



APPENDIX 8-2

HES BOREHOLE LOGS 2020



LOG NUMBER: NT1

EASTING: 186362

PROJECT NUMBER: P1500-0

SITE: Seven Hills WF, Co. Roscommon

CLIENT: Energia

DRILLING CONTRACTOR: Petersen Drilling Ltd

DATE STARTED: 22/05/2020

DATE FINISHED: 22/05/2020

LOGGED BY: A. Keegan

DRILLING TYPE: DTH

NORTHING: 248321 ELEVATION: ~96mOD

Well Completion Description	Comments	Water Strikes	Elev	Meters Below Ground Surface	Lithology	Formation Description
			96.00	0-		Ground Surface
Gravel drainage area Bentomite top seal Implication Bentomite top seal Implication Bentomite top seal Implication Bentomite top seal Implication Implication Bentomite top seal Implication Implication	dry, dust	\searrow	94.30	-		Firm, sandy Topsoil Medium dense, light brown slightly gravelly, silty SAND with frequent coblles and boulders Medium grey, weak weathered LIMESTONE Strong, grey LIMESTONE with occassional weathered zones
	water strike at 43.8mbgl	Ţ		45		
40 511	minor weathering		47.50] -		
48.5mbgl				50 ⁻		Total Depth of Borehole

REMARKS

Very minor water strike at 40mbgl. Water strike at 43.8mbgl of $\sim\!0.25~m^3/hr.$ Dipped 40mbTOC on 22/05/2020 13:00 Dipped 33.5mbTOC on 22/05/2020 14:00

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SCALE as shown



LOG NUMBER: NT3

PROJECT NUMBER: P1500-0

SITE: Seven Hills WF, Co. Roscommon

CLIENT: Energia

DRILLING CONTRACTOR: Petersen Drilling Ltd

DATE STARTED: 20/05/2020 **EASTING**: 187141 **DATE FINISHED**: 22/05/2020 **NORTHING**: 247753 LOGGED BY: A. Keegan

DRILLING TYPE: DTH

ELEVATION: ~87.4mOD

Well Completion Desc	ription	Comments	Water Strikes		Meters Below Ground Surface	ī	Formation Description
Filter Material (Sand/Gravel) Bentonite top seal	G/L 0.5mbgl 14.5mbgl 17.5mbgl 18.0mbgl 33.4mbgl	dry dry dry dry dry dry dry, dust minor fracture/weathering, dry dry, dust minor fracture/weathering, dry dry, dust		84.60 83.60 74.20 71.50	5 — — — — — — — — — — — — — — — — — — —	Firm to grave freque Limes Firm to grave with fi Limes Medion with a cobb Medion Soft to sandy limest bould Strong with a fracture fracture.	um dense, light brown, y very silty GRAVEL with one cobbles and
REMARKS No water strikes.					40		PAGE 1 of 1
Dipped DRY on 22/05/2020		t Dungaryan Co Waterford I					SCALE as shown



LOG NUMBER: NT7

PROJECT NUMBER: P1500-0

SITE: Seven Hills WF, Co. Roscommon

CLIENT: Energia

DRILLING CONTRACTOR: Petersen Drilling Ltd

DATE STARTED: 21/05/2020 **EASTING**: 186517 **DATE FINISHED**: 22/05/2020 LOGGED BY: A. Keegan

DRILLING TYPE: DTH

NORTHING: 247332 **ELEVATION:** ~75.1mOD

Well Completion Description	Comments	Water Strikes		Meters Below Ground Surface	F	ormation Description
Gravel drainage area Gravel drainage area Gravel drainage area Bentonite top seal Ambgl 7.5mbgl 9.0mbgl 9.0mbgl 30.5mbgl 30.5mbgl	dry dry, dust dry, dust dry, dust minor weathering/fracture, dry dry, dust minor weathering/fracture, dry dry, dust dry, dust dry, dust dry, dust dry, dust		71.90 71.40 68.70 68.70 64.20 63.60 55.80 54.10	0 — — — — — — — — — — — — — — — — — — —	Meditugrave freque freque freque freque freque Strong occas weath Mode grey L Iminor Fractu Weak weath Fractu Mode greyLl occas weath Strong Strong	Ground Surface a Sandy TOPSOIL Jum dense, brown, Illy, silty SAND with ent cobbles and boulders one boulder offirm, orange-brown, very andy,gravelly CLAY with ent limestone boulders Jum grey LIMESTONE with sional minor hering/fractures Trately strong to strong, Jum grey slightly weathered IONE Trately strong, medium IMESTONE with occasiona fractures/weathering Jure zone with clay infill To strong, grey, Jumered LIMESTONE Trately strong, medium MESTONE with sionalminor hering/fractures To strong, medium MESTONE with sionalminor hering/fractures To strong, mediumgrey, hered LIMESTONE To strong, mediumgrey, hered LIMESTONE To strong, mediumgrey, hered LIMESTONE To strong, mediumgrey, hered LIMESTONE
REMARKS No water strikes. Dipped DRY on 22/05/2020						PAGE 1 of 1 SCALE as shown



LOG NUMBER: ST2

PROJECT NUMBER: P1500-0

SITE: Seven Hills WF, Co. Roscommon

CLIENT: Energia

DRILLING CONTRACTOR: Petersen Drilling Ltd

 DATE STARTED: 18/05/2020
 EASTING: 188286

 DATE FINISHED: 19/05/2020
 NORTHING: 242877

 LOGGED BY: A. Keegan
 ELEVATION: ~80.05mOD

DRILLING TYPE: DTH

Well Completion Description	Comments	Water Strikes		Meters Below Ground Surface	Lithology	Formation Description
G/L			80.05 79.15	0-		Ground Surface Dense, dry brownish grey
Gravel drainage area Bentonite top seal 0.50000000000000000000000000000000000	dry, dust dry, dust dry, dust dry, dust dry, dust minor fracture, dry		78.05 73.55 71.05 67.05	10		slightlygravelly SAND Dense brownish grey gravelly SAND with frequent limestone cobbles and boulders Moderately strong, dry, competent, light grey LIMESTONE with occassional weathering/fractures Weak grey, dry, weathered LIMESTONE with dry clay infill Moderately strong, dry, grey LIMESTONE Weak to strong, light grey, LIMESTONE . Clay infill between 16.1 and 17.8mbgl slight fracture from 20.4 - 20.6m
Filter Material (Sand/Gravel) Slotted Pipe	dry, dust		58.05	25		Strong, grey LIMESTONE
REMARKS				45		Total Depth of Borehole PAGE 1 of 1
No water strikes. HYDRO-ENVIRONMENTAL SERVICES 22 Lower Main Stree	t Dungarvan Co. Waterford	[el: 058	-44122	Fax: 058-	44244 Er	SCALE as shown mail: info@hydroenvironmental.ie



PROJECT NUMBER: P1500-0

SITE: Seven Hills WF, Co. Roscommon

DATE FINISHED: 19/05/2020 LOGGED BY: A. Keegan

DATE STARTED: 18/05/2020

EASTING: 187850 **NORTHING**: 243616

LOG NUMBER: ST4

CLIENT: Energia

DRILLING CONTRACTOR: Petersen Drilling Ltd

DRILLING TYPE: DTH

ELEVATION: ~71.05mOD

Well Completion Description	Comments	Water Strikes		Meters Below Ground Surface		Formation Description
			71.05	0-	*****	Ground Surface
O O O O O O O O O O O O O O O O O O O	dry dry, dust minor fracture, dry dry, dust		67.35 66.85	5—		Firm sandy Topsoil Dense, light brownish grey gravelly SAND, gravels are angular to sub angular, with frequent cobbles and boulders Strong, competent, light grey LIMESTONE
Gravel drainage area Bentonite top seal egg egg egg egg egg egg egg	minor fracture, dry			10—		Weathered LIMESTONE Strong, competent, light grey LIMESTONE
Ben general and the second sec	dry, dust			- - 15		
	dry, dust			20		
	dry, dust			_ _ _ _		
Filter Material (Sand/Gravel)	dry, dust			25 — - - -		
	dry, dust			30-		
36.8mbgl	dry, dust		34.25	35—		Takal Dambh - CD
				40		Total Depth of Borehole
REMARKS No water strikes met. No water in borehole on 19/05	5/2020.					PAGE 1 of 1
						SCALE as shown



LOG NUMBER: ST8

PROJECT NUMBER: P1500-0

SITE: Seven Hills WF, Co. Roscommon

CLIENT: Energia

DRILLING CONTRACTOR: Petersen Drilling Ltd

 DATE STARTED: 20/05/2020
 EASTING: 188937

 DATE FINISHED: 20/05/2020
 NORTHING: 244075

 LOGGED BY: A. Keegan
 ELEVATION: ~73.5mOD

DRILLING TYPE: DTH

Well Completion Description	Comments	Water Strikes		Meters Below Ground Surface		Formation Description
<u> </u>			73.50	0-	**********	Ground Surface
 	dry		72.55	-		Frim, sandy Topsoil
ا الله الله الله الله الله الله الله ال			71.70	-		Medium dense, brown, gravelly, silty SAND with
	fracture/weathered zone from			-		frequent cobbles and boulders
	3.2 to 3.7mbgl			_		Strong, light grey LIMESTONE dry fracture/weathered zone from
e	dry, dust			_		3.2 to 3.7mbgl
seal l				-		
Gravel drainage area nitonite top seal gravel (1.5mbgl and 1.5mbgl	dry, dust		62.40	10-		
Gravel drainage Bentonite top seal	dry, dust		02.40	- -		Moderately weak, slightly fractured/weathered LIMESTONE
	dry, dust			15		Strong, light grey LIMESTONE, with occassional fractures and
				-		weathering
	dry, dust			-		
and/Gravel)	dry, dust			20-		
sl (Sand/C	dry, dust			25		
Filter Material (Sand/Gravel)	dry, dust			- - -		
	dry, dust			30-		
	dry, dust			-		
36.8mbgl	dry, dust		38.30 37.50 36.70	35 —		Weak grey weathered/broken LIMESTONE
30.0mbgi				_		Strong, light grey LLIMESTONE
				40-		Total Depth of Borehole
REMARKS No water strikes.			•	,		PAGE 1 of 1
						SCALE as shown
HYDRO-ENVIRONMENTAL SERVICES 22 Lower Main Stree	et Dungarvan Co. Waterford 1	[el: 058	-44122	Fax: 058	-44244 Er	mail: info@hydroenvironmental.ie