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DETS Report No: 23-10791

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/01

Sample Receipt Date: 21/08/2023

Sample Scheduled Date: 22/08/2023

Report Issue Number: 1

Reporting Date: 04/09/2023

Authorised by:

Ela Mysiara
Quality Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 23-10791	Date Sampled	14/08/23	15/08/23	15/08/23	16/08/23	16/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS03	WS05	WS07	WS09	WS09
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/01	Depth (m)	0.10	0.10	0.50	0.10	0.50
Reporting Date: 04/09/2023	DETS Sample No	671210	671211	671212	671213	671214

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025				Not Detected
pH	pH Units	N/a	MCERTS	7.8	7.6	7.8	7.8
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1362	1131	532	499
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.14	0.11	0.05	0.05
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	79	28	19	11
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.08	0.03	0.02	0.01
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	4.9	3.8	1.8	2
Antimony (Sb)	mg/kg	< 1	NONE	1.9	1.7	1.5	1.7
Arsenic (As)	mg/kg	< 2	MCERTS	13	10	8	9
Barium (Ba)	mg/kg	< 2.5	MCERTS	65	61	48	53
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.7	0.6	0.6	0.6
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.4	0.3	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	25	24	23	25
Lead (Pb)	mg/kg	< 3	MCERTS	41	39	23	27
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	21	19	21	22
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	28	27	23	26
Zinc (Zn)	mg/kg	< 3	MCERTS	105	92	78	82
Formaldehyde	mg/kg	< 5.0	NONE				74.0
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 23-10791	Date Sampled	16/08/23	16/08/23	16/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS09	WS11	WS11		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A5487/SM/01	Depth (m)	0.50	0.10	0.50		
Reporting Date: 04/09/2023	DETS Sample No	671215	671216	671217		

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025				
pH	pH Units	N/a	MCERTS		7.5		
Total Cyanide	mg/kg	< 1	NONE		< 1		
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS		577		
Total Sulphate as SO ₄	%	< 0.02	MCERTS		0.06		
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS		< 10		
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS		< 0.01		
Sulphide	mg/kg	< 5	NONE		< 5		
TOC (Total Organic Carbon)	%	< 0.1	MCERTS		2.1		
Antimony (Sb)	mg/kg	< 1	NONE		1.1		
Arsenic (As)	mg/kg	< 2	MCERTS		7		
Barium (Ba)	mg/kg	< 2.5	MCERTS		31		
Beryllium (Be)	mg/kg	< 0.5	MCERTS		< 0.5		
W/S Boron	mg/kg	< 1	NONE		< 1		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS		14		
Lead (Pb)	mg/kg	< 3	MCERTS		18		
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS		13		
Selenium (Se)	mg/kg	< 2	MCERTS		< 2		
Vanadium (V)	mg/kg	< 1	MCERTS		15		
Zinc (Zn)	mg/kg	< 3	MCERTS		57		
Formaldehyde	mg/kg	< 5.0	NONE				
Total Phenols (monohydric)	mg/kg	< 2	NONE		< 2		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-10791	Date Sampled	14/08/23	15/08/23	15/08/23	16/08/23	16/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS03	WS05	WS07	WS09	WS11
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/01	Depth (m)	0.10	0.10	0.50	0.50	0.10
Reporting Date: 04/09/2023	DETS Sample No	671210	671211	671212	671214	671216

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.14	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-10791	Date Sampled	14/08/23	15/08/23	15/08/23	16/08/23	16/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS03	WS05	WS07	WS09	WS09
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/01	Depth (m)	0.10	0.10	0.50	0.10	0.50
Reporting Date: 04/09/2023	DETS Sample No	671210	671211	671212	671213	671214

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10		< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21	< 21		< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10		< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21	< 21		< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42	< 42	< 42		< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-10791	Date Sampled	16/08/23	16/08/23	16/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS09	WS11	WS11		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A5487/SM/01	Depth (m)	0.50	0.10	0.50		
Reporting Date: 04/09/2023	DETS Sample No	671215	671216	671217		

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE		< 0.01		
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE		< 0.05		
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS		< 2		
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS		< 2		
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS		< 3		
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS		< 3		
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS		< 10		
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE		< 21		
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE		< 0.01		
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE		< 0.05		
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS		< 2		
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS		< 2		
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS		< 2		
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS		< 3		
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS		< 10		
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE		< 21		
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE		< 42		



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10791	Date Sampled	14/08/23	15/08/23	15/08/23	16/08/23	16/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS03	WS05	WS07	WS09	WS11
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/01	Depth (m)	0.10	0.10	0.50	0.50	0.10
Reporting Date: 04/09/2023	DETS Sample No	671210	671211	671212	671214	671216

Determinand	Unit	RL	Accreditation						
Benzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
Toluene : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
o-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
MTBE : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)

DETS Report No: 23-10791	Date Sampled	16/08/23	16/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS09	WS11			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/01	Depth (m)	0.50	0.10			
Reporting Date: 04/09/2023	DETS Sample No	671214	671216			

Determinand	Unit	RL	Accreditation			
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	
TAME	ug/kg	< 5	MCERTS	< 5	< 5	
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	



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Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
DETS Report No: 23-10791	Date Sampled	16/08/23	16/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS09	WS11			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/01	Depth (m)	0.50	0.10			
Reporting Date: 04/09/2023	DETS Sample No	671214	671216			

Determinand	Unit	RL	Accreditation				
Phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1		
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
0-Cresol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1		
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1		
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1		
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1		
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15		
Isophorone	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15		
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
2,4,5-Trichlorophenol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15		
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	0.1	0.1		
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1		
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
4-Chloroaniline	mg/kg	< 0.15	NONE	< 0.15	< 0.15		
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Dibenzofuran	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Azobenzene	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
Dibutyl phthalate	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1		
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1		
bis(2-ethylhexyl)phthalate	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15		
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		



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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 23-10791	Date Sampled	15/08/23	16/08/23	16/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS05	WS09	WS11		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A5487/SM/01	Depth (m)	0.10	0.10	0.10		
Reporting Date: 04/09/2023	DETS Sample No	671211	671213	671216		

Determinand	Unit	RL	Accreditation					
Aldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
beta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
delta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Dieldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Endrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Heptachlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Isodrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		
Trifluralin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02		



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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 23-10791	Date Sampled	15/08/23	16/08/23	16/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS05	WS09	WS11		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A5487/SM/01	Depth (m)	0.10	0.10	0.10		
Reporting Date: 04/09/2023	DETS Sample No	671211	671213	671216		

Determinand	Unit	RL	Accreditation					
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Chlorpyrifos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Diazinon	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Dimethoate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Fenthion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Malathion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Mevinphos, (E)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Phorate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		



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Soil Analysis Certificate - Phenoxy Acidic Herbicides						
DETS Report No: 23-10791	Date Sampled	15/08/23	16/08/23	16/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS05	WS09	WS11		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A5487/SM/01	Depth (m)	0.10	0.10	0.10		
Reporting Date: 04/09/2023	DETS Sample No	671211	671213	671216		

Determinand	Unit	RL	Accreditation					
2,3,6-TBA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
2,4,5-T ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
2,4,5-TP (fenoprop) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
2,4-D ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
2,4-DB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
4-CPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Benazolin ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Bentazone ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Bromoxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Clopyralid ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Dicamba ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Dichlorprop (2,4-DP) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Diclofon ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Flamprop ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Flamprop-isopropyl ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Ioxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
MCPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
MCPB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
MCPP ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Pentachloronphenol ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Picloram ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Triclopyr ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	

Subcontracted analysis^(S)



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Leachate Analysis Certificate						
DETS Report No: 23-10791	Date Sampled	16/08/23	16/08/23	16/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS09	WS09	WS11		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A5487/SM/01	Depth (m)	0.50	0.50	0.50		
Reporting Date: 04/09/2023	DETS Sample No	671214	671215	671217		

Determinand	Unit	RL	Accreditation			
pH	pH Units	N/a	ISO17025		7.7	7.4
Total Cyanide	ug/l	< 5	ISO17025		< 5	< 5
Sulphate as SO ₄	mg/l	< 1	ISO17025		< 1	< 1
Total Organic Carbon (TOC)	mg/l	< 1	ISO17025		8.4	8.6
Antimony	ug/l	< 5	ISO17025		< 5	< 5
Arsenic	ug/l	< 5	ISO17025		< 5	< 5
Barium	ug/l	< 5	ISO17025		5	< 5
Beryllium	ug/l	< 3	ISO17025		< 3	< 3
Boron	ug/l	< 5	ISO17025		13	14
Cadmium	ug/l	< 0.4	ISO17025		< 0.4	< 0.4
Chromium	ug/l	< 5	ISO17025		< 5	< 5
Chromium (hexavalent)	ug/l	< 20	NONE		< 20	< 20
Copper	ug/l	< 5	ISO17025		< 5	< 5
Lead	ug/l	< 5	ISO17025		< 5	< 5
Mercury	ug/l	< 0.05	ISO17025		< 0.05	< 0.05
Nickel	ug/l	< 5	ISO17025		< 5	< 5
Selenium	ug/l	< 5	ISO17025		< 5	< 5
Vanadium	ug/l	< 5	ISO17025		< 5	< 5
Zinc	ug/l	< 2	ISO17025		< 2	< 2
Total Phenols (monohydric)	ug/l	< 10	ISO17025		< 10	< 10

Subcontracted analysis ⁽⁵⁾



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Leachate Analysis Certificate - Speciated PAH					
DETS Report No: 23-10791	Date Sampled	16/08/23	16/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS09	WS11		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied		
Order No: A5487/SM/01	Depth (m)	0.50	0.50		
Reporting Date: 04/09/2023	DETS Sample No	671215	671217		

Determinand	Unit	RL	Accreditation				
Naphthalene	ug/l	< 0.01	NONE	0.06	0.09		
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	0.02		
Acenaphthene	ug/l	< 0.01	NONE	0.02	0.04		
Fluorene	ug/l	< 0.01	NONE	0.01	0.05		
Phenanthrene	ug/l	< 0.01	NONE	0.04	0.11		
Anthracene	ug/l	< 0.01	NONE	< 0.01	0.02		
Fluoranthene	ug/l	< 0.01	NONE	0.01	0.03		
Pyrene	ug/l	< 0.01	NONE	< 0.01	0.02		
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01		
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01		
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01		
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01		
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01		
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01		
Benzo(ghi)perylene	ug/l	< 0.008	NONE	< 0.008	< 0.008		
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16	0.38		



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Leachate Analysis Certificate - TPH CWG Banded					
DETS Report No: 23-10791	Date Sampled	16/08/23	16/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS09	WS11		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied		
Order No: A5487/SM/01	Depth (m)	0.50	0.50		
Reporting Date: 04/09/2023	DETS Sample No	671215	671217		

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C6 - C8 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C8 - C10 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C10 - C12 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C12 - C16 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C16 - C21 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C21 - C34 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	ug/l	< 70	NONE	< 70	< 70			
Aromatic >C5 - C7 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C7 - C8 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C8 - C10 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C10 - C12 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C12 - C16 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C16 - C21 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C21 - C35 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	< 70	< 70			
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	ug/l	< 140	NONE	< 140	< 140			



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Leachate Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10791	Date Sampled	16/08/23	16/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS09	WS11			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/01	Depth (m)	0.50	0.50			
Reporting Date: 04/09/2023	DETS Sample No	671215	671217			

Determinand	Unit	RL	Accreditation				
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1	< 1		
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5		
Ethylbenzene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5		
p & m-xylene : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10		
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5		
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 23-10791	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronospan Chirk, Wrexham	
Project / Job Ref: A5487	
Order No: A5487/SM/01	
Reporting Date: 04/09/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
671210	WS03	None Supplied	0.10	28.5	Brown loamy sand with vegetation
671211	WS05	None Supplied	0.10	23.3	Brown loamy sand with stones and vegetation
671212	WS07	None Supplied	0.50	12.3	Brown loamy sand with stones and vegetation
671213	WS09	None Supplied	0.10	8.6	Brown sandy clay with vegetation
671214	WS09	None Supplied	0.50	11.9	Brown loamy sand with stones and vegetation
671216	WS11	None Supplied	0.10	13	Brown sandy clay with stones and vegetation

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-10791

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/01

Reporting Date: 04/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-10791

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/01

Reporting Date: 04/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators	
DETS Report No: 23-10791	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronospan Chirk, Wrexham	
Project / Job Ref: A5487	
Order No: A5487/SM/01	
Reporting Date: 04/09/2023	

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Aromatic C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS



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DETS Report No: 23-10838

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/02

Sample Receipt Date: 23/08/2023

Sample Scheduled Date: 23/08/2023

Report Issue Number: 1

Reporting Date: 07/09/2023

Authorised by:

Kevin Old
Operations Director

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 23-10838	Date Sampled	16/08/23	16/08/23	16/08/23	16/08/23	16/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS12	WS12	WS13	WS14	WS15
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	1.00	1.00	0.10	1.00	0.10
Reporting Date: 07/09/2023	DETS Sample No	671491	671492	671493	671494	671495

Determinand	Unit	RL	Accreditation					
pH	pH Units	N/a	MCERTS	7.8		7.7	7.8	7.6
Total Cyanide	mg/kg	< 1	NONE	< 1		< 1	< 1	1
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	< 200		727	< 200	721
Total Sulphate as SO ₄	%	< 0.02	MCERTS	< 0.02		0.07	< 0.02	0.07
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	< 10		< 10	< 10	< 10
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	< 0.01		< 0.01	< 0.01	< 0.01
Sulphide	mg/kg	< 5	NONE	< 5		< 5	< 5	< 5
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	1.1		3.9	0.5	4
Antimony (Sb)	mg/kg	< 1	NONE	2.5		2.5	2.5	2.5
Arsenic (As)	mg/kg	< 2	MCERTS	9		11	11	12
Barium (Ba)	mg/kg	< 2.5	MCERTS	30		56	58	73
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.5		0.6	0.8	0.7
W/S Boron	mg/kg	< 1	NONE	< 1		< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2		0.3	< 0.2	0.4
Chromium (Cr)	mg/kg	< 2	MCERTS	25		22	26	23
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2		< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	20		23	19	23
Lead (Pb)	mg/kg	< 3	MCERTS	18		34	22	40
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1		< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	26		19	25	17
Selenium (Se)	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	21		24	25	27
Zinc (Zn)	mg/kg	< 3	MCERTS	74		89	65	95
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2		< 2	< 2	3.2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
 Subcontracted analysis (S)

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation



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Soil Analysis Certificate						
DETS Report No: 23-10838	Date Sampled	17/08/23	17/08/23	17/08/23	17/08/23	17/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS16	WS17	WS30	WS30	WS30
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	0.10	1.50	0.10	1.50	1.50
Reporting Date: 07/09/2023	DETS Sample No	671496	671497	671498	671499	671500

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)
pH	pH Units	N/a	MCERTS	6.1	7.4	8.3
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	470	< 200	< 200
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.05	< 0.02	< 0.02
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	< 10	< 10	< 10
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	< 0.01	< 0.01	< 0.01
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	2.7	0.6	0.5
Antimony (Sb)	mg/kg	< 1	NONE	2.8	2.7	2.4
Arsenic (As)	mg/kg	< 2	MCERTS	11	10	9
Barium (Ba)	mg/kg	< 2.5	MCERTS	63	56	58
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.7	0.8	0.7
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	26	26	24
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	23	29	25
Lead (Pb)	mg/kg	< 3	MCERTS	38	22	20
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	24	30	30
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	28	22	21
Zinc (Zn)	mg/kg	< 3	MCERTS	90	77	80
Total Phenols (monohydric)	mg/kg	< 2	NONE	2.4	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate

DETS Report No: 23-10838	Date Sampled	17/08/23	17/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS28	WS29			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/02	Depth (m)	1.00	0.10			
Reporting Date: 07/09/2023	DETS Sample No	671501	671502			

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	MCERTS	6.9			
Total Cyanide	mg/kg	< 1	NONE	< 1			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	< 200			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	< 0.02			
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	< 10			
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	< 0.01			
Sulphide	mg/kg	< 5	NONE	< 5			
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	0.4			
Antimony (Sb)	mg/kg	< 1	NONE	2.6			
Arsenic (As)	mg/kg	< 2	MCERTS	10			
Barium (Ba)	mg/kg	< 2.5	MCERTS	25			
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.8			
W/S Boron	mg/kg	< 1	NONE	< 1			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2			
Chromium (Cr)	mg/kg	< 2	MCERTS	25			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	31			
Lead (Pb)	mg/kg	< 3	MCERTS	19			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	31			
Selenium (Se)	mg/kg	< 2	MCERTS	< 2			
Vanadium (V)	mg/kg	< 1	MCERTS	20			
Zinc (Zn)	mg/kg	< 3	MCERTS	79			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-10838	Date Sampled	16/08/23	16/08/23	16/08/23	16/08/23	17/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS12	WS13	WS14	WS15	WS16
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	1.00	0.10	1.00	0.10	0.10
Reporting Date: 07/09/2023	DETS Sample No	671491	671493	671494	671495	671496

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-10838	Date Sampled	17/08/23	17/08/23	17/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS17	WS30	WS28		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A5487/SM/02	Depth (m)	1.50	1.50	1.00		
Reporting Date: 07/09/2023	DETS Sample No	671497	671499	671501		

Determinand	Unit	RL	Accreditation	(n)			
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-10838	Date Sampled	16/08/23	16/08/23	16/08/23	16/08/23	16/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS12	WS12	WS13	WS14	WS15
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	1.00	1.00	0.10	1.00	0.10
Reporting Date: 07/09/2023	DETS Sample No	671491	671492	671493	671494	671495

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01		< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05		< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3		< 3	< 3	< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3		< 3	< 3	< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10		< 10	< 10	< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21		< 21	< 21	< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01		< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05		< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3		< 3	< 3	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10		< 10	< 10	< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21		< 21	< 21	< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42		< 42	< 42	< 42

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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-10838	Date Sampled	17/08/23	17/08/23	17/08/23	17/08/23	17/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS16	WS17	WS30	WS30	WS30
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	0.10	1.50	0.10	1.50	1.50
Reporting Date: 07/09/2023	DETS Sample No	671496	671497	671498	671499	671500

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01		< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05		< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2		< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2		< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3		< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3		< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10		< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21		< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01		< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05		< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2		< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2		< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2		< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3		< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10		< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21		< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42	< 42		< 42



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Soil Analysis Certificate - TPH CWG Banded					
DETS Report No: 23-10838	Date Sampled	17/08/23	17/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS28	WS29		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied		
Order No: A5487/SM/02	Depth (m)	1.00	0.10		
Reporting Date: 07/09/2023	DETS Sample No	671501	671502		

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01			
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05			
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2			
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2			
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3			
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3			
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10			
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21			
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01			
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05			
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3			
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10			
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21			
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42			



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10838	Date Sampled	16/08/23	16/08/23	16/08/23	16/08/23	17/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS12	WS13	WS14	WS15	WS16
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	1.00	0.10	1.00	0.10	0.10
Reporting Date: 07/09/2023	DETS Sample No	671491	671493	671494	671495	671496

Determinand	Unit	RL	Accreditation						
Benzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
Toluene : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
o-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
MTBE : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10838	Date Sampled	17/08/23	17/08/23	17/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS17	WS30	WS28		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A5487/SM/02	Depth (m)	1.50	1.50	1.00		
Reporting Date: 07/09/2023	DETS Sample No	671497	671499	671501		

Determinand	Unit	RL	Accreditation	(n)			
Benzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
Toluene : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Ethylbenzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
p & m-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	3	< 2	
o-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
MTBE : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 23-10838	Date Sampled	16/08/23	16/08/23	17/08/23	17/08/23	17/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS13	WS15	WS16	WS30	WS28
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	0.10	0.10	0.10	1.50	1.00
Reporting Date: 07/09/2023	DETS Sample No	671493	671495	671496	671499	671501

Determinand	Unit	RL	Accreditation	(n)		
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5

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Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
DETS Report No: 23-10838	Date Sampled	16/08/23	16/08/23	17/08/23	17/08/23	17/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS13	WS15	WS16	WS30	WS28
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	0.10	0.10	0.10	1.50	1.00
Reporting Date: 07/09/2023	DETS Sample No	671493	671495	671496	671499	671501

Determinand	Unit	RL	Accreditation	(n)				
Phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
0-Cresol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Isophorone	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	0.2	0.3	0.2	< 0.1	< 0.1
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloroaniline	mg/kg	< 0.15	NONE	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibutyl phthalate	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
bis(2-ethylhexyl)phthalate	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 23-10838	Date Sampled	16/08/23	16/08/23	17/08/23	17/08/23	17/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS13	WS15	WS16	WS30	WS29
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	0.10	0.10	0.10	0.10	0.10
Reporting Date: 07/09/2023	DETS Sample No	671493	671495	671496	671498	671502

Determinand	Unit	RL	Accreditation	(n)				
Aldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
beta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
delta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dieldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Isodrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Trifluralin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 23-10838	Date Sampled	16/08/23	16/08/23	17/08/23	17/08/23	17/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS13	WS15	WS16	WS30	WS29
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	0.10	0.10	0.10	0.10	0.10
Reporting Date: 07/09/2023	DETS Sample No	671493	671495	671496	671498	671502

Determinand	Unit	RL	Accreditation	(n)				
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorpyrifos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diazinon	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethoate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenthion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Malathion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, (E)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phorate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

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Soil Analysis Certificate - Phenoxy Acidic Herbicides						
DETS Report No: 23-10838	Date Sampled	16/08/23	16/08/23	17/08/23	17/08/23	17/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS13	WS15	WS16	WS30	WS29
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/02	Depth (m)	0.10	0.10	0.10	0.10	0.10
Reporting Date: 07/09/2023	DETS Sample No	671493	671495	671496	671498	671502

Determinand	Unit	RL	Accreditation	(n)					
2,3,6-TBA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-T ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-TP (fenopron) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-D ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-DB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-CPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benazolin ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bentazone ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bromoxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Clonralid ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dicamba ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorprop (2,4-DP) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diclofop ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Flamprop ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Flamprop-isopropyl ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ioxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPD ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Picloram ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Triclopyr ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Subcontracted analysis^(S)

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Leachate Analysis Certificate						
DETS Report No: 23-10838	Date Sampled	16/08/23	17/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS12	WS30			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/02	Depth (m)	1.00	1.50			
Reporting Date: 07/09/2023	DETS Sample No	671492	671500			

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025	7.8	7.6		
Total Cyanide	ug/l	< 5	ISO17025	< 5	< 5		
Sulphate as SO ₄	mg/l	< 1	ISO17025	1	< 1		
Sulphide	mg/l	< 0.1	NONE	< 0.1	< 0.1		
Total Organic Carbon (TOC)	mg/l	< 1	ISO17025	4.8	5.5		
Antimony	ug/l	< 5	ISO17025	< 5	< 5		
Arsenic	ug/l	< 5	ISO17025	< 5	< 5		
Barium	ug/l	< 5	ISO17025	6	19		
Beryllium	ug/l	< 3	ISO17025	< 3	< 3		
Boron	ug/l	< 5	ISO17025	10	19		
Cadmium	ug/l	< 0.4	ISO17025	< 0.4	< 0.4		
Chromium	ug/l	< 5	ISO17025	< 5	< 5		
Chromium (hexavalent)	ug/l	< 20	NONE	< 20	< 20		
Copper	ug/l	< 5	ISO17025	< 5	< 5		
Lead	ug/l	< 5	ISO17025	< 5	< 5		
Mercury	ug/l	< 0.05	ISO17025	< 0.05	< 0.05		
Nickel	ug/l	< 5	ISO17025	< 5	< 5		
Selenium	ug/l	< 5	ISO17025	< 5	< 5		
Vanadium	ug/l	< 5	ISO17025	< 5	< 5		
Zinc	ug/l	< 2	ISO17025	< 2	2		
Total Phenols (monohydric)	ug/l	< 10	ISO17025	< 10	< 10		

Subcontracted analysis ⁽⁵⁾



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Leachate Analysis Certificate - Speciated PAH					
DETS Report No: 23-10838	Date Sampled	16/08/23	17/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS12	WS30		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied		
Order No: A5487/SM/02	Depth (m)	1.00	1.50		
Reporting Date: 07/09/2023	DETS Sample No	671492	671500		

Determinand	Unit	RL	Accreditation					
Naphthalene	ug/l	< 0.01	NONE	< 0.01	0.02			
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Acenaphthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Fluorene	ug/l	< 0.01	NONE	< 0.01	0.02			
Phenanthrene	ug/l	< 0.01	NONE	0.03	0.06			
Anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Fluoranthene	ug/l	< 0.01	NONE	0.02	0.02			
Pyrene	ug/l	< 0.01	NONE	0.02	0.02			
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008	< 0.008			
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16	< 0.16			



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Leachate Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-10838	Date Sampled	16/08/23	17/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS12	WS30			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/02	Depth (m)	1.00	1.50			
Reporting Date: 07/09/2023	DETS Sample No	671492	671500			

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS 1D MS AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C6 - C8 : HS 1D MS AL	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C8 - C10 : EH CU 1D AL	ug/l	< 10	NONE	< 10	11			
Aliphatic >C10 - C12 : EH CU 1D AL	ug/l	< 10	NONE	< 10	15			
Aliphatic >C12 - C16 : EH CU 1D AL	ug/l	< 10	NONE	< 10	18			
Aliphatic >C16 - C21 : EH CU 1D AL	ug/l	< 10	NONE	< 10	49			
Aliphatic >C21 - C34 : EH CU 1D AL	ug/l	< 10	NONE	88	32			
Aliphatic (C5 - C34) : HS 1D MS+EH CU 1D AL	ug/l	< 70	NONE	88	125			
Aromatic >C5 - C7 : HS 1D MS AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C7 - C8 : HS 1D MS AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C8 - C10 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C10 - C12 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C12 - C16 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C16 - C21 : EH CU 1D AR	ug/l	< 10	NONE	< 10	26			
Aromatic >C21 - C35 : EH CU 1D AR	ug/l	< 10	NONE	< 10	12			
Aromatic (C5 - C35) : HS 1D MS+EH CU 1D AR	ug/l	< 70	NONE	< 70	< 70			
Total >C5 - C35 : HS 1D MS+EH CU 1D Total	ug/l	< 140	NONE	< 140	163			



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Leachate Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10838	Date Sampled	16/08/23	17/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS12	WS30			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/02	Depth (m)	1.00	1.50			
Reporting Date: 07/09/2023	DETS Sample No	671492	671500			

Determinand	Unit	RL	Accreditation				
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1	< 1		
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5		
Ethylbenzene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5		
p & m-xylene : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10		
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5		
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 23-10838	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronospan Chirk, Wrexham	
Project / Job Ref: A5487	
Order No: A5487/SM/02	
Reporting Date: 07/09/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
671491	WS12	None Supplied	1.00	15.2	Brown sandy clay
671493	WS13	None Supplied	0.10	15.2	Brown sandy clay with vegetation
671494	WS14	None Supplied	1.00	8.2	Light brown sandy clay with stones
671495	WS15	None Supplied	0.10	18.6	Brown loamy sand with stones and vegetation
671496	WS16	None Supplied	0.10	21.2	Brown sandy clay with vegetation
671497	WS17	None Supplied	1.50	11.2	Brown sandy clay
671498	WS30	None Supplied	0.10	11.1	Brown sandy gravel with stones
671499	WS30	None Supplied	1.50	3.5	Brown sandy gravel with stones and concrete
671501	WS28	None Supplied	1.00	15.7	Brown sandy clay
671502	WS29	None Supplied	0.10	18.3	Brown sandy clay with vegetation

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-10838

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/02

Reporting Date: 07/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-10838

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/02

Reporting Date: 07/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators	
DETS Report No: 23-10838	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronospan Chirk, Wrexham	
Project / Job Ref: A5487	
Order No: A5487/SM/02	
Reporting Date: 07/09/2023	

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Aromatic C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS



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DETS Report No: 23-10986

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/03

Sample Receipt Date: 29/08/2023

Sample Scheduled Date: 29/08/2023

Report Issue Number: 1

Reporting Date: 12/09/2023

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



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Soil Analysis Certificate						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22	WS22	WS23	WS19	WS27
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/03	Depth (m)	1.00	1.00	0.50	0.10	0.10
Reporting Date: 12/09/2023	DETS Sample No	672140	672141	672142	672143	672144

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected				
pH	pH Units	N/a	MCERTS	7.5			7.7	7.7
Total Cyanide	mg/kg	< 1	NONE	< 1		< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	645		526	765	809
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.06		0.05	0.08	0.08
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	148		67	27	23
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.15		0.07	0.03	0.02
Sulphide	mg/kg	< 5	NONE	< 5		< 5	< 5	< 5
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	0.7		1.7	4.7	3.8
Antimony (Sb)	mg/kg	< 1	NONE	2.8		2.8	2.5	79.5
Arsenic (As)	mg/kg	< 2	MCERTS	10		9	13	14
Barium (Ba)	mg/kg	< 2.5	MCERTS	54		55	72	85
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.8		0.6	0.6	0.7
W/S Boron	mg/kg	< 1	NONE	< 1		< 1	1.5	1.1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2		< 0.2	0.4	0.4
Chromium (Cr)	mg/kg	< 2	MCERTS	24		23	23	25
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2		< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	23		15	21	24
Lead (Pb)	mg/kg	< 3	MCERTS	28		28	43	707
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1		< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	18		15	14	18
Selenium (Se)	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	28		29	31	31
Zinc (Zn)	mg/kg	< 3	MCERTS	51		62	92	89
Formaldehyde	mg/kg	< 5.0	NONE			6.7		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2		< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS27	WS18	WS26	WS26	WS20
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/03	Depth (m)	0.50	0.10	0.10	0.50	0.50
Reporting Date: 12/09/2023	DETS Sample No	672145	672146	672147	672148	672149

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025					
pH	pH Units	N/a	MCERTS		7.6		7.7	7.7
Total Cyanide	mg/kg	< 1	NONE		< 1		< 1	< 1
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS		911		384	< 200
Total Sulphate as SO ₄	%	< 0.02	MCERTS		0.09		0.04	< 0.02
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS		18		14	< 10
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS		0.02		0.01	< 0.01
Sulphide	mg/kg	< 5	NONE		< 5		< 5	< 5
TOC (Total Organic Carbon)	%	< 0.1	MCERTS		3.8		1.8	0.7
Antimony (Sb)	mg/kg	< 1	NONE		2.8		3	2.5
Arsenic (As)	mg/kg	< 2	MCERTS		11		10	9
Barium (Ba)	mg/kg	< 2.5	MCERTS		55		48	28
Beryllium (Be)	mg/kg	< 0.5	MCERTS		0.5		0.6	< 0.5
W/S Boron	mg/kg	< 1	NONE		1.7		< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		0.3		< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS		23		25	25
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2		< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS		21		23	17
Lead (Pb)	mg/kg	< 3	MCERTS		35		31	17
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1		< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS		15		19	23
Selenium (Se)	mg/kg	< 2	MCERTS		< 2		< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS		27		28	24
Zinc (Zn)	mg/kg	< 3	MCERTS		93		75	69
Formaldehyde	mg/kg	< 5.0	NONE					
Total Phenols (monohydric)	mg/kg	< 2	NONE		< 2		< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22	WS23	WS19	WS27	WS18
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/03	Depth (m)	1.00	0.50	0.10	0.10	0.10
Reporting Date: 12/09/2023	DETS Sample No	672140	672142	672143	672144	672146

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS26	WS20			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/03	Depth (m)	0.50	0.50			
Reporting Date: 12/09/2023	DETS Sample No	672148	672149			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6		



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22	WS22	WS23	WS19	WS27
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/03	Depth (m)	1.00	1.00	0.50	0.10	0.10
Reporting Date: 12/09/2023	DETS Sample No	672140	672141	672142	672143	672144

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01		< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05		< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3		< 3	< 3	< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3		< 3	< 3	< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10		< 10	< 10	< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21		< 21	< 21	< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01		< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05		< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2		< 2	< 2	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3		< 3	< 3	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10		< 10	< 10	< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21		< 21	< 21	< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42		< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS27	WS18	WS26	WS26	WS20
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/03	Depth (m)	0.50	0.10	0.10	0.50	0.50
Reporting Date: 12/09/2023	DETS Sample No	672145	672146	672147	672148	672149

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01		< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05		< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2		< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2		< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3		< 3	< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3		< 3	< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10		< 10	< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21		< 21	< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01		< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05		< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2		< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2		< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2		< 2	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3		< 3	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10		< 10	< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21		< 21	< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42		< 42	< 42



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22	WS23	WS19	WS27	WS18
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/03	Depth (m)	1.00	0.50	0.10	0.10	0.10
Reporting Date: 12/09/2023	DETS Sample No	672140	672142	672143	672144	672146

Determinand	Unit	RL	Accreditation					
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS26	WS20			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/03	Depth (m)	0.50	0.50			
Reporting Date: 12/09/2023	DETS Sample No	672148	672149			

Determinand	Unit	RL	Accreditation			
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22	WS23	WS27	WS18	WS26
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/03	Depth (m)	1.00	0.50	0.10	0.10	0.50
Reporting Date: 12/09/2023	DETS Sample No	672140	672142	672144	672146	672148

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22	WS23	WS27	WS18	WS26
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/03	Depth (m)	1.00	0.50	0.10	0.10	0.50
Reporting Date: 12/09/2023	DETS Sample No	672140	672142	672144	672146	672148

Determinand	Unit	RL	Accreditation					
Phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
0-Cresol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Isophorone	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloroaniline	mg/kg	< 0.15	NONE	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzofuran	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Azobenzene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibutyl phthalate	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
bis(2-ethylhexyl)phthalate	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1



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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS19	WS27	WS18	WS26	
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: A5487/SM/03	Depth (m)	0.10	0.10	0.10	0.10	
Reporting Date: 12/09/2023	DETS Sample No	672143	672144	672146	672147	

Determinand	Unit	RL	Accreditation					
Aldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
beta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
delta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Dieldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Endrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Heptachlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Isodrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	
Trifluralin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	



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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS19	WS27	WS18	WS26	
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: A5487/SM/03	Depth (m)	0.10	0.10	0.10	0.10	
Reporting Date: 12/09/2023	DETS Sample No	672143	672144	672146	672147	

Determinand	Unit	RL	Accreditation					
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorpyrifos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diazinon	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethoate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenthion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Malathion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, (E)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phorate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1



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Soil Analysis Certificate - Phenoxy Acidic Herbicides						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS19	WS27	WS18	WS26	
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: A5487/SM/03	Depth (m)	0.10	0.10	0.10	0.10	
Reporting Date: 12/09/2023	DETS Sample No	672143	672144	672146	672147	

Determinand	Unit	RL	Accreditation					
2,3,6-TBA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-T ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-TP (fenoprop) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-D ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-DB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-CPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benazolin ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bentazone ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bromoxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Clodpyralid ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dicamba ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorprop (2,4-DP) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diclofop ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Flamprop ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Flamprop-isopropyl ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ioxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Picloram ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Triclopyr ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Subcontracted analysis ^(S)



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Leachate Analysis Certificate						
DETS Report No: 23-10986	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23	
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22	WS22	WS23	WS27	
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: A5487/SM/03	Depth (m)	1.00	1.00	0.50	0.50	
Reporting Date: 12/09/2023	DETS Sample No	672140	672141	672142	672145	

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025		8.0		
Total Cyanide	ug/l	< 5	ISO17025		< 5		
Sulphate as SO ₄	mg/l	< 1	ISO17025		< 1		
Sulphide	mg/l	< 0.1	NONE		< 0.1		
Total Organic Carbon (TOC)	mg/l	< 1	ISO17025		10		
Antimony	ug/l	< 5	ISO17025		< 5		
Arsenic	ug/l	< 5	ISO17025		< 5		
Barium	ug/l	< 5	ISO17025		< 5		
Beryllium	ug/l	< 3	ISO17025		< 3		
Boron	ug/l	< 5	ISO17025		11		
Cadmium	ug/l	< 0.4	ISO17025		< 0.4		
Chromium	ug/l	< 5	ISO17025		< 5		
Chromium (hexavalent)	ug/l	< 20	NONE		< 20		
Copper	ug/l	< 5	ISO17025		< 5		
Lead	ug/l	< 5	ISO17025		< 5		
Mercury	ug/l	< 0.05	ISO17025		< 0.05		
Nickel	ug/l	< 5	ISO17025		< 5		
Selenium	ug/l	< 5	ISO17025		< 5		
Vanadium	ug/l	< 5	ISO17025		< 5		
Zinc	ug/l	< 2	ISO17025		< 2		
Total Phenols (monohydric)	ug/l	< 10	ISO17025		< 10		

Subcontracted analysis ⁽⁵⁾



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Leachate Analysis Certificate - Speciated PAH						
DETS Report No: 23-10986	Date Sampled	21/08/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487/SM/03	Depth (m)	1.00				
Reporting Date: 12/09/2023	DETS Sample No	672141				

Determinand	Unit	RL	Accreditation				
Naphthalene	ug/l	< 0.01	NONE	0.08			
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01			
Acenaphthene	ug/l	< 0.01	NONE	0.01			
Fluorene	ug/l	< 0.01	NONE	0.01			
Phenanthrene	ug/l	< 0.01	NONE	0.03			
Anthracene	ug/l	< 0.01	NONE	< 0.01			
Fluoranthene	ug/l	< 0.01	NONE	0.02			
Pyrene	ug/l	< 0.01	NONE	0.02			
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01			
Chrysene	ug/l	< 0.01	NONE	< 0.01			
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01			
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01			
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01			
Benzo(ghi)perylene	ug/l	< 0.008	NONE	< 0.008			
Total EPA-16 PAHs	ug/l	< 0.16	NONE	0.17			



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Leachate Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-10986	Date Sampled	21/08/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487/SM/03	Depth (m)	1.00				
Reporting Date: 12/09/2023	DETS Sample No	672141				

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C6 - C8 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C8 - C10 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C10 - C12 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C12 - C16 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C16 - C21 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C21 - C34 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	ug/l	< 70	NONE	< 70			
Aromatic >C5 - C7 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10			
Aromatic >C7 - C8 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10			
Aromatic >C8 - C10 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C10 - C12 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C12 - C16 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C16 - C21 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C21 - C35 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	< 70			
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	ug/l	< 140	NONE	< 140			



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Leachate Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10986	Date Sampled	21/08/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS22				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487/SM/03	Depth (m)	1.00				
Reporting Date: 12/09/2023	DETS Sample No	672141				

Determinand	Unit	RL	Accreditation				
Benzene : HS_1D_MS	ug/l	< 1	ISO17025	< 1			
Toluene : HS_1D_MS	ug/l	< 5	ISO17025	< 5			
Ethylbenzene : HS_1D_MS	ug/l	< 5	ISO17025	< 5			
p & m-xylene : HS_1D_MS	ug/l	< 10	ISO17025	< 10			
o-xylene : HS_1D_MS	ug/l	< 5	ISO17025	< 5			
MTBE : HS_1D_MS	ug/l	< 10	ISO17025	< 10			

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 23-10986		Date Sampled	21/08/23		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Landfill Waste Acceptance Criteria Limits </div> <div style="text-align: center;"> Inert Waste Landfill </div> <div style="text-align: center;"> Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill </div> <div style="text-align: center;"> Hazardous Waste Landfill </div> </div>				
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied						
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	WS22						
Project / Job Ref: A5487		Additional Refs	None Supplied						
Order No: A5487/SM/03		Depth (m)	1.00						
Reporting Date: 12/09/2023		DETS Sample No	672140						
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1	0.7			3%	5%	6%	
Loss on Ignition ^{MU}	%	< 0.01	4.70			--	--	10%	
BTEX ^{MU}	mg/kg	< 0.05	< 0.05			6	--	--	
Sum of PCBs	mg/kg	< 0.1	< 0.1			1	--	--	
Mineral Oil ^{MU}	mg/kg	< 10	< 10			500	--	--	
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7			100	--	--	
pH ^{MU}	pH Units	N/a	7.5			--	>6	--	
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1			--	To be evaluated	To be evaluated	
Eluate Analysis				2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
				mg/l	mg/l		mg/kg		
Arsenic ^U		< 0.01	< 0.01		< 0.2	0.5	2	25	
Barium ^U		< 0.02	< 0.02		0.1	20	100	300	
Cadmium ^U		< 0.0005	< 0.0005		< 0.02	0.04	1	5	
Chromium ^U		< 0.005	< 0.005		< 0.20	0.5	10	70	
Copper ^U		< 0.01	< 0.01		< 0.5	2	50	100	
Mercury ^U		< 0.0005	< 0.0005		< 0.005	0.01	0.2	2	
Molybdenum ^U		0.005	0.004		< 0.1	0.5	10	30	
Nickel ^U		< 0.007	< 0.007		< 0.2	0.4	10	40	
Lead ^U		< 0.005	< 0.005		< 0.2	0.5	10	50	
Antimony ^U		< 0.005	< 0.005		< 0.05	0.06	0.7	5	
Selenium ^U		< 0.005	< 0.005		< 0.05	0.1	0.5	7	
Zinc ^U		< 0.005	< 0.005		< 0.2	4	50	200	
Chloride ^U		4	2		37	800	15000	25000	
Fluoride ^U		0.9	0.8		15.3	10	150	500	
Sulphate ^U		3	2		33	1000	20000	50000	
TDS		106	69		1271	4000	60000	100000	
Phenol Index ^U		< 0.01	< 0.01		< 0.5	1	-	-	
DOC ^U		15.4	14.7		266	500	800	1000	
Leach Test Information									
Sample Mass (kg)				0.10					
Dry Matter (%)				85.5					
Moisture (%)				17					
Stage 1									
Volume Eluate L2 (litres)				0.16					
Filtered Eluate VE1 (litres)				0.05					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
 Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation
 M Denotes MCERTS accredited test
 U Denotes ISO17025 accredited test

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 23-10986		Date Sampled	21/08/23		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Landfill Waste Acceptance Criteria Limits </div> <div style="text-align: center;"> Inert Waste Landfill </div> <div style="text-align: center;"> Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill </div> <div style="text-align: center;"> Hazardous Waste Landfill </div> </div>				
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied						
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	WS23						
Project / Job Ref: A5487		Additional Refs	None Supplied						
Order No: A5487/SM/03		Depth (m)	0.50						
Reporting Date: 12/09/2023		DETS Sample No	672142						
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1	1.7						
Loss on Ignition ^{MU}	%	< 0.01	6.40						
BTEx ^{MU}	mg/kg	< 0.05	< 0.05						
Sum of PCBs	mg/kg	< 0.1	< 0.1						
Mineral Oil ^{MU}	mg/kg	< 10	< 10						
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7						
pH ^{MU}	pH Units	N/a	7.7						
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1						
Eluate Analysis			2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
			mg/l	mg/l		mg/kg			
Arsenic ^U			< 0.01	< 0.01		< 0.2	0.5	2	25
Barium ^U			< 0.02	< 0.02		0.1	20	100	300
Cadmium ^U			< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium ^U			< 0.005	< 0.005		< 0.20	0.5	10	70
Copper ^U			< 0.01	< 0.01		< 0.5	2	50	100
Mercury ^U			< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum ^U			0.003	0.003		< 0.1	0.5	10	30
Nickel ^U			< 0.007	< 0.007		< 0.2	0.4	10	40
Lead ^U			< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony ^U			< 0.005	< 0.005		< 0.05	0.06	0.7	5
Selenium ^U			< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc ^U			< 0.005	< 0.005		< 0.2	4	50	200
Chloride ^U			3	2		36	800	15000	25000
Fluoride ^U			0.7	0.6		11.7	10	150	500
Sulphate ^U			2	2		29	1000	20000	50000
TDS			113	71		1318	4000	60000	100000
Phenol Index ^U			< 0.01	< 0.01		< 0.5	1	-	-
DOC ^U			13.8	14.8		268	500	800	1000
Leach Test Information									
Sample Mass (kg)			0.10						
Dry Matter (%)			87.9						
Moisture (%)			13.8						
Stage 1									
Volume Eluate L2 (litres)			0.16						
Filtered Eluate VE1 (litres)			0.07						

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
 Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation
 M Denotes MCERTS accredited test
 U Denotes ISO17025 accredited test



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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 23-10986		Date Sampled	21/08/23		Landfill Waste Acceptance Criteria Limits				
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied						
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	WS27						
Project / Job Ref: A5487		Additional Refs	None Supplied						
Order No: A5487/SM/03		Depth (m)	0.50						
Reporting Date: 12/09/2023		DETS Sample No	672145						
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1	2.6						
Loss on Ignition ^{MU}	%	< 0.01	7						
BTEX ^{MU}	mg/kg	< 0.05	< 0.05						
Sum of PCBs	mg/kg	< 0.1	< 0.1						
Mineral Oil ^{MU}	mg/kg	< 10	< 10						
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7						
pH ^{MU}	pH Units	N/a	7.7						
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.3						
Eluate Analysis				2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
Arsenic ^U		< 0.01	< 0.01		< 0.2	0.5	2	25	
Barium ^U		0.03	< 0.02		0.3	20	100	300	
Cadmium ^U		< 0.0005	< 0.0005		< 0.02	0.04	1	5	
Chromium ^U		< 0.005	< 0.005		< 0.20	0.5	10	70	
Copper ^U		< 0.01	< 0.01		< 0.5	2	50	100	
Mercury ^U		< 0.0005	< 0.0005		< 0.005	0.01	0.2	2	
Molybdenum ^U		0.003	0.002		< 0.1	0.5	10	30	
Nickel ^U		< 0.007	< 0.007		< 0.2	0.4	10	40	
Lead ^U		< 0.005	< 0.005		< 0.2	0.5	10	50	
Antimony ^U		< 0.005	< 0.005		< 0.05	0.06	0.7	5	
Selenium ^U		< 0.005	< 0.005		< 0.05	0.1	0.5	7	
Zinc ^U		< 0.005	< 0.005		< 0.2	4	50	200	
Chloride ^U		2	2		34	800	15000	25000	
Fluoride ^U		1.1	0.9		17.2	10	150	500	
Sulphate ^U		2	2		30	1000	20000	50000	
TDS		114	79		1452	4000	60000	100000	
Phenol Index ^U		< 0.01	< 0.01		< 0.5	1	-	-	
DOC ^U		20.2	17.2		314	500	800	1000	
Leach Test Information									
Sample Mass (kg)				0.10					
Dry Matter (%)				84.5					
Moisture (%)				18.4					
Stage 1									
Volume Eluate L2 (litres)				0.16					
Filtered Eluate VE1 (litres)				0.05					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 23-10986	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronospan Chirk, Wrexham	
Project / Job Ref: A5487	
Order No: A5487/SM/03	
Reporting Date: 12/09/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
672140	WS22	None Supplied	1.00	13.9	Brown sandy clay with vegetation
672142	WS23	None Supplied	0.50	11.6	Brown clayey sand with stones
672143	WS19	None Supplied	0.10	19.3	Brown clayey sand with stones and vegetation
672144	WS27	None Supplied	0.10	19.9	Brown clayey sand with vegetation
672145	WS27	None Supplied	0.50	15	Brown clayey sand
672146	WS18	None Supplied	0.10	2276	Brown clayey sand with stones and vegetation
672147	WS26	None Supplied	0.10	18.3	Brown clayey sand with stones and vegetation
672148	WS26	None Supplied	0.50	12.8	Brown sandy clay with stones and vegetation
672149	WS20	None Supplied	0.50	15.2	Brown clayey sand with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-10986

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/03

Reporting Date: 12/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-10986

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/03

Reporting Date: 12/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators	
DETS Report No: 23-10986	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronospan Chirk, Wrexham	
Project / Job Ref: A5487	
Order No: A5487/SM/03	
Reporting Date: 12/09/2023	

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
Mineral Oil (C10 - C40) (BS EN 12457-3) - EH_CU_1D_AL
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Aromatic C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
Total BTEX (BS EN 12457-3) - HS_1D_MS_Total
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	10.4	%
Loss on Ignition	Soil	BS EN 12457	16.9	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	21.1	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	17.9	%
pH	Soil	BS EN 12457	0.282	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	19.5	%
Barium	Leachate	BS EN 12457	12.2	%
Cadmium	Leachate	BS EN 12457	17.2	%
Chromium	Leachate	BS EN 12457	20.7	%
Copper	Leachate	BS EN 12457	14.1	%
Mercury	Leachate	BS EN 12457	16.7	%
Molybdenum	Leachate	BS EN 12457	13.3	%
Nickel	Leachate	BS EN 12457	14.0	%
Lead	Leachate	BS EN 12457	12.1	%
Antimony	Leachate	BS EN 12457	16.1	%
Selenium	Leachate	BS EN 12457	15.5	%
Zinc	Leachate	BS EN 12457	14.0	%
Chloride	Leachate	BS EN 12457	15.7	%
Fluoride	Leachate	BS EN 12457	19.1	%
Sulphate	Leachate	BS EN 12457	27.6	%
TDS	Leachate	BS EN 12457	10.0	%
Phenol Index	Leachate	BS EN 12457	12.9	%
DOC	Leachate	BS EN 12457	20.4	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	16.9	%
pH	Soil	BS 3882: 2015	0.282	Units
Carbonate	Soil	BS 3882: 2015	12.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	19.8	%
Copper	Soil	BS 3882: 2015	23.2	%
Nickel	Soil	BS 3882: 2015	32.6	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%



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DETS Report No: 23-10987

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/04

Sample Receipt Date: 29/08/2023

Sample Scheduled Date: 29/08/2023

Report Issue Number: 2

Reporting Date: 13/09/2023

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.
This report supersedes 23-10987, issue no.1.
Reason for reissue: Formaldehyde results corrected.

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For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



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Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 23-10987	Date Sampled	22/08/23	22/08/23	22/08/23	22/08/23	23/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP02	TP03	TP03	TP03	TP05
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.20	0.20	0.50	0.50	0.20
Reporting Date: 13/09/2023	DETS Sample No	672150	672151	672152	672153	672154

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025					Not Detected
pH	pH Units	N/a	MCERTS					
Total Cyanide	mg/kg	< 1	NONE					
Free Cyanide	mg/kg	< 1	NONE					
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS					
Total Sulphate as SO ₄	%	< 0.02	MCERTS					
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS					
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS					
Sulphide	mg/kg	< 5	NONE					
TOC (Total Organic Carbon)	%	< 0.1	MCERTS					
Antimony (Sb)	mg/kg	< 1	NONE					
Arsenic (As)	mg/kg	< 2	MCERTS					
Barium (Ba)	mg/kg	< 2.5	MCERTS					
Beryllium (Be)	mg/kg	< 0.5	MCERTS					
W/S Boron	mg/kg	< 1	NONE					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS					
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	MCERTS					
Lead (Pb)	mg/kg	< 3	MCERTS					
Mercury (Hg)	mg/kg	< 1	MCERTS					
Nickel (Ni)	mg/kg	< 3	MCERTS					
Selenium (Se)	mg/kg	< 2	MCERTS					
Vanadium (V)	mg/kg	< 1	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS					
Formaldehyde	mg/kg	< 5.0	NONE					
Total Phenols (monohydric)	mg/kg	< 2	NONE					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate

DETS Report No: 23-10987	Date Sampled	23/08/23	23/08/23	23/08/23	23/08/23	23/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP05	TP06	TP06	TP07	TP07
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	1.00	0.50	1.00	0.20	1.00
Reporting Date: 13/09/2023	DETS Sample No	672155	672156	672157	672158	672159

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025		Not Detected		Not Detected
pH	pH Units	N/a	MCERTS	7.2	7.5		7.8
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1		< 1
Free Cyanide	mg/kg	< 1	NONE				< 1
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	293	1955		226
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.03	0.20		0.02
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	72	374		54
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.07	0.37		0.05
Sulphide	mg/kg	< 5	NONE	< 5	< 5		< 5
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	0.5	3.3		0.5
Antimony (Sb)	mg/kg	< 1	NONE	2.6	6.6		2.6
Arsenic (As)	mg/kg	< 2	MCERTS	11	13		10
Barium (Ba)	mg/kg	< 2.5	MCERTS	98	183		84
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.9	0.9		0.9
W/S Boron	mg/kg	< 1	NONE	< 1	1.8		< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	0.5		< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	33	82		25
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2		< 2
Copper (Cu)	mg/kg	< 4	MCERTS	24	55		25
Lead (Pb)	mg/kg	< 3	MCERTS	23	75		29
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1		< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	32	32		31
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2		< 2
Vanadium (V)	mg/kg	< 1	MCERTS	31	38		26
Zinc (Zn)	mg/kg	< 3	MCERTS	73	174		72
Formaldehyde	mg/kg	< 5.0	NONE		< 5.0		5.3
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2		< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate

DETS Report No: 23-10987	Date Sampled	23/08/23	21/08/23	21/08/23	22/08/23	22/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP07	TP10	TP11	TP12	TP13
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	1.00	0.20	0.20	0.20	0.50
Reporting Date: 13/09/2023	DETS Sample No	672160	672161	672162	672163	672164

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025					
pH	pH Units	N/a	MCERTS					
Total Cyanide	mg/kg	< 1	NONE					
Free Cyanide	mg/kg	< 1	NONE					
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS					
Total Sulphate as SO ₄	%	< 0.02	MCERTS					
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS					
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS					
Sulphide	mg/kg	< 5	NONE					
TOC (Total Organic Carbon)	%	< 0.1	MCERTS					
Antimony (Sb)	mg/kg	< 1	NONE					
Arsenic (As)	mg/kg	< 2	MCERTS					
Barium (Ba)	mg/kg	< 2.5	MCERTS					
Beryllium (Be)	mg/kg	< 0.5	MCERTS					
W/S Boron	mg/kg	< 1	NONE					
Cadmium (Cd)	mg/kg	< 0.2	MCERTS					
Chromium (Cr)	mg/kg	< 2	MCERTS					
Chromium (hexavalent)	mg/kg	< 2	NONE					
Copper (Cu)	mg/kg	< 4	MCERTS					
Lead (Pb)	mg/kg	< 3	MCERTS					
Mercury (Hg)	mg/kg	< 1	MCERTS					
Nickel (Ni)	mg/kg	< 3	MCERTS					
Selenium (Se)	mg/kg	< 2	MCERTS					
Vanadium (V)	mg/kg	< 1	MCERTS					
Zinc (Zn)	mg/kg	< 3	MCERTS					
Formaldehyde	mg/kg	< 5.0	NONE					
Total Phenols (monohydric)	mg/kg	< 2	NONE					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate

DETS Report No: 23-10987	Date Sampled	22/08/23	22/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP13	TP13	TP14	TP14	TP15
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	1.00	1.00	0.50	0.50	1.00
Reporting Date: 13/09/2023	DETS Sample No	672165	672166	672167	672168	672169

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025			Not Detected	
pH	pH Units	N/a	MCERTS	7.7		7.6	6.9
Total Cyanide	mg/kg	< 1	NONE	< 1		< 1	< 1
Free Cyanide	mg/kg	< 1	NONE				
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	< 200		371	< 200
Total Sulphate as SO ₄	%	< 0.02	MCERTS	< 0.02		0.04	< 0.02
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	< 10		14	< 10
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	< 0.01		0.01	< 0.01
Sulphide	mg/kg	< 5	NONE	< 5		< 5	< 5
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	0.7		2.3	0.5
Antimony (Sb)	mg/kg	< 1	NONE	2.8		2.7	2.4
Arsenic (As)	mg/kg	< 2	MCERTS	10		9	8
Barium (Ba)	mg/kg	< 2.5	MCERTS	34		54	41
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.6		0.7	0.7
W/S Boron	mg/kg	< 1	NONE	< 1		< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2		< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	27		26	24
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2		< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	16		44	28
Lead (Pb)	mg/kg	< 3	MCERTS	17		39	17
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1		< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	25		22	27
Selenium (Se)	mg/kg	< 2	MCERTS	< 2		< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	28		36	23
Zinc (Zn)	mg/kg	< 3	MCERTS	77		121	79
Formaldehyde	mg/kg	< 5.0	NONE	< 5.0			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2		< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate					
DETS Report No: 23-10987	Date Sampled	21/08/23	21/08/23	21/08/23	22/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP15	TP16	TP17	WS01
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	1.00	0.20	1.00	0.50
Reporting Date: 13/09/2023	DETS Sample No	672170	672171	672172	672173

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025				
pH	pH Units	N/a	MCERTS				7.5
Total Cyanide	mg/kg	< 1	NONE				< 1
Free Cyanide	mg/kg	< 1	NONE				
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS				268
Total Sulphate as SO ₄	%	< 0.02	MCERTS				0.03
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS				14
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS				0.01
Sulphide	mg/kg	< 5	NONE				< 5
TOC (Total Organic Carbon)	%	< 0.1	MCERTS				1.2
Antimony (Sb)	mg/kg	< 1	NONE				2.3
Arsenic (As)	mg/kg	< 2	MCERTS				9
Barium (Ba)	mg/kg	< 2.5	MCERTS				44
Beryllium (Be)	mg/kg	< 0.5	MCERTS				0.5
W/S Boron	mg/kg	< 1	NONE				< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS				< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS				24
Chromium (hexavalent)	mg/kg	< 2	NONE				< 2
Copper (Cu)	mg/kg	< 4	MCERTS				16
Lead (Pb)	mg/kg	< 3	MCERTS				23
Mercury (Hg)	mg/kg	< 1	MCERTS				< 1
Nickel (Ni)	mg/kg	< 3	MCERTS				20
Selenium (Se)	mg/kg	< 2	MCERTS				< 2
Vanadium (V)	mg/kg	< 1	MCERTS				27
Zinc (Zn)	mg/kg	< 3	MCERTS				70
Formaldehyde	mg/kg	< 5.0	NONE				
Total Phenols (monohydric)	mg/kg	< 2	NONE				< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-10987	Date Sampled	23/08/23	23/08/23	23/08/23	22/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP05	TP06	TP07	TP13	TP14
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	1.00	0.50	1.00	1.00	0.50
Reporting Date: 13/09/2023	DETS Sample No	672155	672156	672159	672165	672167

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	0.74	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.26	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	2.44	< 0.1	< 0.1	0.17
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	2.36	< 0.1	< 0.1	0.17
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	1.37	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	1.38	< 0.1	< 0.1	0.11
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	1.83	< 0.1	< 0.1	0.15
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.68	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	1.63	< 0.1	< 0.1	0.12
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	1.11	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.21	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	1.01	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	15	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-10987	Date Sampled	21/08/23	22/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP15	WS01			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/04	Depth (m)	1.00	0.50			
Reporting Date: 13/09/2023	DETS Sample No	672169	672173			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6		



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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-10987	Date Sampled	22/08/23	22/08/23	22/08/23	22/08/23	23/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP02	TP03	TP03	TP03	TP05
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.20	0.20	0.50	0.50	1.00
Reporting Date: 13/09/2023	DETS Sample No	672150	672151	672152	672153	672155

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE				< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE				< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS				< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS				< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS				< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS				< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS				< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE				< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE				< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE				< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS				< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS				< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS				< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS				< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS				< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE				< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE				< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-10987	Date Sampled	23/08/23	23/08/23	23/08/23	23/08/23	23/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP06	TP06	TP07	TP07	TP07
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.50	1.00	0.20	1.00	1.00
Reporting Date: 13/09/2023	DETS Sample No	672156	672157	672158	672159	672160

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01			< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05			< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2			< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2			< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3			< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3			< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10			< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21			< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01			< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05			< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2			< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	11			< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	66			< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	76			< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	76			< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-10987	Date Sampled	21/08/23	21/08/23	22/08/23	22/08/23	22/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP10	TP11	TP12	TP13	TP13
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.20	0.20	0.20	0.50	1.00
Reporting Date: 13/09/2023	DETS Sample No	672161	672162	672163	672164	672165

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE				< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE				< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS				< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS				< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS				< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS				< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS				< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE				< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE				< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE				< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS				< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS				< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS				< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS				< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS				< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE				< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE				< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-10987	Date Sampled	22/08/23	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP13	TP14	TP14	TP15	TP15
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	1.00	0.50	0.50	1.00	1.00
Reporting Date: 13/09/2023	DETS Sample No	672166	672167	672168	672169	672170

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE		< 0.01		< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE		< 0.05		< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS		< 2		< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS		< 2		< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS		< 3		< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS		< 3		< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS		< 10		< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE		< 21		< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE		< 0.01		< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE		< 0.05		< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS		< 2		< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS		< 2		< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS		< 2		< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS		< 3		< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS		< 10		< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE		< 21		< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE		< 42		< 42



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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-10987	Date Sampled	21/08/23	21/08/23	22/08/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP16	TP17	WS01		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A5487/SM/04	Depth (m)	0.20	1.00	0.50		
Reporting Date: 13/09/2023	DETS Sample No	672171	672172	672173		

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE			< 0.01	
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE			< 0.05	
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS			< 2	
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS			< 2	
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS			< 3	
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS			< 3	
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS			< 10	
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE			< 21	
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE			< 0.01	
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE			< 0.05	
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS			< 2	
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS			< 2	
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS			< 2	
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS			< 3	
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS			< 10	
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE			< 21	
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE			< 42	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10987	Date Sampled	23/08/23	23/08/23	23/08/23	22/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP05	TP06	TP07	TP13	TP14
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	1.00	0.50	1.00	1.00	0.50
Reporting Date: 13/09/2023	DETS Sample No	672155	672156	672159	672165	672167

Determinand	Unit	RL	Accreditation					
Benzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-10987	Date Sampled	21/08/23	22/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP15	WS01			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/04	Depth (m)	1.00	0.50			
Reporting Date: 13/09/2023	DETS Sample No	672169	672173			

Determinand	Unit	RL	Accreditation				
Benzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2		
Toluene : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5		
Ethylbenzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2		
p & m-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2		
o-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2		
MTBE : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)

DETS Report No: 23-10987	Date Sampled	23/08/23	23/08/23	22/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP06	TP07	TP13	TP15
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.50	1.00	1.00	1.00
Reporting Date: 13/09/2023	DETS Sample No	672156	672159	672165	672169

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
DETS Report No: 23-10987	Date Sampled	23/08/23	22/08/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP07	TP13			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/SM/04	Depth (m)	1.00	1.00			
Reporting Date: 13/09/2023	DETS Sample No	672159	672165			

Determinand	Unit	RL	Accreditation			
Phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
0-Cresol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	
Isophorone	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
2,4,5-Trichlorophenol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
4-Chloroaniline	mg/kg	< 0.15	NONE	< 0.15	< 0.15	
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Dibenzofuran	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Azobenzene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
Dibutyl phthalate	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
bis(2-ethylhexyl)phthalate	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	



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Soil Analysis Certificate - Speciated Phenols						
DETS Report No: 23-10987	Date Sampled	23/08/23	23/08/23	22/08/23	22/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP06	TP07	TP13	TP13	TP14
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.50	1.00	0.50	1.00	0.50
Reporting Date: 13/09/2023	DETS Sample No	672156	672159	672164	672165	672167

Determinand	Unit	RL	Accreditation						
2, 3, 5-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2, 3, 6-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2, 3-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2, 4, 6-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2, 4-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2, 5-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2, 6-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-ethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-isopropylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3, 4, 5-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3, 4-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3, 5-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-ethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3-isopropylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-ethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-isopropylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
m-cresol (3-methylphenol)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
o-cresol (2-methylphenol)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
p-cresol (4-methylphenol)	mg/kg	< 0.15	NONE	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15	< 0.15
phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - Speciated Phenols						
DETS Report No: 23-10987		Date Sampled	21/08/23			
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied			
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	TP15			
Project / Job Ref: A5487		Additional Refs	None Supplied			
Order No: A5487/SM/04		Depth (m)	1.00			
Reporting Date: 13/09/2023		DETS Sample No	672169			

Determinand	Unit	RL	Accreditation				
2, 3, 5-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1			
2, 3, 6-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1			
2, 3-xyleneol	mg/kg	< 0.1	NONE	< 0.1			
2, 4, 6-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1			
2, 4-xyleneol	mg/kg	< 0.1	NONE	< 0.1			
2, 5-xyleneol	mg/kg	< 0.1	NONE	< 0.1			
2, 6-xyleneol	mg/kg	< 0.1	NONE	< 0.1			
2-ethylphenol	mg/kg	< 0.1	NONE	< 0.1			
2-isopropylphenol	mg/kg	< 0.1	NONE	< 0.1			
3, 4, 5-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1			
3, 4-xyleneol	mg/kg	< 0.1	NONE	< 0.1			
3, 5-xyleneol	mg/kg	< 0.1	NONE	< 0.1			
3-ethylphenol	mg/kg	< 0.1	NONE	< 0.1			
3-isopropylphenol	mg/kg	< 0.1	NONE	< 0.1			
4-ethylphenol	mg/kg	< 0.1	NONE	< 0.1			
4-isopropylphenol	mg/kg	< 0.1	NONE	< 0.1			
m-cresol (3-methylphenol)	mg/kg	< 0.1	NONE	< 0.1			
o-cresol (2-methylphenol)	mg/kg	< 0.1	NONE	< 0.1			
p-cresol (4-methylphenol)	mg/kg	< 0.15	NONE	< 0.15			
phenol	mg/kg	< 0.1	NONE	< 0.1			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 23-10987	Date Sampled	22/08/23	22/08/23	21/08/23	21/08/23	22/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP02	TP03	TP10	TP11	TP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.20	0.20	0.20	0.20	0.20
Reporting Date: 13/09/2023	DETS Sample No	672150	672151	672161	672162	672163

Determinand	Unit	RL	Accreditation					
Aldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
beta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
delta-HCH	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dieldrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Isodrin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Trifluralin	mg/kg	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02



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Soil Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 23-10987		Date Sampled	21/08/23			
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied			
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	TP16			
Project / Job Ref: A5487		Additional Refs	None Supplied			
Order No: A5487/SM/04		Depth (m)	0.20			
Reporting Date: 13/09/2023		DETS Sample No	672171			

Determinand	Unit	RL	Accreditation				
Aldrin	mg/kg	< 0.02	NONE	< 0.02			
alpha-HCH	mg/kg	< 0.02	NONE	< 0.02			
beta-HCH	mg/kg	< 0.02	NONE	< 0.02			
cis-chlordane	mg/kg	< 0.02	NONE	< 0.02			
delta-HCH	mg/kg	< 0.02	NONE	< 0.02			
Dieldrin	mg/kg	< 0.02	NONE	< 0.02			
Endosulfan A	mg/kg	< 0.02	NONE	< 0.02			
Endosulfan B	mg/kg	< 0.02	NONE	< 0.02			
Endrin	mg/kg	< 0.02	NONE	< 0.02			
gamma-HCH (Lindane)	mg/kg	< 0.02	NONE	< 0.02			
Heptachlor	mg/kg	< 0.02	NONE	< 0.02			
Heptachlor epoxide	mg/kg	< 0.02	NONE	< 0.02			
Hexachlorobenzene (HCB)	mg/kg	< 0.02	NONE	< 0.02			
Isodrin	mg/kg	< 0.02	NONE	< 0.02			
Methoxychlor	mg/kg	< 0.02	NONE	< 0.02			
o,p' - DDD	mg/kg	< 0.02	NONE	< 0.02			
o,p' - DDE	mg/kg	< 0.02	NONE	< 0.02			
o,p' - DDT	mg/kg	< 0.02	NONE	< 0.02			
p,p' - DDD	mg/kg	< 0.02	NONE	< 0.02			
p,p' - DDE	mg/kg	< 0.02	NONE	< 0.02			
p,p' - DDT	mg/kg	< 0.02	NONE	< 0.02			
trans-chlordane	mg/kg	< 0.02	NONE	< 0.02			
Trifluralin	mg/kg	< 0.02	NONE	< 0.02			



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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 23-10987	Date Sampled	22/08/23	22/08/23	21/08/23	21/08/23	22/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP02	TP03	TP10	TP11	TP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.20	0.20	0.20	0.20	0.20
Reporting Date: 13/09/2023	DETS Sample No	672150	672151	672161	672162	672163

Determinand	Unit	RL	Accreditation					
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chlorpyrifos-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diazinon	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethoate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fenthion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Malathion	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, (E)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phorate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1



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Soil Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 23-10987		Date Sampled	21/08/23			
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied			
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	TP16			
Project / Job Ref: A5487		Additional Refs	None Supplied			
Order No: A5487/SM/04		Depth (m)	0.20			
Reporting Date: 13/09/2023		DETS Sample No	672171			

Determinand	Unit	RL	Accreditation				
Azinphos-methyl	mg/kg	< 0.1	NONE	< 0.1			
Chlorfenvinphos, alpha	mg/kg	< 0.1	NONE	< 0.1			
Chlorfenvinphos, beta	mg/kg	< 0.1	NONE	< 0.1			
Chlorpyrifos-methyl	mg/kg	< 0.1	NONE	< 0.1			
Diazinon	mg/kg	< 0.1	NONE	< 0.1			
Dichlorvos	mg/kg	< 0.1	NONE	< 0.1			
Dimethoate	mg/kg	< 0.1	NONE	< 0.1			
Fenitrothion	mg/kg	< 0.1	NONE	< 0.1			
Fenthion	mg/kg	< 0.1	NONE	< 0.1			
Malathion	mg/kg	< 0.1	NONE	< 0.1			
Mevinphos, (E)	mg/kg	< 0.1	NONE	< 0.1			
Mevinphos, (Z)	mg/kg	< 0.1	NONE	< 0.1			
Parathion-ethyl	mg/kg	< 0.1	NONE	< 0.1			
Parathion-methyl	mg/kg	< 0.1	NONE	< 0.1			
Phorate	mg/kg	< 0.1	NONE	< 0.1			



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Soil Analysis Certificate - Phenoxy Acidic Herbicides						
DETS Report No: 23-10987	Date Sampled	22/08/23	22/08/23	21/08/23	21/08/23	22/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP02	TP03	TP10	TP11	TP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.20	0.20	0.20	0.20	0.20
Reporting Date: 13/09/2023	DETS Sample No	672150	672151	672161	672162	672163

Determinand	Unit	RL	Accreditation					
2,3,6-TBA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-T ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-TP (fenopron) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-D ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-DB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-CPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benazolin ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bentazone ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bromoxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Clonralid ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dicamba ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dichlorprop (2,4-DP) ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Diclofop ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Flamprop ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Flamprop-isopropyl ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ioxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPA ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPB ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
MCPD ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pentachlorophenol ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Picloram ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Triclopyr ^(S)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Subcontracted analysis^(S)



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Soil Analysis Certificate - Phenoxy Acidic Herbicides						
DETS Report No: 23-10987		Date Sampled	21/08/23			
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied			
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	TP16			
Project / Job Ref: A5487		Additional Refs	None Supplied			
Order No: A5487/SM/04		Depth (m)	0.20			
Reporting Date: 13/09/2023		DETS Sample No	672171			

Determinand	Unit	RL	Accreditation				
2,3,6-TBA ^(S)	mg/kg	< 0.1	NONE	< 0.1			
2,4,5-T ^(S)	mg/kg	< 0.1	NONE	< 0.1			
2,4,5-TP (fenopron) ^(S)	mg/kg	< 0.1	NONE	< 0.1			
2,4-D ^(S)	mg/kg	< 0.1	NONE	< 0.1			
2,4-DB ^(S)	mg/kg	< 0.1	NONE	< 0.1			
4-CPA ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Benazolin ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Bentazone ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Bromoxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Clonralid ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Dicamba ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Dichlorprop (2,4-DP) ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Diclofop ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Flamprop ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Flamprop-isopropyl ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Ioxynil ^(S)	mg/kg	< 0.1	NONE	< 0.1			
MCPA ^(S)	mg/kg	< 0.1	NONE	< 0.1			
MCPB ^(S)	mg/kg	< 0.1	NONE	< 0.1			
MCPB ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Pentachlorophenol ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Picloram ^(S)	mg/kg	< 0.1	NONE	< 0.1			
Triclopyr ^(S)	mg/kg	< 0.1	NONE	< 0.1			

Subcontracted analysis^(S)



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Leachate Analysis Certificate					
DETS Report No: 23-10987	Date Sampled	22/08/23	22/08/23	23/08/23	23/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP03	TP03	TP06	TP07
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.50	0.50	0.50	1.00
Reporting Date: 13/09/2023	DETS Sample No	672152	672153	672156	672157

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025		7.2		
Total Cyanide	ug/l	< 5	ISO17025		< 5		
Sulphate as SO ₄	mg/l	< 1	ISO17025		< 1		
Sulphide	mg/l	< 0.1	NONE		< 0.1		
Total Organic Carbon (TOC)	mg/l	< 1	ISO17025		11		
Antimony	ug/l	< 5	ISO17025		< 5		
Arsenic	ug/l	< 5	ISO17025		< 5		
Barium	ug/l	< 5	ISO17025		9		
Beryllium	ug/l	< 3	ISO17025		< 3		
Boron	ug/l	< 5	ISO17025		16		
Cadmium	ug/l	< 0.4	ISO17025		< 0.4		
Chromium	ug/l	< 5	ISO17025		< 5		
Chromium (hexavalent)	ug/l	< 20	NONE		< 20		
Copper	ug/l	< 5	ISO17025		< 5		
Lead	ug/l	< 5	ISO17025		< 5		
Mercury	ug/l	< 0.05	ISO17025		< 0.05		
Nickel	ug/l	< 5	ISO17025		< 5		
Selenium	ug/l	< 5	ISO17025		< 5		
Vanadium	ug/l	< 5	ISO17025		< 5		
Zinc	ug/l	< 2	ISO17025		4		
Total Phenols (monohydric)	ug/l	< 10	ISO17025		< 10		

Subcontracted analysis ⁽⁵⁾



DETS Ltd
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Leachate Analysis Certificate					
DETS Report No: 23-10987	Date Sampled	23/08/23	23/08/23	22/08/23	22/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP07	TP07	TP13	TP13
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	1.00	1.00	1.00	1.00
Reporting Date: 13/09/2023	DETS Sample No	672159	672160	672165	672166

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025		7.3		7.1
Total Cyanide	ug/l	< 5	ISO17025		< 5		< 5
Sulphate as SO ₄	mg/l	< 1	ISO17025		5		< 1
Sulphide	mg/l	< 0.1	NONE		< 0.1		< 0.1
Total Organic Carbon (TOC)	mg/l	< 1	ISO17025		10.4		9.4
Antimony	ug/l	< 5	ISO17025		< 5		< 5
Arsenic	ug/l	< 5	ISO17025		< 5		< 5
Barium	ug/l	< 5	ISO17025		11		6
Beryllium	ug/l	< 3	ISO17025		< 3		< 3
Boron	ug/l	< 5	ISO17025		13		13
Cadmium	ug/l	< 0.4	ISO17025		< 0.4		< 0.4
Chromium	ug/l	< 5	ISO17025		< 5		< 5
Chromium (hexavalent)	ug/l	< 20	NONE		< 20		< 20
Copper	ug/l	< 5	ISO17025		< 5		< 5
Lead	ug/l	< 5	ISO17025		< 5		< 5
Mercury	ug/l	< 0.05	ISO17025		< 0.05		< 0.05
Nickel	ug/l	< 5	ISO17025		< 5		< 5
Selenium	ug/l	< 5	ISO17025		< 5		< 5
Vanadium	ug/l	< 5	ISO17025		< 5		< 5
Zinc	ug/l	< 2	ISO17025		3		32
Total Phenols (monohydric)	ug/l	< 10	ISO17025		< 10		< 10

Subcontracted analysis ⁽⁵⁾



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Leachate Analysis Certificate					
DETS Report No: 23-10987	Date Sampled	21/08/23	21/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP14	TP15	TP15	TP17
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.50	1.00	1.00	1.00
Reporting Date: 13/09/2023	DETS Sample No	672168	672169	672170	672172

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025	6.9		6.9	
Total Cyanide	ug/l	< 5	ISO17025	< 5		< 5	
Sulphate as SO ₄	mg/l	< 1	ISO17025	< 1		< 1	
Sulphide	mg/l	< 0.1	NONE	< 0.1		< 0.1	
Total Organic Carbon (TOC)	mg/l	< 1	ISO17025	10.5		9.9	
Antimony	ug/l	< 5	ISO17025	< 5		< 5	
Arsenic	ug/l	< 5	ISO17025	< 5		< 5	
Barium	ug/l	< 5	ISO17025	< 5		5	
Beryllium	ug/l	< 3	ISO17025	3		4	
Boron	ug/l	< 5	ISO17025	22		18	
Cadmium	ug/l	< 0.4	ISO17025	< 0.4		< 0.4	
Chromium	ug/l	< 5	ISO17025	< 5		< 5	
Chromium (hexavalent)	ug/l	< 20	NONE	< 20		< 20	
Copper	ug/l	< 5	ISO17025	< 5		< 5	
Lead	ug/l	< 5	ISO17025	< 5		< 5	
Mercury	ug/l	< 0.05	ISO17025	< 0.05		< 0.05	
Nickel	ug/l	< 5	ISO17025	< 5		< 5	
Selenium	ug/l	< 5	ISO17025	< 5		< 5	
Vanadium	ug/l	< 5	ISO17025	< 5		< 5	
Zinc	ug/l	< 2	ISO17025	17		17	
Total Phenols (monohydric)	ug/l	< 10	ISO17025	< 10		< 10	

Subcontracted analysis ⁽⁵⁾



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Leachate Analysis Certificate - Speciated PAH						
DETS Report No: 23-10987	Date Sampled	22/08/23	23/08/23	22/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP03	TP07	TP13	TP14	TP15
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.50	1.00	1.00	0.50	1.00
Reporting Date: 13/09/2023	DETS Sample No	672153	672160	672166	672168	672170

Determinand	Unit	RL	Accreditation					
Naphthalene	ug/l	< 0.01	NONE	0.08	0.07	0.06	0.13	0.10
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	NONE	0.01	< 0.01	0.01	0.03	0.01
Phenanthrene	ug/l	< 0.01	NONE	0.03	0.03	0.03	0.13	0.03
Anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Fluoranthene	ug/l	< 0.01	NONE	0.02	0.02	0.03	0.04	0.01
Pyrene	ug/l	< 0.01	NONE	0.02	0.01	0.02	0.03	0.01
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total EPA-16 PAHs	ug/l	< 0.16	NONE	0.16	< 0.16	< 0.16	0.38	0.16



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Leachate Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-10987	Date Sampled	22/08/23	23/08/23	22/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP03	TP07	TP13	TP14	TP15
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.50	1.00	1.00	0.50	1.00
Reporting Date: 13/09/2023	DETS Sample No	672153	672160	672166	672168	672170

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS 1D MS AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C6 - C8 : HS 1D MS AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C8 - C10 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C10 - C12 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C16 - C21 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C21 - C34 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34) : HS 1D MS+EH CU 1D AL	ug/l	< 70	NONE	< 70	< 70	< 70	< 70	< 70
Aromatic >C5 - C7 : HS 1D MS AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C7 - C8 : HS 1D MS AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C8 - C10 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C10 - C12 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C12 - C16 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C16 - C21 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C21 - C35 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35) : HS 1D MS+EH CU 1D AR	ug/l	< 70	NONE	< 70	< 70	< 70	< 70	< 70
Total >C5 - C35 : HS 1D MS+EH CU 1D Tot al	ug/l	< 140	NONE	< 140	< 140	< 140	< 140	< 140



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Leachate Analysis Certificate - BTEX / MTBE

DETS Report No: 23-10987	Date Sampled	22/08/23	23/08/23	22/08/23	21/08/23	21/08/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	TP03	TP07	TP13	TP14	TP15
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/SM/04	Depth (m)	0.50	1.00	1.00	0.50	1.00
Reporting Date: 13/09/2023	DETS Sample No	672153	672160	672166	672168	672170

Determinand	Unit	RL	Accreditation					
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1	< 1	< 1	< 1	< 1
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
p & m-xylene : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 23-10987			Date Sampled		22/08/23		Landfill Waste Acceptance Criteria Limits		
Earth Environmental & Geotechnical Ltd			Time Sampled		None Supplied				
Site Reference: Kronospan Chirk, Wrexham			TP / BH No		TP03				
Project / Job Ref: A5487			Additional Refs		None Supplied				
Order No: A5487/SM/04			Depth (m)		0.50				
Reporting Date: 13/09/2023			DETS Sample No		672152				
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1	1.9						
Loss on Ignition ^{MU}	%	< 0.01	5.80						
BTEX ^{MU}	mg/kg	< 0.05	< 0.05						
Sum of PCBs	mg/kg	< 0.1	< 0.1						
Mineral Oil ^{MU}	mg/kg	< 10	< 10						
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7						
pH ^{MU}	pH Units	N/a	7.7						
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1						
Eluate Analysis				2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
				mg/l	mg/l		mg/kg		
Arsenic ^U				< 0.01	< 0.01		< 0.2	0.5	25
Barium ^U				< 0.02	< 0.02		0.2	20	300
Cadmium ^U				< 0.0005	< 0.0005		< 0.02	0.04	5
Chromium ^U				< 0.005	< 0.005		< 0.20	0.5	70
Copper ^U				< 0.01	< 0.01		< 0.5	2	100
Mercury ^U				< 0.0005	< 0.0005		< 0.005	0.01	2
Molybdenum ^U				< 0.001	< 0.001		< 0.1	0.5	30
Nickel ^U				< 0.007	< 0.007		< 0.2	0.4	40
Lead ^U				< 0.005	< 0.005		< 0.2	0.5	50
Antimony ^U				< 0.005	< 0.005		< 0.05	0.06	5
Selenium ^U				< 0.005	< 0.005		< 0.05	0.1	7
Zinc ^U				< 0.005	< 0.005		< 0.2	4	200
Chloride ^U				1	2		33	800	25000
Fluoride ^U				0.8	0.7		12.1	10	500
Sulphate ^U				< 1	2		27	1000	50000
TDS				89	60		1114	4000	100000
Phenol Index ^U				< 0.01	< 0.01		< 0.5	1	-
DOC ^U				20.3	17.5		320	500	1000
Leach Test Information									
Sample Mass (kg)				0.10					
Dry Matter (%)				86.1					
Moisture (%)				16.2					
Stage 1									
Volume Eluate L2 (litres)				0.16					
Filtered Eluate VE1 (litres)				0.08					
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation M Denotes MCERTS accredited test U Denotes ISO17025 accredited test									

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3																																							
DETS Report No: 23-10987		Date Sampled	23/08/23		<table><tr><th colspan="3">Landfill Waste Acceptance Criteria Limits</th></tr><tr><th>Inert Waste Landfill</th><th>Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</th><th>Hazardous Waste Landfill</th></tr><tr><td>3%</td><td>5%</td><td>6%</td></tr><tr><td>--</td><td>--</td><td>10%</td></tr><tr><td>6</td><td>--</td><td>--</td></tr><tr><td>1</td><td>--</td><td>--</td></tr><tr><td>500</td><td>--</td><td>--</td></tr><tr><td>100</td><td>--</td><td>--</td></tr><tr><td>--</td><td>>6</td><td>--</td></tr><tr><td>--</td><td>To be evaluated</td><td>To be evaluated</td></tr></table>					Landfill Waste Acceptance Criteria Limits			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Landfill Waste Acceptance Criteria Limits																																							
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																					
3%	5%	6%																																					
--	--	10%																																					
6	--	--																																					
1	--	--																																					
500	--	--																																					
100	--	--																																					
--	>6	--																																					
--	To be evaluated	To be evaluated																																					
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied																																				
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	TP06																																				
Project / Job Ref: A5487		Additional Refs	None Supplied																																				
Order No: A5487/SM/04		Depth (m)	1.00																																				
Reporting Date: 13/09/2023		DETS Sample No	672157																																				
Determinand	Unit	MDL																																					
TOC ^{MU}	%	< 0.1	3.9																																				
Loss on Ignition ^{MU}	%	< 0.01	8.10																																				
BTEX ^{MU}	mg/kg	< 0.05	< 0.05																																				
Sum of PCBs	mg/kg	< 0.1	< 0.1																																				
Mineral Oil ^{MU}	mg/kg	< 10	< 10																																				
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7																																				
pH ^{MU}	pH Units	N/a	7.4																																				
Acid Neutralisation Capacity		mol/kg (+/-)	< 1	1.2																																			
Eluate Analysis			2:1 mg/l	8:1 mg/l		Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																																
Arsenic ^U			< 0.01	< 0.01		< 0.2	0.5	2	25																														
Barium ^U			0.07	0.03		0.6	20	100	300																														
Cadmium ^U			< 0.0005	< 0.0005		< 0.02	0.04	1	5																														
Chromium ^U			< 0.005	< 0.005		< 0.20	0.5	10	70																														
Copper ^U			< 0.01	< 0.01		< 0.5	2	50	100																														
Mercury ^U			< 0.0005	< 0.0005		< 0.005	0.01	0.2	2																														
Molybdenum ^U			0.053	0.018		0.4	0.5	10	30																														
Nickel ^U			< 0.007	< 0.007		< 0.2	0.4	10	40																														
Lead ^U			< 0.005	< 0.005		< 0.2	0.5	10	50																														
Antimony ^U			0.007	< 0.005		< 0.05	0.06	0.7	5																														
Selenium ^U			< 0.005	< 0.005		< 0.05	0.1	0.5	7																														
Zinc ^U			0.006	< 0.005		< 0.2	4	50	200																														
Chloride ^U			5	2		39	800	15000	25000																														
Fluoride ^U			0.7	0.6		11.1	10	150	500																														
Sulphate ^U			83	12		272	1000	20000	50000																														
TDS			257	110		2106	4000	60000	100000																														
Phenol Index ^U			< 0.01	< 0.01		< 0.5	1	-	-																														
DOC ^U			33.7	20.3		379	500	800	1000																														
Leach Test Information																																							
Sample Mass (kg)			0.10																																				
Dry Matter (%)			87.1																																				
Moisture (%)			14.8																																				
Stage 1																																							
Volume Eluate L2 (litres)			0.16																																				
Filtered Eluate VE1 (litres)			0.07																																				
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation M Denotes MCERTS accredited test U Denotes ISO17025 accredited test																																							

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 23-10987			Date Sampled		23/08/23		Landfill Waste Acceptance Criteria Limits		
Earth Environmental & Geotechnical Ltd			Time Sampled		None Supplied				
Site Reference: Kronospan Chirk, Wrexham			TP / BH No		TP07				
Project / Job Ref: A5487			Additional Refs		None Supplied				
Order No: A5487/SM/04			Depth (m)		0.20				
Reporting Date: 13/09/2023			DETS Sample No		672158				
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1	0.6						
Loss on Ignition ^{MU}	%	< 0.01	2.90						
BTEX ^{MU}	mg/kg	< 0.05	< 0.05						
Sum of PCBs	mg/kg	< 0.1	< 0.1						
Mineral Oil ^{MU}	mg/kg	< 10	< 10						
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7						
pH ^{MU}	pH Units	N/a	7.9						
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1						
Eluate Analysis			2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
			mg/l	mg/l		mg/kg			
Arsenic ^U			< 0.01	< 0.01		< 0.2	0.5	2	25
Barium ^U			< 0.02	< 0.02		0.2	20	100	300
Cadmium ^U			< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium ^U			< 0.005	< 0.005		< 0.20	0.5	10	70
Copper ^U			< 0.01	< 0.01		< 0.5	2	50	100
Mercury ^U			< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum ^U			0.004	0.004		< 0.1	0.5	10	30
Nickel ^U			< 0.007	< 0.007		< 0.2	0.4	10	40
Lead ^U			< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony ^U			< 0.005	< 0.005		< 0.05	0.06	0.7	5
Selenium ^U			< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc ^U			< 0.005	< 0.005		< 0.2	4	50	200
Chloride ^U			10	3		56	800	15000	25000
Fluoride ^U			0.8	0.6		10.8	10	150	500
Sulphate ^U			49	7		161	1000	20000	50000
TDS			157	57		1122	4000	60000	100000
Phenol Index ^U			< 0.01	< 0.01		< 0.5	1	-	-
DOC ^U			15.9	13.9		253	500	800	1000
Leach Test Information									
Sample Mass (kg)			0.10						
Dry Matter (%)			87.7						
Moisture (%)			14						
Stage 1									
Volume Eluate L2 (litres)			0.16						
Filtered Eluate VE1 (litres)			0.08						
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation M Denotes MCERTS accredited test U Denotes ISO17025 accredited test									

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 23-10987			Date Sampled		21/08/23		Landfill Waste Acceptance Criteria Limits		
Earth Environmental & Geotechnical Ltd			Time Sampled		None Supplied				
Site Reference: Kronospan Chirk, Wrexham			TP / BH No		TP14				
Project / Job Ref: A5487			Additional Refs		None Supplied				
Order No: A5487/SM/04			Depth (m)		0.50				
Reporting Date: 13/09/2023			DETS Sample No		672167				
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1	2.3						
Loss on Ignition ^{MU}	%	< 0.01	6.50						
BTEX ^{MU}	mg/kg	< 0.05	< 0.05						
Sum of PCBs	mg/kg	< 0.1	< 0.1						
Mineral Oil ^{MU}	mg/kg	< 10	< 10						
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7						
pH ^{MU}	pH Units	N/a	7.6						
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1						
Eluate Analysis			2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
			mg/l	mg/l		mg/kg			
Arsenic ^U			< 0.01	< 0.01		< 0.2	0.5	2	25
Barium ^U			0.04	< 0.02		0.2	20	100	300
Cadmium ^U			< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium ^U			< 0.005	< 0.005		< 0.20	0.5	10	70
Copper ^U			< 0.01	< 0.01		< 0.5	2	50	100
Mercury ^U			< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum ^U			0.017	0.002		< 0.1	0.5	10	30
Nickel ^U			< 0.007	< 0.007		< 0.2	0.4	10	40
Lead ^U			< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony ^U			0.007	< 0.005		< 0.05	0.06	0.7	5
Selenium ^U			< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc ^U			< 0.005	< 0.005		< 0.2	4	50	200
Chloride ^U			57	4		110	800	15000	25000
Fluoride ^U			1.2	0.6		11.7	10	150	500
Sulphate ^U			195	8		281	1000	20000	50000
TDS			377	82		1705	4000	60000	100000
Phenol Index ^U			< 0.01	< 0.01		< 0.5	1	-	-
DOC ^U			25	23.6		429	500	800	1000
Leach Test Information									
Sample Mass (kg)			0.10						
Dry Matter (%)			88.2						
Moisture (%)			13.4						
Stage 1									
Volume Eluate L2 (litres)			0.16						
Filtered Eluate VE1 (litres)			0.06						
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation M Denotes MCERTS accredited test U Denotes ISO17025 accredited test									

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 23-10987		Date Sampled	21/08/23			Landfill Waste Acceptance Criteria Limits			
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied						
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	TP15						
Project / Job Ref: A5487		Additional Refs	None Supplied						
Order No: A5487/SM/04		Depth (m)	1.00						
Reporting Date: 13/09/2023		DETS Sample No	672169						
Determinand	Unit	MDL				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
TOC ^{MU}	%	< 0.1	0.5			3%	5%	6%	
Loss on Ignition ^{MU}	%	< 0.01	2.60			--	--	10%	
BTEX ^{MU}	mg/kg	< 0.05	< 0.05			6	--	--	
Sum of PCBs	mg/kg	< 0.1	< 0.1			1	--	--	
Mineral Oil ^{MU}	mg/kg	< 10	< 10			500	--	--	
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7			100	--	--	
pH ^{MU}	pH Units	N/a	6.9			--	>6	--	
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1			--	To be evaluated	To be evaluated	
Eluate Analysis			2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
			mg/l	mg/l		mg/kg			
Arsenic ^U			< 0.01	< 0.01		< 0.2	0.5	2	25
Barium ^U			< 0.02	< 0.02		< 0.1	20	100	300
Cadmium ^U			< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium ^U			< 0.005	< 0.005		< 0.20	0.5	10	70
Copper ^U			< 0.01	< 0.01		< 0.5	2	50	100
Mercury ^U			< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum ^U			< 0.001	< 0.001		< 0.1	0.5	10	30
Nickel ^U			< 0.007	< 0.007		< 0.2	0.4	10	40
Lead ^U			< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony ^U			< 0.005	< 0.005		< 0.05	0.06	0.7	5
Selenium ^U			< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc ^U			0.007	< 0.005		< 0.2	4	50	200
Chloride ^U			1	2		33	800	15000	25000
Fluoride ^U			< 0.5	< 0.5		< 1	10	150	500
Sulphate ^U			1	2		32	1000	20000	50000
TDS			20	16		293	4000	60000	100000
Phenol Index ^U			< 0.01	< 0.01		< 0.5	1	-	-
DOC ^U			12.5	12.3		222	500	800	1000
Leach Test Information									
Sample Mass (kg)			0.10						
Dry Matter (%)			85.4						
Moisture (%)			17.2						
Stage 1									
Volume Eluate L2 (litres)			0.16						
Filtered Eluate VE1 (litres)			0.06						

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion

Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation

M Denotes MCERTS accredited test

U Denotes ISO17025 accredited test

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3									
DETS Report No: 23-10987		Date Sampled	21/08/23		Landfill Waste Acceptance Criteria Limits				
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied						
Site Reference: Kronospan Chirk, Wrexham		TP / BH No	TP17						
Project / Job Ref: A5487		Additional Refs	None Supplied						
Order No: A5487/SM/04		Depth (m)	1.00						
Reporting Date: 13/09/2023		DETS Sample No	672172						
Determinand	Unit	MDL							
TOC ^{MU}	%	< 0.1	2.4						
Loss on Ignition ^{MU}	%	< 0.01	6.90						
BTEX ^{MU}	mg/kg	< 0.05	< 0.05						
Sum of PCBs	mg/kg	< 0.1	< 0.1						
Mineral Oil ^{MU}	mg/kg	< 10	< 10						
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7						
pH ^{MU}	pH Units	N/a	7.1						
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1						
Eluate Analysis				2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
				mg/l	mg/l		mg/kg		
Arsenic ^U				< 0.01	< 0.01		< 0.2	0.5	25
Barium ^U				< 0.02	< 0.02		0.1	20	300
Cadmium ^U				< 0.0005	< 0.0005		< 0.02	0.04	5
Chromium ^U				< 0.005	< 0.005		< 0.20	0.5	70
Copper ^U				< 0.01	< 0.01		< 0.5	2	100
Mercury ^U				< 0.0005	< 0.0005		< 0.005	0.01	2
Molybdenum ^U				< 0.001	< 0.001		< 0.1	0.5	30
Nickel ^U				< 0.007	< 0.007		< 0.2	0.4	40
Lead ^U				< 0.005	< 0.005		< 0.2	0.5	50
Antimony ^U				< 0.005	< 0.005		< 0.05	0.06	5
Selenium ^U				< 0.005	< 0.005		< 0.05	0.1	7
Zinc ^U				0.008	< 0.005		< 0.2	4	200
Chloride ^U				2	2		34	800	25000
Fluoride ^U				0.5	< 0.5		< 1	10	500
Sulphate ^U				2	2		33	1000	50000
TDS				63	33		613	4000	100000
Phenol Index ^U				< 0.01	< 0.01		< 0.5	1	-
DOC ^U				22.8	18		329	500	1000
Leach Test Information									
Sample Mass (kg)				0.11					
Dry Matter (%)				80.3					
Moisture (%)				24.6					
Stage 1									
Volume Eluate L2 (litres)				0.15					
Filtered Eluate VE1 (litres)				0.05					
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation M Denotes MCERTS accredited test U Denotes ISO17025 accredited test									



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 23-10987
Earth Environmental & Geotechnical Ltd
Site Reference: Kronospan Chirk, Wrexham
Project / Job Ref: A5487
Order No: A5487/SM/04
Reporting Date: 13/09/2023

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
672150	TP02	None Supplied	0.20	16.9	Brown clayey sand with vegetation
672151	TP03	None Supplied	0.20	18.7	Brown sandy clay with vegetation
672152	TP03	None Supplied	0.50	13.4	Brown clayey sand with stones
672155	TP05	None Supplied	1.00	13.9	Brown sandy clay
672156	TP06	None Supplied	0.50	14.7	Brown sandy clay with stones
672157	TP06	None Supplied	1.00	12.4	Brown sandy clay with stones
672158	TP07	None Supplied	0.20	11.8	Brown sandy clay with stones
672159	TP07	None Supplied	1.00	15.1	Brown sandy clay with stones
672161	TP10	None Supplied	0.20	17.8	Brown sandy clay with stones
672162	TP11	None Supplied	0.20	13.4	Brown sandy clay with stones
672163	TP12	None Supplied	0.20	23.6	Brown sandy clay with vegetation
672164	TP13	None Supplied	0.50	19	Brown sandy clay
672165	TP13	None Supplied	1.00	11.6	Brown sandy clay with stones
672167	TP14	None Supplied	0.50	11.3	Brown sandy clay with stones and vegetation
672169	TP15	None Supplied	1.00	14.1	Brown sandy clay
672171	TP16	None Supplied	0.20	22.4	Brown clayey sand with vegetation
672172	TP17	None Supplied	1.00	19.1	Brown clayey sand with stones and vegetation
672173	WS01	None Supplied	0.50	12.8	Brown clayey sand with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-10987

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/04

Reporting Date: 13/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 dphenylcarbazine followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried

AR As Received



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-10987

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/SM/04

Reporting Date: 13/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCS	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators	
DETS Report No:	23-10987
Earth Environmental & Geotechnical Ltd	
Site Reference:	Kronospan Chirk, Wrexham
Project / Job Ref:	A5487
Order No:	A5487/SM/04
Reporting Date:	13/09/2023

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
Mineral Oil (C10 - C40) (BS EN 12457-3) - EH_CU_1D_AL
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Aromatic C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
Total BTEX (BS EN 12457-3) - HS_1D_MS_Total
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	10.4	%
Loss on Ignition	Soil	BS EN 12457	16.9	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	21.1	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	17.9	%
pH	Soil	BS EN 12457	0.282	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	19.5	%
Barium	Leachate	BS EN 12457	12.2	%
Cadmium	Leachate	BS EN 12457	17.2	%
Chromium	Leachate	BS EN 12457	20.7	%
Copper	Leachate	BS EN 12457	14.1	%
Mercury	Leachate	BS EN 12457	16.7	%
Molybdenum	Leachate	BS EN 12457	13.3	%
Nickel	Leachate	BS EN 12457	14.0	%
Lead	Leachate	BS EN 12457	12.1	%
Antimony	Leachate	BS EN 12457	16.1	%
Selenium	Leachate	BS EN 12457	15.5	%
Zinc	Leachate	BS EN 12457	14.0	%
Chloride	Leachate	BS EN 12457	15.7	%
Fluoride	Leachate	BS EN 12457	19.1	%
Sulphate	Leachate	BS EN 12457	27.6	%
TDS	Leachate	BS EN 12457	10.0	%
Phenol Index	Leachate	BS EN 12457	12.9	%
DOC	Leachate	BS EN 12457	20.4	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	16.9	%
pH	Soil	BS 3882: 2015	0.282	Units
Carbonate	Soil	BS 3882: 2015	12.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	19.8	%
Copper	Soil	BS 3882: 2015	23.2	%
Nickel	Soil	BS 3882: 2015	32.6	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%



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Derwentside Environmental Testing Services Ltd
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DETS Report No: 23-12485

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/TO/06

Sample Receipt Date: 09/10/2023

Sample Scheduled Date: 09/10/2023

Report Issue Number: 1

Reporting Date: 13/10/2023

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



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Soil Analysis Certificate						
DETS Report No: 23-12485	Date Sampled	29/09/23	29/09/23	29/09/23	29/09/23	29/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS21	WS21	WS24	WS24	WS24
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/TO/06	Depth (m)	0.50	1.00	0.10	0.10	0.50
Reporting Date: 13/10/2023	DETS Sample No	678822	678823	678824	678825	678826

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.3	7.2	7.3	7.4
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	664	375	526	883
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.07	0.04	0.05	0.09
Sulphide	mg/kg	< 5	NONE	17	6	< 5	74
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	9.1	4.3	8.9	20.8
Arsenic (As)	mg/kg	< 2	MCERTS	16	12	13	24
Barium (Ba)	mg/kg	< 2.5	MCERTS	102	66	240	166
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.9	0.7	0.8	1.6
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.3	< 0.2	0.3	0.5
Chromium (Cr)	mg/kg	< 2	MCERTS	25	28	11	18
Lead (Pb)	mg/kg	< 3	MCERTS	89	48	54	98
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	25	28	14	26
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	32	29	22	38
Zinc (Zn)	mg/kg	< 3	MCERTS	142	106	85	159
Formaldehyde	mg/kg	< 5.0	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-12485	Date Sampled	29/09/23	29/09/23	29/09/23	29/09/23	
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS21	WS21	WS24	WS24	
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: A5487/TO/06	Depth (m)	0.50	1.00	0.10	0.50	
Reporting Date: 13/10/2023	DETS Sample No	678822	678823	678824	678826	

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	0.55	0.19	0.91	1.09
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.54	0.23	0.71	0.82
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.56	0.24	0.52	0.49
Pyrene	mg/kg	< 0.1	MCERTS	0.53	0.23	0.51	0.49
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.35	0.18	0.28	0.26
Chrysene	mg/kg	< 0.1	MCERTS	0.49	0.22	0.31	0.30
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.58	0.30	0.34	0.26
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.15	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.28	0.15	0.20	0.13
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.20	0.14	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.19	0.13	0.13	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	4.4	2	3.9	3.8



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 23-12485	Date Sampled	29/09/23	29/09/23	29/09/23	29/09/23	29/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS21	WS21	WS24	WS24	WS24
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/TO/06	Depth (m)	0.50	1.00	0.10	0.10	0.50
Reporting Date: 13/10/2023	DETS Sample No	678822	678823	678824	678825	678826

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10		< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21	< 21		< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2		< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3		< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10		< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21	< 21		< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	mg/kg	< 42	NONE	< 42	< 42	< 42		< 42



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Soil Analysis Certificate - BTEX / MTBE					
DETS Report No: 23-12485	Date Sampled	29/09/23	29/09/23	29/09/23	29/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS21	WS21	WS24	WS24
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/TO/06	Depth (m)	0.50	1.00	0.10	0.50
Reporting Date: 13/10/2023	DETS Sample No	678822	678823	678824	678826

Determinand	Unit	RL	Accreditation					
Benzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene : HS 1D MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE : HS 1D MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)

DETS Report No: 23-12485	Date Sampled	29/09/23	29/09/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS21	WS24			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/TO/06	Depth (m)	0.50	0.10			
Reporting Date: 13/10/2023	DETS Sample No	678822	678824			

Determinand	Unit	RL	Accreditation			
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	
TAME	ug/kg	< 5	MCERTS	< 5	< 5	
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	



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Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
DETS Report No: 23-12485	Date Sampled	29/09/23	29/09/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS21	WS24			
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied			
Order No: A5487/TO/06	Depth (m)	0.50	0.10			
Reporting Date: 13/10/2023	DETS Sample No	678822	678824			

Determinand	Unit	RL	Accreditation			
Phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
O-Cresol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	
Isophorone	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
2,4,5-Trichlorophenol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	0.5	0.5	
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
4-Chloroaniline	mg/kg	< 0.15	NONE	< 0.15	< 0.15	
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Dibenzofuran	mg/kg	< 0.1	MCERTS	0.2	0.2	
Azobenzene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	
Dibutyl phthalate	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	
bis(2-ethylhexyl)phthalate	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	



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Soil Analysis Certificate - Speciated Phenols					
DETS Report No: 23-12485	Date Sampled	29/09/23	29/09/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS21	WS24		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied		
Order No: A5487/TO/06	Depth (m)	0.50	0.10		
Reporting Date: 13/10/2023	DETS Sample No	678822	678824		

Determinand	Unit	RL	Accreditation				
2, 3, 5-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2, 3, 6-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2, 3-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2, 4, 6-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2, 4-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2, 5-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2, 6-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2-ethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
2-isopropylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
3, 4, 5-trimethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
3, 4-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
3, 5-xyleneol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
3-ethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
3-isopropylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
4-ethylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
4-isopropylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
m-cresol (3-methylphenol)	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
o-cresol (2-methylphenol)	mg/kg	< 0.1	NONE	< 0.1	< 0.1		
p-cresol (4-methylphenol)	mg/kg	< 0.15	NONE	< 0.15	< 0.15		
phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C



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Leachate Analysis Certificate					
DETS Report No: 23-12485	Date Sampled	29/09/23	29/09/23	29/09/23	29/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS21	WS21	WS24	WS24
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487/TO/06	Depth (m)	0.50	1.00	0.10	0.10
Reporting Date: 13/10/2023	DETS Sample No	678822	678823	678824	678825

Determinand	Unit	RL	Accreditation				
pH	pH Units	N/a	ISO17025				7.9
Total Cyanide	ug/l	< 5	ISO17025				8
Sulphate as SO ₄	mg/l	< 1	ISO17025				1
Total Organic Carbon (TOC)	mg/l	< 1	ISO17025				5.4
Arsenic	ug/l	< 5	ISO17025				< 5
Barium	ug/l	< 5	ISO17025				25
Beryllium	ug/l	< 3	ISO17025				< 3
Boron	ug/l	< 5	ISO17025				14
Cadmium	ug/l	< 0.4	ISO17025				< 0.4
Chromium	ug/l	< 5	ISO17025				< 5
Chromium (hexavalent)	ug/l	< 20	NONE				< 20
Copper	ug/l	< 5	ISO17025				< 5
Lead	ug/l	< 5	ISO17025				< 5
Mercury	ug/l	< 0.05	ISO17025				< 0.05
Nickel	ug/l	< 5	ISO17025				< 5
Selenium	ug/l	< 5	ISO17025				< 5
Vanadium	ug/l	< 5	ISO17025				< 5
Zinc	ug/l	< 2	ISO17025				11
Total Phenols (monohydric)	ug/l	< 10	ISO17025				< 10

Subcontracted analysis ⁽⁵⁾



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Leachate Analysis Certificate - Speciated PAH						
DETS Report No: 23-12485	Date Sampled	29/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS24				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487/TO/06	Depth (m)	0.10				
Reporting Date: 13/10/2023	DETS Sample No	678825				

Determinand	Unit	RL	Accreditation				
Naphthalene	ug/l	< 0.01	NONE	< 0.01			
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01			
Acenaphthene	ug/l	< 0.01	NONE	< 0.01			
Fluorene	ug/l	< 0.01	NONE	< 0.01			
Phenanthrene	ug/l	< 0.01	NONE	< 0.01			
Anthracene	ug/l	< 0.01	NONE	< 0.01			
Fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Pyrene	ug/l	< 0.01	NONE	< 0.01			
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01			
Chrysene	ug/l	< 0.01	NONE	< 0.01			
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01			
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01			
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01			
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01			
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008			
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16			



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Leachate Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-12485	Date Sampled	29/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS24				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487/TO/06	Depth (m)	0.10				
Reporting Date: 13/10/2023	DETS Sample No	678825				

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C6 - C8 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C8 - C10 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C10 - C12 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C12 - C16 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C16 - C21 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic >C21 - C34 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10			
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	ug/l	< 70	NONE	< 70			
Aromatic >C5 - C7 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10			
Aromatic >C7 - C8 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10			
Aromatic >C8 - C10 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C10 - C12 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C12 - C16 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C16 - C21 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic >C21 - C35 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10			
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	< 70			
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	ug/l	< 140	NONE	< 140			



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Leachate Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-12485	Date Sampled	29/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan Chirk, Wrexham	TP / BH No	WS24				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487/TO/06	Depth (m)	0.10				
Reporting Date: 13/10/2023	DETS Sample No	678825				

Determinand	Unit	RL	Accreditation				
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1			
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5			
Ethylbenzene : HS 1D MS	ug/l	< 5	ISO17025	< 5			
p & m-xylene : HS 1D MS	ug/l	< 10	ISO17025	< 10			
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5			
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10			

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3										
DETS Report No: 23-12485			Date Sampled	29/09/23			Landfill Waste Acceptance Criteria Limits			
Earth Environmental & Geotechnical Ltd			Time Sampled	None Supplied						
Site Reference: Kronospan Chirk, Wrexham			TP / BH No	WS21						
Project / Job Ref: A5487			Additional Refs	None Supplied						
Order No: A5487/TO/06			Depth (m)	0.50						
Reporting Date: 13/10/2023			DETS Sample No	678822						
Determinand	Unit	MDL								
TOC ^{MU}	%	< 0.1	9.1							
Loss on Ignition ^{MU}	%	< 0.01	22.70							
BTEX ^{MU}	mg/kg	< 0.05	< 0.05							
Sum of PCBs	mg/kg	< 0.1	< 0.1							
Mineral Oil ^{MU}	mg/kg	< 10	< 10							
Total PAH ^{MU}	mg/kg	< 1.7	4.4							
pH ^{MU}	pH Units	N/a	7.3							
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1							
Eluate Analysis										2:1 mg/l
Arsenic ^U				< 0.01	< 0.01		< 0.2	0.5	25	
Barium ^U				0.03	< 0.02		0.3	20	300	
Cadmium ^U				< 0.0005	< 0.0005		< 0.02	0.04	5	
Chromium ^U				< 0.005	< 0.005		< 0.20	0.5	70	
Copper ^U				0.01	< 0.01		< 0.5	2	100	
Mercury ^U				< 0.0005	< 0.0005		< 0.005	0.01	2	
Molybdenum ^U				0.006	0.003		< 0.1	0.5	30	
Nickel ^U				< 0.007	< 0.007		< 0.2	0.4	40	
Lead ^U				0.046	0.012		0.2	0.5	50	
Antimony ^U				< 0.005	< 0.005		< 0.05	0.06	5	
Selenium ^U				< 0.005	< 0.005		< 0.05	0.1	7	
Zinc ^U				0.018	0.012		0.2	4	200	
Chloride ^U				2	2		28	800	15000	
Fluoride ^U				< 0.5	< 0.5		< 1	10	500	
Sulphate ^U				5	1		30	1000	50000	
TDS				65	43		800	4000	60000	
Phenol Index ^U				< 0.01	< 0.01		< 0.5	1	-	
DOC ^U				24.3	< 1.0		23.5	500	1000	
Leach Test Information										
Sample Mass (kg)				0.10						
Dry Matter (%)				84.6						
Moisture (%)				18.2						
Stage 1										
Volume Eluate L2 (litres)				0.16						
Filtered Eluate VE1 (litres)				0.08						
Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion										
Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation										
M Denotes MCERTS accredited test										
U Denotes ISO17025 accredited test										



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 23-12485	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronospan Chirk, Wrexham	
Project / Job Ref: A5487	
Order No: A5487/TO/06	
Reporting Date: 13/10/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
678822	WS21	None Supplied	0.50	14.9	Black loamy sand with stones and vegetation
678823	WS21	None Supplied	1.00	12.5	Brown sandy clay with stones
678824	WS24	None Supplied	0.10	15.8	Black sandy clay with stones and concrete
678826	WS24	None Supplied	0.50	16.3	Black loamy sand with stones and concrete

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ¹/s

Unsuitable Sample ^u/s



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-12485

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/TO/06

Reporting Date: 13/10/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-12485

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan Chirk, Wrexham

Project / Job Ref: A5487

Order No: A5487/TO/06

Reporting Date: 13/10/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators	
DETS Report No: 23-12485	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronospan Chirk, Wrexham	
Project / Job Ref: A5487	
Order No: A5487/TO/06	
Reporting Date: 13/10/2023	

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
Mineral Oil (C10 - C40) (BS EN 12457-3) - EH_CU_1D_AL
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Aromatic C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
Total BTEX (BS EN 12457-3) - HS_1D_MS_Total
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	10.4	%
Loss on Ignition	Soil	BS EN 12457	16.9	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	21.1	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	17.9	%
pH	Soil	BS EN 12457	0.282	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	19.5	%
Barium	Leachate	BS EN 12457	12.2	%
Cadmium	Leachate	BS EN 12457	17.2	%
Chromium	Leachate	BS EN 12457	20.7	%
Copper	Leachate	BS EN 12457	14.1	%
Mercury	Leachate	BS EN 12457	16.7	%
Molybdenum	Leachate	BS EN 12457	13.3	%
Nickel	Leachate	BS EN 12457	14.0	%
Lead	Leachate	BS EN 12457	12.1	%
Antimony	Leachate	BS EN 12457	16.1	%
Selenium	Leachate	BS EN 12457	15.5	%
Zinc	Leachate	BS EN 12457	14.0	%
Chloride	Leachate	BS EN 12457	15.7	%
Fluoride	Leachate	BS EN 12457	19.1	%
Sulphate	Leachate	BS EN 12457	27.6	%
TDS	Leachate	BS EN 12457	10.0	%
Phenol Index	Leachate	BS EN 12457	12.9	%
DOC	Leachate	BS EN 12457	20.4	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	16.9	%
pH	Soil	BS 3882: 2015	0.282	Units
Carbonate	Soil	BS 3882: 2015	12.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	19.8	%
Copper	Soil	BS 3882: 2015	23.2	%
Nickel	Soil	BS 3882: 2015	32.6	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%



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Earth Environmental & Geotechnical Ltd
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Houldsworth Street
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SK5 6DA

Derwentside Environmental Testing Services Ltd
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t: 01622 850410

DETS Report No: 23-11552

Site Reference: Kronospan
Project / Job Ref: A5487
Order No: A5487
Sample Receipt Date: 11/09/2023
Sample Scheduled Date: 13/09/2023
Report Issue Number: 1
Reporting Date: 19/09/2023

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Water Analysis Certificate						
DETS Report No: 23-11552	Date Sampled	07/09/23	07/09/23	07/09/23	07/09/23	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674680	674681	674682	674683	674684

Determinand	Unit	RL	Accreditation	(hs)	(hs)	(hs)	(hs)	(hs)
pH	pH Units	N/a	ISO17025	7.4	7.4	7.6	7.3	7.4
Electrical Conductivity (at 25°C)	uS/cm	< 5	NONE	499	630	632	733	529
Total Cyanide	ug/l	< 5	ISO17025	14	31	< 5	< 5	< 5
Sulphate as SO ₄	mg/l	< 1	ISO17025	21	10	8	20	7
Sulphide	mg/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ammoniacal Nitrogen as NH ₄	ug/l	< 50	ISO17025	< 50	100	90	< 50	153
Total Organic Carbon (TOC)	mg/l	< 1.0	ISO17025	9.3	16.8	17.9	14.7	17.2
Hardness - Total	mgCaCO ₃ /l	< 1	NONE	221	331	340	296	252
Arsenic (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Barium (dissolved)	ug/l	< 5	ISO17025	104	265	393	496	133
Beryllium (dissolved)	ug/l	< 3	ISO17025	< 3	< 3	< 3	< 3	< 3
Boron (dissolved)	ug/l	< 5	ISO17025	24	11	22	14	22
Cadmium (dissolved)	ug/l	< 0.4	ISO17025	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium (dissolved)	ug/l	< 5	ISO17025	< 5	6	5	< 5	< 5
Chromium (hexavalent)	ug/l	< 20	NONE	< 20	< 20	< 20	< 20	< 20
Copper (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	5	< 5	< 5
Lead (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Mercury (dissolved)	ug/l	< 0.05	ISO17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Selenium (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Vanadium (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Zinc (dissolved)	ug/l	< 2	ISO17025	2	21	21	< 2	< 2
Total Phenols (monohydric)	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
Formaldehyde	mg/l	< 0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Subcontracted analysis ^(S)

Insufficient sample ^{I/S}

Unsuitable Sample ^{U/S}

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate						
DETS Report No: 23-11552	Date Sampled	07/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 19/09/2023	DETS Sample No	674685				

Determinand	Unit	RL	Accreditation	(hs)				
pH	pH Units	N/a	ISO17025	7.2				
Electrical Conductivity (at 25°C)	uS/cm	< 5	NONE	631				
Total Cyanide	ug/l	< 5	ISO17025	< 5				
Sulphate as SO ₄	mg/l	< 1	ISO17025	19				
Sulphide	mg/l	< 0.1	NONE	< 0.1				
Ammoniacal Nitrogen as NH ₄	ug/l	< 50	ISO17025	117				
Total Organic Carbon (TOC)	mg/l	< 1.0	ISO17025	14.9				
Hardness - Total	mgCaCO ₃ /l	< 1	NONE	266				
Arsenic (dissolved)	ug/l	< 5	ISO17025	< 5				
Barium (dissolved)	ug/l	< 5	ISO17025	153				
Beryllium (dissolved)	ug/l	< 3	ISO17025	< 3				
Boron (dissolved)	ug/l	< 5	ISO17025	34				
Cadmium (dissolved)	ug/l	< 0.4	ISO17025	< 0.4				
Chromium (dissolved)	ug/l	< 5	ISO17025	< 5				
Chromium (hexavalent)	ug/l	< 20	NONE	< 20				
Copper (dissolved)	ug/l	< 5	ISO17025	< 5				
Lead (dissolved)	ug/l	< 5	ISO17025	< 5				
Mercury (dissolved)	ug/l	< 0.05	ISO17025	< 0.05				
Nickel (dissolved)	ug/l	< 5	ISO17025	< 5				
Selenium (dissolved)	ug/l	< 5	ISO17025	< 5				
Vanadium (dissolved)	ug/l	< 5	ISO17025	< 5				
Zinc (dissolved)	ug/l	< 2	ISO17025	2				
Total Phenols (monohydric)	ug/l	< 10	ISO17025	< 10				
Formaldehyde	mg/l	< 0.5	NONE	< 0.5				

Subcontracted analysis ^(S)
Insufficient sample ^{I/S}
Unsuitable Sample ^{U/S}



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Water Analysis Certificate - Speciated PAH

DETS Report No: 23-11552	Date Sampled	07/09/23	07/09/23	07/09/23	07/09/23	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674680	674681	674682	674683	674684

Determinand	Unit	RL	Accreditation	(hs)		(hs)	
Naphthalene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	0.11
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	0.01
Anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16	< 0.16	< 0.16	0.30



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Water Analysis Certificate - Speciated PAH						
DETS Report No: 23-11552	Date Sampled	07/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 19/09/2023	DETS Sample No	674685				

Determinand	Unit	RL	Accreditation	(hs)				
Naphthalene	ug/l	< 0.01	NONE	0.04				
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01				
Acenaphthene	ug/l	< 0.01	NONE	< 0.01				
Fluorene	ug/l	< 0.01	NONE	< 0.01				
Phenanthrene	ug/l	< 0.01	NONE	0.01				
Anthracene	ug/l	< 0.01	NONE	< 0.01				
Fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Pyrene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01				
Chrysene	ug/l	< 0.01	NONE	< 0.01				
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01				
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008				
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16				



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Water Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-11552	Date Sampled	07/09/23	07/09/23	07/09/23	07/09/23	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674680	674681	674682	674683	674684

Determinand	Unit	RL	Accreditation	(hs)		(hs)	
Aliphatic >C5 - C6 : HS 1D MS AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aliphatic >C6 - C8 : HS 1D MS AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aliphatic >C8 - C10 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aliphatic >C10 - C12 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aliphatic >C16 - C21 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aliphatic >C21 - C34 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34) : HS 1D MS+EH CU 1D AL	ug/l	< 70	NONE	< 70	< 70	< 70	< 70
Aromatic >C5 - C7 : HS 1D MS AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aromatic >C7 - C8 : HS 1D MS AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aromatic >C8 - C10 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aromatic >C10 - C12 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aromatic >C12 - C16 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aromatic >C16 - C21 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aromatic >C21 - C35 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10
Aromatic (C5 - C35) : HS 1D MS+EH CU 1D AR	ug/l	< 70	NONE	< 70	< 70	< 70	< 70
Total >C5 - C35 : HS 1D MS+EH CU 1D Total	ug/l	< 140	NONE	< 140	< 140	< 140	< 140

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-11552		Date Sampled	07/09/23			
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied			
Site Reference: Kronospan		TP / BH No	CP13			
Project / Job Ref: A5487		Additional Refs	None Supplied			
Order No: A5487		Depth (m)	None Supplied			
Reporting Date: 19/09/2023		DETS Sample No	674685			

Determinand	Unit	RL	Accreditation	(hs)				
Aliphatic >C5 - C6 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10				
Aliphatic >C6 - C8 : HS_1D_MS_AL	ug/l	< 10	NONE	< 10				
Aliphatic >C8 - C10 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10				
Aliphatic >C10 - C12 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10				
Aliphatic >C12 - C16 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10				
Aliphatic >C16 - C21 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10				
Aliphatic >C21 - C34 : EH_CU_1D_AL	ug/l	< 10	NONE	< 10				
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	ug/l	< 70	NONE	< 70				
Aromatic >C5 - C7 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10				
Aromatic >C7 - C8 : HS_1D_MS_AR	ug/l	< 10	NONE	< 10				
Aromatic >C8 - C10 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10				
Aromatic >C10 - C12 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10				
Aromatic >C12 - C16 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10				
Aromatic >C16 - C21 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10				
Aromatic >C21 - C35 : EH_CU_1D_AR	ug/l	< 10	NONE	< 10				
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	< 70				
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	ug/l	< 140	NONE	< 140				



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Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-11552	Date Sampled	07/09/23	07/09/23	07/09/23	07/09/23	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674680	674681	674682	674683	674684

Determinand	Unit	RL	Accreditation	(hs)		(hs)	
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1	< 1	< 1	< 1
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5
Ethylbenzene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5
p & m-xylene : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-11552	Date Sampled	07/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 19/09/2023	DETS Sample No	674685				

Determinand	Unit	RL	Accreditation	(hs)				
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1				
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5				
Ethylbenzene : HS 1D MS	ug/l	< 5	ISO17025	< 5				
p & m-xylene : HS 1D MS	ug/l	< 10	ISO17025	< 10				
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5				
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10				



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Water Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 23-11552	Date Sampled	07/09/23	07/09/23	07/09/23	07/09/23	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674680	674681	674682	674683	674684

Determinand	Unit	RL	Accreditation	(hs)	(hs)	(hs)
Dichlorodifluoromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Vinyl Chloride	ug/l	< 5	ISO17025	< 5	< 5	< 5
Chloromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Chloroethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Bromomethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Trichlorofluoromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,1-Dichloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5
MTBE	ug/l	< 10	ISO17025	< 10	< 10	< 10
trans-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,1-Dichloroethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5
2,2-Dichloropropane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Chloroform	ug/l	< 5	ISO17025	< 5	< 5	< 5
Bromochloromethane	ug/l	< 10	ISO17025	< 10	< 10	< 10
1,1,1-Trichloroethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,1-Dichloropropene	ug/l	< 5	ISO17025	< 5	< 5	< 5
Carbon Tetrachloride	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,2-Dichloroethane	ug/l	< 10	ISO17025	< 10	< 10	< 10
Benzene	ug/l	< 1	ISO17025	< 1	< 1	< 1
1,2-Dichloropropane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Trichloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5
Bromodichloromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Dibromomethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
TAME	ug/l	< 5	ISO17025	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5	< 5	< 5
Toluene	ug/l	< 5	ISO17025	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/l	< 10	ISO17025	< 10	< 10	< 10
1,3-Dichloropropane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Tetrachloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5
Dibromochloromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,2-Dibromoethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Chlorobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/l	< 5	ISO17025	< 5	< 5	< 5
Ethyl Benzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
m,p-Xylene	ug/l	< 10	ISO17025	< 10	< 10	< 10
o-Xylene	ug/l	< 5	ISO17025	< 5	< 5	< 5
Styrene	ug/l	< 5	ISO17025	< 5	< 5	< 5
Bromoform	ug/l	< 10	ISO17025	< 10	< 10	< 10
Isopropylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/l	< 10	ISO17025	< 10	< 10	< 10
1,2,3-Trichloropropane	ug/l	< 5	ISO17025	< 5	< 5	< 5
n-Propylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
Bromobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
2-Chlorotoluene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
4-Chlorotoluene	ug/l	< 5	ISO17025	< 5	< 5	< 5
tert-Butylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
sec-Butylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
p-Isopropyltoluene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
n-Butylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/l	< 10	ISO17025	< 10	< 10	< 10
Hexachlorobutadiene	ug/l	< 5	ISO17025	< 5	< 5	< 5

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - Volatile Organic Compounds (VOC)					
DETS Report No: 23-11552	Date Sampled	07/09/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied			
Site Reference: Kronospan	TP / BH No	CP13			
Project / Job Ref: A5487	Additional Refs	None Supplied			
Order No: A5487	Depth (m)	None Supplied			
Reporting Date: 19/09/2023	DETS Sample No	674685			

Determinand	Unit	RL	Accreditation	(hs)				
Dichlorodifluoromethane	ug/l	< 5	ISO17025	< 5				
Vinyl Chloride	ug/l	< 5	ISO17025	< 5				
Chloromethane	ug/l	< 5	ISO17025	< 5				
Chloroethane	ug/l	< 5	ISO17025	< 5				
Bromomethane	ug/l	< 5	ISO17025	< 5				
Trichlorofluoromethane	ug/l	< 5	ISO17025	< 5				
1,1-Dichloroethene	ug/l	< 5	ISO17025	< 5				
MTBE	ug/l	< 10	ISO17025	< 10				
trans-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5				
1,1-Dichloroethane	ug/l	< 5	ISO17025	< 5				
cis-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5				
2,2-Dichloropropane	ug/l	< 5	ISO17025	< 5				
Chloroform	ug/l	< 5	ISO17025	< 5				
Bromochloromethane	ug/l	< 10	ISO17025	< 10				
1,1,1-Trichloroethane	ug/l	< 5	ISO17025	< 5				
1,1-Dichloropropene	ug/l	< 5	ISO17025	< 5				
Carbon Tetrachloride	ug/l	< 5	ISO17025	< 5				
1,2-Dichloroethane	ug/l	< 10	ISO17025	< 10				
Benzene	ug/l	< 1	ISO17025	< 1				
1,2-Dichloropropane	ug/l	< 5	ISO17025	< 5				
Trichloroethene	ug/l	< 5	ISO17025	< 5				
Bromodichloromethane	ug/l	< 5	ISO17025	< 5				
Dibromomethane	ug/l	< 5	ISO17025	< 5				
TAME	ug/l	< 5	ISO17025	< 5				
cis-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5				
Toluene	ug/l	< 5	ISO17025	< 5				
trans-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5				
1,1,2-Trichloroethane	ug/l	< 10	ISO17025	< 10				
1,3-Dichloropropane	ug/l	< 5	ISO17025	< 5				
Tetrachloroethene	ug/l	< 5	ISO17025	< 5				
Dibromochloromethane	ug/l	< 5	ISO17025	< 5				
1,2-Dibromoethane	ug/l	< 5	ISO17025	< 5				
Chlorobenzene	ug/l	< 5	ISO17025	< 5				
1,1,1,2-Tetrachloroethane	ug/l	< 5	ISO17025	< 5				
Ethyl Benzene	ug/l	< 5	ISO17025	< 5				
m,p-Xylene	ug/l	< 10	ISO17025	< 10				
o-Xylene	ug/l	< 5	ISO17025	< 5				
Styrene	ug/l	< 5	ISO17025	< 5				
Bromoform	ug/l	< 10	ISO17025	< 10				
Isopropylbenzene	ug/l	< 5	ISO17025	< 5				
1,1,2,2-Tetrachloroethane	ug/l	< 10	ISO17025	< 10				
1,2,3-Trichloropropane	ug/l	< 5	ISO17025	< 5				
n-Propylbenzene	ug/l	< 5	ISO17025	< 5				
Bromobenzene	ug/l	< 5	ISO17025	< 5				
2-Chlorotoluene	ug/l	< 5	ISO17025	< 5				
1,3,5-Trimethylbenzene	ug/l	< 5	ISO17025	< 5				
4-Chlorotoluene	ug/l	< 5	ISO17025	< 5				
tert-Butylbenzene	ug/l	< 5	ISO17025	< 5				
1,2,4-Trimethylbenzene	ug/l	< 5	ISO17025	< 5				
sec-Butylbenzene	ug/l	< 5	ISO17025	< 5				
p-Isopropyltoluene	ug/l	< 5	ISO17025	< 5				
1,3-Dichlorobenzene	ug/l	< 5	ISO17025	< 5				
1,4-Dichlorobenzene	ug/l	< 5	ISO17025	< 5				
n-Butylbenzene	ug/l	< 5	ISO17025	< 5				
1,2-Dichlorobenzene	ug/l	< 5	ISO17025	< 5				
1,2-Dibromo-3-chloropropane	ug/l	< 10	ISO17025	< 10				
Hexachlorobutadiene	ug/l	< 5	ISO17025	< 5				



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Water Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
DETS Report No: 23-11552	Date Sampled	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied
Site Reference: Kronospan	TP / BH No	CP02
Project / Job Ref: A5487	Additional Refs	None Supplied
Order No: A5487	Depth (m)	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674680

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 5	< 5
2	N/a	N/a	µg/l	< 5	< 5
3	N/a	N/a	µg/l	< 5	< 5
4	N/a	N/a	µg/l	< 5	< 5
5	N/a	N/a	µg/l	< 5	< 5

There were no / other compounds identified with a match of >90%



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Water Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
DETS Report No: 23-11552	Date Sampled	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied
Site Reference: Kronospan	TP / BH No	WS13
Project / Job Ref: A5487	Additional Refs	None Supplied
Order No: A5487	Depth (m)	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674681

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 5	< 5
2	N/a	N/a	µg/l	< 5	< 5
3	N/a	N/a	µg/l	< 5	< 5
4	N/a	N/a	µg/l	< 5	< 5
5	N/a	N/a	µg/l	< 5	< 5

There were no / other compounds identified with a match of >90%



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Water Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
DETS Report No: 23-11552	Date Sampled	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied
Site Reference: Kronospan	TP / BH No	CP03
Project / Job Ref: A5487	Additional Refs	None Supplied
Order No: A5487	Depth (m)	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674682

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 5	< 5
2	N/a	N/a	µg/l	< 5	< 5
3	N/a	N/a	µg/l	< 5	< 5
4	N/a	N/a	µg/l	< 5	< 5
5	N/a	N/a	µg/l	< 5	< 5

There were no / other compounds identified with a match of >90%



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Water Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
DETS Report No: 23-11552	Date Sampled	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied
Site Reference: Kronospan	TP / BH No	CP11
Project / Job Ref: A5487	Additional Refs	None Supplied
Order No: A5487	Depth (m)	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674683

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 5	< 5
2	N/a	N/a	µg/l	< 5	< 5
3	N/a	N/a	µg/l	< 5	< 5
4	N/a	N/a	µg/l	< 5	< 5
5	N/a	N/a	µg/l	< 5	< 5

There were no / other compounds identified with a match of >90%



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Water Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
DETS Report No: 23-11552	Date Sampled	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied
Site Reference: Kronospan	TP / BH No	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied
Order No: A5487	Depth (m)	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674684

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 5	< 5
2	N/a	N/a	µg/l	< 5	< 5
3	N/a	N/a	µg/l	< 5	< 5
4	N/a	N/a	µg/l	< 5	< 5
5	N/a	N/a	µg/l	< 5	< 5

There were no / other compounds identified with a match of >90%



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Water Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
DETS Report No: 23-11552	Date Sampled	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied
Site Reference: Kronospan	TP / BH No	CP13
Project / Job Ref: A5487	Additional Refs	None Supplied
Order No: A5487	Depth (m)	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674685

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 5	< 5
2	N/a	N/a	µg/l	< 5	< 5
3	N/a	N/a	µg/l	< 5	< 5
4	N/a	N/a	µg/l	< 5	< 5
5	N/a	N/a	µg/l	< 5	< 5

There were no / other compounds identified with a match of >90%



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Water Analysis Certificate - Organochlorine Pesticides

DETS Report No: 23-11552	Date Sampled	07/09/23	07/09/23	07/09/23	07/09/23	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674680	674681	674682	674683	674684

Determinand	Unit	RL	Accreditation	(hs)		(hs)	
Aldrin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
alpha-HCH	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
beta-HCH	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
cis-chlordane	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
delta-HCH	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Dieldrin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan A	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan B	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Endrin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
gamma-HCH (Lindane)	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor epoxide	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Hexachlorobenzene (HCB)	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Isodrin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Methoxychlor	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDD	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDE	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDT	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDD	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDE	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDT	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
trans-chlordane	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02
Trifluralin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 23-11552	Date Sampled	07/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 19/09/2023	DETS Sample No	674685				

Determinand	Unit	RL	Accreditation	(hs)				
Aldrin	ug/l	< 0.02	NONE	< 0.02				
alpha-HCH	ug/l	< 0.02	NONE	< 0.02				
beta-HCH	ug/l	< 0.02	NONE	< 0.02				
cis-chlordane	ug/l	< 0.02	NONE	< 0.02				
delta-HCH	ug/l	< 0.02	NONE	< 0.02				
Dieldrin	ug/l	< 0.02	NONE	< 0.02				
Endosulfan A	ug/l	< 0.02	NONE	< 0.02				
Endosulfan B	ug/l	< 0.02	NONE	< 0.02				
Endrin	ug/l	< 0.02	NONE	< 0.02				
gamma-HCH (Lindane)	ug/l	< 0.02	NONE	< 0.02				
Heptachlor	ug/l	< 0.02	NONE	< 0.02				
Heptachlor epoxide	ug/l	< 0.02	NONE	< 0.02				
Hexachlorobenzene (HCB)	ug/l	< 0.02	NONE	< 0.02				
Isodrin	ug/l	< 0.02	NONE	< 0.02				
Methoxychlor	ug/l	< 0.02	NONE	< 0.02				
o,p' - DDD	ug/l	< 0.02	NONE	< 0.02				
o,p' - DDE	ug/l	< 0.02	NONE	< 0.02				
o,p' - DDT	ug/l	< 0.02	NONE	< 0.02				
p,p' - DDD	ug/l	< 0.02	NONE	< 0.02				
p,p' - DDE	ug/l	< 0.02	NONE	< 0.02				
p,p' - DDT	ug/l	< 0.02	NONE	< 0.02				
trans-chlordane	ug/l	< 0.02	NONE	< 0.02				
Trifluralin	ug/l	< 0.02	NONE	< 0.02				



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Water Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 23-11552	Date Sampled	07/09/23	07/09/23	07/09/23	07/09/23	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 19/09/2023	DETS Sample No	674680	674681	674682	674683	674684

Determinand	Unit	RL	Accreditation	(hs)		(hs)	
Azinphos-methyl	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Chlorfenvinphos, alpha	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Chlorfenvinphos, beta	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Chlorpyrifos-methyl	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Diazinon	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorvos	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Dimethoate	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fenitrothion	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Fenthion	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Malathion	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Mevinphos, E	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Mevinphos, (Z)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Parathion-ethyl	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Parathion-methyl	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Phorate	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05

Subcontracted analysis ⁽⁵⁾

1ple due to head space in container



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Water Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 23-11552	Date Sampled	07/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 19/09/2023	DETS Sample No	674685				

Determinand	Unit	RL	Accreditation	(hs)				
Azinphos-methyl	ug/l	< 0.05	NONE	< 0.05				
Chlorfenvinphos, alpha	ug/l	< 0.05	NONE	< 0.05				
Chlorfenvinphos, beta	ug/l	< 0.05	NONE	< 0.05				
Chlorpyrifos-methyl	ug/l	< 0.05	NONE	< 0.05				
Diazinon	ug/l	< 0.05	NONE	< 0.05				
Dichlorvos	ug/l	< 0.05	NONE	< 0.05				
Dimethoate	ug/l	< 0.05	NONE	< 0.05				
Fenitrothion	ug/l	< 0.05	NONE	< 0.05				
Fenthion	ug/l	< 0.05	NONE	< 0.05				
Malathion	ug/l	< 0.05	NONE	< 0.05				
Mevinphos, E	ug/l	< 0.05	NONE	< 0.05				
Mevinphos, (Z)	ug/l	< 0.05	NONE	< 0.05				
Parathion-ethyl	ug/l	< 0.05	NONE	< 0.05				
Parathion-methyl	ug/l	< 0.05	NONE	< 0.05				
Phorate	ug/l	< 0.05	NONE	< 0.05				

Subcontracted analysis ⁽⁵⁾



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-11552

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan

Project / Job Ref: A5487

Order No: A5487

Reporting Date: 19/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Aromatic C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS



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Derwentside Environmental Testing Services Ltd
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t: 01622 850410

DETS Report No: 23-11553

Site Reference: Kronospan

Project / Job Ref: A5487

Order No: A5487

Sample Receipt Date: 13/09/2023

Sample Scheduled Date: 13/09/2023

Report Issue Number: 1

Reporting Date: 02/10/2023

Authorised by:

A handwritten signature in dark ink, appearing to read "Dave Ashworth", is written over a light blue horizontal line.

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.



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Water Analysis Certificate						
DETS Report No: 23-11553	Date Sampled	07/09/23	07/09/23	07/09/23	07/09/23	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 02/10/2023	DETS Sample No	674686	674687	674688	674689	674690

Determinand	Unit	RL	Accreditation					
Perfluoro-1-butanefluoride (PFBS) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluorooctanesulfonate (PFOS) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluoro-1-hexanesulfonamide (FHxSA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluoro-1-heptanesulfonate (PFHpS) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluoro-n-octanoic acid (PFOA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6-2 FTS) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4-2 FTSA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Dodecafluoro-3H-4,8-dioxanonanoate (DONA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluorohexanesulfonate (PFHxS) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluoro-n-heptanoic acid (PFHpA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluoro-n-nonanoic acid (PFNA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluoro-1-butanefluoride (FBFA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Tetrafluoro-2-(heptafluoropropoxy)-propanoic acid (HFPO-DA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluoro-1-pentanesulfonate (PFPeS) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluoro-n-hexanoic acid (PFHxA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Perfluoro-n-pentanoic acid (PFPeA) ^(S)	ng/l	< 10	NONE	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Subcontracted analysis ^(S)
Insufficient sample ^{I/S}
Unsuitable Sample ^{U/S}



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Water Analysis Certificate						
DETS Report No: 23-11553		Date Sampled	07/09/23			
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied			
Site Reference: Kronospan		TP / BH No	CP13			
Project / Job Ref: A5487		Additional Refs	None Supplied			
Order No: A5487		Depth (m)	None Supplied			
Reporting Date: 02/10/2023		DETS Sample No	674691			

Determinand	Unit	RL	Accreditation				
Perfluoro-1-butanefulfonate (PFBS) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluorooctanesulfonate (PFOS) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluoro-1-hexanesulfonamide (FHxSA) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluoro-1-heptanesulfonate (PFHpS) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluoro-n-octanoic acid (PFOA) ^(S)	ng/l	< 10	NONE	< 10.0			
1H,1H,2H,2H-perfluoro-1-octanesulfonate (6-2 FTS) ^(S)	ng/l	< 10	NONE	< 10.0			
1H,1H,2H,2H-perfluoro-1-hexanesulfonate (4-2 FTSA) ^(S)	ng/l	< 10	NONE	< 10.0			
Dodecafluoro-3H-4,8-dioxanonanoate (DONA) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluorohexanesulfonate (PFHxS) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluoro-n-heptanoic acid (PFHpA) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluoro-n-nonanoic acid (PFNA) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluoro-1-butanefulfonamide (FBSA) ^(S)	ng/l	< 10	NONE	< 10.0			
Tetrafluoro-2-(heptafluoropropoxy)-propanoic acid (HFPO-DA) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluoro-1-pentanesulfonate (PFPeS) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluoro-n-hexanoic acid (PFHxA) ^(S)	ng/l	< 10	NONE	< 10.0			
Perfluoro-n-pentanoic acid (PFPeA) ^(S)	ng/l	< 10	NONE	< 10.0			

Subcontracted analysis ^(S)
Insufficient sample ^{I/S}
Unsuitable Sample ^{U/S}



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Water Analysis Certificate - Phenoxy Acidic Herbicides						
DETS Report No: 23-11553	Date Sampled	07/09/23	07/09/23	07/09/23	07/09/23	07/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 02/10/2023	DETS Sample No	674686	674687	674688	674689	674690

Determinand	Unit	RL	Accreditation					
2,3,6-TBA ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-T ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-TP (fenoprop) ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-D ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-DB ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-CPA ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benazolin ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bentazone ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromoxynil ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Clodpyralid ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dicamba ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorprop (2,4-DP) ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diclofop ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Flamprop ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Flamprop-isopropyl ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Ioxynil ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
MCPA ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
MCPB ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
MCPB ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pentachlorophenol ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Picloram ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Triclopyr ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Subcontracted analysis ^(S)



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Water Analysis Certificate - Phenoxy Acidic Herbicides						
DETS Report No: 23-11553	Date Sampled	07/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 02/10/2023	DETS Sample No	674691				

Determinand	Unit	RL	Accreditation				
2,3,6-TBA ^(S)	ug/l	< 0.05	NONE	< 0.05			
2,4,5-T ^(S)	ug/l	< 0.05	NONE	< 0.05			
2,4,5-TP (fenoprop) ^(S)	ug/l	< 0.05	NONE	< 0.05			
2,4-D ^(S)	ug/l	< 0.05	NONE	< 0.05			
2,4-DB ^(S)	ug/l	< 0.05	NONE	< 0.05			
4-CPA ^(S)	ug/l	< 0.05	NONE	< 0.05			
Benazolin ^(S)	ug/l	< 0.05	NONE	< 0.05			
Bentazone ^(S)	ug/l	< 0.05	NONE	< 0.05			
Bromoxynil ^(S)	ug/l	< 0.05	NONE	< 0.05			
Clodpyralid ^(S)	ug/l	< 0.05	NONE	< 0.05			
Dicamba ^(S)	ug/l	< 0.05	NONE	< 0.05			
Dichlorprop (2,4-DP) ^(S)	ug/l	< 0.05	NONE	< 0.05			
Diclofop ^(S)	ug/l	< 0.05	NONE	< 0.05			
Flamprop ^(S)	ug/l	< 0.05	NONE	< 0.05			
Flamprop-isopropyl ^(S)	ug/l	< 0.05	NONE	< 0.05			
Ioxynil ^(S)	ug/l	< 0.05	NONE	< 0.05			
MCPA ^(S)	ug/l	< 0.05	NONE	< 0.05			
MCPB ^(S)	ug/l	< 0.05	NONE	< 0.05			
MCPB ^(S)	ug/l	< 0.05	NONE	< 0.05			
Pentachlorophenol ^(S)	ug/l	< 0.05	NONE	< 0.05			
Picloram ^(S)	ug/l	< 0.05	NONE	< 0.05			
Triclopyr ^(S)	ug/l	< 0.05	NONE	< 0.05			

Subcontracted analysis ^(S)



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Water Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 23-11553	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronospan	
Project / Job Ref: A5487	
Order No: A5487	
Reporting Date: 02/10/2023	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym



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DETS Report No: 23-11974

Site Reference: Kronospan
Project / Job Ref: A5487
Order No: A5487
Sample Receipt Date: 25/09/2023
Sample Scheduled Date: 25/09/2023
Report Issue Number: 1
Reporting Date: 12/10/2023

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth", is written over a light blue horizontal line.

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.



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Water Analysis Certificate - Phenoxy Acidic Herbicides

DETS Report No: 23-11974	Date Sampled	21/09/23	21/09/23	21/09/23	21/09/23	21/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP03	WS13	CP02	CP10	CP11
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 12/10/2023	DETS Sample No	676542	676543	676544	676545	676546

Determinand	Unit	RL	Accreditation					
2,3,6-TBA ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-T ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4,5-TP (fenopron) ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-D ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2,4-DB ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-CPA ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benazolin ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bentazone ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Bromoxynil ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Clopyralid ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dicamba ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichloropron (2,4-DP) ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diclofop ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Flamprop ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Flamprop-isopropyl ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toxynil ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
MCPA ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
MCPB ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
MCPP ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pentachlorophenol ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Picloram ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Triclopyr ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Subcontracted analysis^(S)



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Water Analysis Certificate - Phenoxy Acidic Herbicides					
DETS Report No: 23-11974	Date Sampled	21/09/23	21/09/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Kronospan	TP / BH No	CP12	CP13		
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied		
Order No: A5487	Depth (m)	None Supplied	None Supplied		
Reporting Date: 12/10/2023	DETS Sample No	676547	676548		

Determinand	Unit	RL	Accreditation					
2,3,6-TBA ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
2,4,5-T ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
2,4,5-TP (fenopron) ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
2,4-D ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
2,4-DB ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
4-CPA ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Benazolin ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Bentazone ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Bromoxynil ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Clopyralid ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Dicamba ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Dichloroprop (2,4-DP) ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Diclofop ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Flamprop ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Flamprop-isopropyl ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Toxynil ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
MCPA ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
MCPB ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
MCPP ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Pentachlorophenol ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Picloram ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Triclopyr ^(S)	ug/l	< 0.05	NONE	< 0.05	< 0.05			

Subcontracted analysis ^(S)



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-11974

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan

Project / Job Ref: A5487

Order No: A5487

Reporting Date: 12/10/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym



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DETS Report No: 23-11984

Site Reference: Kronospan
Project / Job Ref: A5487
Order No: A5487
Sample Receipt Date: 25/09/2023
Sample Scheduled Date: 25/09/2023
Report Issue Number: 1
Reporting Date: 29/09/2023

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Water Analysis Certificate						
DETS Report No: 23-11984	Date Sampled	15/09/23	15/09/23	15/09/23	15/09/23	15/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 29/09/2023	DETS Sample No	676593	676594	676595	676596	676597

Determinand	Unit	RL	Accreditation	(hs)	(hs)	(hs)	(hs)	(hs)
pH	pH Units	N/a	ISO17025	8.4	8.2	8.2	8.2	8.2
Electrical Conductivity (at 25°C)	uS/cm	< 5	NONE	554	594	523	566	513
Total Cyanide	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Sulphate as SO ₄	mg/l	< 1	ISO17025	25	15	13	17	13
Sulphide	mg/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ammoniacal Nitrogen as NH ₄	ug/l	< 50	ISO17025	71	124	87	150	75
Total Organic Carbon (TOC)	mg/l	< 1.0	ISO17025	10.3	16.1	17.2	16.8	14.3
Hardness - Total	mgCaCO ₃ /l	< 1	NONE	233	327	341	321	275
Arsenic (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	7	< 5
Barium (dissolved)	ug/l	< 5	ISO17025	103	176	475	730	142
Beryllium (dissolved)	ug/l	< 3	ISO17025	< 3	< 3	< 3	< 3	< 3
Boron (dissolved)	ug/l	< 5	ISO17025	30	17	21	23	23
Cadmium (dissolved)	ug/l	< 0.4	ISO17025	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Chromium (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Chromium (hexavalent)	ug/l	< 20	NONE	< 20	< 20	< 20	< 20	< 20
Copper (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Lead (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Mercury (dissolved)	ug/l	< 0.05	ISO17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Selenium (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Vanadium (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Zinc (dissolved)	ug/l	< 2	ISO17025	3	< 2	2	3	6
Total Phenols (monohydric)	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
Formaldehyde	mg/l	< 0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

Subcontracted analysis ^(S)

Insufficient sample ^{U/S}

Unsuitable Sample ^{U/S}

(hs) Please note deviating sample due to head space in container



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
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Water Analysis Certificate						
DETS Report No: 23-11984	Date Sampled	15/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 29/09/2023	DETS Sample No	676598				

Determinand	Unit	RL	Accreditation	(hs)				
pH	pH Units	N/a	ISO17025	7.8				
Electrical Conductivity (at 25°C)	uS/cm	< 5	NONE	714				
Total Cyanide	ug/l	< 5	ISO17025	< 5				
Sulphate as SO ₄	mg/l	< 1	ISO17025	18				
Sulphide	mg/l	< 0.1	NONE	< 0.1				
Ammoniacal Nitrogen as NH ₄	ug/l	< 50	ISO17025	67				
Total Organic Carbon (TOC)	mg/l	< 1.0	ISO17025	14.4				
Hardness - Total	mgCaCO ₃ /l	< 1	NONE	285				
Arsenic (dissolved)	ug/l	< 5	ISO17025	< 5				
Barium (dissolved)	ug/l	< 5	ISO17025	164				
Beryllium (dissolved)	ug/l	< 3	ISO17025	< 3				
Boron (dissolved)	ug/l	< 5	ISO17025	32				
Cadmium (dissolved)	ug/l	< 0.4	ISO17025	< 0.4				
Chromium (dissolved)	ug/l	< 5	ISO17025	< 5				
Chromium (hexavalent)	ug/l	< 20	NONE	< 20				
Copper (dissolved)	ug/l	< 5	ISO17025	< 5				
Lead (dissolved)	ug/l	< 5	ISO17025	< 5				
Mercury (dissolved)	ug/l	< 0.05	ISO17025	< 0.05				
Nickel (dissolved)	ug/l	< 5	ISO17025	< 5				
Selenium (dissolved)	ug/l	< 5	ISO17025	< 5				
Vanadium (dissolved)	ug/l	< 5	ISO17025	< 5				
Zinc (dissolved)	ug/l	< 2	ISO17025	2				
Total Phenols (monohydric)	ug/l	< 10	ISO17025	< 10				
Formaldehyde	mg/l	< 0.5	NONE	< 0.5				

Subcontracted analysis ^(S)
Insufficient sample ^{I/S}
Unsuitable Sample ^{U/S}



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Water Analysis Certificate - Speciated PAH

DETS Report No: 23-11984	Date Sampled	15/09/23	15/09/23	15/09/23	15/09/23	15/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 29/09/2023	DETS Sample No	676593	676594	676595	676596	676597

Determinand	Unit	RL	Accreditation	(hs)	(hs)	(hs)	(hs)	(hs)
Naphthalene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16



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Water Analysis Certificate - Speciated PAH						
DETS Report No: 23-11984	Date Sampled	15/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 29/09/2023	DETS Sample No	676598				

Determinand	Unit	RL	Accreditation	(hs)				
Naphthalene	ug/l	< 0.01	NONE	< 0.01				
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01				
Acenaphthene	ug/l	< 0.01	NONE	< 0.01				
Fluorene	ug/l	< 0.01	NONE	< 0.01				
Phenanthrene	ug/l	< 0.01	NONE	< 0.01				
Anthracene	ug/l	< 0.01	NONE	< 0.01				
Fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Pyrene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01				
Chrysene	ug/l	< 0.01	NONE	< 0.01				
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01				
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01				
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01				
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01				
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008				
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16				



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Water Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-11984	Date Sampled	15/09/23	15/09/23	15/09/23	15/09/23	15/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 29/09/2023	DETS Sample No	676593	676594	676595	676596	676597

Determinand	Unit	RL	Accreditation	(hs)	(hs)	(hs)	(hs)	(hs)
Aliphatic >C5 - C6 : HS 1D MS AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C6 - C8 : HS 1D MS AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C8 - C10 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C10 - C12 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C16 - C21 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C21 - C34 : EH CU 1D AL	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34) : HS 1D MS+EH CU 1D AL	ug/l	< 70	NONE	< 70	< 70	< 70	< 70	< 70
Aromatic >C5 - C7 : HS 1D MS AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C7 - C8 : HS 1D MS AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C8 - C10 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C10 - C12 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C12 - C16 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C16 - C21 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C21 - C35 : EH CU 1D AR	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	ug/l	< 70	NONE	< 70	< 70	< 70	< 70	< 70
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Tot al	ug/l	< 140	NONE	< 140	< 140	< 140	< 140	< 140

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-11984		Date Sampled	15/09/23			
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied			
Site Reference: Kronospan		TP / BH No	CP13			
Project / Job Ref: A5487		Additional Refs	None Supplied			
Order No: A5487		Depth (m)	None Supplied			
Reporting Date: 29/09/2023		DETS Sample No	676598			

Determinand	Unit	RL	Accreditation	(hs)				
Aliphatic >C5 - C6 : HS 1D MS AL	ug/l	< 10	NONE	< 10				
Aliphatic >C6 - C8 : HS 1D MS AL	ug/l	< 10	NONE	< 10				
Aliphatic >C8 - C10 : EH CU 1D AL	ug/l	< 10	NONE	< 10				
Aliphatic >C10 - C12 : EH CU 1D AL	ug/l	< 10	NONE	< 10				
Aliphatic >C12 - C16 : EH CU 1D AL	ug/l	< 10	NONE	< 10				
Aliphatic >C16 - C21 : EH CU 1D AL	ug/l	< 10	NONE	< 10				
Aliphatic >C21 - C34 : EH CU 1D AL	ug/l	< 10	NONE	< 10				
Aliphatic (C5 - C34) : HS 1D MS+EH CU 1D AL	ug/l	< 70	NONE	< 70				
Aromatic >C5 - C7 : HS 1D MS AR	ug/l	< 10	NONE	< 10				
Aromatic >C7 - C8 : HS 1D MS AR	ug/l	< 10	NONE	< 10				
Aromatic >C8 - C10 : EH CU 1D AR	ug/l	< 10	NONE	< 10				
Aromatic >C10 - C12 : EH CU 1D AR	ug/l	< 10	NONE	< 10				
Aromatic >C12 - C16 : EH CU 1D AR	ug/l	< 10	NONE	< 10				
Aromatic >C16 - C21 : EH CU 1D AR	ug/l	< 10	NONE	< 10				
Aromatic >C21 - C35 : EH CU 1D AR	ug/l	< 10	NONE	< 10				
Aromatic (C5 - C35) : HS 1D MS+EH CU 1D AR	ug/l	< 70	NONE	< 70				
Total >C5 - C35 : HS 1D MS+EH CU 1D Tot al	ug/l	< 140	NONE	< 140				



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Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-11984	Date Sampled	15/09/23	15/09/23	15/09/23	15/09/23	15/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 29/09/2023	DETS Sample No	676593	676594	676595	676596	676597

Determinand	Unit	RL	Accreditation	(hs)	(hs)	(hs)	(hs)	(hs)
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1	< 1	< 1	< 1	< 1
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
p & m-xylene : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-11984	Date Sampled	15/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 29/09/2023	DETS Sample No	676598				

Determinand	Unit	RL	Accreditation	(hs)				
Benzene : HS 1D MS	ug/l	< 1	ISO17025	< 1				
Toluene : HS 1D MS	ug/l	< 5	ISO17025	< 5				
Ethylbenzene : HS 1D MS	ug/l	< 5	ISO17025	< 5				
p & m-xylene : HS 1D MS	ug/l	< 10	ISO17025	< 10				
o-xylene : HS 1D MS	ug/l	< 5	ISO17025	< 5				
MTBE : HS 1D MS	ug/l	< 10	ISO17025	< 10				



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Water Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 23-11984	Date Sampled	15/09/23	15/09/23	15/09/23	15/09/23	15/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 29/09/2023	DETS Sample No	676593	676594	676595	676596	676597

Determinand	Unit	RL	Accreditation	(hs)	(hs)	(hs)	(hs)	(hs)
Dichlorodifluoromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Chloroethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Trichlorofluoromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
MTBE	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
trans-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
1,1,1-Trichloroethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Carbon Tetrachloride	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
Benzene	ug/l	< 1	ISO17025	< 1	< 1	< 1	< 1	< 1
1,2-Dichloropropane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Bromodichloromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
TAME	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Toluene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
m,p-Xylene	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
o-Xylene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Styrene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
1,2,3-Trichloropropane	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	< 5

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - Volatile Organic Compounds (VOC)					
DETS Report No: 23-11984	Date Sampled	15/09/23			
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied			
Site Reference: Kronospan	TP / BH No	CP13			
Project / Job Ref: A5487	Additional Refs	None Supplied			
Order No: A5487	Depth (m)	None Supplied			
Reporting Date: 29/09/2023	DETS Sample No	676598			

Determinand	Unit	RL	Accreditation	(hs)				
Dichlorodifluoromethane	ug/l	< 5	ISO17025	< 5				
Vinyl Chloride	ug/l	< 5	ISO17025	< 5				
Chloromethane	ug/l	< 5	ISO17025	< 5				
Chloroethane	ug/l	< 5	ISO17025	< 5				
Bromomethane	ug/l	< 5	ISO17025	< 5				
Trichlorofluoromethane	ug/l	< 5	ISO17025	< 5				
1,1-Dichloroethene	ug/l	< 5	ISO17025	< 5				
MTBE	ug/l	< 10	ISO17025	< 10				
trans-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5				
1,1-Dichloroethane	ug/l	< 5	ISO17025	< 5				
cis-1,2-Dichloroethene	ug/l	< 5	ISO17025	< 5				
2,2-Dichloropropane	ug/l	< 5	ISO17025	< 5				
Chloroform	ug/l	< 5	ISO17025	< 5				
Bromochloromethane	ug/l	< 10	ISO17025	< 10				
1,1,1-Trichloroethane	ug/l	< 5	ISO17025	< 5				
1,1-Dichloropropene	ug/l	< 5	ISO17025	< 5				
Carbon Tetrachloride	ug/l	< 5	ISO17025	< 5				
1,2-Dichloroethane	ug/l	< 10	ISO17025	< 10				
Benzene	ug/l	< 1	ISO17025	< 1				
1,2-Dichloropropane	ug/l	< 5	ISO17025	< 5				
Trichloroethene	ug/l	< 5	ISO17025	< 5				
Bromodichloromethane	ug/l	< 5	ISO17025	< 5				
Dibromomethane	ug/l	< 5	ISO17025	< 5				
TAME	ug/l	< 5	ISO17025	< 5				
cis-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5				
Toluene	ug/l	< 5	ISO17025	< 5				
trans-1,3-Dichloropropene	ug/l	< 5	ISO17025	< 5				
1,1,2-Trichloroethane	ug/l	< 10	ISO17025	< 10				
1,3-Dichloropropane	ug/l	< 5	ISO17025	< 5				
Tetrachloroethene	ug/l	< 5	ISO17025	< 5				
Dibromochloromethane	ug/l	< 5	ISO17025	< 5				
1,2-Dibromoethane	ug/l	< 5	ISO17025	< 5				
Chlorobenzene	ug/l	< 5	ISO17025	< 5				
1,1,1,2-Tetrachloroethane	ug/l	< 5	ISO17025	< 5				
Ethyl Benzene	ug/l	< 5	ISO17025	< 5				
m,p-Xylene	ug/l	< 10	ISO17025	< 10				
o-Xylene	ug/l	< 5	ISO17025	< 5				
Styrene	ug/l	< 5	ISO17025	< 5				
Bromoform	ug/l	< 10	ISO17025	< 10				
Isopropylbenzene	ug/l	< 5	ISO17025	< 5				
1,1,2,2-Tetrachloroethane	ug/l	< 10	ISO17025	< 10				
1,2,3-Trichloropropane	ug/l	< 5	ISO17025	< 5				
n-Propylbenzene	ug/l	< 5	ISO17025	< 5				
Bromobenzene	ug/l	< 5	ISO17025	< 5				
2-Chlorotoluene	ug/l	< 5	ISO17025	< 5				
1,3,5-Trimethylbenzene	ug/l	< 5	ISO17025	< 5				
4-Chlorotoluene	ug/l	< 5	ISO17025	< 5				
tert-Butylbenzene	ug/l	< 5	ISO17025	< 5				
1,2,4-Trimethylbenzene	ug/l	< 5	ISO17025	< 5				
sec-Butylbenzene	ug/l	< 5	ISO17025	< 5				
p-Isopropyltoluene	ug/l	< 5	ISO17025	< 5				
1,3-Dichlorobenzene	ug/l	< 5	ISO17025	< 5				
1,4-Dichlorobenzene	ug/l	< 5	ISO17025	< 5				
n-Butylbenzene	ug/l	< 5	ISO17025	< 5				
1,2-Dichlorobenzene	ug/l	< 5	ISO17025	< 5				
1,2-Dibromo-3-chloropropane	ug/l	< 10	ISO17025	< 10				
Hexachlorobutadiene	ug/l	< 5	ISO17025	< 5				



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Water Analysis Certificate - Organochlorine Pesticides

DETS Report No: 23-11984	Date Sampled	15/09/23	15/09/23	15/09/23	15/09/23	15/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 29/09/2023	DETS Sample No	676593	676594	676595	676596	676597

Determinand	Unit	RL	Accreditation	(hs)	(hs)	(hs)	(hs)	(hs)
Aldrin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
alpha-HCH	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
beta-HCH	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
cis-chlordane	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
delta-HCH	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dieldrin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan A	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan B	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endrin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
gamma-HCH (Lindane)	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Heptachlor epoxide	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Hexachlorobenzene (HCB)	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Isodrin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methoxychlor	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDD	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDE	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o,p' - DDT	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDD	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDE	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
p,p' - DDT	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
trans-chlordane	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Trifluralin	ug/l	< 0.02	NONE	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

(hs) Please note deviating sample due to head space in container



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Water Analysis Certificate - Organochlorine Pesticides						
DETS Report No: 23-11984	Date Sampled	15/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 29/09/2023	DETS Sample No	676598				

Determinand	Unit	RL	Accreditation	(hs)				
Aldrin	ug/l	< 0.02	NONE	< 0.02				
alpha-HCH	ug/l	< 0.02	NONE	< 0.02				
beta-HCH	ug/l	< 0.02	NONE	< 0.02				
cis-chlordane	ug/l	< 0.02	NONE	< 0.02				
delta-HCH	ug/l	< 0.02	NONE	< 0.02				
Dieldrin	ug/l	< 0.02	NONE	< 0.02				
Endosulfan A	ug/l	< 0.02	NONE	< 0.02				
Endosulfan B	ug/l	< 0.02	NONE	< 0.02				
Endrin	ug/l	< 0.02	NONE	< 0.02				
gamma-HCH (Lindane)	ug/l	< 0.02	NONE	< 0.02				
Heptachlor	ug/l	< 0.02	NONE	< 0.02				
Heptachlor epoxide	ug/l	< 0.02	NONE	< 0.02				
Hexachlorobenzene (HCB)	ug/l	< 0.02	NONE	< 0.02				
Isodrin	ug/l	< 0.02	NONE	< 0.02				
Methoxychlor	ug/l	< 0.02	NONE	< 0.02				
o,p' - DDD	ug/l	< 0.02	NONE	< 0.02				
o,p' - DDE	ug/l	< 0.02	NONE	< 0.02				
o,p' - DDT	ug/l	< 0.02	NONE	< 0.02				
p,p' - DDD	ug/l	< 0.02	NONE	< 0.02				
p,p' - DDE	ug/l	< 0.02	NONE	< 0.02				
p,p' - DDT	ug/l	< 0.02	NONE	< 0.02				
trans-chlordane	ug/l	< 0.02	NONE	< 0.02				
Trifluralin	ug/l	< 0.02	NONE	< 0.02				



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Water Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 23-11984	Date Sampled	15/09/23	15/09/23	15/09/23	15/09/23	15/09/23
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Kronospan	TP / BH No	CP02	WS13	CP03	CP11	CP12
Project / Job Ref: A5487	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5487	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 29/09/2023	DETS Sample No	676593	676594	676595	676596	676597

Determinand	Unit	RL	Accreditation	(hs)	(hs)	(hs)	(hs)	(hs)
Azinphos-methyl	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlorfenvinphos, alpha	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlorfenvinphos, beta	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlorpyrifos-methyl	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Diazinon	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorvos	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dimethoate	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fenitrothion	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fenthion	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Malathion	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Mevinphos, E	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Mevinphos, (Z)	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Parathion-ethyl	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Parathion-methyl	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phorate	ug/l	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Subcontracted analysis ⁽⁵⁾

1 sample due to head space in container



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Water Analysis Certificate - Organophosphorus Pesticides						
DETS Report No: 23-11984	Date Sampled	15/09/23				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: Kronospan	TP / BH No	CP13				
Project / Job Ref: A5487	Additional Refs	None Supplied				
Order No: A5487	Depth (m)	None Supplied				
Reporting Date: 29/09/2023	DETS Sample No	676598				

Determinand	Unit	RL	Accreditation	(hs)				
Azinphos-methyl	ug/l	< 0.05	NONE	< 0.05				
Chlorfenvinphos, alpha	ug/l	< 0.05	NONE	< 0.05				
Chlorfenvinphos, beta	ug/l	< 0.05	NONE	< 0.05				
Chlorpyrifos-methyl	ug/l	< 0.05	NONE	< 0.05				
Diazinon	ug/l	< 0.05	NONE	< 0.05				
Dichlorvos	ug/l	< 0.05	NONE	< 0.05				
Dimethoate	ug/l	< 0.05	NONE	< 0.05				
Fenitrothion	ug/l	< 0.05	NONE	< 0.05				
Fenthion	ug/l	< 0.05	NONE	< 0.05				
Malathion	ug/l	< 0.05	NONE	< 0.05				
Mevinphos, E	ug/l	< 0.05	NONE	< 0.05				
Mevinphos, (Z)	ug/l	< 0.05	NONE	< 0.05				
Parathion-ethyl	ug/l	< 0.05	NONE	< 0.05				
Parathion-methyl	ug/l	< 0.05	NONE	< 0.05				
Phorate	ug/l	< 0.05	NONE	< 0.05				

Subcontracted analysis ⁽⁵⁾



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-11984

Earth Environmental & Geotechnical Ltd

Site Reference: Kronospan

Project / Job Ref: A5487

Order No: A5487

Reporting Date: 29/09/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered



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List of HWOL Acronyms and Operators

Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Aromatic C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS



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DETS Report No: 23-12366

Site Reference: Kronaspan North Access Road

Project / Job Ref: A5487

Order No: A5487/TO/07

Sample Receipt Date: 04/10/2023

Sample Scheduled Date: 04/10/2023

Report Issue Number: 1

Reporting Date: 10/10/2023

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-12366	Date Sampled	24/09/23	24/09/23	24/09/23		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Kronaspan North Access	TP / BH No	PC01	PC02	PC03		
Road	Additional Refs	None Supplied	None Supplied	None Supplied		
Project / Job Ref: A5487	Depth (m)	0.00	0.00	0.00		
Order No: A5487/TO/07	DETS Sample No	678311	678312	678313		
Reporting Date: 10/10/2023						

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	
Naphthalene	mg/kg	< 0.1	ISO17025	< 0.1	12.80	< 0.1	
Acenaphthylene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	ISO17025	< 0.1	13.40	< 0.1	
Fluorene	mg/kg	< 0.1	ISO17025	< 0.1	11.60	< 0.1	
Phenanthrene	mg/kg	< 0.1	ISO17025	< 0.1	36.50	< 0.1	
Anthracene	mg/kg	< 0.1	ISO17025	< 0.1	11.50	< 0.1	
Fluoranthene	mg/kg	< 0.1	ISO17025	< 0.1	29.60	< 0.1	
Pyrene	mg/kg	< 0.1	ISO17025	< 0.1	24.40	< 0.1	
Benzo(a)anthracene	mg/kg	< 0.1	ISO17025	< 0.1	8.42	< 0.1	
Chrysene	mg/kg	< 0.1	ISO17025	< 0.1	8.97	< 0.1	
Benzo(b)fluoranthene	mg/kg	< 0.1	ISO17025	< 0.1	6.48	< 0.1	
Benzo(k)fluoranthene	mg/kg	< 0.1	ISO17025	< 0.1	3.03	< 0.1	
Benzo(a)pyrene	mg/kg	< 0.1	ISO17025	< 0.1	5.80	< 0.1	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
Dibenz(a,h)anthracene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	0.19	
Total EPA-16 PAHs	mg/kg	< 1.6	ISO17025	< 1.6	172	< 1.6	

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 23-12366	
Earth Environmental & Geotechnical Ltd	
Site Reference: Kronaspan North Access Road	
Project / Job Ref: A5487	
Order No: A5487/TO/07	
Reporting Date: 10/10/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
& 678311	PC01	None Supplied	0.00	3.9	Black tar
& 678312	PC02	None Supplied	0.00	2.1	Black tar
& 678313	PC03	None Supplied	0.00	1.4	Black tar

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/5}

& samples received in inappropriate containers for hydrocarbon analysis



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Soil Analysis Certificate - Methodology & Miscellaneous Information

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Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphénylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (all: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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List of HWOL Acronyms and Operators
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Acronym	Description
HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
—	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym