

Appendix C

			7		Trial	Pit Log		Trial Pit No: TP1
			Project No: P1591-0			Date started: 15/08/2022	$\langle \mathcal{P}_{\mathbf{A}} \rangle$	Easting: 666038.57
	Ħ		Site: Old Leighlin Quarry, Co. Carlow			Date finished: 15/08/2022	· · · · · · · · · · · · · · · · · · ·	Northing: 664095.92
HYDRO	D-ENVIRON	A MENTAL SERVI	Client: Milford Quarries Ltd					Elevation: 93mOD
			SUBSURFACE PROFILE	_			·l	$\mathbf{\hat{\mathbf{A}}}$
Depth	Symbol	Depth/Elev.	Description	Water Strikes	Sample Type	Comments		
0.00-		93.00	Ground Surface				all and a second	
0.00							ARE MADE	
- 1.00- - 2.00-	000 		Stiff brown slightly sandy CLAY (Topsoil) with grass rootlets Very Stiff, dry, brown gravelly Silty CLAY (Boulder Clay) with occasional grey mottling, and with angular and subangular gravels and cobbles of siltstone and mudstone (~20% gravels and cobbles in very stiff CLAY matrix).					
3.00-		2.90						
	arks:	Very harc No bedro	inflows. dewalls stable. digging at depth. ck encountered. RVICES 22 Lower Main Street Dungarvan Co. Waterford Tel: 058-44		Exe Log	ntractor: cavator type: gged by: MG		Scale as shown Sheet: 1 of 1

					Trial	Pit Log		Trial Pit No: TP2
			Project No: P1591-0			Date started: 15/08/2022	\mathbf{A}	Easting: 665888.22
	Ħ	8	Site: Old Leighlin Quarry, Co. Carlow			Date finished: 15/08/2022	1	Northing: 664072.30
HYDRO	D-ENVIROI		Client: Milford Quarries Ltd					Elevation: 111.29mOD
			SUBSURFACE PROFILE				<u> </u>	$\mathbf{\hat{\mathbf{A}}}$
Depth	Symbol	Depth/Elev.	Description	Water Strikes	Sample Type	Comments		
0.00-		111.29	Ground Surfa					A PATE AT
0.00			Stiff brown slightly sandy CLAY (Topsoil) with grass	;			A AND AND AND A	The second second
- 1.00- - 2.00- - 3.00- - 4.00-	$00 - \frac{10.99}{\frac{1}{2} - \frac{1}{2} - $		Stiff brown slightly sandy CLAY (Topsoil) with grass rootlets. Very Stiff, dry, brown gravelly Silty CLAY (Boulder Clay), with angular and subangular gravels and cobbles of siltstone and mudstone.					
Rem	arks:	Slightly do Vertical si	inflows/no mottling noted. amp at 2.5mbgl. idewalls stable. ock encountered.		Ex	ntractor: cavator type: gged by: MG		Scale as shown Sheet: 1 of 1
HYDRO-	ENVIRC	ONMENTAL SE	RVICES 22 Lower Main Street Dungarvan Co. Waterford Tel:	058-44122 Email:	info@hydr	oenvironmental.ie		

HYDR	D-ENVIRO	DIMMENTAL SERV	CES	Project No: P1591-0 Site: Old Leighlin Quarry, Co. Carlow Client: Milford Quarries Ltd		Trial	Pit Log Date started: 15/08/202 Date finished: 15/08/20		Trial Pit No: TP3 Easting: 665984.16 Northing: 664045.81 Elevation: 102mOD
				SUBSURFACE PROFILE				L	\sim
Depth	Symbol	Depth/Elev.		Description	Water Strikes	Sample Type	Comments		
0.00-		102.00		Ground Surface					
1.00- 2.00-		0.00 101.70 0.30	ver Ver Clo	f brown slightly sandy CLAY (Topsoil) with grass of thets ry Stiff, dry, brown gravelly Silty CLAY (Boulder ay) with angular and subangular gravels and obles of siltstone and mudstone.					
3.00-		99.30 2.70 97.70 4.30	Loc SIL1	ose, grey/brown very sandy, very gravelly "/CLAY.	-				
		Vertical s No bedro	idewo ock en	countered.		Ex Log	ntractor: cavator type: gged by: MG		Scale as shown Sheet: 1 of 1
HYDRO-	ENVIRC	ONMENTAL S	ERVICE	\$ 22 Lower Main Street Dungarvan Co. Waterford Tel: 058-44	122 Email:	info@hydr	oenvironmental.ie		

	\sim		Bo	oreho	ole Log		Well No.: BH1
	<u>```</u>	Project No: P1591-0			Date started: 17/08/2022	2 P	Easting: 665914.03
		Client: Milford Quarries Ltd			Date finished: 17/08/202	22 2	Northing: 664072.34
D-ENVIRONMEN	NTAL SERVICE	s Site: Old Leighlin Quarry, Co	. Carlov	v			Elevation: 103.7mOl
			SUBSU	RFACE	PROFILE		
Depth	Symbol	Description	Depth/Elev.	Water Level	Comments	w	/ell Completion Details
0-		Ground Surface	103.7		mbgl/TCR%/SCR%		
		Firm, brown, slightly sandy silty	0.0		IIDGI/ICK//JSCK/		G/L: 103.7r
- - - - - - - - - - - - - 		Firm, brown, gravelly silty CLAY with cobbles and boulders. Gravels and cobbles are subrounded to angular. Polymict clast composition of sandstone, mudstone and some limestone.	<u>99.5</u> 4.2	-		Top of Casing: 104.03mOD	Concrete
	៹៓ ៝៶ ៝៹៓៝៝៓៓៹៹៓៝៝៓៹៹៓៝៝៹៹៓៝៓៓៹៹៓៹៹៓៹៹ ៰៓៸៹៰៓៹៹៹៹៹៹៹៹៹៹៹៹៹៹៹៹៹៹៹៹៹៹៹	Large boulders with fragmented angular returns.					Artsing
		Very firm, brown, slightly silty gravelly CLAY. Gradational colour change with depth from orange brown to dark brown at 14m. Upper section is very gravelly and decreases with depth.	90.5 13.2 88.0 15.7	-	15.67-16.2/100/82		2" Plain Pipe 0-31.2mbgl
20-		Very strong, dark blue fine grained laminated limestone. Sharp horizontal contact with overlying boulder clay. Occassional fractures. Gradational colour change near base to light blue. Very strong, creamy grey coarse grained sparry dolomite			16.2-19.2/100/82		
Remar	ks:	limestone.		Depti	n to Bedrock (m): 15.7		Scale as show
	*			_	ng type: RC		Sheet: 1 of 2
							SHEEL 1 01 Z



Borehole Log

Well No.: BH1

Project No: P1591-0

Client: Milford Quarries Ltd

Date started: 17/08/2022

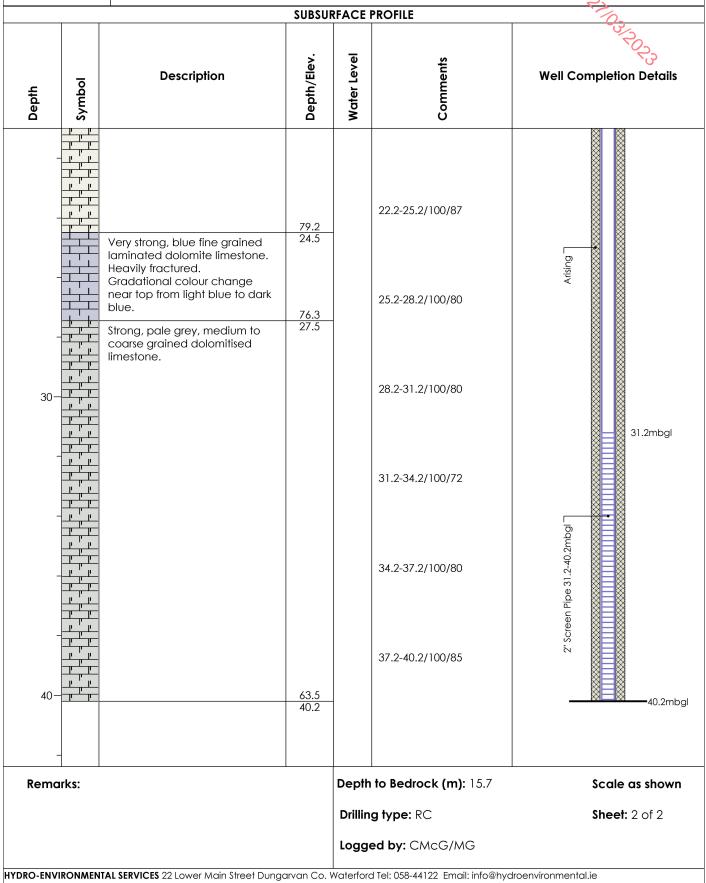
Easting: 665914.03

Northing: 664072.34

Elevation: 103.7mOD

Date finished: 17/08/2022

Site: Old Leighlin Quarry, Co. Carlow





Borehole Log

Date started: 17/08/2022

Date finished: 17/08/2022

Well No.: BH2

2

Easting: 666003.53

Northing: 664015.54

Elevation: 93.778mOD

Project No: P1591-0

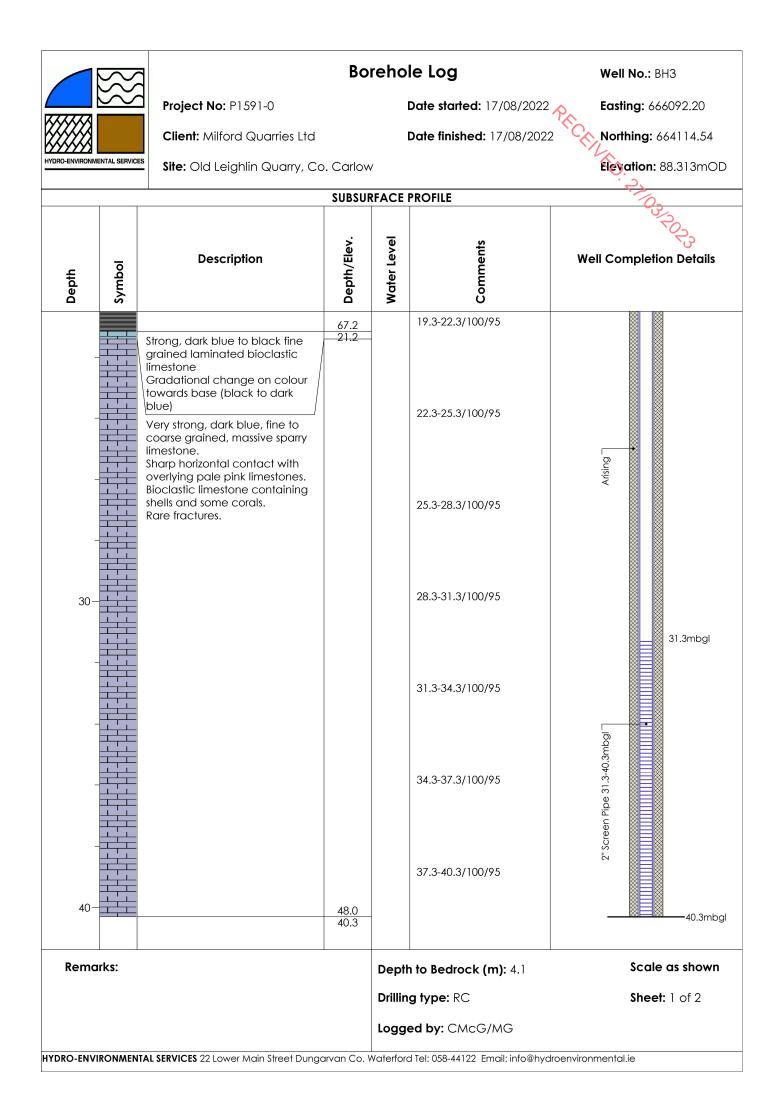
Client: Milford Quarries Ltd

Site: Old Leighlin Quarry, Co. Carlow

gg gg Description ig gg gg gg gg 0 Firm, orange brown growily slity CLAY with cobbles. Growes and cobbles are angular to subrounded. Poymic class is distance and poymic class is distance and poymic class is distance and poymic class is distance. 93.8 mbgl/TCR%/SCR% Outgreet/SCR% 0 Firm, orange brown growily slity CLAY with cobbles. 93.8 mbgl/TCR%/SCR% Outgreet/SCR% 0 Firm, orange brown growily slity CLAY with cobbles. 92.5 mbgl/TCR%/SCR% Outgreet/SCR% 0 Firm, orange brown growily Slity CLAY with cobbles. 92.5 Poymic class is distance. 93.7 10 Firm, growily growily CLAY with cobbles. 92.5 Poymic class is distance. 93.7 10 Firm, growily growily CLAY. 86.9 Poymic class is distance. 90.0 10 Firm, growily growily CLAY. 86.9 Poymic class is distance. Poymic class is distance. 10 Firm, orange orange brown, growily CLAY. 86.9 Poymic class is distance. Poymic class is distance. 10 Firm, orange orange brown, growily CLAY. 86.9 Poymic class is distance. Poymic class is distance. 10 Firm, orange orange brown, growily CLAY. 10.3-13.3/53/18 Poymic class is distance. Poymic class is distance. 10 <td< th=""><th></th><th></th><th>SUBSU</th><th>RFACE</th><th>PROFILE</th><th></th><th></th></td<>			SUBSU	RFACE	PROFILE		
Image: Provide and the second seco	Depth Symbol	Description	Depth/Elev.	Water Level	Comments	v	Vell Completion Details
a Imm, dense, dark brown, gravelly CLAY. Laminated interval at 18.5m. Laminations at 45°. (probable Palaeokarst infill of a cavity within the bedrock) 73.5 Fragmented dolomite Limestone core returns. Depth to Bedrock (m): 9.0 Scale as shown		Firm, orange brown gravelly silty CLAY with cobbles. Gravels and cobbles are angular to subrounded. Polymict clasts of siltstone and mudstone. Loose, gravelly silty CLAY with cobbles. Gravels and cobbles are angular to subangular. Polmict clasts of siltstone, mudstone and some limestones. Firm, grey silty gravelly CLAY with cobbles. Gravels and cobbles are angular to subangular. Polymict clast composition. Very gravelly near base. Firm, very dense, orange brown slightly gravelly CLAY. Black organic interval at 7.6m. Very gravelly interval at 7.8m Fragmented dolomite limestone core returns. Some good returns of moderately strong, pale grey, coarse-grained dolomite. Other intervals of poor returns with limestone/dolomite gravels and cobbles and some occasional brown gravelly	0.0 91.0 2.8 89.5 4.3 86.9 6.9 84.8 9.0 76.5		9.02-10.3/45/25 10.3-13.3/53/18	Top of Casing: 94.051mOD	Pairing Africing
		gravelly CLAY. Laminated interval at 18.5m. Laminations at 45°. (probable Palaeokarst infill of a cavity within the bedrock) Fragmented dolomite	17.3 73.5	-	19.3-22.3/100/87		
	kemarks:						

		3	Во	rehc	ole Log	Well No.: BH2
	ŠČ	Project No: P1591-0			Date started: 17/08/2022	Easting: 666003.53
		Client: Milford Quarries Ltd			Date finished: 17/08/2022	2 Northing: 664015.54
O-ENVIRONM	IENTAL SERVICE	Site: Old Leighlin Quarry, Co	o. Carlov	V		Elevation: 93.778mC
			SUBSU	RFACE	PROFILE	
Depth	Symbol	Description	Depth/Elev.	Water Level	Comments	Well Completion Details
30-		Strong, pale grey,coarse grained dolomite. Frequent fractures. Strong, blue, coarse grained sparry limestones. Sharp 45° contact with overlying pale limestones.	<u>59.1</u> 34.7		22.3-25.3/100/85 25.3-28.3/100/90 28.3-31.3/100/92 31.3-34.3/100/85 34.3-37.3/100/87	Z" Screen Pipe 31.3-40.3mbgl
40-			53.5 40.3	-	37.3-40.3/100/95	40.3mb
Remo	ırks:			Dept	h to Bedrock (m): 9.0	Scale as showr
				Drillir	n g type: RC	Sheet: 2 of 2
				Logo	jed by: CMcG/MG	

	\sim	3	Во	reho	ole Log		Well No.: B	3H3
	\sim	Project No: P1591-0			Date started: 17/08/20	22	Easting: 66	6092.20
		Client: Milford Quarries Ltd			Date finished: 17/08/20	022	Northing: a	664114.54
D-ENVIRONMI	ENTAL SERVICE	Site: Old Leighlin Quarry, Co.	Carlov	V			Elevation:	88.313mOD
			SUBSU	RFACE	PROFILE		270	
Depth	Symbol	Description	Depth/Elev.	Water Level	Comments	w	yell Completi	on Details
0-		Ground Surface	88.3		mbgl/TCR%/SCR%			G/L:
Ū		Firm brown slightly sandy, gravelly CLAY with rootlets	0.0			_ GOn		88.313m
-		Firm, dense, orange brown gravelly silty CLAY with occassional cobbles. Gravels are angular to subrounded (poorly sorted). Polymict clast (gravel and cobble) composition of sandstone, siltstone and mudstone.	84.2	_		Top of Casing: 88.605mOD	Concrete	
-		Weak, heavily weathered, pale pink, loose coarse grained calcarenite. Moderately strong, pale pink to cream, coarse grained	80.4		5.56-7.3/95/47		Arising	
- 10-		dolomite. Regular fracturing. Very strong, dark blue, tine to coarse grained, massive limestone. Sharp horizontal contact with overlying pale pink dolomite. Bioclastic limestone containing	7.9	_	7.3-10.3/92/75			
-		shells and some corals. Rare fractures.			10.3-13.3/98/95		2' Plain Pipe 0-31.3mbg	
-					13.3-16.3/100/95		2" Plain Pip	
_					16.3-19.3/100/95			
20-		Weak, black, fine grained	<u>68.3</u> 20.0	-				
Rema	rks:			Dent	h to Bedrock (m): 4.1	[Scale	e as shown
Acting					n to Bedrock (m): 4.1			t: 1 of 2
							Suee	1. 1 01 2
				Logg	ed by: CMcG/MG			



	\sim		Во	reho	le Log		Well No.:	BH4
	\sim	Project No: P1591-0			Date started: 17/08/202	22 🏠	Easting:	666059.71
		Client: Milford Quarries Ltd			Date finished: 17/08/20)22	Northing	: 664216.69
	AL SERVICES	Site: Old Leighlin Quarry, Co	. Carlov	v			Elevatior	: 93.266mOD
			SUBSU	RFACE	PROFILE			2
Depth	Symbol	Description	Depth/Elev.	Water Level	Comments	v	Vell Comple	tion Details
0-		Ground Surface	93.3		mbgl/TCR%/SCR%			G/L:
		Loose, brown, gravelly silty CLAY with abundant cobbles. Gravels and cobbles are angular to subangular Returns as loose cobbles of grey	0.0 88.9 4.3	-		Top of Casing: 93.531mOD ⁻	Concrete	93.266mC
		coarse grained weathered dolomite with some gravelly CLAY Strong, pale grey, medium to coarse grained dolomite. Frequent fracturing and veining			5.94-7.3/33/30 7.3-10.3/95/70		_ Arising _	
		Firm, dark brown gravelly silty CLAY with cobbles.	80.8 12.5	-	10.3-13.3/75/68		1.3mbgl	
		Gravels and cobbles are angular to subangular. Polymict clast composition comprising of blue and brown siltstones and mudstones. Strong, pale grey, medium to coarse grained dolomite.			13.3-16.3/85/60		2" Plain Pipe 0-31.3mbgl	
		Frequent fracturing and veining. Interbedded with blueish limestone between 16.15m and 17.2m (gradational changes)			16.3-19.3/85/64			
Remark	s:			Dent	h to Bedrock (m): 4.9		Sco	le as shown
					ng type: RC			et: 1 of 2

HYDRO-ENVIRONMENTAL SERVICES 22 Lower Main Street Dungarvan Co. Waterford Tel: 058-44122 Email: info@hydroenvironmental.ie

Project No; P1591-0 Dete started: 17/09/2022 Easting: 666039.71 Liter: Milling duarries Ltd. Date finished: 17/09/2022 Retring: 664216.69 Site: Did Lightin Guarry, Co. Carlow SUBURACE PROFILE Well Completion Details Up Description is				Во	oreho	le Log	Well No.: BH4
Bite: Old Leignin Quary, Co. Cardw Weil Completion Statement Weil Completion Statement UBSURFACE PROFILE Weil Completion Details Item damas, gray gravely CLAY Clay 22.3-25.3/80/55 Output damas, gray gravely CLAY 2.2.7 Strong, Due grey, medium to coorse grained domine, Frequent flockuing and veining, Ja.3:4:3/100/82 3:3:3:3:3:3:3:3:3:3:3:3:3:3:3:3:3:3:3:			Project No: P1591-0			Date started: 17/08/2022	Easting: 666059.71
Bite: Cld Leighin GUONY, CB, Carlow Beyoffice: 33.266mCU SUBSURFACE PROFILE Well Completion Details up Description up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up up <			Client: Milford Quarries Ltd			Date finished: 17/08/2022	2 Northing: 664216.69
gg Description is gg gg gg gg 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/70 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.322.3/95/74 19.323.3/100/95 19.322.3/95/74 19.323.3/100/95 19.322.3/95/74 19.323.3/100/95 19.322.3/95/74 19.323.3/100/95 19.323.3/100/95 19.323.3/100/95 19.323.3/100/95 <td< th=""><th>HYDRO-ENVIRONM</th><th>ENTAL SERVICES</th><th>Site: Old Leighlin Quarry, Cc</th><th>o. Carlov</th><th>N</th><th></th><th>Elevation: 93.266mOD</th></td<>	HYDRO-ENVIRONM	ENTAL SERVICES	Site: Old Leighlin Quarry, Cc	o. Carlov	N		Elevation: 93.266mOD
Image: Strong, blue fine to medium gradieed blocksits spory; limestone. Upper boundary is an abrupt change. Gradual change to pale blue gradual blocksits rich layer from 38.5 to 38.8m 41.8 31.3 4.3/100/95 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/93 4.0 3 4.0 3/100/9				SUBSU	RFACE	PROFILE	
Image: section of the sect of the sect of the section of the section of the sect	Depth	Symbol	Description	Depth/Elev.	Water Level	Comments	Well Completion Details
Image: second						19.3-22.3/95/70	
30 Image: Strong, blue fine to medium grained bioclastic sparry limestone. 31.3 Upper boundary is an abrupt change. Gradual change to pale blue at 34.2m. Darker more bioclastic rich layer from 38.5 to 38.8m 31.3-34.3/100/82 40 White, coarse grained itmestone (cherty texture in blaces) 39.4 53.9 37.3-40.3/100/93 8 Depth to Bedrock (m): 4.9 Scale as shown brilling type: RC Scale as shown Drilling type: RC Sheet: 1 of 2	-		Strong, pale grey, medium to coarse grained dolomite.	67.6 25.7	_		Arising
and off production grained bioclastic sport imestone. Upper boundary is an abrupt change. Gradual change to pale blue at 34.2m. Darker more bioclastic rich layer from 38.5 to 38.8m Jave 34.3-37.3/100/95 White, coarse grained imestone (cherty texture in places) 39.4 Jaces 40 Parker 53.9 Au 53.9 Bremarks: Depth to Bedrock (m): 4.9 Scale as shown Drilling type: RC Sheet: 1 of 2	30-			61.8		28.3-31.3/95/74	31.3mbgl
40 53.9 40 53.9 1 37.3-40.3/100/93 40 1 1 1 </td <td>-</td> <td></td> <td>grained bioclastic sparry limestone. Upper boundary is an abrupt change. Gradual change to pale blue at 34.2m. Darker more bioclastic rich</td> <td>31.3</td> <td></td> <td>31.3-34.3/100/82</td> <td>3mbgg</td>	-		grained bioclastic sparry limestone. Upper boundary is an abrupt change. Gradual change to pale blue at 34.2m. Darker more bioclastic rich	31.3		31.3-34.3/100/82	3mbgg
40 53.9 40 53.9 1 37.3-40.3/100/93 40 1 1 1 </td <td></td> <td></td> <td>idyer irom 36.5 io 36.6m</td> <td></td> <td></td> <td>34.3-37.3/100/95</td> <td>1.3-40.</td>			idyer irom 36.5 io 36.6m			34.3-37.3/100/95	1.3-40.
Remarks: Depth to Bedrock (m): 4.9 Scale as shown Drilling type: RC Sheet: 1 of 2	40-		limestone (cherty texture in	39.4 53.0	-	37.3-40.3/100/93	
Drilling type: RC Sheet: 1 of 2	D		/				Camia
	ĸemo	IIKS:			_		
Logged by: CMcG/MG							Sheet: 1 of 2
IYDRO-ENVIRONMENTAL SERVICES 22 Lower Main Street Dungarvan Co. Waterford Tel: 058-44122 Email: info@hydroenvironmental.ie							

	\sim		Во	oreho	ole Log	Wel	No.: BH5
	Š	Project No: P1591-0			Date started: 17/08/20	22 🔨 East	ing: 665931.37
		Client: Milford Quarries Ltd			Date finished: 17/08/20	022 Norl	hing: 663945.57
D-ENVIRONMI	ENTAL SERVICE	Site: Old Leighlin Quarry, Co	. Carlov	N		Elev	ation: 97.383mOl
			SUBSU	RFACE	PROFILE		
Depth	Symbol	Description	Depth/Elev.	Water Level	Comments	Well Co	mpletion Details
0-		Ground Surface	97.4		mbgl/TCR%/SCR%		G/L:
- - 10		Firm, dense brown CLAY with occassional gravels and cobbles and rootlets. Gravels and cobbles are angular to subrounded (poorly sorted).	0.0 85.1 12.3			Top of Casing: 97.783mOD - Arising Concrete	97.383m
-		Core returns improve with depth (less fragmented/weathered) Frequent fracturing and veining			12.3-16.3/90/62 16.3-19.3/92/49	2" Plain Pipe 0-43.3mbgl	
-20					19.3-22.3/95/65		
-					22.3-25.3/95/49		
_					25.3-28.3/100/85		
Rema	ırks:			Dept	h to Bedrock (m): 12.3		Scale as shown
				Drillir	n g type: RC		Sheet: 1 of 2
				Logg	jed by: CMcG/MG		

	\sim		Bo	reho	le Log	Well No.: BH5
	\sim	Project No: P1591-0			Date started: 17/08/2022	Easting: 665931.37
		Client: Milford Quarries Ltd			Date finished: 17/08/2022	Northing: 663945.57
RO-ENVIRONME	ENTAL SERVICE	s Site: Old Leighlin Quarry, Co	. Carlov	V		Elevation: 97.383mOD
			SUBSU	RFACE	PROFILE	
				_		3202
Depth	Symbol	Description	Depth/Elev.	Water Level	Comments	Well Completion Details
30-					28.3-31.3/100/82	
-					31.3-34.3/100/77	Arising
-					34.3-37.3/85/64	
40-			<u>56.9</u> 40.5	_	37.3-40.3/95/85	
-		Strong pale blue limestone with some intervals of grey dolomite	40.5		40.3-43.3/98/85	43.3mbgl
-					43.3-46.3/95/92	entropy of the second sec
-					46.3-49.3/98/95	2" Screen Pipe 43.3-52.3mbgl
50-		Strong, dark blue fine to medium grained limestones with occassional bioclastic intervals. Upper boundary is an abrupt	46.9 50.5 45.1 52.3	-	49.3-52.3/98/95	95 ≈ ≈ 52.3mbg
_		change. Gradual change to pale blue at 34.2m. Darker more bioclastic rich layer from 38.5 to 38.8m				
Rema	rks:			Dept	h to Bedrock (m): 12.3	Scale as shown
				Drillin	ig type: RC	Sheet: 2 of 2
				Logg	ed by: CMcG/MG	