APPENDIX 5 – Cable Percussion Borehole Records

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Machine : Dando 2000 Method : Cable Percussion	Casing Diameter 200mm cased to 5.70m	Ground Level (mOD) 18.33	Client DBFL	Job Numb. 9338-12-19
	Location (dGPS) 717027.6 E 731285.9 N	Dates 04/03/2020-05/03/2020	Project Contractor GII	Sheet 1/1

Site: Sandford Park Milltown

Borehole Number: **BH01**

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Dark brown sandy slightly gravelly TOPSOIL with occasional rootlets.		
					18.03	0.30			
0.50	B					(0.50)	Soft light brown slightly sandy slightly gravelly CLAY.		
					17.53	0.80			
1.00-1.45 1.00	SPT(C) N=11 B			1,2/2,3,3,3			Firm to stiff light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
						(1.70)			
2.00-2.45 2.00	SPT(C) N=19 B			2,3/4,5,5,5					
					15.83	2.50			
3.00-3.45 3.00	SPT(C) N=40 B			3,5/7,9,11,13			Very stiff dark grey slightly silty slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
4.00-4.45 4.00	SPT(C) N=39 B			5,6/7,9,9,14		(3.20)			
5.00-5.38 5.00	SPT(C) 50/225 B			6,9/13,17,19,1					
					12.63	5.70	Refusal at 5.70m		

Remarks

No groundwater encountered during drilling
Borehole backfilled on complertion.
Borehole terminated at 5.70m BGL due to obstruction, possible boulder or rock
Chiselling from 5.70m to 5.70m for 1 hour.

Scale (approx)	Logged By
1:50	PM

Figure No.
9338-12-19.BH01

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Site: Sandford Park Milltown				Borehole Number: BH02
Machine : Dando 2000	Casing Diameter: 200mm cased to 7.00m	Ground Level (mOD): 18.40	Client: DBFL	Job Number: 9338-12-19
Method : Cable Percussion	Location (dGPS): 717045.9 E 731268.6 N	Dates: 06/03/2020	Project Contractor: GII	Sheet: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					18.10	(0.30) 0.30	Dark brown slightly sandy slightly gravelly TOPSOIL with occasional rootlets.			
0.50	B					(0.80)	Soft light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
1.00-1.45 1.00	SPT(C) N=14 B			1,2/3,3,4,4	17.30	1.10	Firm to stiff light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
2.00-2.45 2.00	SPT(C) N=18 B			2,3/4,5,4,5	16.10	(1.20) 2.30	Very stiff dark grey slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
3.00-3.45 3.00	SPT(C) N=33 B			4,6/7,8,9,9						
4.00-4.40 4.00	SPT(C) 50/250 B			6,8/11,15,17,7						
						(4.70)				
5.00-5.40 5.00	SPT(C) 50/250 B			7,10/13,15,17,5						
6.00-6.30 6.00	SPT(C) 50/150 B			8,10/17,21,12						
7.00-7.00 7.00	SPT(C) 25*/0 50/0 B			25/50	11.40	7.00	Refusal at 7.00m			

Remarks

No groundwater encountered during drilling
Slotted pipe with pea gravel surround from 7.0m BGL to 1.0m BGL, plain pipe with bentonite seal from 1.0m BGL to GL, finished with an upright cover
Borehole terminated at 7.00m BGL due to obstruction, possible boulder or rock
Chiselling from 7.00m to 7.00m for 1 hour.

Scale (approx)	Logged By
1:50	PM

Figure No.
9338-12-19.BH02

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Machine : Dando 2000, Beretta T44 Method : Cable Percussion with Rotary follow on	Casing Diameter 200mm cased to 7.20m 63mm cased to 20.00m	Ground Level (mOD) 19.67	Client DBFL	Job Number 9338-12-19
	Location 716904.5 E 731274.9 N	Dates 06/03/2020	Project Contractor GII	Sheet 1/2

Site: Sandford Park Milltown

Borehole Number: **BH03**

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					19.37	(0.30) 0.30	Dark brown slightly sandy slightly gravelly TOPSOIL with occasional rootlets.			
0.50	B					(0.60)	Soft light brown slightly sandy slightly gravelly CLAY.			
1.00 1.00-1.45	B SPT(C) N=13			1,2/3,2,4,4	18.77 18.47	0.90 (0.30) 1.20	Soft light brown mottled orange grey slightly sandy slightly gravelly CLAY.			
						(1.10)	Firm to stiff light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles. Some yellow and grey mottling.			
2.00 2.00-2.45	B SPT(C) N=22			7,4/5,6,6,5	17.37	2.30	Very stiff dark grey slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
3.00 3.00-3.31	B SPT(C) 50/160			7,12/18,25,7						
4.00 4.00-4.45	B SPT(C) N=39			7,10/8,9,11,11		(4.20)				
5.00 5.00-5.45	B SPT(C) N=47			6,8/10,12,12,13						
6.00 6.00-6.45	B SPT(C) N=50			6,9/10,11,14,15						
7.00 7.00-7.22	TCR / SCR	RQD	FI	10,20/50 B SPT(C) 50/70	13.17 12.67	6.50 (0.50) 7.00	Very stiff brown slightly sandy gravelly CLAY.			
7.00	75						Very stiff brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
8.20-8.28 8.20	93			22,3/50 SPT(C) 25*/75 50/0		(4.20)				
9.70-9.78 9.70				22,3/50 SPT(C) 25*/75 50/0						

Remarks
No groundwater encountered during cable percusion drilling.
Cable percussion to 7.00m BGL with Rotary core follow on to 20.00m BGL.
Slotted pipe installed from 8.5m BGL to 3m BGL with pea grval filter zone from 8.5m BGL to 1.0m BGL and bentonite seal from 1.0m BGL to GL, finished with an upright cover
Chiselling from 7.20m to 7.20m for 1 hour.

Scale (approx)	Logged By
1:50	PM, C[illegible]

Figure No.
9338-12-19.BH03

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Site: Sandford Park Milltown			Borehole Number: **BH03**
Machine : Dando 2000, Beretta T44 Flush : Water Core Dia : 63 mm Method : Cable Percussion with Rotary follow on	Casing Diameter: 200mm cased to 7.20m 63mm cased to 20.00m Location: 716904.5 E 731274.9 N	Ground Level (mOD): 19.67 Dates: 06/03/2020	Client: DBFL Project Contractor: GII	Job Number: 9338-12-19 Sheet: 2/2

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
	93										
11.20-11.28 11.20					26/50 SPT(C) 26*/75 50/0	8.47	11.20	Very stiff brown slightly sandy gravelly CLAY with some subangular to subrounded cobbles. Gravel is subangular to subrounded fine to coarse.			
	67						(2.20)				
12.70-12.70 12.70					25/50 SPT(C) 25*/0 50/0						
	73					6.27	13.40	Very stiff grey slightly sandy gravelly CLAY with many subangular to subrounded cobbles and boulders. Gravel is subangular to subrounded fine to coarse.			
14.20-14.20 14.20					25/50 SPT(C) 25*/0 50/0						
	73						(3.80)				
15.70-15.78 15.70					22,3/50 SPT(C) 25*/75 50/0						
	100										
17.20-17.28 17.20					21,4/50 SPT(C) 25*/75 50/0	2.47	17.20	Poor recovery. Recovery consists of slightly clayey slightly gravelly clayey subangular to subrounded COBBLES of limestone.			
	33						(1.25)				
						1.22	18.45	Poor recovery. Recovery consists of COBBLES of limestone. Presumed rock.			
18.70											
	62						(1.55)				
20.00						-0.33	20.00				

Remarks

Scale (approx)	Logged By
1:50	PM, CB

Figure No. 9338-12-19.BH03

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Machine : Dando 2000 Method : Cable Percussion	Casing Diameter 200mm cased to 7.30m	Ground Level (mOD) 19.44	Client DBFL	Job Numb. 9338-12-19
	Location 716966.1 E 731262.2 N	Dates 10/03/2020	Project Contractor GII	Sheet 1/1

Site: Sandford Park Milltown

Borehole Number: **BH04**

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					19.24	(0.20) 0.20	Dark brown sandy slightly gravelly TOPSOIL with occasional rootlets.		
0.50	B					(0.70)	Soft to firm light brown mottled grey slightly sandy slightly gravelly CLAY.		
1.00-1.45 1.00	SPT(C) N=8 B			1,1/2,1,2,3	18.54	0.90 (0.50)	Soft to firm light brown slightly sandy slightly gravelly CLAY.		
					18.04	1.40	Firm to stiff light brown slightly sandy slightly gravelly CLAY.		
2.00-2.02 2.00	SPT(C) 25*/20 50/0 B			25/50		(1.10)			
					16.94	2.50	Very stiff, dark grey slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
3.00-3.45 3.00	SPT(C) N=47 B			6,8/11,12,13,11					
4.00-4.45 4.00	SPT(C) N=50 B			6,8/11,13,14,12					
						(4.40)			
5.00-5.43 5.00	SPT(C) 50/275 B			7,8/10,15,16,9					
6.00-6.37 6.00	SPT(C) 50/215 B			9,10/14,16,20					
					12.54	6.90	Very stiff greyish brown slightly silty slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
7.00-7.35 7.00	SPT(C) 50/195 B			10,10/15,20,15		(0.40)			
					12.14	7.30	Refusal at 7.30m		

Remarks

No groundwater encountered during drilling
Borehole backfilled on complertion.
Borehole terminated at 7.30m BGL due to obstruction, possible boulder or rock
Chiselling from 2.50m to 2.62m for 0.75 hours. Chiselling from 7.30m to 7.30m for 1 hour.

Scale (approx)	Logged By
1:50	PM

Figure No.
9338-12-19.BH04

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Site: Sandford Park Milltown				Borehole Number: **BH05**
achine : Dando 2000, Beretta T44 Method : Cable Percussion with Rotary follow on	Casing Diameter: 200mm cased to 5.30m, 63mm cased to 16.50m	Ground Level (mOD): 18.75	Client: DBFL	Job Number: 9338-12-19
	Location: 717014 E 731253.8 N	Dates: 03/03/2020	Project Contractor: GII	Sheet: 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					18.65	0.10	MADE GROUND: Tarmacadam		
						(0.40)	MADE GROUND: Light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles and occasional fragments of red brick cloth fibres and tarmacadam.		
0.50	B				18.25	0.50			
1.00 1.00-1.45	B SPT(C) N=12			1,2/3,3,3,3			Firm light brown slightly sandy slightly gravelly CLAY. Some orange mottling.		
						(1.70)			
2.00 2.00-2.45	B SPT(C) N=37			2,4/5,7,12,13	16.55	2.20	Very stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
3.00 3.00-3.45	B SPT(C) N=51			5,7/11,11,14,15 Water strike(1) at 3.10m, rose to 2.60m in 20 mins, sealed at NOm.					▼1 ▽1
4.00 4.00-4.45	B SPT(C) N=55			5,7/10,13,15,17					
						(4.50)			
5.00 5.00-5.30	B SPT(C) 50/150			7,15/20,30					
5.30	TCR / SCR / RQD / FI								
	25								
3.70-6.85 6.70				14,22/50 SPT(C) 50/0	12.05	6.70	Very stiff brown slightly sandy slightly gravelly CLAY with some subangular to subrounded cobbles and boulders. Gravel is subanugular to subrounded fine to coarse.		
	100								
8.20-8.28 8.20				22,3/50 SPT(C) 25*/75 50/0					
	100								
9.70-9.78 9.70				22,3/50 SPT(C) 25*/75 50/0					

Remarks

Groundwater encountered at 3.10m BGL.
Borehole backfilled on completion.
Cable percussion to 5.30m BGL with Rotary core follow on to 16.50m BGL.
Chiselling from 5.30m to 5.30m for 1 hour.

Scale (approx)	Logged By
1:50	PM, CB

Figure No.
9338-12-19.BH05

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Site Sandford Park Milltown			**Borehole Number** BH05
Machine : Dando 2000, Beretta T44 **Flush** : Water **Core Dia** : 63 mm **Method** : Cable Percussion with Rotary follow on	**Casing Diameter** 200mm cased to 5.30m 63mm cased to 16.50m **Location** 717014 E 731253.8 N	**Ground Level (mOD)** 18.75 **Dates** 03/03/2020	**Client** DBFL **Project Contractor** GII	**Job Numbe.** 9338-12-19 **Sheet** 2/2

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							(6.60)			
	93									
11.20-11.28					22,3/50 SPT(C) 25*/75 50/0					
11.20	73									
12.70-13.15					8,9/10,12,12,11 SPT(C) N=45					
12.70										
13.30	50	22	22			5.45	13.30	Weak- medium strong fine grained grey LIMESTONE distinctly weathered with calcite veining and occasional beds of stiff brown Clay. (possible residual mudstone) One set of fractures. F1: 0-10 degrees. Very closely-closely spaced undulating smooth occasionally open with brown staining and clay smearing.		
14.20	87	59	52	7			(3.20)			
15.40								From 15.40 to 16.50 Non Intact.		
15.70	81	23	16	N.I.						
16.50						2.25	16.50	Complete at 16.50m		

Remarks

Scale (approx)	Logged By
1:50	PM, CF

Figure No. 9338-12-19.BH05

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Site: Sandford Park Milltown			Borehole Number: **BH06**
Machine : Dando 2000 Method : Cable Percussion	Casing Diameter: 200mm cased to 8.00m	Ground Level (mOD): 20.32	Client: DBFL	Job Number: 9338-12-19
	Location: 716893.6 E 731242.4 N	Dates: 11/03/2020	Project Contractor: GII	Sheet: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					20.12	(0.20) 0.20	Dark brown sandy slightly gravelly TOPSOIL with occasional rootlets.		
0.50	B				19.72	(0.40) 0.60	Soft light brown slightly sandy slightly gravelly CLAY with some grey mottling.		
1.00-1.45 1.00	SPT(C) N=10 B			1,1/2,2,3,3		(1.60)	Firm light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
2.00-2.45 2.00	SPT(C) N=19 B			2,2/3,4,5,7	18.12	2.20	Very stiff dark grey slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
3.00-3.42 3.00	SPT(C) 50/265 B			10,10/10,15,15,10					
4.00-4.39 4.00	SPT(C) 50/235 B			11,12/13,14,16,7		(4.80)			
5.00-5.38 5.00	SPT(C) 50/230 B			10,12/12,16,17,5					
6.00-6.35 6.00	SPT(C) 50/200 B			11,13/17,19,14					
7.00-7.33 7.00	SPT(C) 50/180 B			12,14/16,22,12	13.32	7.00 (1.00)	Very stiff light brown slightly sandy slightly gravelly CLAY.		
8.00-8.28 8.00	SPT(C) 50/125 B			16,19/25,25	12.32	8.00	Complete at 8.00m		

Remarks
No groundwater encountered during drilling
Borehole terminated at 8.00m BGL

Scale (approx)	Logged By
1:50	PM

Figure No. 9338-12-19.BH06

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Site Sandford Park Milltown			**Borehole Number** BH07
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 8.00m	**Ground Level (mOD)** 20.00	**Client** DBFL	**Job Number** 9338-12-19
	Location 716950.4 E 731230.1 N	**Dates** 12/03/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.50	B					(1.00)	MADE GROUND: Light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles and occasional fragments of concrete and red brick.			
1.00-1.45 1.00	SPT(C) N=5 B			1,1/1,2,1,1	19.00	1.00 (0.40)	POSSIBLE MADE GROUND: Light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
2.00-2.45 2.00	SPT(C) N=27 B			1,2/4,6,8,9	18.60	1.40 (1.00)	Firm to Stiff light brown slightly sandy slightly gravelly CLAY.			
3.00-3.45 3.00	SPT(C) N=44 B			5,7/10,11,11,12	17.60	2.40	Very stiff dark grey slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
4.00-4.44 4.00	SPT(C) 50/285 B			8,8/11,14,15,10		(4.80)				
5.00-5.43 5.00	SPT(C) 50/275 B			9,11/11,13,17,9						
6.00-6.37 6.00	SPT(C) 50/220 B			11,14/15,16,19						
7.00-7.37 7.00	SPT(C) 50/220 B			12,12/14,16,20	12.80	7.20 (0.80)	Very stiff light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
8.00-8.31 8.00	SPT(C) 50/155 B			14,17/20,25,5	12.00	8.00	Complete at 8.00m			

Remarks

No groundwater encountered during drilling
Slotted pipe with pea gravel surround from 8.0m BGL to 1.0m BGL, plain pipe with bentonite seal from 1.0m BGL to GL, finished with an upright cover
Borehole terminated at 8.00m BGL

Scale (approx)	Logged By
1:50	PM

Figure No. 9338-12-19.BH07

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Site: Sandford Park Milltown				Borehole Number: BH08
Machine : Dando 2000, Beretta T44 Method : Cable Percussion with Rotary follow on	Casing Diameter: 200mm cased to 8.00m, 96mm cased to 13.70m	Ground Level (mOD): 19.76	Client: DBFL	Job Number: 9338-12-19
	Location: 716987.3 E 731204.4 N	Dates: 13/03/2020	Project Contractor: GII	Sheet: 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					19.66	0.10	CONCRETE.		
						(0.40)	MADE GROUND: Light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles and occasional fragments of red brick and concrete.		
0.50	B				19.26	0.50	Soft light brown very sandy slightly gravelly CLAY.		
1.00 1.00-1.45	B SPT(C) N=5			1,1/1,1,1,2		(0.80)			
					18.46	1.30	Soft to firm brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
2.00 2.00-2.45	B SPT(C) N=9			1,1/1,2,3,3		(1.30)			
					17.16	2.60	Very stiff dark grey slightly sandy slightly gravelly CLAY with rare subangular to subrounded cobbles.		
3.00 3.00-3.45	B SPT(C) N=38			5,5/8,9,10,11					
4.00 4.00-4.45	B SPT(C) N=41			4,5/8,10,11,12					
5.00 5.00-5.45	B SPT(C) N=41			5,6/7,9,11,14		(4.60)			
6.00 6.00-6.45	B SPT(C) N=47			8,9/10,11,13,13					
7.00 7.00-7.37	B SPT(C) 55/220			11,14/16,17,22					
					12.56	7.20	Very stiff dark brown very sandy very gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
				14,20/27,23		(0.80)			
8.00 8.00-8.25	B SPT(C) 50/95								
					11.76	8.00	Very stiff brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles and boulders. Gravel is subangular to subrounded fine to coarse.		
8.00	TCR: 100	SCR	RQD	FI					
8.20									
	63					(1.70)			
9.70-9.78 9.70				12,13/50 SPT(C) 25*/75 50/0	10.06	9.70	Medium strong- strong fine grained grey LIMESTONE partially- distinctly weathered with calcite veining.		

Remarks
No groundwater encountered during drilling
Cable percussion to 8.00m BGL with Rotary core follow on to 13.70m BGL.
Borehole backfilled on completion.

Scale (approx)	Logged By
1:50	PM, CB

Figure No. 9338-12-19.BH08

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Site Sandford Park Milltown			**Borehole Number** BH08
Machine : Dando 2000, Beretta T44 **Flush :** Water **Core Dia :** 96 mm **Method :** Cable Percussion with Rotary follow on	**Casing Diameter** 200mm cased to 8.00m 96mm cased to 13.70m	**Ground Level (mOD)** 19.76	**Client** DBFL	**Job Number** 9338-12-19
	Location 716987.3 E 731204.4 N	**Dates** 13/03/2020	**Project Contractor** GII	**Sheet** 2/2

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
	100	67	60					Two sets of fractures. F1: 0-10 degrees. Very closely-closely spaced undulating smooth occasionally open with clay smearing. F2: 30-45 degrees. Very closely-closely spaced undulating smooth closed.		
11.20	100	59	59	9			(4.00)			
12.50	100	75	68							
13.70						6.06	13.70	Complete at 13.70m		

Remarks

Scale (approx)	Logged By
1:50	PM, C'

Figure No. 9338-12-19.BH08

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Site: Sandford Park Milltown				Borehole Number: BH09
achine : Dando 2000, Beretta T44 Method : Cable Percussion with Rotary follow on	Casing Diameter: 200mm cased to 8.00m, 63mm cased to 18.70m	Ground Level (mOD): 20.84	Client: DBFL	Job Number: 9338-12-19
	Location: 716881.5 E 731214.8 N	Dates: 17/03/2020	Project Contractor: GII	Sheet: 1/2

Depth (m)	Sample / Tests	TCR	SCR	RQD	FI	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
									20.54	(0.30) 0.30	Dark brown sandy slightly gravelly TOPSOIL with occasional rootlets.			
0.50	B									(0.60)	Soft light brown slightly sandy slightly gravelly CLAY.			
1.00 1.00-1.45	B SPT(C) N=10							1,1/2,3,3,2	19.94	0.90	Firm light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
2.00 2.00-2.45	B SPT(C) N=11							1,2/3,3,3,2		(1.50)				
3.00 3.00-3.45	B SPT(C) N=28							2,3/5,7,7,9	18.44	2.40	Very stiff dark grey slightly silty slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
4.00 4.00-4.45	B SPT(C) N=38							5,7/7,9,11,11						
5.00 5.00-5.45	B SPT(C) N=43							7,7/8,10,12,13		(5.20)				
6.00 6.00-6.44	B SPT(C) 50/285							10,12/12,14,14,10						
7.00 7.00-7.34	B SPT(C) 50/190							12,14/16,23,11						
8.00 8.00-8.28	B SPT(C) 50/125							12,17/24,26	13.24	7.60 (0.40)	Very stiff light brown slightly sandy slightly gravelly CLAY with rare subangular to subrounded cobbles.			
8.00 8.20		100							12.84	8.00	Very stiff slightly sandy slightly gravelly CLAY with occsional subangular to subrounded cobbles. Gravel is subangular to subrounded fine to coarse.			
		100								(2.50)				
9.70-9.85 9.70								12,22/50 SPT(C) 50/0						

Remarks

No groundwater encountered durig cable percussion drilling
Cable percussion drilling to 8.00m BGL with rotary follow on to 18.70m BGL.
Slotted pipe installed from 9.5 BGL to 3.0m BGL with pea gravel filter zone from 9.5m BGL to 1.0m BGL and bentonite seal from 1.0m BGL to GL, finished with an upright cover

Scale (approx)	Logged By
1:50	PM, CB

Figure No.
9338-12-19.BH09

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Site Sandford Park Milltown			**Borehole Number** BH09
Machine : Dando 2000, Beretta T44 **Flush** : Water **Core Dia**: 63 mm **Method** : Cable Percussion with Rotary follow on	**Casing Diameter** 200mm cased to 8.00m 63mm cased to 18.70m **Location** 716881.5 E 731214.8 N	**Ground Level (mOD)** 20.84 **Dates** 17/03/2020	**Client** DBFL **Project Contractor** GII	**Job Numbe.** 9338-12-19 **Sheet** 2/2

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
	100					10.34	10.50	Very stiff brown slightly sandy slightly gravelly CLAY with somel subangular to subrounded cobbles and boulders.			
11.20-11.28 11.20	83				19,6/50 SPT(C) 25*/75 50/0		(2.50)				
12.70	27					7.84	13.00	No recovery. Driller notes possible rock at 13.00m.			
14.20	77					6.64	(1.20) 14.20	Possible weathered rock recovered as slightly sandy gravelly CLAY with subangular to subrounded cobbles of limestone.			
15.70	93	51	51			5.14	(1.50) 15.70	Medium strong- strong fine grained grey LIMESTONE partially to distinctly weathered, with closely to medium spaced thin beds of stiff brown Clay (possible residual mudstone). One set of fractures. F1: 0-10 degrees. Very closely-closely spaced undulating smooth occasionally open with brown staining and clay smearing.			
17.20	80	32	32				(3.00)				
18.70						2.14	18.70	Complete at 18.70m			

Remarks

Scale (approx)	Logged By
1:50	PM, C[illegible]

Figure No. 9338-12-19.BH09

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Site: Sandford Park Milltown			Borehole Number: **BH10**
Machine : Dando 2000 Method : Cable Percussion	Casing Diameter: 200mm cased to 7.20m	Ground Level (mOD): 20.35	Client: DBFL Job Number: 9338-12-19
	Location: 716944.1 E 731201 N	Dates: 17/03/2020-18/03/2020	Project Contractor: GII Sheet: 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					20.15	(0.20) 0.20	Dark brown sandy slightly gravelly TOPSOIL with occasional rootlets.		
0.50	B					(1.00)	Soft light brown slightly sandy slightly gravelly CLAY. Mottled grey.		
1.00-1.45 1.00	SPT(C) N=11 B			1,1/2,3,3,3	19.15	1.20	Firm to stiff light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
2.00-2.45 2.00	SPT(C) N=21 B			2,3/4,5,5,7		(1.30)			
					17.85	2.50	Very stiff dark grey slightly silty slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
3.00-3.45 3.00	SPT(C) N=44 B			5,7/9,10,12,13					
4.00-4.44 4.00	SPT(C) 50/285 B			7,9/11,14,16,9 Water strike(1) at 4.30m, rose to 4.20m in 20 mins.					1 1
						(4.70)			
5.00-5.40 5.00	SPT(C) 44/245 B			7,10/10,10,17,7					
6.00-6.37 6.00	SPT(C) 50/215 B			9,11/14,17,19					
7.00-7.17 7.00	SPT(C) 50/20 B			12,14/50	13.15	7.20	Refusal at 7.20m		

Remarks
Groundwater encountered at 4.30m.
Borehole backfilled on completion
Borehole terminated at 7.20m BGL due to obstruction, possible boulder or rock

Scale (approx)	Logged By
1:50	PM

Figure No.
9338-12-19.BH10

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Machine : Dando 2000, Beretta T44 Method : Cable Percussion with Rotary follow on	Casing Diameter 200mm cased to 8.00m 96mm cased to 13.00m	Ground Level (mOD) 20.45	Client DBFL	Job Number 9338-12-19
	Location 716967.5 E 731182.2 N	Dates 18/03/2020	Project Contractor GII	Sheet 1/2

Site: Sandford Park Milltown

Borehole Number: BH11

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					20.35	0.10	MADE GROUND: Tarmacadam			
						(0.40)	MADE GROUND: Light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles			
0.50	B				19.95	0.50				
					19.75	(0.20) 0.70	Soft light brown slightly sandy slightly gravelly CLAY with rare subangular to subrounded cobbles.			
1.00	B					(0.50)				
1.00-1.45	SPT(C) N=6			1,1/1,2,1,2	19.25	1.20	Soft light brown mottled grey slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
						(1.20)	Firm light brown slightly sandy slightly gravelly CLAY.			
2.00	B									
2.00-2.45	SPT(C) N=12			1,1/2,3,3,4	18.05	2.40	Very stiff dark grey slightly silty slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.			
3.00	B									
3.00-3.45	SPT(C) N=48			7,9/10,12,12,14						
4.00	B									
4.00-4.45	SPT(C) N=49			7,10/10,12,14,13						
						(4.70)				
5.00	B									
5.00-5.44	SPT(C) 50/285			8,9/11,12,13,14						
6.00	B									
6.00-6.40	SPT(C) 50/245			8,10/12,14,14,10						
				10,11/14,16,20						
7.00	TCR / SCR / RQD / FI			B						
7.00-7.37				SPT(C) 50/220						
7.00					13.35	7.10	Very stiff light brown slightly sandy gravelly CLAY with occasional subangular to subrounded cobbles.			
	33 -					(0.90)				
				12,14/17,20,15						
8.00-8.34				SPT(C) 52/190						
8.00				B	12.45	8.00	Very stiff brown slightly sandy slightly gravelly CLAY with some subangular to subrounded cobbles and boulders.			
8.20						(1.00)				
	87 18	9								
9.00					11.45	9.00	Medium strong-strong grey fine grained LIMESTONE partially weathered with calcite veining. Two sets of fractures. F1: 0-10 degrees. Very closely- closely spaced undulating smooth closed. F2 35-45 degrees. Closely- medium spaced undulating smooth closed.			
9.70										

Remarks

No groundwater encountered during cable percussive drilling
Cable percussion to 8.00m BGL with Rotary core follow on to 13.00m BGL.
Slotted pipe installed from 7.0m BGL to 3m BGL with pea gravel filter zone from 7.0m BGL to 1.0m BGL and bentonite seal from 1.0m BGL to GL, finished with a flush cover.

Scale (approx): 1:50

Logged By: PM, CF

Figure No.: 9338-12-19.BH11

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Site: Sandford Park Milltown			Borehole Number: BH11
Machine : Dando 2000, Beretta T44 Flush : Water Core Dia : 96 mm Method : Cable Percussion with Rotary follow on	Casing Diameter: 200mm cased to 8.00m 96mm cased to 13.00m	Ground Level (mOD): 20.45	Client: DBFL	Job Number: 9338-12-19
	Location: 716967.5 E 731182.2 N	Dates: 18/03/2020	Project Contractor: GII	Sheet: 2/2

Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
	93	89	87	8			(4.00)				
11.20	100	67	36								
12.70	100	67	67								
13.00						7.45	13.00	Complete at 13.00m			

Remarks

Scale (approx)	Logged By
1:50	PM, CB

Figure No. 9338-12-19.BH11

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Site Sandford Park Milltown			**Borehole Number** BH12
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 8.00m	**Ground Level (mOD)** 21.41	**Client** DBFL	**Job Numbe.** 9338-12-19
	Location 716865.6 E 731202.8 N	**Dates** 19/03/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Dark brown sandy slightly gravelly TOPSOIL with occasional rootlets.		
					21.11	0.30			
0.50	B					(0.70)	POSSIBLE MADE GROUND: light brown sandy gravelly CLAY.		
1.00-1.45 1.00	SPT(C) N=6 B			1,1/1,1,2,2	20.41	1.00	Soft light brown mottled grey slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
						(0.90)			
2.00-2.45 2.00	SPT(C) N=10 B			2,2/2,3,3,2	19.51	1.90	Firm light brown slightly sandy slightly gravelly CLAY.		
						(0.70)			
3.00-3.45 3.00	SPT(C) N=25 B			2,3/4,5,7,9	18.81	2.60	Very stiff dark grey slightly silty slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
4.00-4.45 4.00	SPT(C) N=30 B			3,4/5,7,9,9					
5.00-5.45 5.00	SPT(C) N=35 B			6,6/7,8,9,11		(5.40)			
6.00-6.45 6.00	SPT(C) N=46 B			7,10/10,11,12,13					
7.00-7.40 7.00	SPT(C) 50/245 B			10,12/14,14,15,7					
8.00-8.37 8.00	SPT(C) 50/220 B			10,14/16,17,17	13.41	8.00	Complete at 8.00m		

Remarks
No groundwater encountered durig drillling
Borehole backfilled on completion.
Borehole complete at 8.00m BGL

Scale (approx)	Logged By
1:50	PM

Figure No. 9338-12-19.BH12

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Appendix 6 – Laboratory Testing

Element Materials Technology
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Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

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Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland

Attention :	Mike Sutton
Date :	17th June, 2020
Your reference :	9338-12-19
Our reference :	Test Report 20/7377 Batch 1
Location :	Sadford Park Miltown
Date samples received :	10th June, 2020
Status :	Final report
Issue :	1

Five samples were received for analysis on 10th June, 2020 of which five were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Element Materials Technology Environmental UK Limited
Registered in England and Wales
Registered Office: 10 Lower Grosvenor Place, London, SW1W 0EN
Company Registration No: 11371415

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sadford Park Miltown
Contact: Mike Sutton
EMT Job No: 20/7377

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H_2SO_4, Z=ZnAc, N=NaOH, HN=$HN0_3$

EMT Sample No.	1-8	9-16	17-24	25-32	33-40						LOD/LOR	Units	Method No.
Sample ID	BH09	BH03	BH02	BH07	BH11								
Depth													
COC No / misc													
Containers	V H HNUF HCL Z P G	V H HNUF HCL Z P G	V H HNUF HCL Z P G	V H HNUF HCL Z P G	V H HNUF HCL Z P G								
Sample Date	09/06/2020	09/06/2020	05/06/2020	05/06/2020	05/06/2020								
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water								
Batch Number	1	1	1	1	1								
Date of Receipt	10/06/2020	10/06/2020	10/06/2020	10/06/2020	10/06/2020								
Dissolved Arsenic #	<2.5	<2.5	<2.5	<2.5	<2.5						<2.5	ug/l	TM30/PM14
Dissolved Boron	51	35	34	32	30						<12	ug/l	TM30/PM14
Dissolved Cadmium #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM30/PM14
Total Dissolved Chromium #	<1.5	<1.5	<1.5	<1.5	<1.5						<1.5	ug/l	TM30/PM14
Dissolved Copper #	<7	<7	<7	<7	<7						<7	ug/l	TM30/PM14
Dissolved Lead #	<5	<5	<5	<5	<5						<5	ug/l	TM30/PM14
Dissolved Magnesium #	33.8	10.7	18.7	13.5	12.2						<0.1	mg/l	TM30/PM14
Dissolved Manganese #	861	190	200	999	55						<2	ug/l	TM30/PM14
Dissolved Mercury #	<1	<1	<1	<1	<1						<1	ug/l	TM30/PM14
Dissolved Nickel #	9	3	4	4	2						<2	ug/l	TM30/PM14
Dissolved Potassium #	2.9	2.0	1.0	1.4	1.9						<0.1	mg/l	TM30/PM14
Dissolved Zinc #	<3	<3	<3	<3	<3						<3	ug/l	TM30/PM14
PAH MS													
Naphthalene #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	ug/l	TM4/PM30
Acenaphthylene #	<0.013	<0.013	<0.013	<0.013	<0.013						<0.013	ug/l	TM4/PM30
Acenaphthene #	<0.013	<0.013	<0.013	<0.013	<0.013						<0.013	ug/l	TM4/PM30
Fluorene #	<0.014	<0.014	<0.014	<0.014	<0.014						<0.014	ug/l	TM4/PM30
Phenanthrene #	<0.011	<0.011	<0.011	<0.011	<0.011						<0.011	ug/l	TM4/PM30
Anthracene #	<0.013	<0.013	<0.013	<0.013	<0.013						<0.013	ug/l	TM4/PM30
Fluoranthene #	<0.012	<0.012	<0.012	<0.012	<0.012						<0.012	ug/l	TM4/PM30
Pyrene #	<0.013	<0.013	<0.013	<0.013	<0.013						<0.013	ug/l	TM4/PM30
Benzo(a)anthracene #	<0.015	<0.015	<0.015	<0.015	<0.015						<0.015	ug/l	TM4/PM30
Chrysene #	<0.011	<0.011	<0.011	<0.011	<0.011						<0.011	ug/l	TM4/PM30
Benzo(bk)fluoranthene #	<0.018	<0.018	<0.018	<0.018	<0.018						<0.018	ug/l	TM4/PM30
Benzo(a)pyrene #	<0.016	<0.016	<0.016	<0.016	<0.016						<0.016	ug/l	TM4/PM30
Indeno(123cd)pyrene #	<0.011	<0.011	<0.011	<0.011	<0.011						<0.011	ug/l	TM4/PM30
Dibenzo(ah)anthracene #	<0.01	<0.01	<0.01	<0.01	<0.01						<0.01	ug/l	TM4/PM30
Benzo(ghi)perylene #	<0.011	<0.011	<0.011	<0.011	<0.011						<0.011	ug/l	TM4/PM30
PAH 16 Total #	<0.195	<0.195	<0.195	<0.195	<0.195						<0.195	ug/l	TM4/PM30
Benzo(b)fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01						<0.01	ug/l	TM4/PM30
Benzo(k)fluoranthene	<0.01	<0.01	<0.01	<0.01	<0.01						<0.01	ug/l	TM4/PM30
PAH Surrogate % Recovery	77	78	80	74	79						<0	%	TM4/PM30
MTBE #	<5	<5	<5	<5	<5						<5	ug/l	TM36/PM12
Benzene #	<5	<5	<5	<5	<5						<5	ug/l	TM36/PM12
Toluene #	<5	<5	<5	<5	<5						<5	ug/l	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5						<5	ug/l	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5	<5						<5	ug/l	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5						<5	ug/l	TM36/PM12

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sadford Park Miltown
Contact: Mike Sutton
EMT Job No: 20/7377

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, HN=$HN0_3$

EMT Sample No.	1-8	9-16	17-24	25-32	33-40							
Sample ID	BH09	BH03	BH02	BH07	BH11							
Depth												
COC No / misc												
Containers	V H HNUF HCL Z P G	V H HNUF HCL Z P G	V H HNUF HCL Z P G	V H HNUF HCL Z P G	V H HNUF HCL Z P G							
Sample Date	09/06/2020	09/06/2020	05/06/2020	05/06/2020	05/06/2020							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water							
Batch Number	1	1	1	1	1							
Date of Receipt	10/06/2020	10/06/2020	10/06/2020	10/06/2020	10/06/2020							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>C6-C8 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>C8-C10 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>C10-C12 #	<5	<5	<5	<5	<5						<5	ug/l	TM5/PM16/PM30
>C12-C16 #	<10	70	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
>C16-C21 #	<10	560	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
>C21-C35 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 #	<10	630	<10	<10	<10						<10	ug/l	TM5/PM16/PM30/PM0
Aromatics													
>C5-EC7 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>EC7-EC8 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>EC8-EC10 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>EC10-EC12 #	<5	<5	<5	<5	<5						<5	ug/l	TM5/PM16/PM30
>EC12-EC16 #	<10	330	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
>EC16-EC21 #	<10	2500	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
>EC21-EC35 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 #	<10	2830	<10	<10	<10						<10	ug/l	TM5/PM16/PM30/PM0
Total aliphatics and aromatics(C5-35) #	<10	3460	<10	<10	<10						<10	ug/l	TM5/PM16/PM30/PM0
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15						<0.15	mg/l	TM26/PM0
Sulphate as SO4 #	67.2	47.6	101.6	9.4	126.6						<0.5	mg/l	TM38/PM0
Chloride #	27.4	24.1	16.8	8.0	19.5						<0.3	mg/l	TM38/PM0
Nitrate as NO3 #	<0.2	<0.2	0.9	<0.2	<0.2						<0.2	mg/l	TM38/PM0
Total Cyanide #	<0.01	<0.01	<0.01	<0.01	<0.01						<0.01	mg/l	TM89/PM0
Ammoniacal Nitrogen as NH3 #	0.41	0.15	<0.03	0.23	0.12						<0.03	mg/l	TM38/PM0
Ammoniacal Nitrogen as NH4 #	0.43	0.16	<0.03	0.24	0.13						<0.03	mg/l	TM38/PM0
Carbonate Alkalinity as CaCO3	<1	<1	<1	<1	<1						<1	mg/l	TM75/PM0
Electrical Conductivity @25C #	734	277	814	541	581						<2	uS/cm	TM76/PM0
pH #	8.01	8.08	7.48	7.82	7.83						<0.01	pH units	TM73/PM0

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sadford Park Miltown
Contact: Mike Sutton

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
20/7377	1	BH03		9-16	Linear alkylbenzenes

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sadford Park Miltown
Contact: Mike Sutton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 20/7377						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

Please include all sections of this report if it is reproduced

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 20/7377

SOILS

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

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

fficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the sting may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

URROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact e laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 20/7377

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details	Yes			
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE re	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993 (comparabl	PM0	No preparation is required.	Yes			

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EMT Job No: 20/7377

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM75	Modified US EPA method 310.1 (1978). Determination of Alkalinity by Metrohm automated titration analyser.	PM0	No preparation is required.				
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM0	No preparation is required.	Yes			

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Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland

4225

Attention :	Barry Sexton
Date :	7th February, 2020
Your reference :	9338-12-19
Our reference :	Test Report 20/1334 Batch 1
Location :	Sandford Park Milltown
Date samples received :	29th January, 2020
Status :	Final report
Issue :	1

PLAN NO.:LRD6026/23S3
RECEIVED: 13/06/2023

Eighteen samples were received for analysis on 29th January, 2020 of which eighteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Bruce Leslie
Project Manager

Element Materials Technology Environmental UK Limited
Registered in England and Wales
Registered Office: 10 Lower Grosvenor Place, London, SW1W 0EN
Company Registration No: 11371415

Client Name:	Ground Investigations Ireland	**Report :**	**Solid**
Reference:	9338-12-19		
Location:	Sandford Park Milltown	**Solids:**	V=60g VOC jar, J=250g glass jar, T=plastic tub
Contact:	Barry Sexton		
EMT Job No:	20/1334		

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04			
Depth	0.70	1.70	2.40	0.70	1.70	2.50	0.70	1.70	2.70	0.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	17/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020			
Antimony	2	2	2	3	2	<1	2	2	2	2	<1	mg/kg	TM30/PM15
Arsenic #	13.9	9.3	7.6	13.6	11.3	8.9	11.3	11.2	13.7	12.3	<0.5	mg/kg	TM30/PM15
Barium #	97	80	55	201	147	122	74	80	110	65	<1	mg/kg	TM30/PM15
Cadmium #	3.0	2.0	1.4	4.7	2.3	1.1	3.0	2.3	1.6	2.7	<0.1	mg/kg	TM30/PM15
Chromium #	51.2	47.9	33.0	79.6	44.1	57.3	43.6	52.1	40.9	57.3	<0.5	mg/kg	TM30/PM15
Copper #	46	32	22	31	39	28	39	37	23	39	<1	mg/kg	TM30/PM15
Lead #	20	15	14	20	17	17	20	16	18	18	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	4.9	5.5	3.4	8.7	6.4	4.2	4.5	5.1	4.1	4.5	<0.1	mg/kg	TM30/PM15
Nickel #	65.1	42.7	27.6	72.8	51.9	42.6	51.0	58.4	37.1	51.7	<0.7	mg/kg	TM30/PM15
Selenium #	1	2	3	3	2	3	1	2	3	1	<1	mg/kg	TM30/PM15
Zinc #	114	96	66	114	110	98	95	98	77	93	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.16	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.25	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	0.22	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.13	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.21	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.10	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene	0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	0.72	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	1.40	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	67 SV	80	71	72	72	80	79	73	80	73	<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Millltown
Contact: Barry Sexton
EMT Job No: 20/1334

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04			
Depth	0.70	1.70	2.40	0.70	1.70	2.50	0.70	1.70	2.70	0.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	17/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020			
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	
>C6-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	
Total aliphatics and aromatics(C5-40)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	
>EC6-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
Benzene #	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
Toluene #	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5	15	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	ug/kg	TM31/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Milltown
Contact: Barry Sexton
EMT Job No: 20/1334

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04			
Depth	0.70	1.70	2.40	0.70	1.70	2.50	0.70	1.70	2.70	0.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	17/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020			
Natural Moisture Content	21.3	12.7	9.7	16.8	15.8	9.4	17.6	16.3	10.3	13.0	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	17.6	11.3	8.9	14.4	13.6	8.6	15.0	14.0	9.3	11.5	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	51.2	47.9	33.0	79.6	44.1	57.3	43.6	52.1	40.9	57.3	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.43	0.35	0.37	0.48	0.40	0.39	0.37	0.33	0.49	0.37	<0.02	%	TM21/PM24
pH #	8.37	8.52	8.73	8.40	8.47	8.71	8.40	8.46	8.69	8.30	<0.01	pH units	TM73/PM11
Mass of raw test portion	0.1099	0.1014	0.1011	0.1079	0.1038	0.099	0.1052	0.105	0.1002	0.1044		kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Millltown
Contact: Barry Sexton
EMT Job No: 20/1334

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54			LOD/LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS07					
Depth	1.70	0.70	1.70	0.70	1.70	0.70	1.70	2.60					
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T					
Sample Date	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020					
Antimony	2	2	2	3	2	2	2	2			<1	mg/kg	TM30/PM15
Arsenic #	10.4	10.6	9.0	15.7	10.3	9.1	10.8	10.1			<0.5	mg/kg	TM30/PM15
Barium #	75	77	85	163	105	60	105	102			<1	mg/kg	TM30/PM15
Cadmium #	2.1	1.9	2.1	3.6	2.1	2.4	2.5	1.9			<0.1	mg/kg	TM30/PM15
Chromium #	36.3	46.4	41.0	50.1	33.4	52.6	44.6	40.6			<0.5	mg/kg	TM30/PM15
Copper #	33	33	33	37	33	31	37	28			<1	mg/kg	TM30/PM15
Lead #	17	17	15	22	14	15	16	17			<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM30/PM15
Molybdenum #	4.6	3.8	5.1	6.0	4.2	4.0	5.5	5.3			<0.1	mg/kg	TM30/PM15
Nickel #	47.3	46.6	40.4	65.8	42.2	39.3	46.8	42.5			<0.7	mg/kg	TM30/PM15
Selenium #	2	1	1	2	2	1	1	4			<1	mg/kg	TM30/PM15
Zinc #	93	85	91	109	86	79	93	87			<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06			<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02			<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07			<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22			<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64			<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02			<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1			<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	71	77	82	81	70	74	71	80			<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	<30	<30	<30	<30	<30	<30			<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name:	Ground Investigations Ireland	**Report :**	**Solid**
Reference:	9338-12-19		
Location:	Sandford Park Millltown	**Solids:**	V=60g VOC jar, J=250g glass jar, T=plastic tub
Contact:	Barry Sexton		
EMT Job No:	20/1334		

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54			LOD/LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS07					
Depth	1.70	0.70	1.70	0.70	1.70	0.70	1.70	2.60					
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T					
Sample Date	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020					
TPH CWG													
Aliphatics													
>C5-C6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV			<0.1	mg/kg	TM36/PM12
>C6-C8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV			<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV			<0.1	mg/kg	TM36/PM12
>C10-C12	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			<0.2	mg/kg	TM5/PM8/PM16
>C12-C16	<4	<4	<4	<4	<4	<4	<4	<4			<4	mg/kg	TM5/PM8/PM16
>C16-C21	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
>C21-C35	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26			<26	mg/kg	
>C6-C10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV			<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	<10	<10	<10	<10	<10	<10			<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10	<10	<10	<10	<10	<10	<10	<10			<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV			<0.1	mg/kg	TM36/PM12
>EC7-EC8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV			<0.1	mg/kg	TM36/PM12
>EC8-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV			<0.1	mg/kg	TM36/PM12
>EC10-EC12	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16	<4	<4	<4	<4	<4	<4	<4	<4			<4	mg/kg	TM5/PM8/PM16
>EC16-EC21	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
>EC21-EC35	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26			<26	mg/kg	
Total aliphatics and aromatics(C5-40)	<52	<52	<52	<52	<52	<52	<52	<52			<52	mg/kg	
>EC6-EC10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV			<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10	<10	<10	<10	<10	<10	<10	<10			<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	<10	<10	<10	<10	<10	<10	<10	<10			<10	mg/kg	TM5/PM8/PM16
MTBE	<5	<5	<5	<5	<5	<5	<5	<5 SV			<5	ug/kg	TM31/PM12
Benzene	<5	<5	<5	<5	<5	<5	<5	<5 SV			<5	ug/kg	TM31/PM12
Toluene	<5	<5	<5	<5	<5	<5	<5	<5 SV			<5	ug/kg	TM31/PM12
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5 SV			<5	ug/kg	TM31/PM12
m/p-Xylene	<5	<5	<5	<5	<5	<5	<5	<5 SV			<5	ug/kg	TM31/PM12
o-Xylene	<5	<5	<5	<5	<5	<5	<5	<5 SV			<5	ug/kg	TM31/PM12
PCB 28	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 52	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 101	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 118	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 138	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 153	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
PCB 180	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM17/PM8
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	<35			<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Client Name:	Ground Investigations Ireland
Reference:	9338-12-19
Location:	Sandford Park Millltown
Contact:	Barry Sexton
EMT Job No:	20/1334

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54			LOD/LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS07					
Depth	1.70	0.70	1.70	0.70	1.70	0.70	1.70	2.60					
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T					
Sample Date	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020					
Natural Moisture Content	13.8	14.9	13.3	21.3	14.9	15.2	13.4	10.1			<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	12.1	12.9	11.7	17.5	12.9	13.2	11.8	9.2			<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3			<0.3	mg/kg	TM38/PM20
Chromium III	36.3	46.4	41.0	50.1	33.4	52.6	44.6	40.6			<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.38	0.38	0.40	0.55	0.37	0.32	0.41	0.61			<0.02	%	TM21/PM24
pH #	8.32	8.53	8.48	8.32	8.20	8.32	8.45	8.68			<0.01	pH units	TM73/PM11
Mass of raw test portion	0.101	0.1047	0.1038	0.108	0.1037	0.1044	0.1023	0.1009				kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09				kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Millltown
Contact: Barry Sexton
EMT Job No: 20/1334

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04			
Depth	0.70	1.70	2.40	0.70	1.70	2.50	0.70	1.70	2.70	0.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	17/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020			
Dissolved Antimony '	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	0.005	0.005	0.002	0.003	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) '	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.05	0.05	0.02	0.03	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic '	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) '	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium '	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) '	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium '	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) '	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium '	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) '	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper '	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) '	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead '	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) '	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum '	0.002	0.008	0.010	0.004	0.009	0.013	<0.002	0.005	0.019	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) '	<0.02	0.08	0.10	0.04	0.09	0.13	<0.02	0.05	0.19	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Nickel '	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) '	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium '	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) '	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc '	0.008	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) '	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF '	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF '	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	0.4	<0.3	0.3	0.6	<0.3	0.3	0.4	0.5	1.4	0.5	<0.3	mg/l	TM173/PM0
Fluoride	4	<3	<3	6	<3	3	4	5	14	5	<3	mg/kg	TM173/PM0
Sulphate as SO4 '	0.5	0.6	0.6	0.7	0.5	1.4	0.6	1.1	0.8	10.6	<0.5	mg/l	TM38/PM0
Sulphate as SO4 '	<5	6	6	7	<5	14	6	11	8	106	<5	mg/kg	TM38/PM0
Chloride '	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride '	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	<2	<2	<2	3	<2	<2	<2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	8.25	6.99	7.82	7.92	8.17	8.19	8.19	8.08	8.26	8.05	<0.01	pH units	TM73/PM0
Total Dissolved Solids '	67	101	35	67	46	36	53	46	51	146	<35	mg/l	TM20/PM0
Total Dissolved Solids '	670	1010	<350	670	460	360	530	460	510	1460	<350	mg/kg	TM20/PM0

Client Name:	Ground Investigations Ireland
Reference:	9338-12-19
Location:	Sandford Park Millltown
Contact:	Barry Sexton
EMT Job No:	20/1334

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54			LOD/LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS07					
Depth	1.70	0.70	1.70	0.70	1.70	0.70	1.70	2.60					
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T					
Sample Date	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020					
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002			<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02			<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025			<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025			<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003			<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005			<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015			<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015			<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007			<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07			<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.010	0.004	0.011	0.004	0.013	0.003	0.009	0.022			<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.10	0.04	0.11	0.04	0.13	0.03	0.09	0.22			<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002			<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02			<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003			<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003			<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001			<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001			<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	0.4	0.3	0.5	<0.3	0.5	<0.3	<0.3			<0.3	mg/l	TM173/PM0
Fluoride	<3	4	<3	5	<3	5	<3	<3			<3	mg/kg	TM173/PM0
Sulphate as SO4 #	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8			<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	19	<5	<5	<5	<5	<5	<5	8			<5	mg/kg	TM38/PM0
Chloride #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3			<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	<3	<3	<3	<3	<3	<3			<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2	<2	<2			<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20			<20	mg/kg	TM60/PM0
pH	6.77	7.15	7.34	7.51	7.60	7.67	7.71	7.68			<0.01	pH units	TM73/PM0
Total Dissolved Solids #	186	56	165	91	61	51	83	103			<35	mg/l	TM20/PM0
Total Dissolved Solids #	1861	560	1650	910	610	510	830	1030			<350	mg/kg	TM20/PM0

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Milltown
Contact: Barry Sexton
EMT Job No: 20/1334

Report : EN12457_2

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30						
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04						
Depth	0.70	1.70	2.40	0.70	1.70	2.50	0.70	1.70	2.70	0.70						
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	17/01/2020						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1	1	1	1						
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon#	0.43	0.35	0.37	0.48	0.40	0.39	0.37	0.33	0.49	0.37	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025 SV	<0.025	<0.025	<0.025 SV	<0.025	6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs#	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6#	0.72	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	1.40	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic#	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium#	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium#	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium#	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper#	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM30/PM17
Mercury#	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum#	<0.02	0.08	0.10	0.04	0.09	0.13	<0.02	0.05	0.19	<0.02	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel#	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead#	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony#	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.05	0.05	0.02	0.03	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium#	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc#	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids#	670	1010	<350	670	480	360	530	460	510	1460	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	<20	<20	<20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1099	0.1014	0.1011	0.1079	0.1038	0.099	0.1052	0.105	0.1002	0.1044	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	82.2	88.3	89.3	83.0	86.7	90.5	85.3	86.1	89.6	85.9	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.88	0.888	0.889	0.882	0.886	0.891	0.884	0.886	0.89	0.885	-	-	-		l	NONE/PM17
Eluate Volume	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-	-	-		l	NONE/PM17
pH#	8.37	8.52	8.73	8.40	8.47	8.71	8.40	8.46	8.69	8.30	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	<3	<3	6	<3	3	4	5	14	5	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4#	<5	6	6	7	<5	14	6	11	8	106	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride#	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Millltown
Contact: Barry Sexton
EMT Job No: 20/1334

Report : EN12457_2

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54			Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS07								
Depth	1.70	0.70	1.70	0.70	1.70	0.70	1.70	2.60								
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020								
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1	1	1	1								
Date of Receipt	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020	29/01/2020								
Solid Waste Analysis																
Total Organic Carbon #	0.38	0.38	0.40	0.55	0.37	0.32	0.41	0.61			3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025 SV			6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035			1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30			500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22			-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64			100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025			0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015			0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07			2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001			0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.10	0.04	0.11	0.04	0.13	0.03	0.09	0.22			0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02			0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02			0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	1861	580	1650	910	610	510	830	1030			4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20			500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.101	0.1047	0.1038	0.108	0.1037	0.1044	0.1023	0.1009			-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	88.9	86.4	86.7	83.6	86.7	86.2	87.9	89.0			-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.886	0.886	0.882	0.886	0.886	0.888	0.889			-	-	-		l	NONE/PM17
Eluate Volume	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8			-	-	-		l	NONE/PM17
pH #	8.32	8.53	8.48	8.32	8.20	8.32	8.45	8.68			-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	4	<3	5	<3	5	<3	<3			-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	19	<5	<5	<5	<5	<5	<5	8			1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3	<3	<3	<3	<3	<3			800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 9338-12-19

Location: Sandford Park Millltown

Contact: Barry Sexton

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
20/1334	1	WS01	0.70	1-3	No interpretation possible
20/1334	1	WS01	1.70	4-6	No interpretation possible
20/1334	1	WS01	2.40	7-9	No interpretation possible
20/1334	1	WS02	0.70	10-12	No interpretation possible
20/1334	1	WS02	1.70	13-15	No interpretation possible
20/1334	1	WS02	2.50	16-18	No interpretation possible
20/1334	1	WS03	0.70	19-21	No interpretation possible
20/1334	1	WS03	1.70	22-24	No interpretation possible
20/1334	1	WS03	2.70	25-27	No interpretation possible
20/1334	1	WS04	0.70	28-30	No interpretation possible
20/1334	1	WS04	1.70	31-33	No interpretation possible
20/1334	1	WS05	0.70	34-36	No interpretation possible
20/1334	1	WS05	1.70	37-39	No interpretation possible
20/1334	1	WS06	0.70	40-42	No interpretation possible
20/1334	1	WS06	1.70	43-45	No interpretation possible
20/1334	1	WS07	0.70	46-48	No interpretation possible
20/1334	1	WS07	1.70	49-51	No interpretation possible
20/1334	1	WS07	2.60	52-54	No interpretation possible

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Client Name: Ground Investigations Ireland
Reference: 19/12/9338
Location: Sandford Park Millltown
Contact: Barry Sexton

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
20/1334	1	WS01	0.70	2	31/01/2020	**General Description (Bulk Analysis)**	soil.stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1334	1	WS01	1.70	5	31/01/2020	**General Description (Bulk Analysis)**	soil.stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1334	1	WS01	2.40	8	31/01/2020	**General Description (Bulk Analysis)**	soil.stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1334	1	WS02	0.70	11	31/01/2020	**General Description (Bulk Analysis)**	soil-stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1334	1	WS02	1.70	14	31/01/2020	**General Description (Bulk Analysis)**	soil-stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1334	1	WS02	2.50	17	31/01/2020	**General Description (Bulk Analysis)**	soil-stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1334	1	WS03	0.70	20	31/01/2020	**General Description (Bulk Analysis)**	Soil/Stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD

Client Name: Ground Investigations Ireland
Reference: 19/12/9338
Location: Sandford Park Millltown
Contact: Barry Sexton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
20/1334	1	WS03	0.70	20	31/01/2020	Asbestos Type	NAD
					31/01/2020	Asbestos Level Screen	NAD
20/1334	1	WS03	1.70	23	31/01/2020	General Description (Bulk Analysis)	Soil/Stones
					31/01/2020	Asbestos Fibres	NAD
					31/01/2020	Asbestos ACM	NAD
					31/01/2020	Asbestos Type	NAD
					31/01/2020	Asbestos Level Screen	NAD
20/1334	1	WS03	2.70	26	31/01/2020	General Description (Bulk Analysis)	Soil/Stones
					31/01/2020	Asbestos Fibres	NAD
					31/01/2020	Asbestos ACM	NAD
					31/01/2020	Asbestos Type	NAD
					31/01/2020	Asbestos Level Screen	NAD
20/1334	1	WS04	0.70	29	31/01/2020	General Description (Bulk Analysis)	Soil/Stones
					31/01/2020	Asbestos Fibres	NAD
					31/01/2020	Asbestos ACM	NAD
					31/01/2020	Asbestos Type	NAD
					31/01/2020	Asbestos Level Screen	NAD
20/1334	1	WS04	1.70	32	31/01/2020	General Description (Bulk Analysis)	soil-stones
					31/01/2020	Asbestos Fibres	NAD
					31/01/2020	Asbestos ACM	NAD
					31/01/2020	Asbestos Type	NAD
					31/01/2020	Asbestos Level Screen	NAD
20/1334	1	WS05	0.70	35	31/01/2020	General Description (Bulk Analysis)	soil-stones
					31/01/2020	Asbestos Fibres	NAD
					31/01/2020	Asbestos ACM	NAD
					31/01/2020	Asbestos Type	NAD
					31/01/2020	Asbestos Level Screen	NAD
20/1334	1	WS05	1.70	38	31/01/2020	General Description (Bulk Analysis)	soil-stones
					31/01/2020	Asbestos Fibres	NAD
					31/01/2020	Asbestos ACM	NAD
					31/01/2020	Asbestos Type	NAD
					31/01/2020	Asbestos Level Screen	NAD
20/1334	1	WS06	0.70	41	31/01/2020	General Description (Bulk Analysis)	Soil/Stones
					31/01/2020	Asbestos Fibres	NAD
					31/01/2020	Asbestos ACM	NAD
					31/01/2020	Asbestos Type	NAD
					31/01/2020	Asbestos Level Screen	NAD
20/1334	1	WS06	1.70	44	31/01/2020	General Description (Bulk Analysis)	Soil/Stones
					31/01/2020	Asbestos Fibres	NAD
					31/01/2020	Asbestos ACM	NAD
					31/01/2020	Asbestos Type	NAD
					31/01/2020	Asbestos Level Screen	NAD
20/1334	1	WS07	0.70	47	31/01/2020	General Description (Bulk Analysis)	soil stones
					31/01/2020	Asbestos Fibres	NAD

Client Name: Ground Investigations Ireland
Reference: 19/12/9338
Location: Sandford Park Milltown
Contact: Barry Sexton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
20/1334	1	WS07	0.70	47	31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1334	1	WS07	1.70	50	31/01/2020	**General Description (Bulk Analysis)**	soil stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1334	1	WS07	2.60	53	31/01/2020	**General Description (Bulk Analysis)**	soil stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD

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Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Millltown
Contact: Barry Sexton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 20/1334						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 20/1334

SOILS

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

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

fficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the sting may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

IRROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact e laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 20/1334

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM17	Modified US EPA method 8270. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3: 1990/USEPA 160.3 Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes

EMT Job No: 20/1334

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM17	Modified method BS EN12457-2 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.	Yes		AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results can be confirmed using GCMS.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results can be confirmed using GCMS.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods 325.2 (Chloride), 375.4 (Sulphate), 365.2 (o-Phosphate), 353.1 (TON), 354.1 (Nitrite), 350.1 (NH4+) comparable to BS ISO 15923-1, 7196A (Hex Cr)	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods 325.2 (Chloride), 375.4 (Sulphate), 365.2 (o-Phosphate), 353.1 (TON), 354.1 (Nitrite), 350.1 (NH4+) comparable to BS ISO 15923-1, 7196A (Hex Cr)	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes

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EMT Job No: 20/1334

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060, APHA Standard Methods for Examination of Water and Wastewater 5310B, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM61	Modified US EPA methods 245.7 and 200.7. Determination of Mercury by Cold Vapour Atomic Fluorescence.	PM0	No preparation is required.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 340.2	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM17	Modified method BS EN12457-2 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.			AR	
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.			AR	

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Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland

Attention :	Barry Sexton
Date :	10th February, 2020
Your reference :	9338-12-19
Our reference :	Test Report 20/1406 Batch 1
Location :	Sandford Park Milltown
Date samples received :	30th January, 2020
Status :	Final report
Issue :	1

Twenty samples were received for analysis on 30th January, 2020 of which twenty were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Bruce Leslie
Project Manager

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Element Materials Technology Environmental UK Limited
Registered in England and Wales
Registered Office: 10 Lower Grosvenor Place, London, SW1W 0EN
Company Registration No: 11371415

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Milltown
Contact: Barry Sexton
EMT Job No: 20/1406

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS10	WS11			
Depth	0.70	1.70	2.60	0.70	1.70	2.60	0.70	1.70	2.30	0.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	17/01/2020	17/01/2020	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020			
Antimony	2	2	2	2	2	2	2	2	2	2	<1	mg/kg	TM30/PM15
Arsenic #	6.9	7.6	10.9	8.1	9.4	11.6	13.3	11.3	11.0	11.5	<0.5	mg/kg	TM30/PM15
Barium #	65	94	42	312	87	64	69	63	63	113	<1	mg/kg	TM30/PM15
Cadmium #	1.2	1.7	2.4	1.9	2.1	1.9	2.5	2.1	2.0	2.6	<0.1	mg/kg	TM30/PM15
Chromium #	50.2	42.5	39.2	37.6	47.1	38.2	42.2	42.8	36.7	39.3	<0.5	mg/kg	TM30/PM15
Copper #	20	26	32	30	33	32	40	31	30	36	<1	mg/kg	TM30/PM15
Lead #	11	14	17	14	16	18	17	19	17	16	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.5	4.9	5.2	3.5	4.7	4.9	4.6	4.7	4.4	4.0	<0.1	mg/kg	TM30/PM15
Nickel #	29.6	35.2	40.0	35.5	43.0	41.2	51.0	39.2	39.7	47.4	<0.7	mg/kg	TM30/PM15
Selenium #	1	1	3	1	2	5	1	<1	2	1	<1	mg/kg	TM30/PM15
Zinc #	80	76	96	62	94	98	101	90	86	83	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	84	83	81	81	76	86	106	98	100	100	<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Milltown
Contact: Barry Sexton
EMT Job No: 20/1406

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS10	WS11			
Depth	0.70	1.70	2.60	0.70	1.70	2.60	0.70	1.70	2.30	0.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	17/01/2020	17/01/2020	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020			
TPH CWG													
Aliphatics													
>C5-C6	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	
>C6-C10	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	
Total aliphatics and aromatics(C5-40)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	
>EC6-EC10	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Benzene	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Toluene	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
Ethylbenzene	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
m/p-Xylene	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	<5	<5	<5	ug/kg	TM31/PM12
o-Xylene	<5	<5	<5 SV	<5	<5	<5 SV	<5	<5	58	<5	<5	ug/kg	TM31/PM12
PCB 28	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Milltown
Contact: Barry Sexton
EMT Job No: 20/1406

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS10	WS11			
Depth	0.70	1.70	2.60	0.70	1.70	2.60	0.70	1.70	2.30	0.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	17/01/2020	17/01/2020	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020			
Natural Moisture Content	13.5	10.9	8.9	15.7	11.8	8.2	13.2	13.9	12.9	13.3	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	11.9	9.8	8.2	13.6	10.5	7.6	11.6	12.2	11.5	11.7	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	50.2	42.5	39.2	37.6	47.1	38.2	42.2	42.8	36.7	39.3	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.44	0.36	0.69	0.38	0.40	0.69	0.37	0.37	0.49	0.39	<0.02	%	TM21/PM24
pH #	8.30	8.44	8.33	8.55	8.60	8.65	8.48	8.56	8.66	8.60	<0.01	pH units	TM73/PM11
Mass of raw test portion	0.0999	0.0994	0.0983	0.1026	0.101	0.0984	0.1031	0.1014	0.1027	0.1002		kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Milltown
Contact: Barry Sexton
EMT Job No: 20/1406

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	LOD/LOR	Units	Method No.
Sample ID	WS11	WS11	WS12	WS12	WS12	WS13	WS13	WS14	WS14	WS14			
Depth	1.70	2.20	0.70	1.70	2.50	0.70	1.40	0.70	1.70	2.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/01/2020	16/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020			
Antimony	2	2	2	2	2	2	2	2	2	2	<1	mg/kg	TM30/PM15
Arsenic #	10.6	10.2	12.3	9.4	10.1	10.4	9.8	10.2	8.3	10.2	<0.5	mg/kg	TM30/PM15
Barium #	65	92	80	88	130	71	64	68	121	51	<1	mg/kg	TM30/PM15
Cadmium #	2.9	2.0	1.4	1.9	1.8	2.3	1.9	2.3	2.1	2.0	<0.1	mg/kg	TM30/PM15
Chromium #	37.5	50.8	64.0	40.2	37.4	40.5	34.4	39.9	35.8	35.7	<0.5	mg/kg	TM30/PM15
Copper #	32	32	30	29	31	31	33	30	28	32	<1	mg/kg	TM30/PM15
Lead #	16	18	25	16	18	14	15	13	15	17	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	4.0	5.1	4.3	4.4	4.5	3.5	4.0	3.8	4.4	4.3	<0.1	mg/kg	TM30/PM15
Nickel #	37.9	44.7	34.1	41.1	39.3	40.5	41.7	41.1	35.6	38.2	<0.7	mg/kg	TM30/PM15
Selenium #	<1	1	1	<1	3	<1	<1	1	1	3	<1	mg/kg	TM30/PM15
Zinc #	103	91	164	89	86	83	89	89	80	91	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	<0.03	0.05	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	97	97	99	105	101	99	85	98	97	100	<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

PLAN NO: LRD6026/2383
RECEIVED: 13/06/2023

Client Name:	Ground Investigations Ireland
Reference:	9338-12-19
Location:	Sandford Park Milltown
Contact:	Barry Sexton
EMT Job No:	20/1406

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	LOD/LOR	Units	Method No.
Sample ID	WS11	WS11	WS12	WS12	WS12	WS13	WS13	WS14	WS14	WS14			
Depth	1.70	2.20	0.70	1.70	2.50	0.70	1.40	0.70	1.70	2.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/01/2020	16/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020			
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	0.2	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	[illegible]
>C6-C10	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	0.2	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 #	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	[illegible]
Total aliphatics and aromatics(C5-40)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	[illegible]
>EC6-EC10 #	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Benzene #	<5	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Toluene #	<5	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5	<5	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
o-Xylene #	<5	26	<5	<5	<5 SV	<5	15	<5	<5	<5 SV	<5	ug/kg	TM31/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name:	Ground Investigations Ireland	**Report :**	**Solid**
Reference:	9338-12-19		
Location:	Sandford Park Milltown	**Solids:**	V=60g VOC jar, J=250g glass jar, T=plastic tub
Contact:	Barry Sexton		
EMT Job No:	20/1406		

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60			
Sample ID	WS11	WS11	WS12	WS12	WS12	WS13	WS13	WS14	WS14	WS14			
Depth	1.70	2.20	0.70	1.70	2.50	0.70	1.40	0.70	1.70	2.70	Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/01/2020	16/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	LOD/LOR	Units	Method No.
Natural Moisture Content	12.2	11.9	27.0	10.9	10.1	13.8	12.0	13.2	12.1	8.9	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	10.9	10.6	21.2	9.8	9.1	12.1	10.7	11.7	10.8	8.1	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	37.5	50.8	64.0	40.2	37.4	40.5	34.4	39.9	35.8	35.7	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.36	0.30	1.06	0.35	0.66	0.32	0.37	0.36	0.34	0.69	<0.02	%	TM21/PM24
pH #	8.57	8.65	8.29	8.43	8.67	8.58	8.62	8.55	8.53	8.42	<0.01	pH units	TM73/PM11
Mass of raw test portion	0.101	0.091	0.1107	0.099	0.099	0.0984	0.1014	0.1029	0.1007	0.0982		kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17

Client Name:	Ground Investigations Ireland
Reference:	9338-12-19
Location:	Sandford Park Milltown
Contact:	Barry Sexton
EMT Job No:	20/1406

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS10	WS11			
Depth	0.70	1.70	2.60	0.70	1.70	2.60	0.70	1.70	2.30	0.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	17/01/2020	17/01/2020	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020			
Dissolved Antimony #	<0.002	<0.002	0.002	<0.002	<0.002	<0.002	<0.002	0.002	<0.002	0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.009	<0.003	0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.09	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.020	0.015	0.030	0.004	0.013	0.027	0.005	0.013	0.015	0.005	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.20	0.15	0.30	0.04	0.13	0.27	0.05	0.13	0.15	0.05	<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	0.023	<0.003	<0.003	0.006	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	0.23	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	0.3	<0.6 AA	<1.2 AB	<0.6 AA	<0.6 AA	<0.6 AA	<0.6 AA	<0.3	<0.3	0.4	<0.3	mg/l	TM173/PM0
Fluoride	<3	<6 AA	<12 AB	<6 AA	<6 AA	<6 AA	<6 AA	<3	<3	4	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	0.9	1.0	18.7	0.7	0.6	1.4	<0.5	0.6	0.6	<0.5	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	9	10	187	7	6	14	<5	6	6	<5	<5	mg/kg	TM38/PM0
Chloride #	<0.3	<0.3	5.3	0.4	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	53	4	<3	<3	<3	<3	<3	<3	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	8.16	8.17	8.12	8.13	8.27	8.05	8.17	7.69	8.03	8.18	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	63	73	69	73	58	55	66	88	58	115	<35	mg/l	TM20/PM0
Total Dissolved Solids #	630	730	690	730	580	550	660	880	580	1151	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name:	Ground Investigations Ireland
Reference:	9338-12-19
Location:	Sandford Park Milltown
Contact:	Barry Sexton
EMT Job No:	20/1406

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60	LOD/LOR	Units	Method No.
Sample ID	WS11	WS11	WS12	WS12	WS12	WS13	WS13	WS14	WS14	WS14			
Depth	1.70	2.20	0.70	1.70	2.50	0.70	1.40	0.70	1.70	2.70			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/01/2020	16/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020			
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.014	0.015	<0.002	0.014	0.020	0.003	0.007	0.004	0.011	0.027	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.14	0.15	<0.02	0.14	0.20	0.03	0.07	0.04	0.11	0.27	<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.045	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.45	<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3	0.3	<0.3	<0.3	0.4	0.3	1.7	0.3	0.3	<0.3	mg/l	TM173/PM0
Fluoride	<3	<3	<3	<3	<3	4	<3	17	<3	3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	0.6	1.0	0.6	1.3	0.5	0.5	<0.5	0.6	1.7	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	6	10	6	13	5	<5	<5	6	17	<5	mg/kg	TM38/PM0
Chloride #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	<2	<2	10	<2	<2	<2	<2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	100	<20	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	8.23	8.15	7.64	7.65	7.74	7.77	7.73	8.63	8.13	7.90	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	55	48	<35	58	130	119	82	71	43	42	<35	mg/l	TM20/PM0
Total Dissolved Solids #	550	480	<350	580	1300	1190	820	710	430	420	<350	mg/kg	TM20/PM0

Element Materials Technology

Client Name:	Ground Investigations Ireland
Reference:	9338-12-19
Location:	Sandford Park Milltown
Contact:	Barry Sexton
EMT Job No:	20/1406

Report : EN12457_2

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS08	WS08	WS08	WS09	WS09	WS09	WS10	WS10	WS10	WS11						
Depth	0.70	1.70	2.60	0.70	1.70	2.60	0.70	1.70	2.30	0.70						
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	17/01/2020	17/01/2020	17/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020	16/01/2020						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1	1	1	1						
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020						
Solid Waste Analysis																
Total Organic Carbon #	0.44	0.36	0.69	0.38	0.40	0.69	0.37	0.37	0.49	0.39	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025 SV	<0.025	<0.025	<0.025 SV	<0.025	<0.025	0.058	<0.025	6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.09	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.20	0.15	0.30	0.04	0.13	0.27	0.05	0.13	0.15	0.05	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	0.23	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	630	730	690	730	580	550	660	880	580	1151	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.0999	0.0994	0.0983	0.1026	0.101	0.0984	0.1031	0.1014	0.1027	0.1002	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	90.1	91.0	91.7	87.7	88.8	91.5	87.5	88.7	87.8	89.6	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.89	0.891	0.892	0.887	0.889	0.892	0.887	0.888	0.887	0.89	-	-	-		l	NONE/PM17
Eluate Volume	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-	-	-		l	NONE/PM17
pH #	8.30	8.44	8.33	8.55	8.60	8.65	8.48	8.56	8.66	8.60	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<6 BA	<12 BB	<6 BA	<6 BA	<6 BA	<6 BA	<3	<3	4	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	9	10	187	7	6	14	<5	6	6	<5	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	53	4	<3	<3	<3	<3	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Milltown
Contact: Barry Sexton
EMT Job No: 20/1406

Report : EN12457_2

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	31-33	34-36	37-39	40-42	43-45	46-48	49-51	52-54	55-57	58-60						
Sample ID	WS11	WS11	WS12	WS12	WS12	WS13	WS13	WS14	WS14	WS14						
Depth	1.70	2.20	0.70	1.70	2.50	0.70	1.40	0.70	1.70	2.70						
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	16/01/2020	16/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020	17/01/2020						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1	1	1	1						
Date of Receipt	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	30/01/2020	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.36	0.30	1.06	0.35	0.66	0.32	0.37	0.36	0.34	0.69	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	0.026	<0.025	<0.025	<0.025 SV	<0.025	<0.025	<0.025	<0.025	<0.025 SV	6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.14	0.15	<0.02	0.14	0.20	0.03	0.07	0.04	0.11	0.27	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.45	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	550	480	<350	580	1300	1190	820	710	430	420	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	100	<20	<20	<20	<20	<20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.101	0.091	0.1107	0.099	0.099	0.0984	0.1014	0.1029	0.1007	0.0982	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.0	98.4	81.4	90.9	90.8	91.5	89.2	87.8	89.4	91.5	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.899	0.879	0.891	0.891	0.892	0.889	0.887	0.889	0.892	-	-	-		l	NONE/PM17
Eluate Volume	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	-	-	-		l	NONE/PM17
pH #	8.57	8.65	8.29	8.43	8.67	8.58	8.62	8.55	8.53	8.42	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3	<3	<3	<3	4	<3	17	<3	3	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	6	10	6	13	5	<5	<5	6	17	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

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All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Milltown
Contact: Barry Sexton

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
20/1406	1	WS08	0.70	1-3	No interpretation possible
20/1406	1	WS08	1.70	4-6	No interpretation possible
20/1406	1	WS08	2.60	7-9	No interpretation possible
20/1406	1	WS09	0.70	10-12	No interpretation possible
20/1406	1	WS09	1.70	13-15	No interpretation possible
20/1406	1	WS09	2.60	16-18	No interpretation possible
20/1406	1	WS10	0.70	19-21	No interpretation possible
20/1406	1	WS10	1.70	22-24	No interpretation possible
20/1406	1	WS10	2.30	25-27	No interpretation possible
20/1406	1	WS11	0.70	28-30	No interpretation possible
20/1406	1	WS11	1.70	31-33	No interpretation possible
20/1406	1	WS11	2.20	34-36	No interpretation possible
20/1406	1	WS12	0.70	37-39	No interpretation possible
20/1406	1	WS12	1.70	40-42	No interpretation possible
20/1406	1	WS12	2.50	43-45	No interpretation possible
20/1406	1	WS13	0.70	46-48	No interpretation possible
20/1406	1	WS13	1.40	49-51	No interpretation possible
20/1406	1	WS14	0.70	52-54	No interpretation possible
20/1406	1	WS14	1.70	55-57	No interpretation possible
20/1406	1	WS14	2.70	58-60	No interpretation possible

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Client Name: Ground Investigations Ireland
Reference: 19/12/9338
Location: Sandford Park Milltown
Contact: Barry Sexton

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
20/1406	1	WS08	0.70	2	31/01/2020	**General Description (Bulk Analysis)**	soil.stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS08	1.70	5	31/01/2020	**General Description (Bulk Analysis)**	soil.stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS08	2.60	8	03/02/2020	**General Description (Bulk Analysis)**	soil-stones
					03/02/2020	**Asbestos Fibres**	NAD
					03/02/2020	**Asbestos ACM**	NAD
					03/02/2020	**Asbestos Type**	NAD
					03/02/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS09	0.70	11	31/01/2020	**General Description (Bulk Analysis)**	soil-stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS09	1.70	14	31/01/2020	**General Description (Bulk Analysis)**	soil-stones
					31/01/2020	**Asbestos Fibres**	NAD
					31/01/2020	**Asbestos ACM**	NAD
					31/01/2020	**Asbestos Type**	NAD
					31/01/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS09	2.60	17	03/02/2020	**General Description (Bulk Analysis)**	soil-stones
					03/02/2020	**Asbestos Fibres**	NAD
					03/02/2020	**Asbestos ACM**	NAD
					03/02/2020	**Asbestos Type**	NAD
					03/02/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS10	0.70	20	03/02/2020	**General Description (Bulk Analysis)**	soil-stones
					03/02/2020	**Asbestos Fibres**	NAD
					03/02/2020	**Asbestos ACM**	NAD

Client Name: Ground Investigations Ireland
Reference: 19/12/9338
Location: Sandford Park Milltown
Contact: Barry Sexton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
20/1406	1	WS10	0.70	20	03/02/2020	Asbestos Type	NAD
					03/02/2020	Asbestos Level Screen	NAD
20/1406	1	WS10	1.70	23	03/02/2020	General Description (Bulk Analysis)	soil-stones
					03/02/2020	Asbestos Fibres	NAD
					03/02/2020	Asbestos ACM	NAD
					03/02/2020	Asbestos Type	NAD
					03/02/2020	Asbestos Level Screen	NAD
20/1406	1	WS10	2.30	26	03/02/2020	General Description (Bulk Analysis)	soil-stones
					03/02/2020	Asbestos Fibres	NAD
					03/02/2020	Asbestos ACM	NAD
					03/02/2020	Asbestos Type	NAD
					03/02/2020	Asbestos Level Screen	NAD
20/1406	1	WS11	0.70	29	03/02/2020	General Description (Bulk Analysis)	soil-stones
					03/02/2020	Asbestos Fibres	NAD
					03/02/2020	Asbestos ACM	NAD
					03/02/2020	Asbestos Type	NAD
					03/02/2020	Asbestos Level Screen	NAD
20/1406	1	WS11	1.70	32	03/02/2020	General Description (Bulk Analysis)	soil-stones
					03/02/2020	Asbestos Fibres	NAD
					03/02/2020	Asbestos ACM	NAD
					03/02/2020	Asbestos Type	NAD
					03/02/2020	Asbestos Level Screen	NAD
20/1406	1	WS11	2.20	35	03/02/2020	General Description (Bulk Analysis)	soil-stones
					03/02/2020	Asbestos Fibres	NAD
					03/02/2020	Asbestos ACM	NAD
					03/02/2020	Asbestos Type	NAD
					03/02/2020	Asbestos Level Screen	NAD
20/1406	1	WS12	0.70	38	03/02/2020	General Description (Bulk Analysis)	Soil/Stones
					03/02/2020	Asbestos Fibres	NAD
					03/02/2020	Asbestos ACM	NAD
					03/02/2020	Asbestos Type	NAD
					03/02/2020	Asbestos Level Screen	NAD
20/1406	1	WS12	1.70	41	03/02/2020	General Description (Bulk Analysis)	Soil/Stones
					03/02/2020	Asbestos Fibres	NAD
					03/02/2020	Asbestos ACM	NAD
					03/02/2020	Asbestos Type	NAD
					03/02/2020	Asbestos Level Screen	NAD
20/1406	1	WS12	2.50	44	03/02/2020	General Description (Bulk Analysis)	Soil/Stones
					03/02/2020	Asbestos Fibres	NAD
					03/02/2020	Asbestos ACM	NAD
					03/02/2020	Asbestos Type	NAD
					03/02/2020	Asbestos Level Screen	NAD
20/1406	1	WS13	0.70	47	03/02/2020	General Description (Bulk Analysis)	Soil/Stones
					03/02/2020	Asbestos Fibres	NAD

Client Name: Ground Investigations Ireland
Reference: 19/12/9338
Location: Sandford Park Milltown
Contact: Barry Sexton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
20/1406	1	WS13	0.70	47	03/02/2020	**Asbestos ACM**	NAD
					03/02/2020	**Asbestos Type**	NAD
					03/02/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS13	1.40	50	03/02/2020	**General Description (Bulk Analysis)**	soil.stones
					03/02/2020	**Asbestos Fibres**	NAD
					03/02/2020	**Asbestos ACM**	NAD
					03/02/2020	**Asbestos Type**	NAD
					03/02/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS14	0.70	53	03/02/2020	**General Description (Bulk Analysis)**	soil.stones
					03/02/2020	**Asbestos Fibres**	NAD
					03/02/2020	**Asbestos ACM**	NAD
					03/02/2020	**Asbestos Type**	NAD
					03/02/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS14	1.70	56	03/02/2020	**General Description (Bulk Analysis)**	soil-stones
					03/02/2020	**Asbestos Fibres**	NAD
					03/02/2020	**Asbestos ACM**	NAD
					03/02/2020	**Asbestos Type**	NAD
					03/02/2020	**Asbestos Level Screen**	NAD
20/1406	1	WS14	2.70	59	03/02/2020	**General Description (Bulk Analysis)**	soil-stones
					03/02/2020	**Asbestos Fibres**	NAD
					03/02/2020	**Asbestos ACM**	NAD
					03/02/2020	**Asbestos Type**	NAD
					03/02/2020	**Asbestos Level Screen**	NAD

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Notification of Deviating Samples

Matrix : Solid

Client Name: Ground Investigations Ireland
Reference: 9338-12-19
Location: Sandford Park Milltown
Contact: Barry Sexton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
20/1406	1	WS08	0.70	1-3	EPH	Sample holding time exceeded
20/1406	1	WS08	1.70	4-6	EPH	Sample holding time exceeded
20/1406	1	WS08	2.60	7-9	EPH, GRO	Sample holding time exceeded
20/1406	1	WS09	0.70	10-12	EPH	Sample holding time exceeded
20/1406	1	WS09	1.70	13-15	EPH	Sample holding time exceeded
20/1406	1	WS09	2.60	16-18	EPH, GRO	Sample holding time exceeded
20/1406	1	WS10	0.70	19-21	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS10	1.70	22-24	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS10	2.30	25-27	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS11	0.70	28-30	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS11	1.70	31-33	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS11	2.20	34-36	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS12	0.70	37-39	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS12	1.70	40-42	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS12	2.50	43-45	EPH, GRO, PAH, PCB	Sample holding time exceeded
20/1406	1	WS13	0.70	46-48	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS13	1.40	49-51	EPH	Sample holding time exceeded
20/1406	1	WS14	0.70	52-54	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS14	1.70	55-57	EPH, PAH, PCB	Sample holding time exceeded
20/1406	1	WS14	2.70	58-60	EPH, GRO, PAH, PCB	Sample holding time exceeded

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

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NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 20/1406

SOILS

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.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.