SAMPLE STATION DATA

INSTITUTE OF GEOLOGICAL SCIENCES - MARINE GEOLOGY UNIT

SAMPLE NO. F (1) +59 (± lat) -03 (± long) 304 (no.) (11)

CRUISE NO. 82 FE 06 (year : ship : no 18)

DATE 07 29 (mnth : day 22)

TIME (local) (hrs : mins 26)

WATER DEPTH 85 (metres 30)

POSITION FIXING METHOD

COMMENT (32)

NAVIGATIONAL READINGS (tick lanes with best intersection)

CHAIN

RED

GREEN

PURPLE (55)

POSITION

LATITUDE +59 47.26 (± degs : mins (decimal) 63)

LONGITUDE -02 18.24 (± degs : mins (decimal) 71)

ADDITIONAL INFORMATION :

I.G.S. B.H. 82/7.

EQUIPMENT TYPE: 1 = sample recovered; 2 = no sample (geological reasons); 3 = no sample (equipment failure); 4 = no sample (undifferentiated)

G (1) dup cols 2-11

GS | VE | CS | CR | DM | DR | BH | SD | RD | SU | PS | DI | BS | OC | OG

1 (12–22)

T.D. metres 57.0 (50–55)

SUMMARY SAMPLE DESCRIPTION : (Free text - max. 69 characters)

H (1) dup cols 2-11

SANDY GRAVEL OVER SANDSTONE OVER SILTY MUDSTONE ? DEVONIAN

GEOTECHNICAL DATA :

RAW DATA

PENETROMETER Head	PENETROMETER Readings					HAND VANE Head	HAND VANE Readings			

AVERAGED DATA

	DEPTH	PENETROMETER (KPa)	HAND VANE (KPa)
I (1) dup cols 2-11	(14)	(18)	(22)
	(25)	(29)	(33)
	(36)	(40)	(44)
	(47)	(51)	(55)
	(58)	(62)	(66)
	(69)	(73)	(77)
I (1) dup cols 2-11	(14)	(18)	(22)
	(25)	(29)	(33)
	(36)	(40)	(44)
	(47)	(51)	(55)
	(58)	(62)	(66)
	(69)	(73)	(77)

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I.G.S. MARINE GEOLOGY UNIT

PROGRAMME

SHIP: FERDER

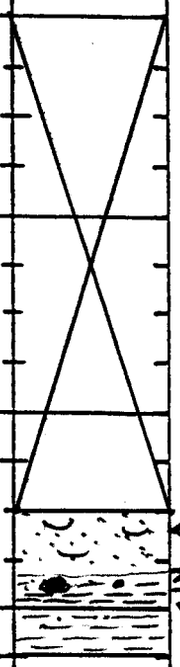
B.H. NO: 82/7

GEOLOGICAL LOG COVERING ONE CORE RUN

Page No: 1.

Run 0 m to 3.0 m Recovery .75 m (25%)

Depth	Sub Samples	Lithology	Description
0			
1			
2			
3	3.2 M'Pal		



3.25

SG modern shell sandy gravel.

Till one cobble encrusted, with stiff gravelly silty clay, dk reddish brown, calcareous
clear contact with mudstone below, with top of mudst. weathered and textural transition gradual.

Mudstone. Med-dk grey, hard, (broken by extraction/drilling), calcareous

3.0 - 3.25m from inner barrel run to clear bit. Encrusted cobble on top presumed to be caving.
Mudstone shows some variation in shade of grey from dk-mod lt grey. Again broken
Also siltstone c 3cm at top, sl. reddish grey. Calcareous, micaceous.

All core recovered measured from base of run.

Sub Sample Code

EGU - Engineering
P.S.A. - grain size
M'Pal - Micropalaeontology
Macro - Macropalaeontology
P'Mag - Palaeomagnetic
M - Moisture Content

Lithology Code

Clay/shale/mudstone
silt/siltstone
sand/sandstone
gravel/conglomerate
Carbonate
Extrusive
Intrusive
Metamorphic

pebbles
shells
c organic
P Plant Fragments
Si, Fe, minerals

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I.G.S. MARINE GEOLOGY UNIT

PROGRAMME

SHIP: FERDER

B.H. NO: BH 82/7

GEOLOGICAL LOG COVERING ONE CORE RUN

Page No: 2

Run 3.25 m to 3.7 m Recovery .45 m (100%)

Depth	Sub Samples	Lith-ology	Description
3			
			3.25 Fine Sst. v. lt grey, very hard and heavily fractured, some slickensides. sl. calcareous but not throughout, mod well sorted. Pyrite.
			3.7
4			

All core recovered measured from base of run.

Sub Sample Code

EGU - Engineering
P.S.A. - grain size
M'Pal - Micropalaeontology
Macro - Macropalaeontology
P'Mag - Palaeomagnetic
M - Moisture Content

Lithology Code

Clay/shale/mudstone
silt/siltstone
sand/sandstone
gravel/conglomerate
Carbonate
Extrusive
Intrusive
Metamorphic

pebbles
shells
c organic
p Plant Fragments
Si, Fe, minerals

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I.G.S. MARINE GEOLOGY UNIT

PROGRAMME

SHIP: FERDER

B.H. NO: 82/7

GEOLOGICAL LOG COVERING ONE CORE RUN

Page No: 3

Run 3.7 m to 4.5 m Recovery .8 m (100%)

Depth	Sub Samples	Lith-ology	Description
	3.7m		Sandstone v.fine grained grey a/a heavily fractured, slickensides ~~sandstone to mudstone below~~
	M'Pal 4.5		Mudstone, greeny grey hard very micaceous calcareous

All core recovered measured from base of run.

Sub Sample Code

EGU - Engineering
P.S.A. - grain size
M'Pal - Micropalaeontology
Macro - Macropalaeontology
P'Mag - Palaeomagnetic
M - Moisture Content

Lithology Code

Clay/shale/mudstone
silt/siltstone
sand/sandstone
gravel/conglomerate
Carbonate
Extrusive
Intrusive
Metamorphic

pebbles
shells
organic
Plant Fragments
Si, Fe, minerals

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I.G.S. MARINE GEOLOGY UNIT

278 ~~2082~~ 6

PROGRAMME

SHIP: FERDER

B.H. NO: 82/7

GEOLOGICAL LOG COVERING ONE CORE RUN

Page No: 4

Run 4.5 m to 5.7 m Recovery 1.2 m (100%)

Depth	Sub Samples	Lith-ology	Description
	4.5		Silty mudstone ~~Sandstone~~ with calcite veins (vertical)
	5.0		calcareous, hard, v. finely micaceous
	5.7		

All core recovered measured from base of run.

Sub Sample Code

EGU - Engineering
P.S.A. - grain size
M'Pal - Micropalaeontology
Macro - Macropalaeontology
P'Mag - Palaeomagnetic
M - Moisture Content

Lithology Code

Clay/shale/mudstone
silt/siltstone
sand/sandstone
gravel/conglomerate
Carbonate
Extrusive
Intrusive
Metamorphic

pebbles
shells
C organic
P Plant Fragments
Si, Fe, minerals

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INSTITUTE OF GEOLOGICAL SCIENCES

Continental Shelf Unit

COMPOSITE LOG

Borehole No 82/7 = 59/-03/304.

Location:

Actual position: Latitude: 59° 47·215' N
Longitude: 02° 18·355' W

Datum shift
59° 47·255' N
02° 18·242' W

IGS Borehole No

Dates of drilling: 28th - 29th July. 1982
Total depth: ~~90.7m~~ 5.7m.
Water depth: 85m

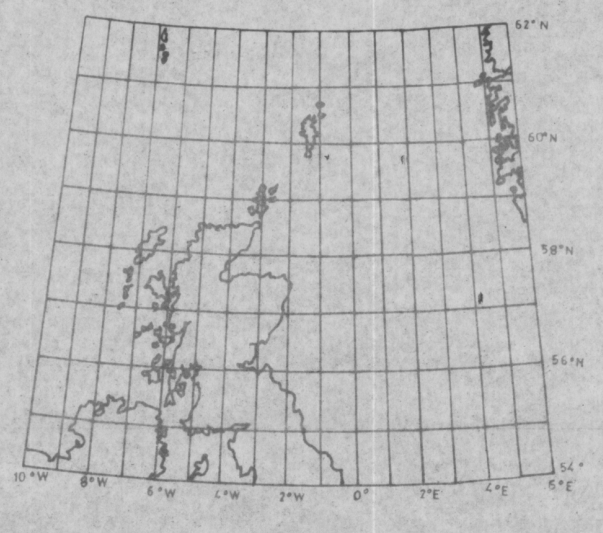
Navigation: DECCA
Positioning: SATNAV
Contractor:
Vessel: FERDER

Sea Area:
Planned IGS No: 163.
Licence Block: 5-9.
Operator: Unallocated

1:100 000 Sheet No: ORKNEY SE
Geologists: D. Evans D Tappin

Purpose

Comments



LITHOLOGICAL KEY

CLAY/SHALE, MUDSTONE	EVAPORITES		
SILT/SILTSTONE	EXTRUSIVE IGNEOUS		
SAND/SANDSTONE	INTRUSIVE IGNEOUS		
GRAVEL/CONGLOMERATE	BASEMENT		
LIMESTONE	WHOLE SHELLS/SHELL FRAGMENTS		
CHALK	CARBONACEOUS/PLANT FRAGMENTS		
DOLOMITE	IRON PYRITES / FERRUGINOUS		
COAL/LIGNITE	CALCAREOUS		

AGE	NATURAL GAMMA RAY LOG (Counts/s) 0 50 100	LITHOLOGY: INTERPRETATION	LITHOLOGY: CORE RECOVERED	DESCRIPTION	SUB-SAMPLES	COMMENTS
	Depth (m below sea)					
	Scale: 1:100					
	0			Seabed.		
				SANDY GRAVEL: modern shelly sand gravel. TILL: cobble, encrusted with gravelly clay, red-brown, stiff calcareous		Run 1
				MUDSTONE: med-dark grey, hard, calcareous	3.2m MPal.	
				SANDSTONE: V. LIGHT GREY, FINE GRAINED, very hard, very fractured, slickensides, slightly calcareous, moderately sorted, pyrite		Run 2
				SANDSTONE a/a.		Run 3
				MUDSTONE, greeny grey, hard, v. micaceous, calcareous	-4.5m MPal	
	5			SILTY MUDSTONE: med. grey, calcareous, v. hard, micromicaceous calcite veins (mostly vertical) very fractured	*	Run 4
	TD. 5.7					

* SUB SAMPLED BY MOBIL OCT 82 AT 4.5, 5.0 & 5.7m.

56% Recovery overall

17% } Quaternary (12%)
100% } Solid

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