ICP-OES. Results reported corrected for extraction ratio (soil equivalent) as g/l and mg/kg; and upon the 2:1	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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