ALcontrol Laboratories

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Verde Remediation Services
F27
Bullford Business Campus
Kilcoole
Co.Wicklow

Attention: Cyril Tynan

CERTIFICATE OF ANALYSIS

Date:	31 December 2010
Customer:	D_VERDE_KCL
Sample Delivery Group (SDG):	101216-148
Your Reference:	20265
Location:	Limerick City Council
Report No:	109425

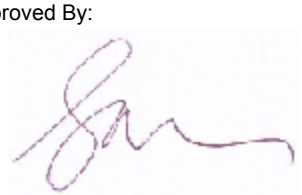
We received 6 samples on Thursday December 16, 2010 and 6 of these samples were scheduled for analysis which was completed on Friday December 31, 2010. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 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

Laboratory Manager

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
2596141	20265-1-001			16/12/2010
2596142	20265-1-002			16/12/2010
2596143	20265-1-003			16/12/2010
2596145	20265-1-004			16/12/2010
2596146	20265-1-005			16/12/2010
2596147	20265-1-006			16/12/2010

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

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

Test Schedule

LIQUID

Results Legend

X — Test

N — No Determination Possible

			Lab Sample No(s)	2596141	2596142	2596143	2596145	2596146	2596147
			Customer Sample Reference	20265-1-001	20265-1-002	20265-1-003	20265-1-004	20265-1-005	20265-1-006
			AGS Reference						
			Depth (m)						
			Container	1l glass bottle (D) / 60g VOC Dublin / PLAS BOT (D)	1l glass bottle (D) / 60g VOC Dublin / PLAS BOT (D)	1l glass bottle (D) / 60g VOC Dublin / PLAS BOT (D)	1l glass bottle (D) / 60g VOC Dublin / PLAS BOT (D)	1l glass bottle (D) / 60g VOC Dublin / PLAS BOT (D)	1l glass bottle (D) / 60g VOC Dublin / PLAS BOT (D)
Ammonium	All	NDPs: 0 Tests: 6			X	X	X	X	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 6			X	X	X	X	X	X	X
BOD True Total	All	NDPs: 0 Tests: 6			X	X	X	X	X	X	X
COD Unfiltered	All	NDPs: 0 Tests: 1									X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6		X	X	X	X	X	X	X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6			X	X	X	X	X	X	X
Fluoride	All	NDPs: 0 Tests: 6			X	X	X	X	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 6		X	X	X	X	X	X	X	
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 6			X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6		X	X	X	X	X	X	X	
Total Metals by ICP-MS	All	NDPs: 0 Tests: 6			X	X	X	X	X	X	X
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 6		X	X	X	X	X	X	X	
VOC MS (W)	All	NDPs: 0 Tests: 6		X		X	X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	20265-1-001	20265-1-002	20265-1-003	20265-1-004	20265-1-005	20265-1-006
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			Date Received	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			SDG Ref	101216-148	101216-148	101216-148	101216-148	101216-148	101216-148
			Lab Sample No.(s)	2596141	2596142	2596143	2596145	2596146	2596147
			AGS Reference						
BOD, unfiltered	<1 mg/l	TM045		2.94 #	<1 #	5.16 #	<1 #	1.36 #	1.98 #
Organic Carbon, Total	<3 mg/l	TM090		8.55 #	6.43 #	6.38 #	3.64 #	12.4 #	7.71 #
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099		0.482 #	<0.2 #	0.278 #	<0.2 #	0.758 #	0.619 #
Fluoride	<0.5 mg/l	TM104		<0.5 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #
COD, unfiltered	<7 mg/l	TM107		1020 #	238 #	595 #	505 #	472 #	2240 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		18.5 #	0.877 #	2.3 #	0.403 #	9.26 #	1.88 #
Borate (diss.filt)	<50.6 µg/l	TM152		1020	750	207	431	764	243
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Copper (diss.filt)	<0.85 µg/l	TM152		1.01 #	2.4 #	0.949 #	<0.85 #	<0.85 #	<0.85 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.196 #	0.141 #	0.119 #	0.039 #	0.19 #	0.077 #
Manganese (diss.filt)	<0.04 µg/l	TM152		1280 #	467 #	545 #	7.37 #	2720 #	74.8 #
Nickel (diss.filt)	<0.15 µg/l	TM152		10.9 #	5.63 #	4.65 #	2.93 #	5.5 #	1.38 #
Zinc (diss.filt)	<0.41 µg/l	TM152		1.73 #	1.02 #	0.883 #	<0.41 #	1.27 #	<0.41 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Sulphate	<3 mg/l	TM184		141 #	131 #	72.6 #	72.2 #	18.7 #	103 #
Chloride	<2 mg/l	TM184		83.6 #	30.6 #	50.4 #	37.2 #	42.7 #	26.4 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	0.062 #
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		0.508 #	0.831 #	5.17 #	9.54 #	<0.1 #	0.301 #
Chromium (tot.unfilt)	<3 µg/l	TM191		117 #	39.7 #	93.8 #	61 #	51.5 #	85.9 #
Phosphorus (tot.unfilt)	<20 µg/l	TM191		12200 #	1860 #	8520 #	2820 #	3560 #	2850 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Calcium (diss.filt)	<0.012 mg/l	TM228		227	164	156	158	189	94.4
Sodium (diss.filt)	<0.076 mg/l	TM228		55.9	34.3	51.3	31.1	33.7	31.4
Magnesium (diss.filt)	<0.036 mg/l	TM228		26.4	21.9	22.9	18.6	23.7	7.31
Potassium (diss.filt)	<2.335 mg/l	TM228		5.75	5.51	4.37	3.17	4.2	13.8
Iron (diss.filt)	<0.019 mg/l	TM228		<0.019	<0.019	<0.019	<0.019	<0.019	<0.019

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	20265-1-001	20265-1-002	20265-1-003	20265-1-004	20265-1-005	20265-1-006
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			Date Received	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			SDG Ref	101216-148	101216-148	101216-148	101216-148	101216-148	101216-148
			Lab Sample No.(s)	2596141	2596142	2596143	2596145	2596146	2596147
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2	<2	<2	<2
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	20265-1-001	20265-1-002	20265-1-003	20265-1-004	20265-1-005	20265-1-006
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			Date Received	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			SDG Ref	101216-148	101216-148	101216-148	101216-148	101216-148	101216-148
			Lab Sample No.(s)	2596141	2596142	2596143	2596145	2596146	2596147
			AGS Reference						
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	20265-1-001	20265-1-002	20265-1-003	20265-1-004	20265-1-005	20265-1-006
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			Date Received	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			SDG Ref	101216-148	101216-148	101216-148	101216-148	101216-148	101216-148
			Lab Sample No.(s)	2596141	2596142	2596143	2596145	2596146	2596147
			AGS Reference						
Dibromofluoromethane**	%	TM208		112	111	111	111	121	106
Toluene-d8**	%	TM208		97.6	100	99.2	95	98.2	99.6
4-Bromofluorobenzene**	%	TM208		94.4	93.2	93.7	88.4	88.6	98.7
Dichlorodifluoromethane	<7 µg/l	TM208		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Chloromethane	<9 µg/l	TM208		<9 #	<9 #	<9 #	<9 #	<9 #	<9 #
Vinyl chloride	<1.2 µg/l	TM208		<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #
Bromomethane	<2 µg/l	TM208		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
Chloroethane	<2.5 µg/l	TM208		<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #
Trichlorofluoromethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #
1,1-Dichloroethene	<1.2 µg/l	TM208		<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #
Carbon disulphide	<1.3 µg/l	TM208		<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #
Dichloromethane	<3.7 µg/l	TM208		<3.7 #	<3.7 #	<3.7 #	<3.7 #	<3.7 #	<3.7 #
Methyl tertiary butyl ether (MTBE)	<1.6 µg/l	TM208		<1.6 #	<1.6 #	<1.6 #	<1.6 #	<1.6 #	<1.6 #
trans-1,2-Dichloroethene	<1.9 µg/l	TM208		<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #
1,1-Dichloroethane	<1.2 µg/l	TM208		<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #
cis-1,2-Dichloroethene	<2.3 µg/l	TM208		<2.3 #	<2.3 #	<2.3 #	<2.3 #	<2.3 #	<2.3 #
2,2-Dichloropropane	<3.8 µg/l	TM208		<3.8 #	<3.8 #	<3.8 #	<3.8 #	<3.8 #	<3.8 #
Bromochloromethane	<1.9 µg/l	TM208		<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #
Chloroform	<1.8 µg/l	TM208		<1.8 #	<1.8 #	<1.8 #	<1.8 #	<1.8 #	5.68 #
1,1,1-Trichloroethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #
1,1-Dichloropropene	<1.3 µg/l	TM208		<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #
Carbontetrachloride	<1.4 µg/l	TM208		<1.4 #	<1.4 #	<1.4 #	<1.4 #	<1.4 #	<1.4 #
1,2-Dichloroethane	<3.3 µg/l	TM208		<3.3	<3.3	<3.3	<3.3	<3.3	<3.3
Benzene	<1.3 µg/l	TM208		<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #
Trichloroethene	<2.5 µg/l	TM208		<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #
1,2-Dichloropropane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Dibromomethane	<2.7 µg/l	TM208		<2.7 #	<2.7 #	<2.7 #	<2.7 #	<2.7 #	<2.7 #
Bromodichloromethane	<0.9 µg/l	TM208		<0.9 #	<0.9 #	<0.9 #	<0.9 #	<0.9 #	<0.9 #
cis-1,3-Dichloropropene	<1.9 µg/l	TM208		<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #
Toluene	<1.4 µg/l	TM208		<1.4 #	<1.4 #	<1.4 #	<1.4 #	<1.4 #	<1.4 #
trans-1,3-Dichloropropene	<3.5 µg/l	TM208		<3.5 #	<3.5 #	<3.5 #	<3.5 #	<3.5 #	<3.5 #
1,1,2-Trichloroethane	<2.2 µg/l	TM208		<2.2 #	<2.2 #	<2.2 #	<2.2 #	<2.2 #	<2.2 #
1,3-Dichloropropane	<2.2 µg/l	TM208		<2.2 #	<2.2 #	<2.2 #	<2.2 #	<2.2 #	<2.2 #
Tetrachloroethene	<1.5 µg/l	TM208		<1.5 #	<1.5 #	<1.5 #	<1.5 #	<1.5 #	<1.5 #
Dibromochloromethane	<1.7 µg/l	TM208		<1.7 #	<1.7 #	<1.7 #	<1.7 #	<1.7 #	<1.7 #

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Component	LOD/Units	Method	Customer Sample R	20265-1-001	20265-1-002	20265-1-003	20265-1-004	20265-1-005	20265-1-006
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			Date Received	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010	16/12/2010
			SDG Ref	101216-148	101216-148	101216-148	101216-148	101216-148	101216-148
			Lab Sample No.(s)	2596141	2596142	2596143	2596145	2596146	2596147
			AGS Reference						
1,2-Dibromoethane	<2.3 µg/l	TM208		<2.3 #	<2.3 #	<2.3 #	<2.3 #	<2.3 #	<2.3 #
Chlorobenzene	<3.5 µg/l	TM208		<3.5 #	<3.5 #	<3.5 #	<3.5 #	<3.5 #	<3.5 #
1,1,1,2-Tetrachloroethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #	<1.3 #
Ethylbenzene	<2.5 µg/l	TM208		<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #
m,p-Xylene	<2.5 µg/l	TM208		<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #
o-Xylene	<1.7 µg/l	TM208		<1.7 #	<1.7 #	<1.7 #	<1.7 #	<1.7 #	<1.7 #
Styrene	<1.2 µg/l	TM208		<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #
Bromoform	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Isopropylbenzene	<1.4 µg/l	TM208		<1.4 #	<1.4 #	<1.4 #	<1.4 #	<1.4 #	<1.4 #
1,1,2,2-Tetrachloroethane	<5.2 µg/l	TM208		<5.2	<5.2	<5.2	<5.2	<5.2	<5.2
1,2,3-Trichloropropane	<7.8 µg/l	TM208		<7.8 #	<7.8 #	<7.8 #	<7.8 #	<7.8 #	<7.8 #
Bromobenzene	<2 µg/l	TM208		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
Propylbenzene	<2.6 µg/l	TM208		<2.6 #	<2.6 #	<2.6 #	<2.6 #	<2.6 #	<2.6 #
2-Chlorotoluene	<1.9 µg/l	TM208		<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #
1,3,5-Trimethylbenzene	<1.8 µg/l	TM208		<1.8 #	<1.8 #	<1.8 #	<1.8 #	<1.8 #	<1.8 #
4-Chlorotoluene	<1.9 µg/l	TM208		<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #	<1.9 #
tert-Butylbenzene	<2 µg/l	TM208		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
1,2,4-Trimethylbenzene	<1.7 µg/l	TM208		<1.7 #	<1.7 #	<1.7 #	<1.7 #	<1.7 #	<1.7 #
sec-Butylbenzene	<1.7 µg/l	TM208		<1.7 #	<1.7 #	<1.7 #	<1.7 #	<1.7 #	<1.7 #
4-iso-Propyltoluene	<2.6 µg/l	TM208		<2.6 #	<2.6 #	<2.6 #	<2.6 #	<2.6 #	<2.6 #
1,3-Dichlorobenzene	<2.2 µg/l	TM208		<2.2 #	<2.2 #	<2.2 #	<2.2 #	<2.2 #	<2.2 #
1,4-Dichlorobenzene	<2.7 µg/l	TM208		<2.7 #	<2.7 #	<2.7 #	<2.7 #	<2.7 #	<2.7 #
n-Butylbenzene	<2 µg/l	TM208		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
1,2-Dichlorobenzene	<3.7 µg/l	TM208		<3.7	<3.7	<3.7	<3.7	<3.7	<3.7
1,2-Dibromo-3-chloropropane	<9.8 µg/l	TM208		<9.8	<9.8	<9.8	<9.8	<9.8	<9.8
1,2,4-Trichlorobenzene	<2.3 µg/l	TM208		<2.3 #	<2.3 #	<2.3 #	<2.3 #	<2.3 #	<2.3 #
Hexachlorobutadiene	<2.5 µg/l	TM208		<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #	<2.5 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<3.5 µg/l	TM208		<3.5 #	<3.5 #	<3.5 #	<3.5 #	<3.5 #	<3.5 #
1,2,3-Trichlorobenzene	<3.1 µg/l	TM208		<3.1 #	<3.1 #	<3.1 #	<3.1 #	<3.1 #	<3.1 #
1,3,5-Trichlorobenzene	<10 µg/l	TM208		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
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		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM191	Standard Methods for the examination of waters and wastewaters 16th Edition, ALPHA, Washington DC, USA. ISBN 0-87553-131-8.	Determination of Unfiltered Metals in Water Matrices by ICP-MS		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		

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

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	2596141	2596142	2596143	2596145	2596146	2596147
Customer Sample Ref.	20265-1-001	20265-1-002	20265-1-003	20265-1-004	20265-1-005	20265-1-006
AGS Ref.						
Depth						
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Ammonium	17-Dec-2010	17-Dec-2010	17-Dec-2010	17-Dec-2010	17-Dec-2010	20-Dec-2010
Anions by Kone (w)	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	22-Dec-2010	22-Dec-2010
BOD True Total	22-Dec-2010	22-Dec-2010	22-Dec-2010	22-Dec-2010	22-Dec-2010	22-Dec-2010
COD Unfiltered	17-Dec-2010	17-Dec-2010	17-Dec-2010	17-Dec-2010	17-Dec-2010	18-Dec-2010
Cyanide Comp/Free/Total/Thiocyanate	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010
Dissolved Metals by ICP-MS	21-Dec-2010	21-Dec-2010	21-Dec-2010	21-Dec-2010	21-Dec-2010	22-Dec-2010
Fluoride	17-Dec-2010	17-Dec-2010	17-Dec-2010	17-Dec-2010	17-Dec-2010	21-Dec-2010
Mercury Dissolved	17-Dec-2010	17-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010
Metals by iCap-OES Dissolved (W)	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010
SVOC MS (W) - Aqueous	21-Dec-2010	21-Dec-2010	21-Dec-2010	21-Dec-2010	21-Dec-2010	21-Dec-2010
Total Metals by ICP-MS	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010
Total Organic and Inorganic Carbon	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010	20-Dec-2010
VOC MS (W)	29-Dec-2010	29-Dec-2010	29-Dec-2010	29-Dec-2010	29-Dec-2010	31-Dec-2010

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

CERTIFICATE OF ANALYSIS

SDG:	101216-148	**Location:**	Limerick City Council	**Order Number:**	
Job:	D_VERDE_KCL-171	**Customer:**	Verde Remediation Services	**Report Number:**	109425
Client Reference:	20265	**Attention:**	Owen Van den Bergh	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) 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 Dimethyphenol, 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.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	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 CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH-MS	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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS-MS	DCM	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC-MS

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
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
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 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.

ALcontrol Laboratories

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Tel : (0035) 3188 29893

Verde Remediation Services
F27
Bullford Business Campus
Kilcoole
Co.Wicklow

Attention: Cyril Tynan

CERTIFICATE OF ANALYSIS

Date:	04 July 2011
Customer:	D_VERDE_KCL
Sample Delivery Group (SDG):	110623-93
Your Reference:	20476
Location:	Limerick Co Co
Report No:	137321

This report has been revised and directly supersedes 136560 in its entirety.

We received 2 samples on Thursday June 23, 2011 and 2 of these samples were scheduled for analysis which was completed on Monday July 04, 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

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3732189	20476-1-COMP A			16/06/2011
3732193	20476-1-COMP B			16/06/2011

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

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	3732189	3732193
			Customer Sample Reference	20476-1-COMP A	20476-1-COMP B
			AGS Reference		
			Depth (m)		
			Container	60g VOC Dublin (AL	JAR (D)
ANC at pH4 and ANC at pH 6	All	NDPs: 0 Tests: 2		X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 2		X	X
CEN 2:1 Readings	All	NDPs: 0 Tests: 2		X	X
CEN 8:1 Readings	All	NDPs: 0 Tests: 2		X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2		X	X
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 2		X	X
Fluoride	All	NDPs: 0 Tests: 2		X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2	X	X	
Loss on Ignition in soils	All	NDPs: 0 Tests: 2		X	X
Mercury Dissolved	All	NDPs: 0 Tests: 2		X	X
Mineral Oil	All	NDPs: 0 Tests: 2		X	X
PAH Value of soil	All	NDPs: 0 Tests: 2		X	X
PCBs by GCMS	All	NDPs: 0 Tests: 2		X	X
pH	All	NDPs: 0 Tests: 2		X	X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2		X	X

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	3732189	3732193
			Customer Sample Reference	20476-1-COMP A	20476-1-COMP B
			AGS Reference		
			Depth (m)		
			Container	60g VOC Dublin (AL JAR (D)	60g VOC Dublin (AL JAR (D)
Sample description	All	NDPs: 0 Tests: 2		X	X
Total Dissolved Solids	All	NDPs: 0 Tests: 2		X	X
Total Organic Carbon	All	NDPs: 0 Tests: 2		X	X

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
3732189	20476-1-COMP A		Dark Brown	Silt Loam	0.063 - 0.1 mm	Stones	None
3732193	20476-1-COMP B		Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

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

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-COMP A	20476-1-COMP B
			Depth (m)	.	.
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	16/06/2011	16/06/2011
			Date Received	23/06/2011	23/06/2011
			SDG Ref	110623-93	110623-93
			Lab Sample No.(s)	3732189	3732193
			AGS Reference		
Moisture	%	PM114		27.8	17
Moisture content ratio	%	PM114		38.5	20.5
Dry matter content ratio	%	PM114		72.2	83
Loss on ignition	<0.7 %	TM018		6.46 M	7.27 M
Mineral oil >C10-C40	<1 mg/kg	TM061		26.5 #	29.8 #
Organic Carbon, Total	<0.2 %	TM132		1.76 #	2.08 #
pH	1 pH Units	TM133		7.67 M	7.54 M
PCB congener 28	<3 µg/kg	TM168		<3 M	<3 M
PCB congener 52	<3 µg/kg	TM168		<3 M	<3 M
PCB congener 101	<3 µg/kg	TM168		<3 M	<3 M
PCB congener 118	<3 µg/kg	TM168		<3 M	<3 M
PCB congener 138	<3 µg/kg	TM168		<3 M	<3 M
PCB congener 153	<3 µg/kg	TM168		<3 M	<3 M
PCB congener 180	<3 µg/kg	TM168		<3 M	<3 M
Sum of detected PCB 7 Congeners	µg/kg	TM168		none detected	none detected
ANC @ pH 4	<0.03 mol/kg	TM182		0.453 #	0.884 #
ANC @ pH 6	<0.03 mol/kg	TM182		0.0625 #	0.128 #
Polyaromatic hydrocarbons, Total 17	<10 mg/kg	TM213		<10	<10

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

GRO by GC-FID (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-COMP A	20476-1-COMP B
			Depth (m)	.	.
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	16/06/2011	16/06/2011
			Date Received	23/06/2011	23/06/2011
			SDG Ref	110623-93	110623-93
			Lab Sample No.(s)	3732189	3732193
			AGS Reference		
GRO Surrogate % recovery**	%	TM089		71	75
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 #	<5 #
Benzene	<10 µg/kg	TM089		<10 M	<10 M
Toluene	<2 µg/kg	TM089		2.72 M	2.76 M
Ethylbenzene	<3 µg/kg	TM089		<3 M	<3 M
m,p-Xylene	<6 µg/kg	TM089		<6 M	<6 M
o-Xylene	<3 µg/kg	TM089		<3 M	<3 M
sum of detected mpo xylene by GC	µg/kg	TM089		none detected	none detected
sum of detected BTEX by GC	µg/kg	TM089		2.72	2.76

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

CEN 10:1 CUMULATIVE TWO STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/3

Client Reference		**Site Location**	Limerick Co Co
Mass Sample taken (kg)	0.242	**Moisture Content Ratio (%)**	38.5
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	72.2
Particle Size <4mm	>95%		

Case	
SDG	110623-93
Lab Sample Number(s)	3732189
Sampled Date	16-Jun-2011
Customer Sample Ref.	20476-1-COMP A
Depth (m)	

Solid Waste Analysis

		Landfill Waste Acceptance Criteria Limits		
		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Total Organic Carbon (%)	1.76	3	5	6
Loss on Ignition (%)	6.46	-	-	10
Sum of BTEX (mg/kg)	0.00272	6	-	-
Sum of 7 PCBs (mg/kg)	none detected	1	-	-
Mineral Oil (mg/kg)	26.5	500	-	-
PAH Sum of 17 (mg/kg)	<10.0	100	-	-
pH (pH Units)	7.67	-	<6 or >9	-
ANC to pH 6 (mol/kg)	0.0625	-	-	-
ANC to pH 4 (mol/kg)	0.453	-	-	-

Eluate Analysis

	C_2 Concⁿ in 2:1 eluate	C_8 Concⁿ in 8:1 eluate	A_2 2:1 concⁿ leached	$A_{2\text{-}10}$ Cumulative concⁿ leached	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	mg/l		mg/kg				
Arsenic	0.00121	0.00102	0.00242	0.0104	0.5	2	25
Barium	0.135	0.0464	0.27	0.578	20	100	300
Cadmium	<0.0001	<0.0001	<0.0002	<0.001	0.04	1	5
Chromium	0.00669	0.00571	0.0134	0.0531	0.5	10	70
Copper	0.0178	0.00499	0.0357	0.0663	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.00002	<0.0001	0.01	0.2	2
Molybdenum	0.00264	0.00399	0.00529	0.0382	0.5	10	30
Nickel	0.00605	0.00237	0.0121	0.0284	0.4	10	40
Lead	0.00166	0.000689	0.00332	0.00814	0.5	10	50
Antimony	0.00232	0.00366	0.00465	0.0349	0.06	0.7	5
Selenium	0.0013	0.000952	0.00259	0.00997	0.1	0.5	7
Zinc	0.0146	0.00253	0.0293	0.0408	4	50	200
Chloride	33.7	<2	67.5	43.3	800	15000	25000
Fluoride	<0.5	<0.5	<1	<5	10	150	500
Sulphate (soluble)	453	45.3	907	977	1000	20000	50000
Total Dissolved Solids	787	184	1580	2610	4000	60000	100000
Total Monohydric Phenols (W)	none detected	none detected	none detected	none detected	1	-	-
Dissolved Organic Carbon	13.6	7.66	27.1	84.2	500	800	1000

Leach Test Information

	2:1	8:1
Date Prepared	27-Jun-2011	27-Jun-2011
pH (pH Units)	8.188	8.19
Conductivity (µS/cm)	1,141.00	239.00
Temperature (°C)	22.00	20.50
Volume Leachant (Litres)	0.283	1.400
Volume of Eluate VE1 (Litres)	0.225	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
04/07/2011 12:46:33

12:46:29 04/07/2011

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

CEN 10:1 CUMULATIVE TWO STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/3

Client Reference		**Site Location**	Limerick Co Co
Mass Sample taken (kg)	0.211	**Moisture Content Ratio (%)**	20.5
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	83.0
Particle Size <4mm	>95%		

Case	
SDG	110623-93
Lab Sample Number(s)	3732193
Sampled Date	16-Jun-2011
Customer Sample Ref.	20476-1-COMP B
Depth (m)	

Solid Waste Analysis

		Landfill Waste Acceptance Criteria Limits		
		Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Total Organic Carbon (%)	2.08	3	5	6
Loss on Ignition (%)	7.27	-	-	10
Sum of BTEX (mg/kg)	0.00276	6	-	-
Sum of 7 PCBs (mg/kg)	none detected	1	-	-
Mineral Oil (mg/kg)	29.8	500	-	-
PAH Sum of 17 (mg/kg)	<10.0	100	-	-
pH (pH Units)	7.54	-	<6 or >9	-
ANC to pH 6 (mol/kg)	0.128	-	-	-
ANC to pH 4 (mol/kg)	0.884	-	-	-

Eluate Analysis

	C_2 Concⁿ in 2:1 eluate	C_8 Concⁿ in 8:1 eluate	A_2 2:1 concⁿ leached	$A_{2\text{-}10}$ Cumulative concⁿ leached	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	mg/l		mg/kg				
Arsenic	0.00143	0.00106	0.00285	0.0112	0.5	2	25
Barium	0.269	0.0978	0.537	1.22	20	100	300
Cadmium	<0.0001	<0.0001	<0.0002	<0.001	0.04	1	5
Chromium	0.00458	0.00349	0.00916	0.0364	0.5	10	70
Copper	0.0198	0.00585	0.0396	0.078	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.00002	<0.0001	0.01	0.2	2
Molybdenum	0.00832	0.00731	0.0166	0.0745	0.5	10	30
Nickel	0.00826	0.00301	0.0165	0.0374	0.4	10	40
Lead	0.000558	0.000112	0.00112	0.00174	0.5	10	50
Antimony	0.0107	0.00852	0.0213	0.0882	0.06	0.7	5
Selenium	0.00139	0.000492	0.00277	0.00618	0.1	0.5	7
Zinc	0.0199	0.0177	0.0398	0.18	4	50	200
Chloride	61.3	4.6	123	125	800	15000	25000
Fluoride	<0.5	<0.5	<1	<5	10	150	500
Sulphate (soluble)	854	204	1710	2950	1000	20000	50000
Total Dissolved Solids	1230	396	2460	5130	4000	60000	100000
Total Monohydric Phenols (W)	none detected	none detected	none detected	none detected	1	-	-
Dissolved Organic Carbon	18.3	8.23	36.6	96.4	500	800	1000

Leach Test Information

	2:1	8:1
Date Prepared	27-Jun-2011	27-Jun-2011
pH (pH Units)	8.040	7.01
Conductivity (µS/cm)	1,718.00	535.00
Temperature (°C)	21.80	20.50
Volume Leachant (Litres)	0.314	1.400
Volume of Eluate VE1 (Litres)	0.245	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
04/07/2011 12:46:33

12:46:29 04/07/2011

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	**#**	ISO 17025 Accredited	*	Subcontracted Test	**M**	MCERTS Accredited
NFD	No Fibres Detected	**PFD**	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	**EC**	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
PM114		Leaching Procedure for CEN Two Stage BatchTest 2:1/8:1 Cumulative		
TM018	BS 1377: Part 3 1990	Determination of Loss on Ignition		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
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		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM123	BS 2690: Part 121:1981	The Determination of Total Dissolved Solids in Water		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
TM182	CEN/TC 292 - WI 292046-chacterization of waste-leaching Behaviour Tests- Acid and Base Neutralization Capacity Test	Determination of Acid Neutralisation Capacity (ANC) Using Autotitration in Soils		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM213	In-house Method	Rapid Determination of PAHs by GC-FID		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		

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

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Test Completion Dates

Lab Sample No(s)	3732189	3732193
Customer Sample Ref.	20476-1-COMP A	20476-1-COMP B
AGS Ref.		
Depth		
Type	SOLID	SOLID
ANC at pH4 and ANC at pH 6	29-Jun-2011	29-Jun-2011
Anions by Kone (w)	04-Jul-2011	04-Jul-2011
CEN 2:1 Leachate (2 Stage)	27-Jun-2011	27-Jun-2011
CEN 2:1 Readings	29-Jun-2011	29-Jun-2011
CEN 8:1 Leachate (2 Stage)	29-Jun-2011	29-Jun-2011
CEN 8:1 Readings	29-Jun-2011	29-Jun-2011
Dissolved Metals by ICP-MS	01-Jul-2011	01-Jul-2011
Dissolved Organic/Inorganic Carbon	30-Jun-2011	30-Jun-2011
Fluoride	01-Jul-2011	01-Jul-2011
GRO by GC-FID (S)	02-Jul-2011	02-Jul-2011
Loss on Ignition in soils	30-Jun-2011	30-Jun-2011
Mercury Dissolved	01-Jul-2011	01-Jul-2011
Mineral Oil	30-Jun-2011	30-Jun-2011
PAH Value of soil	29-Jun-2011	29-Jun-2011
PCBs by GCMS	30-Jun-2011	30-Jun-2011
pH	01-Jul-2011	01-Jul-2011
Phenols by HPLC (W)	30-Jun-2011	30-Jun-2011
Sample description	24-Jun-2011	24-Jun-2011
Total Dissolved Solids	30-Jun-2011	30-Jun-2011
Total Organic Carbon	29-Jun-2011	29-Jun-2011

CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Chromatogram

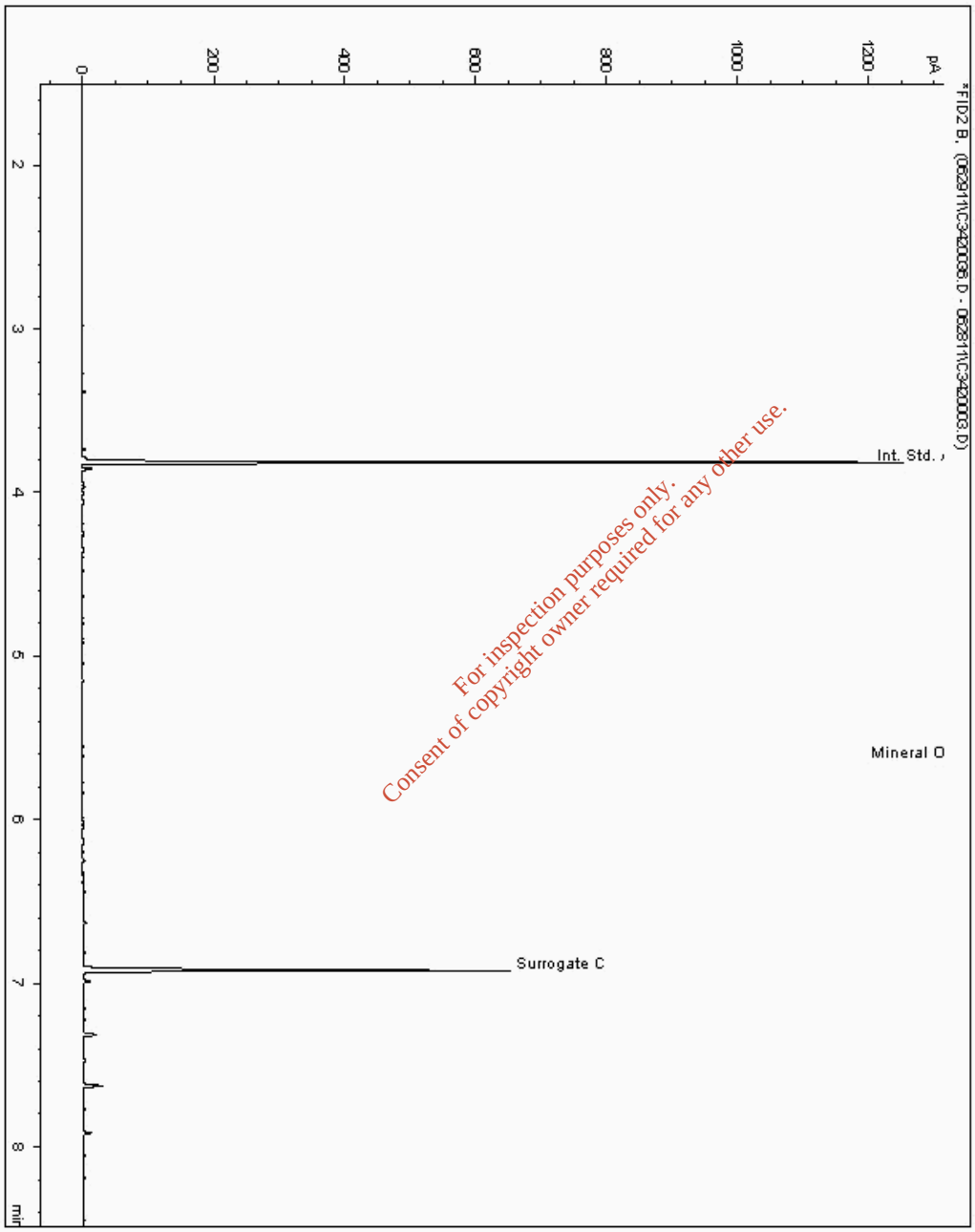
Analysis: Mineral Oil

Sample No : 3764309
Sample ID : 20476-1-COMP B

Depth :

Alcontrol Laboratories
Mineral Oil Range Organics (C10 - C40)

Sample Identity : 3750150-3764309
Date Acquired : 29/06/11 21:56:14 PM
Units : mg/kg
Sample Multiplier : 0.000
Dilution : 1.0 ->



CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Chromatogram

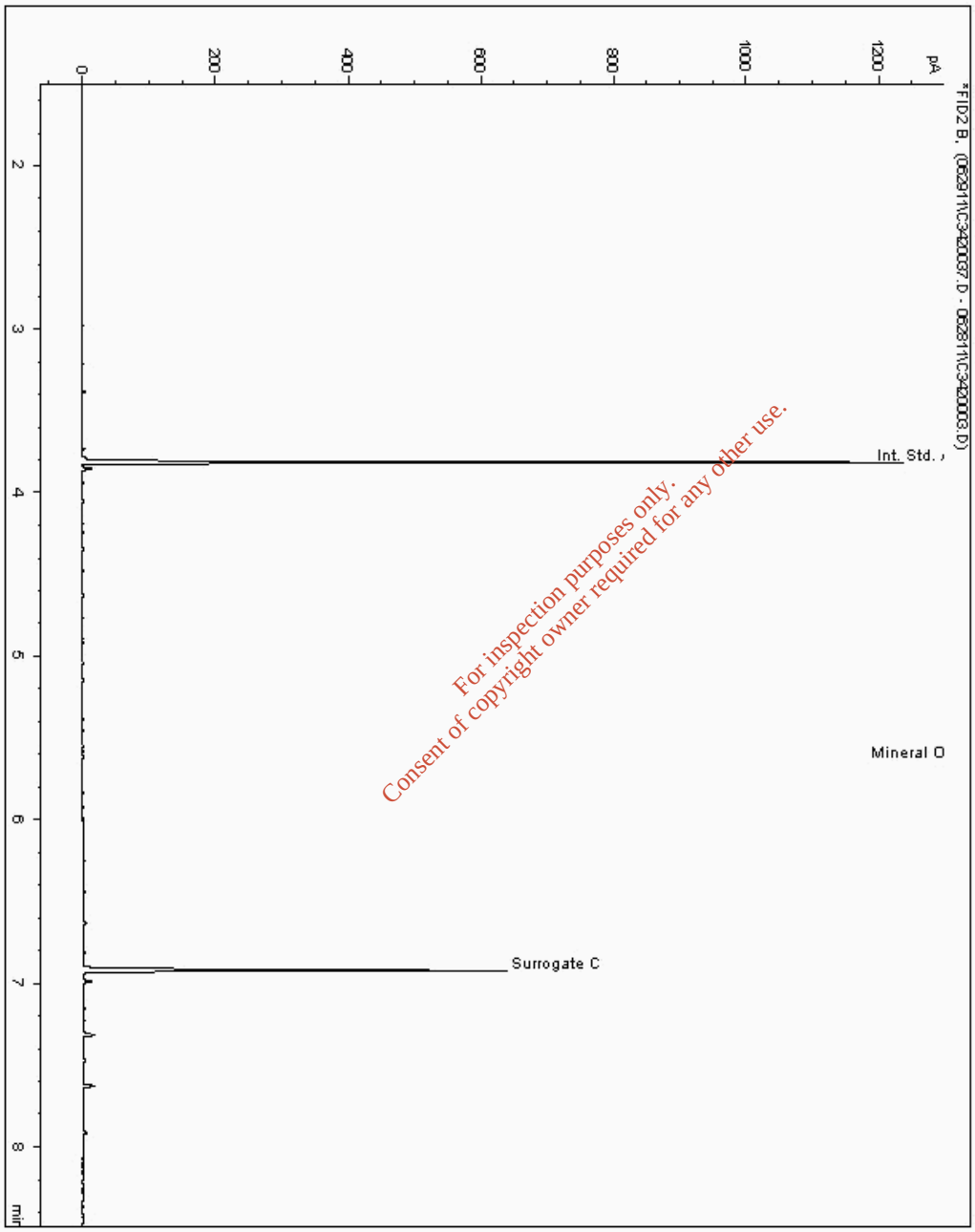
Analysis: Mineral Oil

Sample No : 3764364
Sample ID : 20476-1-COMP A

Depth :

Alcontrol Laboratories
Mineral Oil Range Organics (C10 - C40)

Sample Identity : 3750139-3764364
Date Acquired : 29/06/11 22:18:12 PM
Units : mg/kg
Sample Multiplier : 0.000
Dilution : 1.0 ->



CERTIFICATE OF ANALYSIS

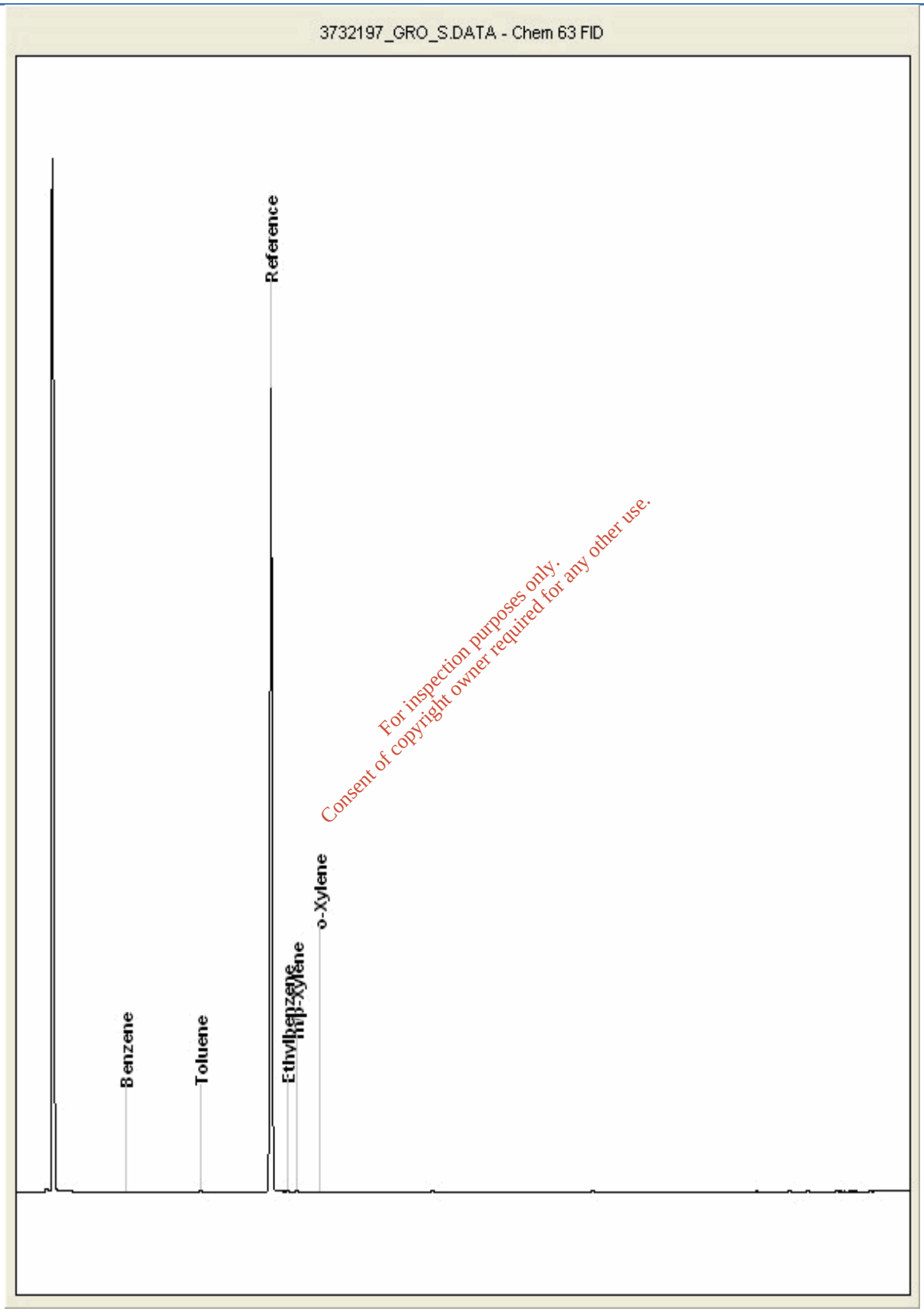
SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 3732197
Sample ID : 20476-1-COMP A

Depth :



CERTIFICATE OF ANALYSIS

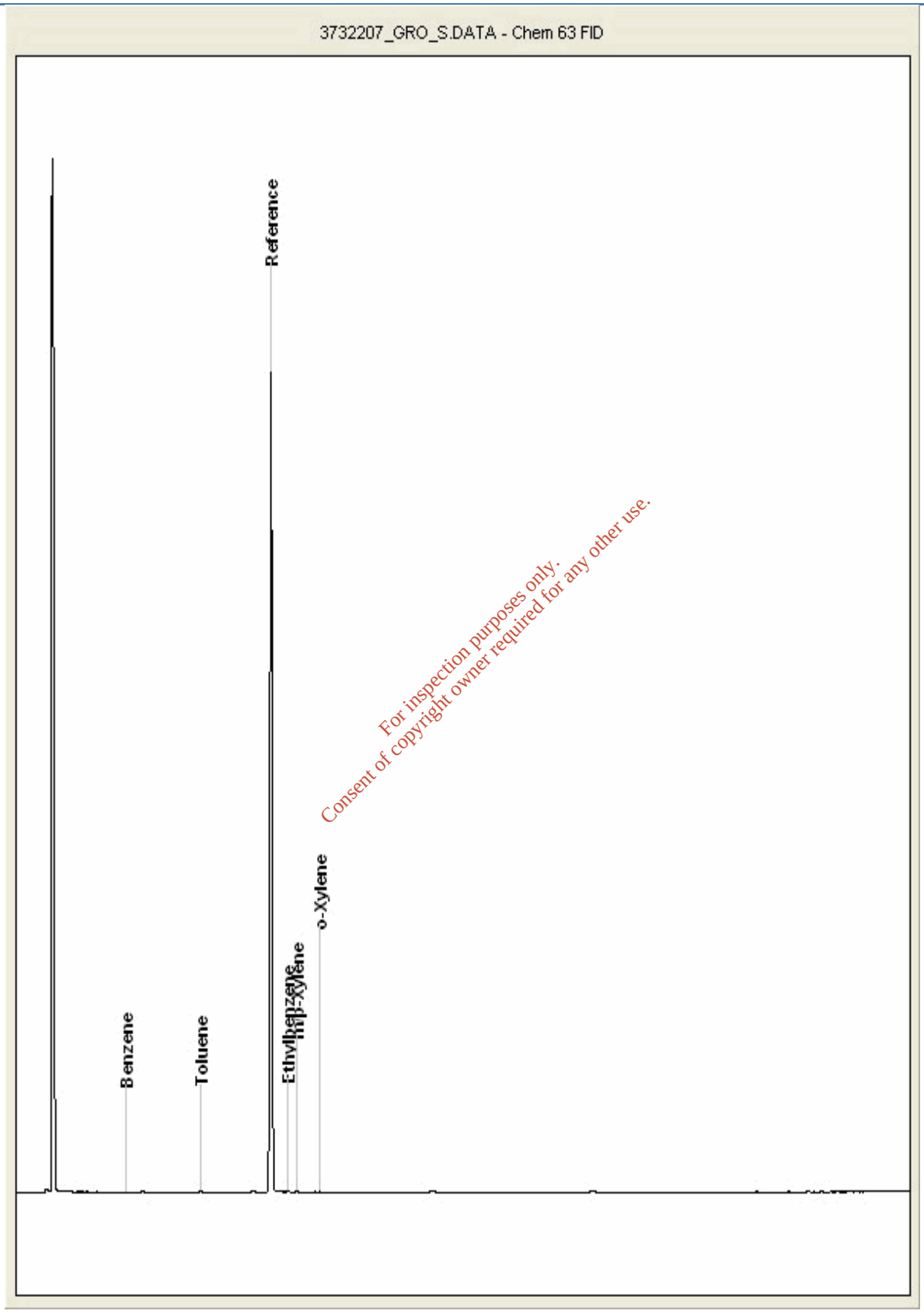
SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 3732207
Sample ID : 20476-1-COMP B

Depth :



CERTIFICATE OF ANALYSIS

SDG:	110623-93	**Location:**	Limerick Co Co	**Order Number:**	20476
Job:	D_VERDE_KCL-365	**Customer:**	Verde Remediation Services	**Report Number:**	137321
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	136560

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) 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 Dimethyphenol, 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

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GCFID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GCEZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GCEZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	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).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
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.

ALcontrol Laboratories

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

Verde Remediation Services
F27
Bullford Business Campus
Kilcoole
Co.Wicklow

Attention: Cyril Tynan

CERTIFICATE OF ANALYSIS

Date:	07 July 2011
Customer:	D_VERDE_KCL
Sample Delivery Group (SDG):	110621-46
Your Reference:	20476
Location:	20476 LCC
Report No:	138295

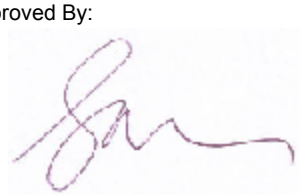
This report has been revised and directly supersedes 138284 in its entirety.

We received 14 samples on Tuesday June 21, 2011 and 14 of these samples were scheduled for analysis which was completed on Thursday July 07, 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

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3712899	20476-1-011B			17/06/2011
3712900	20476-1-014A			17/06/2011
3712901	20476-1-014B			17/06/2011
3712888	20476-1-01B			17/06/2011
3712889	20476-1-01C			17/06/2011
3712890	20476-1-02B			17/06/2011
3712891	20476-1-04A			17/06/2011
3712892	20476-1-04B			17/06/2011
3712893	20476-1-04C			17/06/2011
3712894	20476-1-07B			17/06/2011
3712895	20476-1-07C			17/06/2011
3712896	20476-1-08B			17/06/2011
3712897	20476-1-09A			17/06/2011
3712898	20476-1-09B			17/06/2011

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

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

SOLID

Results Legend

X — Test

N — No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			3712888	20476-1-01B			60g VOC Dublin (AL
			3712889	20476-1-01C			JAR (D)
			3712890	20476-1-02B			JAR (D)
			3712891	20476-1-04A			JAR (D)
			3712892	20476-1-04B			JAR (D)
			3712893	20476-1-04C			JAR (D)
			3712894	20476-1-07B			60g VOC Dublin (AL
			3712895	20476-1-07C			JAR (D)
			3712896	20476-1-08B			JAR (D)
			3712897	20476-1-09A			60g VOC Dublin (AL
			3712898	20476-1-09B			JAR (D)
			3712899	20476-1-011B			JAR (D)
			3712900	20476-1-014A			60g VOC Dublin (AL
			3712901	20476-1-014B			JAR (D)
Anions by Kone (w)	All	NDPs: 1 Tests: 4					Tube for ICP MS
Boron Water Soluble	All	NDPs: 0 Tests: 9					
CEN Readings	All	NDPs: 1 Tests: 4					Tube for ICP MS
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9					
Dissolved Metals by ICP-MS	All	NDPs: 1 Tests: 4					Tube for ICP MS
Dissolved Organic/Inorganic Carbon	All	NDPs: 1 Tests: 4					Tube for ICP MS
Easily Liberated Sulphide	All	NDPs: 0 Tests: 9					
Fluoride	All	NDPs: 1 Tests: 4					Tube for ICP MS
GRO by GC-FID (S)	All	NDPs: 0 Tests: 4					
Mercury Dissolved	All	NDPs: 1 Tests: 4					Tube for ICP MS
Metals by iCap-OES (Soil)	Arsenic	NDPs: 0 Tests: 9					
	Cadmium	NDPs: 0 Tests: 9					
	Chromium	NDPs: 0 Tests: 9					
	Copper	NDPs: 0 Tests: 9					
	Lead	NDPs: 0 Tests: 9					

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

SOLID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			3712888	20476-1-01B			60g VOC Dublin (AL
			3712889	20476-1-01C			JAR (D)
			3712890	20476-1-02B			JAR (D)
			3712891	20476-1-04A			JAR (D)
			3712892	20476-1-04B			JAR (D)
			3712893	20476-1-04C			JAR (D)
			3712894	20476-1-07B			60g VOC Dublin (AL
			3712895	20476-1-07C			JAR (D)
			3712896	20476-1-08B			JAR (D)
			3712897	20476-1-09A			60g VOC Dublin (AL
			3712898	20476-1-09B			JAR (D)
			3712899	20476-1-011B			JAR (D)
			3712900	20476-1-014A			60g VOC Dublin (AL
							JAR (D)
							Tube for ICP MS
			3712901	20476-1-014B			JAR (D)
Metals by iCap-OES (Soil)	Mercury	NDPs: 0 Tests: 9		X X X X			X X X
	Nickel	NDPs: 0 Tests: 9		X X X X			X X X X
	Selenium	NDPs: 0 Tests: 9		X X X X			X X X X
	Zinc	NDPs: 0 Tests: 9		X X X X			X X X X
Mineral Oil	All	NDPs: 0 Tests: 4	X		X	X	
NO3, NO2 and TON by KONE (s)	All	NDPs: 0 Tests: 9		X X X X			X X X X
PAH by GCMS	All	NDPs: 0 Tests: 4	X		X	X	
PAH Value of soil	All	NDPs: 0 Tests: 4	X		X	X	
PCBs by GCMS	All	NDPs: 0 Tests: 4	X		X	X	
pH	All	NDPs: 0 Tests: 9		X X X X			X X X X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 9		X X X X			X X X X
Phenols by HPLC (W)	All	NDPs: 1 Tests: 4	X		X	X	N
Phosphate (Ortho as PO4) (s)	All	NDPs: 0 Tests: 9		X X X X			X X X X
Sample description	All	NDPs: 0 Tests: 14	X	X X X X X	X	X X X	X X X X
Solvent Extract	All	NDPs: 0 Tests: 9		X X X X			X X X X

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			3712888	20476-1-01B			60g VOC Dublin (AL
			3712889	20476-1-01C			JAR (D)
			3712890	20476-1-02B			JAR (D)
			3712891	20476-1-04A			JAR (D)
			3712892	20476-1-04B			JAR (D)
			3712893	20476-1-04C			JAR (D)
			3712894	20476-1-07B			60g VOC Dublin (AL
			3712895	20476-1-07C			JAR (D)
			3712896	20476-1-08B			JAR (D)
			3712897	20476-1-09A			60g VOC Dublin (AL
			3712898	20476-1-09B			JAR (D)
			3712899	20476-1-011B			JAR (D)
			3712900	20476-1-014A			60g VOC Dublin (AL
							JAR (D)
			3712901	20476-1-014B			Tube for ICP MS
							JAR (D)
Total Dissolved Solids on Leachates	All	NDPs: 1 Tests: 4					N
			X				
				X			
				X			
				X			
							X
Total Organic Carbon	All	NDPs: 0 Tests: 7	X				
				X			
			X	X			
			X	X			
				X			
							X
Total Sulphate	All	NDPs: 0 Tests: 9					
				X			
				X			
				X			
				X			
				X			
				X			
							X
Total Sulphur	All	NDPs: 0 Tests: 9					
				X			
				X			
				X			
				X			
				X			
							X

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
3712891	20476-1-04A		Dark Brown	Silt Loam	0.063 - 0.1 mm	Stones	None
3712897	20476-1-09A		Dark Brown	Silt Loam	0.063 - 0.1 mm	Stones	None
3712900	20476-1-014A		Light Brown	Silt Loam	0.063 - 0.1 mm	Vegetation	None
3712888	20476-1-01B		Dark Brown	Silt Loam	0.063 - 0.1 mm	Stones	None
3712890	20476-1-02B		Dark Brown	Silt Loam	0.063 - 0.1 mm	None	None
3712892	20476-1-04B		Light Brown	Silt Loam	0.063 - 0.1 mm	None	None
3712894	20476-1-07B		Light Brown	Sandy Silt Loam	0.1 - 2 mm	Stones	None
3712896	20476-1-08B		Light Brown	Sandy Silt Loam	0.1 - 2 mm	Stones	None
3712898	20476-1-09B		Light Brown	Silt Loam	0.063 - 0.1 mm	None	None
3712899	20476-1-011B		Dark Brown	Silt Loam	0.063 - 0.1 mm	Stones	Vegetation
3712901	20476-1-014B		Light Brown	Silt Loam	0.063 - 0.1 mm	None	None
3712889	20476-1-01C		Light Brown	Silty Clay Loam	0.1 - 2 mm	Stones	None
3712893	20476-1-04C		Light Brown	Silt Loam	0.063 - 0.1 mm	Stones	None
3712895	20476-1-07C		Light Brown	Silt Loam	0.063 - 0.1 mm	None	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

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

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-04A	20476-1-09A	20476-1-014A	20476-1-01B	20476-1-02B	20476-1-04B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011
			Date Received	21/06/2011	21/06/2011	21/06/2011	21/06/2011	21/06/2011	21/06/2011
			SDG Ref	110621-46	110621-46	110621-46	110621-46	110621-46	110621-46
			Lab Sample No.(s)	3712891	3712897	3712900	3712888	3712890	3712892
			AGS Reference						
Moisture	%	PM114			34	16.9	23.2		
Moisture content ratio	%	PM114			51.6	20.3	30.2		
Dry matter content ratio	%	PM114			66	83.1	76.8		
Solvent Extractable Matter (SEM)	<100 mg/kg	TM004		1360 #				1170 #	<100 #
Mineral oil >C10-C40	<1 mg/kg	TM061			34.8 #	59.3 #	304 #		
Surrogate Value	-	TM061			34	43.9	43.9		
Mineral Oil Surrogate % recovery**	%	TM061			68.1	87.8	87.7		
Phenols, Total Detected monohydric	mg/kg	TM062 (S)		0.0172				none detected	none detected
Organic Carbon, Total	<0.2 %	TM132			2.84 #	6.18 #	1.69 #		
Sulphur, Total	<0.02 %	TM132		0.12 #				0.12 #	0.02 #
Organic Matter, Total	<0.35 %	TM132		5.88 #					<0.35 #
pH	1 pH Units	TM133		7.23 M				6.55 M	8.18 M
Total Cyanide	<1 mg/kg	TM153		<1 M				<1 M	<1 M
PCB congener 28	<3 µg/kg	TM168			<3 M	<3 M	10.8 M		
PCB congener 52	<3 µg/kg	TM168			<3 M	<3 M	6.28 M		
PCB congener 101	<3 µg/kg	TM168			<3 M	<3 M	3.14 M		
PCB congener 118	<3 µg/kg	TM168			<3 M	<3 M	6.82 M		
PCB congener 138	<3 µg/kg	TM168			<3 M	<3 M	<3 M		
PCB congener 153	<3 µg/kg	TM168			<3 M	<3 M	<3 M		
PCB congener 180	<3 µg/kg	TM168			<3 M	<3 M	<3 M		
Sum of detected PCB 7 Congeners	µg/kg	TM168			none detected	none detected	27		
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 #				<15 #	<15 #
Arsenic	<0.6 mg/kg	TM181		23.6 M				10.3 M	6.35 M
Cadmium	<0.02 mg/kg	TM181		1.53 M				1.27 M	0.549 M
Chromium	<0.9 mg/kg	TM181		43.1 M				33.2 M	24.1 M
Copper	<1.4 mg/kg	TM181		51 M				46.4 M	19.2 M
Lead	<0.7 mg/kg	TM181		694 M				135 M	41 M
Mercury	<0.14 mg/kg	TM181		<0.14 M				<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181		31.6 M				25.1 M	34.8 M
Selenium	<1 mg/kg	TM181		3.71 #				2.1 #	<1 #
Zinc	<1.9 mg/kg	TM181		82 M				134 M	56.9 M
Coronene	<2 mg/kg	TM213			<2	<2	<2		
Polyaromatic hydrocarbons, Total 17	<10 mg/kg	TM213			<10	<10	<10		
Sulphate, Total	<48 mg/kg	TM221		1210 M				1810 M	50.7 M
Boron, water soluble	<1 mg/kg	TM222		1.75 M				1.72 M	<1 M

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-04A	20476-1-09A	20476-1-014A	20476-1-01B	20476-1-02B	20476-1-04B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011
			Date Received	21/06/2011	21/06/2011	21/06/2011	21/06/2011	21/06/2011	21/06/2011
			SDG Ref	110621-46	110621-46	110621-46	110621-46	110621-46	110621-46
			Lab Sample No.(s)	3712891	3712897	3712900	3712888	3712890	3712892
			AGS Reference						
Phosphate (ortho) as PO4	<1 mg/kg	TM243		<1				<1	<1
Total Oxidised Nitrogen as N, 2:1 water soluble	<1 mg/kg	TM243		3.72 #				5.52 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-07B	20476-1-08B	20476-1-09B	20476-1-011B	20476-1-014B	20476-1-01C
			Depth (m)	.	.	.	.	.	.
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011
			Date Received	21/06/2011	21/06/2011	21/06/2011	21/06/2011	21/06/2011	21/06/2011
			SDG Ref	110621-46	110621-46	110621-46	110621-46	110621-46	110621-46
			Lab Sample No.(s)	3712894	3712896	3712898	3712899	3712901	3712889
			AGS Reference						
Moisture	%	PM114		18.9					
Moisture content ratio	%	PM114		23.3					
Dry matter content ratio	%	PM114		81.1					
Solvent Extractable Matter (SEM)	<100 mg/kg	TM004			460 #	<100 #	1930 #	141 #	<100 #
Mineral oil >C10-C40	<1 mg/kg	TM061		137 #					
Surrogate Value	-	TM061		43.8					
Mineral Oil Surrogate % recovery**	%	TM061		87.7					
Phenols, Total Detected monohydric	mg/kg	TM062 (S)			none detected	none detected	none detected	none detected	none detected
Organic Carbon, Total	<0.2 %	TM132		0.787 #					
Sulphur, Total	<0.02 %	TM132			0.09 #	<0.02 #	0.34 #	0.037 #	0.03 #
pH	1 pH Units	TM133			7.82 M	8.1 M	7.03 M	7.84 M	8.03 M
Total Cyanide	<1 mg/kg	TM153			<1 M	<1 M	<1 M	<1 M	<1 M
PCB congener 28	<3 µg/kg	TM168		3.24 M					
PCB congener 52	<3 µg/kg	TM168		<3 M					
PCB congener 101	<3 µg/kg	TM168		<3 M					
PCB congener 118	<3 µg/kg	TM168		<3 M					
PCB congener 138	<3 µg/kg	TM168		<3 M					
PCB congener 153	<3 µg/kg	TM168		<3 M					
PCB congener 180	<3 µg/kg	TM168		<3 M					
Sum of detected PCB 7 Congeners	µg/kg	TM168		3.24					
Sulphide, Easily liberated	<15 mg/kg	TM180			48.8 #	<15 #	33.4 #	<15 #	<15 #
Arsenic	<0.6 mg/kg	TM181			10.3 M	11.6 M	10.2 M	3.76 M	12.9 M
Cadmium	<0.02 mg/kg	TM181			0.774 M	0.698 M	1.36 M	0.318 M	0.896 M
Chromium	<0.9 mg/kg	TM181			23.2 M	23.1 M	31.4 M	33 M	30.8 M
Copper	<1.4 mg/kg	TM181			33.8 M	18.3 M	46.7 M	16.9 M	5.55 M
Lead	<0.7 mg/kg	TM181			78.5 M	42.4 M	187 M	46.3 M	44 M
Mercury	<0.14 mg/kg	TM181			<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181			27.3 M	34.2 M	25.1 M	26.8 M	31.3 M
Selenium	<1 mg/kg	TM181			<1 #	<1 #	1.49 #	<1 #	1.16 #
Zinc	<1.9 mg/kg	TM181			118 M	58.1 M	1170 M	37.5 M	44.9 M
Coronene	<2 mg/kg	TM213		<2					
Polyaromatic hydrocarbons, Total 17	<10 mg/kg	TM213		<10					
Sulphate, Total	<48 mg/kg	TM221			1010 M	78.9 M	3910 M	274 M	119 M
Boron, water soluble	<1 mg/kg	TM222			1.73 M	<1 M	2.3 M	<1 M	<1 M
Phosphate (ortho) as PO4	<1 mg/kg	TM243			<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-07B	20476-1-08B	20476-1-09B	20476-1-011B	20476-1-014B	20476-1-01C
			Depth (m)	.	.	.	.	.	.
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011
			Date Received	21/06/2011	21/06/2011	21/06/2011	21/06/2011	21/06/2011	21/06/2011
			SDG Ref	110621-46	110621-46	110621-46	110621-46	110621-46	110621-46
			Lab Sample No.(s)	3712894	3712896	3712898	3712899	3712901	3712889
			AGS Reference						
Total Oxidised Nitrogen as N, 2:1 water soluble	<1 mg/kg	TM243			<1 #	<1 #	2.55 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-04C	20476-1-07C				
			Depth (m)	.	.				
			Sample Type	Soil/Solid	Soil/Solid				
			Date Sampled	17/06/2011	17/06/2011				
			Date Received	21/06/2011	21/06/2011				
			SDG Ref	110621-46	110621-46				
			Lab Sample No.(s)	3712893	3712895				
			AGS Reference						
Solvent Extractable Matter (SEM)	<100 mg/kg	TM004			<100 #				
Phenols, Total Detected monohydric	mg/kg	TM062 (S)			none detected				
Sulphur, Total	<0.02 %	TM132			<0.02 #				
Organic Matter, Total	<0.35 %	TM132		0.448 #					
pH	1 pH Units	TM133			8.22 M				
Total Cyanide	<1 mg/kg	TM153			<1 M				
Sulphide, Easily liberated	<15 mg/kg	TM180			<15 #				
Arsenic	<0.6 mg/kg	TM181			5.86 M				
Cadmium	<0.02 mg/kg	TM181			0.439 M				
Chromium	<0.9 mg/kg	TM181			23.5 M				
Copper	<1.4 mg/kg	TM181			16 M				
Lead	<0.7 mg/kg	TM181			38 M				
Mercury	<0.14 mg/kg	TM181			<0.14 M				
Nickel	<0.2 mg/kg	TM181			29.1 M				
Selenium	<1 mg/kg	TM181			<1 #				
Zinc	<1.9 mg/kg	TM181			47.6 M				
Sulphate, Total	<48 mg/kg	TM221			106 M				
Boron, water soluble	<1 mg/kg	TM222			<1 M				
Phosphate (ortho) as PO4	<1 mg/kg	TM243			<1				
Total Oxidised Nitrogen as N, 2:1 water soluble	<1 mg/kg	TM243			<1 #				

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

GRO by GC-FID (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-09A	20476-1-014A	20476-1-01B	20476-1-07B		
			Depth (m)	.	.	.	.		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	17/06/2011	17/06/2011	17/06/2011	17/06/2011		
			Date Received	21/06/2011	21/06/2011	21/06/2011	21/06/2011		
			SDG Ref	110621-46	110621-46	110621-46	110621-46		
			Lab Sample No.(s)	3712897	3712900	3712888	3712894		
			AGS Reference						
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 #	<10 #	<5 #	<5 #		
Benzene	<10 µg/kg	TM089		<10 M	<20 M	<10 M	<10 M		
Toluene	<2 µg/kg	TM089		3.08 M	<4 M	<2 M	2.52 M		
Ethylbenzene	<3 µg/kg	TM089		<3 M	<6 M	<3 M	<3 M		
m,p-Xylene	<6 µg/kg	TM089		<6 M	<12 M	<6 M	<6 M		
o-Xylene	<3 µg/kg	TM089		<3 M	<6 M	3.93 M	<3 M		
sum of detected mpo xylene by GC	µg/kg	TM089		none detected	none detected	3.93	none detected		
sum of detected BTEX by GC	µg/kg	TM089		3.08	none detected	3.93	2.52		

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-09A	20476-1-014A	20476-1-01B	20476-1-07B		
			Depth (m)	.	.	.	.		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	17/06/2011	17/06/2011	17/06/2011	17/06/2011		
			Date Received	21/06/2011	21/06/2011	21/06/2011	21/06/2011		
			SDG Ref	110621-46	110621-46	110621-46	110621-46		
			Lab Sample No.(s)	3712897	3712900	3712888	3712894		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		91.4	103	93.9	94.3		
Acenaphthene-d10 % recovery**	%	TM218		89.6	102	94.5	93.4		
Phenanthrene-d10 % recovery**	%	TM218		86.1	99.6	91.8	91.3		
Chrysene-d12 % recovery**	%	TM218		86.4	101	98.4	98.4		
Perylene-d12 % recovery**	%	TM218		90.4	106	105	104		
Naphthalene	<9 µg/kg	TM218		71.1 M	1440 M	134 M	17.6 M		
Acenaphthylene	<12 µg/kg	TM218		<12 M	42.5 M	109 M	<12 M		
Acenaphthene	<8 µg/kg	TM218		<8 M	147 M	1150 M	<8 M		
Fluorene	<10 µg/kg	TM218		15.5 M	120 M	326 M	15.8 M		
Phenanthrene	<15 µg/kg	TM218		80.6 M	210 M	835 M	49.9 M		
Anthracene	<16 µg/kg	TM218		<16 M	49.9 M	241 M	<16 M		
Fluoranthene	<17 µg/kg	TM218		135 M	125 M	3820 M	73 M		
Pyrene	<15 µg/kg	TM218		109 M	92.2 M	5670 M	69.4 M		
Benz(a)anthracene	<14 µg/kg	TM218		89.2 M	76.3 M	838 M	63.7 M		
Chrysene	<10 µg/kg	TM218		57.4 M	54.8 M	544 M	38.3 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		123 M	113 M	726 M	65.7 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		35.9 M	32.5 M	212 M	24.9 M		
Benzo(a)pyrene	<15 µg/kg	TM218		78.1 M	61.8 M	539 M	50 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		50.4 M	42.4 M	269 M	28.8 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	<23 M	93.5 M	<23 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		63.2 M	51.6 M	332 M	38.4 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		908	2660	15800	535		

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	20476 LCC
Mass Sample taken (kg)	0.118	**Moisture Content Ratio (%)**	30.2
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	76.8
Particle Size <4mm	>95%		

Case	
SDG	110621-46
Lab Sample Number(s)	3712888
Sampled Date	17-Jun-2011
Customer Sample Ref.	20476-1-01B
Depth (m)	

Solid Waste Analysis	**Result**	**Murphy LoD mg/kg dry substance**			
Total Organic Carbon (%)	1.69	<30,000.0 mg/kg dry substance	-	-	-
Loss on Ignition (%)	-		-	-	-
Sum of BTEX (mg/kg)	0.00393	<6.0	-	-	-
Sum of 7 PCBs (mg/kg)	0.027	<1.0	-	-	-
Mineral Oil (mg/kg)	304	<500.0	-	-	-
PAH Sum of 17 (mg/kg)	<10.0	<100.0	-	-	-
pH (pH Units)	-		-	-	-
ANC to pH 6 (mol/kg)	-		-	-	-
ANC to pH 4 (mol/kg)	-		-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Murphy Limits of Detection mg/kg dry**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.000734	<0.00012	0.00734	<0.0012	0.5	-	-
Barium	0.0438	<0.00003	0.438	<0.0003	20	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	0.04	-	-
Chromium	0.00218	<0.00022	0.0218	<0.0022	0.5	-	-
Copper	0.00486	<0.00085	0.0486	<0.0085	2	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	-	-
Molybdenum	0.00551	<0.00024	0.0551	<0.0024	0.5	-	-
Nickel	0.00227	<0.00015	0.0227	<0.0015	0.4	-	-
Lead	0.000035	<0.00002	0.00035	<0.0002	0.5	-	-
Antimony	0.00117	<0.00016	0.0117	<0.0016	0.06	-	-
Selenium	<0.00039	<0.00039	<0.0039	<0.0039	0.1	-	-
Zinc	0.00578	<0.00041	0.0578	<0.0041	4	-	-
Chloride	2.7	<2	27	<20	800	-	-
Fluoride	<0.5	<0.5	<5	<5	10	-	-
Sulphate (soluble)	213	<2	2130	<20	1000	-	-
Total Dissolved Solids	383	<10	3830	<100	4000	-	-
Total Monohydric Phenols (W)	0	<0	0	<0	1	-	-
Dissolved Organic Carbon	3.99	<3	39.9	<30	500	-	-

Leach Test Information

Date Prepared	22-Jun-2011
pH (pH Units)	7.39
Conductivity (µS/cm)	522.00
Temperature (°C)	22.10
Volume Leachant (Litres)	0.873
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
07/07/2011 20:02:18

20:02:13 07/07/2011

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	20476 LCC
Mass Sample taken (kg)	0.111	**Moisture Content Ratio (%)**	23.3
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	81.1
Particle Size <4mm	>95%		

Case	
SDG	110621-46
Lab Sample Number(s)	3712894
Sampled Date	17-Jun-2011
Customer Sample Ref.	20476-1-07B
Depth (m)	

Solid Waste Analysis	**Result**	**Murphy LoD mg/kg dry substance**			
Total Organic Carbon (%)	0.787	<30,000.0 mg/kg dry substance	-	-	-
Loss on Ignition (%)	-		-	-	-
Sum of BTEX (mg/kg)	0.00252	<6.0	-	-	-
Sum of 7 PCBs (mg/kg)	0.00324	<1.0	-	-	-
Mineral Oil (mg/kg)	137	<500.0	-	-	-
PAH Sum of 17 (mg/kg)	<10.0	<100.0	-	-	-
pH (pH Units)	-		-	-	-
ANC to pH 6 (mol/kg)	-		-	-	-
ANC to pH 4 (mol/kg)	-		-	-	-

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**		**Murphy Limits of Detection mg/kg dry**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.0023	<0.00012	0.023	<0.0012	0.5	-	-
Barium	0.0452	<0.00003	0.452	<0.0003	20	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	0.04	-	-
Chromium	0.00253	<0.00022	0.0253	<0.0022	0.5	-	-
Copper	<0.00085	<0.00085	<0.0085	<0.0085	2	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	-	-
Molybdenum	0.0216	<0.00024	0.216	<0.0024	0.5	-	-
Nickel	0.00422	<0.00015	0.0422	<0.0015	0.4	-	-
Lead	0.000318	<0.00002	0.00318	<0.0002	0.5	-	-
Antimony	0.00369	<0.00016	0.0369	<0.0016	0.06	-	-
Selenium	0.000588	<0.00039	0.00588	<0.0039	0.1	-	-
Zinc	0.00121	<0.00041	0.0121	<0.0041	4	-	-
Chloride	<2	<2	<20	<20	800	-	-
Fluoride	<0.5	<0.5	<5	<5	10	-	-
Sulphate (soluble)	114	<2	1140	<20	1000	-	-
Total Dissolved Solids	310	<10	3100	<100	4000	-	-
Total Monohydric Phenols (W)	0	<0	0	<0	1	-	-
Dissolved Organic Carbon	8.55	<3	85.5	<30	500	-	-

Leach Test Information

Date Prepared	22-Jun-2011
pH (pH Units)	7.69
Conductivity (µS/cm)	415.00
Temperature (°C)	22.10
Volume Leachant (Litres)	0.879
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
07/07/2011 20:02:18

20:02:13 07/07/2011

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	20476 LCC
Mass Sample taken (kg)	0.136	**Moisture Content Ratio (%)**	51.6
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	66.0
Particle Size <4mm	>95%		

Case	
SDG	110621-46
Lab Sample Number(s)	3712897
Sampled Date	17-Jun-2011
Customer Sample Ref.	20476-1-09A
Depth (m)	

Solid Waste Analysis	**Result**	**Murphy LoD mg/kg dry substance**			
Total Organic Carbon (%)	2.84	<30,000.0 mg/kg dry substance	-	-	-
Loss on Ignition (%)	-		-	-	-
Sum of BTEX (mg/kg)	0.00308	<6.0	-	-	-
Sum of 7 PCBs (mg/kg)	none detected	<1.0	-	-	-
Mineral Oil (mg/kg)	34.8	<500.0	-	-	-
PAH Sum of 17 (mg/kg)	<10.0	<100.0	-	-	-
pH (pH Units)	-		-	-	-
ANC to pH 6 (mol/kg)	-		-	-	-
ANC to pH 4 (mol/kg)	-		-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Murphy Limits of Detection mg/kg dry**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00446	<0.00012	0.0446	<0.0012	0.5	-	-
Barium	0.0221	<0.00003	0.221	<0.0003	20	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	0.04	-	-
Chromium	0.00285	<0.00022	0.0285	<0.0022	0.5	-	-
Copper	0.0139	<0.00085	0.139	<0.0085	2	-	-
Mercury Dissolved (CVAF)	0.0000146	<0.000001	0.000146	<0.0001	0.01	-	-
Molybdenum	0.00615	<0.00024	0.0615	<0.0024	0.5	-	-
Nickel	0.0032	<0.00015	0.032	<0.0015	0.4	-	-
Lead	0.000905	<0.00002	0.00905	<0.0002	0.5	-	-
Antimony	0.0123	<0.00016	0.123	<0.0016	0.06	-	-
Selenium	0.000926	<0.00039	0.00926	<0.0039	0.1	-	-
Zinc	0.00716	<0.00041	0.0716	<0.0041	4	-	-
Chloride	2.5	<2	25	<20	800	-	-
Fluoride	<0.5	<0.5	<5	<5	10	-	-
Sulphate (soluble)	44.2	<2	442	<20	1000	-	-
Total Dissolved Solids	220	<10	2200	<100	4000	-	-
Total Monohydric Phenols (W)	0	<0	0	<0	1	-	-
Dissolved Organic Carbon	14.6	<3	146	<30	500	-	-

Leach Test Information

Date Prepared	22-Jun-2011
pH (pH Units)	7.77
Conductivity (µS/cm)	289.00
Temperature (°C)	22.10
Volume Leachant (Litres)	0.854
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
07/07/2011 20:02:18

20:02:13 07/07/2011

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	20476 LCC
Mass Sample taken (kg)	0.108	**Moisture Content Ratio (%)**	20.3
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	83.1
Particle Size <4mm	>95%		

Case	
SDG	110621-46
Lab Sample Number(s)	3712900
Sampled Date	17-Jun-2011
Customer Sample Ref.	20476-1-014A
Depth (m)	

Solid Waste Analysis	**Result**	**Murphy LoD mg/kg dry substance**			
Total Organic Carbon (%)	6.18	<30,000.0 mg/kg dry substance	-	-	-
Loss on Ignition (%)	-		-	-	-
Sum of BTEX (mg/kg)	none detected	<6.0	-	-	-
Sum of 7 PCBs (mg/kg)	none detected	<1.0	-	-	-
Mineral Oil (mg/kg)	59.3	<500.0	-	-	-
PAH Sum of 17 (mg/kg)	<10.0	<100.0	-	-	-
pH (pH Units)	-		-	-	-
ANC to pH 6 (mol/kg)	-		-	-	-
ANC to pH 4 (mol/kg)	-		-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Murphy Limits of Detection mg/kg dry**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.0147	<0.00012	0.147	<0.0012	0.5	-	-
Barium	0.00784	<0.00003	0.0784	<0.0003	20	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	0.04	-	-
Chromium	0.00329	<0.00022	0.0329	<0.0022	0.5	-	-
Copper	0.0302	<0.00085	0.302	<0.0085	2	-	-
Mercury Dissolved (CVAF)	0.0000167	<0.000001	0.000167	<0.0001	0.01	-	-
Molybdenum	0.007	<0.00024	0.07	<0.0024	0.5	-	-
Nickel	0.00473	<0.00015	0.0473	<0.0015	0.4	-	-
Lead	0.00504	<0.00002	0.0504	<0.0002	0.5	-	-
Antimony	0.00439	<0.00016	0.0439	<0.0016	0.06	-	-
Selenium	0.00155	<0.00039	0.0155	<0.0039	0.1	-	-
Zinc	0.033	<0.00041	0.33	<0.0041	4	-	-
Chloride	26	<2	260	<20	800	-	-
Fluoride	<0.5	<0.5	<5	<5	10	-	-
Sulphate (soluble)	<2	<2	<20	<20	1000	-	-
Total Dissolved Solids	363	<10	3630	<100	4000	-	-
Total Monohydric Phenols (W)	0	<0	0	<0	1	-	-
Dissolved Organic Carbon	60.9	<3	609	<30	500	-	-

Leach Test Information

Date Prepared	01-Jul-2011
pH (pH Units)	7.91
Conductivity (µS/cm)	530.00
Temperature (°C)	25.60
Volume Leachant (Litres)	0.882
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
07/07/2011 20:02:18

20:02:13 07/07/2011

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Notification of NDPs (No determination possible)

Date Received : 21/06/2011 12:38:39

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
3712900	20476-1-014A		Dissolved Metals by ICP-MS	Insufficient Sample
3712900	20476-1-014A		Mercury Dissolved	Insufficient Sample
3712900	20476-1-014A		Anions by Kone (w)	Insufficient Sample
3712900	20476-1-014A		Fluoride	Insufficient Sample
3712900	20476-1-014A		Phenols by HPLC (W)	Insufficient Sample
3712900	20476-1-014A		Dissolved Organic/Inorganic Carbon	Insufficient Sample
3712900	20476-1-014A		Total Dissolved Solids on Leachates	Insufficient Sample
3712900	20476-1-014A		CEN 10:1 Leachate (1 Stage)	Insufficient Sample
3712900	20476-1-014A		CEN Readings	Insufficient Sample

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	**#**	ISO 17025 Accredited	*****	Subcontracted Test	**M**	MCERTS Accredited
NFD	No Fibres Detected	**PFD**	Possible Fibres Detected	**»**	Result previously reported (Incremental reports only)	**EC**	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
PM114		Leaching Procedure for CEN Two Stage BatchTest 2:1/8:1 Cumulative		
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step		
TM004	Modified: US EPA Method 8321A	Solvent extraction of soil		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
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		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM123	BS 2690: Part 121:1981	The Determination of Total Dissolved Solids in Water		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM213	In-house Method	Rapid Determination of PAHs by GC-FID		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer		
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer		
TM243		Mixed Anions In Soils By Kone		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		

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

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Test Completion Dates

Lab Sample No(s)	3712891	3712897	3712900	3712888	3712890	3712892	3712894	3712896	3712898	3712899
Customer Sample Ref.	20476-1-04A	20476-1-09A	20476-1-014A	20476-1-01B	20476-1-02B	20476-1-04B	20476-1-07B	20476-1-08B	20476-1-09B	20476-1-011B
AGS Ref.										
Depth										
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (w)		29-Jun-2011	07-Jul-2011	29-Jun-2011			29-Jun-2011			
Boron Water Soluble	24-Jun-2011				24-Jun-2011	24-Jun-2011		24-Jun-2011	24-Jun-2011	24-Jun-2011
CEN 10:1 Leachate (1 Stage)		22-Jun-2011	01-Jul-2011	22-Jun-2011			22-Jun-2011			
CEN Readings		28-Jun-2011	04-Jul-2011	28-Jun-2011			28-Jun-2011			
Cyanide Comp/Free/Total/Thiocyanate	23-Jun-2011				23-Jun-2011	23-Jun-2011		23-Jun-2011	23-Jun-2011	23-Jun-2011
Dissolved Metals by ICP-MS		27-Jun-2011	05-Jul-2011	27-Jun-2011			27-Jun-2011			
Dissolved Organic/Inorganic Carbon		27-Jun-2011	06-Jul-2011	27-Jun-2011			27-Jun-2011			
Easily Liberated Sulphide	23-Jun-2011				23-Jun-2011	23-Jun-2011		23-Jun-2011	23-Jun-2011	23-Jun-2011
Fluoride		27-Jun-2011	06-Jul-2011	27-Jun-2011			27-Jun-2011			
GRO by GC-FID (S)		23-Jun-2011	23-Jun-2011	28-Jun-2011			23-Jun-2011			
Mercury Dissolved		27-Jun-2011	06-Jul-2011	27-Jun-2011			27-Jun-2011			
Metals by iCap-OES (Soil)	24-Jun-2011				24-Jun-2011	24-Jun-2011		24-Jun-2011	24-Jun-2011	24-Jun-2011
Mineral Oil		30-Jun-2011	30-Jun-2011	30-Jun-2011			30-Jun-2011			
NO3, NO2 and TON by KONE (s)	27-Jun-2011				27-Jun-2011	27-Jun-2011		27-Jun-2011	27-Jun-2011	27-Jun-2011
PAH by GCMS		27-Jun-2011	27-Jun-2011	27-Jun-2011			27-Jun-2011			
PAH Value of soil		24-Jun-2011	24-Jun-2011	24-Jun-2011			24-Jun-2011			
PCBs by GCMS		28-Jun-2011	28-Jun-2011	28-Jun-2011			28-Jun-2011			
pH	28-Jun-2011				28-Jun-2011	27-Jun-2011		28-Jun-2011	28-Jun-2011	28-Jun-2011
Phenols by HPLC (S)	24-Jun-2011				27-Jun-2011	24-Jun-2011		23-Jun-2011	23-Jun-2011	23-Jun-2011
Phenols by HPLC (W)		28-Jun-2011	06-Jul-2011	28-Jun-2011			28-Jun-2011			
Phosphate (Ortho as PO4) (s)	29-Jun-2011				29-Jun-2011	29-Jun-2011		29-Jun-2011	29-Jun-2011	29-Jun-2011
Sample description	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011
Solvent Extract	27-Jun-2011				27-Jun-2011	27-Jun-2011		27-Jun-2011	27-Jun-2011	27-Jun-2011
Total Dissolved Solids on Leachates		28-Jun-2011	05-Jul-2011	28-Jun-2011			28-Jun-2011			
Total Organic Carbon	24-Jun-2011	24-Jun-2011	24-Jun-2011	27-Jun-2011		23-Jun-2011	24-Jun-2011			
Total Sulphate	27-Jun-2011				27-Jun-2011	27-Jun-2011		27-Jun-2011	27-Jun-2011	27-Jun-2011
Total Sulphur	24-Jun-2011				24-Jun-2011	24-Jun-2011		24-Jun-2011	24-Jun-2011	24-Jun-2011

Lab Sample No(s)	3712901	3712889	3712893	3712895
Customer Sample Ref.	20476-1-014B	20476-1-01C	20476-1-04C	20476-1-07C
AGS Ref.				
Depth				
Type	SOLID	SOLID	SOLID	SOLID
Boron Water Soluble	24-Jun-2011	24-Jun-2011		24-Jun-2011
Cyanide Comp/Free/Total/Thiocyanate	23-Jun-2011	24-Jun-2011		23-Jun-2011
Easily Liberated Sulphide	23-Jun-2011	23-Jun-2011		23-Jun-2011
Metals by iCap-OES (Soil)	24-Jun-2011	24-Jun-2011		24-Jun-2011
NO3, NO2 and TON by KONE (s)	23-Jun-2011	27-Jun-2011		27-Jun-2011
pH	28-Jun-2011	28-Jun-2011		27-Jun-2011
Phenols by HPLC (S)	23-Jun-2011	23-Jun-2011		23-Jun-2011
Phosphate (Ortho as PO4) (s)	23-Jun-2011	29-Jun-2011		29-Jun-2011
Sample description	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011
Solvent Extract	27-Jun-2011	27-Jun-2011		27-Jun-2011
Total Organic Carbon			24-Jun-2011	
Total Sulphate	23-Jun-2011	27-Jun-2011		27-Jun-2011
Total Sulphur	24-Jun-2011	24-Jun-2011		24-Jun-2011

CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Chromatogram

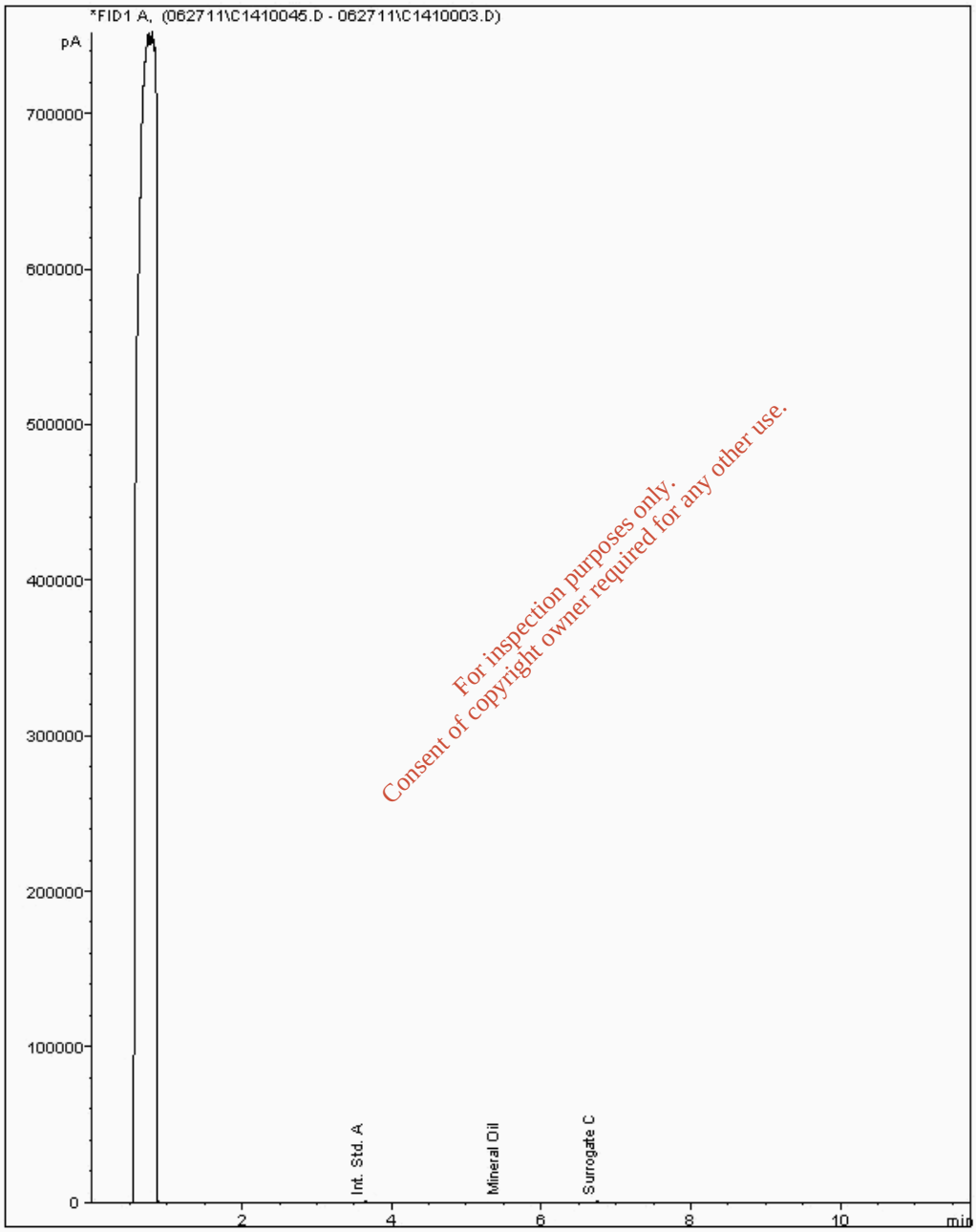
Analysis: Mineral Oil

Sample No : 3731841
Sample ID : 20476-1-014A

Depth :

Alcontrol/Geochem Analytical Services
Mineral Oil Range Organics (C10 - C40)

Sample Identity : 3732638-3731841
Date Acquired : 28/06/11 01:35:34 PM
Units : mg/kg
Sample Multiplier : 0.000
Dilution :



CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Chromatogram

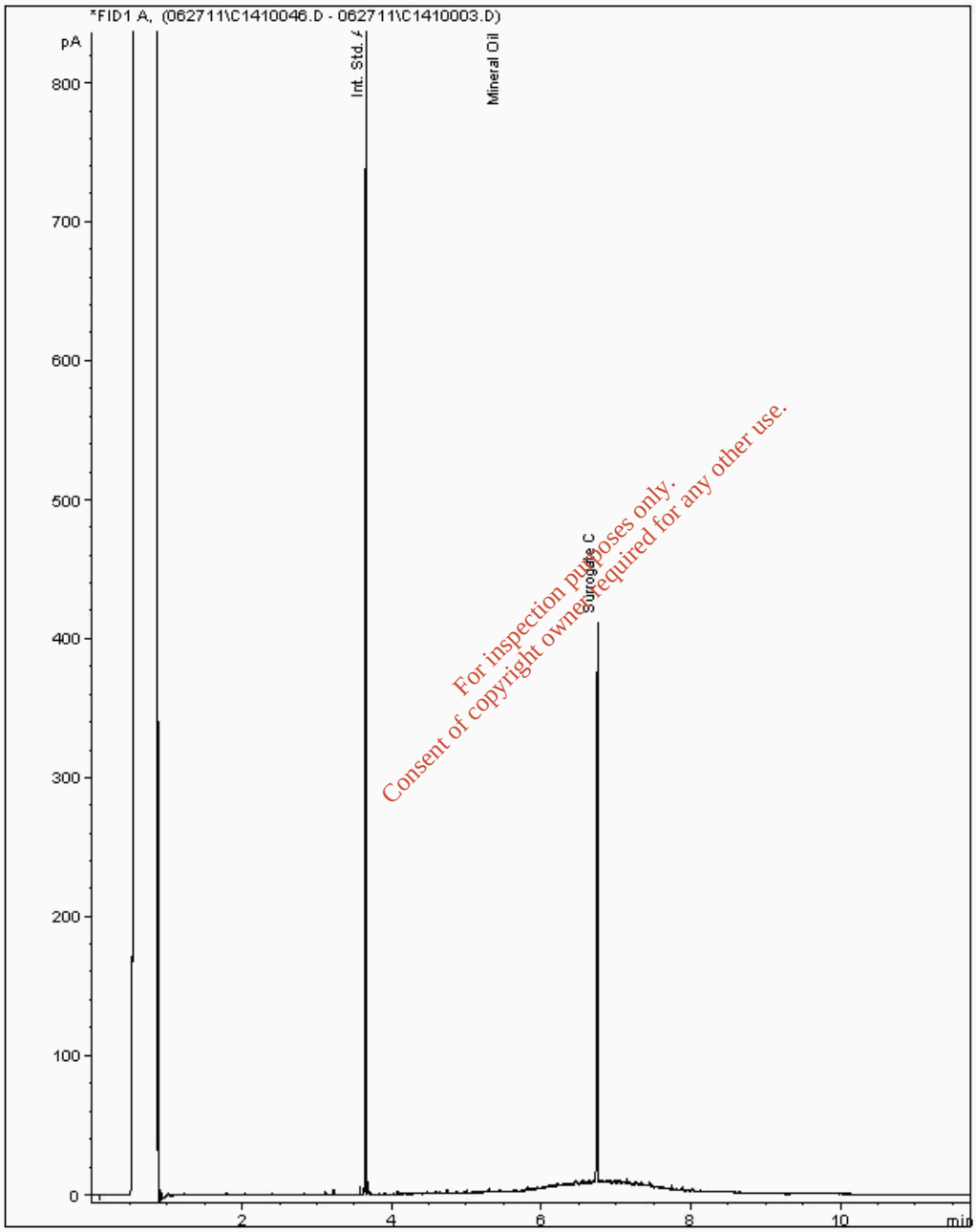
Analysis: Mineral Oil

Sample No : 3732003
Sample ID : 20476-1-07B

Depth :

Alcontrol/Geochem Analytical Services
Mineral Oil Range Organics (C10 - C40)

Sample Identity : 3732621-3732003
Date Acquired : 28/06/11 01:59:14 PM
Units : mg/kg
Sample Multiplier : 0.000
Dilution :



CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Chromatogram

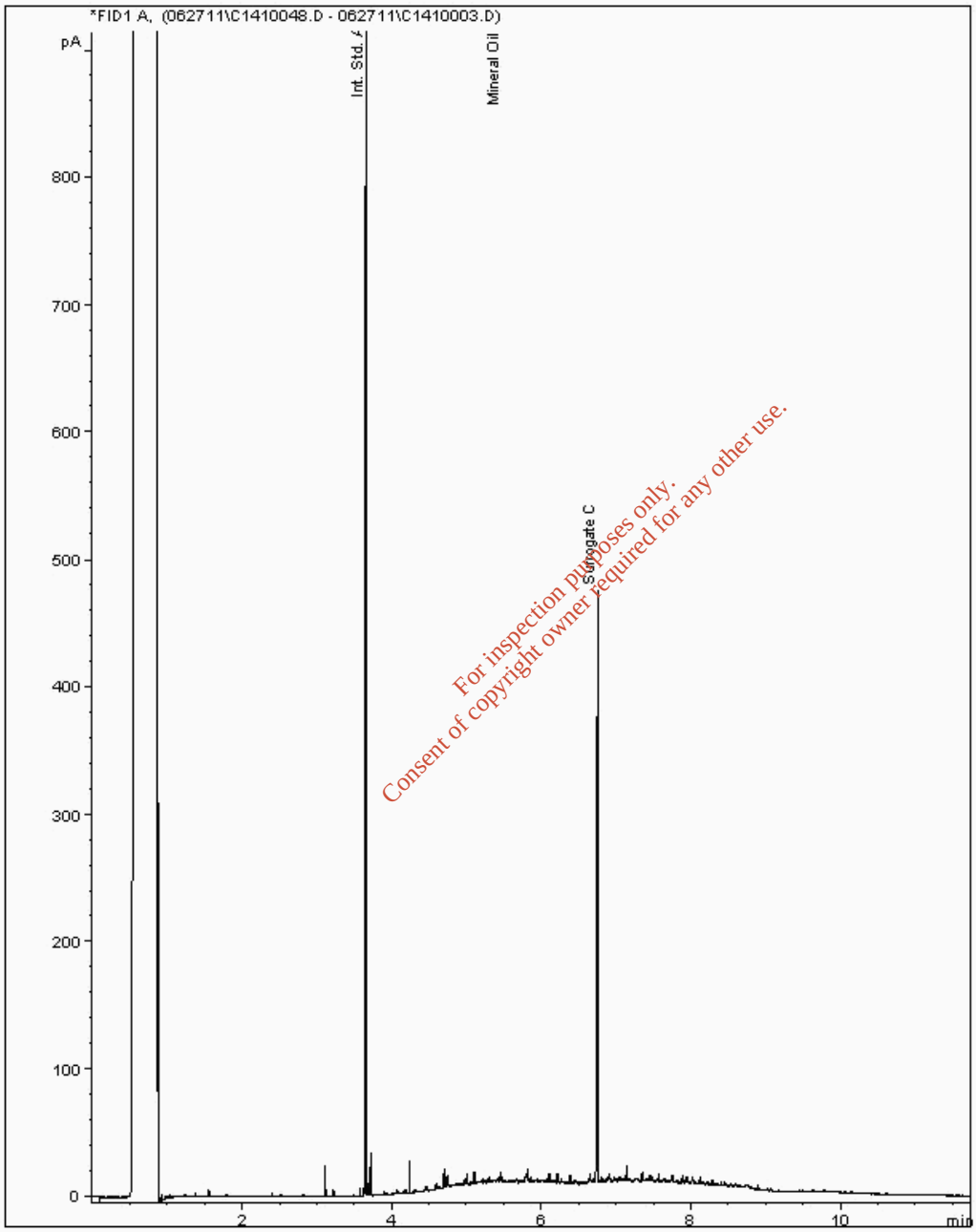
Analysis: Mineral Oil

Sample No : 3735098
Sample ID : 20476-1-01B

Depth :

Alcontrol/Geochem Analytical Services
Mineral Oil Range Organics (C10 - C40)

Sample Identity : 3732608-3735098
Date Acquired : 28/06/11 02:46:31 PM
Units : mg/kg
Sample Multiplier : 0.000
Dilution :



CERTIFICATE OF ANALYSIS

SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Chromatogram

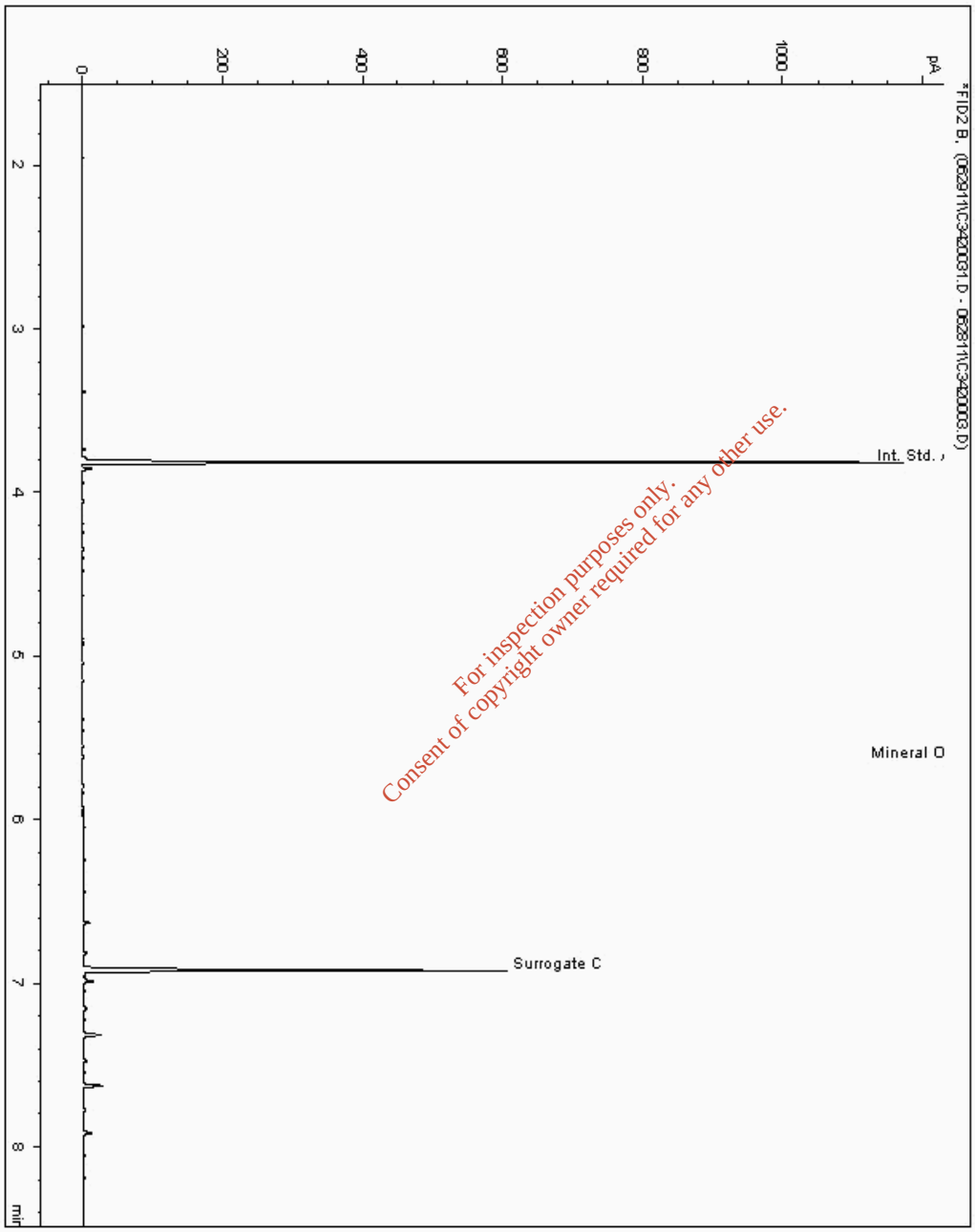
Analysis: Mineral Oil

Sample No : 3763022
Sample ID : 20476-1-09A

Depth :

Alcontrol Laboratories
Mineral Oil Range Organics (C10 - C40)

Sample Identity : 3775687-3763022
Date Acquired : 29/06/11 20:05:31 PM
Units : mg/kg
Sample Multiplier : 0.000
Dilution : 1.0 ->



CERTIFICATE OF ANALYSIS

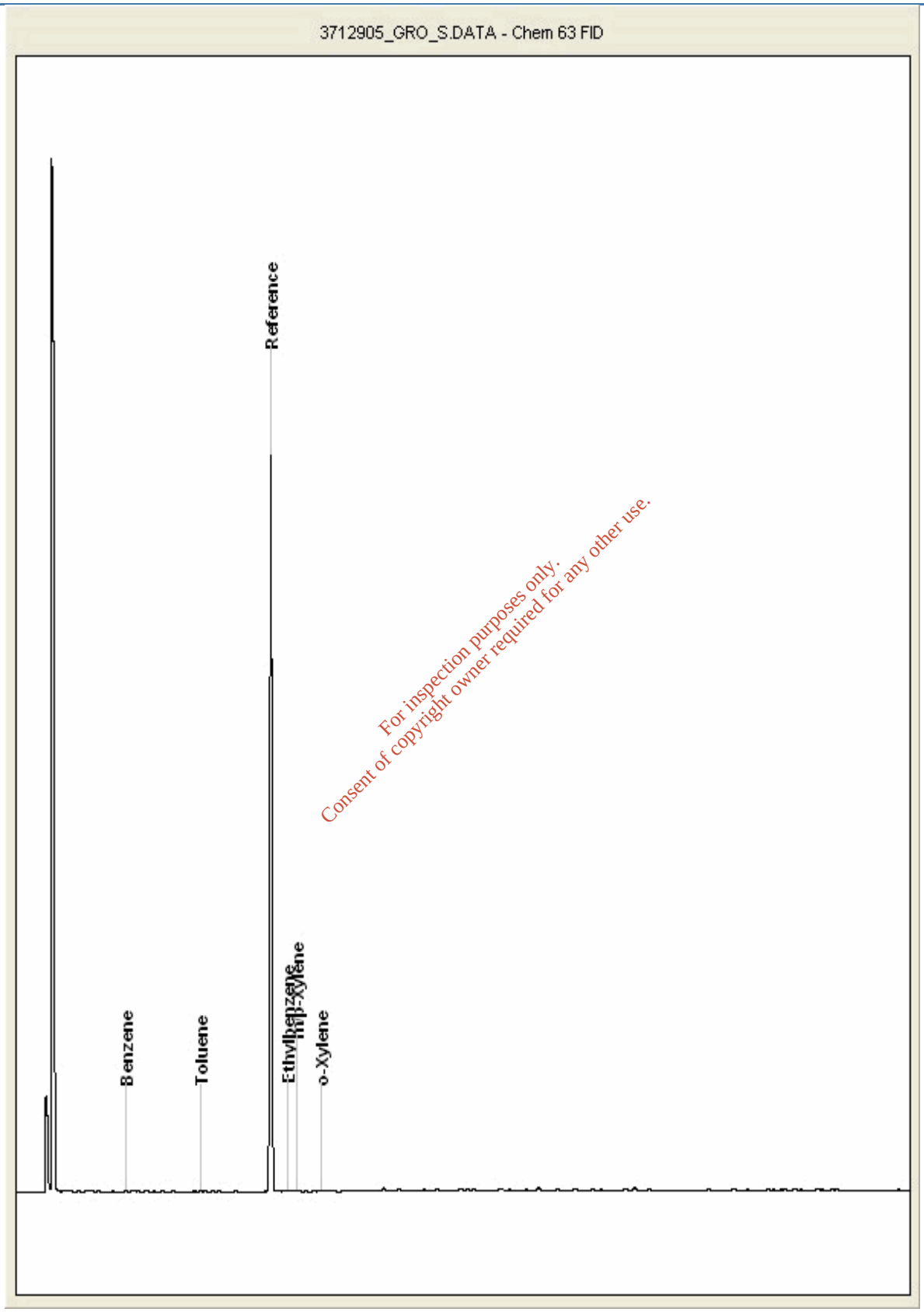
SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 3712905
Sample ID : 20476-1-01B

Depth :



CERTIFICATE OF ANALYSIS

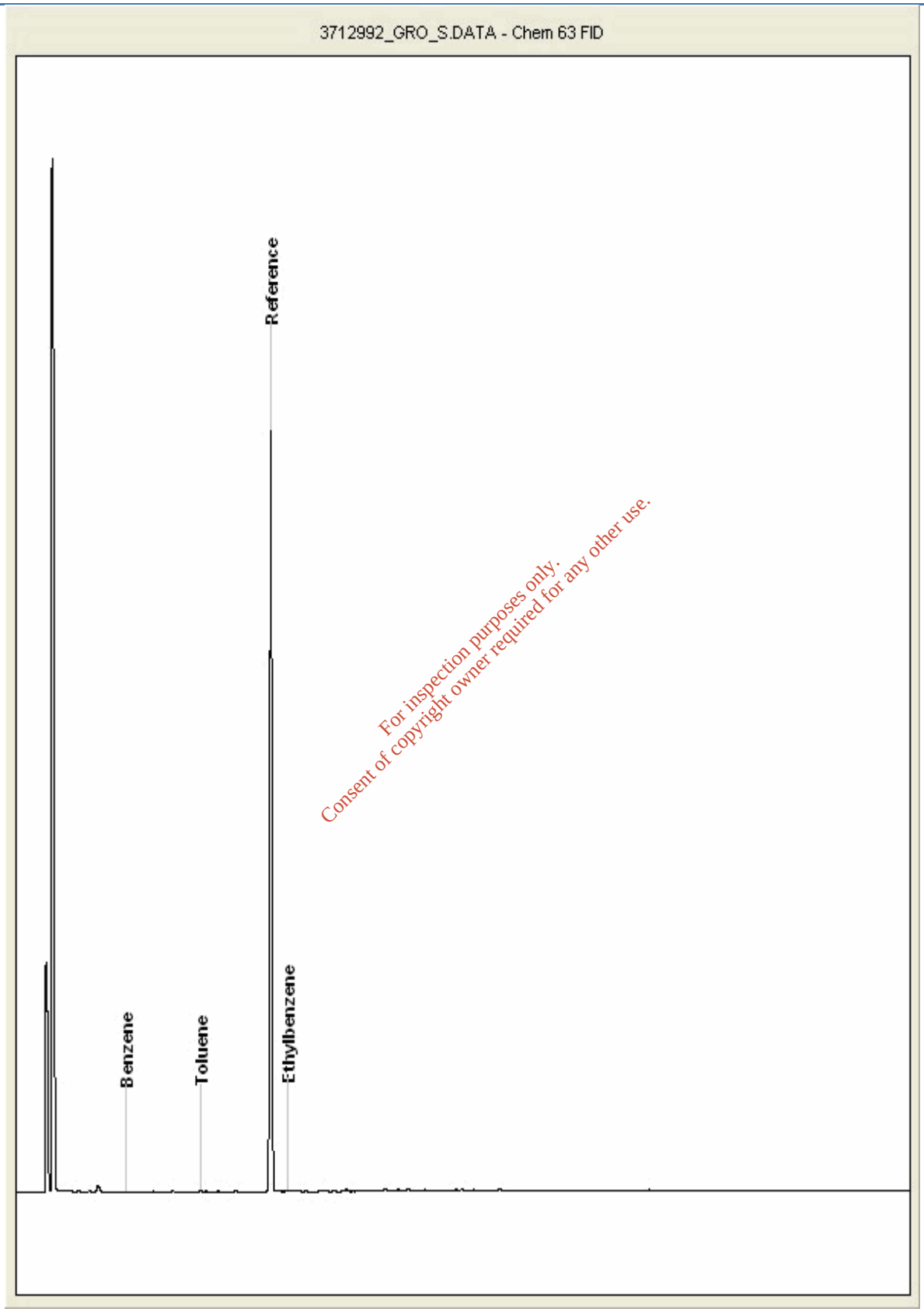
SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 3712992
Sample ID : 20476-1-07B

Depth :



CERTIFICATE OF ANALYSIS

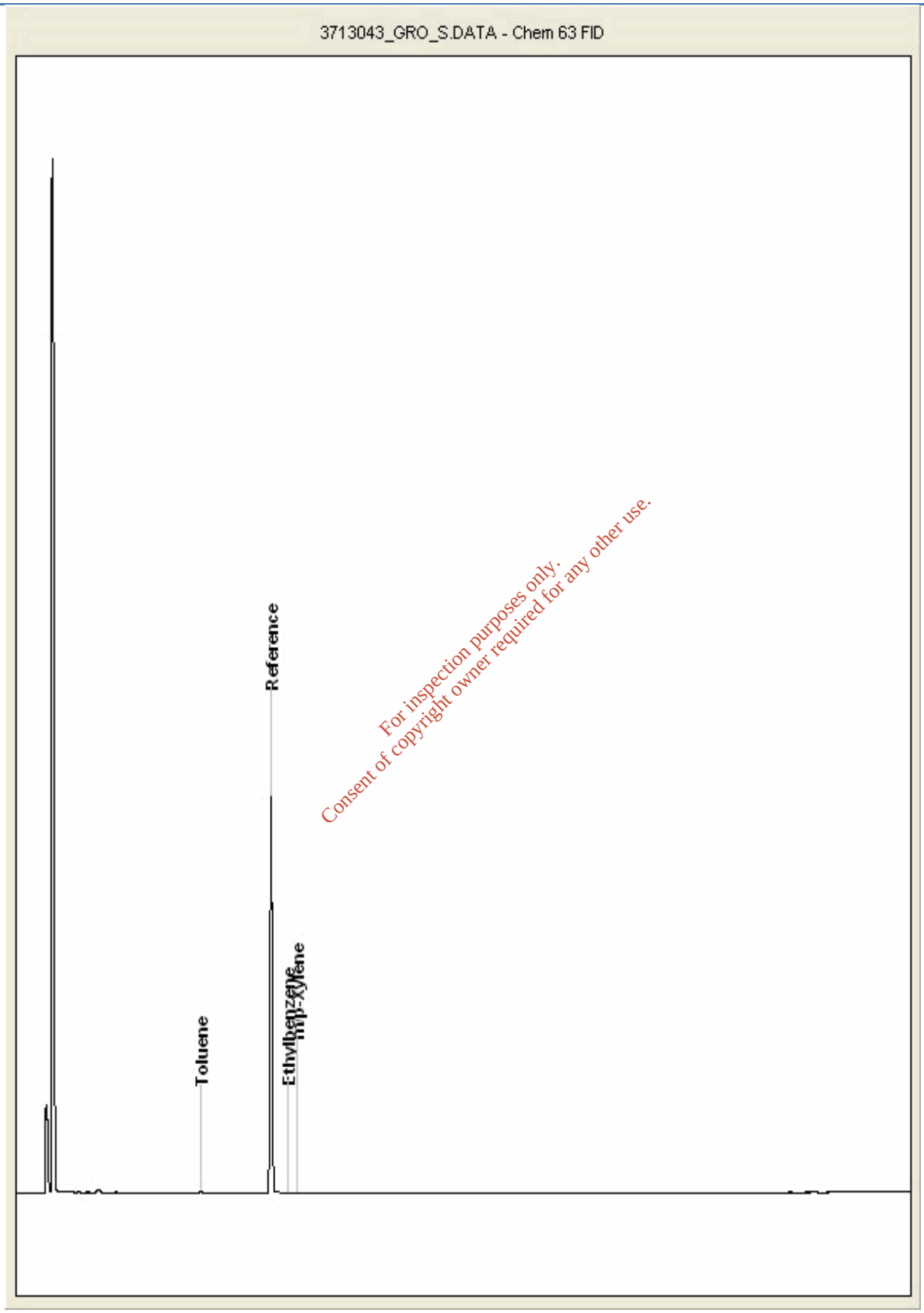
SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 3713043
Sample ID : 20476-1-09A

Depth :



CERTIFICATE OF ANALYSIS

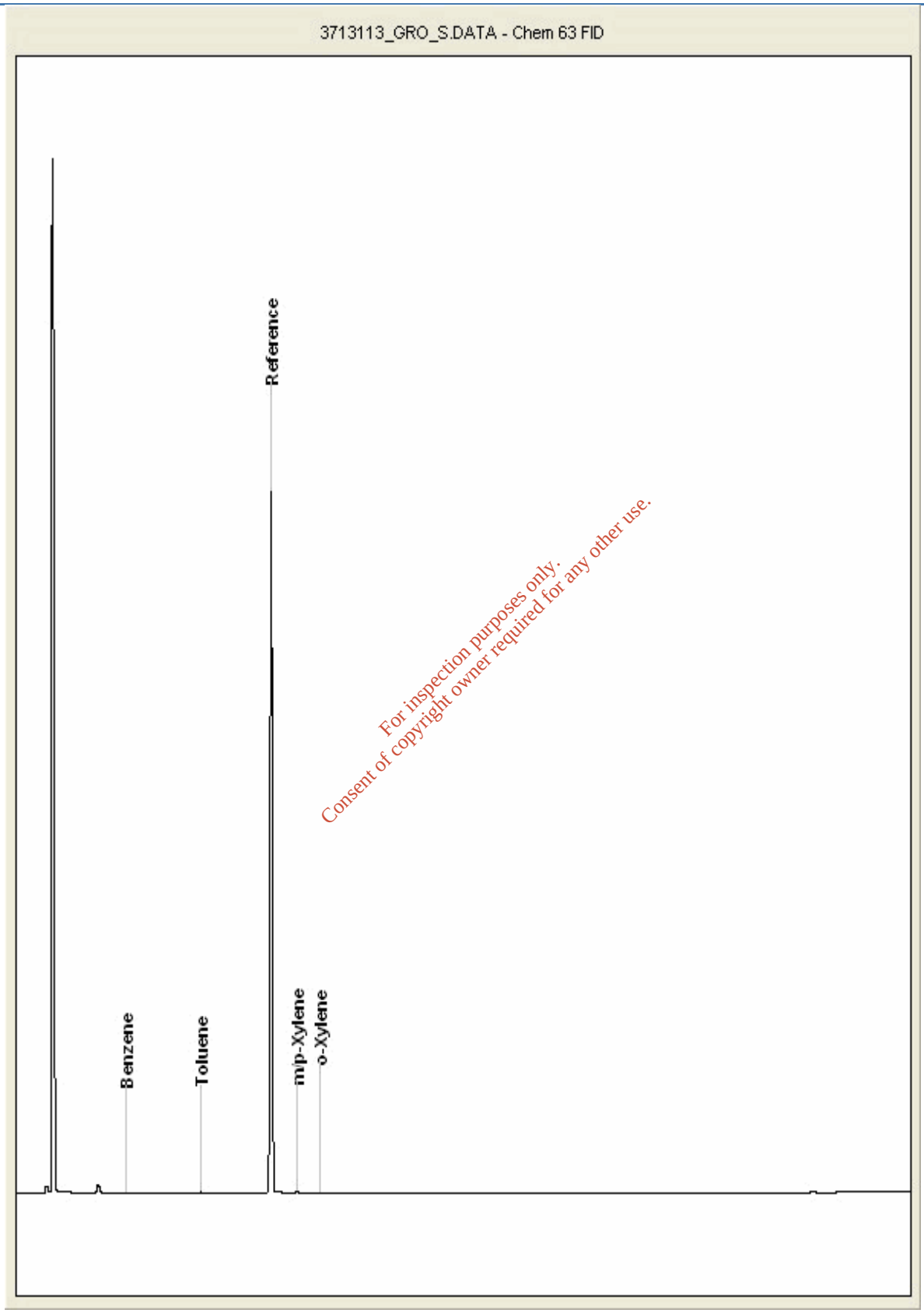
SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	138284

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 3713113
Sample ID : 20476-1-014A

Depth :



SDG:	110621-46	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-360	**Customer:**	Verde Remediation Services	**Report Number:**	138295
Client Reference:	20476	**Attention:**	Cyril Tynan	**Superseded Report:**	138284

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) 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 Dimethyphenol, 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

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GCFID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GCEZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GCEZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	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).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
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.

ALcontrol Laboratories

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

Verde Remediation Services
F27
Bullford Business Campus
Kilcoole
Co.Wicklow

Attention: Cyril Tynan

CERTIFICATE OF ANALYSIS

Date:	28 June 2011
Customer:	D_VERDE_KCL
Sample Delivery Group (SDG):	110617-107
Your Reference:	20476
Location:	20476 LCC
Report No:	136234

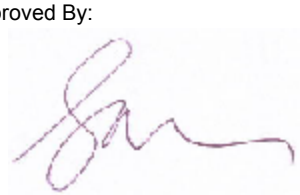
This report has been revised and directly supersedes 135551 in its entirety.

We received 8 samples on Friday June 17, 2011 and 8 of these samples were scheduled for analysis which was completed on Tuesday June 28, 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

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3694528	20476-1-001D			17/06/2011
3694522	20476-1-MW1			17/06/2011
3694523	20476-1-MW2			17/06/2011
3694524	20476-1-MW3			17/06/2011
3694527	20476-1-MW5			17/06/2011
3694518	20476-1-SW1			17/06/2011
3694520	20476-1-SW2			17/06/2011
3694521	20476-1-SW3			17/06/2011

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

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			3694522	20476-1-MW1			1l glass bottle (D)
			3694522	20476-1-MW1			PLAS BOT (D)
			3694518	20476-1-SW1			1l glass bottle (D)
			3694518	20476-1-SW1			PLAS BOT (D)
			3694523	20476-1-MW2			1l glass bottle (D)
			3694523	20476-1-MW2			PLAS BOT (D)
			3694520	20476-1-SW2			1l glass bottle (D)
			3694520	20476-1-SW2			PLAS BOT (D)
			3694524	20476-1-MW3			1l glass bottle (D)
			3694524	20476-1-MW3			PLAS BOT (D)
			3694521	20476-1-SW3			1l glass bottle (D)
			3694521	20476-1-SW3			PLAS BOT (D)
			3694527	20476-1-MW5			1l glass bottle (D)
			3694527	20476-1-MW5			PLAS BOT (D)
			3694528	20476-1-001D			1l glass bottle (D)
			3694528	20476-1-001D			PLAS BOT (D)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X
BOD True Total	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X
COD Unfiltered	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X	X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X
Dissolved Oxygen by Probe	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X	X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X	X	
pH Value	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X	X	
Sulphide	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-001D	20476-1-MW1	20476-1-MW2	20476-1-MW3	20476-1-MW5	20476-1-SW1
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011
			Date Received	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011
			SDG Ref	110617-107	110617-107	110617-107	110617-107	110617-107	110617-107
			Lab Sample No.(s)	3694528	3694522	3694523	3694524	3694527	3694518
			AGS Reference						
BOD, unfiltered	<1 mg/l	TM045		42.6 #	2.38 #	<1 #	<1 #	<1 #	1.08 #
Oxygen, dissolved	<0.3 mg/l	TM046		<0.3 #	9.04 #	8.67 #	8.38 #	8.64 #	10.2 #
Organic Carbon, Total	<3 mg/l	TM090		25.1 § #	20.4 § #	10.5 #	8.48 § #	7.7 § #	11.3 #
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099		18.8 #	11.5 #	<0.2 #	1.7 #	<0.2 #	<0.2 #
Sulphide	<0.01 mg/l	TM101		12.7 #	<0.05 #	<0.2 #	<0.1 #	<0.1 #	<0.01 #
COD, unfiltered	<7 mg/l	TM107		799 #	88.8 #	286 #	123 #	248 #	22.5 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		6.54 #	4.69 #	0.768 #	1.05 #	1.49 #	0.715 #
Boron (diss.filt)	<9.4 µg/l	TM152		257 #	181 #	203 #	73.8 #	172 #	15.2 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #	0.141 #	0.101 #	<0.1 #
Chromium (diss.filt)	<0.22 µg/l	TM152		24.2 #	16.8 #	13.3 #	18.3 #	18.1 #	5.04 #
Copper (diss.filt)	<0.85 µg/l	TM152		1.46 #	3.26 #	3.4 #	4.77 #	5.55 #	1.32 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.13 #	0.185 #	0.074 #	0.156 #	0.222 #	0.027 #
Nickel (diss.filt)	<0.15 µg/l	TM152		8.69 #	13 #	7.3 #	7.08 #	6.81 #	2.4 #
Zinc (diss.filt)	<0.41 µg/l	TM152		2 #	8.88 #	1.66 #	2.24 #	2.22 #	0.492 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Sulphate	<2 mg/l	TM184		229 #	130 #	206 #	29.1 #	35.5 #	10.4 #
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	0.07 #	<0.05 #	<0.05 #	0.05 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	<0.3 #	2.49 #	3.37 #	<0.3 #	3.53 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03	0.032	<0.03	0.042	<0.03	<0.03
pH	<1 pH Units	TM256		7.74 #	8.44 #	7.88 #	7.96 #	8.07 #	8.68 #
Phenols, Total Detected monohydric	mg/l	TM259		none detected	none detected	none detected	none detected	none detected	none detected

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-SW2	20476-1-SW3
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/06/2011	17/06/2011
			Date Received	17/06/2011	17/06/2011
			SDG Ref	110617-107	110617-107
			Lab Sample No.(s)	3694520	3694521
			AGS Reference		
BOD, unfiltered	<1 mg/l	TM045		<1 #	<1 #
Oxygen, dissolved	<0.3 mg/l	TM046		9.96 #	10.3 #
Organic Carbon, Total	<3 mg/l	TM090		9.81 #	9.7 #
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099		<0.2 #	<0.2 #
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #
COD, unfiltered	<7 mg/l	TM107		21.8 #	21 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.941 #	0.756 #
Boron (diss.filt)	<9.4 µg/l	TM152		20 #	17 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #
Chromium (diss.filt)	<0.22 µg/l	TM152		4.94 #	5.25 #
Copper (diss.filt)	<0.85 µg/l	TM152		1.23 #	1.28 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.049 #	0.04 #
Nickel (diss.filt)	<0.15 µg/l	TM152		2.37 #	2.47 #
Zinc (diss.filt)	<0.41 µg/l	TM152		0.887 #	1.23 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #
Sulphate	<2 mg/l	TM184		10.4 #	12.9 #
Nitrite as NO2	<0.05 mg/l	TM184		0.05 #	<0.05 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	<0.05 #
Nitrate as NO3	<0.3 mg/l	TM184		3.48 #	3.39 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03	<0.03
pH	<1 pH Units	TM256		8.68 #	8.67 #
Phenols, Total Detected monohydric	mg/l	TM259		0.12	none detected

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-001D	20476-1-MW1	20476-1-MW2	20476-1-MW3	20476-1-MW5	20476-1-SW1
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011
			Date Received	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011	17/06/2011
			SDG Ref	110617-107	110617-107	110617-107	110617-107	110617-107	110617-107
			Lab Sample No.(s)	3694528	3694522	3694523	3694524	3694527	3694518
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		0.162 #	0.287 #	<0.1 #	<0.1 #	<0.1 #	0.175 #
Acenaphthene (aq)	<0.015 µg/l	TM178		0.294 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #
Acenaphthylene (aq)	<0.011 µg/l	TM178		0.0839 #	<0.011 #	<0.011 #	<0.011 #	<0.011 #	<0.011 #
Fluoranthene (aq)	<0.017 µg/l	TM178		1.66 #	<0.017 #	<0.017 #	<0.017 #	<0.017 #	<0.017 #
Anthracene (aq)	<0.015 µg/l	TM178		0.147 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #
Phenanthrene (aq)	<0.022 µg/l	TM178		0.7 #	<0.022 #	<0.022 #	<0.022 #	<0.022 #	<0.022 #
Fluorene (aq)	<0.014 µg/l	TM178		0.259 #	<0.014 #	<0.014 #	<0.014 #	<0.014 #	<0.014 #
Chrysene (aq)	<0.013 µg/l	TM178		1.2 #	<0.013 #	<0.013 #	<0.013 #	<0.013 #	<0.013 #
Pyrene (aq)	<0.015 µg/l	TM178		1.51 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		0.919 #	<0.017 #	<0.017 #	<0.017 #	<0.017 #	<0.017 #
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		1.18 #	<0.023 #	<0.023 #	<0.023 #	<0.023 #	<0.023 #
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		1.4 #	<0.027 #	<0.027 #	<0.027 #	<0.027 #	<0.027 #
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		1.37 #	<0.009 #	<0.009 #	<0.009 #	<0.009 #	<0.009 #
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		0.181 #	<0.016 #	<0.016 #	<0.016 #	<0.016 #	<0.016 #
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		0.947 #	<0.016 #	<0.016 #	<0.016 #	<0.016 #	<0.016 #
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		0.618 #	<0.014 #	<0.014 #	<0.014 #	<0.014 #	<0.014 #
PAH, Total Detected USEPA 16 (aq)	µg/l	TM178		12.6	0.287	none detected	none detected	none detected	0.175

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	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	Method	Customer Sample R	20476-1-SW2	20476-1-SW3				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	17/06/2011	17/06/2011				
			Date Received	17/06/2011	17/06/2011				
			SDG Ref	110617-107	110617-107				
			Lab Sample No.(s)	3694520	3694521				
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		0.105 #	0.321 #				
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #				
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 #	<0.011 #				
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #				
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #				
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 #	<0.022 #				
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #				
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 #	<0.013 #				
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #				
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #				
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 #	<0.023 #				
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 #	<0.027 #				
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 #	<0.009 #				
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #				
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #				
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #				
PAH, Total Detected USEPA 16 (aq)	µg/l	TM178		0.105	0.321				

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

Notification of Non-Conforming Work

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3712033	20476-1-MW1		LIQUID	Total Organic and Inorganic Carbon	Organic Carbon, Total	Sample holding time exceeded
3712118	20476-1-MW5		LIQUID	Total Organic and Inorganic Carbon	Organic Carbon, Total	Sample holding time exceeded
3712142	20476-1-MW3		LIQUID	Total Organic and Inorganic Carbon	Organic Carbon, Total	Sample holding time exceeded
3712181	20476-1-001D		LIQUID	Total Organic and Inorganic Carbon	Organic Carbon, Total	Sample holding time exceeded

Note : Test results may be invalid

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM046	Method 4500G, AWWA/APHA, 20th Ed., 1999	Measurement of Dissolved 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		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM187	Winkler, L.W, Ber Deutsch. Chem. Ges, 21,2843,1888."	Dissolved Oxygen in Natural and Waste Waters HMSO 1979 ISBN 011 751442		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		

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

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

Test Completion Dates

Lab Sample No(s)	3694528	3694522	3694523	3694524	3694527	3694518	3694520	3694521
Customer Sample Ref.	20476-1-001D	20476-1-MW1	20476-1-MW2	20476-1-MW3	20476-1-MW5	20476-1-SW1	20476-1-SW2	20476-1-SW3
AGS Ref.								
Depth								
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Ammoniacal Nitrogen	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011
Anions by Kone (w)	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011
BOD True Total	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011
COD Unfiltered	20-Jun-2011	19-Jun-2011	20-Jun-2011	21-Jun-2011	20-Jun-2011	19-Jun-2011	19-Jun-2011	19-Jun-2011
Cyanide Comp/Free/Total/Thiocyanate	22-Jun-2011	21-Jun-2011	21-Jun-2011	21-Jun-2011	21-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011
Dissolved Metals by ICP-MS	22-Jun-2011	22-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011
Dissolved Oxygen by Probe	23-Jun-2011	22-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011
Hexavalent Chromium (w)	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011
Mercury Dissolved	24-Jun-2011	24-Jun-2011	24-Jun-2011	24-Jun-2011	24-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011
PAH Spec MS - Aqueous (W)	27-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011	28-Jun-2011
pH Value	23-Jun-2011	24-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	24-Jun-2011	24-Jun-2011	24-Jun-2011
Phenols by HPLC (W)	27-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	22-Jun-2011	23-Jun-2011
Sulphide	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011	22-Jun-2011
Total Organic and Inorganic Carbon	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011	23-Jun-2011

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Owen Van den Bergh	**Superseded Report:**	135551

CERTIFICATE OF ANALYSIS

SDG:	110617-107	**Location:**	20476 LCC	**Order Number:**	20476
Job:	D_VERDE_KCL-358	**Customer:**	Verde Remediation Services	**Report Number:**	136234
Client Reference:	20476	**Attention:**	Mariusz Gardjan	**Superseded Report:**	135551

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) 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 Dimethyphenol, 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

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GCFID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GCEZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GCEZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
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
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	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).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
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.