Horizon Guyot

* Chemistry

Horizon Guyot

Dredges

* 18 - D11	12 lbs	3791	South Side
* 19 - D12	100	2000	
20 - D13	1 Nannofossil ooze	1800 - 1900	
* 21 - D14	120	1750 - 1800	
* 22 - D15	3	4300 - 4500	
23 - D16	0	1500 - 3300	
* 24 - D17	15	2400	North Side
* 26 - D18	400	1790	
	651 lbs		

Cores - Piston

15 - Pc 5	4411 m	Vole. Pebbles + mud
16 - Pc 6	3622	Vole. Pebbles + mud
17 - Pc 7	2450	Vole. Pebbles & Hard mud.

100 % recovery of Sed.
0 % recovery of Crusts

% recovery of Crusts

(1) Leave Nodule dredge out 85.7 %
(2) With it in as a success 87.5 %
(3) With it in as a failure 75.0 %

Gravity Cores

27 - GC1 - No Rec.
28 - GC2 - 1680 m (Top)
29 - GC3 - 1669 m (Top)
30 - GC4 - 1590 m (Top)

AA

D.S. Take a look at these numbers.

Robin

HORIZON GUYOT
MN ~~CRUSTS~~ and Nodules

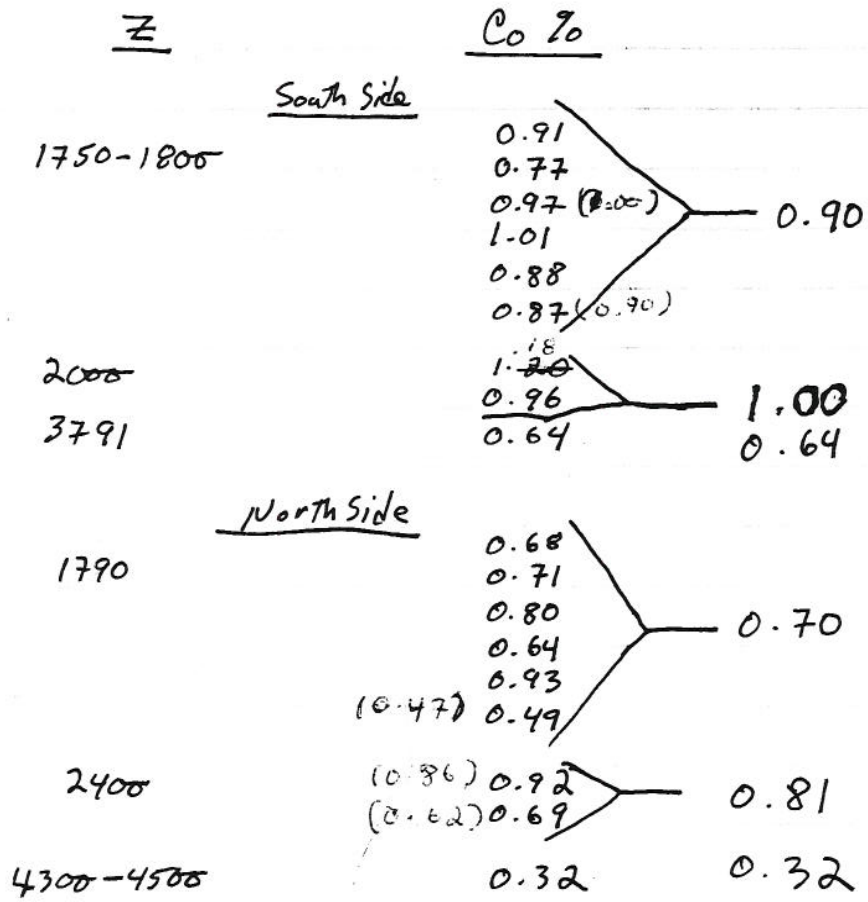
	I		II		III	IV	V	Basalt	VI
	OUTER CRUST	INNER CRUST	OUTER CRUST	INNER CRUST	BULK	BULK	OUTER VENEER	INNER CORE	BULK
Mn	18.12 %	19.40 %	17.07 %	18.43 %	18.63 %	16.95 %	10.05 %	.48 %	18.41 %
Fe	12.49 %	12.30 %	14.30 %	12.49 %	13.24 %	13.56 %	22.81 %	7.22 %	12.71 %
Co	.61 %	.64 %	.63 %	.74 %	.68 %	.57 %	.32 %	<50 PPM	.65 %
Ni	.50 %	.42 %	.36 %	.48 %	.42 %	.37 %	.51 %	.02 %	.39 %
Pb	.14 %	.16 %	.15 %	.15 %	.15 %	.15 %	.01 %	<50 PPM	.15 %
Cu	.11 %	.09 %	.09 %	.11 %	.09 %	.07 %	.26 %	.02 %	.06 %
Zn	.07 %	.06 %	.06 %	.06 %	.06 %	.06 %	.27 %	.09 %	.06 %

"New"

Average of I, II, III, IV, V, inner & outer & bulk

Mn	[illegible] %
Fe	13.01%
Co	0.65 %
Ni	0.42 %
Pb	0.15 %
Cu	0.09 %
Zn	0.06 %

Horizon Guyot : Co - with Depth of Water



16 analysis : 1700 - 2400 m Average : 0.84 % : Range : 0.49 % - 1.20 %

2 analysis : 3800 - 4500 m Average : 0.48 % : Range : 0.32 % - 0.64 %

Horizon Guyot core PC-5

USGS DREDGE AND CORE STATION LOG

15-PC5

SHIP / LEG L5-83-HW

LATITUDE ~~19° 20.093~~ to 19° 19.089 on bottom

LONGITUDE ~~168° 39.565~~ to 168° 39.087

STATION NO. 015

~~FILE NO.~~ DREDGE/CORE NO PC5

DEPTH (m) 4411 to - - - - - -

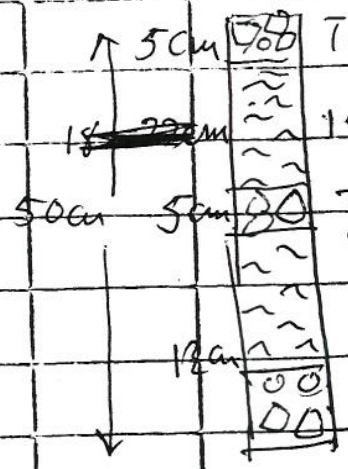
DAY/MONTH/YEAR TIM

DATE 6 NOV 83 0347

TYPE OF STORAGE (check one)

DRY COLD FROZEN

SAMPLE NO. TYPE & ID.	~~UNCORRECTED DEPTH (m)~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
5 cm washed for pebbles				
11 cm mud				
7 cm mud				
5 cm pebbles				
12 cm mud				
10 cm pebbles				
⊕				



W+

REMARKS: 0.5 m of Soft Brown mud w/ 2 layers of pebbles at depth + a layer at the surface ~~at the Top of the Core~~.

Bottom = 10 cm of pebbles — No useable Ferromanganese

total at

HEBCO

SMEAR SLIDE DESCRIPTION

LOCATOR	SAMPLE NO.	SEC.	INTERVAL	STATION NO.	Dom. LITH.	Minor LITH.	OBSERVER
L5-83-HW	PC 5			15	mudst.		Hein

Sediment Name: Silty mud

ABUNDANCE	TEXTURE	SPECIFIC DATA	
Tr	Sand		
A	Silt		
A	Clay		
	COMPOSITION		
C	Quartz		
C	Feldspar		
	Mica		
C	Heavy Mnls. - mn?, hematite, magnet.to?		
	Total Detrital		
A	Clay Mnls.		
	Volc. Glass		
	Palagonite		
	Chlorite		
	Glauconite		
	Pyrite		
	Micro Nodules		
	Dolo. Rhombs		
	Zeolite		
	Auth. Carb.		
Tr	Rock Frags.		
	Foraminifera		
	Calc. Nannos		
	Diatoms		
	Radiolarians		
	Sponge Spic.		
	Silicoflag.		
Tr	Fish Remains		
	Plant Debris		

PER-CENT	DETAILED MINERALOGY

REMARKS: Brown-green mud mostly volcaniclastic

DATA CODE LEGEND

Fossil preservation
G = good
M = moderate
P = poor

Abundance code
1% = TR (trace)
1-5% = R (rare)
5-25% = C (common)
25-75% = A (abundant)
75% = D (dominant)

NEBCO

AND CORE

16-DC6

USGS DREDGE STATION LOG

SHIP / LEG LS-83-HW

LATITUDE 19°20.820 to

LONGITUDE 168°39.505 to

STATION NO. 016

DREDGE/CORE NO DC 6

DEPTH (m) 3622 to

DAY/MONTH/YEAR TIME

DATE 6 Nov 83 0809

TYPE OF STORAGE (check one)

DRY COLD FROZEN

SAMPLE NO. TYPE & ID.	UNCORRECTED	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
Large - up to 8 cm piece of basalt - relatively fresh				
several pebble-base varnish of mn -				
No usable Ferromanganese				

REMARKS: 28 cm Brown mud w/ gravel in Top 2 cm + scattered Throughout - total wt 11 cm recovery in double Core catcher

SMEAR SLIDE DESCRIPTION

LOCATOR	SAMPLE NO.	SEC.	INTERVAL	STATION NO.	Dom. LITH.	Minor LITH.	OBSERVER
L5-83-HW	PC 6			16	Nannos	Forams	Hein

Sediment Name: Foraminifera Rich Nannofossil ooze

ABUNDANCE	TEXTURE	SPECIFIC DATA
R	Sand	
C	Silt	
A	Clay	
	COMPOSITION	
	Quartz	
	Feldspar	
	Mica	
Tr	Heavy Mnls.	
	Total Detrital	
	Clay Mnls.	
	Volc. Glass	
	Palagonite	
	Chlorite	
	Glauconite	
	Pyrite	
	Micro Nodules	
	Dolo. Rhombs	
	Zeolite	
C	Auth. Carb. — on Foram Fragments	
	Rock Frags.	
C	Foraminifera	
A	Calc. Nannos	coccoliths + Discoasters
R	Diatoms	
Tr ?	Radiolarians	
	Sponge Spic.	
Tr	Silicoflag.	
	Fish Remains	
	Plant Debris	

PERCENT	DETAILED MINERALOGY

REMARKS: Gray-green mud

Age Date!

Undergone some Diagenesis

DATA CODE LEGEND

Fossil preservation
G = good
M = moderate
P = poor

Abundance code
1% = TR (trace)
1-5% = R (rare)
5-25% = C (common)
25-75% = A (abundant)
75% = D (dominant)

NEBCO

Horizon Guyot Core 17-PC7
-CORE

USGS DREDGE STATION LOG

SHIP / LEG 15-83-HW

LATITUDE ~~21°20.25 to N~~ 19° 20.25 N on bottom

LONGITUDE ~~168°42.30 to W~~ 168° 42.30 N

STATION NO. 17 PC-7

~~LINE NO.~~ DREDGE/CORE NO. PC 7

DEPTH(M) 2450 to ——— (CTD CHART)

DAY/MONTH/YEAR TIME*

DATE ~~[illegible]~~ 6/11/83 1433

TYPE OF STORAGE (check one)

DRY COLD FROZEN

SAMPLE NO. TYPE & ID.	~~UNCORRECTED DEPTH(M)~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM	weight lb
SUBSAMPLES A(DESCR.)	A	Cobble of soft wall rock with smaller pebbly debris,			v. highly altered basalt
(eg) B(Descr)	B	some relatively hard, reddish, rock, rounded with pitted & rough surface 3x2x1½ cm			altered basalt
(etc)					

A. Cobble pebbles of hard volcanic rock

B. Strongly altered volcanic breccia — maybe hydrothermal alteration but could also be lower T weathering

This material has bright, subdued varicolored hues with efflorescence of stark white calcite radial crystals: strong implication of hydrothermal activity. Also a 2½ cm vesicular basalt nodule showed pockets vugs & vugs filled with euhedral qtz crystals; darker vein not yet known, but rock is high in Fe and low in Mn and other minerals. Total wt maybe zeolite or $CaCO_3$ calcite

REMARKS:

Reddish-brown + yellowish-brown rock -- volcanic breccia w/ whitish zeolite(?) + clear-- translucent zeolite xtals in vugs.

ship board analysis may be possible

* OFF BOTTOM unless otherwise noted

XX NOTE SPITS TAKEN AND BY WHOM; ARROW FOR ONBOARD ANALY, NEEDED

SMEAR SLIDE DESCRIPTION

LOCATOR	SAMPLE NO.	SEC.	INTERVAL	STATION NO.	Dom. LITH.	Minor LITH.	OBSERVER
L5-83-HW	PC 7			17	*Carbonate Zeolite	mudstone mud	Hein

Sediment Name: * Marl

Zeolite-Fe-stained

ABUNDANCE	TEXTURE	SPECIFIC DATA	
*R;R	Sand		
*A;A	Silt		
*C;C	Clay		
	COMPOSITION		
*C R	Quartz		
*A C	Feldspar		
	Mica		
*R	Heavy Mnls.		
	Total Detrital		
*C	Clay Mnls.		
*R	Volc. Glass		palagonite
	Palagonite		
	Chlorite		
	Glauconite		
	Pyrite		
	Micro Nodules		
	Dolo. Rhombs		
*Tr;A	Zeolite also anhedral in (A) Low biref.		Rhombs-Large
*A	Auth. Carb. - Foram Frags?		
	Rock Frags.		
	Foraminifera		
	Calc. Nannos		
	Diatoms		
	Radiolarians		
	Sponge Spic.		
	Silicoflag.		
	Fish Remains		
	Plant Debris		

→ some rhombs

PER-CENT	DETAILED MINERALOGY

REMARKS: Red + yellow mud from hard mudstone w/ zeolite veins - ~~each separate~~ and *Black mud or vein from same mudstone - each listed separately -

Much Zeolite

DATA CODE LEGEND

Fossil preservation
G = good
M = moderate
P = poor

Abundance code
1% = TR (trace)
1-5% = R (rare)
5-25% = C (common)
25-75% = A (abundant)
75% = D (dominant)

NEBCO

Dredge 18-D11

Horizon Guyot AND CORE

USGS DREDGE STATION LOG

1716 on B

SHIP / LEG L5-83-HW

DAY/MONTH/YEAR TIM

DATE 7 Nov 1983 18 38 off botto

LATITUDE on bottom 19°20.100'N to off bottom 19°20.478'N

LONGITUDE 165°39.900'W to 165°49.865'W

STATION NO. 018

[illegible]. DREDGE/CORE NO D11

TYPE OF STORAGE (check one)

DRY COLD FROZEN

DEPTH (m) 3791 to 3700 m

SAMPLE NO. TYPE & ID.	UNDESCRIBED DESCRIBED	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
75% 18-D11A-	18 Pieces w/ Breccia on vole Rx. on at least one			
	side - Crust are Thin		2-4 mm	
25% 18-D11D-	3 pieces of Volcanic		Breccia and	
	6 pieces of volcanic Rx. Zeolites occur			
	in Breccia - Translucent xstls - lesser			
1	amounts on Vole. Rx			
18-D11AX-	3 mm Thick Crust for		XRF	
Doris - 2 rocks of D11	A			
Vesna - 1 "	" "	"		
Jim - Rest	of Alice - Volcanic		Rxs -	

REMARKS: Rock freshly removed from outcrop - only one bite (11,000) at 3791 m water depth

total wt 15 lbs.

Crust surfaces are mostly knobby + botryoidal - but Three have a secondary smoothing of an original botryoidal surface -- Not due to dredging.

KEEDD

Dredge 19-D12

AND CORE

USGS DREDGE STATION LOG

SHIP / LEG L5-83-HW

DAY/MONTH/YEAR 1951- TIM

LATITUDE ~~19°21.633'~~ TO 19°22.136'N on bottom

DATE 7 Nov 83 2143

LONGITUDE ~~168°41.656'~~ TO 168°41.691'W

TYPE OF STORAGE (check one)

DRY COLD FROZEN

STATION NO. 019

~~[illegible]~~. DREDGE/CORE NO D12

DEPTH (m) ~~2000~~ - one large bit to

SAMPLE NO. TYPE & ID.	~~UNCORRECTED~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
80-85% - 19-D12A =	Crusts w/ at least Rx on one side - 9 large Frags -			
	+ at least 40 smaller ones			
20-15% - 19-D12D =	14 medium + many small Volc. rock Fragment - Alk			
19-D12AX -	~~Poor~~ Porous Crust for XRF			
19-D12A1 = 36 cm X 19 X 20; crust	3mm - largest sample			
Dorr 2 rocks	12A - one w/ smooth	Crust + one w/ partly smooth		
19-D12AY -	more massive crust for XRF			
Vesna - piece	of 19-D12AY + Jim has piece			
Frank - water	Samples + XRF + 18 samples scraped	(for Pt group elements)		
19-D12A2 -	water one	Porous + one massive		

W+

REMARKS: Mostly Volc. Rx as substrate for Crusts - few breccias like in other Cores - One has large vug of dog-tooth Spar Calcite Xstal to 3 or 4 mm in length - Many vugs + Cavities in Volc. Rxs - NO rocks completely covered w/ crusts on all sides - Crust surfaces not as botryoidal + nobby as before but on a more subdued level, some very smooth - Porous and massive varieties - Crust thickness to 4 mm. Much Calcite in vugs.

total at 100 lbs

NEED

Dredge 20-D13

USGS DREDGE AND CORE STATION LOG

SHIP / LEG L5-83-HW

LATITUDE ~~19° 24.101 TO~~ on Bottom 19° 23 704'N

LONGITUDE ~~168° 42.424 TO~~ 168° 43.077'W

STATION NO. 020

~~[illegible]~~. DREDGE/CORE NO D13

DEPTH (m) 1900 to 1800

DAY/MONTH/YEAR 2328 TIM TO 003

DATE 7 NOV 83

TYPE OF STORAGE (check one)

DRY COLD FROZEN

SAMPLE NO. TYPE & ID.	~~UNCORRECTED DEPTH~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
20-D13 -	Foraminiferal Sand -			

W+

REMARKS: Went Fishing for nodules on total at Top of Horizon by pulling dredge Through Foram. sand - But No Nodules recovered - Either nodules smaller Than about 3" or No nodules occur on This part of The guyot.

KHECO

SMEAR SLIDE DESCRIPTION

LOCATOR	SAMPLE NO.	SEC.	INTERVAL	STATION NO.	Dom. LITH.	Minor LITH.	OBSERVER
L5-83-HW	D13			20	Foram	Nannos	Hein

Sediment Name: Nannofossil-rich, silty Foraminiferal Sand

ABUNDANCE	TEXTURE	SPECIFIC DATA	
A	Sand		
A	Silt		
A C	Clay		
	COMPOSITION		
	Quartz		
	Feldspar		
	Mica		
	Heavy Mnls.		
	Total Detrital		
	Clay Mnls.		
	Volc. Glass		
	Palagonite		
	Chlorite		
	Glauconite		
	Pyrite		
	Micro Nodules		
	Dolo. Rhombs		
	Zeolite		
	Auth. Carb.		
	Rock Frags.		
A	Foraminifera - mostly planktic -		
C	Calc. Nannos Coccoliths [Discoasters = very common]		
R	Diatoms		
R	Radiolarians		
	Sponge Spic.		
	Silicoflag.		
	Fish Remains		
	Plant Debris		

PERCENT	DETAILED MINERALOGY

REMARKS: Foraminiferal Sand

DATA CODE LEGEND

Fossil preservation
G = good
M = moderate
P = poor

Abundance code
1% = TR (trace)
1-5% = R (rare)
5-25% = C (common)
25-75% = A (abundant)
75% = D (dominant)

NEBCO

Dredge 21-D14

AND CORE

USGS DREDGE STATION LOG

Small Volc. knob on Top of Horizon.

S.P. Lee

SHIP / LEG L5-83-HW

LATITUDE ~~19°30.647'~~ to ~~19° 29.777'N~~

LONGITUDE ~~168° 50.070~~ to ~~168° 50.280'W~~

on bottom 19° 30.185 168° 46.671

DAY/MONTH/YEAR TIME

DATE 7 Nov 83 0439 To 0540

TYPE OF STORAGE (check one)

DRY COLD FROZEN

STATION NO. 021

~~REMARKS~~. DREDGE/CORE NO 014

DEPTH (m) ~~1800~~ to 1750

SAMPLE NO. TYPE & ID.	~~UNCORRECTED DEPTH~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
21-D14B1 - Largest boulder - 45 x 30 x 22; crust 3 cm				
21-D14B2 - Cobble 14 x 12 x 8; crust - one side 0.5 cm, other side 1.0 cm (Top)?				
21-D14B - ~~Average~~ Range crust ~~is~~ 3mm to 2cm - Some only fragments of crust left.				
21-D14D - one Volc Rx w/ no crust - Alice - along with some other w/ little crust				
Frank - 21-D14A1 - crust from one end = 3 cm Thick Min - X RF + one A1 w/ 2cm crust				
Doug - A1 - W1 x 2 cm thick crust				
21-D14A1 - ~~[illegible]~~ Pt - Group				

W+

REMARKS: Vesna - Part of 21-D14 B2

Total at 120 lbs +

By Wt 60% By Vol 50%

40% 50%

- 21-D14A - 21 Cobbles & boulders w/ at least one side rock

21-D14B3 - One Large 60 lb Boulder + one small Cobble completely Coated w/ Mn - on boulder New growth of Mn, porous, black -

Dredge probably from the apron of the Volcanic knob - none broken from outcrop. Pipe dredge recovered Foram Sand w/ some small nodules To 3cm diameter.

Surface mostly porous, 40% - Some massive

AND CORE

Dredge 22-D15

USGS DREDGE AND CORE STATION LOG

S.P. Lee

SHIP / LEG L5-83-HW

LATITUDE 19°41.644N TO 19°40.536N

LONGITUDE 168°59.674 TO 168°59.022 W

STATION NO. 022

~~NAME~~ NO. DREDGE/CORE NO 015

DEPTH (m) 4500 to 4300

DAY/MONTH/YEAR TIM

DATE 8 NOV 83 1250-1406

TYPE OF STORAGE (check one)

DRY COLD FROZEN

W+

SAMPLE NO. TYPE & ID.	~~UNCORRECTED DEPTH~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
22-15B1-16	cm X 10 X 3	; Crust ≈ 0.	5 cm Thick -	
22-15B2-13	cm X 8.5 X	4; Crust >	0.2 cm thick	
Frank - 22-15BX-10.	5 cm X 6 X	2.3; Crust ≈	0.9 To 1.	2 cm on Top
XRF	and 0.3 To 0.	5 on Bottom -	claystone	Center - Mn -
	maybe replacing	The claystone		

REMARKS:

total at 3 lbs

100% 22-15B - 3 pieces completely surrounded w/ Mn Crust. 2 w/ knobby surfaces & one w/ knobby + smooth surface both - Bottom surface on all are smooth - Fat pancake nodules.

KEECO

SMEAR SLIDE DESCRIPTION

LOCATOR	SAMPLE NO.	SEC.	INTERVAL	STATION NO.	Dom. LITH.	Minor LITH.	OBSERVER
LS-83-HW	D/5 BX			22			Hein

Sediment Name: Silty Mudstone (altered glassy volcanic debris)

ABUNDANCE	TEXTURE	SPECIFIC DATA
	Sand	
	Silt	
	Clay	
	COMPOSITION	
	Quartz	
C	Feldspar	
	Mica	
C	Heavy Mnls. Mn Crust grains	
	Total Detrital	
A	Clay Mnls.	
C	Volc. Glass Palagonite	
	Palagonite	
	Chlorite	
	Glauconite	
	Pyrite	
	Micro Nodules	
	Dolo. Rhombs	
R ?	Zeolite	
	Auth. Carb.	
	Rock Frags.	
	Foraminifera	
R ?	Calc. Nannos highly altered	
	Diatoms	
	Radiolarians	
	Sponge Spic.	
	Silicoflag.	
	Fish Remains	
	Plant Debris	

PER-CENT	DETAILED MINERALOGY

REMARKS:

Sed. From Interior of Nodule - Mostly altered glassy volcanic debris (interpillow sed.?) fossils (silica?) of unknown origin ⊙ maybe large Coccolith of some sort?

DATA CODE LEGEND

Fossil preservation
G = good
M = moderate
P = poor

Abundance code
1% = TR (trace)
1-5% = R (rare)
5-25% = C (common)
25-75% = A (abundant)
75% = D (dominant)

NEBCO

AND CORE

USGS DREDGE STATION LOG

S.P. Lee

SHIP / LEG L5-83-HW

LATITUDE 19° 38.151 TO 19° 35.029'N

LONGITUDE 168° 54.653 TO 168° 49.661'N

STATION NO. 023

DREDGE/CORE NO. D16

DEPTH (m) 3300 TO 1500

DAY/MONTH/YEAR

DATE 8 Nov 83

1602 T

TYPE OF STORAGE (check one)

DRY COLD FROZEN

SAMPLE NO. TYPE & ID.	UNSPECIFIED	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM

REMARKS: NO Recovery

TDR Was on Bottom

total wt

AND CORE

USGS DREDGE STATION LOG

S.P. Lee

SHIP / LEG L5-83-HW

LATITUDE ~~19° 35.181' to 19° 36.633' N~~ on bottom 19° 33.200 N

LONGITUDE ~~168° 50.308 to 168° 52.236' W~~ 168° 49.940 W

DAY/MONTH/YEAR

DATE 8 / Nov / 83

TIME 2003 TO 210 off

TYPE OF STORAGE (check one)

DRY COLD FROZEN

STATION NO. 024

~~LINE NO.~~ DREDGE/CORE NO D17

DEPTH (m) 2405 to

SAMPLE NO. TYPE & ID.	~~UNCORRECTED DEPTH (M)~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
24-D17AX-	Conglomerate-like completely		Coated w/	1cm crust at thickest
	XRF - Frank - part	; Part to	Doris ; Part	Hein
24-D17A1-	Hein			+ Alice
24-D17A2-	Hein			
24-				
24-D17B1-	Part To Frank			
24-D17BX	- XRF - Frank - Cobble		completely	Coated

Wt(

REMARKS:

total wt - 15 lbs

65% - 24-D17A - One side Rx-rest crust = 5 Samples - Crust on one is 1cm

35% 24-D17B - Crust all round = 3 samples - one Top = 0.6 to 1.5 cm - Bottom few mm - To 3 mm.

Crusts are botryoidal To smooth - some follow shape of Conglomerate

Altered Volc. Rx as nuclei: dk red, highly altered volcanic [illegible] (<10%) small olivine (pseudomorphs) + plagioclase [illegible] probably was hyalopilitic originally

NEBCO

AND CORE

USGS DREDGE STATION LOG

25 - Cam. 1

S. R. Lee

SHIP / LEG L5-83-HW

LATITUDE 19°33.200 to 19° 33.803'N

LONGITUDE 168°52.300 to 168°52.285'W

STATION NO. 025

~~LINE NO~~. DREDGE/CORE NO CAM.-1

DEPTH (m) 2796 to 2625

DAY/MONTH/YEAR TIME

DATE 8 Nov 83

TYPE OF STORAGE (check one)

DRY COLD FROZEN

SAMPLE NO. TYPE & ID.	~~UNCORRECTED~~ ~~DEPTH (m)~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
Lines 15-16-17 followed Camera Run I and are				
side-scan lines on Top of Horizon				

REMARKS: Upper North Slope of Horizon – Video system total cut – failed but got ≈ 1800 color stills.

From ≈ 2796 m to 1769 m

Turned around

From ≈ 1769 m to 2625 m

NEBCO

[illegible]

USGS DREDGE AND CORE STATION LOG

S. P. Lee

SHIP / LEG L5-83-HW

LATITUDE 19° 30.889 to 19° 29.686' N

LONGITUDE 168° 51.276 to 168° 51.914 W

STATION NO. 026

~~LINE NO.~~ DREDGE/CORE NO D18

DEPTH (m) ~~1799~~ to 1780 m

DAY/MONTH/YEAR TIME

DATE 9 Nov 85 0551

TYPE OF STORAGE (check one) 0-73

DRY COLD FROZEN

SAMPLE NO. TYPE & ID.	~~UNCORRECTED DEPTH (M)~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
26-D18B1-	largest 48	X 41 X 22-	Crust at	least 2 cm
26-D18B2-	2nd 50	X 45 X 20-	Crust at	least > 2 mm
26-D18A1-	largest 35	X 27 X 26-	Crust =	3.5 cm -
	Porous outer layer	1 cm	Inner massive layer	2.5 cm -
	Part to Frank -	Chiseled off -		

Wt (l

In spot 5 cm Th mostly 40 cm Thi

REMARKS:

26-D18A2- 40 lbs w/ Rock on at least one side - 2mm to 4 cm crusts - Volc Rx Substrate - Total 5 rocks

total at - 400 lbs

26-D18B3- 360 lbs w/ crust on All sides one wt. = 125 lbs, another 70 lbs - Total = 17 rocks - one is ≈ 10 cm diameter is spherical -

Surfaces are botryoidal on cm scale kind of subtlety knobby - rough surfaces - others - smaller ones are smooth - Also some surfaces (bottom are smooth) -

NEBCO

AND CORE

USGS DREDGE STATION LOG

SHIP / LEG L5 83-4W

LATITUDE 19° 26.566 to 19° 26.835 N

LONGITUDE 168° 49.806 TO 168° 49.315' W

STATION NO. 031

~~LINE NO.~~ DREDGE/CORE NO CTD 1+2

DEPTH (m) ~~0~~ 1600 to 1625 M

DAY/MONTH/YEAR DATE 11 Mar 83

TIME 1146

TYPE OF STORAGE (check one) 15

DRY | COLD | FROZEN

SAMPLE NO. TYPE & ID.	~~UNCORRECTED~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
CTD-1-	O2, Conductance, T, Z, Transmissivity -			
	Bottom Didn't Close - CTD Info -			
CTD-2-	Redrop for bottle → also read other parameters			
	Bottom	1600 m	at Depth of water Sample	
	Bottle 1	1585 m		
	Bottle 2	1575		
	Bottle 3	1825		
	Bottle 4	975		
	" 5	727		
	" 6	475		
	" 7	225		
	" 8	10 - didn't Trip - No Sample		
	~~" 9 10 m didn't Trip - No Samples~~			

W+(

REMARKS: total cut -

NEBOO

CTD CAST 0130 NOV. 11, 1983 1145Z

*correction d 2.2 at 0 (surf.)

	O_2 Sensor μA	T°C	Press* d bars	Conductivity m mho	Transmis
AIR		23.8	2.2		AIR 3665
SURF	.975	SENSOR 26.7	2.2	54.59	3580
	.928	26.35	5.5	54.59	3580
	.943	26.38	10.4	54.60	3583
	.963	26.35	20	54.62	3586
	.943	26.34	35.2	54.62	3585
	.941	26.33	50.7	54.6	3581
	.931	23.88	75.0	52.78	3569
	.883	22.71	100.0	51.52	3572
	.807	—	125.0	50.177	3564
	.718	—	150	48.26	3583
	.694	—	175	46.89	3586
	.691	17.71	— 200	45.697	3588
	.657	16.70	225.4	44.45	3584
	.616	15.69	250	43.36	3583
	.587	14.69	276	42.26	3576
	.533	13.37	315	40.85	3576
	.512	12.78	325	40.24	3580
	.476	11.945	350.8	39.384	3575
	.461	11.43	376.0	38.86	3576
	.393	10.245	405.5	37.69	3574
	.362	9.67	425	37.13	3568
	.296	8.48	450	36.074	3566
	.264	8.15	475	35.73	3566
	.226	7.52	500	35.156	3564
	.181	7.07	525	34.78	3566
	.147	6.72	552	34.487	3566
	.116	6.24	575	34.108	3563
	.098	6.17	601.0	34.084	3562
	.083	6.04	625	34.01	3556
	.072	5.78	650	33.82	3551
	.065	5.65	675	33.73	3555
	.064	5.55	702.4	33.67	3544
	.062	5.46	725	33.68	3538
	.061	5.31	751	33.52	3533

O_2	H_2O sensor T°C	Pressure	Cond.	Transmis
.063	5.11	778	33.379	3531
.064	5.087	800.1	33.31	3517
.064	4.95	825	33.28	3509
.064	4.83	851	33.197	3495
.067	4.75	87.5	33.136	3489
.068	4.63	900	33.05	3486
.070	4.55	925	33.00	3481
.071	4.37	950	32.877	3472
.075	4.24	975	32.69	3470
.075	4.14	1000	32.697	3456
.076	4.06	1028	32.647	3455
.076	4.019	1051	32.61	3442
.077	3.866	1076	32.50	3436
.078	3.675	1125	32.36	3425
.078	3.63	1150	32.33	3427
.079	3.65	1175	32.25	3423

(TAPE CHG. 12:29 HST SIDE 1 ENDS, SIDE 2 BEG.)

.080	3.46	1200	32.216	3412
.086	3.34	1227	32.122	3406
.079	3.27	1254	32.077	3405
.086	3.20	1276	32.030	3403
.080	3.16	1300	32.009	3400
.081	3135	1326	31.99	3396
.083	2.96	1400	31.875	3389
.083	2.907	1426	31.842	3389
.084	2.87	1450	31.825	3388
.083	2.81	1500	31.800	3379
.083	2.785	1525	31.784	3381
.085	2.72	1550	31.75	3381
.087	2.64	1575	31.69	3374
.086	2.624	1600	31.682	3379
.085	2.588	1610	31.659	3382

1611

CTD-1 bottles didn't operate properly, but the tape was recor on this cast. Samples taken on cast 2. ←(CT

sample #	mmho CONDUCTIVITY	μA O_2	Transmiss	d-bar Pressure	Temp °C
	54.617	0.853		10.2	26.356
	44.132	0.510		225	16.379
	—	—		474	7.990
	33.60	0.152		725	5.461
	32.681	0.119		975	4.133
	32.166	0.075		1225	3.390
	31.792	0.082		1455	2.818
	31.687	0.086		1575	2.641
	31.659	0.085		1610	2.588

CTD-2 Samples taken on this cast, but the corresponding tape was recorded on cast 1 = CTD-1

sample #	mmho CONDUCTIVITY	μA O_2	Transmiss	d-bar Pressure	Temp °C
⑨	54.560	1.247	~	10	26.312
8	45.422	0.525		225	17.521
7	34.965	0.159		475	7.308
6	33.494	0.064		727	5.292
5	32.888	0.068		971	4.388
4	32.324	0.073		1225	3.577
3	31.796	0.083		1475	2.823
2	31.706	0.089		1578	2.664
1	31.681	0.088		1585	2.631

CTD-2 samples taken on this cast, and info recorded by hand.

SAMPLE #	mmho CONDUCTIVITY	μA O_2	Transmiss	d-bar Pressure	Temp °C
9	54.617 / 54.560	0.853 / 1.247		10.2 / 10.	26.356 / 26312
8	44.132 / 45.422	.510 / .525		225 / 225	16379 / 17.521
7	— / 34.965	— / .159		474 / 475	7.990 / 7.308
6	33.6 / 33.494	.152 / .064		725 / 727	5.461 / 5.292
5	32.681 / 32.888	.119 / .068		975 / 971	4.133 / 4.388
4	32.166 / 32.324	.075 / .073		1225 / 1225	3.390 / 3.577
3	31.792 / 31.796	.082 / .083		1455 / 1475	2.818 / 2.823
2	31.687 / 31.706	.086 / .089		1575 / 1578	2.641 / 2.664
1	31.659 / 31.681	.085 / .088		1610 / 1585	2.588 / 2.631

CTD-1 and CTD-2 recorded together

AND CORE

Moorings

USGS DREDGE STATION LOG

SHIP / LEG S P. Lee LS-83-HW

LATITUDE Various to

LONGITUDE Various to

STATION NO. 027, 028, 029, 030, 031, 032

~~LINE NO.~~ DREDGE/CORE NO

DEPTH (m) — to — — — — —

DAY/MONTH/YEAR TIME

DATE 10 NOV 83

TYPE OF STORAGE (check one)

DRY COLD FROZEN

SAMPLE NO. TYPE & ID.	~~UNCORRECTED DEPTH (M)~~	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM
031: - CTD 1 & 2 (Next Page)				

Wt(

REMARKS:

Nov 10 027: GC1 - Top Horizon - Bill Schoeb - No Recovery total at —

Nov 10 028: GC2 - " " " " - 1680 m - Foram Sand w/ Nam

Nov 10 029: GC3 - " " " " - 1669 m - " 4 m " "

Nov 10 030: GC4 - " " " " - 1580 m - " " " "

Nov 11 031: CTD + Water Station

Nov 11 032: Current meters + Sed. Traps - MCR 1 - Horizon - G. Tate -
1635 m; 19°26.879' N; 168°45.900' W —

NEBCO

Nov. 11 1983 AST 0834 Nov 12

	Transmiss	Conduct. mmho	Oxygen mA	Pressure d bar	T °C	O
AIR	3401	0.000	.878	1.8	24.40°	2
SURF	3578	54.82	1.10 unstable	14.0 !	26.6	
	3569	54.83	.996	31.1	26.65	
	3574	54.84	.983	50.	26.657	
	3570	54.78	.986	75	26.511	
	3566	53.43	.954	100	25.26	
	3552	51.135	.911	125	22.98	
	3575	49.690	.811	150	21.51	
	3582	48.28	.760	175	20.16	
	3589	46.45	.707	200	18.496	
	3586	44.898	.722	226	17.09	
	3586	43.43	.619	250	15.771	
	3583	40.16	.493	300	12.725	
	3574	38.602	.472	350	11.18	
	3570	36.754	.388	400	9.277	
	3552	35.704	.305	450	8.134	
	3551	35.52	.148	500	7.78	
	3547	35.32	.117	525	7.52	
	3541	34.98	.099	550	7.14	
	3540	34.543	.098	575	6.66	
	3537	34.209	.090	600	6.28	
	3537	33.99	.084	625	6.01	
	3538	33.90	.072	650	5.86	
	3528	33.864	.069	675	5.79	
	3524	33.756	.064	700	5.63	