

Final Report

Report No.:	23-05713-1		
Initial Date of Issue:	08-Mar-2023		
Client	The Knotweed Company		
Client Address:	Unit 3 Royal Oak Court Royal Oak Way North Daventry Northamptonshire NN11 8PQ		
Contact(s):	Brian Taylor		
Project	TKC3051 Land off Swansea Road, Merthyr Tydfil		
Quotation No.:	Q23-30062	Date Received:	20-Feb-2023
Order No.:	TKC3051/1	Date Instructed:	20-Feb-2023
No. of Samples:	16		
Turnaround (Wkdays):	10	Results Due:	03-Mar-2023
Date Approved:	08-Mar-2023		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Results - Miscellaneous Solid

Project: TKC3051 Land off Swansea Road, Merthyr Tydfil

Client: The Knotweed Company	Chemtest Job No.:				23-05713	23-05713	23-05713	23-05713	23-05713	23-05713	23-05713	23-05713	23-05713
Quotation No.: Q23-30062	Chemtest Sample ID.:				1593213	1593214	1593215	1593216	1593217	1593218	1593219	1593220	1593221
Order No.: TKC3051/1	Client Sample Ref.:				1	2	1	2	1	1	1	2	1
	Client Sample ID.:				3	3	3	3	3	3	3	3	3
	Sample Location:				A	A	B	B	C	D	E	E	F
	Sample Type:				MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID
	Top Depth (m):				0.5	1.5	0.5	1.1	0.4	0	0.1	0.5	0
	Bottom Depth (m):				0.6	1.6	0.6	1.2	0.5	0.3	0.2	0.6	0.3
	Date Sampled:				16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023
	Time Sampled:				9:00	9:15	9:30	9:45	10:10	10:20	10:35	10:40	11:05
Determinand	Accred.	SOP	Units	LOD									
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Stones and Removed Materials	N	2030	%	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
pH	N	2010		4.0	6.0	6.4	5.5	4.5	6.1	6.2	6.3	6.2	6.1
Boron (Hot Water Soluble)	N	2120	mg/kg	0.40	< 0.40	7.6	2.9	4.4	< 0.40	1.3	0.43	1.3	0.49
Sulphate (2:1 Water Soluble) as SO4	N	2120	g/l	0.010	0.023	0.012	0.018	0.017	0.024	0.024	0.022	0.011	0.015
Cyanide (Free)	N	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	N	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Thiocyanate	N	2300	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	8.8	1.9	3.5	2.4	< 0.50	0.60	< 0.50	< 0.50	0.70
Sulphate (Total)	N	2430	%	0.010	0.047	0.051	0.14	0.15	0.046	0.053	0.057	0.059	0.033
Arsenic	N	2450	mg/kg	2.0	16	12	21	23	12	16	9.3	11	5.5
Cadmium	N	2450	mg/kg	0.10	0.37	0.46	0.18	0.22	0.42	0.60	0.44	0.53	0.26
Chromium	N	2450	mg/kg	5.0	21	24	11	15	27	35	23	29	15
Copper	N	2450	mg/kg	5.0	33	40	19	27	47	59	32	39	20
Mercury	N	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	N	2450	mg/kg	5.0	36	39	8.9	15	46	59	37	44	24
Lead	N	2450	mg/kg	5.0	31	65	50	61	67	88	46	54	26
Selenium	N	2450	mg/kg	0.20	0.71	0.82	0.98	1.0	0.83	1.2	0.62	0.70	0.38
Zinc	N	2450	mg/kg	5.0	110	120	40	57	130	160	120	150	74
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	N	2625	%	0.40	4.7	3.6	12	18	3.5	3.0	3.2	3.7	3.7
TPH >C6-C10	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C21	N	2670	mg/kg	1.0	26	< 1.0	26	25	< 1.0	< 1.0	< 1.0	< 1.0	23
TPH >C21-C40	N	2670	mg/kg	1.0	71	< 1.0	48	87	< 1.0	< 1.0	< 1.0	< 1.0	39
Total TPH >C6-C40	N	2670	mg/kg	10.0	97	< 10	73	110	< 10	< 10	< 10	< 10	62
Naphthalene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.8
Acenaphthylene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.44
Acenaphthene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.35
Fluorene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.44
Phenanthrene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.57	< 0.10	< 0.10	< 0.10	< 0.10	0.41
Anthracene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.38	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	N	2700	mg/kg	0.10	< 0.10	0.37	0.32	0.37	0.29	0.17	< 0.10	< 0.10	0.49
Pyrene	N	2700	mg/kg	0.10	< 0.10	0.43	0.52	0.50	0.42	0.24	< 0.10	< 0.10	0.19
Benzo[a]anthracene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.39	< 0.10	< 0.10	< 0.10	< 0.10	0.33

Results - Miscellaneous Solid

Project: TKC3051 Land off Swansea Road, Merthyr Tydfil

Client: The Knotweed Company	Chemtest Job No.:				23-05713	23-05713	23-05713	23-05713	23-05713	23-05713	23-05713	23-05713	23-05713
Quotation No.: Q23-30062	Chemtest Sample ID.:				1593213	1593214	1593215	1593216	1593217	1593218	1593219	1593220	1593221
Order No.: TKC3051/1	Client Sample Ref.:				1	2	1	2	1	1	1	2	1
	Client Sample ID.:				3	3	3	3	3	3	3	3	3
	Sample Location:				A	A	B	B	C	D	E	E	F
	Sample Type:				MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID
	Top Depth (m):				0.5	1.5	0.5	1.1	0.4	0	0.1	0.5	0
	Bottom Depth (m):				0.6	1.6	0.6	1.2	0.5	0.3	0.2	0.6	0.3
	Date Sampled:				16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023
	Time Sampled:				9:00	9:15	9:30	9:45	10:10	10:20	10:35	10:40	11:05
Determinand	Accred.	SOP	Units	LOD									
Chrysene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	2.2	< 0.10	< 0.10	< 0.10	< 0.10	1.2
Benzo[b]fluoranthene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.46	< 0.10	< 0.10	< 0.10	< 0.10	0.64
Benzo[k]fluoranthene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.95	< 0.10	< 0.10	< 0.10	< 0.10	0.53
Benzo[a]pyrene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.54	< 0.10	< 0.10	< 0.10	< 0.10	0.58
Indeno(1,2,3-c,d)Pyrene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.56
Dibenz(a,h)Anthracene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.53
Benzo[g,h,i]perylene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.96
Total Of 16 PAH's	N	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	6.4	< 2.0	< 2.0	< 2.0	< 2.0	11
Total Phenols	N	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Moisture	N		%	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Miscellaneous Solid

Project: TKC3051 Land off Swansea Road, Merthyr Tydfil

Client: The Knotweed Company	Chemtest Job No.:				23-05713	23-05713	23-05713	23-05713	23-05713	23-05713	23-05713
Quotation No.: Q23-30062	Chemtest Sample ID.:				1593222	1593223	1593224	1593225	1593226	1593227	1593228
Order No.: TKC3051/1	Client Sample Ref.:				1	1	2	1	1	1	1
	Client Sample ID.:				3	3	3	3	3	3	3
	Sample Location:				G	H	H	I	J	K	L
	Sample Type:				MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID
	Top Depth (m):				0.1	0.1	0.7	0.6	0.3	0.4	0.4
	Bottom Depth (m):				0.3	0.2	0.8	0.8	0.5	0.5	0.5
	Date Sampled:				16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023
	Time Sampled:				11:20	11:40	11:45	12:05	12:25	1:25	1:45
Determinand	Accred.	SOP	Units	LOD							
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Stones and Removed Materials	N	2030	%	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
pH	N	2010		4.0	5.4	5.7	5.6	5.4	6.6	6.0	7.1
Boron (Hot Water Soluble)	N	2120	mg/kg	0.40	0.64	< 0.40	< 0.40	1.2	0.66	0.62	0.55
Sulphate (2:1 Water Soluble) as SO4	N	2120	g/l	0.010	0.018	0.017	< 0.010	0.023	0.019	0.019	0.022
Cyanide (Free)	N	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	N	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Thiocyanate	N	2300	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	2.6	2.3	2.2	2.5	2.2	2.5	2.6
Sulphate (Total)	N	2430	%	0.010	0.063	0.019	0.038	0.061	0.046	0.046	0.057
Arsenic	N	2450	mg/kg	2.0	38	25	23	14	13	8.8	12
Cadmium	N	2450	mg/kg	0.10	0.60	0.58	0.50	0.29	0.22	0.24	0.17
Chromium	N	2450	mg/kg	5.0	28	28	28	19	20	9.1	15
Copper	N	2450	mg/kg	5.0	37	40	41	23	42	15	17
Mercury	N	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nickel	N	2450	mg/kg	5.0	45	47	47	24	40	14	14
Lead	N	2450	mg/kg	5.0	68	29	37	70	29	20	28
Selenium	N	2450	mg/kg	0.20	0.72	0.87	0.94	1.0	0.91	0.44	0.93
Zinc	N	2450	mg/kg	5.0	140	140	140	71	95	49	45
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	N	2625	%	0.40	6.0	2.5	4.6	6.1	2.0	5.2	2.8
TPH >C6-C10	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH >C10-C21	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	16	< 1.0	18	16
TPH >C21-C40	N	2670	mg/kg	1.0	< 1.0	< 1.0	< 1.0	28	< 1.0	55	33
Total TPH >C6-C40	N	2670	mg/kg	10.0	< 10	< 10	< 10	44	< 10	73	49
Naphthalene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	N	2700	mg/kg	0.10	0.12	< 0.10	< 0.10	0.67	< 0.10	< 0.10	< 0.10
Pyrene	N	2700	mg/kg	0.10	0.54	< 0.10	< 0.10	1.3	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.33	< 0.10	< 0.10	< 0.10

Results - Miscellaneous Solid

Project: TKC3051 Land off Swansea Road, Merthyr Tydfil

Client: The Knotweed Company	Chemtest Job No.:				23-05713	23-05713	23-05713	23-05713	23-05713	23-05713	23-05713
Quotation No.: Q23-30062	Chemtest Sample ID.:				1593222	1593223	1593224	1593225	1593226	1593227	1593228
Order No.: TKC3051/1	Client Sample Ref.:				1	1	2	1	1	1	1
	Client Sample ID.:				3	3	3	3	3	3	3
	Sample Location:				G	H	H	I	J	K	L
	Sample Type:				MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID	MISCSOLID
	Top Depth (m):				0.1	0.1	0.7	0.6	0.3	0.4	0.4
	Bottom Depth (m):				0.3	0.2	0.8	0.8	0.5	0.5	0.5
	Date Sampled:				16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023	16-Feb-2023
	Time Sampled:				11:20	11:40	11:45	12:05	12:25	1:25	1:45
Determinand	Accred.	SOP	Units	LOD							
Chrysene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	1.3	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	N	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	3.6	< 2.0	< 2.0	< 2.0
Total Phenols	N	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Moisture	N		%	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com