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BETTER TESTING BETTER RESULTS

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ANALYSIS REPORT

Client:	Focus Environmental Services Limited	**Lab No:**	1128790	SPv1
Contact:	David O'Reilly	**Date Registered:**	29-Apr-2013	
	C/- Focus Environmental Services Limited	**Date Reported:**	08-May-2013	
	PO Box 11455	**Quote No:**		
	Ellerslie	**Order No:**		
	AUCKLAND 1542	**Client Reference:**		
		Submitted By:	David O'Reilly	

Sample Type: Soil

	Sample Name:	Com 1 26-Apr-2013	Com 2 26-Apr-2013			
	Lab Number:	1128790.1	1128790.2			
Individual Tests						
Dry Matter	g/100g as rcvd	66	71	-	-	-
Total Recoverable Arsenic	mg/kg dry wt	7	< 2	-	-	-
Total Recoverable Boron	mg/kg dry wt	< 20	< 20	-	-	-
Total Recoverable Cadmium	mg/kg dry wt	< 0.10	< 0.10	-	-	-
Total Recoverable Copper	mg/kg dry wt	8	7	-	-	-
Total Recoverable Lead	mg/kg dry wt	9.2	13.2	-	-	-
Total Recoverable Mercury	mg/kg dry wt	< 0.10	0.14	-	-	-
Total Recoverable Nickel	mg/kg dry wt	3	4	-	-	-
Total Recoverable Zinc	mg/kg dry wt	8	9	-	-	-
Total Cyanide*	mg/kg dry wt	< 0.10	< 0.10	-	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg dry wt	< 0.09	< 0.08	-	-	-
BTEX in Soil by Headspace GC-MS						
Benzene	mg/kg dry wt	< 0.07	< 0.07	-	-	-
Toluene	mg/kg dry wt	< 0.07	< 0.07	-	-	-
Ethylbenzene	mg/kg dry wt	< 0.07	< 0.07	-	-	-
m&p-Xylene	mg/kg dry wt	< 0.14	< 0.13	-	-	-
o-Xylene	mg/kg dry wt	< 0.07	< 0.07	-	-	-
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.010	< 0.010	-	-	-
alpha-BHC	mg/kg dry wt	< 0.010	< 0.010	-	-	-
beta-BHC	mg/kg dry wt	< 0.010	< 0.010	-	-	-
delta-BHC	mg/kg dry wt	< 0.010	< 0.010	-	-	-
gamma-BHC (Lindane)	mg/kg dry wt	< 0.010	< 0.010	-	-	-
cis-Chlordane	mg/kg dry wt	< 0.010	< 0.010	-	-	-
trans-Chlordane	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Total Chlordane [(cis+trans)* 100/42]	mg/kg dry wt	< 0.04	< 0.04	-	-	-
2,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	-	-	-
4,4'-DDD	mg/kg dry wt	< 0.010	< 0.010	-	-	-
2,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	-	-	-
4,4'-DDE	mg/kg dry wt	< 0.010	< 0.010	-	-	-
2,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	-	-	-
4,4'-DDT	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Dieldrin	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Endosulfan I	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Endosulfan II	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Endosulfan sulphate	mg/kg dry wt	< 0.010	< 0.010	-	-	-

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Organochlorine Pesticides Screening in Soil						
Endrin	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Endrin Aldehyde	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Endrin ketone	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Heptachlor	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Heptachlor epoxide	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Hexachlorobenzene	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Methoxychlor	mg/kg dry wt	< 0.010	< 0.010	-	-	-
Polycyclic Aromatic Hydrocarbons Screening in Soil						
Acenaphthene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Acenaphthylene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Anthracene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Benzo[a]anthracene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Benzo[k]fluoranthene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Chrysene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Fluoranthene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Fluorene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Naphthalene	mg/kg dry wt	< 0.18	< 0.16	-	-	-
Phenanthrene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Pyrene	mg/kg dry wt	< 0.04	< 0.04	-	-	-
Total Petroleum Hydrocarbons in Soil						
C7 - C9	mg/kg dry wt	< 11	< 10	-	-	-
C10 - C14	mg/kg dry wt	< 30	< 20	-	-	-
C15 - C36	mg/kg dry wt	< 50	< 40	-	-	-
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 80	< 70	-	-	-

SUMMARY OF METHODS

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Samples**
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-2
Organochlorine Pesticides Screening in Soil	Sonication extraction, SPE cleanup, dual column GC-ECD analysis (modified US EPA 8082).. Tested on dried sample	-	1-2
TPH + PAH + BTEX profile	Sonication extraction, SPE cleanup, GC & GC-MS analysis	-	1-2
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. US EPA 3550. (Free water removed before analysis).	0.10 g/100g as rcvd	1-2
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	1-2
Total Cyanide Distillation*	Distillation of sample as received. APHA 4500-CN^- C 22nd ed. 2012.	-	1-2
Total Recoverable Arsenic	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	2 mg/kg dry wt	1-2
Total Recoverable Boron	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	20 mg/kg dry wt	1-2
Total Recoverable Cadmium	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	0.10 mg/kg dry wt	1-2

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Samples**
Total Recoverable Copper	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	2 mg/kg dry wt	1-2
Total Recoverable Lead	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	0.4 mg/kg dry wt	1-2
Total Recoverable Mercury	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	0.10 mg/kg dry wt	1-2
Total Recoverable Nickel	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	2 mg/kg dry wt	1-2
Total Recoverable Zinc	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	4 mg/kg dry wt	1-2
Total Cyanide*	Distillation, colorimetry. APHA 4500-CN- E 22nd ed. 2012.	0.10 mg/kg dry wt	1-2
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	BaP Toxic Equivalence calculated from Benz(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1 + Chrysene x 0.01 + Dibenz(a,h)anthracene x 1 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1 Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.002 mg/kg dry wt	1-2

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

Carole Rodgers-Carroll BA, NZCS
Client Services Manager - Environmental Division