DREDGE 15

USGS DREDGE LOG

SHIP/LEG FARNELLA

STATION # 23

DREDGE # 15

DEPTH INTERVAL(m) 2075-2040

DEPTH(m)corrected 2075-2040

DATE JD 267 LOCAL 24 Sept. 1985

TIME GMT 0420 LOCAL

LATITUDE 9°56.9' TO 9°56.7'N

LONGITUDE 160°30.2' TO 160°.30'E

TOTAL WEIGHT: DREDGE 6 CRUST 5

PERCENTAGE OF ROCK COVERED BY CRUST 100

PERCENT BROKEN FROM: OUTCROP 100 TALUS 0

THICKNESS OF MN CRUST: MAXIMUM 35 MINIMUM 5 AVERAGE 15

DOMINANT SURFACE TEXTURE Botryoidal, 2. granular

SUBSTRATE LITHOLOGY Breccia

NODULES PRESENT 0

REMARKS: 1 pumice pebble, mostly crust fragments, only one crust/substrate sample

USGS DREDGE LOG

Depth Interval 2075-2040 Julian Date 267

Cruise I.D. F10-89-CP Local Date (m/d/y) _____

Station No. 23 Chief Scientist Hein/Kang

Dredge No. 15 Tech on Watch O'Toole

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	X 0049	X 0126	X 0420	~~0450~~ 0457
LATITUDE	0956.9	956.9	956.7	957.5
LONGITUDE	160 30.0	160 30.2	160 30.0	160 29.6
WATER DEPTH	1900m	2075	2040	1635

Site Description and Target : Rocks from 2075 - 2040

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
On bottom	0126	2075	2212			
Beginning to dredge	0210	1745	2600			Starting to dredge
Bites	0215	~~2600~~	2600	2.2		Broke off
Bites	0217	1735	2600	2.5		Broke off
"	0220	1725	"	2.9		"
"	0224	1700	"	2.4, 2.4, 2.7		Broke off
"	225	1700	"	3.4		Broke off
"	0228	1700		2.4		+ smaller ones
"	0228	1700	"	3.8		broke off
Hung up	0230	1675	"			Stuck
Still hung up	0330					Problem w/ winch
Off bottom	0420	2040	2047			

*on/off bottom, bites, etc.

OTHER COMMENTS:

Positions Rhosho initialized on transit except for ert station position (GPS)

Dredge Sample Summary Sheet

Sample ID	Bulk CC	Layer CC	Pt & Au	REE	OC	DPTS/TS	XRD	35mm Ph	Archive	Paleo
D15-1										
D15-2	✓	"	(½ TO KORD1)				✓			
D15-3	½ TO	KORD1								
D15-4										
		"								

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Size: 19X12X7.5 (cm) Location: SEAMOUNT F

Sample Id: D15-1 Weight: 1.5 (kg) Depth: 2075-2040 (m)

Mn Crust Description

Surface Texture: Botryoidal, <cm wide & deep

Mn Crust Thickness (mm):
Min: 4 Max: 14 Ave: 12

Layers (Outer to Inner)(mm):

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

D15-1
F10-89-CP

Comments and XRD Mineralogy:

SIDE CRUST IS granular, opposite BRECCIA. CRUST CONSISTS OF ONE LAYER: slightly POROUS, SOME IRON STAINING.

Substrate Description

Rock Type: BASALT altered olivine, pyroxene, + sparsely-plagioclase phyric basalt

Description:

RUSTY BROWN, FRACTURED, VESICLES INFILLED WITH ?Calcite. ~~[illegible]~~. ONE SIDE IS ENCRUSTED WITH CHIPS OF THE SAME MATERIAL. BRECCIA

Biology?: EMBEDDED IN PHOSPHORITE

encrusting forams

ANALYS

Subsample Number	Analysis	LayerThickness

sm corner to M Pringle for thin section, will want as large a piece as possible later for mineral separation

70% of Substrate given to Staudigel for Ar-Ar+ isotopes
2 Crust frags w/ subst. +
1 phosph. Frag. Left

~~[illegible]~~

Described By: RO Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Size: Cobbles (cm) Location: F Seamount

Sample Id: D15-2 Weight: 2 (kg) Depth: 2075-2040 (m)

Mn Crust Description

Surface Texture: botryoidal; Lizard skin (microbotryoidal), irregular

Mn Crust Thickness (mm):
Min: 25 Max: 35 Ave: 30

Layers (Outer to Inner)(mm):

	Min	Max	Ave	Texture & Color
1.				Porous
2.				V. Porous (unusual)
3.				
4.				
5.				
6.				

NO photo

Comments and XRD Mineralogy:

7 Crust fragments that appear to have complete Thicknesses although no Substrates are present. Mud on bottom & most Fe staining on most

Substrate Description

Rock Type: NONE

Description:

Biology ?:

ANALYSES

Subsample Number	Analysis	LayerThickness
D15-2	CC (150 g) Bulk XRD	0-33 mm
	½ TO HORDI	

Described By: HEIN Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Size: Cobble to pebble (cm) Location: F Seamount

Sample Id: D15-3 Weight: 2 total (kg) Depth: 2075-2040 (m)

Mn Crust Description
Surface Texture: botryoidal + granular

Mn Crust Thickness (mm):
Min: 5 Max: 25 Ave: 15

Layers (Outer to Inner)(mm):

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

No photo

Comments and XRD Mineralogy:

Various crust fragments of granular side crusts or younger generation Top crusts

No complete thicknesses

ANALYSES

Subsample Number Analysis LayerThickness

½ to PXRDI

Substrate Description
Rock Type: NONE

Description:

Biology ?:

Described By: HEIN

Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F10-89-CP Size: a pebbles (cm) Location: SEAMOUNT F

Sample Id: D15-4 Weight: << 1 (kg) Depth: 2075-2040 (m)

Mn Crust Description

Surface Texture: granular on one piece to 2 mm

Mn Crust Thickness (mm):

Min: _____ Max: 2 Ave: < 1

Layers (Outer to Inner)(mm):

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

no photo

Comments and XRD Mineralogy:

ANALYSES

Subsample Number	Analysis	LayerThickness

Substrate Description

Rock Type: Pumice Pebble + pebble of Calcite

Description: cemented clastic limestone or volcaniclastic sandstone

Biology ?: —

Described By: HEIN

Subsampled By: