Dredge 13

WNW of Ngulu Atoll

USGS DREDGE LOG

SHIP/LEG F7-91-WP

STATION # 20

DREDGE # 13

DEPTH INTERVAL(m) 2690-2558

DEPTH(m)corrected 2690-2568

DATE JD 206 LOCAL 7/25/91

TIME GMT 0020-0340 LOCAL 1020-1540

LATITUDE 8° 30.48' TO 8° 31.22'

LONGITUDE 137° 01.26' TO 137° 2.85'

TOTAL WEIGHT: DREDGE 400 CRUST <1

PERCENTAGE OF ROCK COVERED BY CRUST None

PERCENT BROKEN FROM: OUTCROP ≥99% TALUS <1%

THICKNESS OF MN CRUST: MAXIMUM — MINIMUM — AVERAGE —

DOMINANT SURFACE TEXTURE —

SUBSTRATE LITHOLOGY ① Limestone; ② poorly to moderate consolidated pale brown foraminiferal-nannoplankton ooze covering limestone.

1A white chalk
1B yellow-brown chalk

NODULES PRESENT —

REMARKS: Full dredge bag. Threw 98% over the side. Tried to save as much consolidated material + rocks that came out of this material as possible while it was being washed out of bag.

350 kg to Neptune

USGS DREDGE LOG

Depth Interval 2690-2560

Cruise I.D. F7-91-WP

Station No. 20

Dredge No. 13

Julian Date 206

Local Date (m/d/y) July 25, 1991

Chief Scientist Hein / Ahn

Tech on Watch Jon / Walt

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	0020	0119	0540	0635
LATITUDE	08° 29.50	08° 30.48	08° 31.22'	8° 30.7
LONGITUDE	137° 01.20	137° 01.26	137° 2.85'	137° 02.8
WATER DEPTH	2680	2690	2558	~~2588~~

Site Description and Target : Slope of Seamount N of Ngulu Atoll
Dredge line 049

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
In Water	0023	2680			049	
On Bottom	0119	2690	2770 (?)			
Full Scope Out	0127	2690	3100			
Tow [illegible]	0236	2585	3300	—	—	
Bite?	0302	2565		Tension	increasing — mud?	
Bite?	0309	2550		2 T		dragging the bag!
Bite	0315	2550		2.46	2.18, 2.22, 2.21	
Bite	0326	2540		2.8		talus or mud!
Bite	0328			2.42		
Bite	0339	2540		2.42		
Bite	0343	2540		3 T		
Bite	0358	2552		4.5		
Bite	0409	2550		6.3		on another bite soon after
Bite	0413	2550		5.91		
Bite	0416	2550		5 T		Hung up! Really well
Bite	0436	2550		9+ T		looking for a bite and
Slipped or Broke off	0441					
On another bite	0444			3.8		broke off

*on/off bottom, bites, etc.

OTHER COMMENTS:

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Bite	0448	2550	3323	4.8		Not sure if broke off - tension [illegible] down slo
Bite	0449	2550	3323	5.5		This one broke off
On another bite	0450		"	-		
Bite	0456	2550		3.5		
[illegible]	0457	2550		5.25		
[illegible]	0458	0550		5.4		[illegible] at the end
[illegible] position	0505	2540				Bringing in wire
	0524			2.5-2.9		[illegible]
[illegible]	0525					
[illegible]	0527	2545	2850	2's		
off bottom	0540	25	2523	3T to 2T		—
Dredge on deck	0627					

*on/off bottom, bites, etc.

OTHER COMMENTS:

D13

UNW of Ngulu Atoll

Dredge Sample Summary Sheet

Sample ID	Bulk CC	Layer CC	Pt & Au	Ree	OC	DPTS/TS	XRD	35mm Photo	Paleo	Archive
D13-1									2X	
D13-2							X		X	
D13-3							X		X	
D13-4										
D13-5							X			
D13-6							X			

SAMPLE DESCRIPTION

W NW of Ngulu Atoll

Cruise Id: F7-91-WP Size (cm): — Location: [redacted]

Sample Id: D13-1 Weight (kg): 0.562 Depth (m): 2690 - 2560

Mn Crust Description

Surface Texture: —

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

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

No photo

Comments and XRD Mineralogy:

Analyses

Subsample No.	Analysis	Layer Thick.	Wt.(g)
D13-1	Paleo Rose Bengal		~70 gm
	Paleo		10 gm
		180 gm	KORDI
		337 gm	USGS

Substrate Description

Rock Type: Foraminiferal - nannoplankton muddy ooze

Description: unconsolidated

Dry V. Pale orange (10YR 8/2)

Wet Pale yellow brown (10YR 5/2)

Carbonate ooze

Biology (?): forams - nannoplankton?

Described by: J.S.

Subsampled by: J.S.

SAMPLE DESCRIPTION

WNW of Ngulu Atoll

Cruise Id: F7-91-WP Size (cm): Grey tub filled Location: [redacted]

Sample Id: D13-2 Weight (kg): 40 Depth (m): 2690-2540

Mn Crust Description

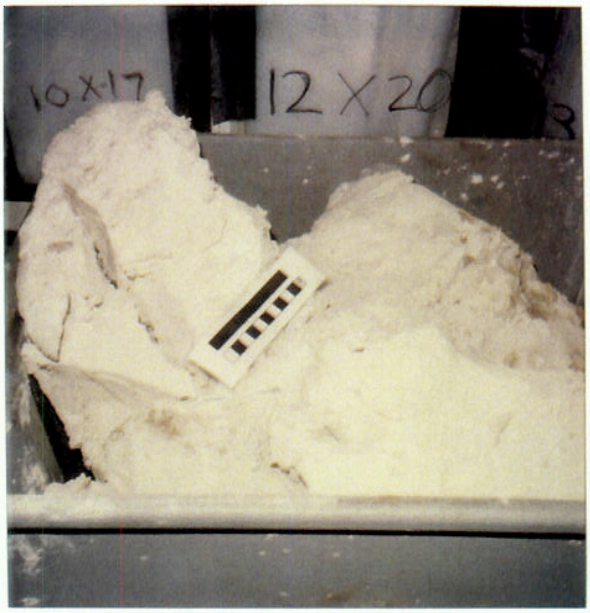
Surface Texture: ——

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

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



D13-2

Comments and XRD Mineralogy:

Subsample N

D13-2 Paleo 59.1 gm
VKD

Substrate Description

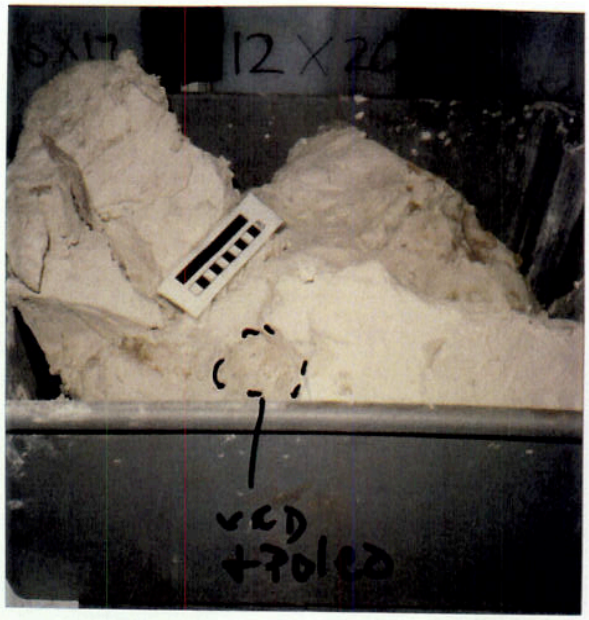
Rock Type: foraminiferal - nannofossil limestone - chalk

Description: Light very pale orange with areas of dark to med. grey forams. fine grained to very fine

Biology (?):

Described by: J.S.

Subsampled by: J.S.



D13-2

SAMPLE DESCRIPTION

Cruise Id: F7-90-WP Size (cm): 8 x 10 x 13 / 14 x 16 x 4.5 Location: WNW of Nguna Fall [redacted]

Sample Id: D13-3 Weight (kg): ~25 Kg Depth (m): 2690-2560

Mn Crust Description

Surface Texture:

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

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

D13·3

Comments and XRD Mineralogy:

Su

D13-3 Paleo 15.9gm
XRD

Substrate Description

Rock Type: Limestone - Chalk
nannofossil - Foraminiferal chalk

Description: V. Pale orange (10 YR 8/2) yellow-
very fine to fine grained,
poorly consolidated foraminiferal,
1mm * 3mm pockets of Dark
grey foraminifers

Biology (?):

Described by: [signature] S.

Subsampled by: [signature] S

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 16 small to large Pumice Location: WNW of N gulk Atoll [redacted]

Sample Id: D13-4 Weight (kg): 0.401 Depth (m): 2690 - 2560

Mn Crust Description

Surface Texture: —

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

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

No Photo

Comments and XRD Mineralogy:

Analyses

Subsample No.	Analysis	Layer Thick.	Wt.(g)

Substrate Description

Rock Type: Pumice

Description: Various colors Lt. grey, Pale Brown, Dark Grey, Black glass included

Biology (?):

Described by: [illegible]

Subsampled by:

SAMPLE DESCRIPTION

Cruise Id: FT-91-WP Size (cm): 3.2 x 1.2 x 1.0 / 3.6 x 1.5 x 1.6 Location: [redacted]

Sample Id: D13-5 Weight (kg): 0.010 Depth (m): 2690-2540

Mn Crust Description

Surface Texture:

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

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

D13-5

Comments and XRD Mineralogy:

Su

D13-5 XRD
5 isotopes 2.074 g
XRD again

Substrate Description

Rock Type: Iron cementation?

Description: surface:- Orange to Reddish brown coating
core: Dark grey metallic.
- magnetic slightly
looks like branching coral

Biology (?):

Described by: A.S.

Subsampled by: A.S.

SAMPLE DESCRIPTION

Cruise Id: F791-WP Size (cm): 3 x 1.2 x 0.6 Location: [redacted] W. Nguiu Atoll

Sample Id: D13-6 Weight (kg): 0.004 Depth (m): 2690-2560

Mn Crust Description

Surface Texture:

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

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

D13-6

Comments and XRD Mineralogy:

Subsar

D13-6 XRD

S isotope 1.350 g

XRD again

Substrate Description

Rock Type: Burrow?

Description: surface: yellowish white.

Patchy

Center: oval shaped - concentric

Possibly pyritized then oxidized

the rest of the center is darkish red, brown

oxidized rings

Biology (?): forams on surface

Described by:

Subsampled by:

D13-6