



## **STERLING RESOURCES (UK) LTD**

**WELL: 210/30a-4Z Cladhan**

**APPRAISAL**

**WELLSITE GEOLOGICAL REPORT**

Stag Geological Services Ltd.  
3 Fortuna Court  
Calleva Park  
Aldermaston  
Reading. RG7 8UB  
UK  
Tel: (0118) 982 0151  
Fax: (0118) 982 0152

March 2012

WELLSITE GEOLOGISTS  
Richard Tyndall  
Patrick Clint

APPROVED  
Hugh Riches

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## 1. INTRODUCTION

The Cladhan 210/30a-A4Z well is planned as a sidetrack appraisal well located in Quad/Block 210/30a of the Northern North Sea.

The Cladhan discovery is located in the NW of the East Shetland Basin against the East Shetland Platform approximately 20 km from the South Cormorant platform and 150 km from the Sullom Voe oil terminal. The prospect comprises a stratigraphic trap of slump/channel sandstones of Late Oxfordian to Late Kimeridgian age, pinching out within the Kimmeridge Clay Formation.

The Cladhan reservoir has been penetrated by four previous wells. These were 210/29a-4 in 2008 and subsequent sidetracks 210/29a-4Z and 4Y in 2010. Most recently the 210/30a-4 well was drilled in 2011 of which 210/30a-4Z is the first sidetrack.

The Cladhan reservoir sands lie within the Kimmeridge Clay Formation. These isolated sands display characteristic slumps and channels indicative of deposition over the slope and terraces immediately east of the East Shetland Platform boundary fault line and consist of three channel belts with a potential fan complex. They lie adjacent to a relay ramp that links a series of down to the east normal faults into the basin area.

The interpreted mapping of the channel sands has been aided by Mu-Rho seismic amplitude extractions that have been calibrated to existing well data. The sands pinch-out laterally and up-dip and are encased in the black shales and claystones of the Kimmeridge Clay Formation.

The source of the hydrocarbons are from the encasing Kimmeridge Clay black shales.. The prospect is adjacent to, and along trend from the Tern and South Cormorant Fields, for which the Kimmeridge source is an effective source.

Three channel belts have been broadly mapped over the terrace slope area with a potential fan complex identified at the base of the relay ramp.

The location for 210/30a-4Z targets the ramp and inner fan area down dip of the existing appraisal wells. The target is located in the middle of the "central" lobe of the inner fan, the edges of which were well defined on a similarity / coherence attribute extraction.

Reservoir distribution and quality was control by the presence of turbidite channel and fan lobe sands together with the presence of calcite cement. The derivation of the calcite cement within the Cladhan reservoir is not yet understood but its presence is clearly an important consideration for reservoir deliverability. Calcareous cement is common in the Middle and Late Jurassic reservoirs in the East Shetland Basin and Viking Graben.

Other sand intervals were encountered in the original discovery well 210/29a-4 and were referred to as Sequence 2A/2B. Sequence 2A was tightly cemented and Sequence 2B was

water wet and normally pressured. The most recent well 210/30a-4 also encountered a thin (17 ft AVT) sand in a stratigraphical similar position as the Sequence 2 and is hydrocarbon bearing.

The proposed target coordinates for the well at the top of Sequence 1 is

Latitude	61° 07' 47.795" N
Longitude	0° 50' 19.588" E

The well was planned as a deviated well with a target tolerance of 200 ft radius centered on the planned target position.

There is an error margin of +/- 150 ft TVDSS on the prognosed top of Sequence 1. Last active survey at 15,801 ft MDBRT showed: inclination 48.94°, azimuth 68.70°, 12,385.44 ft TVDBRT (-12,312.44 ft TVDSS). A maximum inclination of 55.66° was recorded at 11,218 ft MDBRT.

The well TD was prognosed at -11979 ft TVDSS which was anticipated to be +/- 150 ft MD below the base of the Sequence 1 into the underlying Kimmeridge Clay/ Heather Formation.

The base of the Sequence 1 was intersected at 14,990 ft MD (-11,733 ft TVDSS). This was 157 ft shallower than expected. The well was deepen beyond the original 150 ft below the base of the Sequence 1 pick to ensure that no further sands existed deeper as indicated from seismic. Well reached TD of 15,900 ft (-12.312 ft TVDSS) on 1<sup>st</sup> of May 2011. The provisional well formation at TD was Heather.

## **1.1 Primary Objectives**

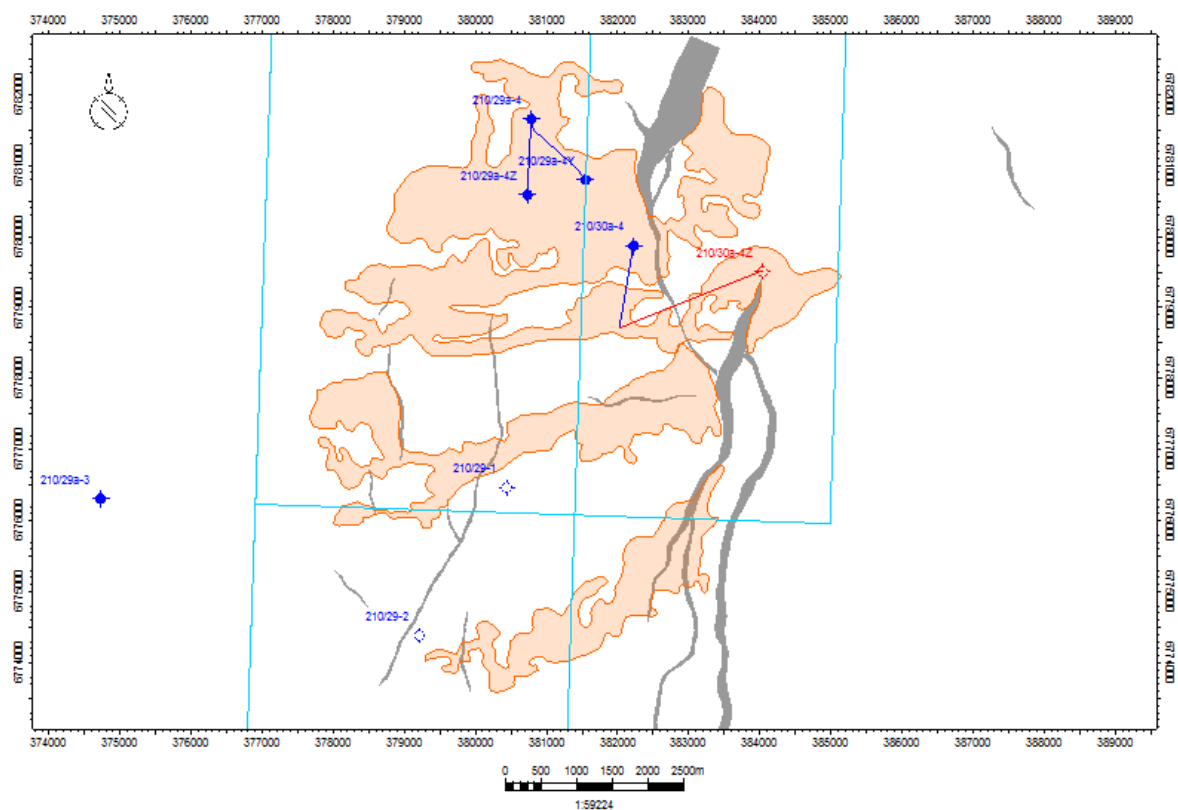
- Drill the well with no recordable accidents and environmental incidents
- Establish the presence of hydrocarbon bearing sands down dip of the present well penetrations
- Possible objective: Acquire 180 ft core if hydrocarbon bearing formation is encountered
- Acquire both pressure and sample data, across any sand intervals encountered in the Kimmeridge Clay Formation regardless of fluid type encountered
- LWD logs will be run as a minimum data acquisition requirement and will include GR, Density, Neutron, Resistivity and Sonic (including shear)
- The TD of the well must allow all logging sondes to pass below any recorded hydrocarbon bearing formation

## **1.2 Secondary Objectives**

- If possible, establish an OWC for the Cladhan accumulation

## 2. LOCATION MAP

The 210/30a-4Z well is located on the Cladhan discovery on Quad/Block 210/30a in the NW of the East Shetland Basin (UK offshore, Northern North Sea) against the East Shetland Platform approximately 20 km from the South Cormorant platform and 150 km from the Sullom Voe oil terminal.



**Location Map 210/30a-4Z**

**3. WELL DATA SUMMARY**

Well:	210/30a-4Z
Pre-spud designation:	Drill a deviated well as sidetrack from the 210/30a-4 well within a target tolerance of 200 ft radius to establish the presence of hydrocarbons in the Cladhan reservoir down dip of previous drilled wells. Evaluation of the reservoir with logging tools, formation pressures and fluid samples to be taken.
Well Type:	Deviated Appraisal
Operator:	Sterling Resources
Location:	UK offshore-Northern North Sea
Basin Name:	East Shetland
Prospect:	Cladhan
Quad/Block:	210/30a
Equity:	Sterling Resources (UK) Ltd: 39.9% Wintershall (UK North Sea) Ltd: 33.5% Encore Oil & Gas Ltd: 16.6% Dyas: 10%
Surface Location:	Latitude: 61° 07' 26.045" N Longitude: 00° 48' 35.936" E X UTM: 382 022.11 m E Y UTM: 6 778 723.84 m N Datum (MSL): ED 1950, UTM Zone 31E, Spheroid International 1924
Bottom Hole Coordinates	Latitude: 61° 07' 54.067" N Longitude: 00° 50' 48.926" E Y UTM: 6 779 524.51m N X UTM: 384 040.20mE
Target Formation:	Kimmeridge Clay Formation (Sequence 1)
Rig:	Prospect
Rig Contractor:	Transocean
RT-MSL:	73 ft
RT-SEABED:	574 ft
Water depth:	501 ft
Spud date:	15th April 2011
TD Reached:	1st May 2011
Total depth:	15,900 ft MDBRT (-12,312 ft TVDSS)

**HOLE SIZE and CASING DATA**

Hole Size (in)	Depth (ft MD)	Casing Shoe (ft MD)	Casing Diam (in)	Properties ppf/wall/grade
26" x 36"	842	813	30"	310/1"/X52 & 456/1.5"/X56
26"	2633	2572	20"	133/0.6875/X56
17 ½"	6036	6015	13 3/8"	72/0.5625/L80
12 ¼"	15900			

**BIT DATA**

Bit Run	Type	Size (in)	Depth in (ft)	Depth out (ft)	Footage (ft)
7	Varel VB616GPNUXS4	12 ¼"	6130	14460	8330
8	Smith MDSi 716 LBPX	12 ¼"	14460	15151	691
9	Hughes Christensen QD 507x	12 ¼"	15151	15900	749

**MUD SYSTEM: MI SWACO**

<b>12 ¼" Hole Section drilled with VERSACLEAN OBM type</b>									
Depth ft	MW ppg	FV s/q	PV/YP @120°F	GELS @120°F lb/100ft²	HTHP Filtrate cc/30'	HTHP Cake in/32	Corrected Solids % Vol	ESV volts	Oil/Water Ratio %
6200	11	56	22/27	16/19/19	2.4	2	13.96	573	68/32
6596	11	57	18/30	17/18/18	2.8	2	15.08	665	67/33
7200	11	57	22/27	17/19/20	2.8	2	15.08	687	67/33
7393	11	57	20/31	17/20/20	2.6	2	15.08	671	67/33
7739	11	54	17/27	17/18/19	3.2	2	15.06	734	69/31
8024	11	55	17/29	16/19/20	3.0	2	15.12	758	69/31
8334	11	53	19/28	15/19/20	3.4	2	15.60	784	70/30
9030	11.15	52	19/26	15/18/19	3.6	2	16.16	762	70/30
9364	11.2	52	20/29	16/20/21	2.6	2	16.23	770	69/31
9795	11.2	53	21/30	17/19/22	2.8	2	16.17	761	70/30
10570	11.6	54	23/28	18/21/22	3.2	2	19.38	677	70/30
11120	12.1	55	27/28	18/21/24	2.8	2	19.32	660	70/30
11414	12.45	51	26/26	12/16/22	2.2	2	21.37	616	69/31
12855	12.7	50	23/27	14/18/21	2.6	2	23.87	628	71/29
12964	12.7	51	26/26	14/18/21	2.6	2	22.35	620	71/29
13281	12.75	50	23/22	11/14/14	3.0	2	22.57	678	72/28
13297	12.9	48	26/23	14/17/18	2.4	2	23.57	704	71/29
13554	12.9	50	30/28	15/21/22	3.0	2	24.57	711	72/28
13953	13.0	52	28/26	14/17/19	2.4	2	23.57	699	72/28
14213	13.0	53	33/31	16/21/23	2.0	2	24.58	634	73/27
14335	13.0	52	34/26	16/20/22	2.4	2	24.62	657	73/27
14409	13.0	56	33/33	17/22/27	2.4	2	23.57	738	72/28
14640	13.0	55	34/29	17/23/26	2.6	2	23.59	721	71/29
14932	13.05	58	35/29	16/21/22	2.4	2	24.55	641	71/29
15150	13.0	53	35/21	15/19/21	2.2	2	24.55	764	73/27
15400	13.0	56	33/21	14/19/20	2.5	2	24.61	792	73/27
15800	13	54	35/25	14/21/22	2.4	2	24.67	757	73/27



**MEASUREMENT WHILE DRILLING LOGS: BHI**

Hole Size (in)	Run no.	Tools Run/Curves	Interval Logged (ft)	Date In-Out	Comments
12 ¼"	8	OntrakII –GR-RES	5963.8 – 14426.3	14/04/11 23/04/11	Good run with no issues. Real time Resistivity switched on at 13250 ft.
12 ¼"	9	OntrakII_ORD-CCN/GR-RES-POR-DEN-CAL	12365.1-15097.9	23/04/11 28/04/11	Good run
12 ¼"	10	OntrakII_ORD-CCN/GR-RES-POR-DEN-CAL	14876-15843	29/04/11 02/05/11	Good run, Re-log 14876ft to 15151ft
12 ¼"	2	Pathfinder Sonic	12297 – 15027	05/02/11	
12 ¼"	3	Pathfinder Sonic	15028 - 15777	05/02/11	

**WIRELINE LOGGING: BHI – Baker Atlas**

Hole Size (in)	Run no.	Tools Run	Interval Logged (ft)	Date In-Out	Comments
12 ¼"	#1a	RCI-GR Pressure & samples attempted.	13279 - 14771	03-05/05/11	Unable to set packer after jarring free at 14,840 ft,
12 ¼"	#1b	RCI-GR Pressure & samples attempted.	14771 – 14781.1	03-05/05/11	Back up tool,

Logs witnessed by Gaia Earth Sciences Ltd specialist

**CUTTINGS SAMPLES**

Hole Section	Washed & Dried Samples	Bulk Wet Samples	Sample Interval
12 ¼" section to TD	2	2	20 ft composite sample
14,800 –15,120 &15,600 – 15,900.		1	Spot Composite samples for "hotshot biostrat" analysis

## **SAMPLE DESTINATIONS:**

### ***One Set to be sent to:***

British Geological Survey  
NGDC,  
Kingsley Dunham Centre,  
Keyworth,  
Nottingham,  
NG12 5GG

**Contact:** Scott Renshaw

Tel: 0115 9363 228

### ***All Other Sets to be sent to:***

CORPRO  
Muirtonside  
Whitecairns  
Aberdeenshire  
AB23 8UP

**Contact:** Dick Patterson

**Tel:** (+ 44) (0)1651 863000

**Email:** [ops@corpro.co.uk](mailto:ops@corpro.co.uk)

### ***Core to be sent to:***

Core Laboratories (U.K.) Ltd  
Howe Moss Drive,  
Kirkhill Industrial Estate  
Dyce,  
Aberdeen  
AB21 0GL

**Contact:** Andy Dunk

**Office Tel:** (+ 44) (0)1224 421035

**Email:** [Andy.Dunk@corelab.com](mailto:Andy.Dunk@corelab.com)

### ***RCI Fluid Sample to be sent to:***

Core Laboratories (U.K.) Ltd  
Howe Moss Drive,  
Kirkhill Industrial Estate  
Dyce,  
Aberdeen  
AB21 0GL

**Contact:** Ewan Thomson

**Tel:** (+ 44) (0)1224 421000

**Email:** [Ewan.Thomson@corelab.com](mailto:Ewan.Thomson@corelab.com)

**4. FORMATION TOPS***Picked up on field based on cuttings examination/gas shows/MWD/wireline (SLAM+XMAC+FLEX)*

Wellsite Tops (provisional only)	Prognosis		Uncert.	Actual		Difference
	MDRT (ft)	TVDSS (ft)	+/- (ft)	MDRT (ft)	TVDSS (ft)	TVDRT (ft) -high /+ low
RT	0	+80	0	0	+73	-7
Seabed-Recent/Eocene Undifferentiated	585	-505	0	574	-501	-4
Eocene Balder formation	3825	-3745	50	3808	-3735	-10
Palaeocene Lista Formation	-	-	-	3975.5	-3902.5	
Late Cretaceous Undifferentiated	5485	5405	50	5530	-5457	+52
Early Cretaceous Undifferentiated	10536	-9126	150	10210	-8974	-152
Jurassic Kimmeridge Clay formation	12303	-10172	100	12421	-10224	+52
Top Sequence 2B				13269	-10704	
Base Sequence 2B				13294	-10719	
J66 MFS	13746	-11026	150	13965	-11115	+89
Top Sequence 1	13809	-11070	150	14717	-11565	+505
Base Sequence 1	15193	-11890	150	14990	-11733	-157
Heather Formation				15555	-12091	
TD	15343	-11979		15900	-12091	-112

## 5. LITHOSTRATIGRAPHY

*All depths are drilled depths MD, unless otherwise stated, referred to the rotary table.*

Lithological descriptions from 6130 ft (Kick off point) to TD at 15,900 ft are based on cutting samples examined at the wellsite. Samples were collected as follow:

- 20 ft intervals from 6130 ft to 15,900 ft – 12 ¼" section

From 14,800 ft, some further samples were collected for "biostrat hotshot" analysis.

*Formation tops on the lithology log were picked on MWD logging tool responses and cuttings examination along with gas shows. The tops were revised on the composite log because of wireline logging operations depth control and tool responses.*

### LATE CRETACEOUS

#### Undifferentiated

6130 (KOP) – 10210 ft MD  
6057 – 8974 ft TVDSS

The lithology comprised of massive claystones with minor limestone and dolomite throughout. The top of the section was not seen in this well as it was kicked off within the Late Cretaceous. The upper part of the section consisted of dark grey to black claystones with the lower section mainly represented by medium grey claystones. In addition, there is a change at around 9800 ft from dolomitic to limestone stringers.

#### Upper Section

##### Claystone:

dark grey to greyish black, becoming olive black, uniform, moderately firm to firm, sub-blocky to blocky, crumbly, commonly waxy, slightly to occasionally moderately silty, slightly to moderately calcareous, commonly very calcareous, slightly to moderately micromicaceous, trace disseminated pyrite with occasional agglomerated micro-pyrite nodules.

##### Dolomite:

brownish grey to light brown, firm to moderately hard, sub-blocky to blocky, crumbly to rarely brittle, microcrystalline to cryptocrystalline, mudstone, occasionally argillaceous, common argillaceous micro-laminations.

#### Lower section

##### Claystone:

medium dark grey to dark grey, commonly olive grey, occasionally dark greenish grey, uniform, soft to moderately firm, rarely firm, sub-blocky to blocky, crumbly, occasionally sticky, commonly waxy, non silty, moderately to very calcareous, non to slightly

micromicaceous, trace disseminated pyrite with rare agglomerated micro-pyrite nodules.

Limestone:

light brownish grey to yellowish grey, occasionally dark yellowish orange, rarely white to blue white, hard or occasionally very hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean.

Depth Interval ft MD	BACKGROUND GAS									
	Min %	Max %	Avg %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm
L. Cretaceous Undiff.	ROP: min/max/avg – 10/185/88									
6130 - 10210	0.16	0.31	0.25	920	12	3	0	0	0	0

Depth ft MDRT	GAS PEAKS									
	Background %	Max %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	Type
none										
Legend: FG=Formation gas, CG=Connection gas, TG=Trip gas, STG=Short trip gas, SW=Swab gas, POG=Pumps off gas										

### EARLY CRETACEOUS

Undifferentiated

10210 – 12421 ft MD  
8974 – 10224 ft TVDSS

The Early Cretaceous was picked midway on an increasing trend in gamma log response. This coincided with an increase in rate of penetration, an introduction of red brown claystone, and reduction in calcareous content.

Early Cretaceous formation can be divided into two sections mainly on gamma ray trends. The upper section displays an average 90api GR trend with the lower section averaging 75api. In addition, there was a notable increase in both overall gas levels and the appearance of heavier gases upon entering the lower section below 10700 ft MD. The lithology of both sections comprises of interbedded claystone and thin limestone/dolomite stringers, with a notable increase in limestone beds when approaching the base of the section below 12160 ft MD. There was a notable change in the nature of the claystones below 10700 ft

Above 10700 ft MD

Claystone:

varicoloured, light grey to light bluish grey, occasionally light greenish grey, very commonly dark grey to dark olive grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish

grey, firm to very firm, blocky to sub-blocky, waxy, occasionally plastic, crumbly, occasionally silty, moderate to very calcareous, commonly micromicaceous, occasional glauconite, very rarely tuffaceous.

Limestone:

off white to cream, light brownish grey to yellowish grey, occasionally dark yellowish orange, hard, sub-angular to angular, occasionally sub-blocky, brittle to crumbly, occasionally splintery, microcrystalline, generally clean, occasional dark argillaceous laminations and inclusions, rare glauconite.

Below 10700 ft MD

Claystone:

becoming uniform medium to dark grey or dark brownish grey, rarely chocolate brown, rarely light greenish grey to light bluish grey, soft to commonly firm, sub-blocky, sticky in places, plastic, occasionally crumbly, occasionally slightly to moderately silty, moderate to very calcareous, commonly micromicaceous.

Limestone:

light brown to brownish grey, dark yellowish orange to yellowish grey in places, firm to moderately hard, sub-angular to occasionally sub-blocky, brittle to crumbly, microcrystalline, occasionally crystalline, generally mudstone, common dark argillaceous inclusions and micro-laminations.

Depth Interval ft MD	BACKGROUND GAS									
	Min %	Max %	Avg %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm
L. Cretaceous Undiff.	ROP: min/max/avg – 22/204/146									
10210-10700	0.19	0.27	0.24	824	11	4	0	0	0	0
10700-12421	0.25	0.49	0.35	2250	110	135	13	51	11	15

Depth ft MDRT	GAS PEAKS									
	Background %	Max %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	Type
none										
Legend: FG=Formation gas, CG=Connection gas, TG=Trip gas, STG=Short trip gas, SW=Swab gas, POG=Pumps off gas										

**LATE JURASSIC****Kimmeridge Clay Formation**

12421 – 15555 ft MD TD  
10224 – 12091 ft TVDSS TD

The Upper Jurassic-Kimmeridge Clay Formation was evident from incoming dark claystone with associated typical increase in GR values. The Jurassic formation saw an increase in the background gas from 0.35 % in Lower Cretaceous formation to 1.5 % through the carbonaceous claystone of the upper section of the Kimmeridge Clay Formation, increasing to an average of 2.9% beneath the Sequence 2, and then, with depth gradually decreasing to 0.9%. The Kimmeridge Clay Formation displayed the characteristic presence of heavy hydrocarbons C3 to C5 over the drilled section.

1. Interval from 12421 ft to 13274 ft: massive beds of dark, carbonaceous claystone alternating very thin sandstone streaks, mainly in the lower section.
2. Interval from 13274 ft to 13294 ft: clean blocky sandstone (Sequence 2?)
3. Interval from 13294 ft to 14717 ft: typical “hot” kimmeridge claystone, dark brown to black grey claystone.
4. Interval from 14717 ft to 14990 ft: this section can be attributed Sequence 1. Sequence 1 reasonably well developed with a number of discrete blocky sandstones inter bedded with typical looking Kimmeridge Claystones.
5. Interval from 14990ft to 15151ft: a continuation of typical “hot” Kimmeridge layers of dark, silty claystone and minor thin calcareous sandstone.
6. Interval 15151 ft to 15555 ft; “warm” Kimmeridge? claystone with interbedded thin siltstone/sandstone stringers

*Interval 12,421 ft – 13,274 ft MD (10,224 – 10,707 ft TVDSS)*

Typical Kimmeridge Claystone with minor interbedded sandstone stringers

Claystone: olive black to greyish black, occasionally brownish black, firm to very firm, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, very micromicaceous, occasional disseminated micro-pyrite

Sandstone: white to pale brown, brownish grey to brown, mottled white or light grey, occasionally as fragments, very firm to hard, occasionally very hard, sub-blocky, friable, otherwise as rock flour and loose grains; off white to light grey, soft to firm, amorphous, calcareous, quartz, transparent to translucent, colourless or occasionally white grains, occasional brown staining, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, well cemented with calcite cement, light

brown argillaceous matrix, common pyrite secondary mineralisation, common fine nodular pyrite, abundant fine mica flakes, occasional dark argillaceous laminations, poor visible porosity, common spotty fair orange yellow/gold direct fluorescence, slow fair blooming pale yellow cut, no ring.

*Interval 13,274 ft – 13,294 ft MD (-10,707ft - -10,719 ft TVDSS)*

Blocky sandstone;

**SANDSTONE:** mottled brownish grey/white, occasionally dark brownish grey, firm to occasionally very hard, sub-blocky, friable, quartz, very fine to fine, moderately to well sorted, occasionally grading to SILTSTONE, sub-rounded, sub-spherical, moderately well cemented to very well cemented, strong calcareous cement, occasional argillaceous matrix, extensive secondary pyrite mineralization, very common nodular pyrite, poor visible porosity, no show.

*Interval 13,294 ft – 14,717 ft MD TD (-10,719 ft – 11,565 ft TVDSS)*

Typical hot Kimmeridge Claystone with occasional thin interbedded sandstone. The sandstone interbeds becoming more frequent with depth

**CLAYSTONE:** olive black to greyish black, occasionally brownish black, medium to dark brown, occasional medium grey, firm to moderately hard, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, micromicaceous, carbonaceous, occasional disseminated micro-pyrite, occasional sandstone laminations.

**SANDSTONE:** white to light grey, mottled brownish grey in places, rare clasts, firm, friable, sub-blocky, quartz, transparent to translucent, colourless or dark brown stained, very fine to occasionally fine grained, moderate to well sorted, sub-round to round, sub-elongate to sub-spherical, moderate to well cemented, strong calcareous cement, common dark argillaceous matrix, occasional micro-pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, contains loose grains., poor to no visible



porosity. Moderate to good patchy, bright pale yellow gold direct fluorescence over background base oil, slow

*Interval 14,717 ft – 14,990 ft MD (-10,719 ft –11,733 ft TVDSS)*

A more massive sandstone with interbedded Claystones

**SANDSTONE:**

abundant “rock flour”, off white, very light brown, light grey, light green, soft, amorphous, sub blocky, crumbly, locally hard, very calcareous- floating quartz grains in calcareous matrix – calcarenite, aggregates, white to very light grey, colourless - translucent grains, very fine to fine, occasional medium, sub angular to sub rounded, sub spherical, fair to moderately sorted, firm to friable, calcite cement, white argillaceous matrix, trace pyrite, in part silty laminations, occasional brown stain (OBM?), poor visible porosity, moderately bright , golden yellow fluorescence, slow streaming blue white cut, no residual, stain.

**CLAYSTONE:**

very dark brown, dark grey brown, brown black, occasional medium grey, firm to hard, blocky to sub-blocky, non to slightly calcareous, micro-pyritic, silty, occasional sandstone laminations, carbonaceous, pyritic. Grading to SILTSTONE: medium grey, grey brown, dark grey black, occasional medium brown, blocky, crumbly, and non-to slightly calcareous, sandy inclusions, slightly micromicaceous.

*Interval 14,990 ft – 15,151 ft MD TD (-11733 – -11833 ft TVDSS)*

Massive typical “Hot” Kimmeridge Claystone;

**CLAYSTONE:**

dark grey, black grey, very dark brown grey, occasional medium grey, firm to moderately hard, sub-blocky to blocky, silty, pyritic, non calcareous, earthy, slightly carbonaceous.

**SANDSTONE:** Minor:- off white to very pale green, very hard, glassy, angular break, silica cemented, very fine grained, sub-angular, occasional light grey to medium grey, silty, firm, sub blocky, abundant disseminated pyrite. Traces orange fluorescence, no cut.

**Traces LIMESTONE:** white to off white, firm to moderately hard, blocky, microcrystalline. No visible porosity.

*Interval 15,151 ft – 15,555 ft MD TD (-11833 ft – -12,091 ft TVDSS)*

“Warm” Kimmeridge Claystone with frequent interbedded thin sandstones and occasional thin Limestone streaks.

**CLAYSTONE:** dark brown, dark medium grey brown, firm to hard, blocky to sub-blocky, non to slightly calcareous, micro-pyritic, silty to very silty, occasional sandstone laminations, , grades to Siltstone.

**SANDSTONE:** abundant “rock flour”, off white, very light brown, light grey, light green, soft, sub blocky, crumbly, locally hard, very calcareous- floating quartz grains in calcareous matrix – calcarenite, aggregates,, colourless-translucent grains, very fine to fine, occasional medium, sub-angular to sub-rounded, sub-spherical, moderately sorted, firm to friable, calcite cement, white matrix, trace pyrite, occasional brown stain (OBM?), moderately bright , golden yellow fluorescence, slow streaming blue white cut, no residual, stain.

**SILTSTONE:** medium grey, grey brown, dark grey black, occasional medium brown, blocky, crumbly, non- to slightly calcareous, sandy inclusions, slightly micromicaceous.

Depth Interval ft MD	BACKGROUND GAS									
	Min %	Max %	Avg %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm
U. Jurassic Kimmeridge Clay	ROP: min/max/avg – 2/174/57									
12421-15555	0.06	24.3	1.3	5560	529	522	44	214	68	91
1 interval	ROP: min/max/avg – 18/174/84									
12421-13724	0.06	1.58	0.9	4816	273	281	22	107	28	31
2 interval	ROP: min/max/avg – 4.5/43/16									
13274-	0.3	24.3	4.8	31016	2504	2468	179	789	181	214

13294										
3 interval	ROP: min/max/avg – 7/105/60									
13294-14717	0.4	4.7	2.0	8284	875	914	78	391	132	179
4 interval	ROP: min/max/avg – 1.9/83/24									
14717-14990	0.33	1.55	0.62	1981	256	246	17	83	19	30
5 interval	ROP: min/max/avg – 3.4/17.2/10									
14990-15151	0.29	0.65	0.47	1291	148	134	10	44	10	16
6 interval	ROP: min/max/avg – 10/89/44									
15151-15900	0.34	1.18	0.72	2770	289	221	18	71	19	25

Depth ft MDRT	GAS PEAKS									
	Bkgnd %	Max %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	Type
12455	0.19	0.60	3910	128	56	3	14	3	3	FG
12520	0.27	0.93	6591	243	139	11	43	10	9	FG
12690	0.75	1.16	7727	343	267	23	100	23	25	FG
12730	0.27	1.38	9052	438	363	31	140	32	35	FG
12786	0.63	1.47	9259	503	452	40	182	43	46	FG
13287	15.31	0.43	117010	8718	7944	548	2282	444	454	FG
13288	24.31	0.43	153564	13273	13798	987	4257	959	1108	FG
14731	1.11	0.58	6023	592	452	28	122	26	40	FG
14781	1.55	0.65	8605	907	750	47	197	37	55	FG
Legend: FG=Formation gas, CG=Connection gas, TG=Trip gas, STG=Short trip gas, SW=Swab gas, POG=Pumps off gas										

**LATE JURASSIC****Heather Formation**

15,555 – 15,900 ft MD TD  
12,091 – 12,312 ft TVDSS TD

A change in the character of the GR and slight shifts in the trend of the other LWD curves indicated a change in formation. Sample returns showed an increase in silt content of the claystone and there was an increase seen in the limestone fraction at surface. These changes were taken to indicate intersection of the Heather Formation. Minor sandstone was observed with thin, very dolomitic, sandstone towards the top of this section

**CLAYSTONE:**

dark grey, brown grey, brown black, medium brown, occasionally medium grey, firm to moderately hard, crumbly in part, sub-blocky to blocky, earthy, silty to occasionally very silty, laminated, non to locally slightly calcareous, disseminated pyrite, carbonaceous.

**SILTSTONE:** light to medium grey brown, firm to hard, blocky, angular, brittle, sandy texture in part, carbonaceous, micromicaceous.

**LIMESTONE/DOLOMITE:** off white, light brown, light grey, medium brown, firm to hard, blocky, brittle, micro crystalline, argillaceous laminations, silty in part, no visible porosity, no show.

**SANDSTONE;** grades to Dolomite: very light brown, light grey, occasional dark grey, very fine grained, soft and friable to hard, crumbly to blocky, in parts very pyritic, argillaceous matrix, poor visible porosity, rare dull yellow fluorescence, no cut, abundant light brown dolomitic clayey matrix.

Depth Interval ft MD	BACKGROUND GAS									
	Min %	Max %	Avg %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm
Heather	ROP: min/max/avg – 14.5/64/43									
15555 - 15900	0.35	0.94	0.6	2403	245	150	14	51	16	21
Depth ft MDRT	GAS PEAKS									
	Background %	Max %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm	Type
none										
Legend: FG=Formation gas, CG=Connection gas, TG=Trip gas, STG=Short trip gas, SW=Swab gas, POG=Pumps off gas										

## 6. CUTTING DESCRIPTIONS LOG

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
6130	100	CLAYSTONE: medium grey to occasionally medium dark grey, uniform, moderately firm to firm, sub-blocky to sub-fissile, platy, crumbly, slightly silty, slightly to moderately calcareous, slightly micromicaceous, trace disseminated pyrite with rare nodular pyrite.
6140	100	CLAYSTONE: medium grey to medium dark grey, uniform, moderately firm to firm, sub-blocky to sub-fissile, platy, crumbly, slightly silty, slightly to moderately calcareous, micromicaceous, trace disseminated pyrite with rare nodular pyrite.
6160	100	CLAYSTONE: medium grey to medium dark grey, uniform, moderately firm to firm, sub-blocky to sub-fissile, platy, crumbly, slightly silty, slightly to moderately calcareous, micromicaceous, trace disseminated micro-pyrite.
6180	100	CLAYSTONE: medium grey to occasionally medium dark grey, uniform, moderately firm to firm, sub-blocky to sub-fissile, platy, crumbly, slightly silty, slightly to moderately calcareous, slightly micromicaceous, trace disseminated pyrite with rare nodular pyrite.
6200	100	CLAYSTONE: medium grey to occasionally medium dark grey, uniform, soft to moderately firm, occasionally firm, sub-blocky to sub-fissile, platy, crumbly, slightly silty, slightly to moderately calcareous, slightly micromicaceous, trace disseminated pyrite.
6220	90 10	CLAYSTONE: medium grey to occasionally medium dark grey, uniform, soft to moderately firm, occasionally firm, sub-blocky to sub-fissile, platy, crumbly, slightly silty, slightly to moderately calcareous, slightly micromicaceous, trace disseminated pyrite. DOLOMITE: pinkish white to greenish white becoming brownish grey, moderately hard to hard, sub-blocky, brittle, microcrystalline, mudstone, clean, rare argillaceous micro-laminations.
6240	100 Trace	CLAYSTONE: medium grey to occasionally medium dark grey, uniform, soft to moderately firm, occasionally firm, sub-blocky, crumbly, slightly silty, moderately calcareous, micromicaceous, trace disseminated pyrite. DOLOMITE: pinkish white to greenish white, moderately hard to hard, sub-blocky, brittle, microcrystalline, mudstone, clean, rare argillaceous micro-laminations.
6260	90 10	CLAYSTONE: medium grey to occasionally medium dark grey, uniform, soft to moderately firm, occasionally firm, sub-blocky, crumbly, slightly silty, moderately calcareous, micromicaceous, trace disseminated pyrite. DOLOMITE: pinkish white to greenish white, occasionally light brownish grey, moderately hard to hard, sub-blocky, brittle, microcrystalline, mudstone, clean, rare argillaceous micro-laminations.
6280	100	CLAYSTONE: medium grey to occasionally medium dark grey, uniform, soft to moderately firm, occasionally firm, sub-blocky, crumbly, slightly silty, moderately calcareous, micromicaceous, trace disseminated pyrite.
6300	100 Trace	CLAYSTONE: medium grey to occasionally medium dark grey, uniform, soft to moderately firm, occasionally firm, sub-blocky, crumbly, slightly silty, moderately calcareous, micromicaceous, trace disseminated pyrite. DOLOMITE: pinkish white to greenish white, moderately hard to hard, sub-blocky, brittle, microcrystalline, mudstone, clean, rare argillaceous micro-laminations.
6320		Missed
6340	100	CLAYSTONE: dark grey to greyish black, occasionally medium dark grey, uniform, firm to moderately hard, sub-blocky to sub-fissile, platy, generally good PDC cuttings, crumbly, moderately silty, very calcareous, commonly micromicaceous.
6360	100 Trace	CLAYSTONE: dark grey to greyish black, occasionally medium dark grey, uniform, firm to moderately hard, sub-blocky to sub-fissile, platy, crumbly, moderately silty, very calcareous, commonly micromicaceous. DOLOMITE: pinkish white to greenish white, moderately hard to hard, sub-blocky, brittle, microcrystalline, mudstone, clean, rare argillaceous micro-laminations.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
6380	100	CLAYSTONE: dark grey to greyish black, occasionally medium dark grey, uniform, firm to moderately hard, sub-blocky to sub-fissile, platy, crumbly, waxy in places, moderately silty, very calcareous, commonly micromicaceous, occasional disseminated micro-pyrite
6400	100 Trace	CLAYSTONE: dark grey to greyish black, occasionally medium dark grey, uniform, firm to moderately hard, sub-blocky to sub-fissile, platy, crumbly, waxy in places, moderately silty, very calcareous, commonly micromicaceous, common disseminated micro-pyrite DOLOMITE: pinkish white to greenish white, becoming light brownish grey to brownish grey, moderately hard to hard, sub-blocky, brittle, microcrystalline, mudstone, clean, rare argillaceous micro-laminations.
6420	100	CLAYSTONE: dark grey to greyish black, occasionally medium dark grey, uniform, firm to moderately hard, sub-blocky to sub-fissile, platy, crumbly, waxy in places, decreasingly silty, very calcareous, commonly micromicaceous, common disseminated micro-pyrite.
6440	90 10	CLAYSTONE: dark grey to greyish black, very uniform, moderately hard, sub-blocky to sub-fissile, crumbly, occasionally waxy, slightly to moderately silty, very calcareous, commonly micromicaceous, common disseminated micro-pyrite. DOLOMITE: greenish white to greenish grey, occasionally off white to pinkish white or pinkish grey, moderately hard to hard, sub-blocky to sub-angular, brittle, microcrystalline, mudstone, clean, rare argillaceous micro-laminations.
6460	100 Trace	CLAYSTONE: dark grey to greyish black, very uniform, moderately hard, sub-blocky to sub-fissile, crumbly, occasionally waxy, slightly to moderately silty, very calcareous, commonly micromicaceous, common disseminated micro pyrite. DOLOMITE: greenish white to greenish grey, occasionally off white to pinkish white or pinkish grey, moderately hard to hard, sub-blocky to sub-angular, brittle, microcrystalline, mudstone, clean, rare argillaceous micro laminations.
6480	100 Trace	CLAYSTONE: dark grey to greyish black, very uniform, moderately hard, sub-blocky to sub-fissile, crumbly, occasionally waxy, slightly to moderately silty, very calcareous, commonly micromicaceous, common disseminated micro pyrite. DOLOMITE: greenish white to greenish grey, occasionally off white to pinkish white or pinkish grey, moderately hard to hard, sub-blocky to sub-angular, brittle, microcrystalline, mudstone, clean, rare argillaceous micro laminations.
6500	100 Trace	CLAYSTONE: dark grey to greyish black, very uniform, moderately hard, sub-blocky to sub-fissile, crumbly, occasionally waxy, increasingly silty, very calcareous, commonly micromicaceous, common disseminated micro pyrite. DOLOMITE: greenish white to greenish grey, occasionally off white to pinkish white or pinkish grey, moderately hard to hard, sub-blocky to sub-angular, brittle, microcrystalline, mudstone, clean, rare argillaceous micro laminations.
6520	100 Trace	CLAYSTONE: dark grey to greyish black, very uniform, moderately hard, sub-blocky to sub-fissile, crumbly, occasionally waxy, increasingly silty, slightly to moderately calcareous, commonly micromicaceous. DOLOMITE: greenish white to greenish grey, occasionally off white to pinkish white, brownish grey in places, moderately hard to hard, sub-blocky to sub-angular, brittle, microcrystalline, mudstone, clean, rare argillaceous micro laminations.
6540	100 Trace	CLAYSTONE: greyish black to black, very uniform, moderately hard, sub-blocky to sub-fissile, crumbly, occasionally waxy, increasingly silty, non-to slightly calcareous, commonly micromicaceous. DOLOMITE: greenish white to greenish grey, occasionally off white to pinkish white, brownish grey in places, moderately hard to hard, sub-blocky to sub-angular, brittle, microcrystalline, mudstone, clean, rare argillaceous micro laminations.
6560	100	CLAYSTONE: greyish black to black, very uniform, moderately hard, sub-blocky to sub-fissile, crumbly, occasionally waxy, increasingly silty, non-to very slightly calcareous, commonly micromicaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
6580	90	CLAYSTONE: dark grey to greyish black, very uniform, moderately hard, sub-blocky to sub-fissile, crumbly, occasionally waxy, increasingly silty, non-to slightly calcareous, commonly micromicaceous.
	10	DOLOMITE: brownish grey, hard, sub-angular, brittle, microcrystalline, mudstone, clean.
6600		Sample missed
6620	90	CLAYSTONE: greyish black to black, rarely dark grey, uniform, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly to sticky in places, commonly waxy, slightly to moderately silty, non to slightly calcareous, occasionally micromicaceous.
	10	DOLOMITE: brownish grey to greenish grey, occasionally light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean.
6640		Sample missed
6660	100	CLAYSTONE: greyish black to black, rarely dark grey, uniform, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly to sticky in places, commonly waxy, slightly to moderately silty, non to slightly calcareous, occasionally micromicaceous.
	Trace	DOLOMITE: brownish grey to greenish grey, occasionally light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean.
6680	100	CLAYSTONE: greyish black to black, rarely dark grey, uniform, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly to sticky in places, commonly waxy, slightly silty, non to slightly calcareous, occasionally micromicaceous.
	Trace	DOLOMITE: brownish grey to greenish grey, occasionally light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean.
6700	100	CLAYSTONE: greyish black to black, rarely dark grey, uniform, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly to sticky in places, commonly waxy, slightly silty, non to slightly calcareous, increasingly micromicaceous, common disseminated micro pyrite.
6720	100	CLAYSTONE: greyish black to black, occasionally very dark grey, uniform, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly to sticky in places, commonly waxy, slightly silty, non to slightly calcareous, increasingly micromicaceous, common disseminated micro pyrite.
	Trace	DOLOMITE: brownish grey to greenish grey, occasionally light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean, occasional traces of calcite veining.
6740	100	CLAYSTONE: greyish black to black, occasionally very dark grey, uniform, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly to sticky in places, commonly waxy, slightly silty, non to slightly calcareous, increasingly micromicaceous, common disseminated micro pyrite.
	Trace	DOLOMITE: brownish grey to greenish grey, occasionally light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean, occasional traces of calcite veining.
6760	100	CLAYSTONE: greyish black to black, occasionally very dark grey, uniform, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly to sticky in places, commonly waxy, slightly silty, non to slightly calcareous, increasingly micromicaceous, occasional disseminated micro pyrite.
	Trace	DOLOMITE: brownish grey to light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean, occasional traces of calcite veining.
6780		Sample missed
6800	100	CLAYSTONE: dark grey to greyish black, firm to moderately hard, sub-blocky to sub-fissile, crumbly, commonly waxy, slightly silty in places, non to slightly calcareous, occasionally micromicaceous, rare dark carbonaceous specks.
	Trace	DOLOMITE: brownish grey to light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean, occasional traces of calcite veining.
6820	100	CLAYSTONE: dark grey to greyish black, firm to moderately hard, sub-blocky to sub-fissile, crumbly, commonly waxy, slightly silty in places, non to slightly calcareous, occasionally micromicaceous, rare dark carbonaceous specks.
	Trace	DOLOMITE: brownish grey to light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean, occasional traces of calcite veining.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
6840	100  Trace	CLAYSTONE: dark grey to greyish black, firm to moderately hard, sub-blocky to sub-fissile, crumbly, commonly waxy, slightly silty in places, non to slightly calcareous, occasionally micromicaceous, rare dark carbonaceous specks. DOLOMITE: brownish grey to light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean, occasional traces of calcite veining.
6860	100  Trace	CLAYSTONE: dark grey to greyish black, firm to moderately hard, sub-blocky to sub-fissile, crumbly, commonly waxy, slightly silty in places, non to slightly calcareous, occasionally micromicaceous, rare dark carbonaceous specks, occasional disseminated micro pyrite. DOLOMITE: brownish grey to light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean, occasional traces of calcite veining.
6880	100  Trace	CLAYSTONE: dark grey to greyish black, firm to moderately hard, sub-blocky to sub-fissile, crumbly, commonly waxy, slightly silty in places, non to slightly calcareous, occasionally micromicaceous, rare dark carbonaceous specks, occasional disseminated micro pyrite. DOLOMITE: brownish grey to light brown, hard, sub-angular to sub-blocky, brittle, microcrystalline, mudstone, clean, occasional traces of calcite veining.
6900	90  10	CLAYSTONE: dark grey to greyish black, firm to moderately hard, sub-blocky to sub-fissile, crumbly, commonly waxy, slightly silty in places, non to slightly calcareous, occasionally micromicaceous, rare dark carbonaceous specks, occasional disseminated micro pyrite. DOLOMITE: brownish grey to grey, occasionally light brown, firm to moderately hard, sub-blocky to rarely sub-angular, crumbly to occasionally brittle, microcrystalline to cryptocrystalline, mudstone, occasionally argillaceous.
6920	100	CLAYSTONE: dark grey to greyish black, firm to very firm, sub-blocky to blocky, crumbly, moderately silty in places, moderate to occasionally very calcareous, commonly micromicaceous, rare dark carbonaceous specks.
6940	100  Trace	CLAYSTONE: dark grey to greyish black, firm to very firm, sub-blocky to blocky, crumbly, moderately silty in places, moderate to occasionally very calcareous, commonly micromicaceous, rare dark carbonaceous specks. DOLOMITE: brownish grey to grey, occasionally light brown, firm to moderately hard, sub-blocky to rarely sub-angular, crumbly to occasionally brittle, microcrystalline to cryptocrystalline, mudstone, occasionally argillaceous.
6960	100  Trace	CLAYSTONE: dark olive grey to olive black, occasionally greyish black, occasionally medium dark olive grey to medium grey, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous. DOLOMITE: brownish grey to light brown, commonly dark brownish grey, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.
6980	100  Trace	CLAYSTONE: dark olive grey to olive black, occasionally greyish black, occasionally medium dark olive grey to medium grey, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous. DOLOMITE: brownish grey to light brown, commonly dark brownish grey, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.
7000	90  10	CLAYSTONE: dark olive grey to olive black, occasionally greyish black, occasionally medium dark olive grey to medium grey, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous. DOLOMITE: brownish grey to light brown, commonly dark brownish grey, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.
7020	100  Trace	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous. DOLOMITE: brownish grey to light brown, commonly dark brownish grey, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.
7040	100  Trace	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous. DOLOMITE: brownish grey to light brown, commonly dark brownish grey, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.



DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
7060	100 Trace	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous. DOLOMITE: brownish grey to light brown, commonly dark brownish grey, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.
7080	100 Trace	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous, occasional agglomerated micro pyrite. DOLOMITE: brownish grey to light brown, commonly dark brownish grey, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.
7100	100	CLAYSTONE: dark grey to greyish black, olive black, very firm to moderately hard, sub-blocky to blocky, crumbly, waxy, moderately silty, moderately to very calcareous, occasionally micromicaceous, occasional agglomerated micro pyrite.
7120	100 Good Trace	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous, occasional agglomerated micro pyrite. DOLOMITE: brownish grey to light brown, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.
7140	100	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous, occasional agglomerated micro pyrite.
7160	100	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous, common agglomerated micro pyrite.
7180	100 Trace	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous, occasional agglomerated micro pyrite. DOLOMITE: brownish grey to light brown, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.
7200	100	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous, occasional agglomerated micro pyrite.
7220	100	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous, occasional agglomerated micro pyrite.
7240	100	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous, occasional agglomerated micro pyrite.
7260	100	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, occasionally slightly silty, moderately calcareous, commonly micromicaceous, occasional agglomerated micro pyrite, common disseminated micro pyrite.
7280	100	CLAYSTONE: dark olive grey to olive black, firm, sub-blocky to blocky, crumbly, slightly silty, moderately to very calcareous, commonly micromicaceous, common disseminated micro pyrite.
7300	100 Trace	CLAYSTONE: olive black to greyish black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally waxy, slightly to moderately silty, slightly to moderately calcareous, occasionally micromicaceous. DOLOMITE: brownish grey to light brown, firm to moderately hard, hard, sub-blocky, crumbly to brittle, microcrystalline, mudstone, slightly argillaceous.
7320	100 Trace	CLAYSTONE: dark grey to greyish black, olive black, firm, occasionally very firm, sub-blocky to blocky, crumbly, waxy, occasionally slightly silty, slightly to moderately calcareous, occasionally micromicaceous. DOLOMITE: brownish grey to light brown, very firm to moderately hard, sub-blocky to blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common argillaceous micro laminations.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
7340	100	CLAYSTONE: dark grey to greyish black, olive black, firm, occasionally very firm, sub-blocky to blocky, crumbly, waxy, occasionally slightly silty, slightly to moderately calcareous, occasionally micromicaceous.
	Trace	DOLOMITE: brownish grey to light brown, very firm to moderately hard, sub-blocky to blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common argillaceous micro laminations.
7360	100	CLAYSTONE: dark grey to greyish black, olive black, firm, occasionally very firm, sub-blocky to blocky, crumbly, waxy, occasionally slightly silty, slightly to moderately calcareous, occasionally micromicaceous.
	Trace	DOLOMITE: brownish grey to light brown, very firm to moderately hard, sub-blocky to blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common argillaceous micro laminations.
7380	100	CLAYSTONE: dark grey to greyish black, olive black, firm, occasionally very firm, sub-blocky to blocky, crumbly, waxy, occasionally slightly silty, slightly to moderately calcareous, occasionally micromicaceous.
	Trace	DOLOMITE: brownish grey to light brown, very firm to moderately hard, sub-blocky to blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common argillaceous micro laminations.
7400	100	CLAYSTONE: dark grey to greyish black, olive black, firm, occasionally very firm, sub-blocky to blocky, crumbly, waxy, slightly to moderately calcareous, occasionally micromicaceous.
	Trace	DOLOMITE: brownish grey to light brown, very firm to moderately hard, sub-blocky to blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common argillaceous micro laminations.
7420	100	CLAYSTONE: dark grey to greyish black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally sticky, rarely slightly silty, slightly calcareous, rarely micromicaceous.
7440	100	CLAYSTONE: dark grey to greyish black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally sticky, waxy and occasionally plastic, rarely slightly silty, slightly calcareous, rarely micromicaceous.
	Trace	DOLOMITE: brownish grey to light brown, very firm to moderately hard, sub-blocky to blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common argillaceous micro laminations.
7460	100	CLAYSTONE: dark grey to greyish black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally sticky, waxy and occasionally plastic, rarely slightly silty, slightly calcareous, rarely micromicaceous.
7480	100	CLAYSTONE: dark grey to greyish black, uniform, soft to firm, sub-blocky to blocky, waxy, rarely slightly silty, slightly calcareous, rarely micromicaceous.
7500	100	CLAYSTONE: dark grey to greyish black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally slightly silty, non to slightly calcareous, rarely micromicaceous.
7520	100	CLAYSTONE: dark grey to greyish black, occasionally olive black, firm, sub-blocky to blocky, waxy, rarely slightly silty, slightly calcareous, rarely micromicaceous.
	Trace	DOLOMITE: brownish grey to light brown, very pale brown, firm, sub-blocky to blocky, crumbly, rarely brittle, microcrystalline, mudstone, commonly argillaceous.
7540	100	CLAYSTONE: dark grey to greyish black, occasionally olive black, firm, sub-blocky to blocky, waxy, rarely slightly silty, slightly calcareous, rarely micromicaceous.
	Trace	DOLOMITE: brownish grey to light brown, very pale brown, firm, sub-blocky to blocky, crumbly, rarely brittle, microcrystalline, mudstone, commonly argillaceous.
7560	100	CLAYSTONE: medium grey to dark grey, becoming greyish black, firm, sub-blocky to blocky, waxy, rarely slightly silty, slightly calcareous, rarely micromicaceous.
	Trace	DOLOMITE: brownish grey to light brown, very pale brown, firm, sub-blocky to blocky, crumbly, rarely brittle, microcrystalline, mudstone, commonly argillaceous.
7580	100	CLAYSTONE: medium grey to dark grey, becoming greyish black, firm, becoming very firm, blocky, waxy, slightly calcareous.
	Trace	DOLOMITE: brownish grey to light brown, very pale brown, firm, sub-blocky to blocky, crumbly, rarely brittle, microcrystalline, mudstone, commonly argillaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
7600	100	CLAYSTONE: dark grey to greyish black, occasionally olive black, occasionally medium grey to medium dark grey, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally waxy, occasionally sticky, slightly silty in places, moderate to very calcareous, micromicaceous in places. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky rarely sub-angular, brittle to crumbly, rarely brittle, cryptocrystalline, mudstone, occasional dark argillaceous laminations.
7620	100	CLAYSTONE: predominantly medium to dark grey, occasionally greyish black to olive black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally waxy, occasionally sticky, slightly silty in places, moderate to very calcareous, micromicaceous in places.
7640	100 Trace	CLAYSTONE: predominantly medium to dark grey, occasionally greyish black to olive black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally waxy, occasionally sticky, increasingly silty, moderate to very calcareous, micromicaceous in places. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky rarely sub-angular, brittle to crumbly, rarely brittle, cryptocrystalline, mudstone, occasional dark argillaceous laminations.
7680	100 Trace	CLAYSTONE: predominantly medium to dark grey, occasionally greyish black to olive black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally waxy, occasionally sticky, increasingly silty, moderate to very calcareous, micromicaceous in places. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky rarely sub-angular, brittle to crumbly, rarely brittle, cryptocrystalline, mudstone, occasional dark argillaceous laminations.
7700		Sample Missed
7720	100 Trace	CLAYSTONE: medium to dark grey, occasionally greyish black to olive black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally waxy, occasionally sticky, increasingly silty, moderate to very calcareous, micromicaceous in places. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky, rarely sub-angular, brittle to crumbly, cryptocrystalline, mudstone, occasional dark argillaceous laminations.
7740	100	CLAYSTONE: medium to dark grey, occasionally greyish black to olive black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally waxy, occasionally sticky, increasingly silty, moderate to very calcareous, micromicaceous in places.
7760	100	CLAYSTONE: medium to dark grey, occasionally greyish black to olive black, uniform, soft to firm, sub-blocky to blocky, crumbly, occasionally waxy, occasionally sticky, increasingly silty, moderate to very calcareous, micromicaceous in places.
7780	100	CLAYSTONE: medium grey to occasionally medium dark grey, soft to occasionally firm, sub-blocky, crumbly, commonly sticky, occasionally plastic, rarely waxy, moderate to very calcareous, rarely micromicaceous.
7800	100	CLAYSTONE: medium grey to occasionally medium dark grey, soft to increasingly firm, sub-blocky, crumbly, commonly sticky, occasionally plastic, rarely waxy, very calcareous, rarely micromicaceous.
7820	100	CLAYSTONE: medium grey to occasionally medium dark grey, firm to very firm, sub-blocky, crumbly, rarely sticky, generally plastic, rarely waxy, very calcareous, rarely micromicaceous.
7840	100	CLAYSTONE: medium grey to occasionally medium dark grey, soft, sub-blocky, sticky, rarely plastic, very calcareous, rarely micromicaceous.
7860	100	CLAYSTONE: medium grey to occasionally medium dark grey, soft, sub-blocky, sticky, rarely plastic, very calcareous, rarely micromicaceous.
7880	100	CLAYSTONE: medium grey to medium dark grey, occasionally dark grey to greyish black, occasionally medium olive grey to dark olive grey, firm, sub-blocky to blocky, waxy, plastic in places, moderate to very calcareous, rarely micromicaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
7900	100 Trace	CLAYSTONE: medium grey to medium dark grey, occasionally dark grey to greyish black, occasionally medium olive grey to dark olive grey, firm, sub-blocky to blocky, waxy, plastic in places, moderate to very calcareous, rarely micromicaceous. DOLOMITE: light brownish grey to brownish grey, cream to light brown, moderately hard, sub-blocky to sub-angular, brittle to crumbly, cryptocrystalline, mudstone, commonly argillaceous.
7920	100	CLAYSTONE: medium to dark grey, occasionally greyish black, firm, sub-blocky to blocky, waxy, plastic in places, moderate to very calcareous, rarely micromicaceous.
7940	100	CLAYSTONE: medium to dark grey, occasionally greyish black, firm, sub-blocky to blocky, waxy, plastic in places, moderate to very calcareous, rarely micromicaceous.
7960	100 Trace	CLAYSTONE: medium to dark grey, dark greenish grey, medium to dark olive grey, occasionally olive black, soft, sub-blocky, sticky, occasionally crumbly, rarely firm and waxy, moderate to very calcareous, rarely micromicaceous. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky, crumbly, microcrystalline, mudstone, commonly argillaceous.
7980	100 Trace	CLAYSTONE: medium to dark grey, medium to dark olive grey, occasionally olive black, soft, sub-blocky, sticky, occasionally crumbly, rarely firm and waxy, moderate to very calcareous, rarely micromicaceous. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky, crumbly, microcrystalline, mudstone, commonly argillaceous.
8000	100 Trace	CLAYSTONE: medium to dark grey, medium to dark olive grey, occasionally olive black, soft, sub-blocky, sticky, occasionally crumbly, rarely firm and waxy, moderate to very calcareous, rarely micromicaceous. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky, crumbly, microcrystalline, mudstone, commonly argillaceous.
8020	100	CLAYSTONE: medium to dark grey, medium to dark olive grey, occasionally olive black, soft to firm, sub-blocky, sticky, occasionally crumbly, rarely firm and waxy, moderate to very calcareous.
8040	100	CLAYSTONE: dark greenish grey to dark olive grey, occasionally olive black, soft, sub-blocky, sticky, occasionally crumbly, rarely firm and waxy, moderate to very calcareous.
8060	100	CLAYSTONE: dark greenish grey to dark olive grey, occasionally light grey to medium grey, soft, sub-blocky, sticky, occasionally crumbly, rarely firm and waxy, moderate to very calcareous.
8080	100	CLAYSTONE: dark grey to dark olive grey, trending to olive black or greyish black, soft, sub-blocky, sticky, occasionally crumbly, rarely firm and waxy, moderate to very calcareous.
8100	100	CLAYSTONE: medium to dark grey, dark olive grey, occasionally greyish black, firm, occasionally soft, sub-blocky, sticky, crumbly, commonly waxy, very calcareous rarely micromicaceous.
8120	100	CLAYSTONE: medium to dark grey, dark greenish grey in places, dark olive grey, occasionally greyish black, firm, occasionally soft, sub-blocky, sticky, crumbly, commonly waxy, very calcareous rarely micromicaceous.
8140	100 Trace	CLAYSTONE: medium to dark grey, dark greenish grey in places, dark olive grey, occasionally greyish black, firm, occasionally soft, sub-blocky, sticky, crumbly, commonly waxy, very calcareous rarely micromicaceous. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky, crumbly, microcrystalline, mudstone, commonly argillaceous.
8160	100	CLAYSTONE: medium to dark grey, dark greenish grey in places, dark olive grey, occasionally greyish black, soft to firm, sub-blocky, sticky, crumbly, commonly waxy, very calcareous rarely micromicaceous.
8180	100	CLAYSTONE: medium dark grey to olive grey, occasionally greyish black, soft to firm, occasionally soft, sub-blocky, sticky, crumbly, commonly waxy, very calcareous rarely micromicaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
8200	100 Trace	CLAYSTONE: medium dark grey to dark grey, dark olive grey, firm, sub-blocky, crumbly, waxy, very calcareous rarely micromicaceous. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky to sub-angular, crumbly to rarely brittle, microcrystalline, mudstone, occasionally argillaceous, rarely micaceous.
8220	100	CLAYSTONE: medium dark grey to dark grey, dark olive grey, firm, sub-blocky, crumbly, waxy, very calcareous rarely micromicaceous.
8240	100	CLAYSTONE: medium dark grey to dark grey, dark olive grey, firm, sub-blocky, crumbly, waxy, very calcareous rarely micromicaceous. DOLOMITE: light brownish grey to brownish grey, cream to light brown, firm to moderately hard, sub-blocky to sub-angular, crumbly to rarely brittle, microcrystalline, mudstone, occasionally argillaceous, rarely micaceous.
8260	100	CLAYSTONE: medium dark grey to dark grey, dark olive grey, firm, sub-blocky, crumbly, waxy, and very calcareous rarely micromicaceous, rare agglomerated micro pyrite nodules.
8280	100	CLAYSTONE: medium dark grey to dark grey, dark olive grey, firm, sub-blocky, crumbly, waxy, very calcareous, micromicaceous, rare agglomerated micro pyrite nodules.
8300	100 Trace	CLAYSTONE: medium dark grey to dark grey, dark olive grey in places, firm, blocky to sub-blocky, crumbly, waxy, moderate to very calcareous, rarely micromicaceous, rare agglomerated micro pyrite nodules. DOLOMITE: light brownish grey to brownish grey, cream to light brown, occasionally yellowish grey, firm to moderately hard, sub-blocky to sub-angular, crumbly to rarely brittle, microcrystalline, mudstone, occasionally argillaceous.
8320	100 Trace	CLAYSTONE: medium dark grey to dark grey, dark olive grey in places, firm, blocky to sub-blocky, crumbly, waxy, moderate to very calcareous, rarely micromicaceous, occasional disseminated micro pyrite. DOLOMITE: light brownish grey to brownish grey, cream to light brown, occasionally yellowish grey, firm to moderately hard, sub-blocky to sub-angular, crumbly to rarely brittle, microcrystalline, mudstone, occasionally argillaceous.
8340	100	CLAYSTONE: medium dark grey to dark grey, dark olive grey in places, firm, blocky to sub-blocky, crumbly, waxy, moderate to very calcareous, rarely micromicaceous, occasional disseminated micro pyrite.
8360	100 Trace	CLAYSTONE: medium dark grey to dark grey, dark olive grey in places, firm, blocky to sub-blocky, crumbly, waxy, moderate to very calcareous, rarely micromicaceous, occasional disseminated micro pyrite. DOLOMITE: light brownish grey to brownish grey, cream to light brown, occasionally yellowish grey, firm to moderately hard, sub-blocky to sub-angular, crumbly to rarely brittle, microcrystalline, mudstone, occasionally argillaceous.
8380	100	CLAYSTONE: medium grey to medium dark grey, dark olive grey in places, soft to firm, blocky to sub-blocky, sticky, plastic, rarely crumbly, moderate to very calcareous, rarely micromicaceous, occasional disseminated micro pyrite.
8400	100	CLAYSTONE: medium grey to medium dark grey, occasionally dark olive grey, occasionally greyish black, firm, blocky to sub-blocky, crumbly, rarely plastic, waxy, occasionally earthy, very calcareous, rarely micromicaceous.
8420	100	CLAYSTONE: dark grey to dark olive grey, greyish black to olive black, firm, blocky to sub-blocky, crumbly, rarely plastic, waxy, occasionally earthy, very calcareous, rarely micromicaceous.
8440	100	CLAYSTONE: olive black, firm, blocky to sub-blocky, crumbly, rarely plastic, earthy, very calcareous, rarely micromicaceous.
8460	100	CLAYSTONE: greyish black to olive black, firm, blocky to sub-blocky, crumbly, waxy, occasionally sticky, rarely plastic, occasionally earthy, very calcareous, rarely micromicaceous.
8480	100	CLAYSTONE: dark grey to greyish black, firm, blocky to sub-blocky, crumbly, waxy, occasionally sticky, rarely plastic, occasionally earthy, very calcareous, rarely micromicaceous.
8500	100	CLAYSTONE: dark grey to greyish black, soft to firm, sub-blocky, sticky in places, occasionally plastic, generally crumbly and waxy, very calcareous, rarely micromicaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
8520		Sample missed
8540	100	CLAYSTONE: medium grey to medium dark grey, occasionally medium brownish grey, soft, sub-blocky, sticky, very calcareous, rarely micromicaceous.
8560	100	CLAYSTONE: medium grey to medium dark grey, occasionally medium brownish grey, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly, waxy, very calcareous, common agglomerated micro pyrite.
8580	100	CLAYSTONE: medium grey to medium dark grey, occasionally medium brownish grey, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly, waxy, very calcareous.
8600		CLAYSTONE: medium dark grey, occasionally medium brownish grey, soft to firm, occasionally very firm, sub-blocky to blocky, crumbly, waxy, very calcareous, common agglomerated micro pyrite.
8620	100	CLAYSTONE: medium grey to medium olive grey, dark olive grey to olive black, firm, sub-blocky, crumbly, waxy, occasionally earthy, moderate to very calcareous, rarely micromicaceous, rare disseminated micro pyrite.
8640	100	CLAYSTONE: medium grey to medium olive grey, dark olive grey to olive black, firm, sub-blocky, crumbly, waxy, occasionally earthy, moderate to very calcareous, rarely micromicaceous, rare disseminated micro pyrite.
8660	100	CLAYSTONE: dark grey to greyish black, olive black, firm, sub-blocky, crumbly or plastic, waxy, rarely slightly silty, very calcareous, occasionally micromicaceous.
8680	100	CLAYSTONE: dark grey to greyish black, olive black, occasionally dark greenish grey, firm, sub-blocky, crumbly or plastic, waxy, rarely slightly silty, very calcareous, occasionally micromicaceous.
8700	100 Trace	CLAYSTONE: dark grey to greyish black, olive black, occasionally dark greenish grey, firm, sub-blocky, crumbly or plastic, waxy, rarely slightly silty, very calcareous, occasionally micromicaceous. DOLOMITE: light brownish grey to brownish grey, occasionally yellowish brown to dark yellowish grey, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous.
8720		Sample missed
8740	100	CLAYSTONE: dark grey to greyish black, olive black, occasionally dark greenish grey, firm, sub-blocky, crumbly or plastic, waxy, rarely slightly silty, very calcareous, occasionally micromicaceous.
8760	100	CLAYSTONE: dark grey to greyish black, olive black, occasionally dark greenish grey, firm, sub-blocky, crumbly or plastic, waxy, rarely slightly silty, very calcareous, occasionally micromicaceous.
8780	100 Trace	CLAYSTONE: medium greenish grey to medium olive grey, occasionally dark greenish grey, firm, sub-blocky, crumbly or plastic, waxy, rarely slightly silty, very calcareous, occasionally micromicaceous. DOLOMITE: light brownish grey to brownish grey, occasionally yellowish brown to dark yellowish grey, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous.
8800	100	CLAYSTONE: medium greenish grey to medium olive grey, occasionally dark greenish grey, soft, sub-blocky, occasionally sticky, plastic, rarely slightly silty, very calcareous, occasionally micromicaceous.
8820	100	CLAYSTONE: medium greenish grey to medium olive grey, occasionally dark greenish grey, firm to very firm, sub-blocky, crumbly, waxy, rarely slightly silty, very calcareous, occasionally micromicaceous.
8840	100	CLAYSTONE: medium greenish grey to medium olive grey, occasionally dark greenish grey, soft, sub-blocky, occasionally sticky, plastic, rarely slightly silty, very calcareous, occasionally micromicaceous.
8860		Sample missed
8880		Sample missed
8900	100	CLAYSTONE: medium greenish grey to medium olive grey, occasionally dark greenish grey, firm, sub-blocky, occasionally sticky, plastic, rarely slightly silty, very calcareous, occasionally micromicaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
8920	100	CLAYSTONE: olive grey to dark olive grey, commonly olive black, soft to firm, sub-blocky, plastic or crumbly, rarely sticky, waxy to occasionally earthy, moderately silty, very calcareous, occasionally micromicaceous.
8940	100	CLAYSTONE: medium to dark grey, soft to firm, sub-blocky, plastic or crumbly, rarely sticky, waxy to occasionally earthy, moderately silty, very calcareous, occasionally micromicaceous.
8960	100	CLAYSTONE: medium to dark grey, soft to firm, sub-blocky, plastic or crumbly, rarely sticky, waxy to occasionally earthy, moderately silty, very calcareous, occasionally micromicaceous.
8980	90 10	CLAYSTONE: medium to dark grey, soft to firm, sub-blocky, plastic or crumbly, rarely sticky, waxy to occasionally earthy, moderately silty, very calcareous, occasionally micromicaceous. DOLOMITE: light brown to light brownish grey, yellowish grey, occasionally dark yellowish orange, firm to moderately hard, sub-blocky, crumbly, microcrystalline, mudstone, occasionally argillaceous.
9000	100	CLAYSTONE: medium to dark grey, soft to firm, sub-blocky, plastic or crumbly, rarely sticky, waxy to occasionally earthy, slightly silty in places, very calcareous, occasionally micromicaceous.
9020	100	CLAYSTONE: medium to dark grey, soft to firm, sub-blocky, plastic or crumbly, rarely sticky, waxy to occasionally earthy, slightly silty in places, very calcareous, occasionally micromicaceous.
9040	100 Trace	CLAYSTONE: dark greenish grey to greenish black, soft to firm, sub-blocky, plastic or crumbly, rarely sticky, waxy to occasionally earthy, slightly silty in places, very calcareous, occasionally micromicaceous. DOLOMITE: light brown to light brownish grey, yellowish grey, occasionally dark yellowish orange, firm to moderately hard, sub-blocky, crumbly, microcrystalline, mudstone, occasionally argillaceous.
9060	100	CLAYSTONE: dark greenish grey to greenish black, soft to slightly firm in places, sub-blocky, plastic or crumbly, rarely sticky, waxy to occasionally earthy, slightly silty in places, very calcareous, occasionally micromicaceous.
9080	100	CLAYSTONE: dark grey to dark greenish grey, occasionally dark olive grey, commonly grading to olive black to greenish black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, rarely silty, moderate to very calcareous, occasionally micromicaceous.
9100	100	CLAYSTONE: dark grey to dark greenish grey, occasionally dark olive grey, commonly grading to olive black to greenish black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, rarely silty, moderate to very calcareous, occasionally micromicaceous.
9120	100	CLAYSTONE: dark grey to dark greenish grey, occasionally dark olive grey, commonly grading to olive black to greenish black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, rarely silty, moderate to very calcareous, occasionally micromicaceous. DOLOMITE: light brown to light brownish grey, dark yellowish orange, firm to moderately hard, sub-blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common dark argillaceous micro laminations.
9140	100	CLAYSTONE: dark grey to dark greenish grey, occasionally dark olive grey, commonly grading to olive black to greenish black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, rarely silty, moderate to very calcareous, occasionally micromicaceous. DOLOMITE: light brown to light brownish grey, dark yellowish orange, firm to moderately hard, sub-blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common dark argillaceous micro laminations.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
9160	100	CLAYSTONE: dark grey to dark greenish grey, occasionally dark olive grey, commonly grading to olive black to greenish black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, rarely silty, moderate to very calcareous, occasionally micromicaceous. DOLOMITE: light brown to light brownish grey, dark yellowish orange, firm to moderately hard, sub-blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common dark argillaceous micro laminations.
9180	100	CLAYSTONE: dark grey to dark greenish grey, occasionally dark olive grey, commonly grading to olive black to greenish black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, rarely silty, moderate to very calcareous, occasionally micromicaceous.
9200	100	CLAYSTONE: olive grey to olive black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, rarely silty, moderate to very calcareous, occasionally micromicaceous.
9220	100	CLAYSTONE: greyish black to olive black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, rarely silty, moderate to very calcareous, occasionally micromicaceous.
9240	100	CLAYSTONE: greyish black to olive black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, moderately silty, moderate to very calcareous, occasionally micromicaceous.
9260	100	CLAYSTONE: greyish black to olive black, firm, occasionally soft, sub-blocky to blocky, crumbly, occasionally plastic, rarely sticky, commonly waxy, moderately silty, moderate to very calcareous, commonly micromicaceous.
9280	100	CLAYSTONE: light grey to moderately grey, medium greenish grey, occasionally dark greenish grey, occasionally medium to dark olive grey, soft to occasionally firm, sub-blocky, occasionally crumbly, commonly sticky, rarely waxy, moderately silty, moderately calcareous, occasionally micromicaceous.
9300	100 Trace	CLAYSTONE: light grey to moderately grey, medium greenish grey, occasionally dark greenish grey, dark grey to dark olive grey, soft to occasionally firm, sub-blocky, occasionally crumbly, commonly sticky, rarely waxy, moderately silty, moderately calcareous, occasionally micromicaceous. LIMESTONE: off white to cream, pale brown, moderately hard, sub-angular, brittle, occasionally splintery, microcrystalline, mudstone, clean.
9320	100 Trace	CLAYSTONE: light grey to moderately grey, medium greenish grey, occasionally dark greenish grey, dark grey to dark olive grey, soft to occasionally firm, sub-blocky, occasionally crumbly, commonly sticky, rarely waxy, moderately silty, moderately calcareous, occasionally micromicaceous. DOLOMITE: light brown to light brownish grey, dark yellowish orange, firm to moderately hard, sub-blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common dark argillaceous micro laminations.
9340	100	CLAYSTONE: light grey to moderately grey, medium greenish grey, occasionally dark greenish grey, dark grey to dark olive grey, soft to occasionally firm, sub-blocky, occasionally crumbly, commonly sticky, rarely waxy, increasingly silty, moderately calcareous, increasingly micromicaceous.
9360	100 Trace	CLAYSTONE: greenish grey to medium greenish grey, occasionally dark grey to greyish black or brownish black, soft to occasionally firm, sub-blocky, occasionally crumbly, commonly sticky, rarely waxy, silty, moderately calcareous, micromicaceous. DOLOMITE: light brown to light brownish grey, dark yellowish orange, firm to moderately hard, sub-blocky, crumbly, microcrystalline to cryptocrystalline, mudstone, common dark argillaceous micro laminations.
9380	100	CLAYSTONE: greenish grey to medium greenish grey, occasionally dark grey to greyish black or brownish black, soft to firm, sub-blocky, occasionally crumbly, occasionally sticky, rarely waxy, silty, very calcareous, commonly micromicaceous.



DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
9400	100	CLAYSTONE: medium to dark grey, occasionally medium to dark greenish grey, soft to firm, sub-blocky, sticky, rarely crumbly, plastic, very calcareous, occasionally micromicaceous.
9420	100	CLAYSTONE: medium to dark grey, occasionally medium to dark greenish grey, soft to firm, sub-blocky, sticky, rarely crumbly, plastic, very calcareous, occasionally micromicaceous.
9440	100	CLAYSTONE: medium to dark grey, occasionally medium to dark greenish grey, soft to firm, sub-blocky, sticky, rarely crumbly, plastic, occasionally slightly silty, very calcareous, occasionally micromicaceous.
9460	100	CLAYSTONE: medium to dark grey, occasionally medium to dark greenish grey, soft to firm, sub-blocky, sticky, rarely crumbly, plastic, silty, very calcareous, commonly micromicaceous.
9480	100	CLAYSTONE: medium to dark grey, occasionally medium to dark greenish grey, soft to firm, sub-blocky, sticky, rarely crumbly, plastic, silty, very calcareous, commonly micromicaceous.
9500	100	CLAYSTONE: medium to dark grey, occasionally medium to dark greenish grey, soft to firm, sub-blocky, sticky, rarely crumbly, plastic, moderately silty, very calcareous, commonly micromicaceous.
9520	100	CLAYSTONE: medium to dark grey, occasionally medium to dark greenish grey, moderately firm, sub-blocky, sticky, rarely crumbly, plastic, moderately silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite.
9540	100	CLAYSTONE: medium to dark grey, occasionally medium to dark greenish grey, moderately firm, sub-blocky, sticky, rarely crumbly, plastic, moderately silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite.
9560	100 Trace	CLAYSTONE: medium to dark grey, occasionally medium to dark greenish grey, moderately firm, sub-blocky, sticky, rarely crumbly, plastic, moderately silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite, occasional agglomerated micro pyrite. DOLOMITE: pale brown to brownish grey, occasionally dark yellowish orange to medium brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous.
9580	100 Trace	CLAYSTONE: uniform medium grey to medium greenish grey, firm, sub-blocky, sticky, rarely crumbly, plastic, moderately silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite, occasional agglomerated micro pyrite. DOLOMITE: pale brown to brownish grey, occasionally dark yellowish orange to medium brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous.
9600		Sample missed
9620	100 Trace	CLAYSTONE: uniform medium grey to medium greenish grey, firm, sub-blocky, sticky, rarely crumbly, plastic, moderately silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite, occasional agglomerated micro pyrite. DOLOMITE: pale brown to brownish grey, occasionally dark yellowish orange to medium brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous.
9640	100 Trace	CLAYSTONE: medium grey to medium dark grey, occasionally dark greenish grey, soft to firm, sub-blocky, rarely sticky, crumbly, waxy, moderately silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. DOLOMITE: pale brown to brownish grey, occasionally dark yellowish orange to medium brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, common dark argillaceous micro laminations.
9660	100 Trace	CLAYSTONE: medium grey to medium dark grey, occasionally dark greenish grey, soft to firm, sub-blocky, rarely sticky, crumbly, waxy, slightly silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. DOLOMITE: pale brown to brownish grey, occasionally dark yellowish orange to medium brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, common dark argillaceous micro laminations.
9680	100 Trace	CLAYSTONE: medium grey to medium dark grey, occasionally dark greenish grey, soft to firm, sub-blocky, rarely sticky, crumbly, waxy, slightly silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. DOLOMITE: pale brown to brownish grey, occasionally dark yellowish orange to medium brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, common dark argillaceous micro laminations.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
9700	100  Trace	CLAYSTONE: dark grey to greyish black, occasionally olive black, soft to firm, sub-blocky, rarely sticky, crumbly, waxy, occasionally slightly silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. DOLOMITE: pale brown to brownish grey, occasionally dark yellowish orange to medium brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, common dark argillaceous micro laminations.
9720	100  Trace	CLAYSTONE: medium grey to medium dark grey, occasionally medium to dark greenish grey, commonly dark grey to greyish black, rarely dark brownish grey, soft to firm, sub-blocky, rarely sticky, generally crumbly, waxy, silty in places, very calcareous, micromicaceous, rare disseminated micro pyrite. DOLOMITE: pale brown to brownish grey, occasionally dark yellowish orange to medium brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, common dark argillaceous micro laminations.
9740	90  10	CLAYSTONE: medium to dark grey, medium to dark brownish grey, soft to firm, sub-blocky, rarely sticky, generally crumbly, waxy, silty in places, very calcareous, micromicaceous, rare disseminated micro pyrite. DOLOMITE: pale brown to brownish grey, hard to very hard, angular, occasionally splintery, brittle, cryptocrystalline, clean.
9760	80  20	CLAYSTONE: medium to dark grey, medium to dark brownish grey, soft to firm, sub-blocky, rarely sticky, generally crumbly, waxy, silty in places, very calcareous, micromicaceous, rare disseminated micro pyrite. LIMESTONE: off white to cream, pale brown, moderate to very hard, angular to occasionally sub-angular, crumbly or commonly brittle, splintery in places, porcelaneous, microcrystalline, clean
9780	100  Trace  Trace	CLAYSTONE: medium to dark grey, greyish black, occasionally dark brownish grey to greenish grey, soft to firm, sub-blocky, occasionally amorphous, sticky, crumbly, waxy in places, slightly silty in places, very calcareous, occasionally micromicaceous. LIMESTONE: off white to cream, pale brown, moderate to very hard, angular to occasionally sub-angular, crumbly or commonly brittle, splintery in places, porcelaneous, microcrystalline, clean DOLOMITE: dark brownish grey to dark brown, very hard, angular, splintery, brittle, microcrystalline to cryptocrystalline, occasionally argillaceous.
9800	100  Trace	CLAYSTONE: medium to dark grey, greyish black, occasionally dark brownish grey to greenish grey, soft to firm, sub-blocky, occasionally amorphous, sticky, crumbly, waxy in places, slightly silty in places, very calcareous, occasionally micromicaceous. DOLOMITE: dark brownish grey to dark brown, very hard, angular, splintery, brittle, microcrystalline to cryptocrystalline, occasionally argillaceous.
9820	100  Trace	CLAYSTONE: medium to dark grey, greyish black, occasionally dark brownish grey to greenish grey, soft to firm, sub-blocky, occasionally amorphous, sticky, crumbly, waxy in places, slightly silty in places, very calcareous, occasionally micromicaceous. DOLOMITE: dark brownish grey to dark brown, very hard, angular, splintery, brittle, microcrystalline to cryptocrystalline, occasionally argillaceous.
9840	100  Tr	CLAYSTONE: medium to dark grey, commonly greyish black, occasionally dark brownish grey to greenish grey, soft to firm, sub-blocky, occasionally amorphous, sticky, crumbly, waxy in places, slightly silty in places, very calcareous, occasionally micromicaceous. LIMESTONE: off white to cream, pale brown, moderate to very hard, angular to occasionally sub-angular, crumbly or commonly brittle, splintery in places, porcelaneous, microcrystalline, clean
9860		Sample missed
9880	100	CLAYSTONE: medium to dark grey, occasionally dark bluish grey to greyish black, very firm to moderately hard in places, sub-blocky to blocky, rarely sub-fissile, generally crumbly, waxy, silty in places, moderately calcareous, micromicaceous, rare disseminated micro pyrite.
9900	70  30	CLAYSTONE: medium to dark grey, occasionally dark bluish grey to greyish black, very firm to moderately hard in places, sub-blocky to blocky, rarely sub-fissile, generally crumbly, waxy, silty in places, moderately calcareous, micromicaceous, rare disseminated micro pyrite. LIMESTONE: light grey to olive grey, hard, angular, brittle, splintery, microcrystalline, occasional dark argillaceous laminations, clean.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
9920	80  20	CLAYSTONE: medium to dark grey, dark olive grey to olive black, commonly greyish black, soft to firm, sub-blocky, crumbly, rarely sticky, occasionally waxy, slightly silty in places, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite LIMESTONE: light grey to olive grey, hard, angular, brittle, splintery, microcrystalline, occasional dark argillaceous laminations, clean.
9940	100  Tr	CLAYSTONE: medium to dark grey, dark olive grey to olive black, commonly greyish black, soft, sub-blocky, crumbly, rarely sticky, occasionally waxy, slightly silty in places, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite LIMESTONE: light grey to olive grey, hard, angular, brittle, splintery, microcrystalline, occasional dark argillaceous laminations, clean.
9960	100	CLAYSTONE: dark grey to greyish black, soft, sub-blocky, crumbly, rarely sticky, occasionally waxy, slightly silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite LIMESTONE: light grey to olive grey, hard, angular, brittle, splintery, microcrystalline, occasional dark argillaceous laminations, clean.
9980		Sample missed
10000	100  Trace	CLAYSTONE: dark grey to greyish black, soft, sub-blocky, crumbly, rarely sticky, occasionally waxy, slightly silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite LIMESTONE: light grey to olive grey, commonly white to blue white, hard, angular, brittle, splintery, microcrystalline, occasional dark argillaceous laminations, clean.
10020	90  10  Trace	CLAYSTONE: dark grey to greyish black, soft, sub-blocky, crumbly, rarely sticky, occasionally waxy, slightly silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite DOLOMITE: dark yellowish orange, light brown to moderate yellowish brown, occasionally orange grey, hard, sub-angular to angular, splintery, brittle, cryptocrystalline, clean, occasionally glauconitic. LIMESTONE: light grey to olive grey, commonly white to blue white, hard, angular, brittle, splintery, microcrystalline, occasional dark argillaceous laminations, clean.
10040	100  Trace	CLAYSTONE: dark grey to greyish black, soft, sub-blocky, crumbly, rarely sticky, occasionally waxy, slightly silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite DOLOMITE: dark yellowish orange, light brown to moderate yellowish brown, occasionally orange grey, hard, sub-angular to angular, splintery, brittle, cryptocrystalline, clean, occasionally glauconitic.
10060	100  Trace	CLAYSTONE: dark grey to greyish black, soft, sub-blocky, crumbly, rarely sticky, occasionally waxy, slightly silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite DOLOMITE: dark yellowish orange, light brown to moderate yellowish brown, occasionally orange grey, hard, sub-angular to angular, splintery, brittle, cryptocrystalline, clean, occasionally glauconitic.
10080	100  Trace	CLAYSTONE: dark grey to dark olive grey, very uniform, firm to very firm, sub-blocky to blocky, crumbly, waxy, slightly silty in places, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite. LIMESTONE: light brownish grey to yellowish grey, occasionally dark yellowish orange, rarely white to blue white, hard or occasionally very hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
10100	100  Trace	CLAYSTONE: dark grey to dark olive grey, very uniform, firm to very firm, sub-blocky to blocky, crumbly, waxy, slightly silty in places, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite. LIMESTONE: light brownish grey to yellowish grey, occasionally dark yellowish orange, rarely white to blue white, hard or occasionally very hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean.
10120	90  10	CLAYSTONE: dark grey to dark olive grey, very uniform, firm to very firm, sub-blocky to blocky, crumbly, waxy, slightly silty in places, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite. LIMESTONE: light brownish grey to yellowish grey, occasionally white to blue white, hard or occasionally very hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean.
10140	70  30	CLAYSTONE: dark grey to dark olive grey, very uniform, firm to very firm, sub-blocky to blocky, crumbly, waxy, slightly silty in places, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite. LIMESTONE: light brownish grey to yellowish grey, occasionally white to blue white, hard or occasionally very hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean.
10160	100  Trace	CLAYSTONE: dark olive grey to olive black, soft to firm, sub-blocky to blocky, crumbly, waxy, occasionally slightly silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite. LIMESTONE: light brownish grey, hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean, occasionally glauconitic.
10180	100  Trace	CLAYSTONE: dark olive grey to olive black, soft to firm, sub-blocky to blocky, crumbly, waxy, occasionally slightly silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite. LIMESTONE: light brownish grey, hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean, occasionally glauconitic.
10200	100  Trace	CLAYSTONE: very uniform, dark olive grey to olive black, soft to firm, sub-blocky to blocky, crumbly, waxy, occasionally silty, very calcareous, commonly micromicaceous, occasional disseminated micro pyrite. LIMESTONE: light brownish grey, hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean, occasionally glauconitic.
10220	100  Trace	CLAYSTONE: varicoloured, dark grey to greyish black, reddish brown to brownish grey or moderate brown, soft to firm, sub-blocky to blocky, occasionally sub-fissile, crumbly, earthy slightly calcareous. LIMESTONE: light brownish grey, hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean, occasionally glauconitic.
10240	100  Trace	CLAYSTONE: varicoloured, light to medium grey, dark grey to rarely dark olive grey, light bluish grey to greenish grey, commonly reddish brown to moderate brown, soft to firm, rarely very firm, sub-blocky to blocky, occasionally sub-fissile, crumbly, earthy in places, slightly silty, slightly to moderately calcareous, commonly micromicaceous, occasional glauconite. LIMESTONE: light brownish grey, hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean, occasionally glauconitic.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
10260	100  Trace	CLAYSTONE: varicoloured, light to medium grey, dark grey to rarely dark olive grey, light bluish grey to greenish grey, commonly reddish brown to moderate brown, soft to firm, rarely very firm, sub-blocky to blocky, occasionally sub-fissile, crumbly, earthy in places, slightly silty, slightly to moderately calcareous, commonly micromicaceous, occasional glauconite. LIMESTONE: light brownish grey, hard, angular, brittle, splintery, rarely sub-angular and crumbly, microcrystalline, occasional dark argillaceous laminations, argillaceous in places, otherwise clean, occasionally glauconitic.
10280	90  10	CLAYSTONE: varicoloured, light to medium grey, dark grey to greyish black, light bluish grey to greenish grey, commonly reddish brown to moderate brown, soft to firm, rarely very firm, sub-blocky to blocky, occasionally sub-fissile, crumbly, earthy in places, slightly silty, slightly to moderately calcareous, commonly micromicaceous, occasional glauconite. LIMESTONE: light brownish grey to yellowish grey, occasionally dark yellowish orange, hard or occasionally very hard, sub-blocky to sub-angular, rarely angular, brittle, splintery, commonly crumbly, microcrystalline, common dark argillaceous laminations, argillaceous, occasional glauconite.
10300	100  Trace	CLAYSTONE: medium grey to medium dark grey, soft to firm, sub-blocky to blocky, sticky, occasionally plastic, rarely crumbly, slightly silty, moderate to very calcareous, occasionally micromicaceous. LIMESTONE: light brownish grey to yellowish grey, occasionally dark yellowish orange, hard or occasionally very hard, sub-blocky to sub-angular, rarely angular, brittle, splintery, commonly crumbly, microcrystalline, common dark argillaceous laminations, argillaceous, occasional glauconite.
10320	80  20	CLAYSTONE: varicoloured, light to medium grey, light bluish to light greenish grey, medium bluish grey, occasionally dark grey to greyish black, commonly reddish brown to moderate brown, soft to firm, rarely very firm, amorphous to sub-blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous and grading to MARL, occasionally micromicaceous, occasional glauconite. LIMESTONE: greyish orange to dark yellowish orange, pale yellowish brown, cream, firm to moderately hard, sub-blocky to occasionally sub-angular, crumbly, microcrystalline, mudstone, very clean.
10340	70  30	CLAYSTONE: varicoloured, light to medium grey, light bluish to light greenish grey, medium bluish grey, occasionally dark grey to greyish black, commonly reddish brown to moderate brown, soft to firm, rarely very firm, amorphous to sub-blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous and grading to MARL, occasionally micromicaceous, occasional glauconite. LIMESTONE: greyish orange to dark yellowish orange, pale yellowish brown, cream, firm to moderately hard, sub-blocky to occasionally sub-angular, crumbly, microcrystalline, mudstone, very clean.
10360		Sample missed
10380	100  Trace	CLAYSTONE: varicoloured, light to medium grey, light bluish to light greenish grey, medium bluish grey, occasionally dark grey to greyish black, commonly reddish brown to moderate brown, soft to firm, rarely very firm, sub-blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous and grading to MARL, occasionally micromicaceous, occasional glauconite. LIMESTONE: greyish orange to dark yellowish orange, pale yellowish brown, cream, firm to moderately hard, sub-blocky to occasionally sub-angular, crumbly, microcrystalline, mudstone, very clean.
10400	100	CLAYSTONE: varicoloured, light to medium grey, light bluish to light greenish grey, medium bluish grey, occasionally dark grey to greyish black, commonly reddish brown to moderate brown, soft to firm, rarely very firm, amorphous to sub-blocky, rarely blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous and grading to MARL, occasionally micromicaceous, occasional glauconite.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
10420	100	CLAYSTONE: varicoloured, light to medium grey, light bluish to light greenish grey, medium bluish grey, occasionally dark grey to greyish black, commonly reddish brown to moderate brown, soft to firm, rarely very firm, sub-blocky to blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous and grading to MARL, occasionally micromicaceous, occasional glauconite.
10440	100  Trace	CLAYSTONE: medium dark grey to dark grey, olive grey to olive black in places, commonly light to medium grey, reddish brown to moderate brown, firm, blocky to sub-blocky, plastic, waxy, and slightly silty in places, very calcareous, occasionally micromicaceous. LIMESTONE: greyish orange to dark yellowish orange, pale yellowish brown, cream, firm to moderately hard, sub-blocky to occasionally sub-angular, crumbly, microcrystalline, mudstone, very clean.
10460	100	CLAYSTONE: medium dark grey to dark grey, olive grey to olive black in places, commonly light to medium grey, reddish brown to moderate brown, firm, blocky to sub-blocky, plastic, waxy, and slightly silty in places, very calcareous, occasionally micromicaceous.
10480	100  Tr	CLAYSTONE: predominantly reddish brown to moderate brown, medium dark grey to dark grey, olive grey to olive black in places, commonly light to medium grey, firm, blocky to sub-blocky, plastic, waxy, slightly silty in places, very calcareous, occasionally micromicaceous. LIMESTONE: greyish orange to dark yellowish orange, pale yellowish brown, cream, firm to moderately hard, sub-blocky to occasionally sub-angular, crumbly, microcrystalline, mudstone, very clean.
10500	100	CLAYSTONE: varicoloured, predominantly light to medium grey, occasionally dark grey, light bluish to light greenish grey, medium bluish grey, very commonly reddish brown to moderate brown, soft to firm, rarely very firm, amorphous to sub-blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous and grading to MARL, occasionally micromicaceous, occasional glauconite.
10520		Sample missed
10540	100	CLAYSTONE: varicoloured, predominantly light to medium grey, occasionally dark grey, light bluish to light greenish grey, medium bluish grey, very commonly reddish brown to moderate brown, soft to firm, rarely very firm, amorphous to sub-blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous and grading to MARL, occasionally micromicaceous, occasional glauconite.
10560	100	CLAYSTONE: varicoloured, predominantly light to medium grey, occasionally dark grey, light bluish to light greenish grey, medium bluish grey, very commonly reddish brown to moderate brown, soft to firm, rarely very firm, amorphous to sub-blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous and grading to MARL, occasionally micromicaceous, occasional glauconite.
10580	100	CLAYSTONE: varicoloured, predominantly light to medium grey, occasionally dark grey, light bluish to light greenish grey, medium bluish grey, very commonly reddish brown to moderate brown, soft to firm, rarely very firm, amorphous to sub-blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous, micromicaceous.
10600	100	CLAYSTONE: varicoloured, predominantly light to medium grey, occasionally dark grey, light bluish to light greenish grey, medium bluish grey, very commonly reddish brown to moderate brown, commonly chocolate brown, soft to firm, rarely very firm, amorphous to sub-blocky, occasionally plastic, sticky, rarely crumbly, rarely slightly silty, very calcareous, micromicaceous.
10620	100	CLAYSTONE: varicoloured, light grey to light bluish grey, occasionally light greenish grey, very commonly dark grey to dark olive grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, firm to very firm, blocky to sub-blocky, waxy, occasionally plastic, crumbly, occasionally silty, moderate to very calcareous, commonly micromicaceous.
10640	100	CLAYSTONE: varicoloured, light grey to light bluish grey, occasionally light greenish grey, very commonly dark grey to dark olive grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, firm to very firm, blocky to sub-blocky, waxy, occasionally plastic, crumbly, occasionally silty, moderate to very calcareous, commonly micromicaceous, occasional glauconite, very rarely tuffaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
10660	100	CLAYSTONE: varicoloured, light grey to light bluish grey, occasionally light greenish grey, very commonly dark grey to dark olive grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, firm to very firm, blocky to sub-blocky, waxy, occasionally plastic, crumbly, occasionally silty, moderate to very calcareous, commonly micromicaceous, common glauconite.
10680	100	CLAYSTONE: varicoloured, light grey to light bluish grey, occasionally light greenish grey, very commonly dark grey to dark olive grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, firm, blocky to sub-blocky, waxy, occasionally plastic, crumbly, occasionally silty, moderate to very calcareous, commonly micromicaceous, occasional glauconite.
10700	100	CLAYSTONE: varicoloured, light grey to light bluish grey, occasionally light greenish grey, very commonly dark grey to dark olive grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, firm, blocky to sub-blocky, waxy, crumbly, occasionally silty, moderate to very calcareous, commonly micromicaceous.
10720	100  Trace	CLAYSTONE: varicoloured, dark grey to dark olive grey, light to medium, light greenish grey to light bluish grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, soft to firm, blocky to sub-blocky, occasionally amorphous, sticky in places, plastic, occasionally crumbly, rarely waxy, silty in places, moderate to very calcareous, occasionally micromicaceous, rare glauconite, very rare hard fragments of tuff. LIMESTONE: off white to cream, light brownish grey to yellowish grey, occasionally dark yellowish orange, hard, sub-angular to angular, occasionally sub-blocky, brittle to crumbly, occasionally splintery, microcrystalline, generally clean, occasional dark argillaceous laminations and inclusions, rare glauconite.
10740	90  10	CLAYSTONE: varicoloured, dark grey to dark olive grey, light to medium, light greenish grey to light bluish grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, soft to firm, blocky to sub-blocky, occasionally amorphous, sticky in places, plastic, occasionally crumbly, rarely waxy, silty in places, very calcareous and grading MARL, occasionally micromicaceous, rare glauconite, very rare hard fragments of tuff. LIMESTONE: off white to cream, light brownish grey to yellowish grey, occasionally dark yellowish orange, hard, sub-angular to angular, occasionally sub-blocky, brittle to crumbly, occasionally splintery, microcrystalline, generally clean, occasional dark argillaceous laminations and inclusions, rare glauconite.
10760	90  10	CLAYSTONE: varicoloured, dark grey to dark olive grey, light to medium, light greenish grey to light bluish grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, soft to firm, blocky to sub-blocky, sticky in places, plastic, occasionally crumbly, rarely waxy, silty in places, very calcareous and grading MARL, occasionally micromicaceous. LIMESTONE: off white to cream, light brownish grey to yellowish grey, occasionally dark yellowish orange, hard, sub-angular to angular, occasionally sub-blocky, brittle to crumbly, occasionally splintery, microcrystalline, generally clean, occasional dark argillaceous laminations and inclusions, rare glauconite.
10780	100  Trace	CLAYSTONE: varicoloured, dark grey to dark olive grey, light to medium, light greenish grey to light bluish grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, soft to firm, blocky to sub-blocky, occasionally amorphous, sticky in places, plastic, occasionally crumbly, rarely waxy, silty in places, very calcareous and grading MARL, occasionally micromicaceous. LIMESTONE: off white to cream, light brownish grey to yellowish grey, occasionally dark yellowish orange, hard, sub-angular to angular, occasionally sub-blocky, brittle to crumbly, occasionally splintery, microcrystalline, generally clean, occasional dark argillaceous laminations and inclusions, rare glauconite.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
10800	100	CLAYSTONE: varicoloured, dark grey to dark olive grey, light to medium, light greenish grey to light bluish grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, soft, rarely firm, blocky to sub-blocky, sticky in places, plastic, occasionally crumbly, rarely waxy, silty in places, very calcareous and grading MARL, occasionally micromicaceous, rare glauconite.
10820	100	CLAYSTONE: varicoloured, dark grey to dark olive grey, light to medium, light greenish grey to light bluish grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, soft and sticky, rarely firm, blocky to sub-blocky, plastic, occasionally crumbly, rarely waxy, silty in places, very calcareous, occasionally micromicaceous, rare glauconite.
10840	90  10	CLAYSTONE: varicoloured, dark grey to dark olive grey, light to medium, light greenish grey to light bluish grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, soft and sticky, rarely firm, blocky to sub-blocky, plastic, occasionally crumbly, rarely waxy, silty in places, very calcareous MARL, occasionally micromicaceous, rare glauconite.  LIMESTONE: pale brownish grey to brownish grey, light to moderate brown, occasionally dark yellowish orange becoming yellowish grey, firm to moderately hard in places, sub-blocky, crumbly to rarely brittle, microcrystalline, moderately to very argillaceous, common dark argillaceous micro laminations.
10860	100  Trace	CLAYSTONE: medium to dark grey, uniform, soft to firm, blocky to sub-blocky, occasionally amorphous, sticky in places, plastic, occasionally crumbly, rarely waxy, silty in places, very calcareous, occasionally micromicaceous.  LIMESTONE: pale brownish grey to brownish grey, hard to very hard, sub-blocky, brittle, microcrystalline to crystalline, clean.
10880		Sample missed
10900	100	CLAYSTONE: becoming uniform medium to dark grey or dark brownish grey, rarely chocolate brown, rarely light greenish grey to light bluish grey, soft to commonly firm, sub-blocky, sticky in places, plastic, occasionally crumbly, occasionally slightly to moderately silty, moderate to very calcareous, commonly micromicaceous.
10920	100  Trace	CLAYSTONE: becoming uniform medium to dark grey or dark brownish grey, rarely chocolate brown, rarely light greenish grey to light bluish grey, soft to commonly firm, sub-blocky, sticky in places, plastic, occasionally crumbly, occasionally slightly to moderately silty, moderate to very calcareous, rarely micromicaceous.  LIMESTONE: pale brownish grey to brownish grey, hard to very hard, sub-blocky, brittle, microcrystalline to crystalline, clean.
10940	100  Trace	CLAYSTONE: varicoloured, but predominantly medium to dark grey, light to medium, light greenish grey to light bluish grey, commonly reddish brown to moderate brown, occasionally chocolate brown to dark brownish grey, soft to firm, blocky to sub-blocky, occasionally amorphous, sticky in places, plastic, occasionally crumbly, rarely waxy, silty in places, moderate to very calcareous, occasionally micromicaceous.  LIMESTONE: pale brownish grey to brownish grey, hard to very hard, sub-blocky, brittle, microcrystalline to crystalline, clean.
10960	100	CLAYSTONE: light to medium grey, commonly dark grey to dark brownish grey, light bluish to light greenish grey, occasionally chocolate brown to dark brownish grey, soft to commonly firm, sub-blocky, sticky, plastic, occasionally crumbly, slightly to moderately silty, moderate to very calcareous, commonly micromicaceous.
10980	100  Trace	CLAYSTONE: light to medium grey, commonly dark grey to dark brownish grey, light bluish to light greenish grey, occasionally chocolate brown to dark brownish grey, soft to commonly firm, sub-blocky, sticky, plastic, occasionally crumbly, slightly to moderately silty, moderate to very calcareous, commonly micromicaceous.  LIMESTONE: dark brownish grey to brown, hard to very hard, sub-angular to angular, brittle, splintery, microcrystalline, clean



DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
11000	100  Trace	CLAYSTONE: light to medium grey, commonly dark grey to dark brownish grey, light bluish to light greenish grey, occasionally chocolate brown to dark brownish grey, firm to very firm, sub-blocky, sticky, plastic, occasionally crumbly, slightly to moderately silty, moderate to very calcareous, commonly micromicaceous. LIMESTONE: dark brownish grey to brown, hard to very hard, sub-angular to angular, brittle, splintery, microcrystalline, clean
11020		Sample missed
11040	100  Trace	CLAYSTONE: light to medium grey, medium greenish grey to bluish grey, occasional white veining, rarely light brownish grey, firm to increasingly very firm, sub-blocky to blocky, crumbly, rarely plastic, waxy in places, rarely slightly silty, very calcareous, occasionally micromicaceous. LIMESTONE: pale brownish grey to brownish grey, light to moderate brown, occasionally dark yellowish orange to yellowish grey, firm to moderately hard, sub-blocky, crumbly to rarely brittle, microcrystalline, moderately to very argillaceous, common dark argillaceous micro laminations.
11060	100  Trace	CLAYSTONE: uniform light to medium grey, firm, sub-blocky to blocky, crumbly, rarely plastic, waxy in places, rarely slightly silty, very calcareous, occasionally micromicaceous. LIMESTONE: moderate brown to orange brown, firm to moderately hard, sub-blocky, crumbly to rarely brittle, microcrystalline, moderately to very argillaceous, common dark argillaceous micro laminations.
11080	100  Trace	CLAYSTONE: medium grey to medium brownish grey, light grey, very firm, sub-blocky to blocky, crumbly, rarely plastic, waxy in places, rarely slightly silty, very calcareous, occasionally micromicaceous. LIMESTONE: moderate brown to orange brown, firm to moderately hard, sub-blocky, crumbly to rarely brittle, microcrystalline, moderately to very argillaceous, common dark argillaceous micro laminations.
11100	100  Trace	CLAYSTONE: medium to dark grey, dark brownish grey, firm to very firm, sub-blocky to commonly blocky, crumbly to occasionally brittle, rarely silty, very calcareous, rarely micromicaceous. LIMESTONE: dark brownish grey to brown, hard to very hard, sub-angular to angular, brittle, splintery, microcrystalline, clean.
11120	100  Trace	CLAYSTONE: medium to dark grey, dark brownish grey, very firm to moderately hard, sub-blocky to commonly blocky, crumbly to occasionally brittle, rarely silty, very calcareous, rarely micromicaceous. LIMESTONE: dark brownish grey to brown, very hard, sub-angular to angular, brittle, splintery, microcrystalline, clean.
11140	100	CLAYSTONE: medium to dark grey, olive grey, very firm to moderately hard, sub-blocky to commonly blocky, crumbly to occasionally brittle, rarely silty, very calcareous, rarely micromicaceous.
11160	100	CLAYSTONE: medium to dark grey, olive grey, very firm, sub-blocky to commonly blocky, crumbly to occasionally brittle, rarely silty, very calcareous, rarely micromicaceous.
11180	100	CLAYSTONE: medium to dark grey, olive grey, very firm, sub-blocky to commonly blocky, crumbly to occasionally brittle, waxy, rarely silty, very calcareous, rarely micromicaceous.
11200	100	CLAYSTONE: medium to dark grey, olive grey, very firm, sub-blocky to commonly blocky, crumbly to occasionally brittle, waxy, rarely silty, very calcareous, rarely micromicaceous.
11220	100	CLAYSTONE: medium to dark grey, olive grey, very firm, sub-blocky to commonly blocky, crumbly to occasionally brittle, waxy, rarely silty, very calcareous, micromicaceous.
11240	100  Trace	CLAYSTONE: uniform medium to dark grey, very firm, sub-blocky to commonly blocky, crumbly to occasionally brittle, waxy, rarely silty, very calcareous, micromicaceous. LIMESTONE: dark brownish grey to brown, very hard, sub-angular to angular, brittle, splintery, microcrystalline, clean.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
11260	100 Trace	CLAYSTONE: uniform medium to dark grey, firm to very firm, sub-blocky to commonly blocky, crumbly to occasionally brittle, rarely slightly silty, very calcareous, rarely micromicaceous. LIMESTONE: dark brownish grey to brown, hard to very hard, sub-angular to angular, brittle, splintery, microcrystalline, clean.
11280	100	CLAYSTONE: uniform medium to dark grey, firm to very firm, sub-blocky to commonly blocky, crumbly to occasionally brittle, rarely slightly silty, very calcareous, rarely micromicaceous, occasional disseminated micro pyrite
11300	100 Trace	CLAYSTONE: uniform medium to dark grey, medium brownish grey to brown, firm to rarely very firm, sub-blocky, crumbly, waxy in places, slightly silty, very calcareous, rarely micromicaceous, rare disseminated micro pyrite. LIMESTONE: dark brownish grey to brown, hard to very hard, sub-blocky to sub-angular, occasionally angular, brittle to occasionally crumbly, splintery in places, microcrystalline, generally clean.
11320	100	CLAYSTONE: medium to dark grey, medium brownish grey to brown, becoming olive grey, firm to rarely very firm, sub-blocky, crumbly, waxy in places, slightly silty, very calcareous, rarely micromicaceous, rare disseminated micro pyrite.
11340	100 Trace	CLAYSTONE: uniform, medium to dark grey, olive grey, firm to occasionally very firm, sub-blocky, crumbly, waxy, rarely silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. LIMESTONE: pale brown to dark yellowish orange, brownish grey, hard, sub-angular, brittle, microcrystalline, generally clean.
11360	90 10	CLAYSTONE: uniform, medium to dark grey, olive grey, occasionally reddish brown, firm to occasionally very firm, sub-blocky, crumbly, waxy, rarely silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. LIMESTONE: pale brown to dark yellowish orange, brownish grey, hard, sub-angular, brittle, microcrystalline, generally clean.
11380	100 Trace	CLAYSTONE: uniform, medium to dark grey, olive grey, occasionally reddish brown, firm to occasionally very firm, sub-blocky, crumbly, waxy, rarely silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. LIMESTONE: pale brown to dark yellowish orange, brownish grey, hard, sub-angular, brittle, microcrystalline, generally clean.
11400	100 Trace	CLAYSTONE: medium to dark grey, medium brownish grey to brown, commonly reddish brown to brick red, soft to firm, rarely very firm, sub-blocky, crumbly, waxy in places, rarely silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. LIMESTONE: pale brown to dark yellowish orange, brownish grey, hard, sub-angular, brittle, microcrystalline, generally clean.
11420	100 Trace	CLAYSTONE: medium to dark grey, medium brownish grey to brown, commonly reddish brown to brick red, soft to firm, rarely very firm, sub-blocky, crumbly, waxy in places, rarely silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. LIMESTONE: pale brown to dark yellowish orange, brownish grey, hard, sub-angular, brittle, microcrystalline, generally clean.
11440	90 10	CLAYSTONE: medium to dark grey, medium brownish grey to brown, commonly reddish brown to brick red, soft to firm, rarely very firm, sub-blocky, crumbly, waxy in places, rarely silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. LIMESTONE: pale brown to dark yellowish orange, brownish grey, hard, sub-angular, brittle, microcrystalline, generally clean.
11460	100	CLAYSTONE: medium to dark grey, medium brownish grey to brown, commonly reddish brown to brick red, soft to firm, rarely very firm, sub-blocky, crumbly, waxy in places, rarely silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. LIMESTONE: pale brown to dark yellowish orange, brownish grey, hard, sub-angular, brittle, microcrystalline, generally clean.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
11480	100	CLAYSTONE: dark olive grey to olive black, soft to firm, rarely very firm, sub-blocky, crumbly, waxy in places, rarely silty, very calcareous, commonly micromicaceous, rare disseminated micro pyrite. LIMESTONE: pale brown to dark yellowish orange, brownish grey, hard, sub-angular, brittle, microcrystalline, generally clean.
11500	100	CLAYSTONE: dark olive grey to olive black, soft to firm, sub-blocky, crumbly to plastic, occasionally slightly silty, very calcareous, slightly micromicaceous.
11520	90 10	CLAYSTONE: dark olive grey to olive black, greyish black, soft to occasionally firm, sub-blocky, plastic, rarely crumbly, rarely waxy, slightly silty, moderate to very calcareous, moderately micromicaceous. LIMESTONE: light brown to brownish grey, hard, sub-angular, occasionally angular, generally brittle, occasionally crumbly, splintery in places, microcrystalline to crystalline, clean.
11540	100 Trace	CLAYSTONE: dark olive grey to olive black, greyish black, soft to occasionally firm, sub-blocky, plastic, rarely crumbly, rarely waxy, slightly silty, moderate to very calcareous, moderately micromicaceous. LIMESTONE: light brown to brownish grey, hard, sub-angular, occasionally angular, generally brittle, occasionally crumbly, splintery in places, microcrystalline to crystalline, clean.
11560	100 Trace	CLAYSTONE: dark olive grey to olive black, greyish black, soft to occasionally firm, sub-blocky, plastic, rarely crumbly, rarely waxy, slightly silty, moderate to very calcareous, moderately micromicaceous. LIMESTONE: light brown to brownish grey, hard, sub-angular, occasionally angular, generally brittle, occasionally crumbly, splintery in places, microcrystalline to crystalline, clean.
11580	100 Trace	CLAYSTONE: olive black to greyish black, soft to occasionally firm, sub-blocky, plastic, rarely crumbly, rarely waxy, slightly silty, moderate to very calcareous, moderately micromicaceous. LIMESTONE: light brown to brownish grey, hard, sub-angular, occasionally angular, generally brittle, occasionally crumbly, splintery in places, microcrystalline to crystalline, clean.
11600	100 Trace	CLAYSTONE: olive black to greyish black, soft to occasionally firm, sub-blocky, plastic, rarely crumbly, rarely waxy, slightly silty, moderate to very calcareous, moderately micromicaceous. LIMESTONE: light brown to brownish grey, hard, sub-angular, occasionally angular, generally brittle, occasionally crumbly, splintery in places, microcrystalline to crystalline, clean.
11620	100 Trace	CLAYSTONE: olive black to greyish black, firm, sub-blocky, crumbly, waxy, slightly silty, moderate to very calcareous, moderately micromicaceous. LIMESTONE: light brown to brownish grey, hard, sub-angular, occasionally angular, generally brittle, occasionally crumbly, splintery in places, microcrystalline to crystalline, clean.
11640	100 Trace	CLAYSTONE: predominantly olive black to greyish black, dark olive grey to dark grey, rarely reddish brown, firm to occasionally very firm, blocky to sub-blocky, crumbly, waxy, rarely slightly silty, moderately to very calcareous, commonly micromicaceous. LIMESTONE: light brown to brownish grey, dark yellowish orange, cream, very firm to moderately hard, occasionally hard to very hard, sub-angular, occasionally angular, crumbly to brittle, microcrystalline to crystalline, generally clean, rare dark argillaceous micro laminations.
11660	100	CLAYSTONE: varicoloured, light to medium grey, medium to dark bluish grey, dark olive grey to olive black, increasingly reddish brown to brown, chocolate, soft to firm, occasionally very firm, blocky to sub-blocky, crumbly, waxy in places, occasionally sticky, slightly silty in places, moderately to very calcareous, commonly micromicaceous.
11680	100	CLAYSTONE: varicoloured, light to medium grey, medium to dark bluish grey, dark olive grey to olive black, commonly reddish brown to brown, chocolate, soft to firm, occasionally very firm, blocky to sub-blocky, crumbly, waxy in places, occasionally sticky, slightly silty in places, moderately to very calcareous, commonly micromicaceous.
11700	100	CLAYSTONE: varicoloured, light to medium grey, medium to dark bluish grey, dark olive grey to olive black, reddish brown to brown, chocolate, soft to firm, occasionally very firm, blocky to sub-blocky, crumbly, waxy in places, occasionally sticky, slightly silty in places, moderately to very calcareous, commonly micromicaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
11720	100	CLAYSTONE: varicoloured, light to medium grey, medium to dark bluish grey, dark olive grey to olive black, reddish brown to brown, chocolate, soft to firm, occasionally very firm, blocky to sub-blocky, crumbly, waxy in places, occasionally sticky, moderately to very calcareous.
11740	100	CLAYSTONE: varicoloured, light to medium grey, medium to dark bluish grey, dark olive grey to olive black, reddish brown to brown, chocolate, soft to firm, occasionally very firm, blocky to sub-blocky, crumbly, waxy in places, occasionally sticky, moderately to very calcareous. LIMESTONE: light brown to brownish grey, dark yellowish orange, cream, very firm to moderately hard, occasionally hard to very hard, sub-angular, occasionally angular, crumbly to brittle, microcrystalline to crystalline, generally clean, rare dark argillaceous micro laminations.
11760	100	CLAYSTONE: varicoloured, predominantly reddish brown to brown, light to medium grey, medium to dark bluish grey, dark olive grey to olive black, chocolate, soft to firm, occasionally very firm, blocky to sub-blocky, crumbly, waxy in places, occasionally sticky, moderately to very calcareous.
11780	100	CLAYSTONE: varicoloured, predominantly reddish brown to brown, yellowish brown, light to medium grey, medium to dark bluish grey, dark olive grey to olive black, chocolate, soft to firm, occasionally very firm, blocky to sub-blocky, crumbly, waxy in places, occasionally sticky, moderately to very calcareous, rarely micromicaceous.
11800	100	CLAYSTONE: varicoloured, predominantly reddish brown to brown, yellowish brown to yellowish red, light to medium grey, medium to dark bluish grey, dark olive grey to olive black, chocolate, soft to firm, occasionally very firm, blocky to sub-blocky, crumbly, waxy in places, occasionally sticky, moderately to very calcareous, rarely micromicaceous.
11820	100	CLAYSTONE: varicoloured, predominantly reddish brown to brown, yellowish brown to yellowish red, light to medium grey, medium to dark bluish grey, dark olive grey to olive black, chocolate, soft to firm, occasionally very firm, blocky to sub-blocky, crumbly, waxy in places, occasionally sticky, moderately to very calcareous, rarely micromicaceous.
11840		Sample missed
11860	100	CLAYSTONE: varicoloured, medium to dark grey, occasionally brownish grey, rarely greenish grey, commonly reddish brown, occasionally chocolate, soft to firm, blocky to sub-blocky, occasionally sticky, plastic, waxy in places, slightly to moderately calcareous, micromicaceous.
11880	100	CLAYSTONE: varicoloured, medium to dark grey, occasionally brownish grey, rarely greenish grey, commonly reddish brown, occasionally chocolate, soft to firm, blocky to sub-blocky, occasionally sticky, plastic, waxy in places, slightly to moderately calcareous, micromicaceous.
11900	100	CLAYSTONE: varicoloured, medium to dark grey, occasionally brownish grey, rarely greenish grey, commonly reddish brown, occasionally chocolate, soft to firm, blocky to sub-blocky, occasionally sticky, plastic, waxy in places, slightly to moderately calcareous, micromicaceous.
11920	100	CLAYSTONE: uniform medium to dark grey, occasionally light grey, firm to occasionally very firm, sub-blocky, crumbly to brittle, waxy in places, rarely plastic, non to slightly calcareous, micromicaceous.
11940	100	CLAYSTONE: uniform medium to dark grey, occasionally light grey, firm to occasionally very firm, sub-blocky, crumbly to brittle, waxy in places, rarely plastic, non to slightly calcareous, micromicaceous.
11960	100	CLAYSTONE: uniform grey, occasionally light grey, rarely reddish brown, firm to occasionally very firm, sub-blocky, crumbly to brittle, waxy in places, rarely plastic, non to slightly calcareous, micromicaceous.
11980	100	CLAYSTONE: uniform grey, occasionally light grey, rarely reddish brown, firm to occasionally very firm, sub-blocky, crumbly to brittle, waxy in places, rarely plastic, non to slightly calcareous, micromicaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
12000	100  Trace	CLAYSTONE: uniform grey, occasionally light grey, rarely reddish brown, firm to occasionally very firm, sub-blocky, crumbly to brittle, waxy in places, rarely plastic, slightly silty, non to slightly calcareous, micromicaceous. LIMESTONE: light brown to brownish grey, dark yellowish orange, cream, very firm to moderately hard, occasionally hard to very hard, sub-angular, occasionally angular, crumbly to brittle, microcrystalline to crystalline, generally clean, rare dark argillaceous micro laminations.
12020	100	CLAYSTONE: uniform medium to dark grey, occasionally light grey, rare reddish brown, firm to occasionally very firm, sub-blocky, crumbly to brittle, waxy in places, rarely plastic, occasionally slightly silty, non to slightly calcareous, micromicaceous.
12040	100	CLAYSTONE: dark olive grey to olive black, soft to rarely firm, sub-blocky to occasionally amorphous, sticky, plastic, occasionally crumbly, waxy in places, occasionally slightly silty, non calcareous, occasionally micromicaceous, occasional agglomerated micro pyrite.
12060	100	CLAYSTONE: medium to dark grey, medium to dark olive grey, occasionally olive black to greyish black, soft to firm, sub-blocky, crumbly, plastic in places, occasionally sticky, rarely slightly silty, non to slightly calcareous, micromicaceous.
12080	100	CLAYSTONE: varicoloured, medium to dark grey, medium to dark olive grey, occasionally olive black to greyish black, moderate to dark brown, chocolate brown, soft to firm, sub-blocky, crumbly, plastic in places, occasionally sticky, rarely slightly silty, non to slightly calcareous, micromicaceous.
12100	100	CLAYSTONE: medium to dark grey, medium to dark olive grey, occasionally olive black to greyish black, soft to firm, sub-blocky, crumbly, plastic in places, occasionally sticky, rarely slightly silty, non to slightly calcareous, micromicaceous.
12120	100	CLAYSTONE: dark olive grey to olive black, soft to rarely firm, sub-blocky to occasionally amorphous, sticky, plastic, occasionally crumbly, waxy in places, occasionally slightly silty, non calcareous, occasionally micromicaceous, occasional agglomerated micro pyrite.
12140	100	CLAYSTONE: reddish brown to moderate brown, soft to firm, becoming very firm, sticky in places, sub-blocky, plastic, occasionally crumbly, non calcareous, commonly micromicaceous.
12160	100	CLAYSTONE: reddish brown to moderate brown, soft to firm, becoming very firm, sticky in places, sub-blocky, plastic, occasionally crumbly, non calcareous, commonly micromicaceous.
12180	100  Trace	CLAYSTONE: reddish brown to moderate brown, soft to firm, becoming very firm, sticky in places, sub-blocky, plastic, occasionally crumbly, non calcareous, commonly micromicaceous. SILTSTONE: reddish brown to moderate brown, soft, sub-blocky, crumbly, coarse, slightly calcareous, micromicaceous.
12200	90  10  Trace	CLAYSTONE: uniform, dark olive grey to olive black, soft to rarely firm, sub-blocky to occasionally amorphous, sticky, plastic, occasionally crumbly, waxy in places, occasionally slightly silty, non calcareous, occasionally micromicaceous, occasional agglomerated micro pyrite. LIMESTONE: light brown to brownish grey, dark yellowish orange to yellowish grey in places, firm to moderately hard, sub-angular to occasionally sub-blocky, brittle to crumbly, microcrystalline, occasionally crystalline, generally mudstone, common dark argillaceous inclusions and micro laminations. SILTSTONE: reddish brown to moderate brown, soft, sub-blocky, crumbly, coarse, slightly calcareous, micromicaceous.
12220	100  Trace  Trace	CLAYSTONE: uniform, dark olive grey to olive black, soft to rarely firm, becoming firmer, sub-blocky, sticky, plastic, occasionally crumbly, waxy in places, occasionally slightly silty, non calcareous, occasionally micromicaceous, occasional agglomerated micro pyrite. LIMESTONE: light brown to brownish grey, dark yellowish orange to yellowish grey in places, firm to moderately hard, sub-angular to occasionally sub-blocky, brittle to crumbly, microcrystalline, occasionally crystalline, generally mudstone, common dark argillaceous inclusions and micro laminations. SILTSTONE: reddish brown to moderate brown, soft, sub-blocky, crumbly, coarse, slightly calcareous, micromicaceous.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
12240	80 20	CLAYSTONE: medium dark grey, dark olive grey to olive black, uniform, firm to very firm, sub-blocky to blocky, crumbly, waxy, occasionally slightly silty, non calcareous, micromicaceous. LIMESTONE: brownish grey to orange grey pale yellowish brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous, common dark argillaceous inclusions and micro laminations.
12260	100 Trace	CLAYSTONE: medium dark grey, dark olive grey to olive black, uniform, firm to very firm, sub-blocky to blocky, crumbly, waxy, occasionally slightly silty, non calcareous, micromicaceous. LIMESTONE: brownish grey to orange grey pale yellowish brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous, common dark argillaceous inclusions and micro laminations.
12280	90 10	CLAYSTONE: medium dark grey, dark olive grey to olive black, uniform, firm to very firm, sub-blocky to blocky, crumbly, waxy, increasingly silty, non calcareous, micromicaceous. LIMESTONE: brownish grey to orange grey pale yellowish brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous, common dark argillaceous inclusions and micro laminations.
12300	80 20	CLAYSTONE: medium dark grey, dark olive grey to olive black, uniform, firm to very firm, sub-blocky to blocky, crumbly, waxy, occasionally slightly silty, non calcareous, micromicaceous. LIMESTONE: brownish grey to orange grey pale yellowish brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous, common dark argillaceous inclusions and micro laminations.
12320	60 40	CLAYSTONE: medium dark grey, dark olive grey to olive black, reddish brown or brick red, soft to firm to very firm, sub-blocky to blocky, crumbly, waxy, sticky in places, occasionally slightly silty, non calcareous, micromicaceous. LIMESTONE: brownish grey to orange grey pale yellowish brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous, common dark argillaceous inclusions and micro laminations.
12340	100	CLAYSTONE: varicoloured, predominantly reddish brown to chocolate brown, moderate brown, occasionally medium to dark grey, rarely black, soft to occasionally firm, rarely very firm, sub-blocky, sticky in places, commonly plastic to crumbly, non calcareous.
12360	100 Trace	CLAYSTONE: varicoloured, predominantly reddish brown to chocolate brown, moderate brown, occasionally medium to dark grey, rarely black, soft to occasionally firm, rarely very firm, sub-blocky, sticky in places, commonly plastic to crumbly, non calcareous. LIMESTONE: brownish grey to orange grey pale yellowish brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous, common dark argillaceous inclusions and micro laminations.
12380	100 Trace	CLAYSTONE: varicoloured, predominantly reddish brown to chocolate brown, moderate brown, occasionally medium to dark grey, rarely black, soft to occasionally firm, rarely very firm, sub-blocky, sticky in places, commonly plastic to crumbly, non calcareous. LIMESTONE: brownish grey to orange grey pale yellowish brown, firm, sub-blocky, crumbly, microcrystalline, mudstone, argillaceous, common dark argillaceous inclusions and micro laminations.
12400	100	CLAYSTONE: varicoloured, predominantly reddish brown to chocolate brown, moderate brown, occasionally medium to dark grey, rarely black, soft to occasionally firm, rarely very firm, sub-blocky, sticky in places, commonly plastic to crumbly, non calcareous, occasional nodular pyrite.
12420	90 10	LIMESTONE: very light grey to light grey, occasionally pinkish grey, firm, sub-blocky, crumble, microcrystalline, mudstone, very argillaceous, micromicaceous, commonly micro pyritic. CLAYSTONE: varicoloured, predominantly reddish brown to chocolate brown, moderate brown, occasionally medium to dark grey, rarely black, soft to occasionally firm, rarely very firm, sub-blocky, sticky in places, commonly plastic to crumbly, non calcareous, occasional nodular pyrite.
12440	50 50	LIMESTONE: very light grey to light grey, occasionally pinkish grey, firm, sub-blocky, crumble, microcrystalline, mudstone, very argillaceous, micromicaceous, commonly micro pyritic. CLAYSTONE: brownish black to olive black, soft to firm, occasionally very firm, sub-blocky to occasionally sub-fissile, crumbly, earthy, moderately silty in places, non calcareous, occasionally micromicaceous, common agglomerated micro pyrite, common disseminated micro pyrite.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
12460	100	CLAYSTONE: brownish black to olive black, soft to firm, occasionally very firm, sub-blocky to occasionally sub-fissile, crumbly, earthy, moderately silty in places, non calcareous, occasionally micromicaceous, common agglomerated micro pyrite, common disseminated micro pyrite.
12480	100	CLAYSTONE: brownish black to olive black, occasionally dusky yellowish brown, soft to firm, occasionally very firm, sub-blocky to occasionally sub-fissile, crumbly, earthy, moderately silty in places, non calcareous, occasionally micromicaceous, common agglomerated micro pyrite, common disseminated micro pyrite.
12500	100	CLAYSTONE: olive black to brownish black, rarely dark brownish grey, firm, sub-blocky crumbly, earthy, slightly silty in places, non calcareous, micromicaceous, occasional disseminated micro pyrite, occasional calcite veining
12520	100	CLAYSTONE: olive black to brownish black, rarely dark brownish grey, firm, sub-blocky crumbly, earthy, slightly silty in places, non-calcareous, micromicaceous, occasional disseminated micro pyrite.
12540	100 Tr	CLAYSTONE: olive black to brownish black, rarely dark brownish grey, firm, sub-blocky crumbly, very earthy, moderately silty, non-calcareous, micromicaceous, occasional disseminated micro pyrite. SANDSTONE: white or light grey, hard to very hard, sub-blocky, brittle, friable, quartz, transparent colourless grains, very fine to fine grained, moderate to well sorted, sub-round to round, sub-spherical to spherical, very well cemented, good strong calcareous cement, common secondary pyrite mineralization, no visible porosity, no shows
12560	100	CLAYSTONE: olive black to brownish black, rarely dark brownish grey, firm, sub-blocky crumbly, very earthy, moderately silty, non-calcareous, micromicaceous, occasional disseminated micro pyrite.
12580	100	CLAYSTONE: very uniform, olive black to brownish black, firm, sub-blocky crumbly, very earthy, moderately silty, non-calcareous, micromicaceous, occasional disseminated micro pyrite.
12600	100	CLAYSTONE: brownish black to olive black, firm, occasionally very firm, sub-blocky to occasionally sub-fissile, crumbly, earthy, increasingly silty, non calcareous, occasionally micromicaceous, occasional micro pyrite, common disseminated micro pyrite, occasional dark carbonaceous micro laminations.
12620	100	CLAYSTONE: brownish black to olive black, firm, occasionally very firm, sub-blocky to occasionally sub-fissile, crumbly, earthy, very silty, non calcareous, occasionally micromicaceous, common disseminated micro pyrite, occasional dark carbonaceous micro laminations.
12640	100	CLAYSTONE: brownish black, firm, occasionally very firm, sub-blocky to occasionally sub-fissile, crumbly, earthy, very silty, non-calcareous, occasionally micromicaceous, common disseminated micro pyrite, occasional dark carbonaceous micro laminations.
12660	100	CLAYSTONE: brownish black to olive black, firm, occasionally very firm, sub-blocky to occasionally sub-fissile, crumbly, earthy, very silty, non calcareous, occasionally micromicaceous, common disseminated micro pyrite, occasional dark carbonaceous micro laminations.
12680		Sample missed
12700	100	CLAYSTONE: brownish black to olive black, firm to very firm, occasionally hard, sub-blocky to occasionally sub-fissile, crumbly to brittle, earthy, moderately to occasionally very silty, non calcareous, rarely micromicaceous, common disseminated micro pyrite, occasional dark carbonaceous micro laminations.
12720	100	CLAYSTONE: brownish black to olive black, hard, sub-blocky to sub-fissile, brittle, splintery, earthy, occasionally very silty, non calcareous, rarely micromicaceous, rare disseminated micro pyrite.
12740	100	CLAYSTONE: brownish black to olive black, hard, sub-blocky to sub-fissile, brittle, splintery, earthy, occasionally very silty, non calcareous, rarely micromicaceous, rare disseminated micro pyrite.
12760	100	CLAYSTONE: brownish black to olive black, hard, sub-blocky to sub-fissile, brittle, splintery, earthy, non-calcareous, rarely micromicaceous, rare disseminated micro pyrite.
12780	100	CLAYSTONE: brownish black to olive black, hard, sub-blocky to sub-fissile, brittle, splintery, earthy, non calcareous, rarely micromicaceous, occasional micro pyrite, rare disseminated micro pyrite.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
12800	100	CLAYSTONE: brownish black to olive black, hard, sub-blocky to sub-fissile, brittle, splintery, earthy, non calcareous, rarely micromicaceous, common disseminated micro pyrite.
12820	100 Trace	CLAYSTONE: brownish black to olive black, hard, sub-blocky to sub-fissile, brittle, splintery, earthy, non calcareous, rarely micromicaceous, common disseminated micro pyrite. SANDSTONE: white or light grey, hard to very hard, sub-blocky, brittle, friable, quartz, transparent to occasionally translucent colourless grains, very fine to rarely fine grained, moderate to well sorted, sub-round to round, sub-spherical to spherical, very well cemented, good strong calcareous cement, common secondary pyrite mineralization, no visible porosity, no shows
12840	100 Trace	CLAYSTONE: brownish black to olive black, hard, sub-blocky to sub-fissile, brittle, splintery, earthy, non calcareous, rarely micromicaceous, common disseminated micro pyrite. SANDSTONE: white or light grey, hard to very hard, sub-blocky, brittle, friable, quartz, transparent to occasionally translucent colourless grains, very fine to rarely fine grained, moderate to well sorted, sub-round to round, sub-spherical to spherical, very well cemented, good strong calcareous cement, common secondary pyrite mineralization, no visible porosity, no shows
12860	100 Trace	CLAYSTONE: brownish black to olive black, hard, sub-blocky to sub-fissile, brittle, splintery, earthy, non calcareous, rarely micromicaceous, common disseminated micro pyrite. SANDSTONE: white or light grey, hard to very hard, sub-blocky, brittle, friable, quartz, transparent to occasionally translucent colourless grains, very fine to rarely fine grained, moderate to well sorted, sub-round to round, sub-spherical to spherical, very well cemented, good strong calcareous cement, common secondary pyrite mineralization, no visible porosity, no shows.
12880	100	CLAYSTONE: brownish black to olive black, hard, sub-blocky to sub-fissile, brittle, splintery, earthy, non calcareous, rarely micromicaceous, common disseminated micro pyrite.
12900	100 Trace	CLAYSTONE: very dark brownish grey, brownish black to increasingly olive black, firm to very firm, occasionally hard, sub-blocky to occasionally sub-fissile, crumbly to brittle, earthy, very silty and occasionally grading SILTSTONE, non calcareous, rarely micromicaceous, common disseminated micro pyrite, occasional dark carbonaceous micro laminations. SANDSTONE: white or light grey, hard to very hard, sub-blocky, brittle, friable, quartz, transparent to occasionally translucent colourless grains, very fine to rarely fine grained, moderate to well sorted, sub-round to round, sub-spherical to spherical, very well cemented, good strong calcareous cement, common secondary pyrite mineralization, no visible porosity, no shows.
12920	100 Trace	CLAYSTONE: very dark brownish grey to brownish black, occasionally olive black to black, firm to very firm, sub-blocky to sub-fissile, crumbly to brittle, earthy, moderate to very silty, non calcareous, rarely micromicaceous, common disseminated micro pyrite SANDSTONE: white or light grey, hard, occasionally very hard, sub-blocky, friable, quartz, transparent to occasionally translucent colourless grains, very fine to fine grained, moderate to well sorted, sub-round to round, sub-spherical, very well cemented, good strong calcareous cement, common secondary pyrite mineralization, no visible porosity, no shows.
12940	100 Trace	CLAYSTONE: predominantly olive black, very dark brownish grey to brownish black, firm to very firm, sub-blocky to sub-fissile, crumbly to brittle, earthy, moderate to very silty, non calcareous, rarely micromicaceous, common disseminated micro pyrite SANDSTONE: white or light grey, hard, occasionally very hard, sub-blocky, friable, quartz, transparent to occasionally translucent colourless grains, very fine to fine grained, moderate to well sorted, sub-round to round, sub-spherical, very well cemented, good strong calcareous cement, common secondary pyrite mineralization, no visible porosity, no shows.
12960	100	CLAYSTONE: predominantly olive black, very dark brownish grey to brownish black, firm to very firm, sub-blocky to sub-fissile, crumbly to brittle, earthy, very silty and grading SILTSTONE in places, non calcareous, rarely micromicaceous, common disseminated micro pyrite.
12980	100	CLAYSTONE: predominantly olive black, very dark brownish grey to brownish black, firm to very firm, sub-blocky to sub-fissile, crumbly to brittle, earthy, very silty, non calcareous, rarely micromicaceous, common disseminated micro pyrite.



DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
13000	100	CLAYSTONE: predominantly olive black, very dark brownish grey to brownish black, firm to very firm, sub-blocky to sub-fissile, crumbly to brittle, earthy, very silty, non calcareous, rarely micromicaceous, common disseminated micro pyrite.
13020	100	CLAYSTONE: predominantly olive black, very dark brownish grey to brownish black, firm to very firm, sub-blocky to sub-fissile, crumbly to brittle, earthy, very silty, non calcareous, rarely micromicaceous, common disseminated micro pyrite.
13040	100	CLAYSTONE: very dark brownish grey to brownish black, olive black to black, firm to very firm, occasionally hard, sub-blocky to sub-fissile, brittle, earthy, moderate to very silty, non calcareous, occasional disseminated micro pyrite, common dark carbonaceous micro laminations.
13060	100	CLAYSTONE: very dark brownish grey to brownish black, olive black to black, firm to very firm, occasionally hard, sub-blocky to sub-fissile, brittle, earthy, very silty, non calcareous, occasional disseminated micro pyrite, common dark carbonaceous micro laminations.
13080	100	CLAYSTONE: very dark brownish grey to brownish black, olive black to black, very firm to moderately hard, sub-fissile to fissile in places, brittle, earthy, very silty, non calcareous, occasional disseminated micro pyrite, common dark carbonaceous micro laminations.
13100	100	CLAYSTONE: very dark brownish grey to brownish black, olive black to black, very firm to moderately hard, sub-fissile to fissile in places, brittle, earthy, very silty, non calcareous, occasional disseminated micro pyrite, common dark carbonaceous micro laminations.
13120	100	CLAYSTONE: very dark brownish grey to brownish black, olive black to black, very firm to moderately hard, sub-fissile to fissile in places, brittle, earthy, very silty, non calcareous, occasional disseminated micro pyrite, common dark carbonaceous micro laminations.
13140	100	CLAYSTONE: very dark brownish grey to brownish black, olive black to black, very firm to moderately hard, sub-fissile to fissile in places, brittle, earthy, very silty, non calcareous, occasional disseminated micro pyrite, increasingly common nodular pyrite common dark carbonaceous micro laminations.
13160	100	CLAYSTONE: very dark brownish grey to brownish black, olive black to black, very firm to moderately hard, sub-fissile to fissile in places, brittle, earthy, very silty, non calcareous, occasional disseminated micro pyrite, very common nodular pyrite common dark carbonaceous micro laminations.
13180		Sample missed
13200	100	CLAYSTONE: brownish black to black, occasionally olive black, very firm to hard, sub-blocky to sub-fissile, fissile in places, crumbly, earthy, very silty, non calcareous, dark carbonaceous micro laminations.
13220	100	CLAYSTONE: brownish black to black, occasionally olive black, very firm to hard, sub-blocky to sub-fissile, fissile in places, crumbly, earthy, very silty, non calcareous, dark carbonaceous micro laminations.
13240	100	CLAYSTONE: brownish black to black, occasionally olive black, very firm to hard, sub-blocky to sub-fissile, fissile in places, crumbly, earthy, very silty, non calcareous, dark carbonaceous micro laminations.
13260	100	CLAYSTONE: brownish black to black, occasionally olive black, moderately hard to hard, sub-blocky to sub-fissile, fissile in places, crumbly, earthy, moderately silty, non calcareous, micromicaceous, dark carbonaceous micro laminations.
13280	100	CLAYSTONE: brownish black to black, hard to very hard, sub-blocky to sub-fissile, crumbly, brittle, silty in places, non calcareous, rare dark carbonaceous micro laminations.
13287	70  30	SANDSTONE: mottled brownish grey/white, occasionally dark brownish grey, firm to occasionally very hard, sub-blocky, friable, quartz, very fine to fine, moderately to well sorted, occasionally grading to SILTSTONE, sub-rounded, sub-spherical, moderately well cemented to very well cemented, strong calcareous cement, occasional argillaceous matrix, extensive secondary pyrite mineralization, very common nodular pyrite, poor visible porosity, no shows.  CLAYSTONE: brownish black to black, hard to very hard, sub-blocky to sub-fissile, crumbly, brittle, silty in places, non calcareous, rare dark carbonaceous micro laminations.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
13295	50	SANDSTONE: mottled brownish grey/white, occasionally dark brownish grey, firm to occasionally very hard, sub-blocky, friable, quartz, very fine to fine, moderately to well sorted, occasionally grading to SILTSTONE, sub-rounded, sub-spherical, moderately well cemented to very well cemented, strong calcareous cement, occasional argillaceous matrix, extensive secondary pyrite mineralization, very common nodular pyrite, poor visible porosity, no shows.
	50	CLAYSTONE: brownish black to black, hard to very hard, sub-blocky to sub-fissile, crumbly, brittle, silty in places, non calcareous, rare dark carbonaceous micro laminations.
13300	100	CLAYSTONE: dark brownish grey to brownish black, olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non calcareous, occasional disseminated micro pyrite, occasional dark carbonaceous micro laminations.
	Trace	SANDSTONE: mottled brownish grey/white, occasionally dark brownish grey, firm to occasionally very hard, sub-blocky, friable, quartz, very fine to fine, moderately to well sorted, occasionally grading to SILTSTONE, sub-rounded, sub-spherical, moderately well cemented to very well cemented, strong calcareous cement, occasional argillaceous matrix, extensive secondary pyrite mineralization, very common nodular pyrite, poor visible porosity, no shows.
13320	100	CLAYSTONE: dark olive grey to olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non calcareous, occasional disseminated micro pyrite, occasional dark carbonaceous micro laminations.
13336	100	CLAYSTONE: dark olive grey to olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non calcareous, occasional disseminated micro pyrite, occasional dark carbonaceous micro laminations.
13340	100	CLAYSTONE: olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non-calcareous, common disseminated micro pyrite, micromicaceous, occasional dark carbonaceous micro laminations.
13360	100	CLAYSTONE: olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non-calcareous, common disseminated micro pyrite, micromicaceous, occasional dark carbonaceous micro laminations.
13380	100	CLAYSTONE: olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non-calcareous, common disseminated micro pyrite, micromicaceous, occasional dark carbonaceous micro laminations.
13400	100	CLAYSTONE: dark brownish grey to brownish black, olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non calcareous, occasional disseminated micro pyrite, occasional dark carbonaceous micro laminations.
13420	100	CLAYSTONE: dark brownish grey to brownish black, olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non calcareous, occasional disseminated micro pyrite, occasional dark carbonaceous micro laminations.
13440	100	CLAYSTONE: dark brownish grey to brownish black, olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non calcareous, occasional disseminated micro pyrite, occasional dark carbonaceous micro laminations.
13460	100	CLAYSTONE: olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non-calcareous, occasional disseminated micro pyrite, occasional dark carbonaceous micro laminations.
13480	100	CLAYSTONE: olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non-calcareous, occasional disseminated micro pyrite, rarely micaceous, occasional dark carbonaceous micro laminations.
13500	100	CLAYSTONE: olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non calcareous, common disseminated micro pyrite, moderately micromicaceous, occasional dark carbonaceous micro laminations.
13520	100	CLAYSTONE: dark brownish grey to brownish black, olive black, firm to moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non calcareous, micromicaceous, common disseminated micro pyrite, occasional dark carbonaceous micro laminations.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
13540	100	CLAYSTONE: dark brownish grey to brownish black, olive black, moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non-calcareous, micromicaceous, common disseminated micro pyrite, occasional dark carbonaceous micro laminations.
13560	100	CLAYSTONE: dark brownish grey to brownish black, olive black, moderately hard, sub-blocky to sub-fissile, brittle, earthy, moderately silty, non-calcareous, micromicaceous, common disseminated micro pyrite, occasional dark carbonaceous micro laminations.
13580	100  Trace	CLAYSTONE: olive black to black, occasionally brownish black, firm to moderately hard, sub-blocky, brittle to occasionally crumbly, earthy, moderately silty, non-calcareous, rare dark carbonaceous micro laminations.  SANDSTONE: white to light grey, mottled brownish grey, rare clasts, firm, crumbly, sub-blocky, quartz, transparent to commonly translucent, colourless or dark brown stained, very fine to fine grained, moderate to well sorted, sub-round to round, sub-spherical, moderate to well cemented, strong calcareous cement, occasional micro pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, containing loose grains., poor to no visible porosity. No shows.
13600	100  Trace	CLAYSTONE: olive black to black, occasionally brownish black, firm to moderately hard, sub-blocky, brittle to occasionally crumbly, earthy, moderately silty, non-calcareous, rare dark carbonaceous micro laminations.  SANDSTONE: white to light grey, mottled brownish grey, rare clasts, firm, crumbly, sub-blocky, quartz, transparent to commonly translucent, colourless or dark brown stained, very fine to fine grained, moderate to well sorted, sub-round to round, sub-spherical, moderate to well cemented, strong calcareous cement, occasional micro pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, containing loose grains., poor to no visible porosity. No shows.
13620	70  30	CLAYSTONE: olive black to black, occasionally brownish black, firm to moderately hard, sub-blocky, brittle to occasionally crumbly, earthy, moderately silty, non-calcareous, rare dark carbonaceous micro laminations.  SANDSTONE: white to light grey, mottled brownish grey, rare clasts, firm, crumbly, sub-blocky, quartz, transparent to commonly translucent, colourless or dark brown stained, very fine to fine grained, moderate to well sorted, sub-round to round, sub-spherical, moderate to well cemented, strong calcareous cement, occasional micro pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, containing loose grains., poor to no visible porosity. Rare spotty, direct, bright pale yellow gold fluorescence over background base oil, weak streaming yellow/white cut, no ring.
13640	100  Trace	CLAYSTONE: olive black to black, occasionally brownish black, firm to moderately hard, sub-blocky, brittle to occasionally crumbly, earthy, moderately silty, non calcareous, commonly micromicaceous, rare dark carbonaceous micro laminations.  SANDSTONE: white to light grey, mottled brownish grey, rare clasts, firm, crumbly, sub-blocky, quartz, transparent to commonly translucent, colourless or dark brown stained, very fine to fine grained, moderate to well sorted, sub-round to round, sub-spherical, moderate to well cemented, strong calcareous cement, occasional micro pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, containing loose grains., poor to no visible porosity. Rare spotty, direct, bright pale yellow gold fluorescence over background base oil, weak streaming yellow/white cut, no ring.
13660	90  10	CLAYSTONE: olive black to black, occasionally brownish black to grey black, firm to moderately hard, sub-blocky, brittle to crumbly, earthy, moderately to very silty, non calcareous, commonly micromicaceous, rare disseminated micro pyrite.  SANDSTONE: white to light grey, mottled brownish grey, rare clasts, firm, crumbly, sub-blocky, quartz, transparent to commonly translucent, colourless or dark brown stained, very fine to fine grained, moderate to well sorted, sub-round to round, sub-spherical, moderate to well cemented, strong calcareous cement, occasional micro pyrite, occasional very fine mica, generally seen as rock flour, white to light grey, soft, amorphous, containing loose grains., poor to no visible porosity. Good patchy, bright pale yellow gold, direct fluorescence over background base oil, slow blooming yellow cut, occasional dark oil stain.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
13680	100	CLAYSTONE: olive black to black, occasionally brownish black to grey black, firm to moderately hard, sub-blocky, brittle to crumbly, earthy, moderately to very silty, non calcareous, commonly micromicaceous, rare disseminated micro pyrite.
13700	100	CLAYSTONE: olive black to black, occasionally brownish black to grey black, firm to moderately hard, sub-blocky, brittle to crumbly, earthy, moderately to very silty, non calcareous, commonly micromicaceous, rare disseminated micro pyrite.
13720	100	CLAYSTONE: olive black to black, firm, sub-blocky, crumbly, earthy, moderately silty, and non-calcareous, commonly micromicaceous, rare disseminated micro pyrite.
13740	100	CLAYSTONE: olive black to black, firm, sub-blocky, crumbly, earthy, moderately silty, and non-calcareous, commonly micromicaceous, rare disseminated micro pyrite.
13760	100	CLAYSTONE: olive black to brownish black, firm, sub-blocky, crumbly, earthy, moderately silty, and non-calcareous, commonly micromicaceous, rare disseminated micro pyrite.
13780	100	CLAYSTONE: olive black to brownish black, firm, sub-blocky, crumbly, earthy, moderately silty, and non-calcareous, commonly micromicaceous, rare disseminated micro pyrite.
13800	90 10	CLAYSTONE: olive black to brownish black, firm, sub-blocky, crumbly, earthy, very commonly silty, non-calcareous, very micromicaceous, rare disseminated micro pyrite, occasional dark carbonaceous material. SANDSTONE: white to light grey, mottled brownish grey in places, rare clasts, firm, friable, sub-blocky, quartz, transparent to translucent, colourless or dark brown stained, very fine to occasionally fine grained, moderate to well sorted, sub-round to round, sub-elongate to sub-spherical, moderate to well cemented, strong calcareous cement, common dark argillaceous matrix, occasional micro pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, containing loose grains., poor to no visible porosity. Moderate to good patchy, bright, pale yellow gold direct fluorescence over background base oil, slow blooming yellow cut, no ring, occasional dark intergranular oil staining.
13820	90 10	CLAYSTONE: olive black to brownish black, firm, sub-blocky, crumbly, earthy, very commonly silty, non-calcareous, very micromicaceous, rare disseminated micro pyrite, occasional dark carbonaceous material. SANDSTONE: white to light grey, mottled brownish grey in places, rare clasts, firm, friable, sub-blocky, quartz, transparent to translucent, colourless or dark brown stained, very fine to occasionally fine grained, moderate to well sorted, sub-round to round, sub-elongate to sub-spherical, moderate to well cemented, strong calcareous cement, common dark argillaceous matrix, occasional micro pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, containing loose grains, poor to no visible porosity. Moderate to good patchy, bright, pale yellow gold direct fluorescence over background base oil, slow blooming yellow cut, no ring, occasional dark intergranular oil staining.
13840	100	CLAYSTONE: olive black to brownish black, firm to moderately hard, sub-blocky, crumbly, earthy, very commonly silty, non calcareous, very micromicaceous, rare disseminated micro pyrite, occasional dark carbonaceous material.
13860	100	CLAYSTONE: brownish black, firm to moderately hard, sub-blocky, crumbly, earthy, very commonly silty, non-calcareous, very micromicaceous, rare disseminated micro pyrite, occasional dark carbonaceous material.
13880	100 Trace	CLAYSTONE: olive black to brownish black, firm, sub-blocky, crumbly, earthy, very commonly silty, non-calcareous, very micromicaceous, rare disseminated micro pyrite, occasional dark carbonaceous material. SANDSTONE: white to light grey, mottled brownish grey in places, rare clasts, firm, friable, sub-blocky, quartz, transparent to translucent, colourless or dark brown stained, very fine to occasionally fine grained, moderate to well sorted, sub-round to round, sub-spherical, moderate to well cemented, strong calcareous cement, common dark argillaceous matrix, occasional micro pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, containing loose grains, poor to no visible porosity. Moderate to good patchy, bright, pale yellow gold direct fluorescence, slow blooming yellow cut, no ring, occasional dark intergranular oil staining.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
13900	100	CLAYSTONE: brownish black to olive black, firm, sub-blocky, crumbly, earthy, very silty, non-calcareous, very common micromicaceous, occasional disseminated micro pyrite, very carbonaceous.
13920	100 Trace	CLAYSTONE: brownish black to olive black, firm, sub-blocky, crumbly, earthy, very silty, non-calcareous, very common micromicaceous, very common fine disseminated micro pyrite, very carbonaceous. SANDSTONE: white to light grey, mottled brownish grey in places, rare clasts, firm, friable, sub-blocky, quartz, transparent to translucent, colourless or dark brown stained, very fine to occasionally fine grained, moderate to well sorted, sub-round to round, sub-spherical, moderate to well cemented, strong calcareous cement, common dark argillaceous matrix, occasional micro pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, containing loose grains, poor to no visible porosity. No shows.
13940	100 Trace	CLAYSTONE: brownish black to olive black, firm, sub-blocky, crumbly, earthy, very silty, non-calcareous, very common micromicaceous, very common fine disseminated micro pyrite, very carbonaceous. SANDSTONE: white to light grey, mottled brownish grey in places, rare clasts, firm, friable, sub-blocky, quartz, transparent to translucent, colourless or dark brown stained, very fine to occasionally fine grained, moderate to well sorted, sub-round to round, sub-spherical, moderate to well cemented, strong calcareous cement, common dark argillaceous matrix, occasional micro pyrite, occasional very fine mica, commonly seen as rock flour, white to light grey, soft, amorphous, containing loose grains, poor to no visible porosity. No shows.
13960	100	CLAYSTONE: brownish black to olive black, firm to moderately hard, sub-blocky, crumbly, earthy, very silty, non-calcareous, very common micromicaceous, very common fine disseminated micro pyrite, very carbonaceous.
13980	100	CLAYSTONE: brownish black to olive black, firm to moderately hard, sub-blocky, crumbly, earthy, very silty, non-calcareous, micromicaceous, very common fine disseminated micro pyrite, very carbonaceous.
14000	100	CLAYSTONE: brownish black to olive black, firm to moderately hard, sub-blocky to sub-fissile, crumbly, earthy, very silty, non calcareous, micromicaceous in places, very common fine disseminated micro pyrite, very carbonaceous.
14020	90 10	CLAYSTONE: brownish black, firm, sub-blocky, crumbly, earthy, very silty, non-calcareous, very common micromicaceous, very common fine disseminated micro pyrite, very carbonaceous. SANDSTONE: white to light grey, mottled brownish grey in places, rare clasts, firm to moderately hard, friable, sub-blocky, quartz, transparent to translucent, colourless, very fine to occasionally fine grained, well sorted, sub-round to round, sub-spherical, moderate to well cemented, strong calcareous cement, common dark argillaceous matrix, occasional micro pyrite, occasional very fine mica, usually seen as rock flour, white to light grey, soft, amorphous, containing loose grains, poor to no visible porosity. No shows.
14040	100	CLAYSTONE: olive black, firm to moderately hard, sub-blocky, crumbly, earthy, very silty, non calcareous, very common micromicaceous, very common fine disseminated micro pyrite, very carbonaceous.
14060	100	CLAYSTONE: brownish black to olive black, firm to moderately hard, sub-blocky, crumbly, earthy, very silty, non-calcareous, very common micromicaceous, very common fine disseminated micro pyrite, very carbonaceous.
14080	80 20	CLAYSTONE: brownish black to olive black, firm, sub-blocky, crumbly, earthy, moderate to very silty, non-calcareous, very common micromicaceous, occasional disseminated micro pyrite, very common agglomerated micro-pyrite, very carbonaceous. SANDSTONE: predominantly as rock flour with occasional loose quartz grains, white to grey, mottled brownish grey, firm, amorphous, calcareous, quartz, transparent to occasionally translucent, colourless, occasionally brown stained, very fine, well sorted, sub-round, sub-spherical, well cemented, very argillaceous matrix, common very fine mica, very common micro pyrite, occasional pyrite nodules, poor to no inferred porosity, no shows.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
14100	100	CLAYSTONE: brownish black to olive black, firm to moderately hard, sub-fissile to sub-blocky, brittle to crumbly, earthy, moderate to very silty, non calcareous, very common micromicaceous, occasional disseminated micro pyrite, common nodular micro pyrite, very carbonaceous with dark laminations and inclusions.
14120	90  10	CLAYSTONE: brownish black to olive black, firm to moderately hard, sub-fissile to sub-blocky, brittle to crumbly, earthy, moderate to very silty, non calcareous, very common micromicaceous, occasional disseminated micro pyrite, common nodular micro pyrite, very carbonaceous with dark laminations and inclusions.  SANDSTONE: predominantly as rock flour with occasional loose quartz grains, white to grey, mottled brownish grey, firm, amorphous, calcareous, quartz, transparent to occasionally translucent, colourless, occasionally brown stained, very fine, well sorted, sub-round, sub-spherical, well cemented, common very fine mica, occasional pyrite nodules, poor to no inferred porosity, no shows.
14140	100  Trace	CLAYSTONE: brownish black to olive black, firm to moderately hard, sub-fissile to sub-blocky, brittle to crumbly, earthy, very silty, non calcareous, very common micromicaceous, occasional disseminated micro pyrite, common nodular micro-pyrite, very carbonaceous with dark laminations and inclusions.  SANDSTONE: predominantly as rock flour with occasional loose quartz grains, white to grey, mottled brownish grey, firm, amorphous, calcareous, quartz, transparent to occasionally translucent, colourless, occasionally brown stained, very fine, well sorted, sub-round, sub-spherical, well cemented, common very fine mica, very common micro pyrite, occasional pyrite nodules, poor to no inferred porosity, no shows.
14160	50  50	CLAYSTONE: olive black, firm to moderately hard, sub-fissile to sub-blocky, brittle to crumbly, earthy, very silty, non calcareous, very common micromicaceous, occasional disseminated micro pyrite, common nodular micro-pyrite, very carbonaceous with dark laminations and inclusions.  SANDSTONE: predominantly as rock flour with occasional loose quartz grains, white to grey, mottled brownish grey, firm, amorphous, calcareous, quartz, transparent to occasionally translucent, colourless, occasionally brown stained, very fine, well sorted, sub-round, sub-spherical, well cemented, common very fine mica, very common micro pyrite, occasional pyrite nodules, poor to no inferred porosity, patchy strong golden yellow direct fluorescence, slow streaming blue white cut, no ring.
14180	100	CLAYSTONE: olive black, firm to moderately hard, sub-fissile to sub-blocky, brittle to crumbly, earthy, very silty, non calcareous, very common micromicaceous, occasional disseminated micro pyrite, common nodular micro-pyrite, very carbonaceous with dark laminations and inclusions.
14200	100	CLAYSTONE: brownish black, firm to moderately hard, sub-fissile to sub-blocky, brittle to occasionally crumbly, earthy, moderate to very silty, non calcareous, occasionally micromicaceous, occasional disseminated micro pyrite, scattered nodular micro pyrite, very carbonaceous with dark laminations and inclusions.
14220	100  Trace	CLAYSTONE: brownish black, firm to moderately hard, sub-fissile to sub-blocky, brittle to occasionally crumbly, earthy, moderate to very silty, non calcareous, occasionally micromicaceous, occasional disseminated micro pyrite, scattered nodular micro pyrite, very carbonaceous with dark laminations and inclusions.  SANDSTONE: predominantly as rock flour with occasional loose quartz grains, white to grey, mottled brownish grey, firm, amorphous, calcareous, quartz, transparent to occasionally translucent, colourless, occasionally brown stained, very fine, well sorted, sub-round, sub-spherical, well cemented, common very fine mica, very common micro pyrite, occasional pyrite nodules, poor to no inferred porosity. No shows
14240	100	CLAYSTONE: brownish black, firm to moderately hard, sub-fissile to sub-blocky, brittle to occasionally crumbly, earthy, moderate to very silty, non calcareous, occasionally micromicaceous, occasional disseminated micro pyrite, scattered nodular micro pyrite, very carbonaceous with dark laminations and inclusions.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
14260	70	CLAYSTONE: brownish black, firm to moderately hard, sub-fissile to sub-blocky, brittle to occasionally crumbly, earthy, moderate to very silty, non calcareous, occasionally micromicaceous, occasional disseminated micro pyrite, scattered nodular micro pyrite, very carbonaceous with dark laminations and inclusions.
	30	SANDSTONE: predominantly as rock flour with occasional loose quartz grains, white to grey, mottled brownish grey, firm, amorphous, calcareous, quartz, transparent to occasionally translucent, colourless, occasionally brown stained, very fine, well sorted, sub-round, sub-spherical, well cemented, common very fine mica, very common micro pyrite, occasional pyrite nodules, poor to no inferred porosity, moderate patchy yellow gold direct fluorescence, slow streaming blue white cut, no ring.
14280	90	CLAYSTONE: brownish black, firm to moderately hard, sub-fissile to sub-blocky, brittle to occasionally crumbly, earthy, moderate to very silty, non calcareous, occasionally micromicaceous, occasional disseminated micro pyrite, scattered nodular micro pyrite, very carbonaceous with dark laminations and inclusions.
	10	SANDSTONE: predominantly as rock flour with occasional loose quartz grains, white to grey, mottled brownish grey, firm, amorphous, calcareous, quartz, transparent to occasionally translucent, colourless, occasionally brown stained, very fine, well sorted, sub-round, sub-spherical, well cemented, common very fine mica, very common micro pyrite, occasional pyrite nodules, poor to no inferred porosity, no shows.
14300	90	CLAYSTONE: brownish black, firm to moderately hard, sub-fissile to sub-blocky, brittle to occasionally crumbly, earthy, moderate to very silty, non calcareous, occasionally micromicaceous, occasional disseminated micro pyrite, scattered nodular micro pyrite, very carbonaceous with dark laminations and inclusions.
	10	SANDSTONE: predominantly as rock flour with occasional loose quartz grains, white to grey, mottled brownish grey, firm, amorphous, calcareous, quartz, transparent to occasionally translucent, colourless, occasionally brown stained, very fine, well sorted, sub-round, sub-spherical, well cemented, common very fine mica, very common micro pyrite, occasional pyrite nodules, poor to no inferred porosity, no shows
14320	100	CLAYSTONE: brownish black to olive black, firm to very firm, sub-fissile to sub-blocky, crumbly, earthy, very silty and grading to SILTSTONE, non calcareous, very micromicaceous.
14340	100	CLAYSTONE: brownish black to olive black, firm to very firm, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, very micromicaceous, occasional disseminated micro pyrite
14360	100	CLAYSTONE: olive black to greyish black, occasionally brownish black, firm to very firm, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, very micromicaceous, occasional disseminated micro pyrite
	Trace	SANDSTONE: brownish grey to brown, mottled white or light grey, occasionally as fragments; very firm to moderately hard, sub-blocky, friable, otherwise as rock flour and loose grains; off white to light grey, soft to firm, amorphous, calcareous, quartz, transparent to translucent, colourless or occasionally white grains, occasional brown staining, very fine to fine, occasionally medium, moderate sorting, sub-angular to occasionally angular, sub-spherical, occasional good calcite cementation, common brownish grey argillaceous matrix, abundant fine mica flakes, very common micro pyrite veining, poor inferred porosity, spotty fair orange yellow direct fluorescence, slow fair streaming blue white cut, no ring.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
14370	30	CLAYSTONE: olive black to greyish black, occasionally brownish black, firm to very firm, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, very micromicaceous, occasional disseminated micro-pyrite
	70	SANDSTONE: white to pale brown, brownish grey to brown, mottled white or light grey, occasionally as fragments, very firm to hard, occasionally very hard, sub-blocky, friable, otherwise as rock flour and loose grains; off white to light grey, soft to firm, amorphous, calcareous, quartz, transparent to translucent, colourless or occasionally white grains, occasional brown staining, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, well cemented with calcite cement, light brown argillaceous matrix, common pyrite secondary mineralisation, common fine nodular pyrite, abundant fine mica flakes, occasional dark argillaceous laminations, poor visible porosity, common spotty fair orange yellow/gold direct fluorescence, slow fair blooming pale yellow cut, no ring.
14372	70	CLAYSTONE: olive black to greyish black, occasionally brownish black, firm to very firm, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, very micromicaceous, occasional disseminated micro-pyrite
	30	SANDSTONE: white to pale brown, brownish grey to brown, mottled white or light grey, occasionally as fragments, very firm to hard, occasionally very hard, sub-blocky, friable, otherwise as rock flour and loose grains; off white to light grey, soft to firm, amorphous, calcareous, quartz, transparent to translucent, colourless or occasionally white grains, occasional brown staining, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, well cemented with calcite cement, light brown argillaceous matrix, common pyrite secondary mineralisation, common fine nodular pyrite, abundant fine mica flakes, occasional dark argillaceous laminations, poor visible porosity, common spotty fair orange yellow/gold direct fluorescence, slow fair blooming pale yellow cut, no ring.
14380	60	CLAYSTONE: brownish black to olive black, firm to very firm, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, very micromicaceous, occasional disseminated micro-pyrite
	40	SANDSTONE: primarily as rock flour and loose grains; off white to light grey, soft to firm, amorphous, calcareous. Rarely as fragments; white to pale brown, brownish grey to brown, mottled white or light grey, very firm to hard, occasionally very hard, sub-blocky, friable, quartz, transparent to translucent, colourless or occasionally white grains, occasional brown staining, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, well cemented with calcite cement, light brown argillaceous matrix, common pyrite secondary mineralisation, common fine nodular pyrite, abundant fine mica flakes, occasional dark argillaceous laminations, poor visible porosity, common spotty fair orange yellow/gold direct fluorescence, slow fair blooming pale yellow cut, no ring.
14400	100	CLAYSTONE: greyish black to olive black, firm to very firm, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, very micromicaceous, occasional disseminated micro-pyrite
14420	100	CLAYSTONE: greyish black to olive black, commonly brownish black, moderately hard, sub-fissile to sub-blocky, brittle to crumbly, earthy, very silty, non calcareous, very micromicaceous, occasional disseminated micro-pyrite, common white calcite filled veins and fractures.
	Trace	SANDSTONE: primarily as rock flour and loose grains; off white to light grey, soft to firm, amorphous, calcareous. Rarely as fragments; white to pale brown, brownish grey to brown, mottled white or light grey, very firm to hard, occasionally very hard, sub-blocky, friable, quartz, transparent to translucent, colourless or occasionally white grains, occasional brown staining, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, well cemented with calcite cement, light brown argillaceous matrix, common pyrite secondary mineralisation, common fine nodular pyrite, abundant fine mica flakes, occasional dark argillaceous laminations, poor visible porosity, common spotty fair orange yellow/gold direct fluorescence, slow fair blooming pale yellow cut, no ring.



DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
14440	90	CLAYSTONE: greyish black to olive black, commonly brownish black, moderately hard, sub-fissile to sub-blocky, brittle to crumbly, earthy, very silty, non-calcareous, very micromicaceous, occasional disseminated micro-pyrite.
	10	SANDSTONE: primarily as rock flour and loose grains; off white to light grey, soft to firm, amorphous, calcareous. Rarely as fragments; white to pale brown, brownish grey to brown, mottled white or light grey, very firm to hard, occasionally very hard, sub-blocky, friable, quartz, transparent to translucent, colourless or occasionally white grains, occasional brown staining, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, well cemented with calcite cement, light brown argillaceous matrix, common pyrite secondary mineralisation, common fine nodular pyrite, abundant fine mica flakes, occasional dark argillaceous laminations, poor visible porosity, poor spotty fair orange yellow/gold direct fluorescence, slow fair blooming pale yellow cut, no ring.
14455	90	CLAYSTONE: greyish black to olive black, commonly brownish black, moderately hard, sub-fissile to sub-blocky, brittle to crumbly, earthy, very silty, non-calcareous, very micromicaceous, occasional disseminated micro-pyrite.
	10	SANDSTONE: primarily as rock flour and loose grains; off white to light grey, soft to firm, amorphous, calcareous. Rarely as fragments; white to pale brown, brownish grey to brown, mottled white or light grey, very firm to hard, occasionally very hard, sub-blocky, friable, quartz, transparent to translucent, colourless or occasionally white grains, occasional brown staining, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, well cemented with calcite cement, light brown argillaceous matrix, common pyrite secondary mineralisation, common fine nodular pyrite, abundant fine mica flakes, occasional dark argillaceous laminations, poor visible porosity, very poor spotty fair orange yellow/gold direct fluorescence, slow fair blooming pale yellow cut, no ring.
14480	100	CLAYSTONE: olive black to greyish black, occasionally brownish black, medium to dark brown, occasional medium grey, firm to moderately hard, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, micromicaceous, carbonaceous, occasional disseminated micro-pyrite, occasional sandstone laminations
	Trace	SANDSTONE: white or light grey, firm, sub-blocky, friable, in part as rock flour - off white to light grey, soft to firm, amorphous, slightly calcareous, transparent to translucent to colourless grains, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, abundant argillaceous matrix, disseminated pyrite, occasional mica flakes, poor visible porosity, yellow/gold fluorescence, slow fair blooming pale yellow cut, no residue ring stain.
14500	100	CLAYSTONE: A/A
14520	100	CLAYSTONE: olive black to greyish black, occasionally brownish black, medium to dark brown, occasional medium grey, firm to moderately hard, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, micromicaceous, carbonaceous, occasional disseminated micro-pyrite, occasional sandstone laminations.
14540	100	CLAYSTONE: A/A
	Trace	SANDSTONE: white or light grey, firm, sub-blocky, friable, in part as rock flour - off white to light grey, soft to firm, amorphous, slightly calcareous, transparent to translucent to colourless grains, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, abundant argillaceous matrix, disseminated pyrite, occasional mica flakes, poor visible porosity, yellow/gold fluorescence, slow fair blooming pale yellow cut, no residue ring stain
14560	100	CLAYSTONE: olive black to greyish black, occasionally brownish black, medium to dark brown, occasional medium grey, firm to moderately hard, sub-fissile to sub-blocky, crumbly, earthy, very silty, non calcareous, micromicaceous, carbonaceous, occasional disseminated micro-pyrite, occasional sandstone laminations
14580	100	CLAYSTONE: dark grey, black grey, very dark brown grey, occasional medium grey, firm to hard, sub blocky to blocky, sub-fissile, non calcareous, carbonaceous, micromicaceous, disseminated pyrite, finely laminated, with sandy lamina in parts
	Trace	SANDSTONE: A/A.
14600	90	CLAYSTONE: A/A
	10	SANDSTONE: (mainly as laminations in the claystone) white or light grey, firm, sub-blocky,

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
		friable, in part as rock flour - off white to light grey, soft to firm, amorphous, slightly calcareous, transparent to translucent to colourless grains, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, abundant argillaceous matrix, disseminated pyrite, occasional mica flakes, poor visible porosity, yellow/gold fluorescence, slow fair blooming pale yellow cut, no residue ring stain.
14620	90 10	CLAYSTONE: A/A SANDSTONE: (mainly as laminations in the claystone) white or light grey, firm, sub-blocky, friable, in part as rock flour - off white to light grey, soft to firm, amorphous, slightly calcareous, transparent to translucent to colourless grains, very fine to fine, occasionally medium, moderate sorting, sub-angular, sub-spherical, abundant argillaceous matrix, disseminated pyrite, occasional mica flakes, poor visible porosity, yellow/gold fluorescence, slow fair blooming pale yellow cut, no residue ring stain.
14640	95 5	CLAYSTONE: dark grey, black grey, very dark brown grey, occasional medium grey, firm to hard, sub-blocky to blocky, sub-fissile, non calcareous, carbonaceous, micromicaceous, disseminated pyrite, finely laminated, with sandy lamina in parts. SANDSTONE: A/A
14660	100 Trace	CLAYSTONE: A/A SANDSTONE: A/A
14680	95 5	CLAYSTONE: dark grey, black grey, very dark brown grey, occasional medium grey, firm to hard, sub-blocky to blocky, sub-fissile, non calcareous, carbonaceous, micromicaceous, disseminated pyrite, finely laminated, with sandy lamina in parts. SANDSTONE: occasionally as "rock flour, off white to very light brown, firm, crumbly, as sandstone aggregates; white to light grey, light brown stain, very fine, occasional fine, angular to sub angular, fair sorting, poor visible porosity, trace calcite, slight calcareous cement, very argillaceous matrix, disseminated pyrite, moderate yellow fluorescence, very slow developing white cut, no residue stain.
14700	95 5	CLAYSTONE: brownish grey, olive brownish grey, black grey, occasional medium grey, firm to hard, sub-blocky to blocky, non calcareous, silty in part, slightly micromicaceous pyritic.
14720	90 10	
14740	40 60	CLAYSTONE: very dark brown, dark grey brown, brown black, firm to hard, blocky to sub-blocky, non to slightly calcareous, micro-pyritic, silty, occasional sandstone laminations. SANDSTONE: off white, grey, friable, amorphous, sub-blocky, slightly calcareous, sub-spherical, sub-rounded grains, moderate sorting, translucent to colourless grains, occasional white grains, pyrite, moderate yellow fluorescence, very slow developing white cut, no residue stain.
14760	40 60	CLAYSTONE: very dark brown, dark grey brown, brown black, firm to hard, blocky to sub-blocky, non to slightly calcareous, micro-pyritic, silty, occasional sandstone laminations. SANDSTONE: abundant "rock flour", off white, very light brown, light grey, light green, soft, sub-blocky, crumbly, locally hard, very calcareous- floating quartz grains in calcareous matrix – calcarenite, aggregates, colourless- translucent grains, very fine to fine, occasional medium, sub-angular to sub-rounded, sub spherical, moderately sorted, firm to friable, calcite cement, white matrix, trace pyrite, occasional brown stain (OBM?), moderately bright golden yellow fluorescence, slow streaming blue white cut, no residual, stain.
14780		missed
14800	80 10 10	SANDSTONE: A/A in part light to medium grey, increase in loose quartz, fine to medium, sub-angular, cloudy white to translucent CLAYSTONE: A/A dark brown, silty grading to Siltstone SILTSTONE: medium grey, firm, crumbly, sandy.
14820	50 40 10	SANDSTONE: A/A still moderately to slightly calcareous, some very clear angular grains. CLAYSTONE: grades to siltstone. SILTSTONE: A/A
14840	80 10	SANDSTONE: A/A SILTSTONE: medium grey, sandy A/A

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
	10	CLAYSTONE A/A
14860	100	SANDSTONE: in part "rock flour" very light grey, very pale brown, off white, medium to dark grey streaks, very fine, occasionally fine, sub blocky, in part very argillaceous, sub-spherical to sub-rounded, poor sorted, slightly to moderately calcareous, white matrix fill, occasional loose quartz grains, translucent to transparent, glauconitic.
	Trace	CLAYSTONE: A/A.
14880	60	SANDSTONE: A/A
	20	CLAYSTONE: light grey to medium brown, medium grey to very dark brown, firm to hard, blocky to sub-blocky, silty, non to slightly calcareous,
	20	SILTSTONE: A/A
14900	90	SANDSTONE: abundant "rock flour", white to off white, very light grey, light green grey, very light brown, soft, amorphous, with aggregates of sandstone: white to light grey, colourless to translucent grains, very fine to fine, sub-rounded to sub-angular, fair sorting, calcareous cemented, argillaceous matrix, in part silty laminations, poor visible porosity, moderately bright golden yellow fluorescence, slow streaming blue, white cut, no residual, stain.
	10	CLAYSTONE: A/A
14920	80	CLAYSTONE: medium dark grey, dark brown grey, mottled with medium green, firm to moderately hard, earthy, blocky to sub-blocky, non calcareous, slightly micromicaceous, slightly silty.
	20	SANDSTONE: A/A
14940	60	CLAYSTONE: A/A
	20	SILTSTONE: medium grey, grey brown, dark grey black, occasional medium brown, blocky, crumbly, non- to slightly calcareous, sandy inclusions, slightly micromicaceous.
	20	SANDSTONE: A/A
14960	80	SANDSTONE: predominantly as "rock flour", various colour, off white, very light grey, very pale green, medium grey, pale to medium brown, grey brown, soft to firm, crumbly, sub blocky, occasional sandstone; light grey to white, occasional very dark grey black, generally friable but dark grey very hard, very fine to fine, rare medium, sub-angular, sub-spherical, fair to poor sorting, generally poor visible porosity, calcareous, argillaceous matrix, abundant silt/clay laminations. General even dull white to moderate yellow fluorescence, weak slow developing white cut. (Masked by OBM), some very banded cuttings? Lithic?
	10	SILTSTONE: medium grey, grey brown, dark grey black, occasional medium brown, blocky, crumbly, non-to slightly calcareous, sandy inclusions, slightly micromicaceous.
	10	CLAYSTONE: medium dark grey, dark brown, brown black, occasionally mottled medium green, firm to moderately hard, earthy, blocky to sub blocky, non calcareous, silty in part,
14980	90	SANDSTONE: rock flour A/A, slight increase in loose quartz grains, up to medium, very rare broken very coarse. Shows a/a, very slow cloudy white cut.
	10	
15000	100	CLAYSTONE: dark grey, black grey, very dark brown grey, occasional medium grey, firm to moderately hard, sub-blocky to blocky, silty, pyritic, non-calcareous, earthy, slightly carbonaceous.
15020	100	CLAYSTONE: dark grey, black grey, very dark brown grey, occasional medium grey, firm to moderately hard, sub-blocky to blocky, silty, pyritic, non-calcareous, earthy, slightly carbonaceous.
15040	100	CLAYSTONE: A/A
15060	100	CLAYSTONE: dark brownish grey, occasional medium grey, trace green grey, soft to moderately hard, sub-blocky to platy, earthy, in part silty, disseminated pyrite, carbonaceous.
15070	90	CLAYSTONE: dark brownish grey, occasional medium grey, trace green grey, soft to moderately hard, sub-blocky to platy, earthy, in part silty, disseminated pyrite, carbonaceous.
	10	SANDSTONE: off white to light grey, rare light green, partly "rock flour", white to translucent grains, very fine, sub-angular, sub-spherical, fair sorting, friable, weak calcareous cement, pyrite, and carbonaceous flakes, often as laminations in the Claystone. Shows masked by OBM.
15080	100	CLAYSTONE: A/A
15090	100	CLAYSTONE: A/A

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
15100	100	CLAYSTONE: olive black, grey black, dark brown grey, firm to moderately hard, blocky, tabular, non-calcareous, earthy texture, slightly carbonaceous.
15110	100	CLAYSTONE: A/A
15120	100	CLAYSTONE: olive black, grey black, dark brown grey, firm to moderately hard, blocky, tabular, non-calcareous, earthy texture, slightly carbonaceous.
15130	100	CLAYSTONE: A/A
15140	100	CLAYSTONE: A/A
15150/1	100	CLAYSTONE: A/A
15160	95 5	CLAYSTONE: dark grey, grey black, medium grey, moderately firm – moderately hard, sub-blocky to blocky, silty, non-calcareous, SANDSTONE: off white to very pale green, very hard, glassy, angular, silica cemented, very fine grained, sub-angular, occasionally light to medium grey, firm, sub-blocky, abundant pyrite.
15180	95 5 Trace	CLAYSTONE: A/A SANDSTONE: A/A LIMESTONE: white, off white, firm, brittle, blocky, microcrystalline.
15200	100	CLAYSTONE: A/A
15220	100 Trace	CLAYSTONE: A/A SANDSTONE: A/A
15240		missed
15260	100 Trace Trace	CLAYSTONE: dark grey, grey black, medium grey, firm – moderately hard, sub-blocky to blocky, silty to very silty, non-calcareous, pyrite. LIMESTONE: off white, white, soft, sub-blocky, argillaceous laminations. SANDSTONE: white to off white, light grey, soft to firm, colourless to translucent grains, very fine to fine, sub-spherical, sub-rounded, moderately sorted, calcite cement, argillaceous matrix, poor visible porosity, no shows.
15280	100 Trace Trace	CLAYSTONE: A/A LIMESTONE: off white, white, soft, sub blocky, argillaceous laminations. SANDSTONE: white to off white, light grey, soft to firm, colourless to translucent grains, very fine to fine, sub-spherical, sub-rounded, moderately sorted, calcite cement, argillaceous matrix, poor visible porosity, no shows.
15300	100	CLAYSTONE: A/A
15320	100	CLAYSTONE: A/A
15340	100 Trace	CLAYSTONE: A/A SANDSTONE: A/A
15360	100	CLAYSTONE: dark grey, grey black, medium grey, firm – moderately hard, sub-blocky to blocky, silty to very silty, non calcareous, pyrite.
15380	100	CLAYSTONE: A/A
15400	100 Trace	CLAYSTONE: A/A LIMESTONE: off white, white, soft, sub-blocky, argillaceous laminations.
15420	100 Trace	CLAYSTONE: dark grey, brown grey, brown black, in part medium grey, firm to moderately hard, sub-blocky to blocky, earthy, and silty in parts, laminated, non- to slightly calcareous, carbonaceous, and pyritic. LIMESTONE A/A
15440	100	CLAYSTONE: A/A
15460	100 Trace	CLAYSTONE: A/A SANDSTONE: A/A
15480	100	CLAYSTONE: A/A
15500	100	CLAYSTONE: dark grey, brown grey, brown black, in part medium grey, firm to moderately hard, sub-blocky to blocky, earthy, and silty in parts, laminated, non- to slightly calcareous, carbonaceous, and pyritic.
15520	100	CLAYSTONE: A/A
15540	100	CLAYSTONE: A/A
15560	100	CLAYSTONE: A/A occasional medium grey, very silty, very pyritic, carbonaceous, grades to Siltstone.

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
	Trace	SANDSTONE: very light brown to brown grey very fine, soft, friable to moderately hard, blocky, crumbly, pyritic, poor visible porosity, clay matrix, rare dull yellow fluorescence, no cut.
15580	80 10 20	CLAYSTONE: A/A very pyritic, slightly greyer, becoming Siltstone, calcareous. Dolomitic SANDSTONE: pale brown, off white, light grey A/A SILTSTONE: medium grey, very silty, very pyritic, carbonaceous.
15600	70 20 10	CLAYSTONE: A/A SILTSTONE: A/A SANDSTONE: A/A
15620	80  20	CLAYSTONE: dark grey, brown grey, brown black, occasionally medium grey, firm to moderately hard, sub-blocky - blocky, earthy, silty to occasionally very silty, laminated, non to locally slightly calcareous, disseminated pyrite, carbonaceous. SILTSTONE: light to medium grey brown, firm to hard, blocky, angular, brittle, sandy texture in part, carbonaceous, micromicaceous.
15640	80 20 Trace	CLAYSTONE: A/A SILTSTONE: A/A LIMESTONE/DOLOMITE; white to off white, very light brown, blocky, moderately hard, with light grey brown, light brown, dolomitic, argillaceous, no visible porosity.
15660	75 25 trace	CLAYSTONE: A/A SILTSTONE: A/A LIMESTONE/DOLOMITE; A/A
15680	65 25 10	CLAYSTONE: A/A SILTSTONE: A/A LIMESTONE: A/A
15700	65  25  10	CLAYSTONE: dark grey, brown grey, grey black, brown black, occasionally medium grey, firm to moderately hard, occasionally crumbly, sub-blocky to blocky, earthy, silty to occasionally very silty, laminated, non- to locally slightly calcareous, disseminated pyrite, carbonaceous. SILTSTONE: light to medium grey brown, firm to hard, blocky, angular, brittle, sandy texture in part, carbonaceous, micromicaceous. LIMESTONE/DOLOMITE; white to off white, very light brown, blocky, moderately hard, with light grey brown, light brown, dolomitic, argillaceous, no visible porosity.
15720	80 20 Trace	CLAYSTONE: A/A SILTSTONE: A/A LIMESTONE: A/A
15740	90 10 Trace	CLAYSTONE: A/A SILTSTONE: A/A LIMESTONE: A/A
15760	90  10	CLAYSTONE: dark grey, brown grey, grey black, brown black, occasionally medium grey, firm to moderately hard, occasionally crumbly, sub-blocky - blocky, earthy, silty to occasionally very silty, laminated, non- to locally slightly calcareous, disseminated pyrite, carbonaceous. SILTSTONE: light to medium grey brown, firm to hard, blocky, angular, brittle, sandy texture in part, carbonaceous, micromicaceous, slightly calcareous.
15780	80  20	CLAYSTONE: dark grey, brown grey, grey black, brown black, occasionally medium grey, firm to moderately hard, occasionally crumbly, sub-blocky - blocky, earthy, silty to occasionally very silty, laminated, non to locally slightly calcareous, disseminated pyrite, carbonaceous. LIMESTONE/DOLOMITE: off white, light brown, light grey, medium brown, firm to hard, blocky, brittle, micro crystalline, argillaceous laminations, silty in part, no visible porosity, no shows.
15800	80 20	CLAYSTONE: A/A LIMESTONE/DOLOMITE: off white to light brown, light grey, firm to hard, blocky, brittle, microcrystalline, angular, argillaceous laminations, no visible porosity, no show. SILTSTONE: light to medium grey, grey brown, firm, sub-blocky, crumbly, sandy in parts, slightly calcareous.
15820	75 15 10	CLAYSTONE: A/A LIMESTONE/DOLOMITE: off white, light brown, light grey, medium brown, firm to hard, blocky, brittle, micro-crystalline, argillaceous laminations, silty in part, no visible porosity, no shows. SILTSTONE: light to medium grey, grey brown, firm, sub-blocky, crumbly, argillaceous, slightly

DEPTH (m)	%	LITHOLOGICAL DESCRIPTION
		calcareous, earthy,
15840	75	CLAYSTONE: A/A medium brown grey, very silty.
	10	LIMESTONE: A/A
	15	SILTSTONE: A/A
15860	80	CLAYSTONE: A/A
	10	LIMESTONE: A/A
	10	SILTSTONE: A/A
15880		missed
15900	80	CLAYSTONE: brown grey, medium brown, occasionally medium grey, firm to moderately hard, occasionally crumbly, sub-blocky to blocky, earthy, silty to occasionally very silty, laminated, non- to locally slightly calcareous, disseminated pyrite, carbonaceous.
	10	SILTSTONE: light to medium grey brown, firm to hard, blocky, angular, brittle, sandy texture in part, carbonaceous, micromicaceous, slightly calcareous.
	10	LIMESTONE/DOLOMITE: off white, light brown, light grey, medium brown, firm to hard, blocky, brittle, micro crystalline, argillaceous laminations, silty in part, no visible porosity, no shows.

**7. WIRELINE LOGGING OPERATIONS**

Run	Logging tools	Interval	Date	Comments
#1a	RCI-GR Pressure & samples attempted.	13279 - 14771	03/05/11	Overpull while correlating depth 14,840ft, jars off, unable to set packer--POOH
#1b	RCI-GR Pressure & samples attempted.	14771 – 14781.1	03-04/05/11	Sticky coming off stations

Wireline logging operation witnessed by assigned specialist from Gaia Earth Sciences Ltd Company.