
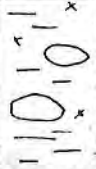
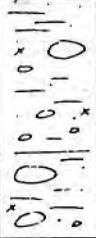


Oweninny Wind Farm Phase 3




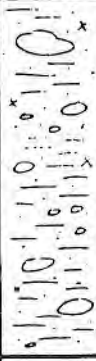
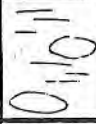
Environmental Impact Assessment Report

Appendix 9.5 2013 Site Investigation Report

Appendix No.3
Rotary Coring Records

IRISH DRILLING LTD.							Borehole 6
Contract Oweninny Windmill Site. & Location Bellacorick, Co. Mayo.						Rig: Hydreq	
Client : Bord Na Mona / Nordtank Energy Group.						Cons. Engrs.:	
Date: 23 March '92		Circulation Fluid : Water		Bit size/Core dia. : HQ		Casing dia. : HQ	
Description	Depth (m)	Reduced Level (m)	Legend	Core Run (m)	Total Core rcy %	Solid Core rcy %	RQD %
Brown clayey silty sand.	4.00						
Hard Boulder Clay or weathered rock. (Full water return)	7.00			7.00	3.3	0	0
Boulder Clay with limestone and sandstone gravel.	10.00			10.00			
			END				

Remarks: Open hole to 7.0m. Full water loss to 4.00m. Full water return and pressure between 4.0m and 7.0m. Attempted coring Boulder Clay from 7.0m to 10.0m.

IRISH DRILLING LTD.							Borehole 11	
Contract Oweninny Windmill Site. & Location Bellacorick, Co. Mayo.							Rig: Hydreq	
Client : Bord Na Mona / Nordtank Energy Group. Cons. Engrs.:								
Date: 24 March '92		Circulation Fluid : Water		Bit size/Core dia. : HQ		Casing dia. : HQ		
Description	Depth (m)	Reduced Level (m)	Legend	Core Run (m)	Total Core rcy %	Solid Core rcy %	RQD %	
Very soft peat/clay.	1.50							
Boulder Clay	1.90							
Clay/Silt/Sand	3.70							
Boulder Clay	9.50			9.50	35	0	0	
Boulders and Clay.	11.50			11.50				
			END					

Remarks: Open hole to 9.5m. Attempted coring Boulder Clay from 9.5m to 11.5m.


IRISH DRILLING LTD.							Borehole 14	
Contract Oweninny Windmill Site. & Location Bellacorick, Co. Mayo.							Rig: Hydreq	
Client : Bord Na Mona / Nordtank Energy Group.							Cons. Engrs.:	
Date: 24 March '92		Circulation Fluid : Water		Bit size/Core dia. : HQ		Casing dia. : HQ		
Description	Depth (m)	Reduced Level (m)	Legend	Core Run (m)	Total Core rcy %	Solid Core rcy %	RQD %	
Very soft peat/clay.	0.90							
Gravel and Clay.	3.70							
Silt/Sand	4.70							
Clay	5.80							
Silt/Sand	8.00							
Boulder Clay.	9.70							
			END					

Remarks: Open hole to 9.7m. Water loss at 6.60m

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-2
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		

Ground level: m O.D.	DATE: 5.5.00
-----------------------------	---------------------

GROUNDWATER Water strikes: 1st: 1.00m 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ
--	---

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00							Brown gravelly silty SAND, with roots (medium dense)
-1						-1.00	1.00	Brown sandy GRAVEL with with many sub-rounded cobbles and occasional boulders. (dense, 'running')
-2	05.05.00				END	-2.50	2.50	Abandoned due to 'running' gravel
-3								
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Slow water inflow below 1.00m Pit sides unstable	Scale: 1:50
---	-----------------------

TRIALPIT BELACRICK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:
 Co-ordinates: N E
 TRIALPIT: TP-3
 Sheet 1 of 1
 Rig: Hitachi EX-120

Ground level: m O.D. DATE: 5.5.00

GROUNDWATER
 Water strikes:
 1st: 0.90m
 2nd:
 3rd:
 PIT DIRECTION:
 PIT DIMENSION: 1.00 * 3.00m
 LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00					-0.10	0.10	PEAT Brown very silty SAND.
						-0.60	0.60	Brown (very wet) SAND and GRAVEL with cobbles and boulders 'running'
						-1.60	1.60	Brown silty sandy GRAVEL with cobbles
	05.05.00					-2.60	2.60	Abandoned due to 'running' gravel
-3					END			
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Very fast water inflow from 0.90m to 1.60m
 Pit sides unstable
 Scale: 1:50

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:
 Co-ordinates: N E
 TRIALPIT: TP-5
 Sheet 1 of 1
 Rig: Hitachi EX-120
 DATE: 5.5.00

Ground level: m O.D.
GROUNDWATER
 Water strikes:
 1st: 0.50m
 2nd:
 3rd:
PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ


Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00							Brown slightly gravelly silty SAND.
-1						-0.50	0.50	Grey gravelly very silty SAND. ('running' badly)
-3						-3.20	3.20	Grey very silty sandy GRAVEL with some sub-rounded cobbles.
-4	05.05.00				END	-4.00	4.00	Abandoned
-5								
-6								
-7								
-8								
-9								
-10								

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

Remarks: Pit sides unstable
 Very wet from 0.50-3.20m - dry below 3.20m
 Scale: 1:50

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:
 Co-ordinates: N E
 TRIALPIT: TP-6
 Sheet 1 of 1
 Rig: Hitachi EX-120
 DATE: 5.5.00

Ground level: m O.D.
GROUNDWATER
 Water strikes:
 1st: dry
 2nd:
 3rd:
PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00							Brown slightly gravelly silty SAND.
						-0.40	0.40	
-1								Grey very silty SAND and GRAVEL with occasional sub-rounded cobbles. ('running')
-2								
-3								
-4	05.05.00					-3.70	3.70	
						-4.00	4.00	Grey very silty SAND and GRAVEL with occasional sub-rounded cobbles and boulders. (dense)
					END			Abandoned
5								
6								
7								
8								
9								
10								

Remarks: Pit sides unstable wet/damp from 0.50-3.70m
 Scale: 1:50

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:
 Co-ordinates: N E
 TRIALPIT: TP-7
 Sheet 1 of 1
 Rig: Hitachi EX-120
 DATE: 5.5.00

Ground level: m O.D.
GROUNDWATER
 Water strikes:
 1st: 0.60m
 2nd:
 3rd:
PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00					-0.60	0.60	Brown slightly gravelly silty SAND.
1								Grey gravelly silty SAND with occasional sub-rounded cobbles. ('running')
3						-3.00	3.00	Firm to stiff grey very gravelly, very sandy SILT with sub-rounded cobbles and boulders.
4	05.05.00				END	-3.80	3.80	Abandoned
5								
6								
7								
8								
9								
10								

Remarks: Pit sides unstable wet/runny from 0.60-3.00m
 Scale: 1:50

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-8
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		DATE: 5.5.00

Ground level: m O.D.	
GROUNDWATER Water strikes: 1st: dry 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00					-0.10	0.10	PEAT Brown slightly gravelly silty SAND.
						-0.50	0.50	Grey very silty very sandy GRAVEL with sub-rounded to sub-angular cobbles and occasional sub-rounded boulders. (runny)
						-3.60	3.60	Grey very silty very sandy GRAVEL with sub-rounded to sub-angular cobbles and occasional sub-rounded boulders. (becoming medium dense)
-4	05.05.00				END	-4.20	4.20	Abandoned
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable wet/damp from 0.50-3.60m	Scale: 1:50
---	-----------------------

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-9
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		DATE: 5.5.00

GROUNDWATER Water strikes: 1st: 2.00m 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ
--	---

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00					-0.60	0.60	Brown slightly gravelly very silty SAND.
-1						-1.60	1.60	Grey very silty sandy GRAVEL.
-2								Grey silty very sandy GRAVEL with many sub-rounded cobbles. ('running')
-3	05.05.00				END	-3.00	3.00	Abandoned - 'running'
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable fast water inflow below 2.00m	Scale: 1:50
---	-----------------------

TRIALPIT BELACRICK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
LOCATION: Bellacorick, Co. Mayo
CLIENT: Bord Na Mona
ENGINEER:
Co-ordinates: N E
TRIALPIT: TP-10
Sheet 1 of 1
Rig: Hitachi EX-120
DATE: 5.5.00

GROUNDWATER
Water strikes:
 1st: 1.90m
 2nd:
 3rd:
PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00					-0.10	0.10	PEAT Grey very silty sandy GRAVEL, with occasional cobbles.
1						-1.10	1.10	Grey silty sandy GRAVEL with cobbles. (Dense)
2						-2.00	2.00	Grey SAND and GRAVEL. (running')
3	05.05.00				END	-2.80	2.80	Abandoned - 'running'
4								
5								
6								
7								
8								
9								
10								

Remarks: Pit sides unstable
fast water inflow below 1.90m
Scale: 1:50

TRIALPIT BELACRIK.GPJ IRISHDRL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
LOCATION: Bellacorick, Co. Mayo
CLIENT: Bord Na Mona
ENGINEER:
Co-ordinates: N E
Rig: Hitachi EX-120
TRIALPIT: TP-11
Sheet 1 of 1
DATE: 5.5.00

GROUNDWATER
 Water strikes:
 1st: 0.70m
 2nd:
 3rd:
PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00							Brown slightly gravelly silty SAND.
-1						-0.70	0.70	Grey gravelly silty SAND with occasional sub-rounded cobbles and boulders. ('running')
-3						-3.20	3.20	Grey gravelly silty SAND with occasional sub-rounded cobbles and boulders. (becoming medium dense)
-4	05.05.00				END	-4.00	4.00	Abandoned
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable
 Soil wet from 0.70m to 3.20m ; 'dry' below 3.2m
Scale: 1:50

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:

TRIALPIT: TP-12
 Sheet 1 of 1





Co-ordinates:
 N E

Rig: Hitachi EX-120

Ground level: m O.D.
GROUNDWATER
 Water strikes:
 1st: 1.00m
 2nd:
 3rd:

DATE: 5.5.00

PIT DIRECTION:
 PIT DIMENSION: 1.00 * 3.00m
 LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00							PEAT
						-0.30	0.30	Brown slightly gravelly silty SAND. ('running' badly)
-1						-1.00	1.00	Grey very silty sandy GRAVEL with many sub-rounded cobbles and occasional boulders. ('running')
-2						-3.50	3.50	Grey very silty sandy GRAVEL with many sub-rounded cobbles and occasional boulders. (medium dense)
-3						-4.20	4.20	Abandoned
-4	05.05.00				END			
-5								
-6								
-7								
-8								
-9								
-10								





Remarks: Pit sides unstable
 Slow to medium water inflow from 1.0m to 3.0m

Scale:
 1:50

TRIALPIT BELACRICK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-13
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		DATE: 5.5.00

Ground level: m O.D. GROUNDWATER Water strikes: 1st: 1.10m 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ
---	---

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	05.05.00					-0.30	0.30	PEAT
								Grey very gravelly silty SAND.
-1						-1.10	1.10	Grey sandy GRAVEL with many sub-rounded cobbles. (‘running’)
-2	05.05.00					-2.50	2.50	Abandoned
-3					END			
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable Very fast water inflow below 1.1m	Scale: 1:50
---	-----------------------

TRIALPIT BELACRIK.GPJ IRISHDRILLING 25/09/00

PROJECT: Proposed Extension to Wind Farm
LOCATION: Bellacorick, Co. Mayo
CLIENT: Bord Na Mona
ENGINEER:

TRIALPIT: TP-14
 Sheet 1 of 1
Rig: Hitachi EX-120

Co-ordinates:
 N E

Ground level: m O.D. **DATE:** 8.5.00

GROUNDWATER
 Water strikes:
 1st: 2.90m
 2nd:
 3rd:

PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.15	0.15	PEAT Brown very gravelly SAND with much sub-rounded to rounded cobbles. (loose)
-1						-1.30	1.30	Brown slightly silty SAND and GRAVEL with many sub-rounded to rounded cobbles. (loose)
-2								
-3	08.05.00				END	-2.90	2.90	Abandoned - due to 'running' gravel
-4								
-5								
-6								
-7								
-8								
-9								
-10								

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

Remarks: Pit sides unstable
 Slow water inflow below 2.9m
 GRID: IG00416, ITM23184

Scale:
 1:50

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:
 Co-ordinates: N E
 TRIALPIT: TP-15
 Sheet 1 of 1
 Rig: Hitachi EX-120
 DATE: 8.5.00

Ground level: m O.D.
GROUNDWATER
 Water strikes:
 1st: 2.10m
 2nd:
 3rd:
PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.10	0.10	PEAT
								Brown silty SAND and GRAVEL with many sub-rounded cobbles. (loose to medium dense)
1		B	1.00-1.50					
2						-2.10	2.10	Brown silty SAND and GRAVEL with many sub-rounded cobbles. ('running')
	08.05.00					-2.60	2.60	Abandoned - due to 'running' gravel
3					END			
4								
5								
6								
7								
8								
9								
10								

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

Remarks: Pit sides unstable
 Very fast water inflow below 2.1m
 GRID: IF99892, ITM23070
 Scale: 1:50


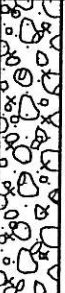

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:

TRIALPIT: TP-16
 Sheet 1 of 1
 Co-ordinates: N E
 Rig: Hitachi EX-120

Ground level: m O.D.
 GROUNDWATER
 Water strikes:
 1st: 2.20m
 2nd:
 3rd:

PIT DIRECTION:
 PIT DIMENSION: 1.00 * 3.00m
 LOGGED BY: DJ

DATE: 8.5.00

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.20	0.20	PEAT
-1								Brown very silty sandy GRAVEL with occasional sub-rounded cobbles. (dense)
-2						-2.20	2.20	Brown SAND and GRAVEL with many sub-rounded cobbles and occasional boulders. ('running')
-3	08.05.00				END	-3.00	3.00	Abandoned - due to 'running' gravel
-4								
-5								
-6								
-7								
-8								
-9								
-10								

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

Remarks: Pit sides unstable
 Very fast water inflow below 2.2m
 GRID: IF99569, ITM22982

Scale: 1:50
 Ph. 091 841274
 Fax 091 841433

PROJECT: Proposed Extension to Wind Farm

TRIALPIT: TP-17

LOCATION: Bellacorick, Co. Mayo

Sheet 1 of 1

CLIENT: Bord Na Mona

Co-ordinates:
N E

Rig: Hitachi EX-120

ENGINEER:

Ground level: m O.D.

DATE: 8.5.00

GROUNDWATER

Water strikes:
1st: 2.00m
2nd:
3rd:

PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION	
0	08.05.00					-0.30	0.30	PEAT	
								Brown very silty SAND and GRAVEL with occasional sub-rounded cobbles.	
-1							-1.20	1.20	Brown SAND and GRAVEL with many sub-rounded cobbles.
-2							-2.00	2.00	Grey very gravelly (coarse) SAND with occasional sub-rounded cobbles. ('running')
-3	08.05.00				END	-3.00	3.00	Abandoned - due to 'running' gravel	
-4									
-5									
-6									
-7									
-8									
-9									
-10									

Remarks: Pit sides unstable
Fast water inflow below 2.0m
GRID: IF99293, ITM22938

Scale:
1:50

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
LOCATION: Bellacorick, Co. Mayo
CLIENT: Bord Na Mona
ENGINEER:

TRIALPIT: TP-18
Sheet 1 of 1

Co-ordinates:
 N E

Rig: Hitachi EX-120

Ground level: m O.D.

DATE: 8.5.00

GROUNDWATER

Water strikes:
 1st: 1.20m
 2nd:
 3rd:

PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.30	0.30	Brown gravelly silty SAND.
								Brown silty SAND and GRAVEL.
-1						-1.10	1.10	Grey slightly gravelly (medium to coarse) SAND. ('running')
-2	08.05.00					-2.50	2.50	
-3					END			Abandoned - due to 'running' sand and gravel
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable
 Fast water inflow below 1.2m
 GRID: IF99436, ITM23379

Scale:

1:50

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:

TRIALPIT: TP-19
 Sheet 1 of 1
 Co-ordinates: N E
 Rig: Hitachi EX-120

Ground level: m O.D.
 GROUNDWATER
 Water strikes:
 1st: dry
 2nd:
 3rd:

PIT DIRECTION:
 PIT DIMENSION: 1.00 * 3.00m
 LOGGED BY: DJ
 DATE: 8.5.00

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.20	0.20	Brown peaty sandy GRAVEL.
						-0.50	0.50	Brown gravelly silty SAND.
-1								Grey very silty sandy GRAVEL ('running' - loose).
-2						-1.50	1.50	Grey very gravelly very silty SAND with some sub-rounded cobbles and occasional boulders. ('running')
-3								2.20-3.40: becoming medium dense
-4	08.05.00					-4.00	4.00	3.40-4.00: becoming dense and 'drier'
-5					END			Abandoned - due to 'running' sand and gravel
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable
 Pit dry
 GRID: IF99973, ITM23769
 Scale: 1:50

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:

TRIALPIT: TP-20
 Sheet 1 of 1
 Co-ordinates: N E
 Rig: Hitachi EX-120
 DATE: 8.5.00

Ground level: m O.D.
GROUNDWATER
 Water strikes:
 1st: 1.20m
 2nd:
 3rd:

PIT DIRECTION:
 PIT DIMENSION: 1.00 * 3.00m
 LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.20	0.20	Brown peaty GRAVEL.
						-0.40	0.40	Brown silty SAND.
-1								Grey very gravelly silty SAND with occasional cobbles and occasional boulders. ('running' - very loose)
-2	08.05.00					-2.50	2.50	
-3					END			Abandoned - due to 'running' sand
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable
 Pit dry
 GRID: IF99672, ITM23917

Scale: 1:50

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm	TRIALPIT: TP-21
LOCATION: Bellacorick, Co. Mayo	Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E
ENGINEER:	Rig: Hitachi EX-120

Ground level: m O.D.	DATE: 8.5.00
GROUNDWATER Water strikes: 1st: 1.00m 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00				[Symbol]	-0.20	0.20	PEAT
					[Symbol]			Brown/grey slightly gravelly silty SAND.
-1					[Symbol]	-1.00	1.00	Grey silty SAND and GRAVEL with occasional sub-rounded and sub-angular cobbles. ('running' - very loose)
	08.05.00				[Symbol]	-2.50	2.50	Abandoned - due to 'running' sand
-3					END			
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable Slow water inflow below 1.0m GRID: IF99913, ITM24454	Scale: 1:50
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TRIALPIT BELACRIK.GPJ IRISHDR.L.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-22
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona		Co-ordinates: N E
ENGINEER:		Rig: Hitachi EX-120
Ground level: m O.D.		DATE: 8.5.00

GROUNDWATER Water strikes: 1st: 2.20m 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ
--	---

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00							Brown (medium to coarse) silty SAND.
-1						-0.80	0.80	Grey (medium to coarse) silty SAND with occasional (fine) sand lenses. (loose)
-2						-2.20	2.20	Grey (medium to coarse) silty SAND with occasional (fine) sand lenses. ('running' - loose)
-3	08.05.00					-3.00	3.00	Abandoned - due to 'running' sand
-4					END			
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable Slow water inflow below 2.2m GRID: 1G00277, ITM24850	Scale: 1:50
---	-----------------------

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-23
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		DATE: 8.5.00

Ground level: m O.D. GROUNDWATER Water strikes: 1st: 1.50m 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ
---	---

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.20	0.20	PEAT
								Brown silty SAND. (loose)
-1						-1.10	1.10	Grey silty SAND. (‘running’ - loose)
-2		B	2.00-3.00					
-3	08.05.00					-3.00	3.00	
					END			Abandoned - due to 'running' sand
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable Slow water inflow below 1.5m GRID: IG00250, ITM25316	Scale: 1:50
---	-----------------------

TRIALPIT BELACRIK.GPJ IRISHDRLL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-24
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		DATE: 8.5.00

Ground level: m O.D.	
GROUNDWATER Water strikes: 1st: dry 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00				x x x x	-0.60	0.60	Pale brown silty SAND. (loose)
-1						-1.50	1.50	Grey silty, slightly gravelly SAND with some rounded and sub-rounded cobbles.
-2						-3.20	3.20	Grey very gravelly, very silty SAND, with sub-rounded and sub-angular cobbles and boulders. (medium dense)
-3	08.05.00					-3.50	3.50	Grey very gravelly, very silty SAND, with sub-rounded and sub-angular cobbles and boulders. (dense)
-4					END			Abandoned - due to 'running' sand
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable Pit dry GRID: IG00187, ITM25608	Scale: 1:50
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TRIALPIT BELACRICK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-25
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		DATE: 8.5.00

Ground level: m O.D. GROUNDWATER Water strikes: 1st: dry 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ
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Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00				x	-0.20	0.20	Pale brown silty SAND. (loose)
					○	-0.60	0.60	Brown gravelly silty SAND.
-1					○			Grey silty SAND and GRAVEL, with some sub-rounded cobbles and boulders. (loose to medium dense and frequently 'dauby')
-2					○			
-3					○	-3.20	3.20	Grey very silty SAND and GRAVEL, with sub-rounded cobbles and boulders. (medium dense to dense)
-4	08.05.00				END	-3.70	3.70	Abandoned
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides stable Pit dry GRID: IF99545, ITM24797	Scale: 1:50
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TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00





PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-27
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		DATE: 8.5.00

Ground level: m O.D.	
GROUNDWATER Water strikes: 1st: dry 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.10	0.10	PEAT Brown very silty SAND and GRAVEL, with occasional sub-rounded cobbles and boulders.
-1						-0.60	0.60	Grey silty SAND and GRAVEL, with occasional sub-rounded cobbles and boulders. (loose and 'wet')
-2								
-3								
-3						-3.20	3.20	Grey SAND and GRAVEL, with occasional sub-rounded cobbles and boulders. (medium dense)
-4	08.05.00				END	-3.60	3.60	Abandoned
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable Pit dry GRID: IF99219, ITM23672	Scale: 1:50
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TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm							TRIALPIT: TP-28	
LOCATION: Bellacorick, Co. Mayo							Sheet 1 of 1	
CLIENT: Bord Na Mona					Co-ordinates: N E		Rig: Hitachi EX-120	
ENGINEER:							DATE: 8.5.00	
Ground level: m O.D.								
GROUNDWATER Water strikes: 1st: 1.50m 2nd: 3rd:					PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ			
Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.20	0.20	PEAT
								Brown gravelly silty SAND.
-1						-0.70	0.70	Grey silty sandy GRAVEL, with occasional sub-rounded cobbles. ('running below 1.60m')
-2	08.05.00					-2.50	2.50	Abandoned - running gravel
-3					END			
-4								
-5								
-6								
-7								
-8								
-9								
-10								




TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

Remarks: Pit sides unstable
Fast water inflow below 1.5m
GRID: IF98920, ITM23300

Scale:
1:50

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-29
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		DATE: 8.5.00

Ground level: m O.D.	
GROUNDWATER Water strikes: 1st: 1.50m 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.30	0.30	PEAT
						-0.60	0.60	Brown gravelly silty SAND.
-1								Grey silty sandy GRAVEL, with thin lenses of fine sand. ('running below 1.00m')
-3	08.05.00				END	-3.00	3.00	Abandoned - running gravel
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable Fast water inflow below 1.5m GRID: IF98490, ITM22834	Scale: 1:50
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TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:

TRIALPIT: TP-31
 Sheet 1 of 1
 Co-ordinates:
 N E
 Rig: Hitachi EX-120

Ground level: m O.D.
 DATE: 8.5.00
GROUNDWATER
 Water strikes:
 1st: dry
 2nd:
 3rd:
PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00				∩ ∩ ∩			PEAT
					x x x	-0.50	0.50	Pale brown silty (fine to medium) SAND.
-1					x x x			
-2					x x x			
-3	08.05.00				x x x	-3.00	3.00	Abandoned - collapse of sides
-4					END			
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable
 Pit dry
 GRID: IF98896, ITM22558
 Scale: 1:50

TRIALPIT BELACRIK.GPI IRISHDRLL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:
 Co-ordinates: N E
 TRIALPIT: TP-32
 Sheet 1 of 1
 Rig: Hitachi EX-120
 DATE: 8.5.00

Ground level: m O.D.
GROUNDWATER
 Water strikes:
 1st: dry
 2nd:
 3rd:
 PIT DIRECTION:
 PIT DIMENSION: 1.00 * 3.00m
 LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	08.05.00					-0.20	0.20	PEAT
								Brown silty (fine to medium) SAND.
-1						-0.80	0.80	Brown gravelly very silty (fine to medium) SAND.
-2								
-3								
-4	08.05.00					-4.20	4.20	Abandoned - collapse of sides
-5					END			
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable
 Pit dry
 GRID: IF98502, ITM22243
 Scale: 1:50

TRIALPIT BELACRUK.GPJ IRISHDRILLING.DWT 25/09/00

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:

TRIALPIT: TP-35
 Sheet 1 of 1
 Co-ordinates: N E
 Rig: Hitachi EX-120
 DATE: 30.5.00

Ground level: m O.D.
GROUNDWATER
 Water strikes:
 1st: 2.50m
 2nd:
 3rd:

PIT DIRECTION:
 PIT DIMENSION: 1.00 * 3.00m
 LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	30.05.00					-0.25	0.25	PEAT
								Yellowish brown silty SAND.
-1						-1.10	1.10	Grey very silty SAND and GRAVEL with occasional sub-rounded cobbles (loose)
	30.05.00					-3.70	3.70	Abandoned - 'running' sand and gravel
-4					END			
-5								
-6								
-7								
-8								
-9								
-10								

TRIALPIT BELACRIK.GPJ IRISHDRILL.GDT 25/09/00

Remarks: Pit sides unstable
 Fast inflow below 3.5m
 GRID: IG02628, ITM20659

Scale: 1:50

PROJECT: Proposed Extension to Wind Farm

TRIALPIT: TP-38

LOCATION: Bellacorick, Co. Mayo

Sheet 1 of 1

CLIENT: Bord Na Mona

Co-ordinates:

Rig: Hitachi EX-120

ENGINEER:

N E

Ground level: m O.D.

DATE: 30.5.00

GROUNDWATER

Water strikes:
1st: 1.90m
2nd:
3rd:

PIT DIRECTION:
PIT DIMENSION: 1.00 * 3.00m
LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	30.05.00					-0.10	0.10	PEAT Soft to firm grey slightly gravelly sandy SILT.
-1						-1.90	1.90	Grey very silty SAND and GRAVEL with occasional sub-rounded cobbles ('running')
-2						-2.80	2.80	Grey very silty sandy GRAVEL with many sub-rounded cobbles and boulders.
-3	30.05.00				END	-3.50	3.50	Abandoned - sides unstable
-4								
-5								
-6								
-7								
-8								
-9								
-10								

TRIALPIT BELACRIK.GPI IRISHDRILL.GDT 25/09/00

Remarks: Pit sides unstable
Medium inflow from 1.9m to 2.8m
GRID: IF96886, ITM21523

Scale:

1:50

PROJECT: Proposed Extension to Wind Farm		TRIALPIT: TP-39
LOCATION: Bellacorick, Co. Mayo		Sheet 1 of 1
CLIENT: Bord Na Mona	Co-ordinates: N E	Rig: Hitachi EX-120
ENGINEER:		DATE: 30.5.00

Ground level: m O.D.	
GROUNDWATER Water strikes: 1st: 1.90m 2nd: 3rd:	PIT DIRECTION: PIT DIMENSION: 1.00 * 3.00m LOGGED BY: DJ

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	30.05.00					-0.10	0.10	PEAT
						-0.40	0.40	Yellowish brown very silty SAND.
								Grey very silty SAND.
-1						-1.60	1.60	Grey slightly gravelly very silty SAND with occasional sub-rounded cobbles ('running')
-2	30.05.00					-2.50	2.50	Abandoned - 'running' sand
						END		
-3								
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks: Pit sides unstable Very fast inflow below 1.9m GRID: IF96730, ITM21716	Scale: 1:50
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TRIALPIT BELACRICK.GPJ IRISHDRILL.GDT 25/09/00

PROJECT: Proposed Extension to Wind Farm
 LOCATION: Bellacorick, Co. Mayo
 CLIENT: Bord Na Mona
 ENGINEER:

TRIALPIT: TP-40
 Sheet 1 of 1
 Co-ordinates: N E
 Rig: Hitachi EX-120

Ground level: m O.D.
 GROUNDWATER
 Water strikes:
 1st: 1.50m
 2nd:
 3rd:

PIT DIRECTION:
 PIT DIMENSION: 1.00 * 3.00m
 LOGGED BY: DJ

DATE: 30.5.00

Borehole Depth (m)	Date	Samples	Depth (m)	SPT (N)	LEGEND	Elevation m O.D.	Depth (m)	DESCRIPTION
0	30.05.00					-0.20	0.20	PEAT
						-0.50	0.50	Yellowish brown very silty SAND.
								Greenish brown very gravelly silty SAND with some cobbles.
-1						-1.10	1.10	Grey silty SAND and GRAVEL.
-2	30.05.00				END	-2.00	2.00	Abandoned - 'running' sand and gravel
-3								
-4								
-5								
-6								
-7								
-8								
-9								
-10								

Remarks:




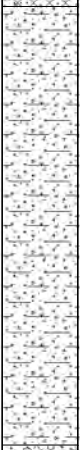


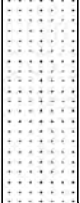
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TRIALPIT BELACRIK.GPJ IRISHDRILLING.DDT 25/09/00

Appendix 1

Project Name: Oweninny Windfarm **Hole ID: BH1**

Client: ESBI	Co-ordinates: 494748.80 823714.20
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 11/09/2012	End date: 24/10/2012
Type of drilling: CP+RC	Hole diameter: 200 mm
	Drilled by: F.McA/TC
	Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Brown PEAT								
Soft brown slightly sandy gravelly CLAY		1.30		SPT-C B	1.00 1.00	N=0		
Stiff grey slightly sandy gravelly SILT with occasional cobbles		2.50		SPT-C B	2.00 2.00	N=3		
Dense grey sandy GRAVEL with lenses of grey clay		4.50		SPT-C B	3.00 3.00	N=15		
Very stiff dark grey sandy gravelly CLAY with some cobbles and boulders		7.40		SPT-C B	4.00 4.00	N=47		
OBSTRUCTION - Bedrock		8.30		SPT-C B	5.00 5.00	N=41		
Moderately strong weathered grey flaser bedded SANDSTONE and MUDSTONE Moderately to highly weathered driller notes clay washed away		8.50		SPT-C B	6.00 6.00	N=39		
				SPT-C B	7.00 7.00	N=48		
				SPT-C B	8.00 8.00	50/160mm		
				B	8.40			

Continued next sheet

Remarks:
 Chiselling from 8.30 to 8.40 for 1hr
 110mm dia temporary liner inserted for coring.
 Borehole cored to 16.95mBGL

KEY


- B Bulk disturbed sample.
- D Small disturbed sample
- U Undisturbed sample
- SPT-S Standard Penetration Test, split spoon.
- SPT-C Standard Penetration Test, solid cone.
- ▽ Groundwater strike
- ▼ Water level 20mins after strike.



Project Name: Oweninny Windfarm **Hole ID: BH1**





Client: ESBI	Co-ordinates: 494748.80 823714.20
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 11/09/2012	End date: 24/10/2012
Type of drilling: CP+RC	Hole diameter: 200 mm
	Drilled by: F.McA/TC
	Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Moderately strong weathered grey flaser bedded SANDSTONE and MUDSTONE Moderately to highly weathered driller notes clay washed away	•••••							
Very strong to strong grey muddy SANDSTONE slightly to moderately weathered	•••••	10.70						
Very strong grey SANDSTONE fresh to slightly weathered	•••••	13.80						
Very strong to strong interbedded thin bands of grey SANDSTONE and black MUDSTONE occasionally flaser bedded, slightly weathered.	•••••	14.35						
End of Borehole at 16.95 m	•••••	16.95						

Remarks: Chiselling from 8.30 to 8.40 for 1hr 110mm dia temporary liner inserted for coring. Borehole cored to 16.95mBGL	KEY B Bulk disturbed sample. D Small disturbed sample U Undisturbed sample SPT-S Standard Penetration Test, split spoon. SPT-C Standard Penetration Test, solid cone. ∇ Groundwater strike ▼ Water level 20mins after strike.	 <small>www.gii.ie</small>
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Project Name: Oweninny Windfarm **Hole ID: BH2**

Client: ESBI	Co-ordinates: 496110.50 822744.40
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 17/09/2012	End date: 26/10/2012
Type of drilling: CP+RC	Hole diameter: 200 mm
	Drilled by: F.McA/TC
	Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Brown PEAT								
Firm grey sandy SILT/CLAY with some cobbles		0.50						
		1		SPT-C B	1.00 1.00	N=5		
		2		SPT-C B	2.00 2.00	N=50		
		2.60						
Loose to medium dense grey silty sandy GRAVEL								
		3		SPT-C B	3.00 3.00	N=12		
		4		SPT-C B	4.00 4.00	N=8		
		5		SPT-C B	5.00 5.00	N=19		
		5.70						
Very stiff grey sandy gravelly CLAY with some cobbles and boulders								
		6		SPT-C B	6.00 6.00	N=38		
		7		SPT-C B	7.00 7.00	50/125mm		
		8		SPT-C B	8.00 8.00	N=39		
		9		SPT-C B	9.00 9.00	50/185mm		

Continued next sheet

Remarks:
 Groundwater start day 18/09 2.90mBGL
 Chiselling from 7.20 - 7.50mBGL for 45mins 45mins, 9.30 -9.60mBGL for 1hr, 11.40 - 11.70mBGL for 30mins
 12.40 - 12.60mBGL for 1hr and 14.50 - 14.60mBGL for 30mins.
 110mm dia temporary liner inserted for coring. Boreholed cored to 21.60mBGL.
 SPT-C 15.60mBGL: 3.2.3.4.4.3. N=14 SPT-C 17.10mBGL: 3.4.3.3.2.3. N=11

KEY

- B Bulk disturbed sample.
- D Small disturbed sample
- Undisturbed sample
- SPT-S Standard Penetration Test, split spoon.
- SPT-C Standard Penetration Test, solid cone.
- Groundwater strike
- Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH2

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 17/09/2012 End date: 26/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 496110.50
 822744.40
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Very stiff grey sandy gravelly CLAY with some cobbles and boulders		10.00	10.00	SPT-B	10.00	N=45		
		11.00	11.00	SPT-C B	11.00	50/115mm		
		12.00	12.00	SPT-C B	12.00	50/300mm		
		13.00	13.00	SPT-C B	13.00	N=44		
		14.00	14.00	SPT-C B	14.00	N=49		
OBSTRUCTION - Boulder		14.50	14.60	B	14.60			
OVERBURDEN recovery consists of gravel and cobble fragments driller notes silty sand and gravel.		15.00						
Strong black MUDSTONE with thin bands of grey SANDSTONE, slightly to moderately weathered. Driller notes clay bands washed away.		17.50						
		18.00						
		18.50						
		19.00						

Continued next sheet

Remarks:
 Groundwater start day 18/09 2.90mBGL
 Chiselling from 7.20 - 7.50mBGL for 45mins 45mins, 9.30 - 9.60mBGL for 1hr, 11.40 - 11.70mBGL for 30mins
 12.40 - 12.60mBGL for 1hr and 14.50 - 14.60mBGL for 30mins.
 110mm dia temporary liner inserted for coring. Boreholed cored to 21.60mBGL.
 SPT-C 15.60mBGL: 3.2.3.4.4.3. N=14 SPT-C 17.10mBGL: 3.4.3.3.2.3. N=11

KEY
 B Bulk disturbed sample.
 D Small disturbed sample
 Undisturbed sample
 SPT-S Standard Penetration Test, split spoon.
 SPT-C Standard Penetration Test, solid cone.
 Groundwater strike
 Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH2

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 17/09/2012 End date: 26/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 496110.50
 822744.40
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Strong black MUDSTONE with thin bands of grey SANDSTONE, slightly to moderately weathered. Driller notes clay bands washed away.		20.10						
Strong grey SANDSTONE with thin black MUDSTONE bands slightly to moderately weathered.		21						
End of Borehole at 21.60 m		21.60						
		22						
		23						
		24						
		25						
		26						
		27						
		28						
		29						

Remarks:
 Groundwater start day 18/09 2.90mBGL
 Chiselling from 7.20 - 7.50mBGL for 45mins 45mins, 9.30 - 9.60mBGL for 1hr, 11.40 - 11.70mBGL for 30mins
 12.40 - 12.60mBGL for 1hr and 14.50 - 14.60mBGL for 30mins.
 110mm dia temporary liner inserted for coring. Boreholed cored to 21.60mBGL.
 SPT-C 15.60mBGL: 3.2.3.4.4.3. N=14 SPT-C 17.10mBGL: 3.4.3.3.2.3. N=11

KEY
 B Bulk disturbed sample.
 D Small disturbed sample
 Undisturbed sample
 SPT-S Standard Penetration Test, split spoon.
 SPT-C Standard Penetration Test, solid cone.
 Groundwater strike
 Water level 20mins after strike.







Project Name: Oweninny Windfarm

Hole ID: BH3

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 27/09/2012 End date: 16/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 499304.80
 823276.00
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
OVERBURDEN driller notes sandy clay washed away								
OVERBURDEN driller notes SAND washed away								
OVERBURDEN, recovery consists of cobble fragments, driller notes clay washed away								
OVERBURDEN, recovery consists of sandy gravelly CLAY with some cobbles.								

Continued next sheet

Remarks:
 Added water at 1.00mBGL. Standpipe installed to 10m
 110mm dia temporary liner inserted for coring. Borehole cored to 27.45mBGL.
 SPT-C 9.60mBGL: 4.4.5.6.5.7. N=23, SPT-C 11.10mBGL: 3.4.4.5.4.5. N=18.
 SPT-C 12.60mBGL: 2.3.3.3.4.3. N=13, SPT-C 14.10mBGL: 6.7.7.9.34 blows for 30mm. N>50.
 SPT-C 15.60mBGL, 25 for 50mm, 50 for 60mm N>50,
 SPT-C 18.30mBGL, 10.11.10.14.17.9 blows for 10mm, N>50. SPT-C 20.10mBGL, 25 for 65mm, 50 for 50mm, N>50.
 SPT-C 21.60mBGL, 25 for 50mm, 50 for 45mm, N>50.

KEY	
B	Bulk disturbed sample.
D	Small disturbed sample
U	Undisturbed sample
SPT-S	Standard Penetration Test, split spoon.
SPT-C	Standard Penetration Test, solid cone.
∇	Groundwater strike
N	Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH3

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 27/09/2012 End date: 16/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 499304.80
 823276.00
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
OVERBURDEN, recovery consists of sandy gravelly CLAY with some cobbles.		21						
Moderately strong grey SANDSTONE with thin bands of black MUDSTONE and clay bands, moderately to highly weathered.		23.15						
Very strong grey SANDSTONE with thin bands of black MUDSTONE, occasionally flaser bedded, slightly weathered.		23.85						
		24						
		25						
		26						
		27						
End of Borehole at 27.45 m		27.45						
		28						
		29						

Remarks:
 Added water at 1.00mBGL. Standpipe installed to 10m
 110mm dia temporary liner inserted for coring. Borehole cored to 27.45mBGL.
 SPT-C 9.60mBGL: 4.4.5.6.5.7. N=23, SPT-C 11.10mBGL: 3.4.4.5.4.5. N=18.
 SPT-C 12.60mBGL: 2.3.3.3.4.3. N=13, SPT-C 14.10mBGL: 6.7.7.9.34 blows for 30mm. N>50.
 SPT-C 15.60mBGL, 25 for 50mm, 50 for 60mm N>50,
 SPT-C 18.30mBGL, 10.11.10.14.17.9 blows for 10mm, N>50. SPT-C 20.10mBGL, 25 for 65mm, 50 for 50mm, N>50.
 SPT-C 21.60mBGL, 25 for 50mm, 50 for 45mm, N>50.

KEY
 B Bulk disturbed sample.
 D Small disturbed sample
 U Undisturbed sample
 SPT-S Standard Penetration Test, split spoon.
 SPT-C Standard Penetration Test, solid cone.
 Groundwater strike
 Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH4

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 01/10/2012 End date: 08/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 501267.20
 824216.20
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Brown PEAT								
Dense grey sandy medium and coarse GRAVEL with some cobbles		0.70		SPT-C B	1.00 1.00	N=27		
		1						
		2		SPT-C B	2.00 2.00	50/40mm		
		3		SPT-C B	3.00 3.00	N=36		
Stiff grey slightly sandy gravelly CLAY		3.90		SPT-C B	4.00 4.00	N=16	▽ 4.00	01/10/2012
		4						
		5		SPT-C B	5.00 5.00	N=17		
Medium dense grey sandy medium and coarse GRAVEL		5.40		SPT-C B	6.00 6.00	N=26		
		6						
		7.00		SPT-C B	7.00 7.00	N=29		
Stiff grey slightly sandy gravelly CLAY with some cobbles and boulders		7.00		SPT-C B	8.00 8.00	50/40mm		
		8						
OBSTRUCTION - Boulder		8.50		B	8.50			
OVERBURDEN Driller notes sand washed away and boulders.		9						

Continued next sheet

Remarks:
 Standpipe installed to 8.0m BGL
 Chiselling from 2.10 - 2.50mBGL for 1hr, 8.00 -8.10mBGL for 30mins and 8.5-8.6mBGL for 30mins.
 110mm dia temporary liner inserted for coring. Borehole cored to 20.00mBGL.
 Standpipe installed to 8.0mBGL with pea gravel surround and bentonite seal.
 SPT-C 12.60mBGL 25, 50 blows for 55mm, N>50.
 SPT-C 14.10mBGL, 25 for 65mm, 50 for 45mm N>50.
 SPT-C 17.10mBGL 20.5 for 5mm, 50 for 60mm, N>50.

KEY
 B Bulk disturbed sample.
 D Small disturbed sample
 U Undisturbed sample
 SPT-S Standard Penetration Test, split spoon.
 SPT-C Standard Penetration Test, solid cone.
 ▽ Groundwater strike
 ▽ Water level 20mins after strike.




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Project Name: Oweninny Windfarm



Hole ID: BH4

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 01/10/2012 End date: 08/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 501267.20
 824216.20
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
OVERBURDEN, recovery consists of dark grey slightly sandy gravelly CLAY with cobbles. Driller notes clay washed away.		10.00						
		11						
		12						
		13						
		14						
		15						
		16						
		17						
		18						
		19						
		20						
		21						
		22						
		23						
		24						
		25						
		26						



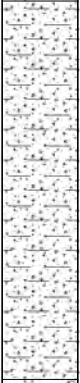

Remarks: **End of Borehole at 20.00 m**
 Standpipe installed to 8.0m BGL
 Chiselling from 2.10 - 2.50mBGL for 1hr, 8.00 -8.10mBGL for 30mins and 8.5-8.6mBGL for 30mins.
 110mm dia temporary liner inserted for coring. Borehole cored to 20.00mBGL.
 Standpipe installed to 8.0mBGL with pea gravel surround and bentonite seal.
 SPT-C 12.60mBGL 25, 50 blows for 55mm, N>50.
 SPT-C 14.10mBGL, 25 for 65mm, 50 for 45mm N>50.
 SPT-C 17.10mBGL 20.5 for 5mm, 50 for 60mm, N>50.


KEY
 B Bulk disturbed sample.
 D Small disturbed sample
 U Undisturbed sample
 SPT-S Standard Penetration Test, split spoon.
 SPT-C Standard Penetration Test, solid cone.
 Groundwater strike
 Water level 20mins after strike.



Project Name: Oweninny Windfarm **Hole ID: BH5**






Client: ESBI	Co-ordinates: 503419.90 823588.20
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 08/10/2012	Drilled by: F.McArdle
End date: 09/10/2012	Logged by: F.McNamara
Type of drilling: CP	Hole diameter: 200 mm

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Very soft brown PEAT		1	1.00 1.00	SPT-C B	1.00 1.00	N=0	▽ 1.50	08/10/2012
Dense grey sandy medium and coarse GRAVEL		4	4.00 4.00	SPT-C B	4.00 4.00	N=31		
Dense grey brown sandy medium and coarse GRAVEL with lenses of grey clay		6	6.00 6.00	SPT-C B	6.00 6.00	N=36		
OBSTRUCTION - rock or boulder End of Borehole at 8.40 m		8	8.30 8.40	B	8.00			

Remarks: Chiselling from 3.80 - 4.00mBGL for 45mins, 4.60-5.00mBGL for 1hour and 8.30-8.40mBGL for 30mins. 110mm dia temporary liner inserted for coring	KEY B Bulk disturbed sample. D Small disturbed sample. U Undisturbed sample SPT-S Standard Penetration Test, split spoon. SPT-C Standard Penetration Test, solid cone. ▽ Groundwater strike ▽ Water level 20mins after strike.	 www.gii.ie
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Project Name: Oweninny Windfarm **Hole ID: BH6**

Client: ESBI	Co-ordinates: 502287.20 825639.80
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 03/10/2012	End date: 11/10/2012
Type of drilling: CP+RC	Hole diameter: 200 mm
	Drilled by: F.McA/TC
	Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Brown PEAT								
Loose grey silty sandy GRAVEL		0.40					∇ 0.50	03/10/2012
		1		SPT-C B	1.00 1.00	N=0		
		2		SPT-C B	2.00 2.00	N=5		
		3		SPT-C B	3.00 3.00	N=8		
		4		SPT-C B	4.00 4.00	N=8		
Stiff grey sandy gravelly CLAY with some cobbles and boulders		4.90		SPT-C B	5.00 5.00	N=26		
		6		SPT-C B	6.00 6.00	N=26		
		7		SPT-C B	7.00 7.00	N=26		
OBSTRUCTION - Boulder		8.10		SPT-B	8.00	50/35mm		
OVERBURDEN recovery consists of cobble fragments, driller notes clay washed away.		8.60		B	8.60			
		9						

Continued next sheet

Remarks:
 Standpipe installed to 10.0m BGL
 Chiselling from 7.50 - 8.10mBGL for 1hr 15mins, 6.60-6.80mBGL for 30mins and 8.10-8.60mBGL for 1 hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 18.65mBGL


KEY	
B	Bulk disturbed sample.
D	Small disturbed sample
U	Undisturbed sample
SPT-S	Standard Penetration Test, split spoon.
SPT-C	Standard Penetration Test, solid cone.
∇	Groundwater strike
∇	Water level 20mins after strike.



Project Name: Oweninny Windfarm **Hole ID: BH6**

Client: ESBI	Co-ordinates: 502287.20 825639.80
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 03/10/2012	Drilled by: F.McA/TC
End date: 11/10/2012	Logged by: F.McNamara
Type of drilling: CP+RC	Hole diameter: 200 mm

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Weak grey SANDSTONE interbedded with black MUDSTONE, clay bands washed away	[Pattern]	10.00						
Strong grey SANDSTONE interbedded with thin bands of black MUDSTONE occ. flaser bedded slightly to moderately weathered.	[Pattern]	12.40						
Very strong grey SANDSTONE interbedded with black MUDSTONE, oo. flaser bedded. Fresh to slightly weathered.	[Pattern]	14.60						
End of Borehole at 18.65 m		18.65						

Remarks: Standpipe installed to 10.0m BGL Chiselling from 7.50 - 8.10mBGL for 1hr 15mins, 6.60-6.80mBGL for 30mins and 8.10-8.60mBGL for 1 hr. 110mm dia temporary liner inserted for coring. Borehole cored to 18.65mBGL	KEY B Bulk disturbed sample. D Small disturbed sample U Undisturbed sample SPT-S Standard Penetration Test, split spoon. SPT-C Standard Penetration Test, solid cone. ∇ Groundwater strike ▼ Water level 20mins after strike.	 <small>www.gii.ie</small>
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Project Name: Oweninny Windfarm **Hole ID: BH7**

Client: ESBI	Co-ordinates: 50294.18 821387.50
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 10/10/2012	End date: 17/10/2012
Type of drilling: CP+RC	Hole diameter: 200 mm
	Drilled by: F.McA/TC
	Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Very soft brown PEAT		1	1.00	SPT-C B	1.00	N=0		
Stiff grey-brown sandy sandy gravelly SILT/CLAY with some cobbles		2	2.00	SPT-C B	2.00	N=0		
Very stiff grey very sandy gravelly SILT/CLAY with some cobbles		3	3.00	SPT-C B	3.00	N=17		
Dense grey very sandy fine and medium GRAVEL		4	4.00	SPT-C B	4.00	N=27		
Dense grey very sandy medium and coarse GRAVEL		5	5.00	SPT-C B	5.00	N=47		
Dense grey very sandy fine and medium GRAVEL		6	6.00	SPT-C B	6.00	N=43		
Dense grey very sandy GRAVEL with some cobbles		7	7.00	SPT-C B	7.00	N=34		
Dense grey very sandy GRAVEL with some cobbles		8	8.00	SPT-C B	8.00	N=46		
Dense grey very sandy GRAVEL with some cobbles		9	9.00	SPT-C B	9.00	N=36		
Continued next sheet								

Remarks: Groundwater start day 11/10 8.20mBGL and end day 11/10 4.10mBGL. Chiselling from 10.80 - 11.40mBGL for 1hr. 110mm dia temporary liner inserted for coring. Borehole cored to 21.05mBGL. SPT-C 12.60mBGL 5.6.6.6.8.7. N=27. SPT-C 14.10mBGL 3.6.6.8.7. N=28	KEY B Bulk disturbed sample. D Small disturbed sample U Undisturbed sample SPT-S Standard Penetration Test, split spoon. SPT-C Standard Penetration Test, solid cone. Groundwater strike Water level 20mins after strike.	 www.gii.ie
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Project Name: Oweninny Windfarm **Hole ID: BH7**

Client: ESBI	Co-ordinates: 50294.18 821387.50
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 10/10/2012	Drilled by: F.McA/TC
End date: 17/10/2012	Logged by: F.McNamara
Type of drilling: CP+RC	Hole diameter: 200 mm

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Dense grey very sandy GRAVEL with some cobbles				SPT-S	10.00	50/240mm		
OBSTRUCTION - Boulder		10.80						
OVERBURDEN, recovery consists of cobble and boulder fragments, driller notes clay, sand and boulders.		11.40						
Moderately strong to strong grey SANDSTONE moderately weathered.		15.15						
Moderately weak to moderately strong grey SANDSTONE, moderately weathered.		15.60						
Very strong grey SANDSTONE with occ. thin bands of black mudstone, fresh.		16.70						

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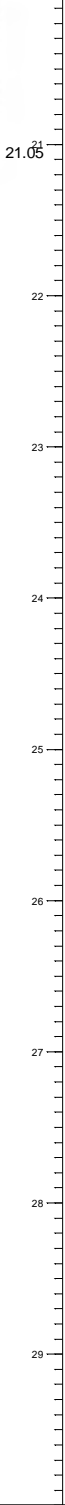
Remarks:
 Groundwater start day 11/10 8.20mBGL and end day 11/10 4.10mBGL.
 Chiselling from 10.80 - 11.40mBGL for 1hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 21.05mBGL.
 SPT-C 12.60mBGL 5.6.6.8.7. N=27. SPT-C 14.10mBGL 3.6.6.8.7. N=28


KEY	
B	Bulk disturbed sample.
D	Small disturbed sample
U	Undisturbed sample
SPT-S	Standard Penetration Test, split spoon.
SPT-C	Standard Penetration Test, solid cone.
	Groundwater strike
	Water level 20mins after strike.



Project Name: Oweninny Windfarm **Hole ID: BH7**



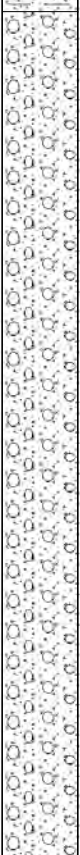

Client: ESBI	Co-ordinates: 50294.18 821387.50
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 10/10/2012	End date: 17/10/2012
Type of drilling: CP+RC	Hole diameter: 200 mm
	Drilled by: F.McA/TC
	Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
<p>Very strong grey SANDSTONE with occ. thin bands of black mudstone, fresh.</p> <hr style="border-top: 1px dashed black;"/> <p style="text-align: center;">End of Borehole at 21.05 m</p>								

<p>Remarks: Groundwater start day 11/10 8.20mBGL and end day 11/10 4.10mBGL. Chiselling from 10.80 - 11.40mBGL for 1hr. 110mm dia temporary liner inserted for coring. Borehole cored to 21.05mBGL. SPT-C 12.60mBGL 5.6.6.6.8.7. N=27. SPT-C 14.10mBGL 3.6.6.8.7. N=28</p>	<p>KEY</p> <ul style="list-style-type: none"> B Bulk disturbed sample. D Small disturbed sample U Undisturbed sample SPT-S Standard Penetration Test, split spoon. SPT-C Standard Penetration Test, solid cone. ▽ Groundwater strike ▼ Water level 20mins after strike. 	 <small>www.gii.ie</small>
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Project Name: Oweninny Windfarm **Hole ID: BH8**

Client: ESBI	Co-ordinates: 498933.90 820527.90
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 24/09/2012	End date: 22/10/2012
Type of drilling: CP+RC	Hole diameter: 200 mm
	Drilled by: F.McA/TC
	Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Brown PEAT		1		SPT-C B	1.00 1.00	N=0		
Medium dense grey silty GRAVEL		2	1.80	SPT-C B	2.00 2.00	N=17		
Medium dense becoming dense grey sandy medium and coarse GRAVEL and COBBLES		3	2.60	SPT-C B	3.00 3.00	N=17		
		4		SPT-C B	4.00 4.00	N=28		
		5		SPT-C B	5.00 5.00	N=36		
		6		SPT-C B	6.00 6.00	N=32		
		7		SPT-C B	7.00 7.00	N=42		
		8		SPT-C B	8.00 8.00	N=30		
Dense grey gravelly SAND		9	8.20	SPT-C B	9.00 9.00	N=31		
Continued next sheet		9.80						

Remarks:
 Groundwater start day 26/09 8.20mBGL.
 Chiselling from 11.00 - 11.20mBGL for 2hrs 30mins and from 12.00 - 12.10mBGL for 1hr 30mins.
 110mm dia temporary liner inserted for coring. Borehole cored to 29.05mBGL.
 SPT-C 12.6mBGL 4.5.7.7.6.7. N=27. SPT-C 14.10mBGL 6.7.6.7.7.8 N=28.
 SPT-C 15.6mBGL 3.3.2.3.4.3. N=12. SPT-C 17.10mBGL 2.2.3.3.3.3. N=12.
 SPT-C 18.6mBGL 2.3.4.4.3.4. N=15. SPT-C 20.10mBGL 3.2.2.2.4.4. N=12.

KEY

- B Bulk disturbed sample.
- D Small disturbed sample
- U Undisturbed sample
- SPT-S Standard Penetration Test, split spoon.
- SPT-C Standard Penetration Test, solid cone.
- ▽ Groundwater strike
- ▼ Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH8

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 24/09/2012 End date: 22/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 498933.90
 820527.90
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Dense grey sandy medium and coarse GRAVEL and COBBLES				SPT-B	10.00	N=43		
		11		SPT-C B	11.00 11.00	50/160mm		
OBSTRUCTION - Boulder		12.00 12.10						
OVERBURDEN recovery consists of gravel and cobble fragments. Driller notes gravel.		13						
OVERBURDEN recovery consists of gravel fragments. Driller notes sandy clay.		14 14.10						
		15						
		16						
		17						
		18						
		19						

Continued next sheet

Remarks:
 Groundwater start day 26/09 8.20mBGL.
 Chiselling from 11.00 - 11.20mBGL for 2hrs 30mins and from 12.00 - 12.10mBGL for 1hr 30mins.
 110mm dia temporary liner inserted for coring. Borehole cored to 29.05mBGL.
 SPT-C 12.6mBGL 4.5.7.7.6.7. N=27. SPT-C 14.10mBGL 6.7.6.7.7.8 N=28.
 SPT-C 15.6mBGL 3.3.2.3.4.3. N=12. SPT-C 17.10mBGL 2.2.3.3.3.3. N=12.
 SPT-C 18.6mBGL 2.3.4.4.3.4. N=15. SPT-C 20.10mBGL 3.2.2.2.4.4. N=12.

KEY
 B Bulk disturbed sample.
 D Small disturbed sample.
 U Undisturbed sample
 SPT-S Standard Penetration Test, split spoon.
 SPT-C Standard Penetration Test, solid cone.
 Groundwater strike
 Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH8

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 24/09/2012 End date: 22/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 498933.90
 820527.90
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
OVERBURDEN recovery consists of gravel fragments. Driller notes sandy clay. OVERBURDEN recovery consists of clay gravel and cobbles, driller notes cobbles and gravelly clay.		20.10						
Strong to moderately strong grey SANDSTONE with thin bands of black MUDSTONE, some flaser bedded, clay bands 23.9 -25.1, 25.8 - 26.1.		23.10						
Very strong grey SANDSTONE interbedded with thin bands of black mudstone fresh to slightly weathered.		26.10						
End of Borehole at 29.05 m		29.05						

Remarks:
 Groundwater start day 26/09 8.20mBGL.
 Chiselling from 11.00 - 11.20mBGL for 2hrs 30mins and from 12.00 - 12.10mBGL for 1hr 30mins.
 110mm dia temporary liner inserted for coring. Borehole cored to 29.05mBGL.
 SPT-C 12.6mBGL 4.5.7.7.6.7. N=27. SPT-C 14.10mBGL 6.7.6.7.7.8 N=28.
 SPT-C 15.6mBGL 3.3.2.3.4.3. N=12. SPT-C 17.10mBGL 2.2.3.3.3.3. N=12.
 SPT-C 18.6mBGL 2.3.4.4.3.4. N=15. SPT-C 20.10mBGL 3.2.2.2.4.4. N=12.

KEY
 B Bulk disturbed sample.
 D Small disturbed sample
 U Undisturbed sample
 SPT-S Standard Penetration Test, split spoon.
 SPT-C Standard Penetration Test, solid cone.
 Groundwater strike
 Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH9

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 20/09/2012 End date: 30/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 495432.30
 821387.90
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Brown PEAT								
Soft grey sandy SILT/CLAY		0.50						
Loose grey silty sandy GRAVEL with occasional cobbles increasing with depth		1.00		SPT-C B	1.00 1.00	N=1		
		2		SPT-C B	2.00 2.00	N=5		
		3		SPT-C B	3.00 3.00	N=9		
		3.70						
		4		SPT-C B	4.00 4.00	N=27		
		5		SPT-C B	5.00 5.00	N=46		
Very stiff grey sandy gravelly CLAY with some cobbles and boulders		6		SPT-C B	6.00 6.00	N=45		
		7		SPT-C B	7.00 7.00	50/160mm		
OBSTRUCTION - Boulder		7.30 7.40		B	7.30			
OVERBURDEN, recovery consists of cobble fragments. Driller notes sand gravel and boulders.		8						
		9						

Continued next sheet

Remarks:
 Chiselling from 7.30 - 7.40mBGL for 1hr
 110mm dia temporary liner inserted for coring. Borehole cored to 20.20mBGL
 SPT-C 8.10mBGL 4.5.5.7.6.7. N=25 SPT-C 9.60mBGL 25 for 25, 50 for 45 N>50. SPT-C 11.10mBGL 7.6.7.7.7.7.7.7.7. N=25
 SPT-C 12.10mBGL 7.7.9.8.8.8. N=31, SPT-C 14.10mBGL 25 for 40mm, 50 for 60mm N>50.

KEY

B	Bulk disturbed sample.
D	Small disturbed sample
U	Undisturbed sample
SPT-N	Standard Penetration Test, split spoon.
SPT-C	Standard Penetration Test, solid cone.
▽	Groundwater strike
▼	Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH9

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 20/09/2012 End date: 30/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 495432.30
 821387.90
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
OVERBURDEN, recovery consists of cobble fragments. Driller notes sand gravel and boulders.		11.10						
OVERBURDEN recovery consists of grey slightly sandy gravelly Clay and cobbles.. Driller notes clay washed away		12.00						
Very strong grey SANDSTONE interbedded with thin bands of black mudstone oo. flaser bedded, occ. fossiliferous. Fresh to slightly weathered.		14.10						
Very strong grey SANDSTONE with occ. thon bands of black mudstone fresh.		19.10						

Continued next sheet

Remarks:
 Chiselling from 7.30 - 7.40mBGL for 1hr
 110mm dia temporary liner inserted for coring. Borehole cored to 20.20mBGL
 SPT-C 8.10mBGL 4.5.5.7.6.7. N=25 SPT-C 9.60mBGL 25 for 25, 50 for 45 N>50. SPT-C 11.10mBGL 7.6.7.7.6.7. N=25
 SPT-C 12.10mBGL 7.7.9.8.8.8. N=31, SPT-C 14.10mBGL 25 for 40mm, 50 for 60mm N>50.

- KEY**
- B Bulk disturbed sample.
 - D Small disturbed sample
 - U Undisturbed sample
 - Standard Penetration Test, split spoon.
 - SPT-C Standard Penetration Test, solid cone.
 - Groundwater strike
 - Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH9

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 20/09/2012 End date: 30/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 495432.30
 821387.90
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Very strong grey SANDSTONE with occ. thon bands of black mudstone fresh. End of Borehole at 20.20 m		20.20						
		21						
		22						
		23						
		24						
		25						
		26						
		27						
		28						
		29						

Remarks:
 Chiselling from 7.30 - 7.40mBGL for 1hr
 110mm dia temporary liner inserted for coring. Borehole cored to 20.20mBGL
 SPT-C 8.10mBGL 4.5.5.7.6.7. N=25 SPT-C 9.60mBGL 25 for 25, 50 for 45 N>50. SPT-C 11.10mBGL 7.6.7.7.6.7. N=25
 SPT-C 12.10mBGL 7.7.9.8.8.8. N=31, SPT-C 14.10mBGL 25 for 40mm, 50 for 60mm N>50.

KEY
 B Bulk disturbed sample.
 D Small disturbed sample
 U Undisturbed sample
 SPT-C Standard Penetration Test, split spoon.
 SPT-C Standard Penetration Test, solid cone.
 Groundwater strike
 Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH10

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 12/09/2012 End date: 25/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 495888.50
 824819.00
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
Brown PEAT		0.00 - 1.50					0.50	12/09/2012
Soft grey slightly sandy slightly gravelly SILT		1.50 - 2.50		SPT-C B	1.00 1.50	N=0 N=1		
Stiff grey slightly sandy gravelly SILT with occasional cobbles		2.50 - 5.50		SPT-C B	2.00 3.00 4.00 5.00	N=2 N=17 N=19 N=27		
Dense grey brown sandy silty GRAVEL and COBBLES		5.50 - 7.60		SPT-C B	6.00 7.00	50/125mm N=49		
Very stiff grey brown sandy gravelly CLAY with cobbles and boulders		7.60 - 9.30		SPT-C B	8.00 9.00	50/300mm 50/200mm		
OBSTRUCTION Boulder		9.30 - 9.40						

Continued next sheet

Remarks:
 Chiselling from 6.30 - 6.90mBGL for 1hr, 7.60-7.80mBGL for 45mins, 8.70-8.80mBGL for 1hr and 9.30-9.40mBGL for 1hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 24.70mBGL
 SPT-C 13.90mBGL 25.50 for 50mm N>50. SPT-C 15.55mBGL 25 for 55mm.50 for 45mm N>50.
 SPT-C 16.85mBGL 25 for 25mm.50 for 40mm N>50. SPT-C 18.6mBGL 25.50 for 60mm N>50.
 SPT-C 20.10mBGL 25 for 20mm.50 for 35mm N>50

KEY
 B Bulk disturbed sample.
 D Small disturbed sample.
 U Undisturbed sample
 SPT-S Standard Penetration Test, split spoon.
 SPT-C Standard Penetration Test, solid cone.
 Groundwater strike
 Water level 20mins after strike.



Project Name: Oweninny Windfarm

Hole ID: BH10

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 12/09/2012 End date: 25/10/2012
 Type of drilling: CP+RC Hole diameter: 200 mm

Co-ordinates: 495888.50
 824819.00
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
OVERBURDEN recovery consists of sand, gravel and cobble fragmnets, driller notes sand and clay.		11						
OVERBURDEN, very stiff grey slightly sandy gravelly CLAY with cobbles.		12.20						
		13						
		14						
		15						
		16						
		17						
		18						
		19						

Continued next sheet

Remarks:
 Chiselling from 6.30 - 6.90mBGL for 1hr, 7.60-7.80mBGL for 45mins,
 8.70-8.80mBGL for 1hr and 9.30-9.40mBGL for 1hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 24.70mBGL
 SPT-C 13.90mBGL 25.50 for 50mm N>50. SPT-C 15.55mBGL 25 fo 55mm.50 for 45mm N>50.
 SPT-C 16.85mBGL 25 for 25mm.50 for 40mm N>50. SPT-C 18.6mBGL 25.50 for 60mm N>50.
 SPT-C 20.10mBGL 25 for20mm.50 for 35mm N>50

- KEY**
- B Bulk disturbed sample.
 - D Small disturbed sample
 - U Undisturbed sample
 - SPT-S Standard Penetration Test, split spoon.
 - SPT-C Standard Penetration Test, solid cone.
 - ▽ Groundwater strike
 - ▼ Water level 20mins after strike.



Project Name: Oweninny Windfarm **Hole ID: BH10**

Client: ESBI	Co-ordinates: 495888.50 824819.00
Consultant: ESBI	Elevation: -
Location: Bellacorick, Co. Mayo	Project no. 3352-08-12
Start date: 12/09/2012	End date: 25/10/2012
Type of drilling: CP+RC	Hole diameter: 200 mm
	Drilled by: F.McA/TC
	Logged by: F.McNamara

Strata Description	Legend	Depth	Level (mOD)	Samples / tests			Water Depth	Date
				Type	Depth	Result		
OVERBURDEN, very stiff grey slightly sandy gravelly CLAY with cobbles.	[Pattern]							
Very strong grey SANDSTONE interbedded with thin bands of black mudstone occ. flaser bedded, fresh to slightly weathered.	[Pattern]	20.75	21					
			22					
			23					
Very strong grey SANDSTONE with occ. thin bands of black mudstone fresh.	[Pattern]	23.82	24					
End of Borehole at 24.70 m		24.70	25					
			26					
			27					
			28					
			29					

Remarks:
 Chiselling from 6.30 - 6.90mBGL for 1hr, 7.60-7.80mBGL for 45mins, 8.70-8.80mBGL for 1hr and 9.30-9.40mBGL for 1hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 24.70mBGL
 SPT-C 13.90mBGL 25.50 for 50mm N>50. SPT-C 15.55mBGL 25 fo 55mm.50 for 45mm N>50.
 SPT-C 16.85mBGL 25 for 25mm.50 for 40mm N>50. SPT-C 18.6mBGL 25.50 for 60mm N>50.
 SPT-C 20.10mBGL 25 for 20mm.50 for 35mm N>50

KEY

- B Bulk disturbed sample.
- D Small disturbed sample
- U Undisturbed sample
- SPT-S Standard Penetration Test, split spoon.
- SPT-C Standard Penetration Test, solid cone.
- ▽ Groundwater strike
- ▼ Water level 20mins after strike.



Appendix 2

BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH1

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 11/09/2012
 Type of drilling: CP+RC

End date: 24/10/2012

Co-ordinates: 494748.80
 823714.20
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Hole diameter: 200 mm

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Brown PEAT									
Soft brown slightly sandy gravelly CLAY		1.30							
Stiff grey slightly sandy gravelly SILT with occasional cobbles		2.50							
Dense grey sandy GRAVEL with lenses of grey clay		4.50							
Very stiff dark grey sandy gravelly CLAY with some cobbles and boulders		7.40							
OBSTRUCTION - Bedrock		8.30							
Moderately strong weathered grey flaser bedded SANDSTONE and MUDSTONE Moderately to highly weathered driller notes clay washed away		8.50		Mostly non intact		29	30	77	8.50
Continued next sheet					NI				

Remarks:

Chiselling from 8.30 to 8.40 for 1hr
 110mm dia temporary liner inserted for coring.
 Borehole cored to 16.95mBGL

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH1

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 11/09/2012
 Type of drilling: CP+RC

End date: 24/10/2012

Hole diameter: 200 mm

Co-ordinates: 494748.80
 823714.20
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Moderately strong weathered grey flaser bedded SANDSTONE and MUDSTONE Moderately to highly weathered driller notes clay washed away	[Pattern]	10.70		Fractures extremely closely to closely spaced sub horizontal to 25 degrees and normal to this, rough, irregular open non intact 11.70 - 11.85, and 12.20 - 12.60		53	56	93	10.70
		11			12				
Very strong to strong grey muddy SANDSTONE slightly to moderately weathered	[Pattern]	12		Fractures very closely to medium spaced sub horizontal smooth undulating tight to moderately open.					
		13							
Very strong grey SANDSTONE fresh to slightly weathered	[Pattern]	13.80				83	90	100	13.80
Very strong to strong interbedded thin bands of grey SANDSTONE and black MUDSTONE occassionally flaser bedded, slightly weathered.	[Pattern]	14.35							
		15			6				
	[Pattern]	16				89	89	100	15.40
	[Pattern]	16.95							
End of Borehole Log at 16.95 m	[Pattern]	17							
	[Pattern]	18							
	[Pattern]	19							

Remarks:

Chiselling from 8.30 to 8.40 for 1hr
 110mm dia temporary liner inserted for coring.
 Borehole cored to 16.95mBGL

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH2

Client: ESBI

Co-ordinates: 496110.50

Consultant: ESBI

822744.40

Location: Bellacorick, Co. Mayo

Elevation: -

Start date: 17/09/2012

End date: 26/10/2012

Project no. 3352-08-12

Type of drilling: CP+RC

Hole diameter: 200 mm

Drilled by: F.McA/TC

Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Brown PEAT									
Firm grey sandy SILT/CLAY with some cobbles		0.50							
Loose to medium dense grey silty sandy GRAVEL		2.60							
Very stiff grey sandy gravelly CLAY with some cobbles and boulders		5.70							

Continued next sheet

Remarks:

Groundwater start day 18/09 2.90mBGL
 Chiselling from 7.20 - 7.50mBGL for 45mins 45mins, 9.30 - 9.60mBGL for 1hr, 11.40 - 11.70mBGL for 30mins
 12.40 - 12.60mBGL for 1hr and 14.50 - 14.60mBGL for 30mins.
 110mm dia temporary liner inserted for coring. Boreholed cored to 21.60mBGL.
 SPT-C 15.60mBGL: 3.2.3.4.4.3. N=14 SPT-C 17.10mBGL: 3.4.3.3.2.3. N=11

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH2

Client: ESBI

Co-ordinates: 496110.50
822744.40

Consultant: ESBI

Elevation: -

Location: Bellacorick, Co. Mayo

Project no. 3352-08-12

Start date: 17/09/2012

End date: 26/10/2012

Drilled by: F.McA/TC

Type of drilling: CP+RC

Hole diameter: 200 mm

Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Very stiff grey sandy gravelly CLAY with some cobbles and boulders			11 12 13 14						
OBSTRUCTION - Boulder			14.50 14.60					7	14.60
OVERBURDEN recovery consists of gravel and cobble fragments driller notes silty sand and gravel.			15 16 17					12	15.60
Strong black MUDSTONE with thin bands of grey SANDSTONE, slightly to moderately weathered. Driller notes clay bands washed away.			17.50 18 19	Fractures extremely closely to closely spaced sub horizontal often clay coated tight to open smooth, occasionally stepped or irregular.		54	54	66	17.10
Continued next sheet					13	37	94	100	18.60

Remarks:

Groundwater start day 18/09 2.90mBGL
Chiselling from 7.20 - 7.50mBGL for 45mins 45mins, 9.30 - 9.60mBGL for 1hr, 11.40 - 11.70mBGL for 30mins
12.40 - 12.60mBGL for 1hr and 14.50 - 14.60mBGL for 30mins.
110mm dia temporary liner inserted for coring. Boreholed cored to 21.60mBGL.
SPT-C 15.60mBGL: 3.2.3.4.4.3. N=14 SPT-C 17.10mBGL: 3.4.3.3.2.3. N=11

KEY

TCR Total Core Recovery.
SCR Solid Core Recovery
RQD Rock Quality Designation
FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

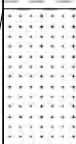

Hole ID: BH2

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 17/09/2012
 Type of drilling: CP+RC

End date: 26/10/2012

Hole diameter: 200 mm

Co-ordinates: 496110.50
 822744.40
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
<p>Strong black MUDSTONE with thin bands of grey SANDSTONE, slightly to moderately weathered. Driller notes clay bands washed away.</p>		20.10				40	84	100	20.10
<p>Strong grey SANDSTONE with thin black MUDSTONE bands slightly to moderately weathered.</p>		21.60							
<p>End of Borehole Log at 21.60 m</p>									

Remarks:

Groundwater start day 18/09 2.90mBGL
 Chiselling from 7.20 - 7.50mBGL for 45mins 45mins, 9.30 - 9.60mBGL for 1hr, 11.40 - 11.70mBGL for 30mins
 12.40 - 12.60mBGL for 1hr and 14.50 - 14.60mBGL for 30mins.
 110mm dia temporary liner inserted for coring. Boreholed cored to 21.60mBGL.
 SPT-C 15.60mBGL: 3.2.3.4.4.3. N=14 SPT-C 17.10mBGL: 3.4.3.3.2.3. N=11

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH3

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 27/09/2012
 Type of drilling: CP+RC

End date: 16/10/2012

Hole diameter: 200 mm

Co-ordinates: 499304.80
 823276.00
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Brown PEAT									
Loose grey brown silty sandy GRAVEL		0.50	1						
Loose grey brown silty sandy GRAVEL with some cobbles		1.50	2						
Stiff grey slightly sandy gravelly CLAY / SILT with occasional cobbles		2.80	3						
Very stiff dark grey sandy gravelly CLAY with many cobbles and boulders		4.70	5						
OBSTRUCTION - Boulder		8.00	8						
OVERBURDEN driller notes sandy clay washed away		8.10	9						
Continued next sheet									

Remarks:

Added water at 1.00mBGL. Standpipe installed to 10m
 110mm dia temporary liner inserted for coring. Borehole cored to 27.45mBGL.
 SPT-C 9.60mBGL: 4.4.5.6.5.7. N=23, SPT-C 11.10mBGL: 3.4.4.5.4.5. N=18.
 SPT-C 12.60mBGL: 2.3.3.3.4.3. N=13, SPT-C 14.10mBGL: 6.7.7.9.34 blows for 30mm. N>50.
 SPT-C 15.60mBGL: 25 for 50mm, 50 for 60mm N>50,
 SPT-C 18.30mBGL, 10.11.10.14.17.9 blows for 10mm, N>50. SPT-C 20.10mBGL, 25 for 65mm, 50 for 50mm, N>50.
 SPT-C 21.60mBGL, 25 for 50mm, 50 for 45mm, N>50.

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH3

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 27/09/2012
 Type of drilling: CP+RC

End date: 16/10/2012

Hole diameter: 200 mm

Co-ordinates: 499304.80
 823276.00
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
OVERBURDEN driller notes sandy clay washed away	[Pattern]								
OVERBURDEN driller notes SAND washed away	[Pattern]	11.10	11					12	11.10
OVERBURDEN, recovery consists of cobble fragments, driller notes clay washed away	[Pattern]	12.60	13						
OVERBURDEN, recovery consists of sandy gravelly CLAY with some cobbles.	[Pattern]	15.60	16					22	15.60
			17						
			18						
			19					55	18.30

Continued next sheet

Remarks:

Added water at 1.00mBGL. Standpipe installed to 10m
 110mm dia temporary liner inserted for coring. Borehole cored to 27.45mBGL.
 SPT-C 9.60mBGL: 4.4.5.6.5.7. N=23, SPT-C 11.10mBGL: 3.4.4.5.4.5. N=18.
 SPT-C 12.60mBGL: 2.3.3.3.4.3. N=13, SPT-C 14.10mBGL: 6.7.7.9.34 blows for 30mm. N>50.
 SPT-C 15.60mBGL: 25 for 50mm, 50 for 60mm N>50,
 SPT-C 18.30mBGL, 10.11.10.14.17.9 blows for 10mm, N>50. SPT-C 20.10mBGL, 25 for 65mm, 50 for 50mm, N>50.
 SPT-C 21.60mBGL, 25 for 50mm, 50 for 45mm, N>50.

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH4

Client: ESBI

Co-ordinates: 501267.20
824216.20

Consultant: ESBI

Elevation: -

Location: Bellacorick, Co. Mayo

Project no. 3352-08-12

Start date: 01/10/2012

End date: 08/10/2012

Drilled by: F.McA/TC

Type of drilling: CP+RC

Hole diameter: 200 mm

Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Brown PEAT									
Dense grey sandy medium and coarse GRAVEL with some cobbles		0.70	1						
Stiff grey slightly sandy gravelly CLAY		3.90	4						
Medium dense grey sandy medium and coarse GRAVEL		5.40	6						
Stiff grey slightly sandy gravelly CLAY with some cobbles and boulders		7.00	7						
OBSTRUCTION - Boulder		8.50	8					1	8.60
OVERBURDEN Driller notes sand washed away and boulders.			9						
Continued next sheet									

Remarks:

Standpipe installed to 8.0m BGL
Chiselling from 2.10 - 2.50mBGL for 1hr, 8.00 -8.10mBGL for 30mins and 8.5-8.6mBGL for 30mins.
110mm dia temporary liner inserted for coring. Borehole cored to 20.00mBGL.
Standpipe installed to 8.0mBGL with pea gravel surround and bentonite seal.
SPT-C 12.60mBGL 25, 50 blows for 55mm, N>50.
SPT-C 14.10mBGL, 25 for 65mm, 50 for 45mm N>50.
SPT-C 17.10mBGL 20.5 for 5mm, 50 for 60mm, N>50.

KEY

TCR Total Core Recovery.
SCR Solid Core Recovery
RQD Rock Quality Designation
FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH4

Client: ESBI

Co-ordinates: 501267.20
824216.20

Consultant: ESBI

Elevation: -

Location: Bellacorick, Co. Mayo

Project no. 3352-08-12

Start date: 01/10/2012


End date: 08/10/2012

Drilled by: F.McA/TC

Type of drilling: CP+RC

Hole diameter: 200 mm

Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN	
OVERBURDEN, recovery consists of dark grey slightly sandy gravelly CLAY with cobbles. Driller notes clay washed away.		10.00						38	10.00	
		11						91	11.10	
		12								
		13							56	12.60
		14							18	14.10
		15								
		16								
		17								
		18						100	17.10	
		19								

Remarks: End of Borehole Log at 20.00 m

Standpipe installed to 8.0m BGL
 Chiselling from 2.10 - 2.50mBGL for 1hr, 8.00 -8.10mBGL for 30mins and 8.5-8.6mBGL for 30mins.
 110mm dia temporary liner inserted for coring. Borehole cored to 20.00mBGL.
 Standpipe installed to 8.0mBGL with pea gravel surround and bentonite seal.
 SPT-C 12.60mBGL 25, 50 blows for 55mm, N>50.
 SPT-C 14.10mBGL, 25 for 65mm, 50 for 45mm N>50.
 SPT-C 17.10mBGL 20.5 for 5mm, 50 for 60mm, N>50.

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH6

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 03/10/2012
 Type of drilling: CP+RC

End date: 11/10/2012

Hole diameter: 200 mm

Co-ordinates: 502287.20
 825639.80
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Brown PEAT		0.40							
Loose grey silty sandy GRAVEL		1.00							
Stiff grey sandy gravelly CLAY with some cobbles and boulders		4.90							
OBSTRUCTION - Boulder		8.10							
OVERBURDEN recovery consists of cobble fragments, driller notes clay washed away.		8.60						45	8.60
Continued next sheet						20	20	76	9.60

Remarks:

Standpipe installed to 10.0m BGL
 Chiselling from 7.50 - 8.10mBGL for 1hr 15mins, 6.60-6.80mBGL for 30mins and 8.10-8.60mBGL for 1 hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 18.65mBGL

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH6

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 03/10/2012
 Type of drilling: CP+RC

End date: 11/10/2012

Hole diameter: 200 mm

Co-ordinates: 502287.20
 825639.80
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Weak grey SANDSTONE interbedded with black MUDSTONE, clay bands washed away	•••••	10.00		Mostly non intact	NI				
		11							
Strong grey SANDSTONE interbedded with thin bands of black MUDSTONE occ. flaser bedded slightly to moderately weathered.	•••••	12.40		Fractures very closely to medium spaced sub horizontal smooth undulating occ. rough tight to open occ. clay coated.	7	11	25	80	12.60
		13							
Very strong grey SANDSTONE interbedded with black MUDSTONE, oo. flaser bedded. Fresh to slightly weathered.	•••••	14.60			7	54	69	97	14.10
		15							
End of Borehole Log at 18.65 m	•••••	14.60			7	72	100	100	15.60
		16							
	•••••	17			7	75	100	100	17.15
		18							
		18.65							
		19							

Remarks:

Standpipe installed to 10.0m BGL
 Chiselling from 7.50 - 8.10mBGL for 1hr 15mins, 6.60-6.80mBGL for 30mins
 and 8.10-8.60mBGL for 1 hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 18.65mBGL

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm








Hole ID: BH7

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 10/10/2012
 Type of drilling: CP+RC

End date: 17/10/2012

Co-ordinates: 50294.18
 821387.50
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Hole diameter: 200 mm

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Very soft brown PEAT									
Stiff grey-brown sandy sandy gravelly SILT/CLAY with some cobbles		2.50							
Very stiff grey very sandy gravelly SILT/CLAY with some cobbles		4.40							
Dense grey very sandy fine and medium GRAVEL		6.60							
Dense grey very sandy medium and coarse GRAVEL		7.40							
Dense grey very sandy fine and medium GRAVEL		8.80							
Dense grey very sandy GRAVEL with some cobbles		9.20							

Continued next sheet

Remarks:

Groundwater start day 11/10 8.20mBGL and end day 11/10 4.10mBGL.
 Chiselling from 10.80 - 11.40mBGL for 1hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 21.05mBGL.
 SPT-C 12.60mBGL 5.6.6.6.8.7. N=27. SPT-C 14.10mBGL 3.6.6.8.7. N=28

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH7

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 10/10/2012
 Type of drilling: CP+RC

End date: 17/10/2012

Hole diameter: 200 mm

Co-ordinates: 50294.18
 821387.50
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Dense grey very sandy GRAVEL with some cobbles									
OBSTRUCTION - Boulder		10.80	11						
OVERBURDEN, recovery consists of cobble and boulder fragments, driller notes clay, sand and boulders.		11.40	12					17	11.40
			13					10	12.60
			14						9
Moderately strong to strong grey SANDSTONE moderately weathered.		15.15	15	Mostly non intact		85	100	100	15.15
Moderately weak to moderately strong grey SANDSTONE, moderately weathered.		15.60	16		NI	25	25	68	15.60
			17						
Very strong grey SANDSTONE with occ. thin bands of black mudstone, fresh.		16.70	17	Fractures very closely to medium spaced sub horizontal smooth, undulating occ. rough, tight to moderately open, occ. sand coated.		97	100	100	16.70
			18						
			19			4	95	100	100
						100	100	100	19.75

Continued next sheet

Remarks:

Groundwater start day 11/10 8.20mBGL and end day 11/10 4.10mBGL.
 Chiselling from 10.80 - 11.40mBGL for 1hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 21.05mBGL.
 SPT-C 12.60mBGL 5.6.6.6.8.7. N=27. SPT-C 14.10mBGL 3.6.6.8.7. N=28

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH7

Client: ESBI

Co-ordinates: 50294.18
821387.50

Consultant: ESBI

Elevation: -

Location: Bellacorick, Co. Mayo

Project no. 3352-08-12

Start date: 10/10/2012


End date: 17/10/2012

Drilled by: F.McA/TC

Type of drilling: CP+RC

Hole diameter: 200 mm

Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Very strong grey SANDSTONE with occ. thin bands of black mudstone, fresh.		21.05	21						
End of Borehole Log at 21.05 m			22 23 24 25 26 27 28 29						

Remarks:

Groundwater start day 11/10 8.20mBGL and end day 11/10 4.10mBGL.
Chiselling from 10.80 - 11.40mBGL for 1hr.
110mm dia temporary liner inserted for coring. Borehole cored to 21.05mBGL.
SPT-C 12.60mBGL 5.6.6.6.8.7. N=27. SPT-C 14.10mBGL 3.6.6.8.7. N=28

KEY

TCR Total Core Recovery.
SCR Solid Core Recovery
RQD Rock Quality Designation
FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH8

Client: ESBI

Co-ordinates: 498933.90

Consultant: ESBI

820527.90

Location: Bellacorick, Co. Mayo

Elevation: -

Start date: 24/09/2012

End date: 22/10/2012


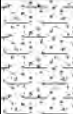


Project no. 3352-08-12

Type of drilling: CP+RC

Hole diameter: 200 mm

Drilled by: F.McA/TC

Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Brown PEAT									
Medium dense grey silty GRAVEL		1.80							
Medium dense becoming dense grey sandy medium and coarse GRAVEL and COBBLES		2.60							
Dense grey gravelly SAND		8.20							
Continued next sheet		9.80							

Remarks:

Groundwater start day 26/09 8.20mBGL.
 Chiselling from 11.00 - 11.20mBGL for 2hrs 30mins and from 12.00 - 12.10mBGL for 1hr 30mins.
 110mm dia temporary liner inserted for coring. Borehole cored to 29.05mBGL.
 SPT-C 12.6mBGL 4.5.7.7.6.7. N=27. SPT-C 14.10mBGL 6.7.6.7.7.8 N=28.
 SPT-C 15.6mBGL 3.3.2.3.4.3. N=12. SPT-C 17.10mBGL 2.2.3.3.3.3. N=12.
 SPT-C 18.6mBGL 2.3.4.4.3.4. N=15. SPT-C 20.10mBGL 3.2.2.2.4.4. N=12.

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm




Hole ID: BH8

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 24/09/2012
 Type of drilling: CP+RC

End date: 22/10/2012

Co-ordinates: 498933.90
 820527.90
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Hole diameter: 200 mm

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Dense grey sandy medium and coarse GRAVEL and COBBLES		11							
OBSTRUCTION - Boulder		12.00	12.10					15	11.00
OVERBURDEN recovery consists of gravel and cobble fragments. Driller notes gravel.		13							
OVERBURDEN recovery consists of gravel fragments. Driller notes sandy clay.		14	14.10					2	14.10
Continued next sheet		15							
		16							
		17							
		18							
		19							

Remarks:

Groundwater start day 26/09 8.20mBGL.
 Chiselling from 11.00 - 11.20mBGL for 2hrs 30mins and from 12.00 - 12.10mBGL for 1hr 30mins.
 110mm dia temporary liner inserted for coring. Borehole cored to 29.05mBGL.
 SPT-C 12.6mBGL 4.5.7.7.6.7. N=27. SPT-C 14.10mBGL 6.7.6.7.7.8 N=28.
 SPT-C 15.6mBGL 3.3.2.3.4.3. N=12. SPT-C 17.10mBGL 2.2.3.3.3.3. N=12.
 SPT-C 18.6mBGL 2.3.4.4.3.4. N=15. SPT-C 20.10mBGL 3.2.2.2.4.4. N=12.

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm




Hole ID: BH8

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 24/09/2012
 Type of drilling: CP+RC

End date: 22/10/2012

Hole diameter: 200 mm

Co-ordinates: 498933.90
 820527.90
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
<p>OVERBURDEN recovery consists of gravel fragments. Driller notes sandy clay.</p> <p>OVERBURDEN recovery consists of clay gravel and cobbles, driller notes cobbles and gravelly clay.</p>		20.10	20.10					32	20.10
<p>Strong to moderately strong grey SANDSTONE with thin bands of black MUDSTONE, some flaser bedded, clay bands 23.9 -25.1, 25.8 - 26.1.</p>		23.10	23.10	Mostly non intact	45	57	100	23.10	
					MI	22	27	86	24.20
<p>Very strong grey SANDSTONE interbedded with thin bands of black mudstone fresh to slightly weathered.</p>		26.10	26.10	Fractures very closely to closely spaced sub horizontal mostly smooth, undulating tight to open	7	68	100	100	26.10
						54	91	100	27.70
End of Borehole Log at 29.05 m		29.05	29.05						

Remarks:

Groundwater start day 26/09 8.20mBGL.
 Chiselling from 11.00 - 11.20mBGL for 2hrs 30mins and from 12.00 - 12.10mBGL for 1hr 30mins.
 110mm dia temporary liner inserted for coring. Borehole cored to 29.05mBGL.
 SPT-C 12.6mBGL 4.5.7.7.6.7. N=27. SPT-C 14.10mBGL 6.7.6.7.7.8 N=28.
 SPT-C 15.6mBGL 3.3.2.3.4.3. N=12. SPT-C 17.10mBGL 2.2.3.3.3.3. N=12.
 SPT-C 18.6mBGL 2.3.4.4.3.4. N=15. SPT-C 20.10mBGL 3.2.2.2.4.4. N=12.

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH9

Client: ESBI

Co-ordinates: 495432.30

Consultant: ESBI

821387.90

Location: Bellacorick, Co. Mayo

Elevation: -

Start date: 20/09/2012

End date: 30/10/2012







Project no. 3352-08-12

Type of drilling: CP+RC

Hole diameter: 200 mm

Drilled by: F.McA/TC

Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Brown PEAT									
Soft grey sandy SILT/CLAY		0.50							
Loose grey silty sandy GRAVEL with occasional cobbles increasing with depth		1.00	1						
Very stiff grey sandy gravelly CLAY with some cobbles and boulders		3.70	2						
			3						
			4						
OBSTRUCTION - Boulder		7.30	5						
OVERBURDEN, recovery consists of cobble fragments. Driller notes sand gravel and boulders.		7.40	6						
			7						
			8						
			9						
			24						
			7.40						

Continued next sheet

Remarks:

Chiselling from 7.30 - 7.40mBGL for 1hr
 110mm dia temporary liner inserted for coring. Borehole cored to 20.20mBGL
 SPT-C 8.10mBGL 4.5.5.7.6.7. N=25 SPT-C 9.60mBGL 25 for 25, 50 for 45 N=50. SPT-C 11.10mBGL 7.6.7.7.9. N=25.
 SPT-C 12.10mBGL 7.7.9.8.8.8. N=31, SPT-C 14.10mBGL 25 for 40mm, 50 for 60mm N=50.

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH9

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 20/09/2012
 Type of drilling: CP+RC

End date: 30/10/2012

Hole diameter: 200 mm

Co-ordinates: 495432.30
 821387.90
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
OVERBURDEN, recovery consists of cobble fragments. Driller notes sand gravel and boulders.	[Cobble pattern]								
OVERBURDEN recovery consists of grey slightly sandy gravelly Clay and cobbles.. Driller notes clay washed away	[Clay with cobbles pattern]	11.10	11					31	11.10
		12							
		13						83	12.60
		14							
Very strong grey SANDSTONE interbedded with thin bands of black mudstone oo. flaser bedded, occ. fossiliferous. Fresh to slightly weathered.	[Sandstone pattern]	14.10	14	Mostly non intact	NI	26	74	78	14.10
		15							
		16		Fractures very closely to medium spaced sub horizontal smooth undulating tight to open and widely spaced sub vertical rough irregular tight.		86	100	100	16.00
		17							
		18			5				
		19							
Very strong grey SANDSTONE with occ. thon bands of black mudstone fresh.	[Sandstone pattern]	19.10	19					83	18.64
Continued next sheet									

Remarks:

Chiselling from 7.30 - 7.40mBGL for 1hr
 110mm dia temporary liner inserted for coring. Borehole cored to 20.20mBGL
 SPT-C 8.10mBGL 4.5.5.7.6.7. N=25 SPT-C 9.60mBGL 25 for 25, 50 for 45 N>50. SPT-C 11.10mBGL 7.6.7.7.9.6. N=25.
 SPT-C 12.10mBGL 7.7.9.8.8.8. N=31, SPT-C 14.10mBGL 25 for 40mm, 50 for 60mm N>50.

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm


Hole ID: BH9

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 20/09/2012
 Type of drilling: CP+RC

End date: 30/10/2012

Co-ordinates: 495432.30
 821387.90
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Hole diameter: 200 mm

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Very strong grey SANDSTONE with occ. thon bands of black mudstone fresh. End of Borehole Log at 20.20 m		20.20							
		21							
		22							
		23							
		24							
		25							
		26							
		27							
		28							
		29							

Remarks:

Chiselling from 7.30 - 7.40mBGL for 1hr
 110mm dia temporary liner inserted for coring. Borehole cored to 20.20mBGL
 SPT-C 8.10mBGL 4.5.5.7.6.7. N=25 SPT-C 9.60mBGL 25 for 25, 50 for 45 N>50. SPT-C 11.10mBGL 7.6.7.7.8. N=25.
 SPT-C 12.10mBGL 7.7.9.8.8.8. N=31, SPT-C 14.10mBGL 25 for 40mm, 50 for 60mm N>50.

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH10

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 12/09/2012
 Type of drilling: CP+RC

End date: 25/10/2012

Hole diameter: 200 mm

Co-ordinates: 495888.50
 824819.00
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
Brown PEAT	[Symbol]								
Soft grey slightly sandy slightly gravelly SILT	[Symbol]	1.50							
Stiff grey slightly sandy gravelly SILT with occasional cobbles	[Symbol]	2.50							
Dense grey brown sandy silty GRAVEL and COBBLES	[Symbol]	5.50							
Very stiff grey brown sandy gravelly CLAY with cobbles and boulders	[Symbol]	7.60							
OBSTRUCTION Boulder	[Symbol]	9.30 9.40						28	9.00
Continued next sheet									

Remarks:

Chiselling from 6.30 - 6.90mBGL for 1hr, 7.60-7.80mBGL for 45mins,
 8.70-8.80mBGL for 1hr and 9.30-9.40mBGL for 1hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 24.70mBGL
 SPT-C 13.90mBGL 25.50 for 50mm N>50. SPT-C 15.55mBGL 25 fo 55mm.50 for 45mm N>50.
 SPT-C 16.85mBGL 25 for 25mm.50 for 40mm N>50. SPT-C 18.6mBGL 25.50 for 60mm N>50.
 SPT-C 20.10mBGL 25 for 20mm.50 for 35mm N>50

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH10

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 12/09/2012
 Type of drilling: CP+RC

End date: 25/10/2012

Hole diameter: 200 mm

Co-ordinates: 495888.50
 824819.00
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
OVERBURDEN recovery consists of sand, gravel and cobble fragmnets, driller notes sand and clay.	[Pattern]	11							
OVERBURDEN, very stiff grey slightly sandy gravelly CLAY with cobbles.	[Pattern]	12.20						100	12.20
	[Pattern]	13							
	[Pattern]	14						100	13.90
	[Pattern]	15							
	[Pattern]	16						100	15.55
	[Pattern]	17						70	16.85
	[Pattern]	18							
	[Pattern]	19						100	18.60

Continued next sheet

Remarks:

Chiselling from 6.30 - 6.90mBGL for 1hr, 7.60-7.80mBGL for 45mins,
 8.70-8.80mBGL for 1hr and 9.30-9.40mBGL for 1hr.
 110mm dia temporary liner inserted for coring. Borehole cored to 24.70mBGL
 SPT-C 13.90mBGL 25.50 for 50mm N>50. SPT-C 15.55mBGL 25 fo 55mm.50 for 45mm N>50.
 SPT-C 16.85mBGL 25 for 25mm.50 for 40mm N>50. SPT-C 18.6mBGL 25.50 for 60mm N>50.
 SPT-C 20.10mBGL 25 for 20mm.50 for 35mm N>50

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



BOREHOLE RECORD (Rotary core)

Project Name: Oweninny Windfarm

Hole ID: BH10

Client: ESBI
 Consultant: ESBI
 Location: Bellacorick, Co. Mayo
 Start date: 12/09/2012
 Type of drilling: CP+RC

End date: 25/10/2012

Hole diameter: 200 mm

Co-ordinates: 495888.50
 824819.00
 Elevation: -
 Project no. 3352-08-12
 Drilled by: F.McA/TC
 Logged by: F.McNamara

Strata Description	Legend	Depth	Level mAOD	Discontinuities	FSI	RQD	SCR	TCR	CORE RUN
OVERBURDEN, very stiff grey slightly sandy gravelly CLAY with cobbles.	[Pattern]								
Very strong grey SANDSTONE interbedded with thin bands of black mudstone occ. flaser bedded, fresh to slightly weathered.	[Pattern]	20.75		Fractures very closely to closely spaced sub horizontal mostly smooth undulating tight to open and widely spaced 80 degrees sub vertical rough irregular tight.				100	20.10
			21		91	91	100	20.75	
			22		86	100	100	22.00	
Very strong grey SANDSTONE with occ. thin bands of black mudstone fresh.	[Pattern]	23.82		No fractures.					
			24		100	100	100	23.82	
End of Borehole Log at 24.70 m		24.70							
			25						
			26						
			27						
			28						
			29						

Remarks:

Chiselling from 6.30 - 6.90mBGL for 1hr, 7.60-7.80mBGL for 45mins, 8.70-8.80mBGL for 1hr and 9.30-9.40mBGL for 1hr. 110mm dia temporary liner inserted for coring. Borehole cored to 24.70mBGL
 SPT-C 13.90mBGL 25.50 for 50mm N>50. SPT-C 15.55mBGL 25 to 55mm.50 for 45mm N>50.
 SPT-C 16.85mBGL 25 for 25mm.50 for 40mm N>50. SPT-C 18.6mBGL 25.50 for 60mm N>50.
 SPT-C 20.10mBGL 25 for 20mm.50 for 35mm N>50

KEY

TCR Total Core Recovery.
 SCR Solid Core Recovery
 RQD Rock Quality Designation
 FSI Fracture Spacing Index



Appendix 4

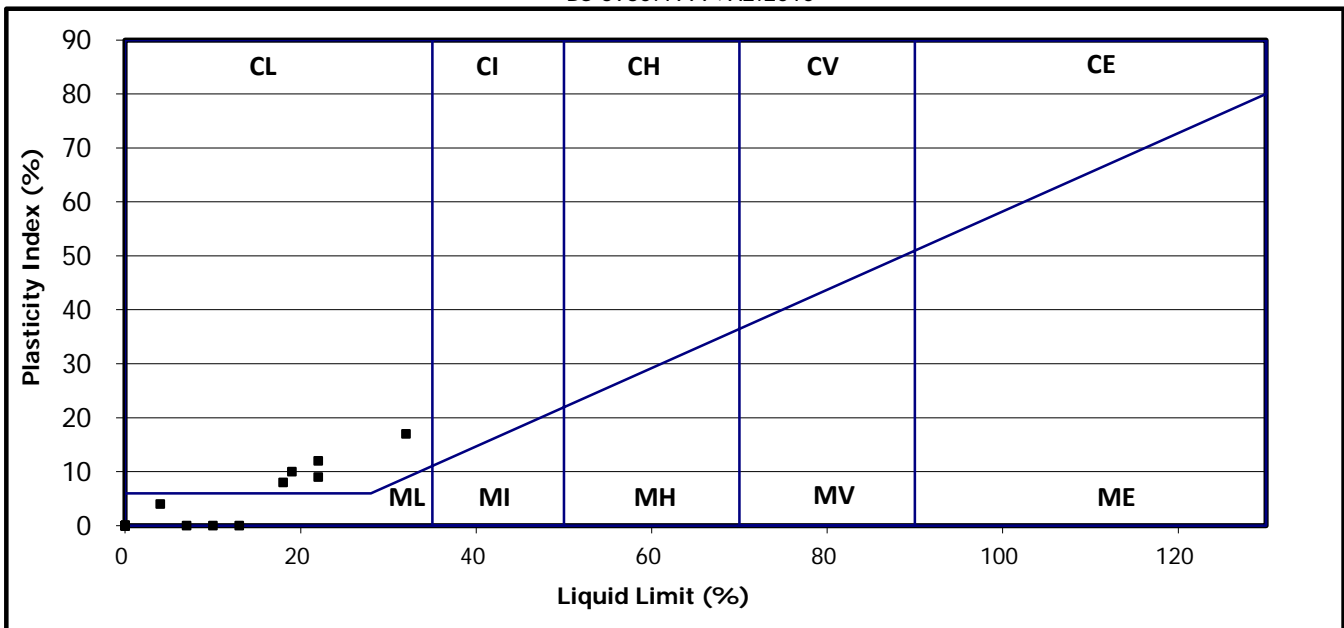
**Test Report: Method of the Determination of the plastic limit and plasticity index
BS 1377 : Part 2 : 1990 Method 5**

Client ref: N/A
Location: Owenniny Windfarm
Contract Number: 18220-201212

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
BH1		1.00	743					
BH1		1.30	16	32	15	17		CL Low Plasticity
BH1		8.00	11	22	10	12	60	CL Low Plasticity
BH2		1.00	9.2					
BH2		2.00	9.0	13	NP			
BH2		11.00	3.0	7	NP			
BH3		3.00	7.0	19	9	10	80	CL Low Plasticity
BH3		6.00	6.1					
BH3		8.00	1.3					
BH4		4.00	7.0	10	NP		20	
BH4		7.00	10	22	13	9	70	CL Low Plasticity
BH5		2.00	653					
BH6		5.00	4.0	18	10	8	70	CL Low Plasticity
BH7		2.00	563					
BH7		5.00	2.0	4	NP	4		

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved
 PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999+A2:2010



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Date Approved: 18.1.13

[Signature]
Approved By:

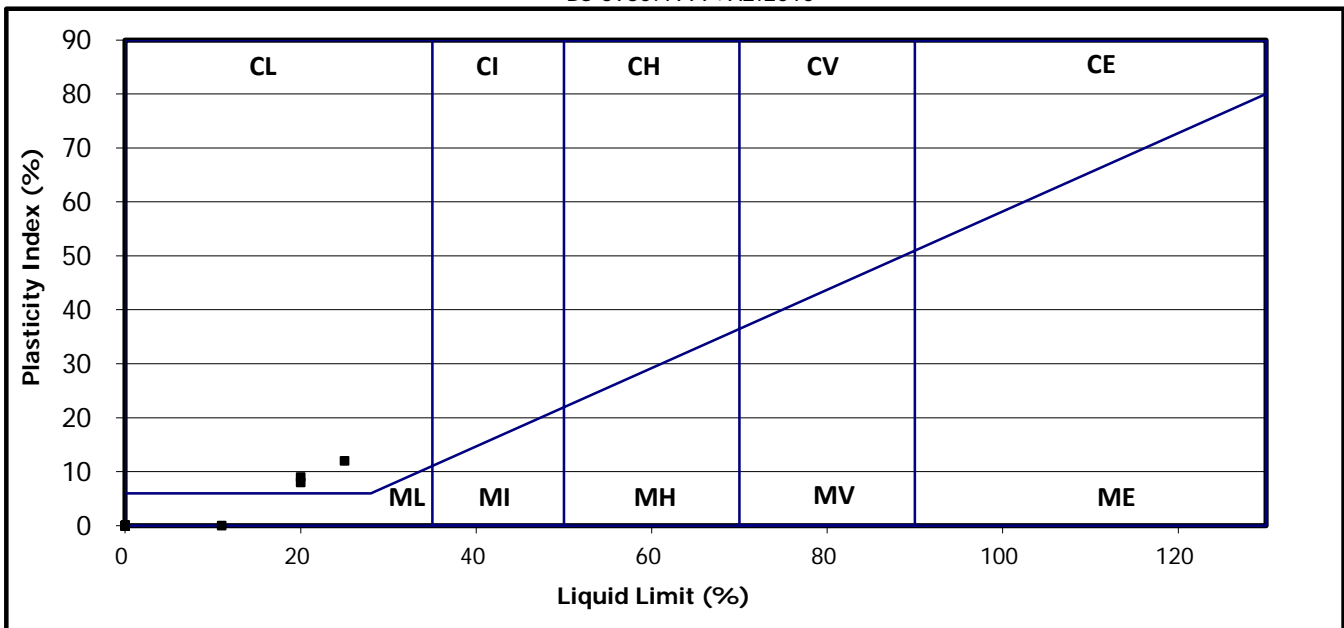


Test Report: **Method of the Determination of the plastic limit and plasticity index**
BS 1377 : Part 2 : 1990 Method 5

Client ref: **N/A**
 Location: **Owenniny Windfarm**
 Contract Number: **18220-201212**

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
BH8		1.00	474					
BH9		4.00	8.0	11	NP		20	
BH9		6.00	8.5					
BH10		1.00	603					
BH10		2.00	10	20	11	9	70	CL Low Plasticity
BH10		5.00	19	25	13	12	80	CL Low Plasticity
BH10		9.00	11	20	12	8	70	CL Low Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved
 PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.
 BS 5930:1999+A2:2010



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Date Approved: **18.1.13**

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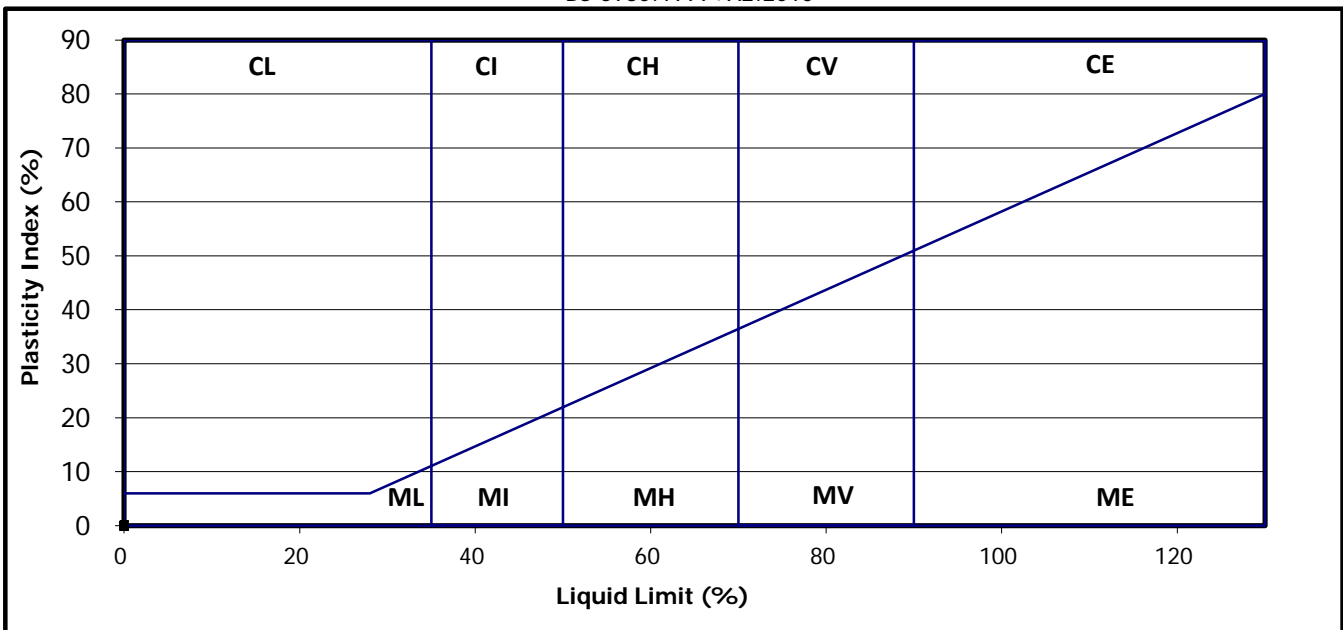


Test Report: **Method of the Determination of the plastic limit and plasticity index**
BS 1377 : Part 2 : 1990 Method 5

Client ref: **N/A**
 Location: **Owenniny Windfarm**
 Contract Number: **18220-201212**

Hole/ Sample Number	Sample Type	Depth m	Moisture Content % Cl. 3.2	Liquid Limit % Cl. 4.3/4.4	Plastic Limit % Cl. 5.	Plasticity Index % Cl. 6.	% Passing .425mm	Remarks
TPBP1		N/A	8.6					
TPBP3		N/A	6.3					
TPBP5		N/A	6.1					
TPBP6		N/A	8.1					
TPBP8		N/A	2.8					
TPBP9		1.20	12					
TPBP9		2.20	3.8					
TPBP10		1.00	7.5					
TPBP12		1.90	5.2					
TPBP13		0.90	16					
TPBP14		1.30	16					
TPBP16		1.70	8.0					

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved
 PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.
 BS 5930:1999+A2:2010



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 Approved By:

Date Approved: **18.1.13**





Heol Aur
Dafen Ind Estate
Dafen
Carmarthenshire
SA14 8QN
Tel: 01554 784040
01554 750752
Fax: 01554 770529
01554 784041
Web: www.geo.uk.com

Certificate of Analysis

Date: 09/10/2012

Client: Ground Investigation

Our Reference: 18220-201212

Client Reference: N/A

Contract Title: Owenny Windfarm

Description: (Total Samples) 9

Date Received: 20/12/2013

Date Started: 07/01/2013

Date Completed: 18/01/2013

Test Procedures: (B.S. 1377 : PART 3 : 1990)

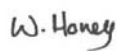
Notes:

Solid samples will be disposed 1 month and liquids 2 weeks

Approved By:

Authorised Signatories:

Emma Williams
Laboratory Office Manager


Wayne Honey
Laboratory Technician

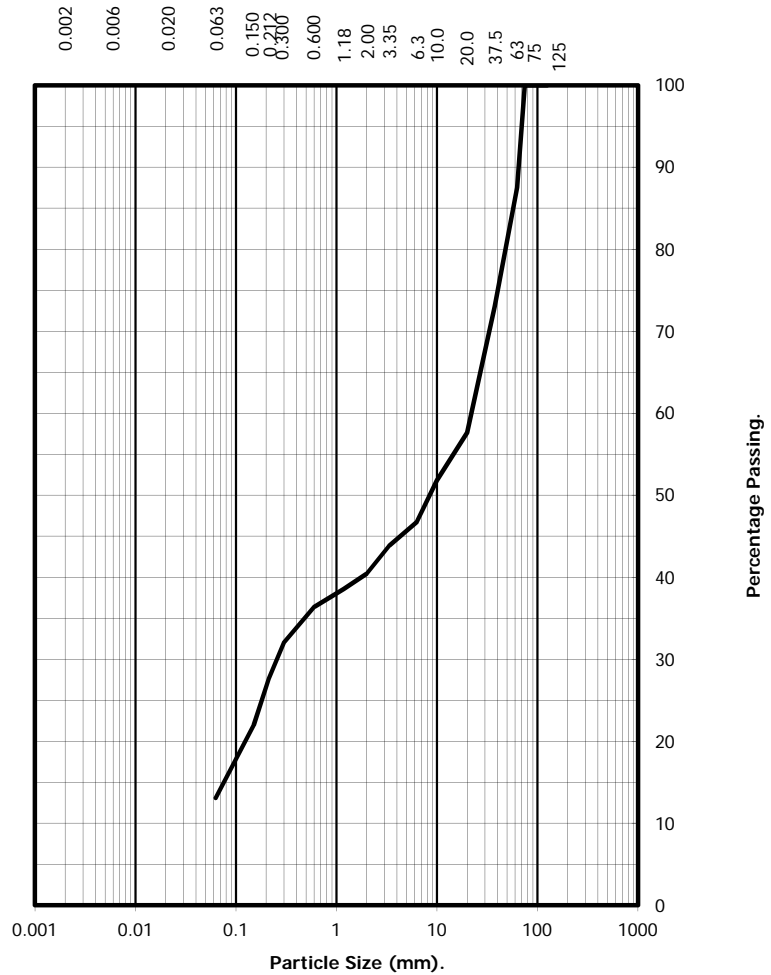

Paul Evans
Quality Manager

Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: **N/A**
 Location: **Oweniny Windfarm**
 Contract Number: **18220-201212**
 Hole Number: **BH1**
 Sample Number:
 Depth (m) : **4.00**
 Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	87
37.5	73
20	58
10	52
6.3	47
3.35	44
2.00	40
1.18	39
0.60	36
0.300	32
0.212	28
0.150	22
0.063	13

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	13	27	47	13	Total Percentage

Remarks:

- not determined



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Approved By:

Date Approved:

8.1.13

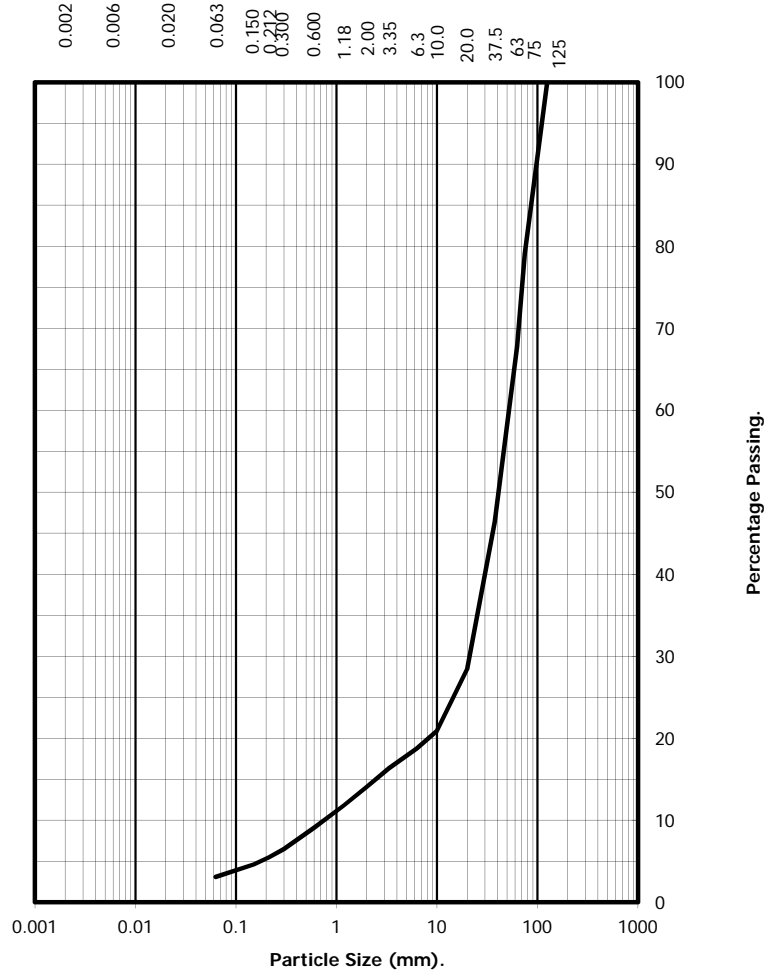


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: **N/A**
 Location: **Owenniny Windfarm**
 Contract Number: **18220-201212**
 Hole Number: **BH1**
 Sample Number:
 Depth (m) : **7.00**
 Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	79
63	68
37.5	46
20	28
10	21
6.3	19
3.35	16
2.00	14
1.18	12
0.60	9
0.300	7
0.212	5
0.150	5
0.063	3

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	3	11	54	32	Total Percentage

Remarks:

- not determined



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Date Approved: **8.1.13**

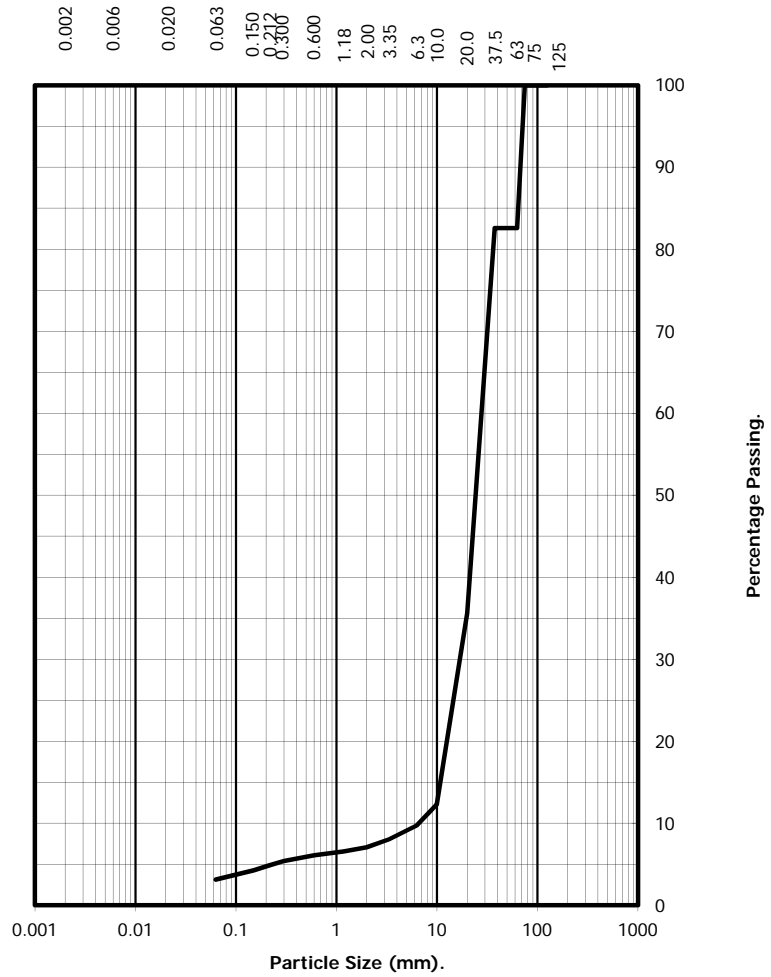


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: **N/A**
 Location: **Owenniny Windfarm**
 Contract Number: **18220-201212**
 Hole Number: **BH2**
 Sample Number:
 Depth (m) : **11.00**
 Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	83
37.5	83
20	36
10	12
6.3	10
3.35	8
2.00	7
1.18	7
0.60	6
0.300	5
0.212	5
0.150	4
0.063	3

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	3	4	76	17	Total Percentage

Remarks:

- not determined



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 Approved By:

Date Approved: **8.1.13**

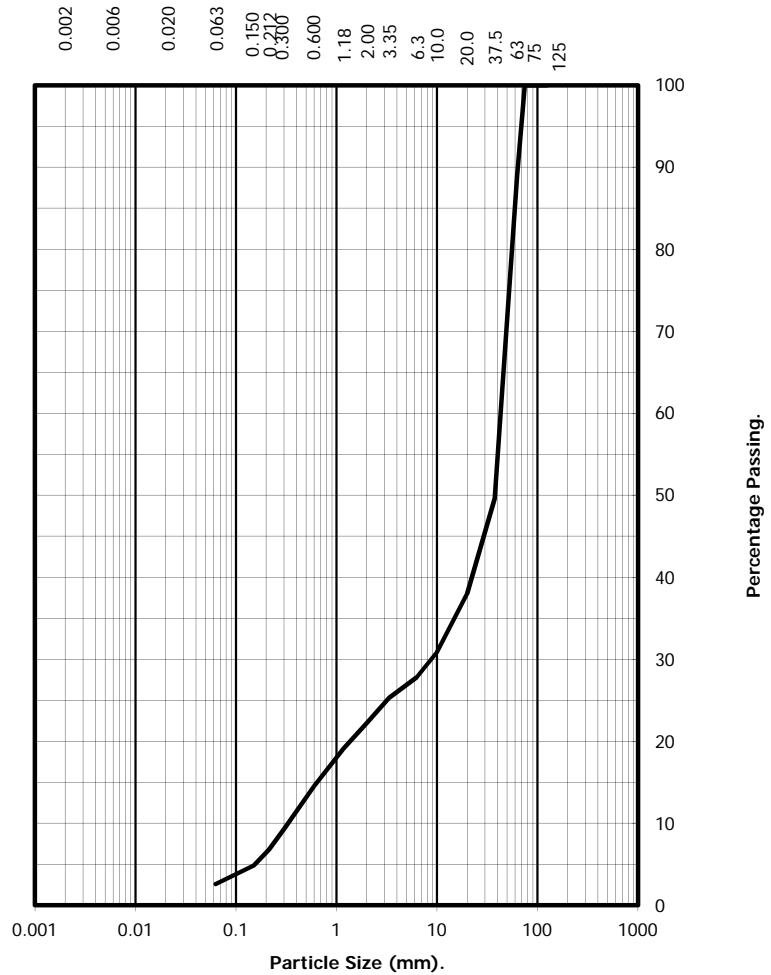


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: **N/A**
 Location: **Owenniny Windfarm**
 Contract Number: **18220-201212**
 Hole Number: **BH2**
 Sample Number:
 Depth (m) : **2.00**
 Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	89
37.5	50
20	38
10	31
6.3	28
3.35	25
2.00	22
1.18	19
0.60	15
0.300	9
0.212	7
0.150	5
0.063	3

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	3	19	67	11	Total Percentage

Remarks:

- not determined



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Approved By:

Date Approved:

8.1.13

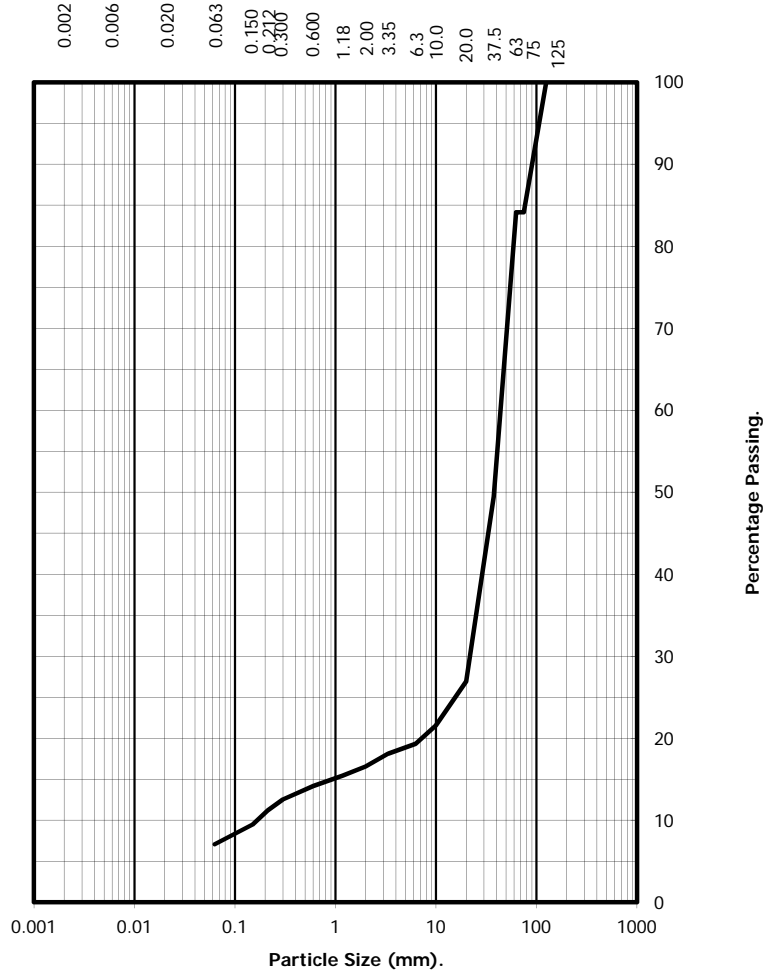


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: N/A
Location: **Owenniny Windfarm**
Contract Number: **18220-201212**
Hole Number: **BH2**
Sample Number:
Depth (m) : **4.00**
Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	84
63	84
37.5	49
20	27
10	22
6.3	19
3.35	18
2.00	17
1.18	15
0.60	14
0.300	13
0.212	11
0.150	9
0.063	7

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	7	10	67	16	Total Percentage

Remarks:

- not determined



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Approved By:

Date Approved: **8.1.13**

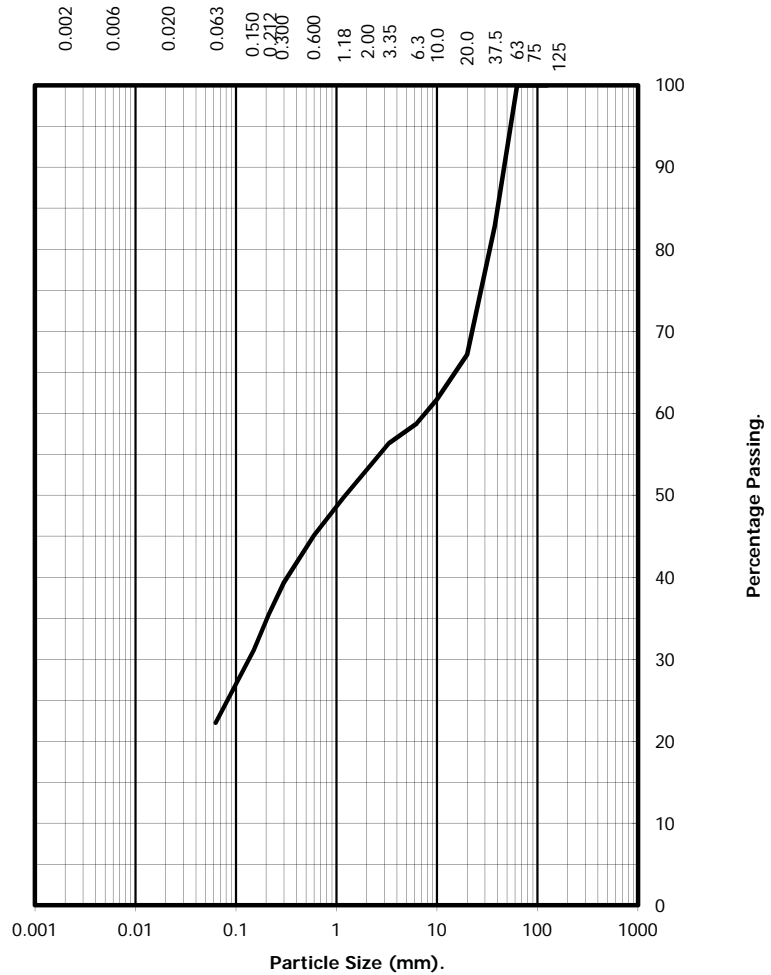


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: N/A
Location: **Owenniny Windfarm**
Contract Number: **18220-201212**
Hole Number: **BH3**
Sample Number:
Depth (m) : **2.00**
Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	83
20	67
10	62
6.3	59
3.35	56
2.00	53
1.18	50
0.60	45
0.300	39
0.212	35
0.150	31
0.063	22

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	22	31	47	0	Total Percentage

Remarks:

- not determined



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Approved By:

Date Approved: **8.1.13**

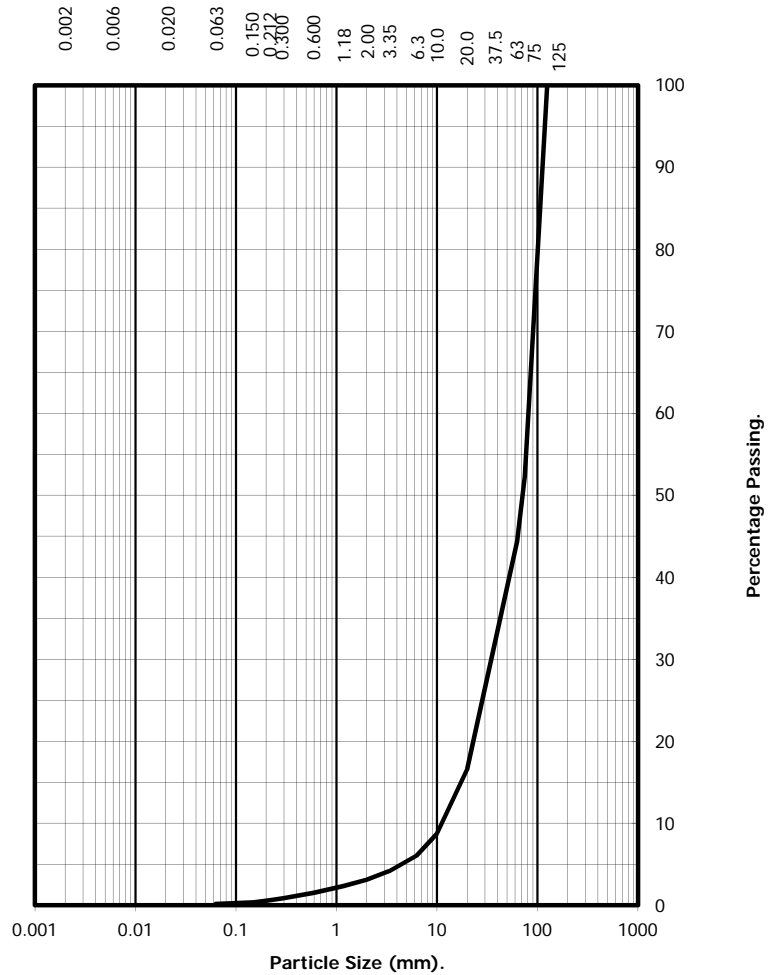


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: N/A
Location: **Owenniny Windfarm**
Contract Number: **18220-201212**
Hole Number: **BH4**
Sample Number:
Depth (m) : **2.00**
Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	52
63	44
37.5	32
20	17
10	9
6.3	6
3.35	4
2.00	3
1.18	2
0.60	2
0.300	1
0.212	1
0.150	0
0.063	0

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	0	3	41	56	Total Percentage

Remarks:

- not determined



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[Signature]
Approved By:

Date Approved: **8.1.13**

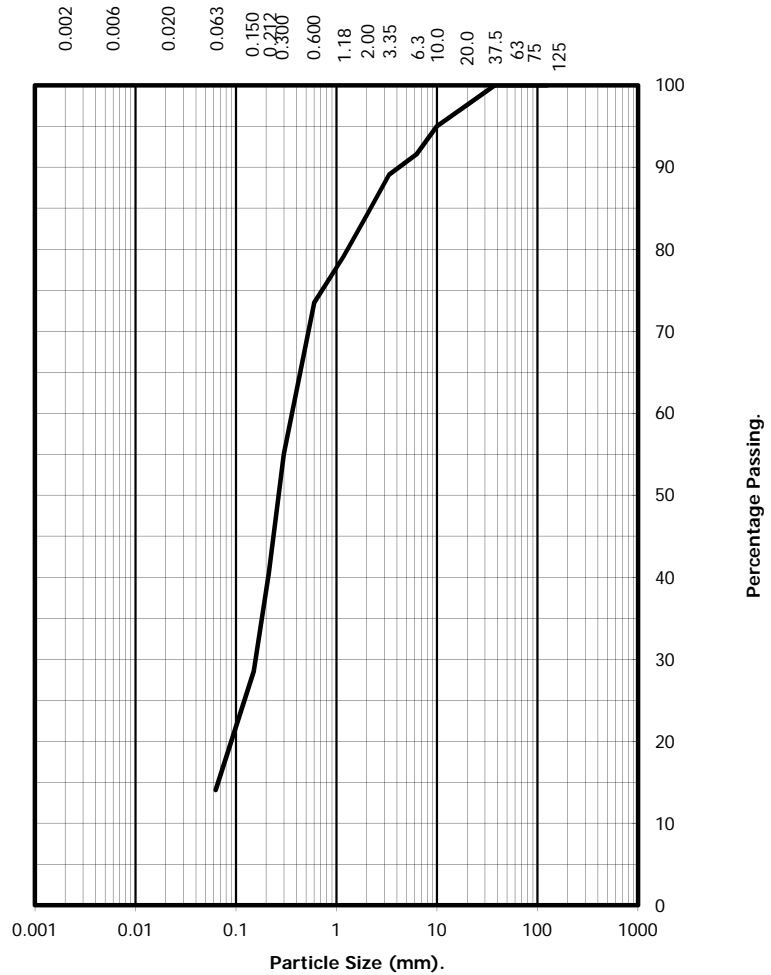


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: **N/A**
 Location: **Oweniny Windfarm**
 Contract Number: **18220-201212**
 Hole Number: **BH5**
 Sample Number:
 Depth (m) : **3.00**
 Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	98
10	95
6.3	92
3.35	89
2.00	84
1.18	79
0.60	73
0.300	55
0.212	40
0.150	29
0.063	14

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	14	70	16	0	Total Percentage

Remarks:

- not determined



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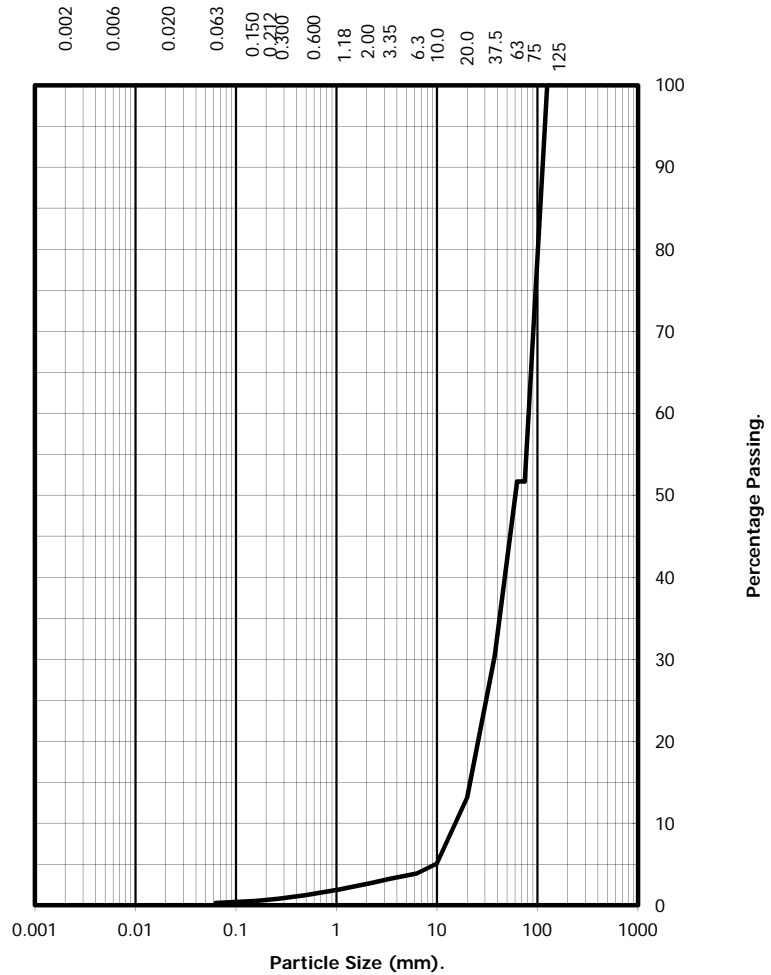


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: N/A
Location: **Owenniny Windfarm**
Contract Number: **18220-201212**
Hole Number: **BH7**
Sample Number:
Depth (m) : **5.00**
Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	52
63	52
37.5	30
20	13
10	5
6.3	4
3.35	3
2.00	3
1.18	2
0.60	1
0.300	1
0.212	1
0.150	1
0.063	0

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	0	3	49	48	Total Percentage

Remarks:

- not determined



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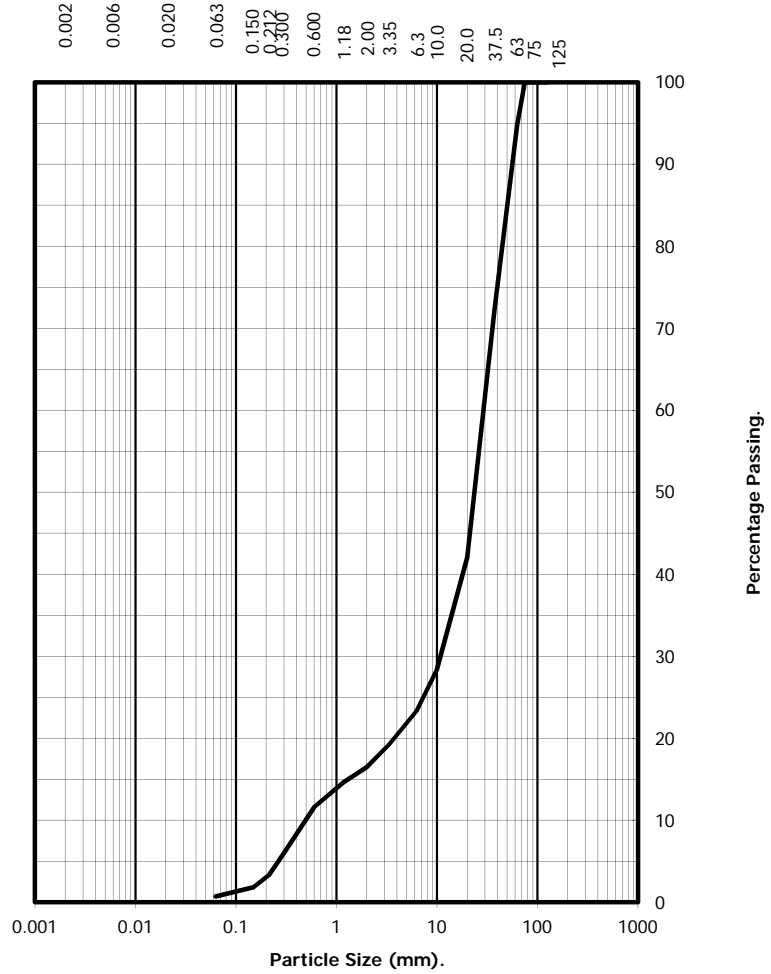


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: **N/A**
 Location: **Owenniny Windfarm**
 Contract Number: **18220-201212**
 Hole Number: **BH8**
 Sample Number:
 Depth (m) : **11.00**
 Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	95
37.5	72
20	42
10	28
6.3	23
3.35	19
2.00	16
1.18	15
0.60	12
0.300	6
0.212	3
0.150	2
0.063	1

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	1	15	79	5	Total Percentage

Remarks:

- not determined



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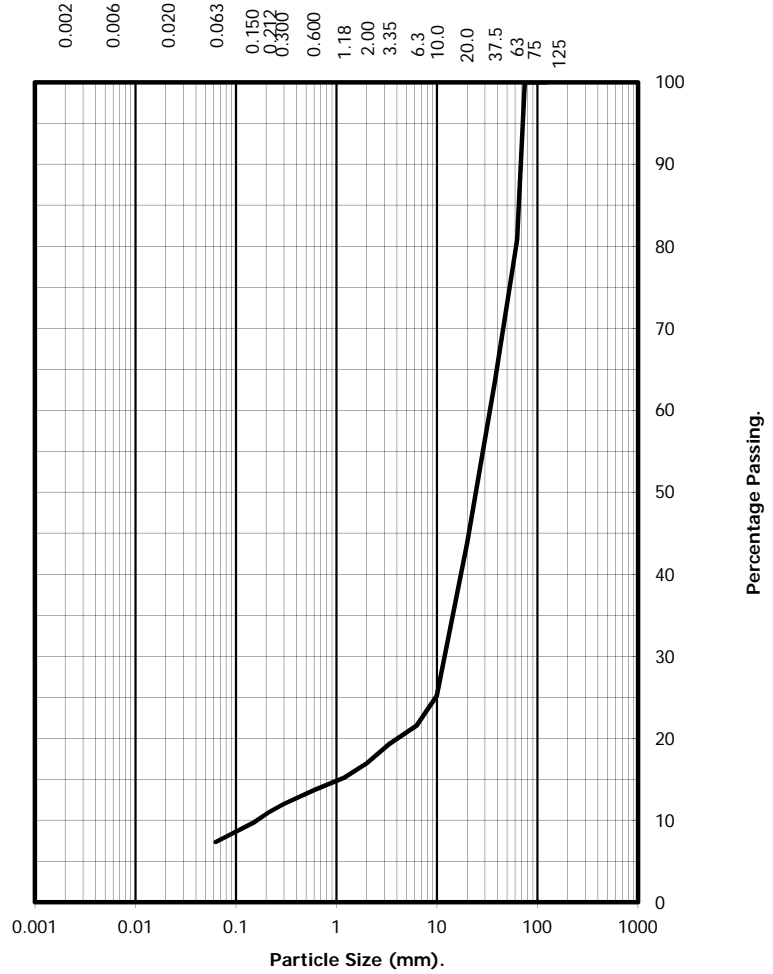


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: N/A
Location: **Owenniny Windfarm**
Contract Number: **18220-201212**
Hole Number: **BH8**
Sample Number:
Depth (m) : **5.00**
Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	81
37.5	63
20	44
10	25
6.3	22
3.35	19
2.00	17
1.18	15
0.60	14
0.300	12
0.212	11
0.150	10
0.063	7

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	7	10	64	19	Total Percentage

Remarks:

- not determined



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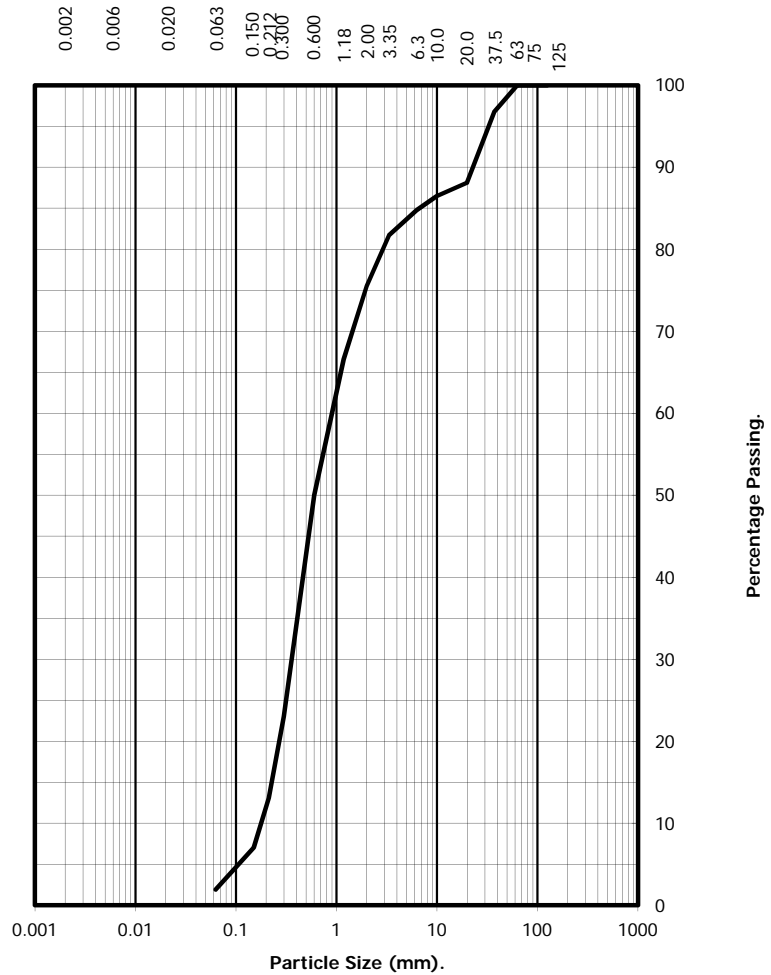


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: **N/A**
 Location: **Owenniny Windfarm**
 Contract Number: **18220-201212**
 Hole Number: **BH8**
 Sample Number:
 Depth (m) : **9.00**
 Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	97
20	88
10	86
6.3	85
3.35	82
2.00	76
1.18	67
0.60	50
0.300	23
0.212	13
0.150	7
0.063	2

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	2	74	24	0	Total Percentage

Remarks:

- not determined



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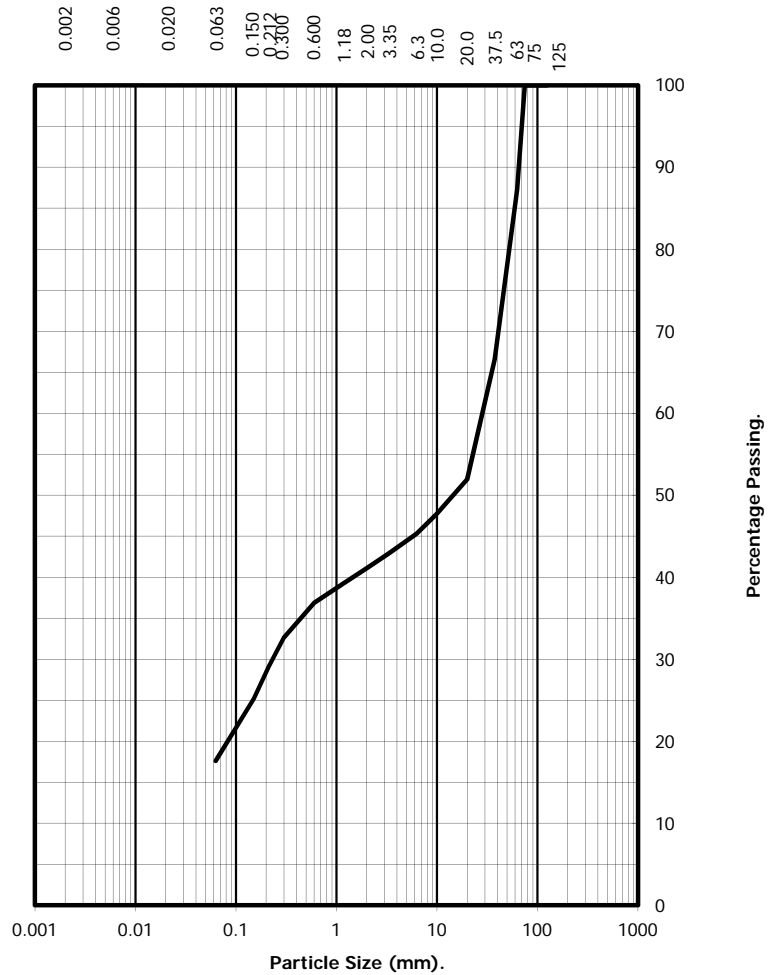


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: **N/A**
 Location: **Owenniny Windfarm**
 Contract Number: **18220-201212**
 Hole Number: **BH9**
 Sample Number:
 Depth (m) : **2.00**
 Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	87
37.5	67
20	52
10	48
6.3	45
3.35	43
2.00	41
1.18	39
0.60	37
0.300	33
0.212	29
0.150	25
0.063	18

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	18	23	46	13	Total Percentage

Remarks:

- not determined



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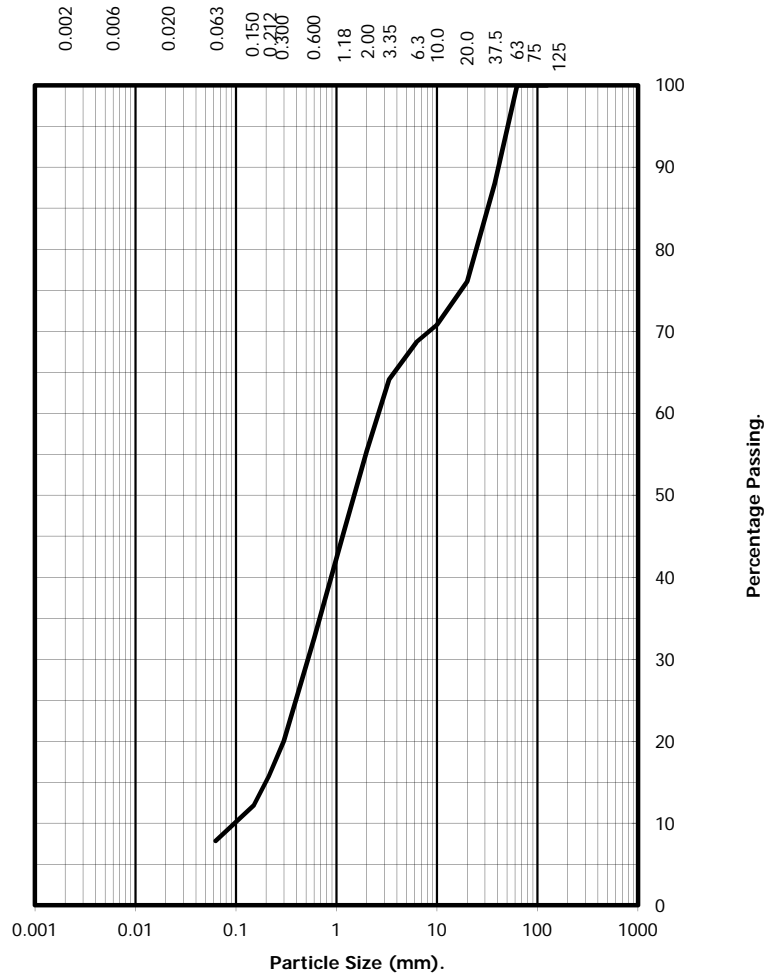


Test Report: **Particle Size Distribution Test**
BS 1377 Part 2:1990.
Wet Sieve, Clause 9.2

Client ref: **N/A**
 Location: **Owenniny Windfarm**
 Contract Number: **18220-201212**
 Hole Number: **BH10**
 Sample Number:
 Depth (m) : **7.00**
 Sample Type: **B**

BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	88
20	76
10	71
6.3	69
3.35	64
2.00	55
1.18	45
0.60	33
0.300	20
0.212	16
0.150	12
0.063	8

Particle Diameter	Percentage Passing
0.02	#
0.006	#
0.002	#



	Silt and Clay	Sand	Gravel	Cobbles	Soil Fraction
	8	47	45	0	Total Percentage

Remarks:

- not determined



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Date Approved: **8.1.13**

