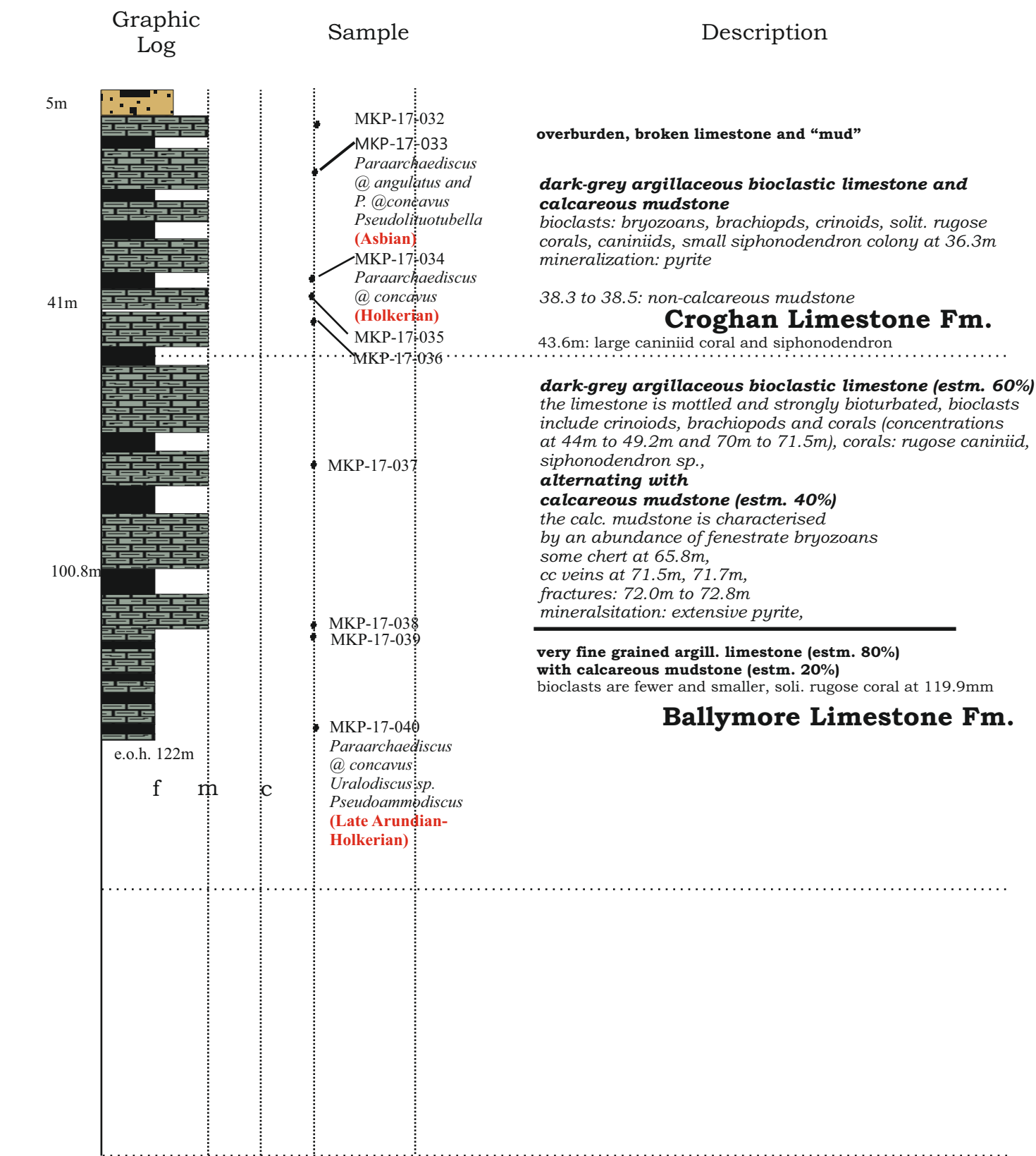




APPENDIX 8-4

Borehole Investigation Logs

Borehole Number/Name: GSI-17-003, Cloondahamper		
GridCoords: 0555922/0750515 ITM		Scale: 1:1000
Author: Dr.M.Pracht		Rockhead: 5m
Year: 2016	Elevation:	End of Hole: 122m
Micro-palaeontology: Dr.I.D. Somerville		Stratigraphy (top): Croghan Lst.Fm.



Petersen Drilling Services Ltd.

on behalf of

HES

Rotary Drilling Log



Depth of Stratum Top (m)	Driller's Stratum Description	Sample / Hole / Test Details						Drilling Details				Standard Penetration Test												
		No	Type	Insitu test	From (m)	To (m)	Liner Dia (mm)	Core run time (hhmm)	Total core Recovery (m)	Flush Return %	Flush Colour	Self Weight Pen (mm)	75 mm	150 mm	Seating Pen (mm)	75 mm	150 mm	225 mm	300 mm	Main Pen (mm)	N value	Casing Depth (m)	Water/ flush level (m)	
0.00	Firm brown TOPSOIL		RO		0.00	20.00		0000		100	grey											0.00	0.00	
0.30	Soft to firm light brown silty gravelly CLAY																							
2.10	Stiff greyish brown silty sandy gravelly CLAY with frequent limestone fracments possible highly weathered rock																							
4.90	Weak weathered dark grey LIMESTONE mudstone layers																							
7.00	Strong dark grey LIMESTONE																							

Shift details

Drilling Equipment Details

Ground Water Record

Backfill (m)

Start time (hhmm)	Hole (m)	Water (m)	Casing (m)	Casing (C) Open Hole (RO) Coring (RC)	Dia. (mm)	From (m)	To (m)	Barrel	Liner Type	Core Dia (mm)	Bit Type	Casing Type	Bit serial No	Flush	Polymer	Time of strike	Depth Struck (m)	Casing (m)	Inflow	5 min	10 min	15 min	20 min	Depth Sealed (m)	Type	From (m)	To (m)
1215				C	140.00	0.00	8.00					Sim. Casing				1210	2.30	2.30	Slow	0.00	0.00	0.00	0.00	3.00			
				RO	154.00	0.00	8.00				DTH Button Bit		115	Air	No												
Finish time (hhmm)	Hole (m)	Water (m)	Casing (m)	RO	120.00	8.00	20.00				DTH Button Bit			Air	No	1325	7.00	7.00	Slow	0.00	0.00	0.00	0.00	N/S			
1735																1400	13.00	8.00	Medium	0.00	0.00	0.00	0.00	N/S			

Time from

Duration (hhmm)

Remarks or details of any additional testing information, Dayworks

SPT I.D. Number

PD1

Calibration Date

01/02/2021

Project Title

1215		CAT Scanned: Yes	SPT Rod Type	2 3/8 Regular	SPT Energy Ratio	0.00	Cooloo WF				
1215		Permit Completed: Yes	Drilling Crew Details			CSCS No					
		DREM (14.50m - 15.00m): Fractured Rock Zone	Support Operative	John Whyte		Weather		Fine	Project No	33/22	
1600	0030	Dayworks: Airlift development of well	Lead Driller	Stephan Petersen		Date		15/08/2022		Day	Monday
			Site category	Green		Rig type		Knebel HY79		Borehole Number	
			Project Engineer			Inclination			Orientation		BH 1
			Lead Driller's signature			Sheet		1	of	1	Completed



