



IT13



IT13



IT14



IT14



IT15



IT15



IT16



IT16



IT17



IT17



IT18



IT18



IT19



IT19



IT20



IT20



IT21



IT21



IT22



IT22



IT23



IT23



IT24



IT24



IT25



IT25w

APPENDIX 3 – Dynamic Probe Records





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Site Oranmore	Probe Number DP01
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

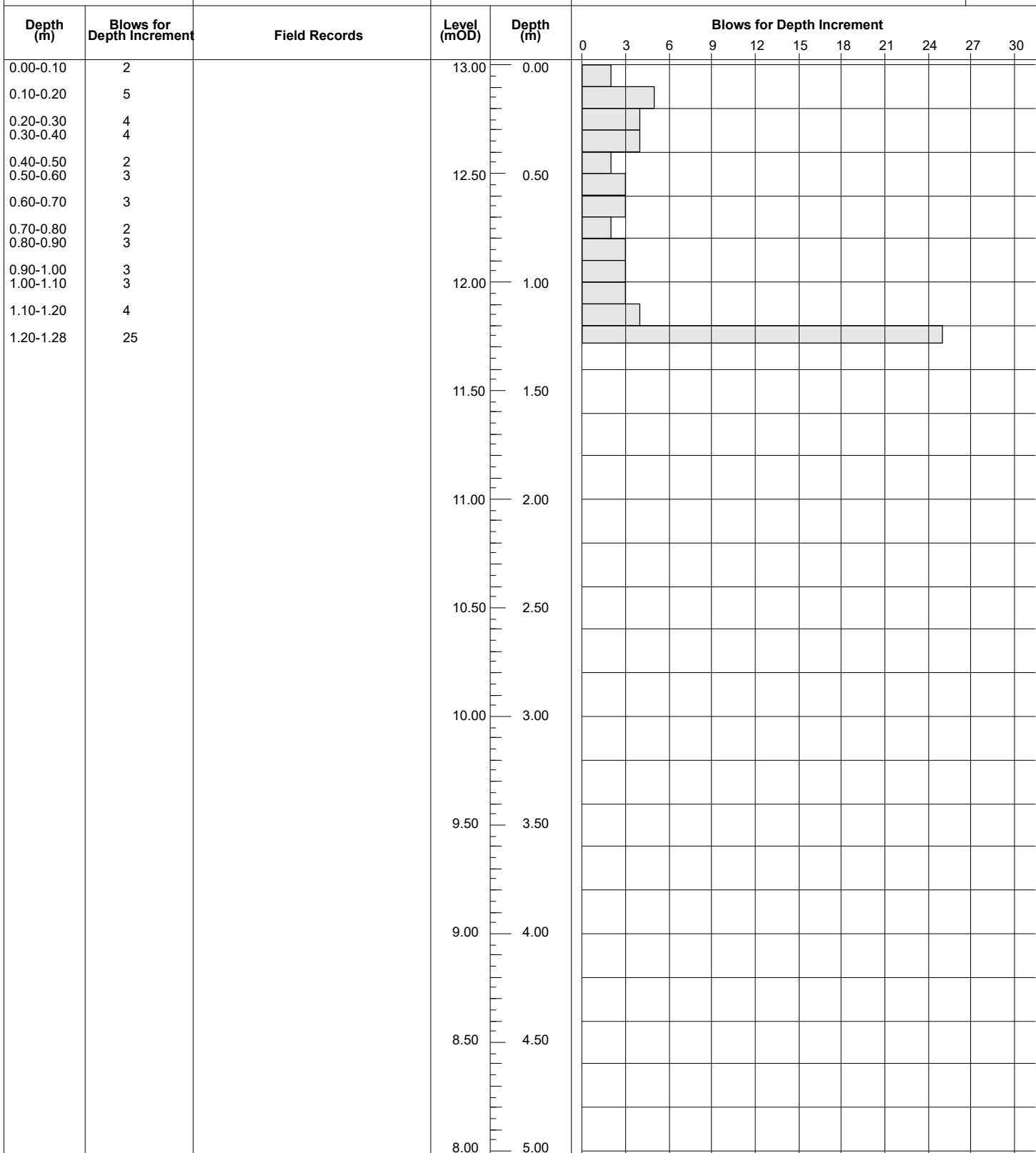
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
13.00

Location
536233.8 E 725259.6 N

Dates
25/10/2023



Remarks	Scale (approx) 1:25	Logged By LB
	Figure No. 13188-09-23.DP01	



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Site Oranmore	Probe Number DP02
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

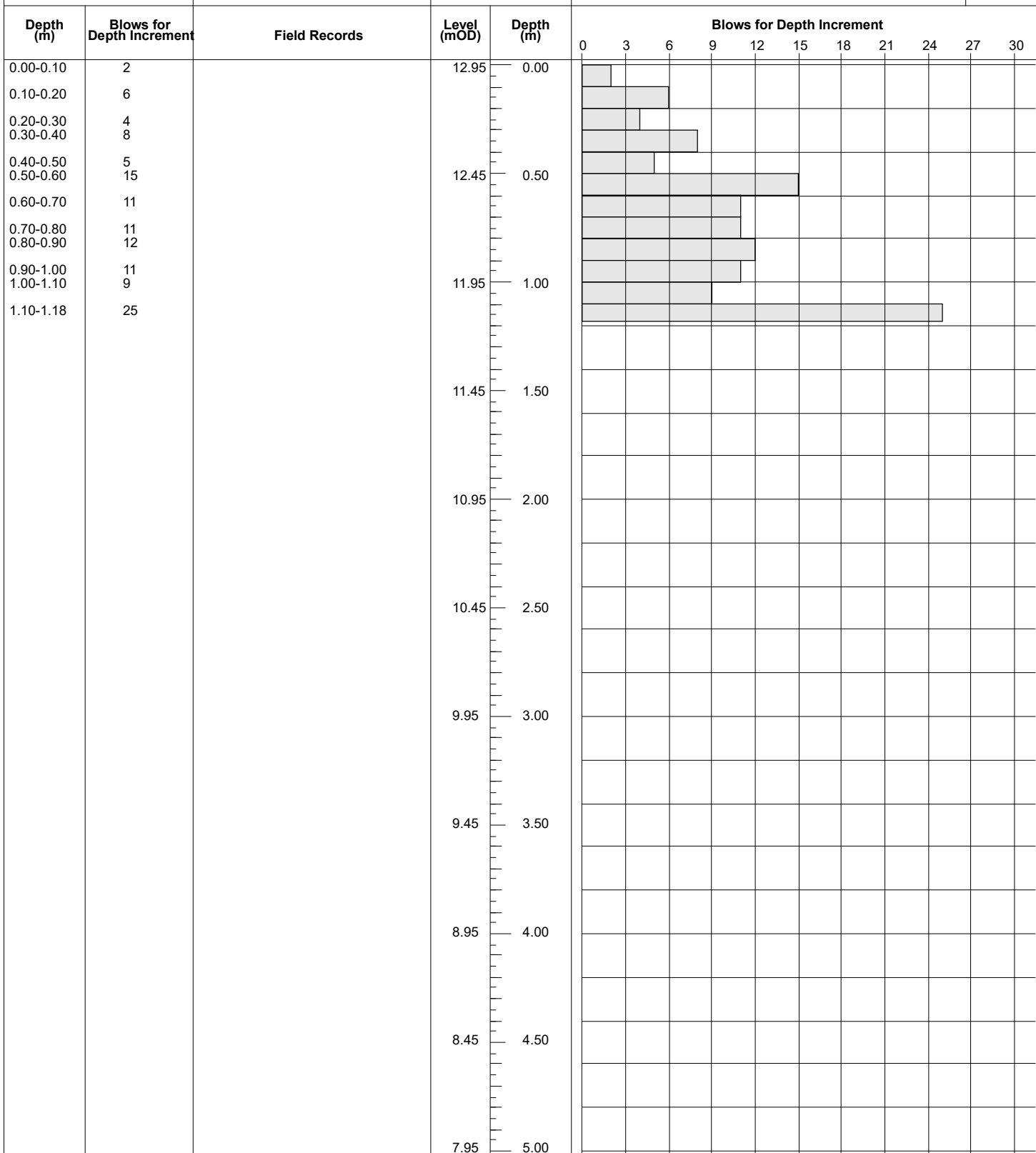
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
12.95

Location
536235.3 E 725221.8 N

Dates
25/10/2023



Remarks	Scale (approx)	Logged By
	1:25	LB
	Figure No. 13188-09-23.DP01	



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Site Oranmore	Probe Number DP03
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

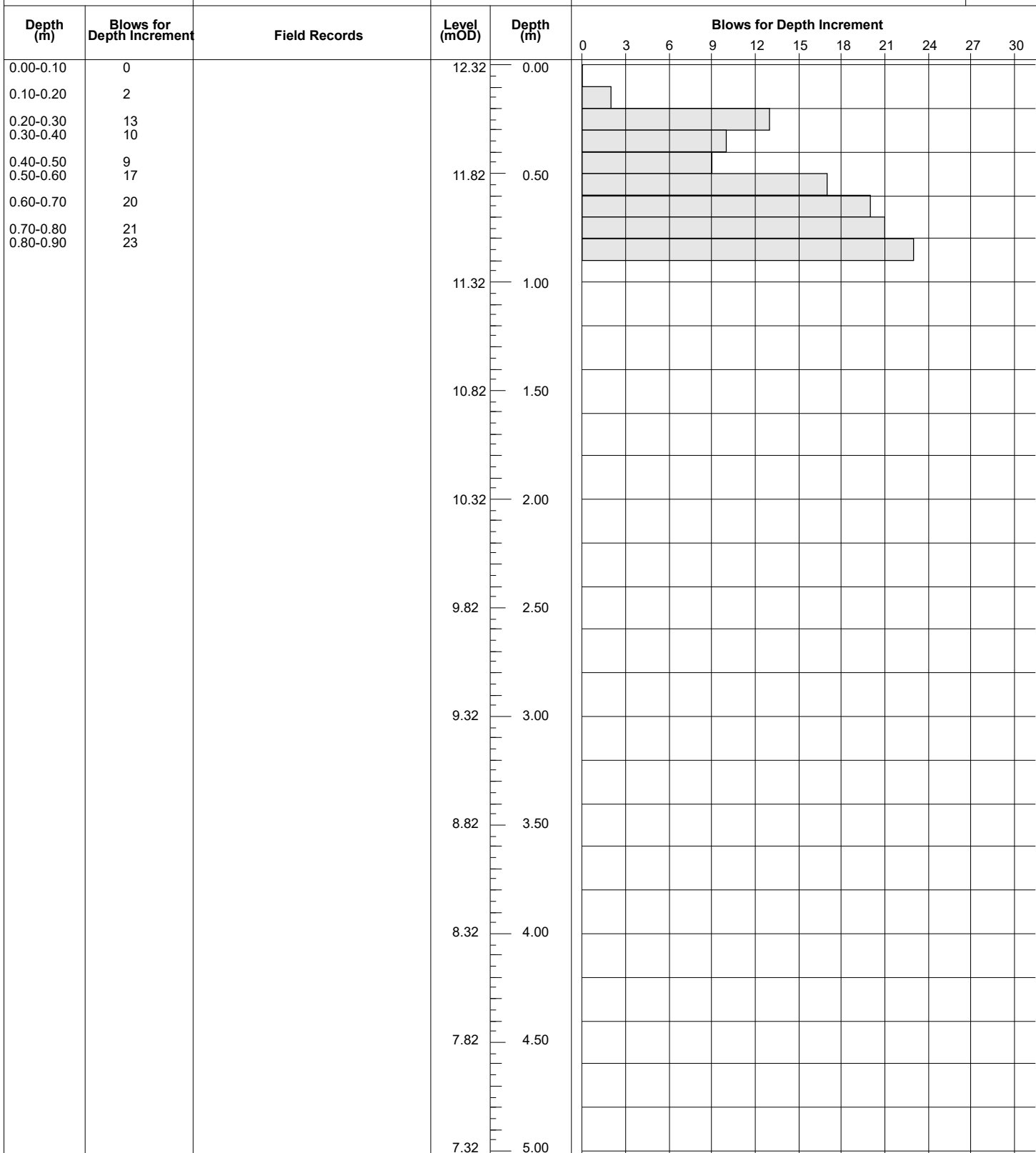
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
12.32

Location
536257.9 E 725271.9 N

Dates
25/10/2023



Remarks	Scale (approx)	Logged By
	1:25	LB
	Figure No. 13188-09-23.DP01	



Ground Investigations Ireland Ltd
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Site Oranmore	Probe Number DP04
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
12.03

Location
536258.4 E 725225.9 N

Dates
25/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	0		12.03	0.00	
0.10-0.20	0				
0.20-0.30	2				
0.30-0.40	2				
0.40-0.50	2				
0.50-0.60	6		11.53	0.50	
0.60-0.70	29				
0.70-0.74	25				
			11.03	1.00	
			10.53	1.50	
			10.03	2.00	
			9.53	2.50	
			9.03	3.00	
			8.53	3.50	
			8.03	4.00	
			7.53	4.50	
			7.03	5.00	

Remarks	Scale (approx) 1:25	Logged By LB
	Figure No. 13188-09-23.DP01	



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Site Oranmore	Probe Number DP05
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

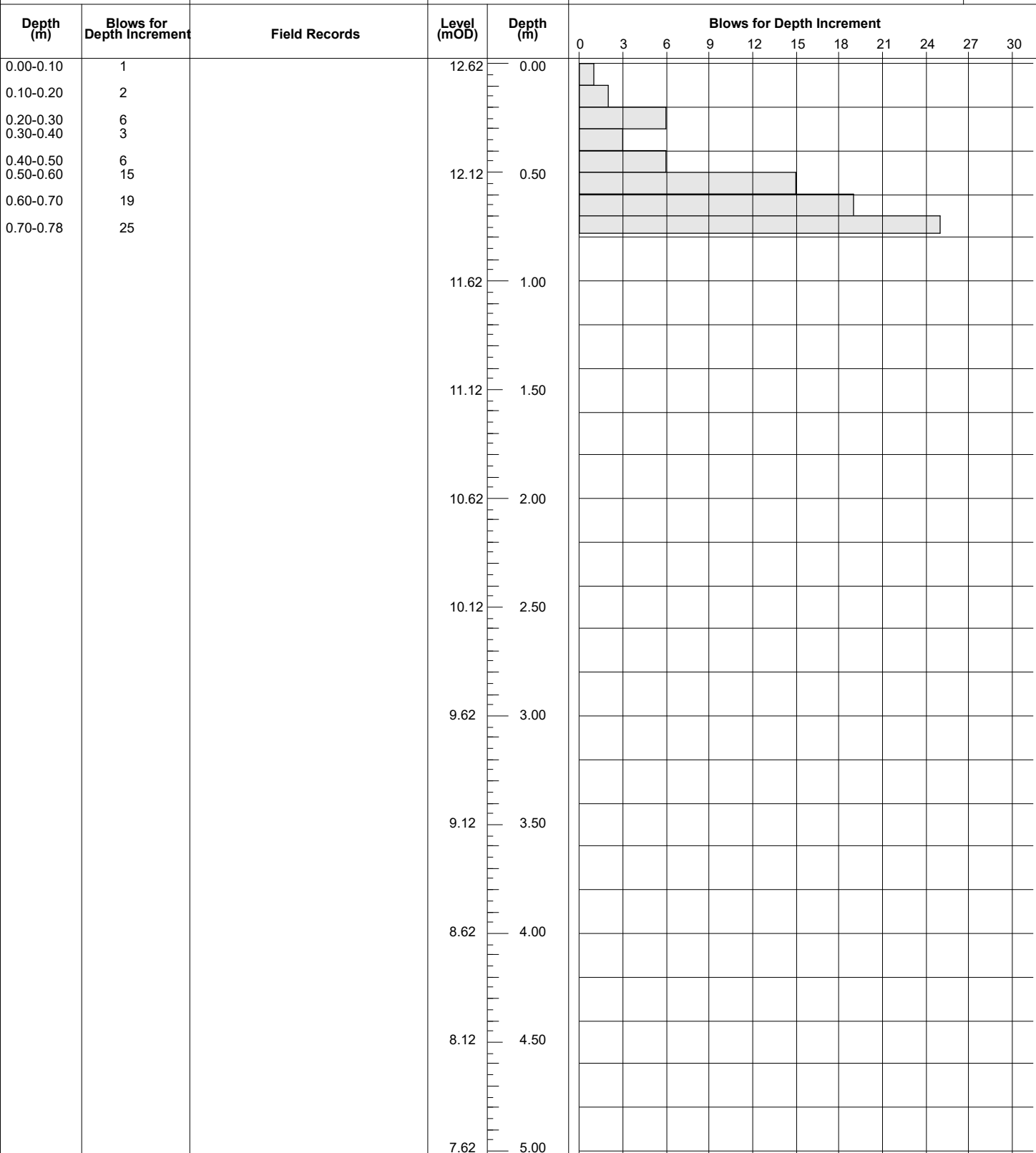
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
12.62

Location
536280.1 E 725274.9 N

Dates
24/10/2023



Remarks	Scale (approx) 1:25	Logged By LB
	Figure No. 13188-09-23.DP01	



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Site Oranmore	Probe Number DP06
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
11.43

Location
536283.1 E 725235.3 N

Dates
25/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment												
					0	3	6	9	12	15	18	21	24	27	30		
0.00-0.10	1		11.43	0.00													
0.10-0.20	1																
0.20-0.20	25																
			10.93	0.50													
			10.43	1.00													
			9.93	1.50													
			9.43	2.00													
			8.93	2.50													
			8.43	3.00													
			7.93	3.50													
			7.43	4.00													
			6.93	4.50													
			6.43	5.00													

Remarks	Scale (approx)	Logged By
	1:25	LB
	Figure No. 13188-09-23.DP06	



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Site
Oranmore

Probe Number
DP06A

Method Dynamic Probe Heavy (DPH) Hammer Drop Height 500mm Hammer Weight 50kg	Cone Dimensions Diameter 43.7mm, Angle 90°	Ground Level (mOD) 11.43	Client Marshall Yards Company Ltd	Job Number 13188-09-23
	Location 536283.1 E 725235.3 N	Dates 25/10/2023	Engineer AKM Design	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment									
					0	4	8	12	16	20	24	28	32	36
0.00-0.10	2		11.43	0.00										
0.10-0.20	2													
0.20-0.30	2													
0.30-0.40	10													
0.40-0.50	17													
0.50-0.60	9		10.93	0.50										
0.60-0.70	31													
0.70-0.78	25													
			10.43	1.00										
			9.93	1.50										
			9.43	2.00										
			8.93	2.50										
		8.43	3.00											
		7.93	3.50											
		7.43	4.00											
		6.93	4.50											
		6.43	5.00											

Remarks

Scale (approx) 1:25
Logged By LB
Figure No. 13188-09-23.DP06



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Site Oranmore	Probe Number DP07
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

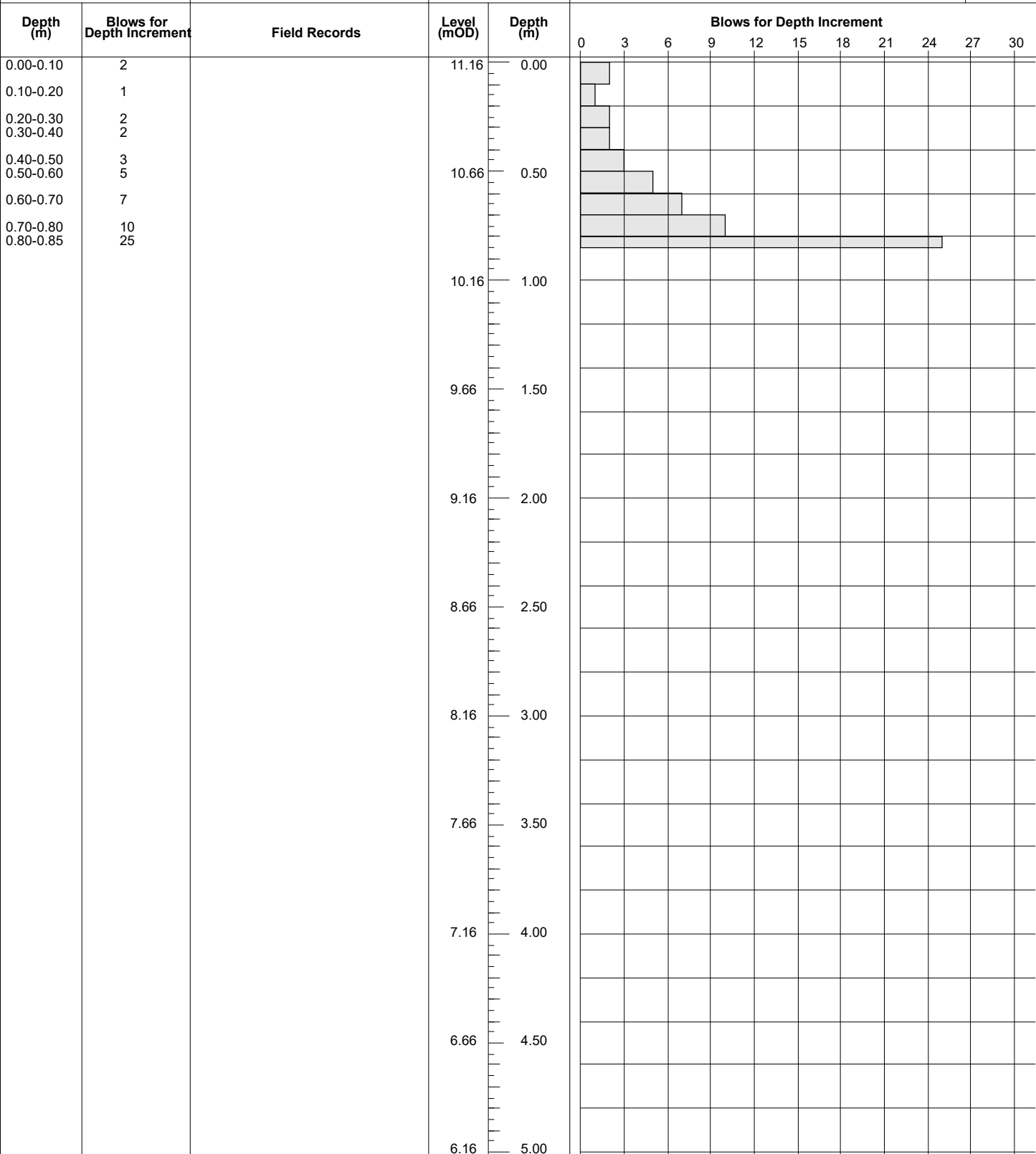
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
11.16

Location
536280.7 E 725217.8 N

Dates
25/10/2023



Remarks	Scale (approx)	Logged By
	1:25	LB
	Figure No. 13188-09-23.DP06	



Ground Investigations Ireland Ltd
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Site Oranmore	Probe Number DP08
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
11.59

Location
536336.9 E 725260.4 N

Dates
25/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		11.59	0.00	0 3 6 9 12 15 18 21 24 27 30
0.10-0.20	5				
0.20-0.20	25				
			11.09	0.50	
			10.59	1.00	
			10.09	1.50	
			9.59	2.00	
			9.09	2.50	
			8.59	3.00	
			8.09	3.50	
			7.59	4.00	
			7.09	4.50	
			6.59	5.00	

Remarks	Scale (approx) 1:25	Logged By LB
	Figure No. 13188-09-23.DP06	



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Site
Oranmore

Probe Number
DP08A

Method Dynamic Probe Heavy (DPH) Hammer Drop Height 500mm Hammer Weight 50kg	Cone Dimensions Diameter 43.7mm, Angle 90°	Ground Level (mOD) 11.59	Client Marshall Yards Company Ltd	Job Number 13188-09-23
	Location 536336.9 E 725260.4 N	Dates 25/10/2023	Engineer AKM Design	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment												
					0	3	6	9	12	15	18	21	24	27	30		
0.00-0.10	2		11.59	0.00													
0.10-0.20	8																
0.20-0.30	7																
0.30-0.40	12																
0.40-0.50	17																
0.50-0.60	20		11.09	0.50													
0.60-0.65	25																
			10.59	1.00													
			10.09	1.50													
			9.59	2.00													
			9.09	2.50													
			8.59	3.00													
			8.09	3.50													
			7.59	4.00													
			7.09	4.50													
			6.59	5.00													

Remarks

Scale (approx) 1:25
Logged By LB
Figure No. 13188-09-23.DP06



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Site Oranmore	Probe Number DP09
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

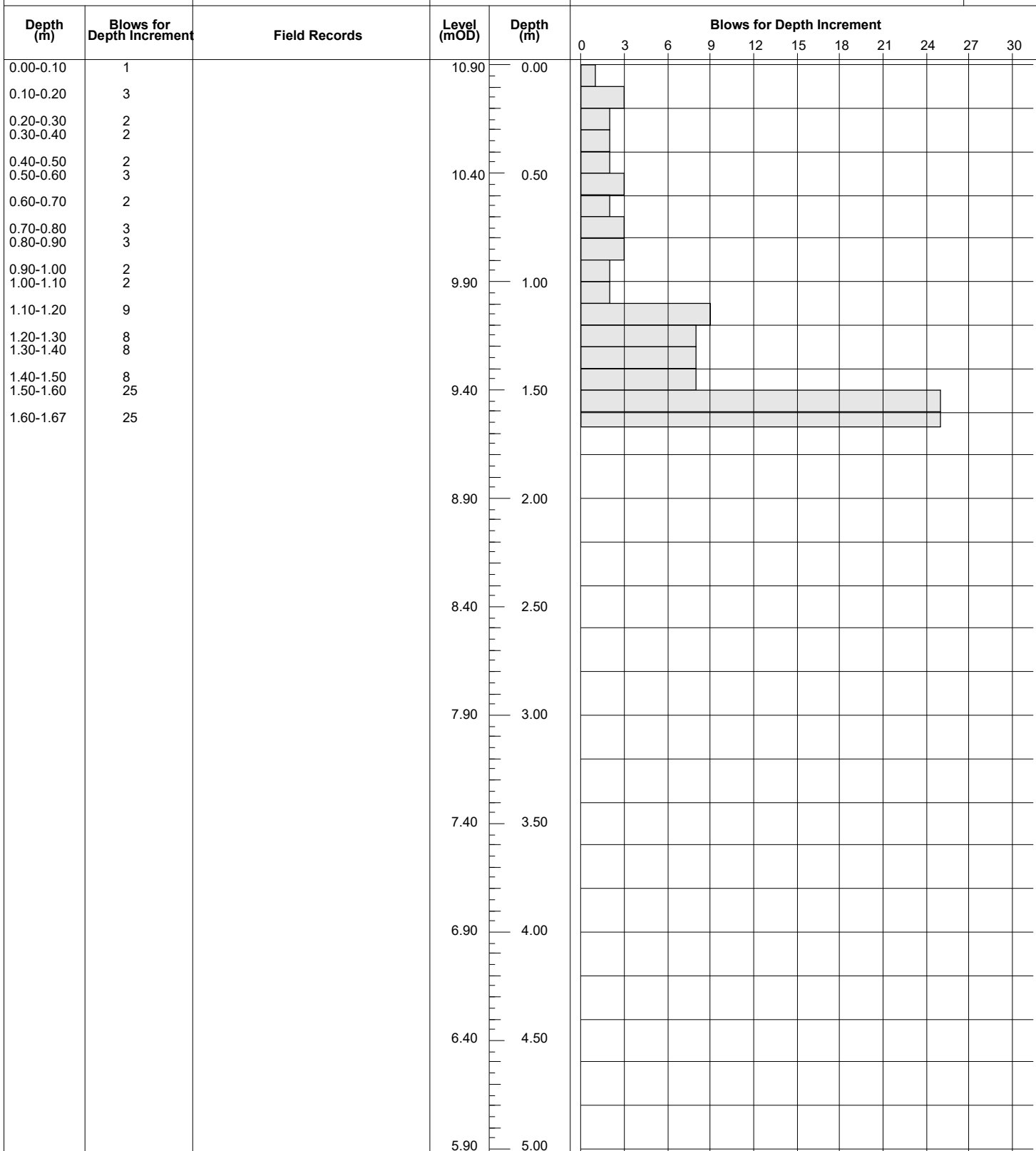
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
10.90

Location
536350.9 E 725264.3 N

Dates
25/10/2023



Remarks

Scale (approx) 1:25
Logged By LB
Figure No. 13188-09-23.DP06



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Site Oranmore	Probe Number DP10
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
10.33

Location
536336.6 E 725239.6 N

Dates
25/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	0		10.33	0.00	
0.10-0.20	1				
0.20-0.30	3				
0.30-0.40	8				
0.40-0.50	15				
0.50-0.60	14		9.83	0.50	
0.60-0.70	12				
0.70-0.80	24				
0.80-0.89	25				
			9.33	1.00	
			8.83	1.50	
			8.33	2.00	
			7.83	2.50	
			7.33	3.00	
			6.83	3.50	
			6.33	4.00	
			5.83	4.50	
			5.33	5.00	
			4.83	5.50	
			4.33	6.00	
			3.83	6.50	
			3.33	7.00	
			2.83	7.50	
			2.33	8.00	

Remarks

Scale (approx)
1:40

Logged By
LB

Figure No.
13188-09-23.DP06



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Site Oranmore	Probe Number DP11
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

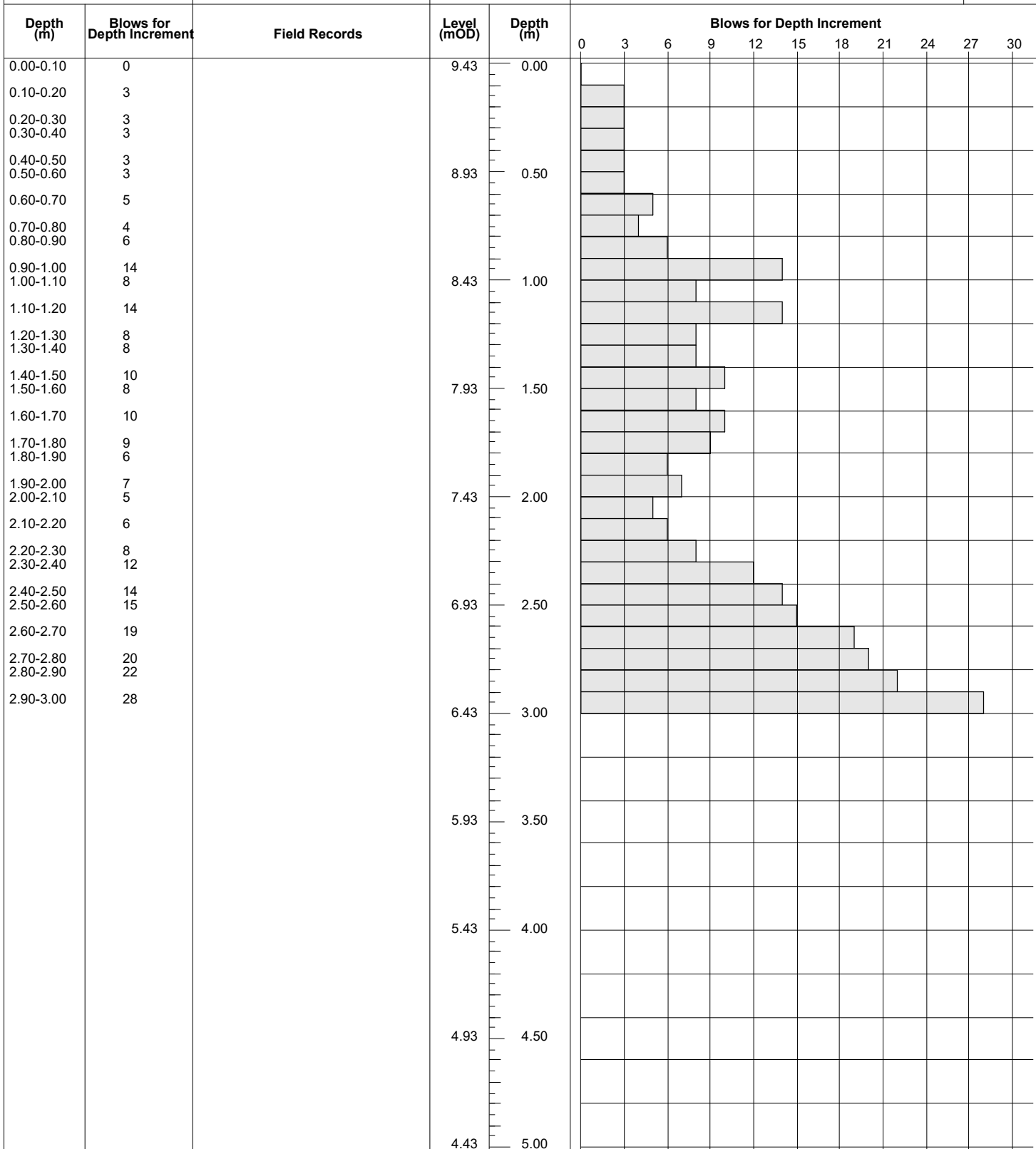
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
9.43

Location
536359.1 E 725239.2 N

Dates
25/10/2023



Remarks

Scale (approx)
1:25

Logged By
LB

Figure No.
13188-09-23.DP11

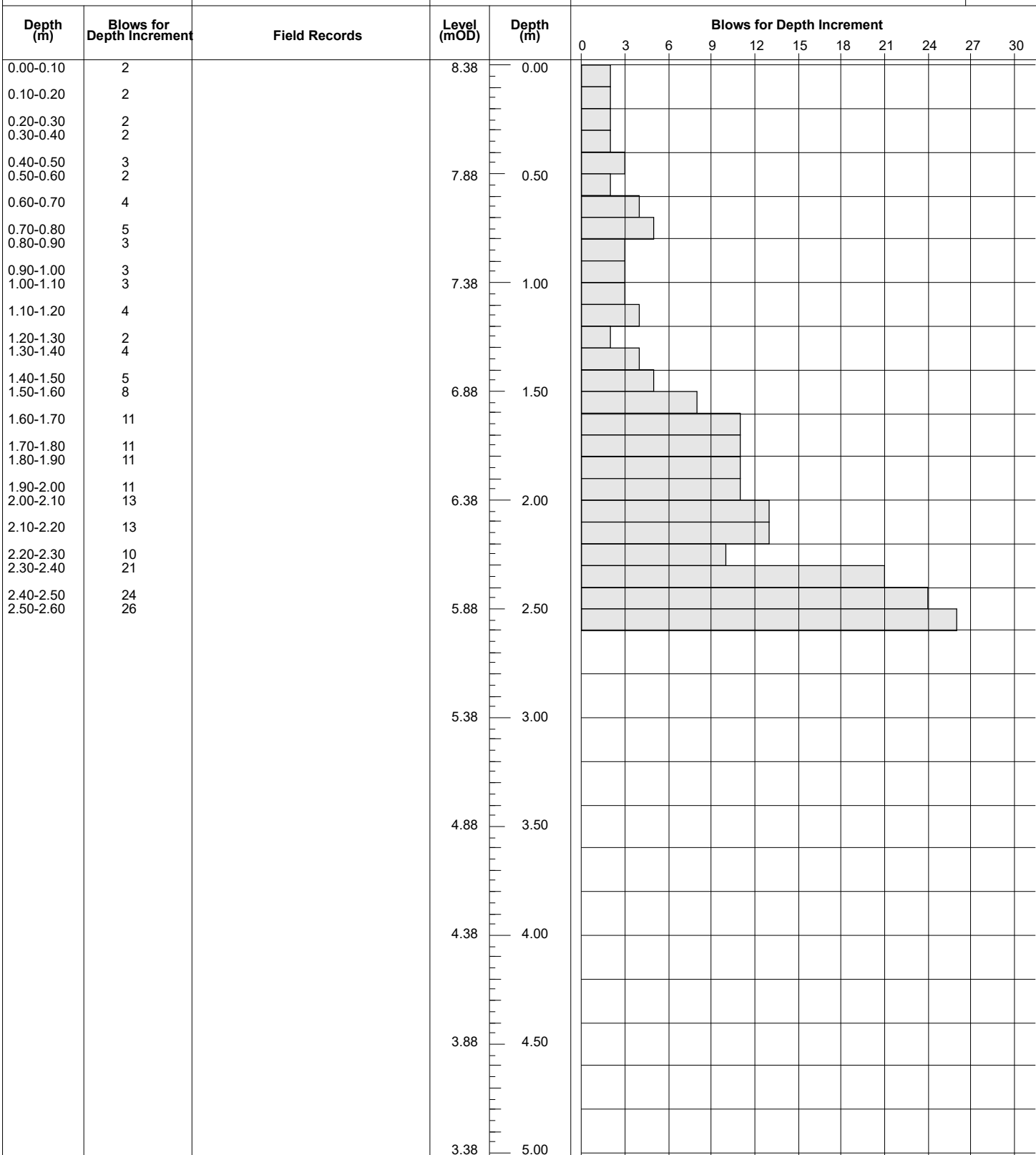


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Site
Oranmore

Probe Number
DP12

Method Dynamic Probe Heavy (DPH) Hammer Drop Height 500mm Hammer Weight 50kg	Cone Dimensions Diameter 43.7mm, Angle 90°	Ground Level (mOD) 8.38	Client Marshall Yards Company Ltd	Job Number 13188-09-23
	Location 536356.3 E 725211.1 N	Dates 25/10/2023	Engineer AKM Design	Sheet 1/1



Remarks

Scale (approx) 1:25
Logged By LB
Figure No. 13188-09-23.DP06



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Site Oranmore	Probe Number DP13
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

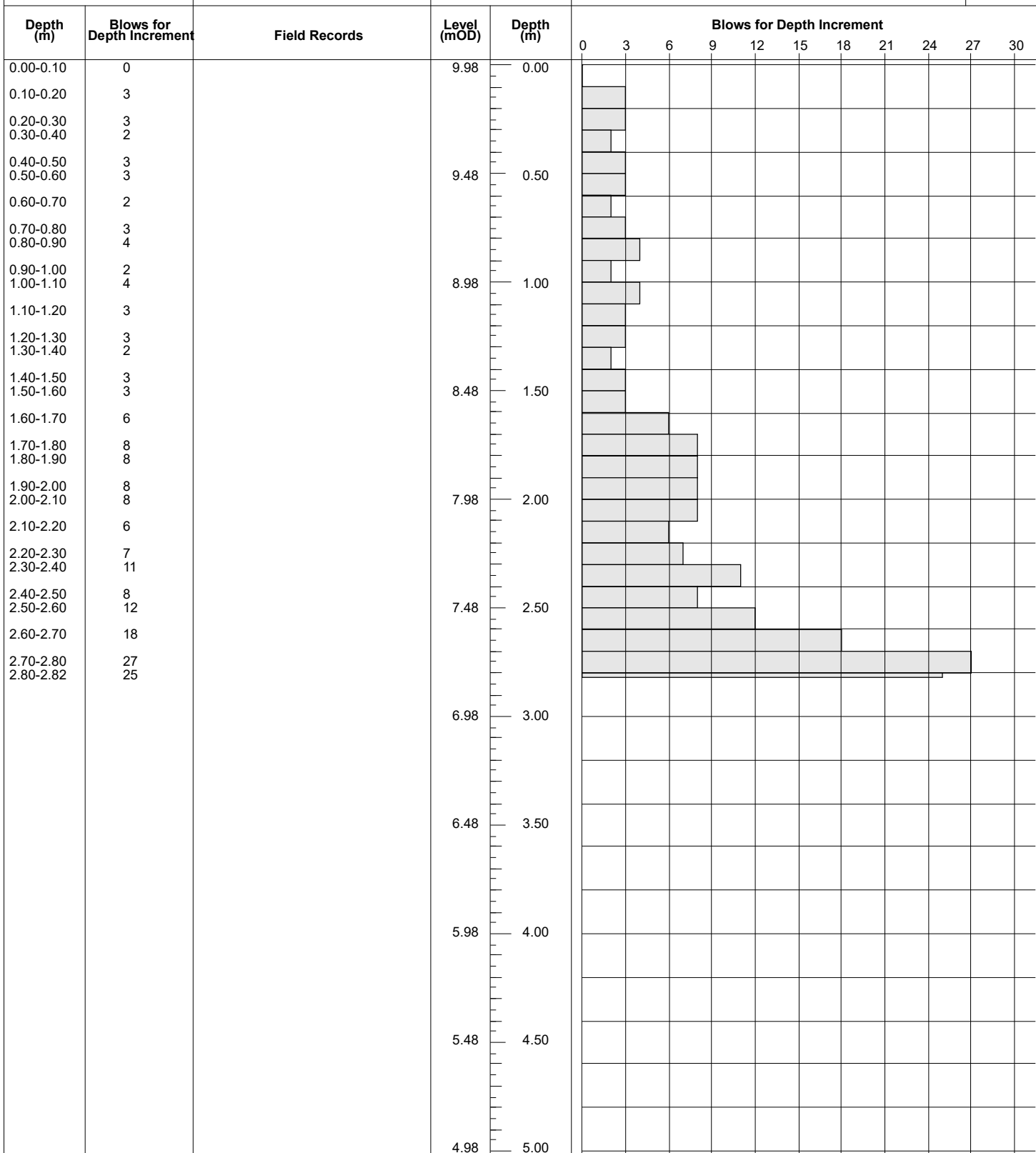
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
9.98

Location
536399.8 E 725288.6 N

Dates
24/10/2023



Remarks	Scale (approx) 1:25	Logged By LB
	Figure No. 13188-09-23.DP11	



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Site Oranmore	Probe Number DP14
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
9.37

Location
536414.5 E 725287.9 N

Dates
24/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		9.37	0.00	0 3 6 9 12 15 18 21 24 27 30
0.10-0.20	3				
0.20-0.30	6				
0.30-0.30	25				
			8.87	0.50	
			8.37	1.00	
			7.87	1.50	
			7.37	2.00	
			6.87	2.50	
			6.37	3.00	
			5.87	3.50	
			5.37	4.00	
			4.87	4.50	
			4.37	5.00	

Remarks	Scale (approx) 1:25	Logged By LB
	Figure No. 13188-09-23.DP11	



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Site Oranmore	Probe Number DP14A
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Drop Height 500mm Hammer Weight 50kg	Cone Dimensions Diameter 43.7mm, Angle 90°	Ground Level (mOD) 9.37
	Location 536414.5 E 725287.9 N	Dates 24/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		9.37	0.00	
0.10-0.20	2				
0.20-0.30	6				
0.30-0.40	14				
0.40-0.50	9				
0.50-0.60	20		8.87	0.50	
0.60-0.70	20				
0.70-0.80	9				
0.80-0.90	6				
0.90-1.00	3				
1.00-1.10	3		8.37	1.00	
1.10-1.20	2				
1.20-1.30	4				
1.30-1.40	3				
1.40-1.50	3				
1.50-1.60	7		7.87	1.50	
1.60-1.70	4				
1.70-1.80	5				
1.80-1.90	8				
1.90-2.00	6				
2.00-2.10	6		7.37	2.00	
2.10-2.20	11				
2.20-2.30	14				
2.30-2.40	14				
2.40-2.50	14				
2.50-2.60	18		6.87	2.50	
2.60-2.70	15				
2.70-2.80	17				
2.80-2.82	25				
			6.37	3.00	
			5.87	3.50	
			5.37	4.00	
			4.87	4.50	
			4.37	5.00	

Remarks	Scale (approx) 1:25	Logged By AM
	Figure No. 13188-09-23.DP11	



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Site Oranmore	Probe Number DP15
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
8.08

Location
536402.6 E 725245.1 N

Dates
24/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		8.08	0.00	0 3 6 9 12 15 18 21 24 27 30
0.10-0.20	3				
0.20-0.30	4				
0.30-0.40	7				
0.40-0.40	25				
			7.58	0.50	
			7.08	1.00	
			6.58	1.50	
			6.08	2.00	
			5.58	2.50	
			5.08	3.00	
			4.58	3.50	
			4.08	4.00	
			3.58	4.50	
			3.08	5.00	

Remarks	Scale (approx) 1:25	Logged By AM
	Figure No. 13188-09-23.DP15	

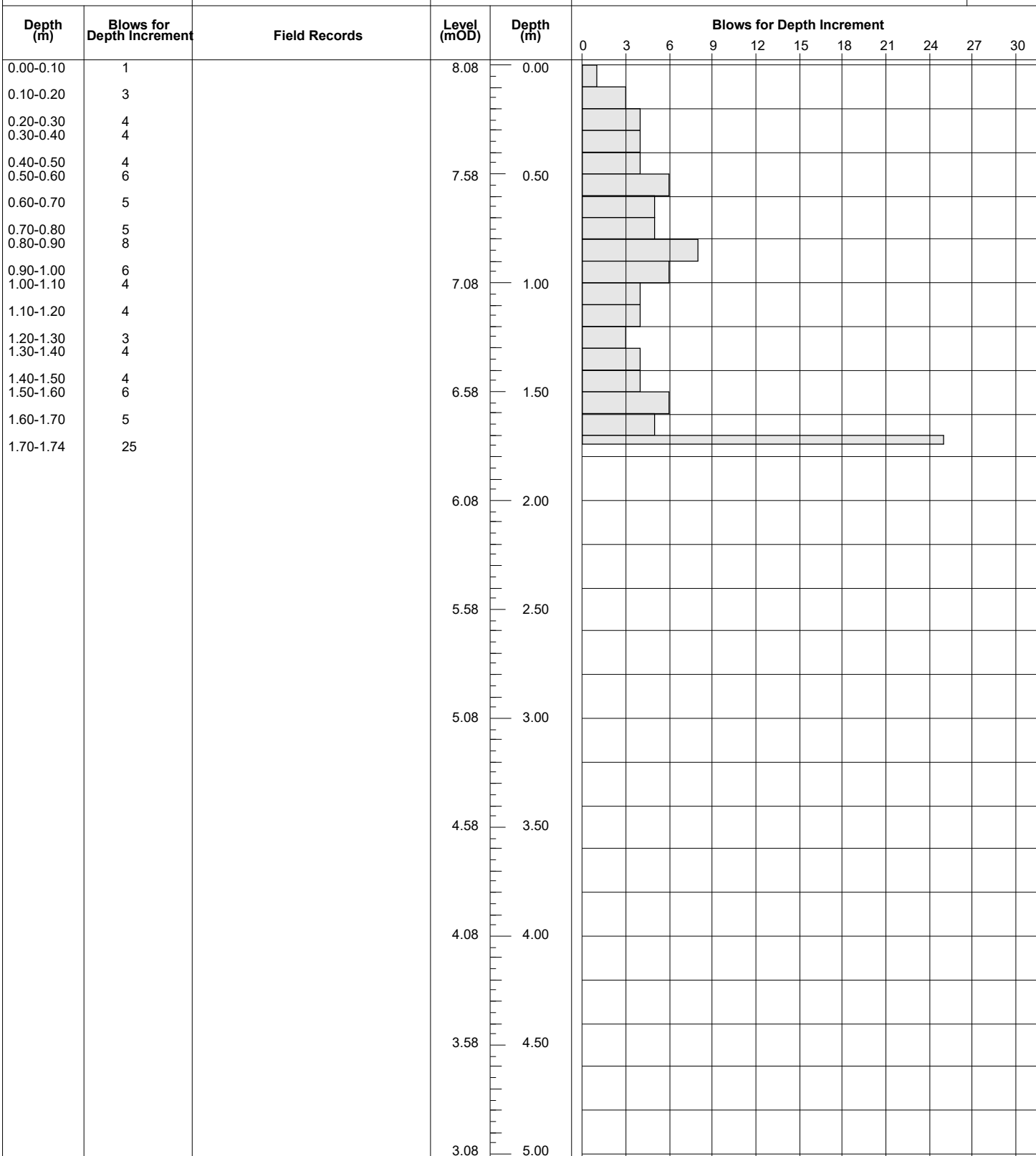


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Site
Oranmore

Probe Number
DP15A

Method Dynamic Probe Heavy (DPH) Hammer Drop Height 500mm Hammer Weight 50kg	Cone Dimensions Diameter 43.7mm, Angle 90°	Ground Level (mOD) 8.08	Client Marshall Yards Company Ltd	Job Number 13188-09-23
	Location 536402.6 E 725245.1 N	Dates 24/10/2023	Engineer AKM Design	Sheet 1/1



Remarks

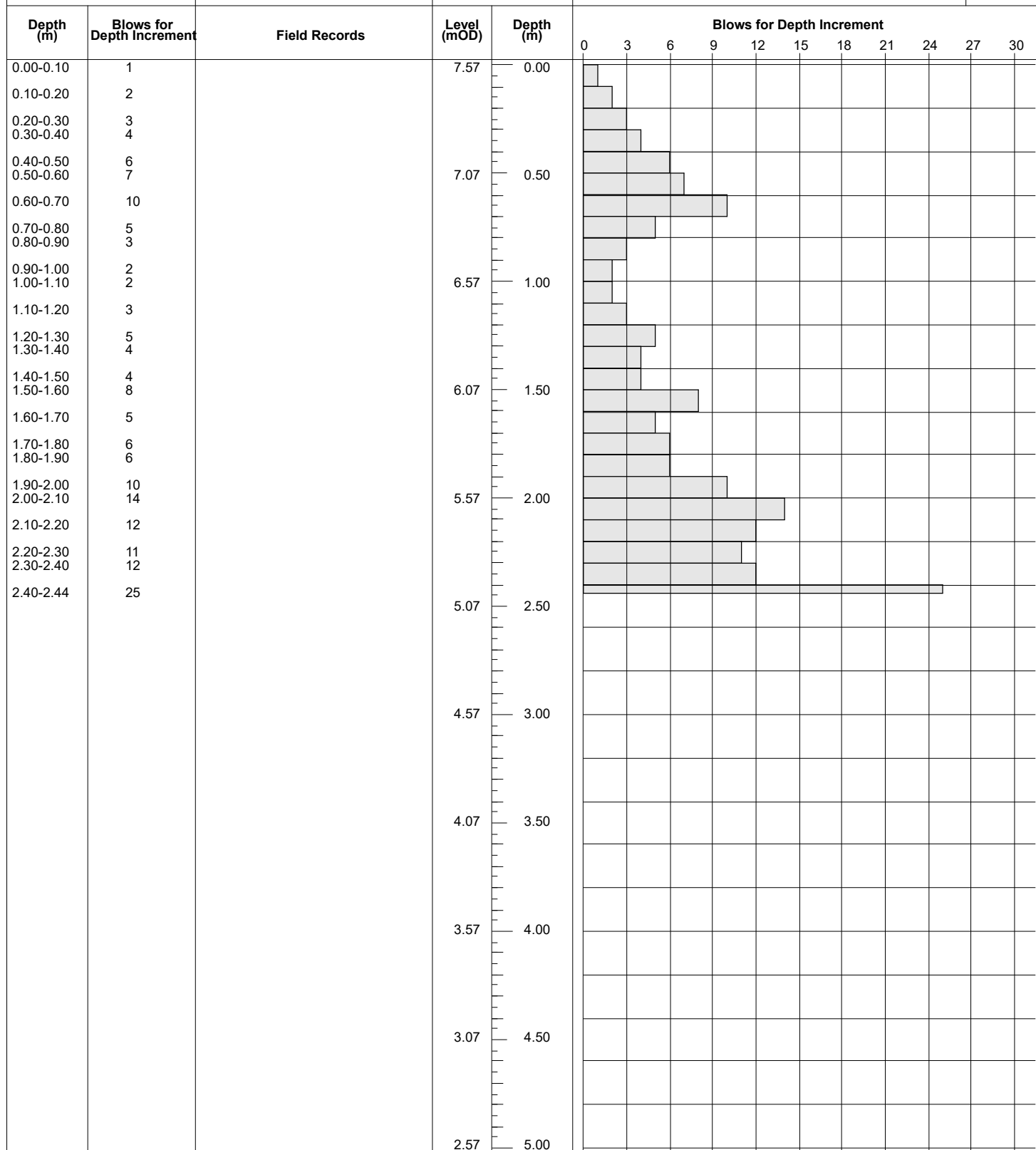
Scale (approx) 1:25
Logged By AM
Figure No. 13188-09-23.DP15A



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Site	Oranmore	Probe Number	DP16
Method	Dynamic Probe Heavy (DPH) Hammer Drop Height 500mm Hammer Weight 50kg	Cone Dimensions	Diameter 43.7mm, Angle 90°
Ground Level (mOD)	7.57	Client	Marshall Yards Company Ltd
Location	536413.4 E 725245.6 N	Dates	24/10/2023
Engineer	AKM Design	Job Number	13188-09-23
Sheet	1/1		



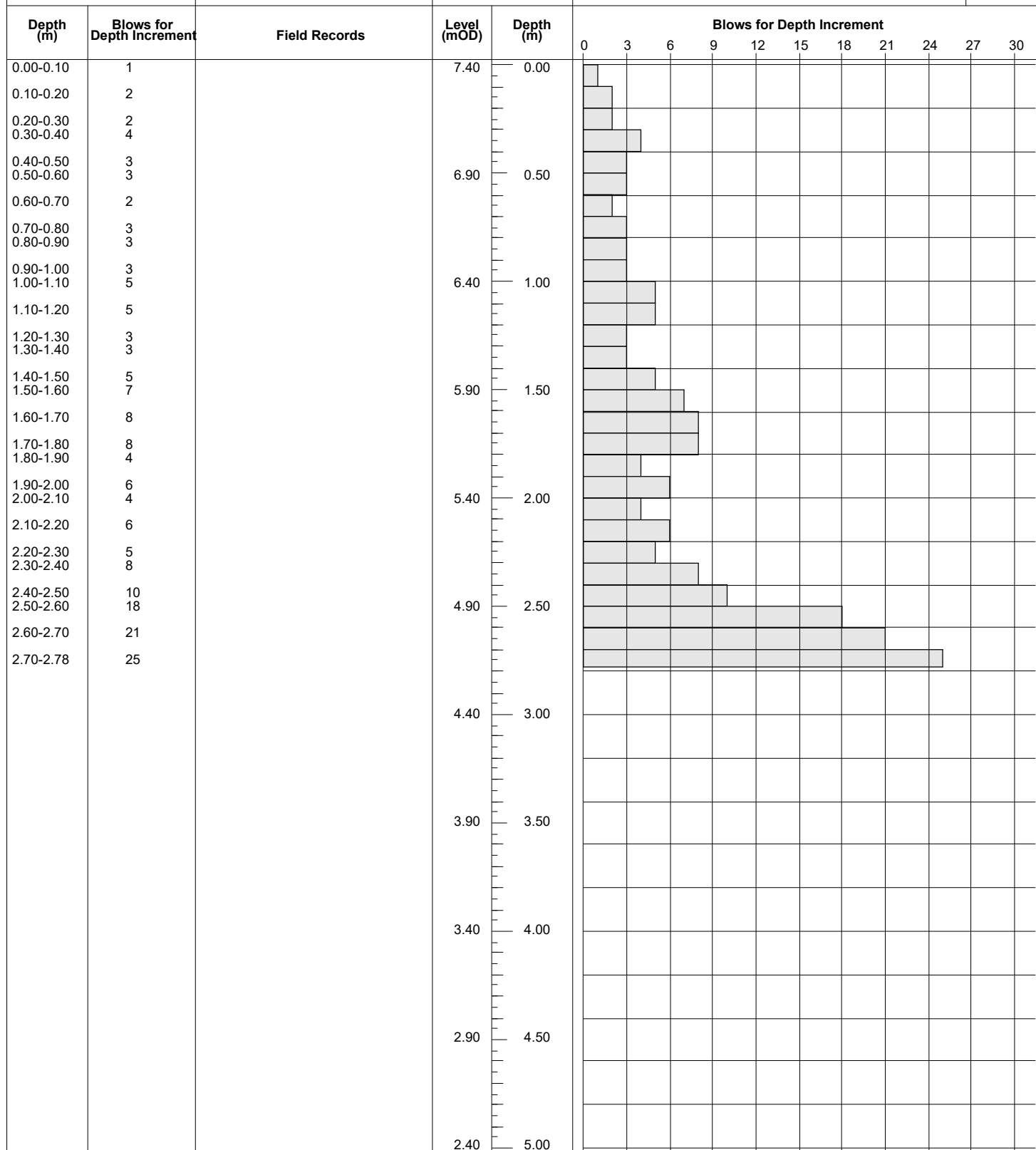
Remarks	Scale (approx)	Logged By
	1:25	AM
	Figure No.	
	13188-09-23.DP16	



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Site	Oranmore	Probe Number	DP17
Method	Dynamic Probe Heavy (DPH) Hammer Drop Height 500mm Hammer Weight 50kg	Cone Dimensions	Diameter 43.7mm, Angle 90°
Ground Level (mOD)	7.40	Client	Marshall Yards Company Ltd
Location	536407.9 E 725227.4 N	Dates	24/10/2023
Engineer	AKM Design	Job Number	13188-09-23
Sheet	1/1		



Remarks	Scale (approx)	Logged By
	1:25	AM
	Figure No.	
	13188-09-23.DP17	



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Site Oranmore	Probe Number DP18
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

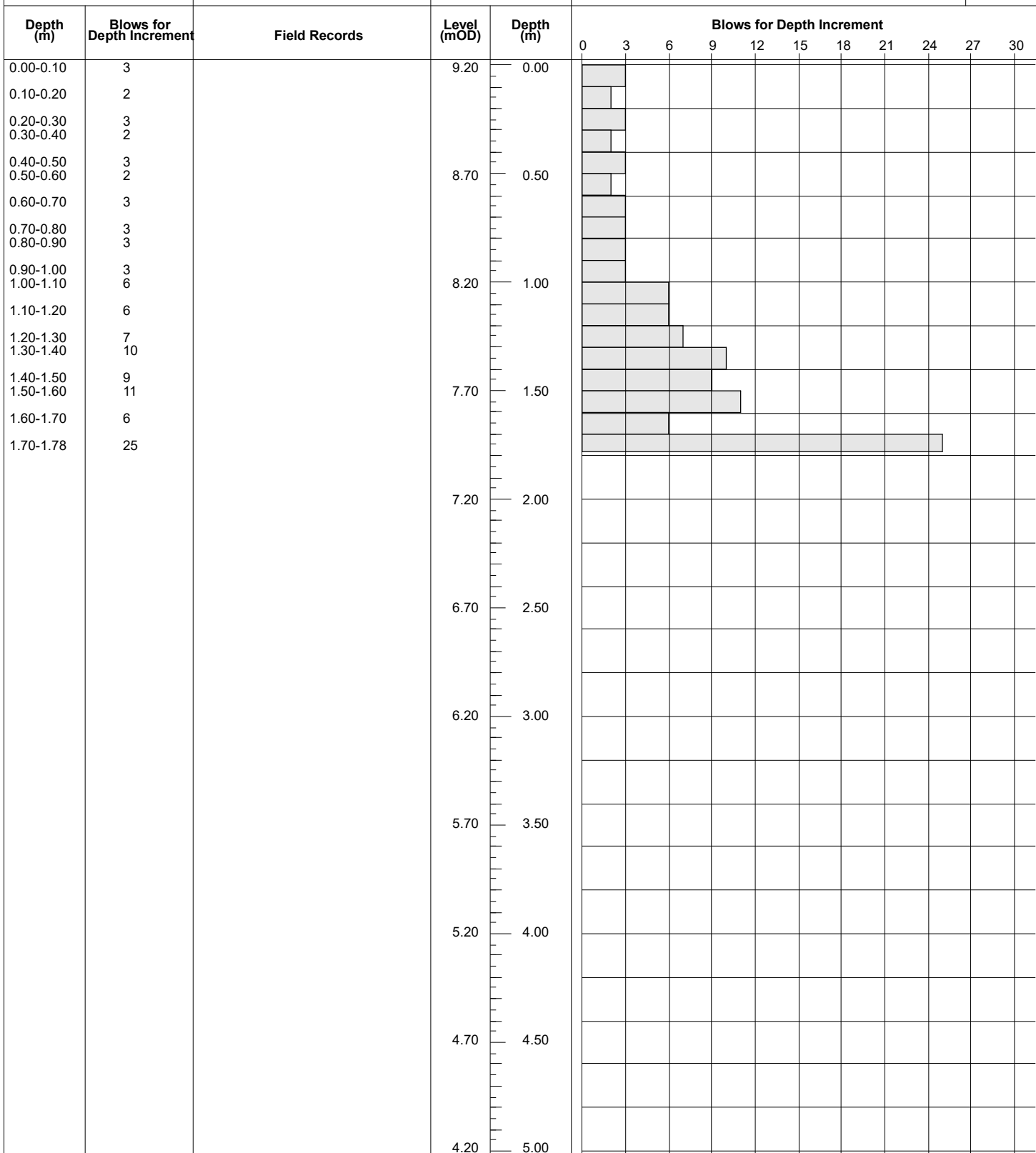
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
9.20

Location
536439.7 E 725301.8 N

Dates
24/10/2023



Remarks	Scale (approx) 1:25	Logged By AM
	Figure No. 13188-09-23.DP18	



Probe Number
DP19

Job Number 13188-09-23

Sheet
1/1

Remarks	Scale (approx)	Logged By
	1:25	AM
	Figure No. 13188-09-23.DP15	



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Site Oranmore	Probe Number DP20
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
8.10

Location
536457.5 E 725288.3 N

Dates
24/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		8.10	0.00	
0.10-0.20	3				
0.20-0.30	2				
0.30-0.40	2				
0.40-0.50	4				
0.50-0.55	25		7.60	0.50	
			7.10	1.00	
			6.60	1.50	
			6.10	2.00	
			5.60	2.50	
			5.10	3.00	
			4.60	3.50	
			4.10	4.00	
			3.60	4.50	
			3.10	5.00	

Remarks	Scale (approx) 1:25	Logged By AM
	Figure No. 13188-09-23.DP20	



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Site Oranmore	Probe Number DP21
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

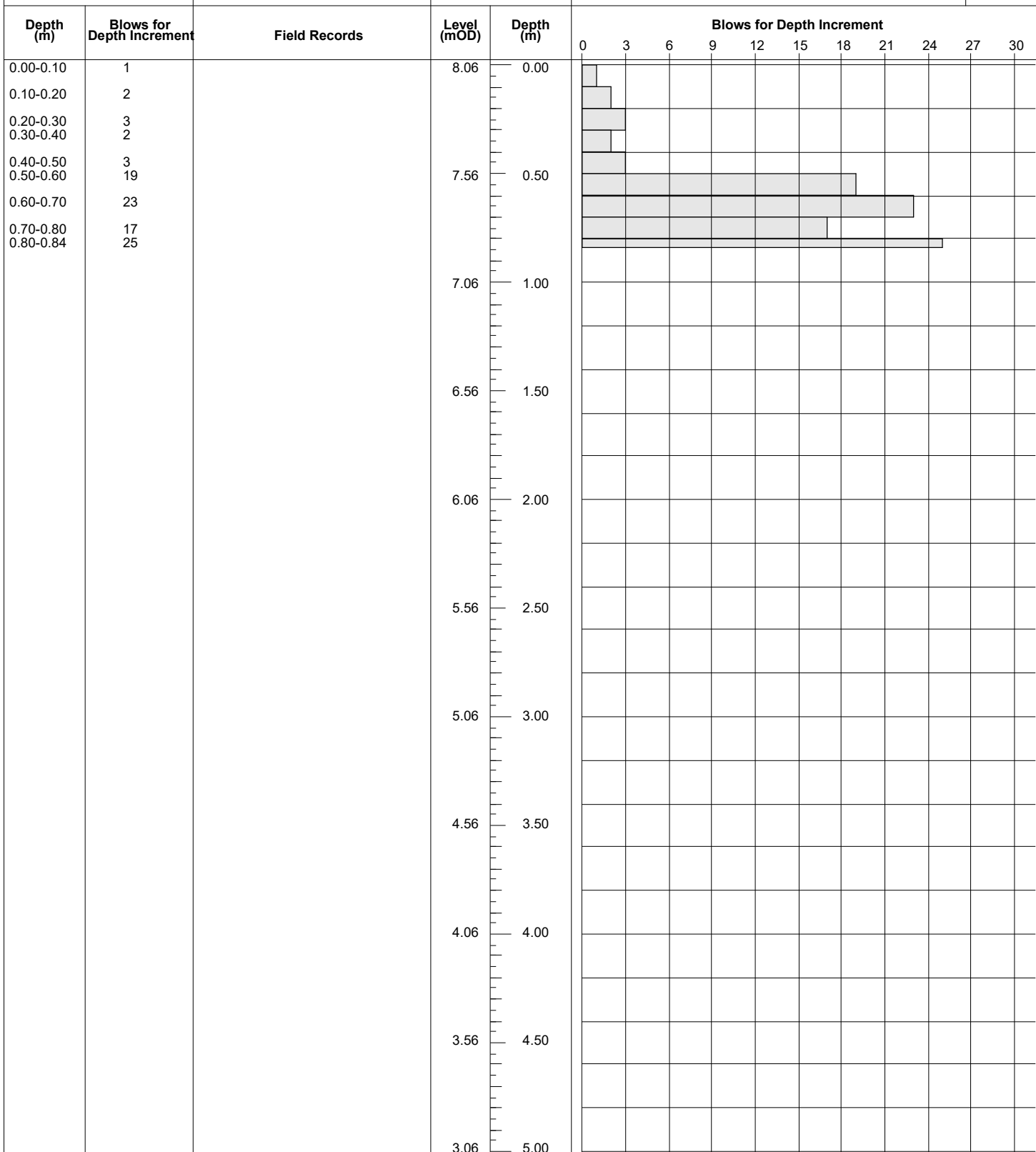
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
8.06

Location
536469.3 E 725300.3 N

Dates
24/10/2023



Remarks	Scale (approx)	Logged By
	1:25	AM
	Figure No. 13188-09-23.DP21	



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Site Oranmore	Probe Number DP22
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
7.16

Location
536476.1 E 725274.9 N

Dates
24/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		7.16	0.00	
0.10-0.20	2				
0.20-0.30	2				
0.30-0.40	3				
0.40-0.50	3				
0.50-0.55	25		6.66	0.50	
			6.16	1.00	
			5.66	1.50	
			5.16	2.00	
			4.66	2.50	
			4.16	3.00	
			3.66	3.50	
			3.16	4.00	
			2.66	4.50	
			2.16	5.00	

Remarks	Scale (approx) 1:25	Logged By AM
	Figure No. 13188-09-23.DP22	



Probe Number	DP23
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Job Number	13188-09-23
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Sheet
1/1

Remarks	Scale (approx)	Logged By
	1:25	AM
	Figure No. 13188-09-23.DP2	



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Site Oranmore	Probe Number DP24
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
5.17

Location
536484.1 E 725225.4 N

Dates
24/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	0		5.17	0.00	
0.10-0.20	2				
0.20-0.30	2				
0.30-0.40	2				
0.40-0.50	3				
0.50-0.60	4		4.67	0.50	
0.60-0.70	2				
0.70-0.80	4				
0.80-0.90	5				
0.90-1.00	6				
1.00-1.10	5		4.17	1.00	
1.10-1.20	6				
1.20-1.30	7				
1.30-1.40	9				
1.40-1.50	11				
1.50-1.60	11		3.67	1.50	
1.60-1.70	15				
1.70-1.78	25				
			3.17	2.00	
			2.67	2.50	
			2.17	3.00	
			1.67	3.50	
			1.17	4.00	
			0.67	4.50	
			0.17	5.00	

Remarks

Scale (approx)	Logged By
1:25	AM
Figure No.	
13188-09-23.DP24	



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Site Oranmore	Probe Number DP25
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
5.53

Location
536495.9 E 725238.4 N

Dates
24/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	3		5.53	0.00	
0.10-0.20	5				
0.20-0.30	5				
0.30-0.40	7				
0.40-0.50	7				
0.50-0.60	7		5.03	0.50	
0.60-0.70	4				
0.70-0.80	9				
0.80-0.90	9				
0.90-1.00	11		4.53	1.00	
1.00-1.01	25				
			4.03	1.50	
			3.53	2.00	
			3.03	2.50	
			2.53	3.00	
			2.03	3.50	
			1.53	4.00	
			1.03	4.50	
			0.53	5.00	

Remarks	Scale (approx)	Logged By
	1:25	AM
	Figure No.	
	13188-09-23.DP25	



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Site Oranmore	Probe Number DP26
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

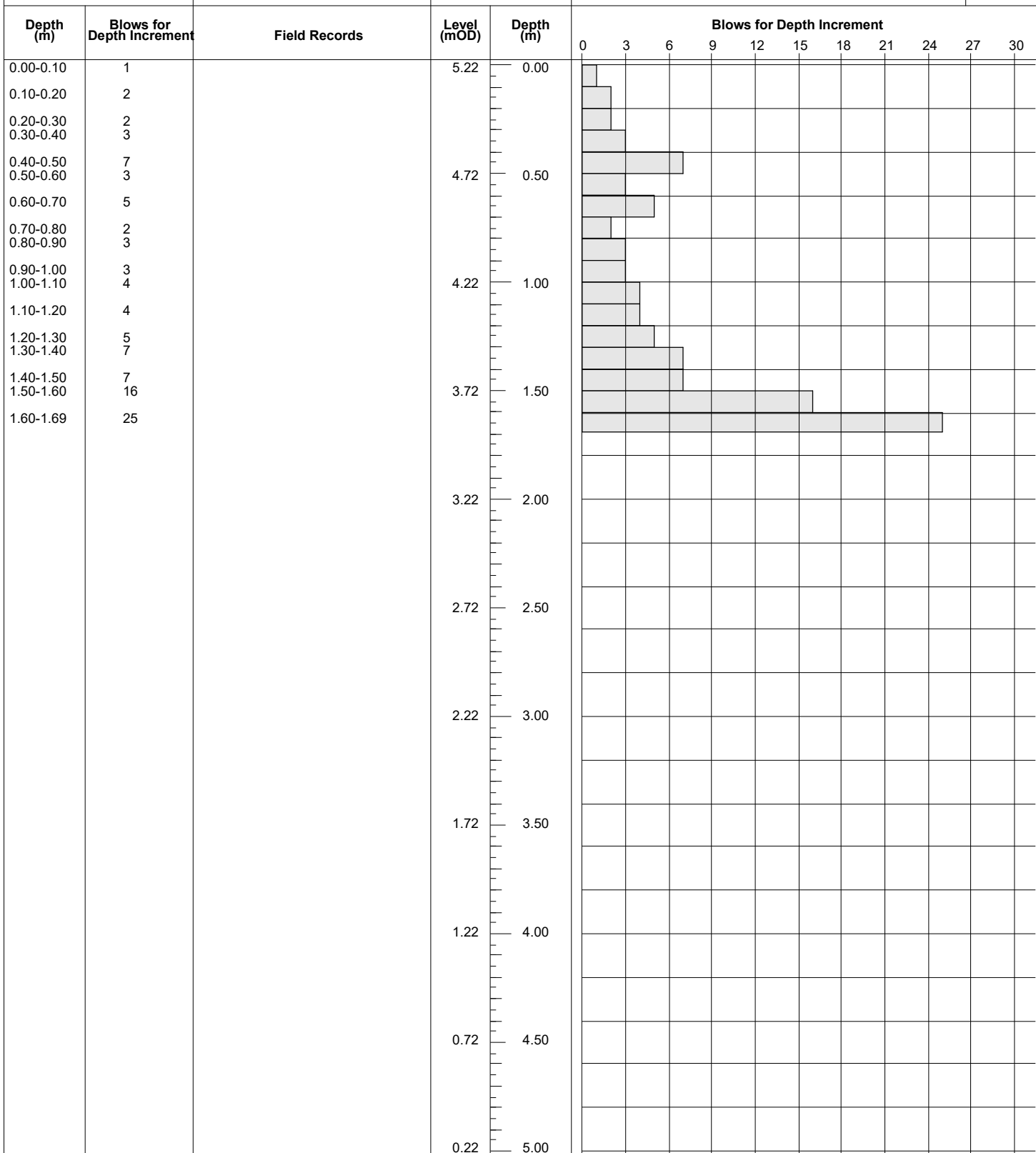
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
5.22

Location
536453.4 E 725207.7 N

Dates
24/10/2023



Remarks

Scale (approx) 1:25
Logged By AM
Figure No. 13188-09-23.DP26



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Site Oranmore	Probe Number DP27
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

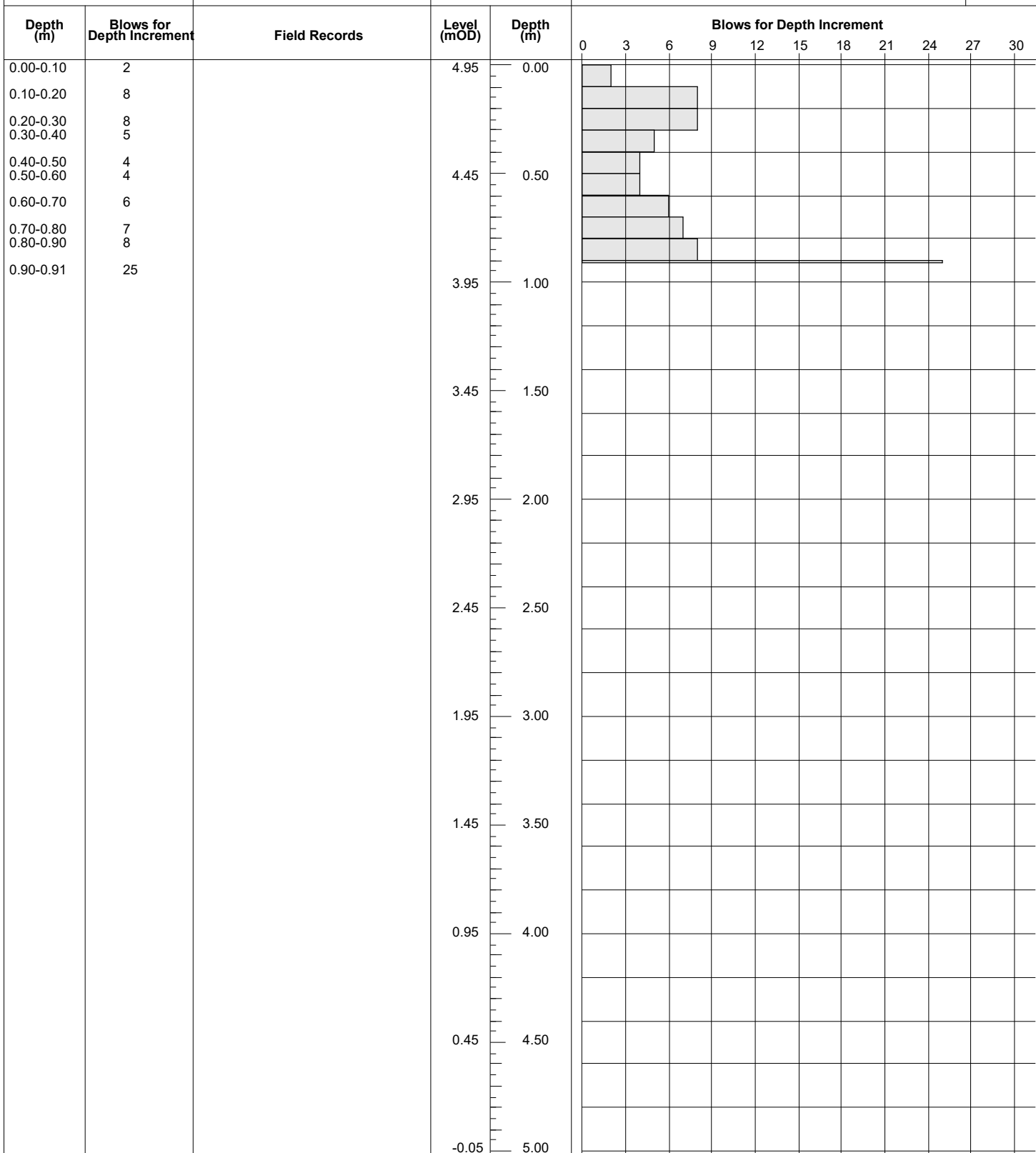
Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
4.95

Location
536498.3 E 725221.3 N

Dates
24/10/2023



Remarks	Scale (approx)	Logged By
	1:25	AM
	Figure No.	13188-09-23.DP27



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Site Oranmore	Probe Number DP28
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
5.67

Location
536542.8 E 725306.8 N

Dates
24/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	0		5.67	0.00	
0.10-0.20	1				
0.20-0.30	3				
0.30-0.40	2				
0.40-0.50	3				
0.50-0.60	4		5.17	0.50	
0.60-0.70	5				
0.70-0.80	5				
0.80-0.90	5				
0.90-1.00	22		4.67	1.00	
1.00-1.02	25				
			4.17	1.50	
			3.67	2.00	
			3.17	2.50	
			2.67	3.00	
			2.17	3.50	
			1.67	4.00	
			1.17	4.50	
			0.67	5.00	

Remarks	Scale (approx) 1:25	Logged By AM
	Figure No. 13188-09-23.DP28	



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Site Oranmore	Probe Number DP29
Client Marshall Yards Company Ltd	Job Number 13188-09-23
Engineer AKM Design	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Drop Height 500mm
Hammer Weight 50kg

Cone Dimensions
Diameter 43.7mm, Angle 90°

Ground Level (mOD)
5.29

Location
536530.9 E 725280.3 N

Dates
24/10/2023

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	0		5.29	0.00	
0.10-0.20	2				
0.20-0.30	2				
0.30-0.30	25				
			4.79	0.50	
			4.29	1.00	
			3.79	1.50	
			3.29	2.00	
			2.79	2.50	
			2.29	3.00	
			1.79	3.50	
			1.29	4.00	
			0.79	4.50	
			0.29	5.00	

Remarks	Scale (approx)	Logged By
	1:25	AM
	Figure No.	13188-09-23.DP29



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Site
Oranmore

Probe Number
DP29A

Method Dynamic Probe Heavy (DPH) Hammer Drop Height 500mm Hammer Weight 50kg	Cone Dimensions Diameter 43.7mm, Angle 90°	Ground Level (mOD) 5.29	Client Marshall Yards Company Ltd	Job Number 13188-09-23
	Location 536530.9 E 725280.3 N	Dates 24/10/2023	Engineer AKM Design	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment												
					0	3	6	9	12	15	18	21	24	27	30		
0.00-0.10	0		5.29	0.00													
0.10-0.20	1																
0.20-0.30	3																
0.30-0.40	11																
0.40-0.50	20																
0.50-0.60	9		4.79	0.50													
0.60-0.70	10																
0.70-0.80	14																
0.80-0.90	13																
0.90-1.00	4																
1.00-1.10	27		4.29	1.00													
1.10-1.20	27																
1.20-1.30	28																
			3.79	1.50													
			3.29	2.00													
			2.79	2.50													
			2.29	3.00													
			1.79	3.50													
			1.29	4.00													
			0.79	4.50													
			0.29	5.00													

Remarks

Scale (approx) 1:25
Logged By AM
Figure No. 13188-09-23.DP29A



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

Ground Investigations Ireland

Cartron Galway

AKM Design

Waste Classification Report

December 2023





GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

DOCUMENT CONTROL SHEET

Project Title	Cartron Galway
Client	Marshall Yards Company Ltd.
Engineer	AKM Design
Project No	13188-09-23
Document Title	Waste Classification Report

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
A	Final	E Byrne	B Sexton	B Sexton	Dublin	19 December 2023

Ground Investigations Ireland Ltd. present the results of the fieldworks and laboratory testing in accordance with the specification and related documents provided by or on behalf of the client. The possibility of variation in the ground and/or groundwater conditions between or below exploratory locations or due to the investigation techniques employed must be taken into account when this report and the appendices inform designs or decisions where such variation may be considered relevant. Ground and/or groundwater conditions may vary due to seasonal, man-made or other activities not apparent during the fieldworks and no responsibility can be taken for such variation. The data presented and the recommendations included in this report and associated appendices are intended for the use of the client and the client's geotechnical representative only and any duty of care to others is excluded unless approved in writing.



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GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

CONTENTS

1.0	Preamble.....	1
2.0	Purpose & Scope.....	1
3.0	Limitations.....	2
4.0	Site Location and Layout.....	2
5.0	Site History.....	2
6.0	Subsurface Exploration	3
6.1.	General	3
6.2.	Trial Pits.....	3
6.3.	Surveying	3
7.0	Ground Conditions.....	3
7.1.	General	3
8.0	Laboratory Analysis	4
8.1.	Analysis Suite	4
8.2.	Asbestos.....	5
9.0	Waste Classification.....	5
10.0	Conclusions & Recommendations	8
10.1.	Conclusions	8
10.1.1.	Waste Classification	8
10.1.2.	Asbestos	8
10.1.3.	Waste Categories	8
10.2.	Recommendations	8
10.2.1.	Waste Transfer	8
11.0	References	9



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GROUND INVESTIGATIONS IRELAND

Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176

Email: info@gii.ie

Web: www.gii.ie

LIST OF TABLES

Table 1 Potential Waste Categories for Disposal/Recovery6

Table 2 Individual Sample Waste Category7

APPENDICES

Appendix 1	Figures
Appendix 2	Trial Pit Records
Appendix 3	Laboratory Testing
Appendix 4	HazWasteOnLine™ Report
Appendix 5	WAC Data Summary



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1.0 Preamble

Ground Investigations Ireland (GII) was appointed by AKM Design on behalf of Marshall Yards Company Ltd. to carry out a Waste Classification for a proposed residential development in Cartron, Oranmore, Co. Galway. All site investigation works were carried out under the supervision of a GII Geo-Environmental Engineer. The site investigation works which facilitated the waste classification assessment were completed in April 2023.

2.0 Purpose & Scope

It is understood that as part of the proposed development there may be excavations to accommodate foundations, services, pavements and carparking and as such the material which may be excavated and removed from site needs to be assessed in terms of waste disposal outlets. The waste classification was carried out in parallel with a wider geotechnical site investigation.

The purpose of the waste classification exercise was as follows.

- Assess the site in terms of historical use; and
- Classification, in terms of waste management and final disposal outlets, of material that may require disposal following excavation during the construction phase;

The scope of the work undertaken to facilitate the waste classification exercise included the following:

- Site walkover;
- Desk study;
- Excavation of eight (8 No.) trial pits;
- Collection of subsoil samples for chemical analysis;
- Environmental laboratory testing; and
- Waste classification.

The additional scope of the geotechnical investigation included the following:

- Carry out 13 No. Soakaways to determine a soil infiltration value to BRE digest 365;
- Carry out 3 No. Cable Percussion boreholes to a maximum depth of 5.00m BGL; and
- Geotechnical Laboratory testing.

The geotechnical site investigation is discussed in the GII Ground Investigation Report Dated June 2023.¹

¹ Ground Investigations Ireland, Cartron Oranmore, Ground Investigation Report, 11th December 2023.

3.0 Limitations

GII has prepared this report for the sole use of Marshall Yards Company Ltd. No other warranty, express or implied, is made as to the professional advice included in this report or other services provided by GII.

The conclusions and recommendations contained in this report are based upon information provided by others and the assumption that all relevant information has been provided by those bodies from whom it has been requested. Information obtained from third parties has not been independently verified by GII, unless otherwise stated in this report.

This report has been prepared in line with best industry standards and within the project's budgetary and time constraints. The methodology adopted and the sources of information used by GII in providing its services are outlined in this report.

The work described was undertaken in April 2023, this report is based on the conditions encountered and the information available during that period. The scope of this Report and the services are accordingly factually limited by these circumstances.

Site investigation locations were selected by the consultant engineer.

GII disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to GII's attention after the date of the Report.

The conclusions presented in this report represent GII's best professional judgement based on review of site conditions observed during any site visit and the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided was accurate and complete.

The investigation was focused on a broad assessment of the subsoil quality across the site. The assessment did not extend to the identification of asbestos containing materials associated with any on-site structures.

The waste classification exercise is reflective of and applicable to the ground conditions on site at the time of the site investigation and sampling. Alterations to the ground conditions or any further excavations carried out on site following the investigation are not reflected in this report.

4.0 Site Location and Layout

The site is located on the Coast Road, Cartron, Co. Galway (Figure 1 Appendix 1). GII carried out a walk over survey on the 25th February 2023 to assess the site conditions and layout.

At the time of the site walkover the site was comprised of grazing land with the only extant human activity present is overhead lines crossing the site, an overgrown outbuilding to the east and a rail line bounding the north.

5.0 Site History

GII reviewed the aerial photographs and historical maps maintained by the Ordnance Survey of Ireland (OSI) and the google imagery records. These included the 6-inch maps that were produced between 1829 and 1842, the 25-inch maps that were produced between 1888 and 1913 and the 6-inch Cassini Maps that were produced between the 1830's and 1930's. The site is undeveloped on the 6-Inch map. The site is undeveloped on the 25-Inch and Cassini maps

Based on a review of the OSI and Google Imagery aerial photograph records the site has been in its current state of development since at least 1995.

6.0 Subsurface Exploration

6.1. General

During the ground investigation a programme of intrusive investigation specified by the Consulting Engineer was undertaken to determine the sub surface conditions at the proposed site. Regular sampling and in-situ testing was undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling.

The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015.

6.2. Trial Pits

The trial pits were excavated using a 3T tracked excavator at the locations shown in Figure 1. The locations were checked using a CAT scan to minimise the potential for encountering services during the excavation. The trial pits were sampled, logged and photographed by an Engineering Geologist prior to backfilling with arisings. Notes were made of any services, inclusions, pit stability, groundwater encountered and the characteristics of the strata encountered and are presented on the trial pit logs which are provided in Appendix 2 of this Report.

6.3. Surveying

The exploratory hole locations have been recorded using a KQGeo M8 GNSS System which records the coordinates and elevation of the locations to ITM as required by the project specification. The coordinates and elevations are provided on the exploratory hole logs in the appendices of this Report.

7.0 Ground Conditions

7.1. General

The ground conditions encountered during the investigation are summarised below with reference to insitu and laboratory test results. The full details of the strata encountered during the ground investigation are provided in the exploratory hole logs included in the appendices of this report. For full geotechnical

descriptions of the ground conditions refer to the geotechnical site investigation report referenced in Section 2.0.

The sequence of strata encountered were consistent across the site and generally comprised;

- Topsoil
- Made Ground
- Cohesive Deposits
- Granular Deposits

TOPSOIL: Topsoil was encountered in all the exploratory holes and was present to a maximum depth of 0.30m BGL.

MADE GROUND: Made Ground deposits were encountered beneath the Topsoil and were present to a relatively consistent depth of between 0.50m and 0.70m BGL. These deposits were described generally as *brown sandy slightly gravelly Clay with occasional fragments of ceramic*.

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground/Topsoil and were described typically as *grey/brown sandy gravelly CLAY with occasional cobbles and boulders* overlying a *stiff grey sandy gravelly CLAY with occasional cobbles and boulders*. These deposits had some, occasional or frequent cobble and boulder content, where noted on the exploratory hole logs.

GRANULAR DEPOSITS: Granular deposits were encountered within and below the base of the cohesive deposits and were typically described as *grey clayey very sandy sub rounded to sub angular fine to coarse GRAVEL with many cobbles and rare boulders*.

8.0 Laboratory Analysis

8.1. Analysis Suite

In order to assess materials, which may be excavated and removed from site, in terms of waste classification, a selection of samples collected were analysed for a suite of parameters which allows for the assessment of the soils in terms of total pollutant content for classification of materials as *hazardous* or *non-hazardous* (RILTA Suite). The suite also allows for the assessment of the soils in terms of suitability for placement at various categories of landfill. The parameter list for the RILTA suite includes analysis of the solid samples for arsenic, barium, cadmium, chromium, copper, cyanide, lead, nickel, mercury, zinc, speciated aliphatic and aromatic petroleum hydrocarbons, pH, sulphate, sulphide, moisture content, soil organic matter and an asbestos screen.

The RILTA suite also includes those parameters specified in the EU Council Decision establishing criteria for the acceptance of waste at Landfills (Council Decision 2003/33/EC), which for the solid samples are pH,

total organic carbon (TOC), speciated aliphatic and aromatic petroleum hydrocarbons, BTEX, phenol, polychlorinated biphenyls (PCB) and PAH.

In line with the requirement of Council Decision 2003/33/EC a leachate was generated from the solid samples which was in turn analysed for antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, chloride, fluoride, soluble sulphate, sulphide, phenols, dissolved organic carbon (DOC) and total dissolved solids (TDS).

The laboratory testing was completed by Element Materials Technology (EMT) in the UK; EMT is a UKAS accredited laboratory. The full laboratory reports are included in Appendix 3.

8.2. Asbestos

Asbestos fibres were not detected in the samples. The laboratory did not identify asbestos containing materials (ACMs) in the samples.

9.0 Waste Classification

GII understands that any materials which may be excavated and removed from site would meet the definition of waste under the Waste Framework Directive.

Due to the varying levels of anthropogenic materials encountered in the made ground there is one set of List of Waste (LoW)² codes with “mirror” entries which may be applied to excavated materials to be removed from site.

1. 17-05-04 (soil and stone other than those mentioned in 17-05-03, not hazardous)

Where waste is a mirror entry in the LoW, it can be classified via a process of analysis against standard criteria set out in the Waste Framework Directive. The assessment process is described in detail in guidance published by the Irish (EPA Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous, June 2015) and UK regulatory authorities (Guidance on the Classification and Assessment of Waste: Technical Guidance WM3, 2015). The assessment involves comparison of the concentration of various parameters against defined threshold values.

The specific LoW code which should be applied to the material at each sample location is summarised in Table 2 below. These codes are only applicable where the material is being removed from a site as a waste.

GII use HazWasteOnline™, a web-based commercial waste classification software tool which assists in the classification of potentially hazardous materials. This tool was used to determine whether the materials sampled are classified as hazardous or non-hazardous. The use of the online tool is accepted by the EPA (EPA 2014).

² Formerly European Waste Catalogue Codes (EWC Codes)

The conclusions presented in the report are based on GII's professional opinion. **It should be noted that the environmental regulator (in this case the EPA) and the waste acceptor (in this case a landfill operator) shall decide whether a waste is hazardous or non-hazardous and suitable for disposal at their facility.**

9.1. HazWasteOnLine™ Results

In total, seven (7 No.) samples were assessed using the HazWasteOnLine™ Tool. All samples were classified as being non-hazardous. The complete HazWasteOnLine™ report for all samples is included in Appendix 4.

9.2. Landfill Waste Acceptance Criteria

Waste Acceptance Criteria (WAC) have been agreed by the EU (Council Decision 2003/33/EC) and are only applicable to material if it is to be disposed of as a waste at a landfill facility. Each individual member state and licensed operators of landfills may apply more stringent WAC. WAC limits and the associated laboratory analysis are not suitable for use in the determination of whether a waste is hazardous or non-hazardous. The data have been compared to the WAC limits set out in Council Decision 2003/33/EC as well as the specific WAC which the EPA have applied to the Walshestown and Integrated Materials Solutions (IMS) Landfills. The Walshestown and IMS landfills have higher limits for a range of parameters while still operating under an inert landfill licence. The WAC data considered in combination with the waste classification outlined in Section 9.1 allows the most suitable waste category to be applied to the material tested. The potentially applicable waste categories are summarised in Table 1. A summary of the WAC data is presented in Appendix 5. The waste category assigned to each sample is summarised in Table 2.

Table 1 Potential Waste Categories for Disposal/Recovery

Waste Category	Classification Criteria
Category A Unlined Facilities	Soil and Stone only which are free from ³ anthropogenic materials such as concrete, brick, timber. Soil must be free from "contamination" e.g. PAHs, Hydrocarbons ⁴ .
Category B1 Inert Landfill	Reported concentrations within inert waste limits, which are set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002). Results also found to be non-hazardous using the HWOL ⁵ application.
Category B2 Inert Landfill	Reported concentrations greater than Category B1 criteria but less than IMS Hollywood Landfill acceptance criteria, as set out in their Waste Licence W0129-02.

³ Free from equates to less than 2%.

⁴ Total BTEX 0.05mg/kg, Mineral Oil 50mg/kg, Total PAHs 1mg/kg, Total PCBs 0.05mg/kg and Asbestos No Asbestos Detected – EPA Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities, 2020.

⁵ HazWasteOnLine™ Tool.

Waste Category	Classification Criteria
	Results also found to be non-hazardous using the HWOL application.
Category C Non-Haz Landfill	Reported concentrations greater than Category B2 criteria but within non-haz landfill waste acceptance limits set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002). Results also found to be non-hazardous using the HWOL application.
Category C 1 Non-Haz Landfill	As Category C but containing < 0.001% w/w asbestos fibres.
Category C 2 Non-Haz Landfill	As Category C but containing >0.001% and <0.01% w/w asbestos fibres
Category C 3 Non-Haz Landfill	As Category C but containing >0.01% and <0.1% w/w asbestos fibres.
Category D Hazardous Treatment	Results found to be hazardous using HWOL Application.
Category D 1 Hazardous Disposal	Results found to be hazardous due to the presence of asbestos (>0.1%).

9.3. Final Waste Categorisation

All samples were assessed in terms of waste classification using the HazWasteOnLine™ tool and also the WAC set out in Council Decision 2003/33/EC and the Walshestown/IMS specific WAC to give a final waste categorisation to determine the most appropriate disposal route for any waste generated. The final and most applicable waste category for each sample is summarised in Table 2.

Table 2 Individual Sample Waste Category

Sample ID	Sample Depth (m)	Material Type	Sample Date	LoW Code	Waste Category
IT02A	1.00	Clay	16/04/2023	17 05 04	Category A
IT03C	1.00	Clay	16/04/2023	17 05 04	Category A
IT04B	0.50	Clay	16/04/2023	17 05 04	Category A
TP02	1.00	Gravel	16/04/2023	17 05 04	Category A
TP06	0.50	Gravel	16/04/2023	17 05 04	Category A
TP07	0.50	Made Ground	16/04/2023	17 05 04	Category B1
TP08	0.50	Made Ground	16/04/2023	17 05 04	Category B2

10.0 Conclusions & Recommendations

The conclusions and recommendations given and opinions expressed in this report are based on the findings of the site investigation works and laboratory testing undertaken. Where any opinion is expressed on the classification of material between site investigation locations, this is for guidance only and no liability can be accepted for its accuracy. No responsibility can be accepted for conditions which have not been revealed by the findings at the site investigation locations.

10.1. Conclusions

10.1.1. Waste Classification

Based on the results of the HazWasteOnLine™ tool the material sampled across the site if being considered a waste can be classified as non-hazardous.

10.1.2. Asbestos

Asbestos was not detected in the soil samples.

10.1.3. Waste Categories

The most applicable waste categories for each of the samples if being considered a waste have been presented in Table 2.

10.2. Recommendations

10.2.1. Waste Transfer

In the event that material is excavated for removal from site, any firm engaged to transport waste material from site and the operator of any waste facility that will accept subsoils excavated from this site should be furnished with, at a minimum, copies of the **full unabridged** laboratory reports and HazWasteOnLine™ report for all samples presented in this report.

The material on site if excavated should be removed to the most appropriate facility under the waste categories and LoW codes identified in Table 2.

The non-hazardous material across the site if excavated should be removed from site to an appropriate facility under either the LoW codes 17 05 04. Where during excavation there is noted to be in excess of 2% anthropogenic material the appropriate LoW code which should be applied is 17 09 04.

11.0 References

Environment Agency (2013). *Waste Sampling and Testing for Disposal to Landfill*.

Environment Agency (2015). *Technical Guidance WM3 - Guidance on the classification and assessment of waste (1st edition 2015) Technical Guidance WM3*.

Environmental Protection Agency (EPA) (2014). Letter to Licences *Re: Waste Classification & Haz Waste On-Line™*.

Environmental Protection Agency (EPA) (2015). *Waste Classification List of Waste & Determining if Waste is Hazardous or Non-hazardous*.

Environmental Protection Agency (EPA) (2020). *Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities*.

Environmental Protection Agency (EPA) (June 2019). *Guidance on Soil and Stone By-products in the context of article 27 of the European Communities (Waste Directive) Regulations 2011 Version 3*.

Association of Geotechnical and Geoenvironmental Specialists (2019). *Waste Classification for Soils – A Practitioners Guide*.

APPENDIX 1 - Figures



725400N

725250N

725100N

536250E

536400E

536550E

536250E

536400E

536550E



Legend

- Cable Percussion Borehole
- CBR
- Soakaway
- Trial Pit
- Site Outline

Client:

Marshall Yards Company Ltd."

Project Code:

12674-03-23

Project Title:

Cartron, Oranmore

Drawing Title:

Figure 1 Site Location



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Dublin
Co. Dublin
www.gii.ie 01-6015175/5176

0 20 40 60 80 m

Drawn By: Date:
EB 19/12/2023

APPENDIX 2 – Trial Pit Records





**Trial Pit
Number
IT01**

Job Number
13188-09-23

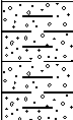
Sheet
1/1

[illegible]

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT02		
Excavation Method Trial Pit		Dimensions 1.70 x 0.80 x 0.80m		Ground Level (mOD) 13.63		Client Marshall Yards Company Ltd		Job Number 13188-09-23	
		Location 536224.8 E 725251 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
						Soft brown sandy slightly gravelly CLAY with cobbles and boulders			
				12.83	0.80	Complete at 0.80m			
Plan					Remarks				
					Scale (approx)		Logged By		Figure No.
					1:25		LB		13188-09-23.IT02

 Ground Investigations Ireland Ltd www.gii.ie						Site Oranmore		Trial Pit Number IT03	
Excavation Method Trial Pit		Dimensions 1.60 x 0.80 x 0.80m		Ground Level (mOD) 12.75		Client Marshall Yards Company Ltd		Job Number 13188-09-23	
		Location 536245.4 E 725279.3 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
						Stiff brown sandy gravelly CLAY with cobbles and boulders			
				11.95	0.80	Complete at 0.80m			
Plan					Remarks				
					Scale (approx)		Logged By		Figure No.
					1:25		LB		13188-09-23.IT03

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT04		
Excavation Method Trial Pit		Dimensions 1.40 x 0.80 x 0.80m		Ground Level (mOD) 11.92		Client Marshall Yards Company Ltd		Job Number 13188-09-23	
		Location 536271.3 E 725257.2 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
				11.12	(0.80) 0.80	Firm brown sandy gravelly CLAY with cobbles and boulders			
						Complete at 0.80m			
Plan					Remarks				
.									
.									
.									
.									
.									
.									
					Scale (approx)		Logged By		Figure No.
					1:25		LB		13188-09-23.IT04

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT05			
Excavation Method Trial Pit		Dimensions 1.70 x 0.90 x 0.40m		Ground Level (mOD) 11.38		Client Marshall Yards Company Ltd		Job Number 13188-09-23		
		Location 536279.6 E 725221.8 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
				10.98	0.40	Soft brown sandy gravelly CLAY with cobbles and boulders Complete at 0.40m				
Plan					Remarks					
					Refusal at 0.40m BGL					
					Scale (approx) 1:25		Logged By LB		Figure No. 13188-09-23.IT05	



Site	Oranmore
------	----------

**Trial Pit
Number**
IT06

Excavation Method	
Trial Pit	

Dimensions
1.5 x 0.9 x 0.8m

Ground Level (mOD)	10.57
--------------------	-------

Client	Marshall Yards Company Ltd
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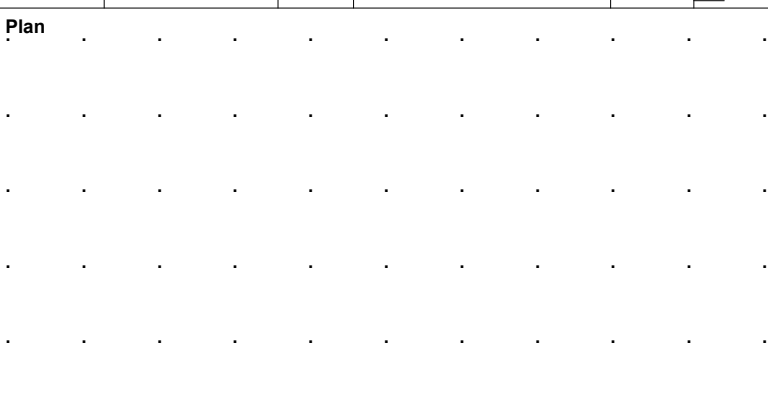
Job Number
13188-09-23

Location	536314.3 E 725195.5 N
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Dates	26/10/2023
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Engineer
AKM Design

Sheet
1/1

Plan 	Remarks 		
	Scale (approx) 1:25	Logged By LB	Figure No. 13188-09-23.IT06



Site	Oranmore
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**Trial Pit
Number**
IT07

Excavation Method	
Trial Pit	

Dimensions
1.5 x 1.0 x 0.8m

Ground Level (mOD)	12.79
--------------------	-------

Client	Marshall Yards Company Ltd
---------------	----------------------------

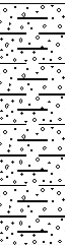
Job Number	13188-09-23
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Location	536309.8 E 725288.7 N
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Dates	26/10/2023
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Engineer
AKM Design

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						Soft to firm brown sandy gravelly CLAY with cobbles and boulders		
				11.99	0.80	Complete at 0.80m		

Plan

Remarks

Scale (approx)

1:25

Logged By

LB

Figure No.

13188-09-23.IT07

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT08			
Excavation Method Trial Pit		Dimensions 1.4 x 0.9 x 0.8m		Ground Level (mOD) 12.69		Client Marshall Yards Company Ltd		Job Number 13188-09-23		
		Location 536343.6 E 725280.4 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
						Soft brown sandy gravelly CLAY with cobbles and boulders (0.60) 12.09 0.60 (0.20) 11.89 0.80 Firm grey sandy gravelly CLAY with cobbles and boulders Complete at 0.80m				
Plan					Remarks					
					Scale (approx) 1:25		Logged By LB		Figure No. 13188-09-23.IT08	



Site	Oranmore
------	----------

**Trial Pit
Number**
IT09

Excavation Method	
Trial Pit	

Dimensions
1.9 x 0.8 x 0.9m

Ground Level (mOD)	10.51
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Client
Marshall Yards Company Ltd

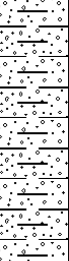
Job Number 13188-09-23

Location	536346.3 E 725253.8 N
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Dates	26/10/2023
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Engineer
AKM Design

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						Soft brown sandy gravelly CLAY with cobbles and boulders		
				9.61	0.90	Complete at 0.90m		

Plan

Remarks

Scale (approx)

1:25

Logged By

LB

Figure No.

13188-09-23.IT09



Site	Oranmore
------	----------

**Trial Pit
Number**
IT10

Excavation Method	
Trial Pit	

Dimensions
1.8 x 0.9 x 0.9m

Ground Level (mOD)	8.78
--------------------	------

Client	Marshall Yards Company Ltd
---------------	----------------------------

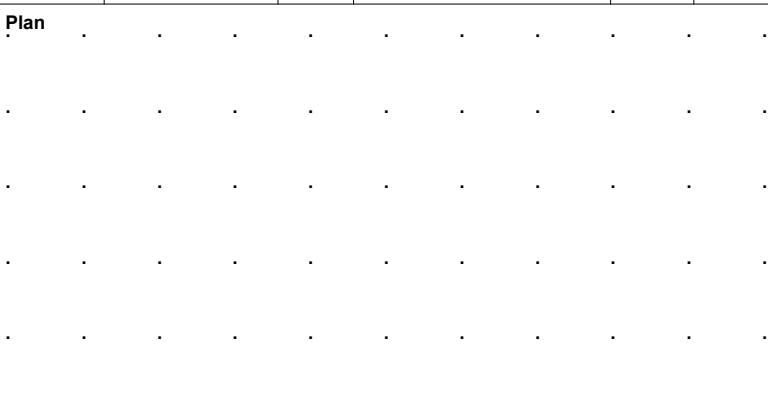
Job Number
13188-09-23

Location	536354.8 E 725217.9 N
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Dates	26/10/2023
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Engineer
AKM Design

Sheet
1/1

Plan 	Remarks		
	Scale (approx)	Logged By	Figure No.
	1:25	LB	13188-09-23.IT10



Site	Oranmore
-------------	----------

**Trial Pit
Number**
IT11

Excavation Method
Trial Pit

Dimensions
1.7 x 0.8 x 0.8m

Ground Level (mOD)	6.77
--------------------	------

Client	Marshall Yards Company Ltd
---------------	----------------------------

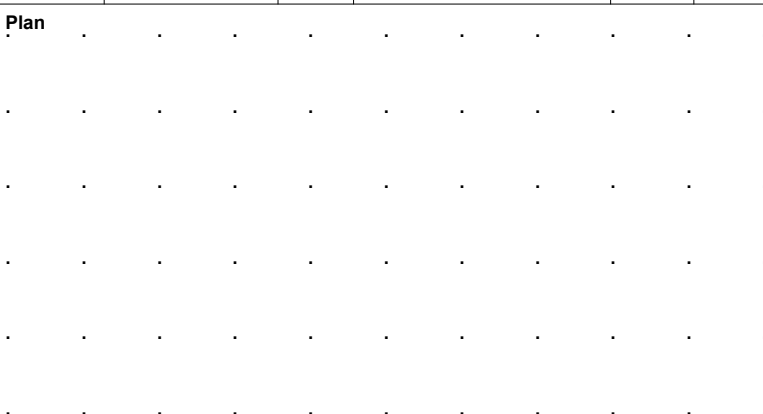
Job Number	13188-09-23
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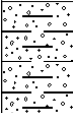
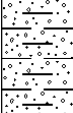
Location	536376.8 E 725190.9 N
-----------------	-----------------------

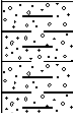
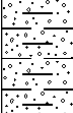
Dates	26/10/2023
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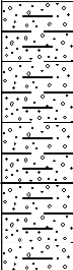
Engineer
AKM Design

Sheet
1/1

Plan 	Remarks		
	Scale (approx) 1:25	Logged By LB	Figure No. 13188-09-23.IT1

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT12		
Excavation Method Trial Pit		Dimensions 1.4 x 0.8 x 0.8m		Ground Level (mOD) 6.70		Client Marshall Yards Company Ltd		Job Number 13188-09-23	
		Location 536404.1 E 725204.3 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
						Soft brown sandy gravelly CLAY with cobbles and boulders			
						Firm grey sandy gravelly CLAY with cobbles and boulders			
						Complete at 0.80m			
Plan					Remarks				
					Scale (approx)		Logged By		Figure No.
					1:25		LB		13188-09-23.IT12

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT13		
Excavation Method Trial Pit		Dimensions 1.5 x 0.8 x 0.8m		Ground Level (mOD) 7.52		Client Marshall Yards Company Ltd		Job Number 13188-09-23	
		Location 536407.3 E 725231.1 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
						Soft brown sandy gravelly CLAY with cobbles and boulders			
				7.12	0.40 (0.40)	Firm grey sandy gravelly CLAY with cobbles and boulders			
				6.72	0.80	Complete at 0.80m			
Plan					Remarks				
					Scale (approx)		Logged By		Figure No.
					1:25		LB		13188-09-23.IT13

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT14		
Excavation Method Trial Pit		Dimensions 1.9 x 0.8 x 0.9m		Ground Level (mOD) 10.35		Client Marshall Yards Company Ltd		Job Number 13188-09-23	
		Location 536404 E 725302.8 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
						Soft brown sandy gravelly CLAY with cobbles and boulders (0.60) 0.60 Soft grey sandy gravelly CLAY with cobbles and boulders (0.30) 0.90 Complete at 0.90m			
Plan					Remarks				
Empty grid for Plan					Empty space for Remarks				
					Scale (approx) 1:25		Logged By LB		Figure No. 13188-09-23.IT14



Ground Investigations Ireland Ltd
www.gii.ie

Site
Oranmore

Trial Pit
Number
IT15

Excavation Method Trial Pit	Dimensions 1.7 x 0.8 x 0.9m	Ground Level (mOD) 10.36	Client Marshall Yards Company Ltd	Job Number 13188-09-23
	Location 536418.6 E 725316.1 N	Dates 26/10/2023	Engineer AKM Design	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						Soft brown sandy gravelly CLAY with cobbles and boulders		
				9.76	0.60 (0.30)	Firm grey sandy gravelly CLAY with cobbles and boulders		
				9.46	0.90	Complete at 0.90m		

Plan	Remarks							
	Scale (approx) 1:25				Logged By LB		Figure No. 13188-09-23.IT15	



Site	Oranmore
------	----------

**Trial Pit
Number**
IT16

Excavation Method
Trial Pit

Dimensions
1.6 x 0.9 x 0.9m

Ground Level (mOD)	8.61
--------------------	------

Client	Marshall Yards Company Ltd
---------------	----------------------------

Job Number	13188-09-23
-------------------	-------------

Location	536443.6 E 725292 N
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Dates	26/10/2023
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Engineer
AKM Design

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				8.31	0.30	Soft brown sandy gravelly CLAY with cobbles and boulders		
					0.60	Soft grey sandy gravelly CLAY with cobbles and boulders		
				7.71	0.90	Complete at 0.90m		

Plan

Remarks

Scale (approx)

1:25

Logged By

LB

Figure No.

13188-09-23.IT16



Site	Oranmore
------	----------

**Trial Pit
Number**
IT17

Excavation Method
Trial Pit

Dimensions
1.4 x 0.8 x 0.9m

Ground Level (mOD)	6.40
--------------------	------

Client	Marshall Yards Company Ltd
---------------	----------------------------

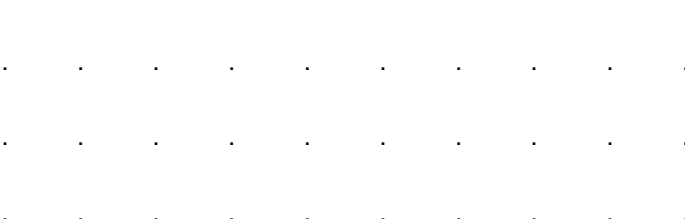
Job Number	13188-09-23
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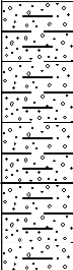
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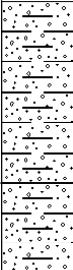
Dates	26/10/2023
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Engineer
AKM Design

Sheet
1/1

Plan 	Remarks 		
	Scale (approx) 1:25	Logged By LB	Figure No. 13188-09-23.IT17

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT18			
Excavation Method Trial Pit		Dimensions 1.6 x 0.8 x 0.9m		Ground Level (mOD) 5.04		Client Marshall Yards Company Ltd		Job Number 13188-09-23		
		Location 536443.1 E 725192.9 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
						Soft brown sandy slightly gravelly CLAY with cobbles and boulders (0.60) 4.44 0.60 Soft grey sandy slightly gravelly CLAY with cobbles and boulders (0.30) 4.14 0.90 Complete at 0.90m				
Plan 					Remarks 					
					Scale (approx) 1:25		Logged By LB		Figure No. 13188-09-23.IT18	

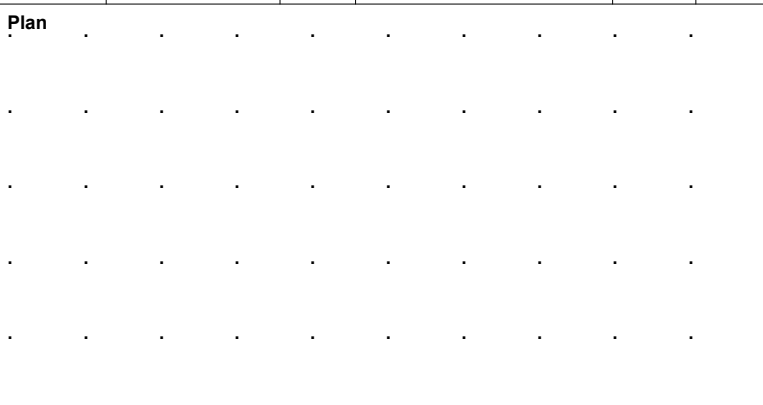
 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT19		
Excavation Method Trial Pit		Dimensions 1.5 x 0.8 x 0.9m		Ground Level (mOD) 4.59		Client Marshall Yards Company Ltd		Job Number 13188-09-23	
		Location 536479.5 E 725194.1 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
						Soft brown sandy gravelly CLAY with cobbles and boulders (0.60) 3.99 0.60 (0.30) 3.69 0.90			
						Soft grey sandy gravelly CLAY with cobbles and boulders Complete at 0.90m			
Plan					Remarks				
					Scale (approx) 1:25		Logged By LB		Figure No. 13188-09-23.IT19

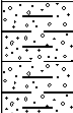
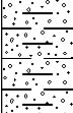


**Trial Pit
Number
IT20**

Job Number
13188-09-23

Sheet
1/1

Plan 	Remarks		
	Scale (approx) 1:25	Logged By LB	Figure No. 13188-09-23.IT20

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT21		
Excavation Method Trial Pit		Dimensions 1.7 x 0.8 x 0.8m		Ground Level (mOD) 7.72		Client Marshall Yards Company Ltd		Job Number 13188-09-23	
		Location 536472.2 E 725284.6 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
						Soft brown sandy gravelly CLAY with cobbles and boulders			
				7.32	0.40 (0.40)	Firm to stiff grey sandy gravelly CLAY with cobbles and boulders			
				6.92	0.80	Complete at 0.80m			
Plan					Remarks				
					Scale (approx)		Logged By		Figure No.
					1:25		LB		13188-09-23.IT21

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT22			
Excavation Method Trial Pit		Dimensions 1.5 x 0.9 x 0.9m		Ground Level (mOD) 8.29		Client Marshall Yards Company Ltd		Job Number 13188-09-23		
		Location 536468.1 E 725326.4 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
				8.09	0.20	Soft brown slightly sandy gravelly CLAY with cobbles and boulders				
						Firm grey slightly sandy gravelly CLAY with cobbles and boulders				
					(0.70)					
				7.39	0.90	Complete at 0.90m				
Plan					Remarks					
					Scale (approx) 1:25		Logged By LB		Figure No. 13188-09-23.IT22	

 Ground Investigations Ireland Ltd www.gii.ie					Site Oranmore		Trial Pit Number IT23		
Excavation Method Trial Pit		Dimensions 1.6 x 0.9 x 0.8m		Ground Level (mOD) 5.42		Client Marshall Yards Company Ltd		Job Number 13188-09-23	
		Location 536540.1 E 725288.6 N		Dates 26/10/2023		Engineer AKM Design		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
				4.62	(0.80) 0.80	Soft to firm brown slightly sandy gravelly CLAY with frequent cobbles and boulders Complete at 0.80m			
Plan					Remarks				
					Scale (approx) 1:25		Logged By LB		Figure No. 13188-09-23.IT23



Site	Oranmore
------	----------

**Trial Pit
Number**
IT24

Excavation Method
Trial Pit

Dimensions
1.9 x 1.0 x 0.8m

Ground Level (mOD)	5.31
--------------------	------

Client	Marshall Yards Company Ltd
---------------	----------------------------

Job Number	13188-09-23
-------------------	-------------

Location	536520.3 E 725259.9 N
-----------------	-----------------------

Dates	26/10/2023
--------------	------------

Engineer
AKM Design

Sheet
1/1

Plan </



Site	Oranmore
------	----------

**Trial Pit
Number**
IT25

Excavation Method
Trial Pit

Dimensions
1.4 x 0.9 x 0.9m

Ground Level (mOD)	4.77
--------------------	------

Client	Marshall Yards Company Ltd
---------------	----------------------------

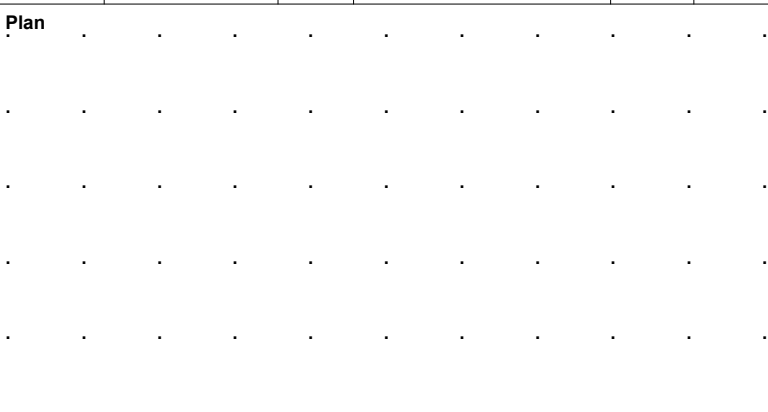
Job Number	13188-09-23
------------	-------------

Location	536523.6 E 725222.6 N
-----------------	-----------------------

Dates	26/10/2023
--------------	------------

Engineer
AKM Design

Sheet
1/1

Plan 	Remarks		
	Scale (approx) 1:25	Logged By LB	Figure No. 13188-09-23.IT25

APPENDIX 3 – Laboratory Testing



Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland
D22 K5P8



4225



Attention : Eoin Bryne
Date : 1st June, 2023
Your reference : 12674-03-23
Our reference : Test Report 23/7911 Batch 1
Location : Cartron Cranmore
Date samples received : 18th May, 2023
Status : Final Report
Issue : 1

Nine samples were received for analysis on 18th May, 2023 of which nine 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:



Liza Klebe

Project Co-ordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 12674-03-23
Location: Cartron Cranmore
Contact: Eoin Bryne
EMT Job No: 23/7911

Report : Solid

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

EMT Sample No.	1-4	5-8	9-12	13-16	17-18	19-20	21-24	25-28	29-32		Please see attached notes for all abbreviations and acronyms		
Sample ID	IT02A	IT03C	IT04B	TP02	TP04	TP05	TP06	TP07	TP08				
Depth	1.00	1.00	0.50	1.00	1.50	1.50	0.50	0.50	0.50				
COC No / misc													
Containers	V J T	V J T	V J T	V J T	T	T	V J T	V J T	V J T				
Sample Date	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
Batch Number	1	1	1	1	1	1	1	1	1				
Date of Receipt	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023		LOD/LOR	Units	Method No.
Antimony	<1	<1	<1	<1	-	-	<1	1	2		<1	mg/kg	TM30/PM15
Arsenic #	5.5	3.7	8.6	3.5	-	-	3.1	15.0	10.5		<0.5	mg/kg	TM30/PM15
Barium #	23	19	32	10	-	-	20	51	69		<1	mg/kg	TM30/PM15
Cadmium #	0.7	0.6	0.9	0.4	-	-	0.8	1.1	<0.1		<0.1	mg/kg	TM30/PM15
Chromium #	19.8	26.2	42.5	13.0	-	-	27.5	84.9	81.7		<0.5	mg/kg	TM30/PM15
Copper #	8	6	7	5	-	-	5	11	14		<1	mg/kg	TM30/PM15
Lead #	25	14	40	20	-	-	7	89	54		<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM30/PM15
Molybdenum #	1.0	1.3	2.3	0.8	-	-	1.4	4.5	4.1		<0.1	mg/kg	TM30/PM15
Nickel #	10.2	8.5	16.5	7.1	-	-	9.8	28.1	24.4		<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1	<1	-	-	<1	<1	1		<1	mg/kg	TM30/PM15
Zinc #	27	21	39	20	-	-	15	78	64		<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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	mg/kg	TM4/PM8
Acenaphthene #	<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	mg/kg	TM4/PM8
Phenanthrene #	<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	mg/kg	TM4/PM8
Fluoranthene #	<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	mg/kg	TM4/PM8
Benzo(a)anthracene #	<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	mg/kg	TM4/PM8
Benzo(k)fluoranthene #	<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	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<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	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<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	mg/kg	TM4/PM8
PAH 6 Total #	<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	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<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	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	-	-	<1	<1	<1		<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	99	77	97	94	-	-	94	97	94		<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	-	-	<30	<30	<30		<30	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 12674-03-23
Location: Cartron Cranmore
Contact: Eoin Bryne
EMT Job No: 23/7911

Report : Solid

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

EMT Sample No.	1-4	5-8	9-12	13-16	17-18	19-20	21-24	25-28	29-32		Please see attached notes for all abbreviations and acronyms		
Sample ID	IT02A	IT03C	IT04B	TP02	TP04	TP05	TP06	TP07	TP08				
Depth	1.00	1.00	0.50	1.00	1.50	1.50	0.50	0.50	0.50				
COC No / misc													
Containers	V J T	V J T	V J T	V J T	T	T	V J T	V J T	V J T				
Sample Date	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil				
Batch Number	1	1	1	1	1	1	1	1	1				
Date of Receipt	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023		LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2		<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	-	-	<4	<4	<4		<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	-	-	<7	<7	<7		<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	-	-	<7	<7	<7		<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_1D_AL)	<7	<7	<7	<7	-	-	<7	<7	<7		<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH+HS_1D_AL)	<26	<26	<26	<26	-	-	<26	<26	<26		<26	mg/kg	TM5/PM8/PM16/PM12/PM18
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_1D_AL)	<10	<10	<10	<10	-	-	<10	<10	<10		<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_1D_AL)	<10	<10	<10	<10	-	-	<10	<10	<10		<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2		<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	-	-	<4	<4	<4		<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	-	-	<7	<7	<7		<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	-	-	<7	<7	<7		<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_1D_AR)	<7	<7	<7	<7	-	-	<7	<7	<7		<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH+HS_1D_AR)	<26	<26	<26	<26	-	-	<26	<26	<26		<26	mg/kg	TM5/PM8/PM16/PM12/PM18
Total aliphatics and aromatics(C5-40) (EH+HS_CU_1D_Total)	<52	<52	<52	<52	-	-	<52	<52	<52		<52	mg/kg	TM5/PM8/PM16/PM12/PM18
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1		<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_1D_AR)	<10	<10	<10	<10	-	-	<10	<10	<10		<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_1D_AR)	<10	<10	<10	<10	-	-	<10	<10	<10		<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	-	-	<5	<5	<5		<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	-	-	<35	<35	<35		<35	ug/kg	TM17/PM8

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

Please see attached notes for all abbreviations and acronyms

QF-PM 3.1.17 v3

Please include all sections of this report if it is reproduced

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

6 of 15

Matrix : Solid

7 of 15

Matrix : Solid

Location: Cartron Cranmore

Contact: Eoin Bryne

[illegible]

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.: 23/7911

SOILS and ASH

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. Asbestos samples are retained for 6 months.

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. Ash samples are dried at 37°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 overestimate 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.

STACK EMISSIONS

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 for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

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

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 requirement of our Accreditation Body 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.

Laboratory records are kept for a period of no less than 6 years.

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.

Customer Provided Information

Sample ID and depth is information provided by the customer.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	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

HWOL ACRONYMS AND OPERATORS USED

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

EMT Job No: 23/7911

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/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 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 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 8270D v5:2014 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 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	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
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.	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 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.	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 8270D v5:2014. 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 160.1/3 (TDS/TS: 1971) 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 CO ₂ generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes

EMT Job No: 23/7911

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	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 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 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	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 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 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	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 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 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM17	Modified method BS EN12457-2:2002 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
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 GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	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 GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	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) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes		AR	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) – All anions comparable to BS ISO 15923-1: 2013I	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		AD	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) – All anions comparable to BS ISO 15923-1: 2013I	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
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes

EMT Job No: 23/7911

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM61	Determination of Mercury by Cold Vapour Atomic Fluorescence - WATERS: Modified USEPA Method 245.7, Rev 2, Feb 2005. SOILS: Modified USEPA Method 7471B, Rev.2, Feb 2007	PM0	No preparation is required.	Yes		AR	Yes
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.			AR	Yes
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.	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 9214 - 340.2 (EPA 1998)	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 EN12457-2:2002 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 11465:1993(E) and BS1377-2:1990.			AR	
Subcontracted	See attached subcontractor report for accreditation status and provider.					AR	

APPENDIX 4 – HazWasteOnLine™ Report

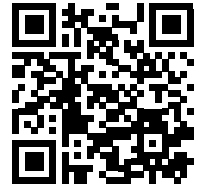


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Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



3OK7N-U4SY9-B3VSM

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Job name

Cartron Galway

Description/Comments

Project

13188-09-23

Site

Cartron Galway

Classified by

Name: **James Cashen** Company: **Ground Investigations Ireland Ltd**
Date: **12 Dec 2023 13:54 GMT**
Telephone:

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification
Most recent 3 year Refresher

Date

06 Aug 2020
03 Oct 2023

Next 3 year Refresher due by Oct 2026

Purpose of classification

7 - Disposal of Waste

Address of the waste

Oranmore, Galway

Post Code N/A

Description of industry/producer giving rise to the waste

New residential development

Description of the specific process, sub-process and/or activity that created the waste

Waste created from excavations

Description of the waste

Made Ground, Soil and Stone

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	IT02A-16/04/2023-1.00m		Non Hazardous		3
2	IT03C-16/04/2023-1.00m		Non Hazardous		5
3	IT04B-16/04/2023-0.50m		Non Hazardous		7
4	TP02-16/04/2023-1.00m		Non Hazardous		9
5	TP06-16/04/2023-0.50m		Non Hazardous		11
6	TP07-16/04/2023-0.50m		Non Hazardous		13
7	TP08-16/04/2023-0.50m		Non Hazardous		15

Related documents

#	Name	Description
1	Cartron Galway.HWOL	Element .hwol file used to populate the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: James Cashen

Created date: 12 Dec 2023 13:54 GMT

Appendices	Page
Appendix A: Classifier defined and non EU CLP determinands	17
Appendix B: Rationale for selection of metal species	18
Appendix C: Version	19

Classification of sample: IT02A-16/04/2023-1.00m

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
IT02A-16/04/2023-1.00m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
10.3%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	Entry:

Hazard properties

None identified

Determinands

Moisture content: 10.3% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<1 mg/kg	1.197	<1.197	mg/kg	<0.00012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				5.5 mg/kg	1.32	6.514	mg/kg	0.000651 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium oxide }				0.7 mg/kg	1.142	0.717	mg/kg	0.0000717 %	✓	
	048-002-00-0	215-146-2	1306-19-0								
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				19.8 mg/kg	1.462	25.958	mg/kg	0.0026 %	✓	
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8										
6	copper { dicopper oxide; copper (I) oxide }				8 mg/kg	1.126	8.079	mg/kg	0.000808 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	25 mg/kg	1.56	34.979	mg/kg	0.00224 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	molybdenum { molybdenum(VI) oxide }				1 mg/kg	1.5	1.346	mg/kg	0.000135 %	✓	
	042-001-00-9	215-204-7	1313-27-5								
10	nickel { nickel chromate }				10.2 mg/kg	2.976	27.231	mg/kg	0.00272 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				27 mg/kg	2.774	67.187	mg/kg	0.00672 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
13	TPH (C6 to C40) petroleum group				<52 mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH								
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
19	pH				8.59 pH		8.59 pH	8.59 pH			
			PH								
20	naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-883-8	191-24-2								
36	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
37	barium { barium sulphide }				23 mg/kg	1.233	25.448 mg/kg	0.00254 %		✓	
	016-002-00-X	244-214-4	21109-95-5								
38	coronene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-881-7	191-07-1								
39	benzo[j]fluoranthene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-035-00-X	205-910-3	205-82-3								
Total:									0.0243 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: IT03C-16/04/2023-1.00m

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
IT03C-16/04/2023-1.00m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
9.8%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	Entry:

Hazard properties

None identified

Determinands

Moisture content: 9.8% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<1 mg/kg	1.197	<1.197	mg/kg	<0.00012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				3.7 mg/kg	1.32	4.406	mg/kg	0.000441 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium oxide }				0.6 mg/kg	1.142	0.618	mg/kg	0.0000618 %	✓	
	048-002-00-0	215-146-2	1306-19-0								
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				26.2 mg/kg	1.462	34.54	mg/kg	0.00345 %	✓	
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8										
6	copper { dicopper oxide; copper (I) oxide }				6 mg/kg	1.126	6.093	mg/kg	0.000609 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	14 mg/kg	1.56	19.697	mg/kg	0.00126 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	molybdenum { molybdenum(VI) oxide }				1.3 mg/kg	1.5	1.759	mg/kg	0.000176 %	✓	
	042-001-00-9	215-204-7	1313-27-5								
10	nickel { nickel chromate }				8.5 mg/kg	2.976	22.819	mg/kg	0.00228 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				21 mg/kg	2.774	52.548	mg/kg	0.00525 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
13	TPH (C6 to C40) petroleum group				<52 mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH								
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
19	pH				8.79 pH		8.79 pH	8.79 pH			
			PH								
20	naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-883-8	191-24-2								
36	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
37	barium { barium sulphide }				19 mg/kg	1.233	21.14 mg/kg	0.00211 %		✓	
	016-002-00-X	244-214-4	21109-95-5								
38	coronene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-881-7	191-07-1								
39	benzo[j]fluoranthene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-035-00-X	205-910-3	205-82-3								
Total:									0.0215 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: IT04B-16/04/2023-0.50m

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
IT04B-16/04/2023-0.50m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
11%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	Entry:

Hazard properties

None identified

Determinands

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	 antimony { antimony trioxide }				<1 mg/kg	1.197	<1.197	mg/kg	<0.00012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	 arsenic { arsenic trioxide }				8.6 mg/kg	1.32	10.106	mg/kg	0.00101 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	 cadmium { cadmium oxide }				0.9 mg/kg	1.142	0.915	mg/kg	0.0000915 %	✓	
	048-002-00-0	215-146-2	1306-19-0								
4	 chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				42.5 mg/kg	1.462	55.283	mg/kg	0.00553 %	✓	
		215-160-9	1308-38-9								
5	 chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8										
6	 copper { dicopper oxide; copper (I) oxide }				7 mg/kg	1.126	7.014	mg/kg	0.000701 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
7	 lead { lead chromate }			1	40 mg/kg	1.56	55.529	mg/kg	0.00356 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
8	 mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	 molybdenum { molybdenum(VI) oxide }				2.3 mg/kg	1.5	3.071	mg/kg	0.000307 %	✓	
	042-001-00-9	215-204-7	1313-27-5								
10	 nickel { nickel chromate }				16.5 mg/kg	2.976	43.706	mg/kg	0.00437 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	 selenium { nickel selenate }				<1 mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	 zinc { zinc chromate }				39 mg/kg	2.774	96.291	mg/kg	0.00963 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
13	 TPH (C6 to C40) petroleum group				<52 mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH								
14	 tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	 benzene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
16	 toluene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
19	pH				8.51 pH		8.51 pH	8.51 pH			
			PH								
20	naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-883-8	191-24-2								
36	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
37	barium { barium sulphide }				32 mg/kg	1.233	35.13 mg/kg	0.00351 %		✓	
	016-002-00-X	244-214-4	21109-95-5								
38	coronene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-881-7	191-07-1								
39	benzo[j]fluoranthene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-035-00-X	205-910-3	205-82-3								
Total:									0.0345 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP02-16/04/2023-1.00m

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP02-16/04/2023-1.00m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
6.1% (wet weight correction)	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 6.1% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<1 mg/kg	1.197	<1.197	mg/kg	<0.00012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				3.5 mg/kg	1.32	4.339	mg/kg	0.000434 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium oxide }				0.4 mg/kg	1.142	0.429	mg/kg	0.0000429 %	✓	
	048-002-00-0	215-146-2	1306-19-0								
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				13 mg/kg	1.462	17.841	mg/kg	0.00178 %	✓	
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8										
6	copper { dicopper oxide; copper (I) oxide }				5 mg/kg	1.126	5.286	mg/kg	0.000529 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	20 mg/kg	1.56	29.293	mg/kg	0.00188 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	molybdenum { molybdenum(VI) oxide }				0.8 mg/kg	1.5	1.127	mg/kg	0.000113 %	✓	
	042-001-00-9	215-204-7	1313-27-5								
10	nickel { nickel chromate }				7.1 mg/kg	2.976	19.842	mg/kg	0.00198 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				20 mg/kg	2.774	52.098	mg/kg	0.00521 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
13	TPH (C6 to C40) petroleum group				<52 mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH								
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
19	pH				8.68 pH		8.68 pH	8.68 pH			
			PH								
20	naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-883-8	191-24-2								
36	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
37	barium { barium sulphide }				10 mg/kg	1.233	11.583 mg/kg	0.00116 %		✓	
	016-002-00-X	244-214-4	21109-95-5								
38	coronene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-881-7	191-07-1								
39	benzo[j]fluoranthene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-035-00-X	205-910-3	205-82-3								
Total:									0.019 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP06-16/04/2023-0.50m

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP06-16/04/2023-0.50m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
8.3% (wet weight correction)	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.3% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				<1 mg/kg	1.197	<1.197	mg/kg	<0.00012 %		<LOD
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				3.1 mg/kg	1.32	3.753	mg/kg	0.000375 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium oxide }				0.8 mg/kg	1.142	0.838	mg/kg	0.0000838 %	✓	
	048-002-00-0	215-146-2	1306-19-0								
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27.5 mg/kg	1.462	36.857	mg/kg	0.00369 %	✓	
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8										
6	copper { dicopper oxide; copper (I) oxide }				5 mg/kg	1.126	5.162	mg/kg	0.000516 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	7 mg/kg	1.56	10.012	mg/kg	0.000642 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	molybdenum { molybdenum(VI) oxide }				1.4 mg/kg	1.5	1.926	mg/kg	0.000193 %	✓	
	042-001-00-9	215-204-7	1313-27-5								
10	nickel { nickel chromate }				9.8 mg/kg	2.976	26.747	mg/kg	0.00267 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				15 mg/kg	2.774	38.158	mg/kg	0.00382 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
13	TPH (C6 to C40) petroleum group				<52 mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH								
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
19	pH				8.75 pH		8.75 pH	8.75 pH			
			PH								
20	naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-883-8	191-24-2								
36	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
37	barium { barium sulphide }				20 mg/kg	1.233	22.622 mg/kg	0.00226 %		✓	
	016-002-00-X	244-214-4	21109-95-5								
38	coronene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-881-7	191-07-1								
39	benzo[j]fluoranthene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-035-00-X	205-910-3	205-82-3								
Total:									0.0201 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP07-16/04/2023-0.50m

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP07-16/04/2023-0.50m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
14.1% (wet weight correction)	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 14.1% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	 antimony { antimony trioxide }				1 mg/kg	1.197	1.028	mg/kg	0.000103 %	✓	
	051-005-00-X	215-175-0	1309-64-4								
2	 arsenic { arsenic trioxide }				15 mg/kg	1.32	17.012	mg/kg	0.0017 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	 cadmium { cadmium oxide }				1.1 mg/kg	1.142	1.079	mg/kg	0.000108 %	✓	
	048-002-00-0	215-146-2	1306-19-0								
4	 chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				84.9 mg/kg	1.462	106.59	mg/kg	0.0107 %	✓	
		215-160-9	1308-38-9								
5	 chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8										
6	 copper { dicopper oxide; copper (I) oxide }				11 mg/kg	1.126	10.639	mg/kg	0.00106 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
7	 lead { lead chromate }			1	89 mg/kg	1.56	119.249	mg/kg	0.00765 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
8	 mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	 molybdenum { molybdenum(VI) oxide }				4.5 mg/kg	1.5	5.799	mg/kg	0.00058 %	✓	
	042-001-00-9	215-204-7	1313-27-5								
10	 nickel { nickel chromate }				28.1 mg/kg	2.976	71.841	mg/kg	0.00718 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	 selenium { nickel selenate }				<1 mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	 zinc { zinc chromate }				78 mg/kg	2.774	185.873	mg/kg	0.0186 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
13	 TPH (C6 to C40) petroleum group				<52 mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH								
14	 tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	 benzene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
16	 toluene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
19	pH				8.49 pH		8.49 pH	8.49 pH			
			PH								
20	naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-883-8	191-24-2								
36	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
37	barium { barium sulphide }				51 mg/kg	1.233	54.038 mg/kg	0.0054 %		✓	
	016-002-00-X	244-214-4	21109-95-5								
38	coronene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-881-7	191-07-1								
39	benzo[j]fluoranthene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-035-00-X	205-910-3	205-82-3								
Total:									0.0587 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP08-16/04/2023-0.50m

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP08-16/04/2023-0.50m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
20.6%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	Entry:

Hazard properties

None identified

Determinands

Moisture content: 20.6% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	antimony { antimony trioxide }				2 mg/kg	1.197	1.901	mg/kg	0.00019 %	✓	
	051-005-00-X	215-175-0	1309-64-4								
2	arsenic { arsenic trioxide }				10.5 mg/kg	1.32	11.008	mg/kg	0.0011 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
3	cadmium { cadmium oxide }				<0.1 mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
	048-002-00-0	215-146-2	1306-19-0								
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				81.7 mg/kg	1.462	94.811	mg/kg	0.00948 %	✓	
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8										
6	copper { dicopper oxide; copper (I) oxide }				14 mg/kg	1.126	12.515	mg/kg	0.00125 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	54 mg/kg	1.56	66.879	mg/kg	0.00429 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	molybdenum { molybdenum(VI) oxide }				4.1 mg/kg	1.5	4.884	mg/kg	0.000488 %	✓	
	042-001-00-9	215-204-7	1313-27-5								
10	nickel { nickel chromate }				24.4 mg/kg	2.976	57.661	mg/kg	0.00577 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				1 mg/kg	2.554	2.028	mg/kg	0.000203 %	✓	
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				64 mg/kg	2.774	140.971	mg/kg	0.0141 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
13	TPH (C6 to C40) petroleum group				<52 mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH								
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005 mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	ethylbenzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
18	xylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
19	pH				7.94 pH		7.94 pH	7.94 pH			
			PH								
20	naphthalene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
23	fluorene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		201-695-5	86-73-7								
24	phenanthrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		201-581-5	85-01-8								
25	anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		204-371-1	120-12-7								
26	fluoranthene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		205-912-4	206-44-0								
27	pyrene				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %			<LOD
		204-927-3	129-00-0								
28	benzo[a]anthracene				<0.06 mg/kg		<0.06 mg/kg	<0.000006 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-883-8	191-24-2								
36	polychlorobiphenyls; PCB				<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
37	barium { barium sulphide }				69 mg/kg	1.233	67.578 mg/kg	0.00676 %		✓	
	016-002-00-X	244-214-4	21109-95-5								
38	coronene				<0.04 mg/kg		<0.04 mg/kg	<0.000004 %			<LOD
		205-881-7	191-07-1								
39	benzo[j]fluoranthene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-035-00-X	205-910-3	205-82-3								
Total:									0.0491 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non EU CLP determinands

■ **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

■ **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

EU CLP index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

■ **pH** (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

■ **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

■ **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

■ **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

■ **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

■ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

■ **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

EU CLP index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

29 Sep 2015 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

■ **barium sulphide** (EC Number: 244-214-4, CAS Number: 21109-95-5)

EU CLP index number: 016-002-00-X

Description/Comments:

Additional Hazard Statement(s): EUH031 >= 0.8 %

Reason for additional Hazards Statement(s):

14 Dec 2015 - EUH031 >= 0.8 % hazard statement sourced from: WM3, Table C12.2

■ **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.

Data source: <http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en>

Data source date: 16 Jun 2014

Hazard Statements: STOT SE 2; H371

Appendix B: Rationale for selection of metal species

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings (edit as required)

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in chromium(VI) compounds {chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

barium {barium sulphide}

No Cr VI detected

Appendix C: Version

HazWasteOnline Classification Engine: EU WM3 1st Edition v1.1.NI using the EU LoW

HazWasteOnline Classification Engine Version: 2023.341.5847.10836 (07 Dec 2023)

HazWasteOnline Database: 2023.341.5847.10836 (07 Dec 2023)

This classification utilises the following guidance and legislation:

WM3 v1.1.NI - Waste Classification - 1st Edition v1.1.NI - Jan 2021

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020

17th ATP - Regulation (EU) 2021/849 of 11 March 2021

18th ATP - Regulation (EU) 2022/692 of 16 February 2022

19th ATP - Regulation (EU) 2023/1434 of 25 April 2023

20th ATP - Regulation (EU) 2023/1435 of 25 2 May 2023

APPENDIX 5 – WAC Summary Data



Waste Categorisation Summary Table

Cartron Galway

Sample ID	IT02A	IT03C	IT04B	TP02	TP06	TP07	TP08	 GROUND INVESTIGATIONS IRELAND Geotechnical & Environmental				
Sample Depth (m)	1.00	1.00	0.50	1.00	0.50	0.50	0.50					
Material Description	Clay	Clay	Clay	Gravel	Gravel	Made Ground	Made Ground					
Sample Date	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023	16/04/2023					
LoW Code	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04					
Waste Category	Category A	Category A	Category A	Category A	Category A	Category B1	Category B2	Inert Criteria	Walshestown / IMS* Criteria	Hazardous Criteria	LOD LOR	Units
Metals												
Antimony	<1	<1	<1	<1	<1	1	2	-	-	HazWaste	<1	mg/kg
Arsenic	5.5	3.7	8.6	3.5	3.1	15	10.5	-	-	HazWaste	<0.5	mg/kg
Barium	23	19	32	10	20	51	69	-	-	HazWaste	<1	mg/kg
Cadmium	0.7	0.6	0.9	0.4	0.8	1.1	<0.1	-	-	HazWaste	<0.1	mg/kg
Chromium	19.8	26.2	42.5	13	27.5	84.9	81.7	-	-	HazWaste	<0.5	mg/kg
Copper	8	6	7	5	5	11	14	-	-	HazWaste	<1	mg/kg
Lead	25	14	40	20	7	89	54	-	-	HazWaste	<5	mg/kg
Mercury	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	HazWaste	<0.1	mg/kg
Molybdenum	1	1.3	2.3	0.8	1.4	4.5	4.1	-	-	HazWaste	<0.1	mg/kg
Nickel	10.2	8.5	16.5	7.1	9.8	28.1	24.4	-	-	HazWaste	<0.7	mg/kg
Selenium	<1	<1	<1	<1	<1	<1	1	-	-	HazWaste	<1	mg/kg
Zinc	27	21	39	20	15	78	64	-	-	HazWaste	<5	mg/kg
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	HazWaste	<0.3	mg/kg
pH (solid sample)	8.59	8.79	8.51	8.68	8.75	8.49	7.94	-	-	HazWaste	<0.01	pH units
alkali reserve	-	-	-	-	-	-	-	-	-	-	<0.000	gNaOH/100g
Asbestos												
Asbestos (Dry Weight)	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	-	-	%
ACM Detected	-	-	-	-	-	-	-	-	-	-	Presence	Presence
PAHs												
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Phenanthrene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Fluoranthene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Pyrene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Benzo(a)anthracene	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	-	-	HazWaste	<0.06	mg/kg
Chrysene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(b)fluoranthene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	-	-	HazWaste	<0.07	mg/kg
Benzo(a)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Dibenzo(a,h)anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Benzo(g,h,i)perylene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
PAH 6 Total	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	100	-	<0.64	mg/kg
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	-	-	HazWaste	<1	mg/kg
Hydrocarbons												
TPH (C5-40)	<52	<52	<52	<52	<52	<52	<52	-	-	HazWaste	<52	mg/kg
MTBE	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Benzene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Toluene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
m,p-Xylene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
o-Xylene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	1,000	1,000	HazWaste	<35	ug/kg
WAC** Solid Sample Summary												
Total Organic Carbon*	0.40	0.17	0.29	0.15	0.17	0.70	1.03	3	6	-	<0.02	%
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	6	-	<0.025	mg/kg
Sum of 7 PCBs	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	1	-	<0.035	mg/kg
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	500	500	-	<30	mg/kg
PAH Sum of 6	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	100	-	<0.64	mg/kg
WAC** Leachate Data												
Arsenic	<0.025	<0.025	0.036	<0.025	<0.025	<0.025	0.027	0.5	1.5	-	<0.025	mg/kg
Barium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.09	20	20	-	<0.03	mg/kg
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	0.04	-	<0.005	mg/kg
Chromium	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	0.5	-	<0.015	mg/kg
Copper	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	2	-	<0.07	mg/kg
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	0.01	0.01	-	<0.0001	mg/kg
Molybdenum	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.04	0.5	1.5	-	<0.02	mg/kg
Nickel	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	0.4	-	<0.02	mg/kg
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	0.5	-	<0.05	mg/kg
Antimony	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.18	-	<0.02	mg/kg
Selenium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.3	-	<0.03	mg/kg
Zinc	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	4	4	-	<0.03	mg/kg
Total Dissolved Solids	510	360	650	360	<350	560	1000	4000	12,000	-	<350	mg/kg
Dissolved Organic Carbon	30	<20	30	<20	<20	40	60	500	500	-	<20	mg/kg
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	<0.1	mg/kg
Fluoride	7	4	5	<3	7	6	11	10	10	-	<3	mg/kg
Sulphate as SO4	<5	<5	<5	<5	<5	<5	7	1000	3,000	-	<0.5	mg/kg
Chloride	<3	<3	<3	<3	<3	<3	4	800	2,400	-	<3	mg/kg

NAD:- no asbestos detected

*:- Integrated Materials Solutions Landfill, Hollywood Great, Nag's Head, The Naul, Co. Dublin

**:- limits as specified in Council Decision 2003/33/EC

