USGS DREDGE LOG

SHIP/LEG F10-89-CP

STATION # 17

DREDGE # D12

DEPTH INTERVAL(m) 1910-1780

DEPTH(m)corrected 1910-1800

DATE JD 263 LOCAL 9-20-89

TIME GMT _____ LOCAL _____

LATITUDE 11°28.05'N TO 11°27.81'N

LONGITUDE 161°10.35'E TO 161°09.14'E

TOTAL WEIGHT: DREDGE 15 CRUST 14

PERCENTAGE OF ROCK COVERED BY CRUST 99

PERCENT BROKEN FROM: OUTCROP 95 TALUS 1, ± Nodules

THICKNESS OF MN CRUST: MAXIMUM 120 MINIMUM 10 AVERAGE 60

DOMINANT SURFACE TEXTURE Botryoidal

SUBSTRATE LITHOLOGY None

NODULES PRESENT yes 5% of Dredge - 15 Nodules - all abyssal-Type structure

REMARKS: Siliceous Sponges and Pumice fragments
2 large crust fragments and ~15 small ones

Sample ID	Bulk CC	Layer CC	Pt & Au	REE	CC	DPTS/TS	XRD	35mm Ph	Archive	Paleo
D12-1	✓	✓	✓	✓			✓			
D12-2	1/2	SAMPLE TO KORDI								
D12-3	✓ 2 surface						✓			
D12-4	✓			✓			✓			
D12-5	6 NODULES	TO KORDI								
D12-6										
D12-7										

USGS DREDGE LOG

Depth Interval 1910-1780m
Julian Date 263
Cruise I.D. F10-89-CP
Local Date (m/d/y) 9/20/89
Station No. 17
Chief Scientist HEIN/KANG
Dredge No. 12
Tech on Watch CORKY O'ZANNE

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	1143	12:27:58	16:05:56	16:36:23
LATITUDE	11°28.2 N	11 28.05 N	11 27.81 N	11 27.88 N
LONGITUDE	161°10.9 E	161 10.35 E	161 09.14 E	161 08.93 E
WATER DEPTH	1945m	1910m	1780	1770

Site Description and Target : SEAMOUNT E, SMALL KNOLL ON NW SLOPE
CORRECTED DEPTH 1800 - 1910 m

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
ON BOTTOM	1227	1910	2060	—	287/0.9	
SCOPE OUT	1238	1910	2500	—	157/0.4	COMMENCE DREDGING
BITE	1335	1855	"	2.9	182/1.3	Break off
"	1336	"	"	2.1	"	Break off
"	"	1865	"	2.4	VARIES	Break off
"	1343	1875	"	1.9		
"	1344	1875	"	2.2		
"	"	"	"	1.9		
"	1346	1870	"	2.2		
"	1353	1870	"	3.4		
"	1354	1875	"	1.9		
"	1355	"	"	2.5		
"	1356	"	"	2.9		
"	1357	"	"	2.9		
"	1409	1850	"	2.5		Broke off
"	1410	"	"	2.5		
"	1420	1845	"	2.0		
"	"	"	"	1.9		

* Depths of 3.5 kHz

Depths from 10 kHz

*on/off bottom, bites, etc.
OTHER COMMENTS:

* 10 KHz not functioning
recorders are off by 15 m (3K 15M > 10K)

USGS DREDGE LOG

Depth Interval _____ Julian Date _____

Cruise I.D. _____ Local Date (m/d/y) _____

Station No. 17 Chief Scientist _____

Dredge No. 12 Tech on Watch _____

DREDGE 12 CONTINUES

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT				
LATITUDE				
LONGITUDE				
WATER DEPTH				

Site Description and Target : _____

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
BITE	1426	1840	2500	1.9	VARIES	
	"	"		1.9		
	1437	1830		2.1		
	1439	1825		1.9		
	"	"		2.1		
	1440	1815		2.1		
	1443	1810		1.9		
	1443	"		2.0		
	1444	1805		1.9		
	"	"		1.9		
	1454	1795		2.4		
	1455	"		2.3		
	1456	"		2.1		Begin taking up slack
BEGIN PAYING IN	1457	1790		2.4		
BITES	1457	"		2.2		
	"	"		2.3		
	1458	1785		2.1		
	"	"		2.2		

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS DREDGE LOG

Depth Interval _____ Julian Date _____

Cruise I.D. _____ Local Date (m/d/y) _____

Station No. 17 Chief Scientist _____

Dredge No. 12 Tech on Watch _____

DREDGE 12 CONTINUED

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT				
LATITUDE				
LONGITUDE				
WATER DEPTH				

Site Description and Target : _____

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
BITE	1459	1790	WIRE IN	2.2	VARIES	TAKING UP SLACK
"	"	"	"	2.2	"	
"	1500	"	"	2.2	"	
"	1501	"	"	2.2	"	
"	"	"	"	2.2	"	
"	"	"	"	2.1	"	
"	"	"	"	2.2	"	
"	"	"	"	2.2	"	
"	1503	"	"	2.3	"	
"	1503	"	"	2.3	"	
"	"	"	"	2.4	"	
"	1504	"	"	2.2	"	
"	1505	"	"	2.3	"	
"	"	"	"	2.3	"	2400 WIRE IN
"	"	"	"	2.3	"	WIRE IN/TAKING UP SL
"	1508	"	"	2.4	"	
"	1509	"	"	2.4	"	
"	1510	"	"	"	"	

*on/off bottom, bites, etc.

OTHER COMMENTS:

USGS DREDGE LOG

Depth Interval _____ Julian Date _____

Cruise I.D. _____ Local Date (m/d/y) _____

Station No. 17 Chief Scientist _____

Dredge No. 12 17 Tech on Watch _____

DREDGE CONTINUED

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT				
LATITUDE				
LONGITUDE				
WATER DEPTH				

Site Description and Target : _____

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
BITES	1511	1785	[PAYING IN]	2.6	VARIES	
↓	1512	"	↓	2.5	↓	
	"	1780	↓	2.0		
	1518	"	2280	—		
	1525	1775	[PAYING IN]	2.3		
	1527		2200			
	1528			2.3		
↓	"			2.3		
PAY IN	1540	1770	2100			
WIRE	1549	1780	2000			
LENGTH	1556	"	1900			
OFF BOTTOM	1605	1780	1770		↓	
OFF STATION	1636	1770	—			

*on/off bottom, bites, etc.

OTHER COMMENTS:

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Size: 47x23x13 (cm) Location: E Seamount

Sample Id: D12-1 Weight: 12 (kg) Depth: 1910-1800 (m)

Mn Crust Description

Surface Texture: Botryoidal

Mn Crust Thickness (mm):
Min: 110 Max: 125 Ave: 120

Layers (Outer to Inner)(mm):

	Min	Max	Ave	Texture & Color
1.	15	20	13	Black, dense, vitreous
2.	10	20	12	porous, vugs filled w/clay, Fe-stain
3.	20	35	21	porous near bottom, colum[illegible] growth Fe-Stain
4.	40	50	45	Dense, Fractured by phosphate staining above
5.				
6.				

Comments and XRD Mineralogy:
Pixie knocked from the surface of a slab with fewer of the crusts. The [illegible] this rock [illegible]

ANALY

Subsample Number	Analysis	Layer Thickness
D12-1A:	XRD; BULK CC, Pt, Au (124.4g)	120 mm
	REE (22.6g)	
D12-1B:	XRD; CC (24.4g)	7 mm
	REE (5.4g)	
D12-1C:	XRD; CC (37.2g)	23 mm
	REE (10.2g)	
D12-1D:	XRD; CC (36.1g)	25 mm
	REE (18.0g)	
D12-1E:	XRD; CC (86.8g)	55 mm
	REE (21.3g)	

Substrate Description

Rock Type: None

Description:

Biology ?: encrusting foram

Described By: Jorie

Subsampled By: Renee

Cruise Id: F10-89-CP Size: 35x 19x 10 (cm) Location: E Seamount

Sample Id: D12-2 Weight: 5 (kg) Depth: 1910-1800 (m)

Mn Crust Description

Surface Texture: Very irregular botryoidal

Mn Crust Thickness (mm):
Min: 61 Max: 88 Ave: 73

Layers (Outer to Inner)(mm):

	Min	Max	Ave	Texture & Color
1.	15	20	18	Dense Black
2.	11	18	12	Columnar, with area between filled by clay
3.	25	30	28	Porous, Fe-stain
4.	10	20	Broken in this layer	Dense w/ phosphate
5.				
6.				

F10-89-CP
D12-2

Comments and XRD Mineralogy:

Similar to D12-1, but less of the dense lower layer is present

ANAL

Subsample Number	Analysis	LayerThickness
1/2 scraped for CC see D12-3		

Substrate Description

Rock Type: None

Description:

Biology ?: CM Crusting Foraminifera

TO KORDI

Described By: Jorie Subsampled By:

FID-89-CP

D12-2

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Si... 10X6.5 × 3.5 Largest (cm) Location: E Seamount

Sample Id: D12-3 Weight: 1.5 (kg) Depth: ~~[illegible]~~ (m)

Mn Crust Description
Surface Texture: Botryoidal to [illegible]

Mn Crust Thickness (mm):
Min: 10 Max: 35 Ave: 20

Layers (Outer to Inner)(mm):

	Min	Max	Ave	Texture & Color
1.				
2.				
3.				
4.				
5.				
6.				

F10-89-CP
D12-3

Comments and XRD Mineralogy:

Crusts, broken w/ [illegible] substrate

ANAL

Subsample Number	Analysis	Layer Thickness
D12-3	CC	≤0.5mm 7g

50 and all of these samples and part of D12-2

Substrate Description
Rock Type: None

Description:

Biology ?:

Described By: Jodie

Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Size: 4.5x4.5x5 (cm) Location: E Seamount

Sample Id: D12-4 Weight: ~ 1 (kg) Depth: 1500-1800 (m)

Mn Crust Description

Surface Texture: Smooth botryoidal w/ a microbotryoidal

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Layers (Outer to Inner)(mm):

	Min	Max	Ave	Texture & Color
1.				
2.				
3.				
4.				
5.				
6.				

F10-89-CP

D12-4

Comments and XRD Mineralogy:

Nodule - massive appearance, but has some vertical discontinuities, some are cavities - in the more finely, inorganogenous

ANALY

Subsample Number	Analysis	LayerThickness
D12-4	CC, XFE	Whole Sample

Substrate Description

Rock Type: Looks like it could be a volcaniclastic or a Mn fragment

Description:

Biology ?:

Described By: Jonio

Subsampled By: Jonio

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Size: [illegible] (cm) Location: E [illegible]

Sample Id: D12-5 Weight: 2 (kg) Depth: [illegible] (m)

Mn Crust Description

Surface Texture: [illegible]

Mn Crust Thickness (mm):
Min:_____ Max:_____ Ave:_____

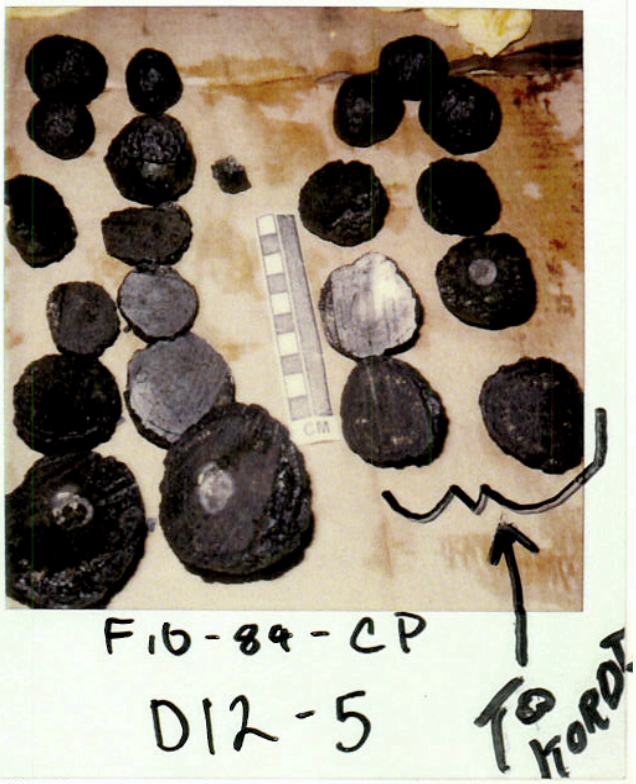
Layers (Outer to Inner)(mm):

	Min	Max	Ave	Texture & Color
1.				
2.				
3.				
4.				
5.				
6.				

Comments and XRD Mineralogy:

Mn Nodules: most with red [illegible] nucleus; 2 have phosphate [illegible]

For the most part these are very [illegible] nodules with [illegible] layers (thick or [illegible]) by thin [illegible]



ANAL

Subsample Number	Analysis	LayerThickness

6 - NODULES TO KORDI

Substrate Description

Rock Type:

Description:

Biology ?:

Described By: JOPL

Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Size: Largest 5.5 x 4.5 x 3 (cm) Location: E Seamount

Sample Id: D12-6 Weight: < 1 (kg) Depth: 1910-1800 (m)

Mn Crust Description

Surface Texture:

Mn Crust Thickness (mm):

Min: Max: Ave:

Layers (Outer to Inner)(mm):

	Min	Max	Ave	Texture & Color
1.				
2.				
3.				
4.				
5.				
6.				

F10-89-CP

D12-6

Comments and XRD Mineralogy:

ANAL

Subsample Number Analysis LayerThickness

Substrate Description

Rock Type: various pieces of pumice w/ slight Mn-Stain

Description:

Biology ?:

Described By: Jorie Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Size: Largest 9 x 2 x 2 (cm) Location: E Seamount

Sample Id: D12-7 Weight: < 1 (total) (kg) Depth: 1910 - 1800 (m)

Mn Crust Description

Surface Texture:

Mn Crust Thickness (mm):

Min: Max: Ave:

Layers (Outer to Inner)(mm):

	Min	Max	Ave	Texture & Color
1.				
2.				
3.				
4.				
5.				
6.				

F10-89-CP
D12-7

Comments and XRD Mineralogy:

ANAL

Subsample Number Analysis LayerThickness

Substrate Description

Rock Type: Siliceous Sponges, Four pieces w/ Mn Stain

Description:

Biology ?:

Described By: Jonathan

Subsampled By: