DREDGE 2

Dredge Sample Summary Sheet

Sample ID	Bulk CC	Layer CC	Pt & Au	Ree	OC	DPTS/TS	XRD	35mm Photo	Paleo	Archive
D2-1	X		X	X	X	X	X			
2					X	X	X			
3										
4					X	X	X		X	
5	X				X	X	X		X	
6	O+C isotopes						X			
7	X						X			

SAMPLE DESCRIPTION

Cruise Id: F11-90-CP Size (cm): 32x27.5 x 7.0 Location: Chunk A

Sample Id: D2-1 Weight (kg): 8.2 Depth (m): 2335-2302, 2050-198

Mn Crust Description

Surface Texture: Smooth 98% to

subdued botryoidal 2%

Crust varies in thickness

Clearly abraded on one side

Mn Crust Thickness (mm):

Min: 5 Max: 18 Ave: 10

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1	3	8	4	Black, Slightly Porous w/ minor Fe
2	3	4	5	Dense Black w/ minor Fe
3				Staining
4				
5				
6				

D2-1

Comments and XRD Mineralogy:

both layers fractured & separated by a fracture

D2-1A OC Substrate (Same as 7)

TS (23.8 gm)

Paleo

D2-1B CC, Pt, REE Bulk Crust (0-12 mm)

Crust CC + Bulk (53.2 gms)

60% USGS

40% ITORDT

D2-1A-TS from crust to 5cm below crust

Substrate Description

Phosphatized Rock Type: Clastic Reefal Limestone/ Limestone Breccia

Description: Reefal Limestone (?) light yellow to dark grey Biolithite with burrows (1-3cm) arcuate (?) Brown Dense Cement towards the surface sometimes contains shell matter. Bioclastic packed and recrystallized strongly also recrystallized corals

Biology (?): Encrusting Foraminifera

Described by: Sonny Smith

on the boundary between crust & biolith there is some limestone breccia w/ basalt fragments in light colored matrix

Subsampled by: HEIN JW

brown
recrystl.
Calcite
T.S.

D2-1

SAMPLE DESCRIPTION

Cruise Id: F11-90-CP Size (cm): largest 10x8x3 smallest 3x1.2x1 Location: Almuk A

Sample Id: D2-2 Weight (kg): 0.7 Depth (m): 2335-2300, 2050-1983

Mn Crust Description

Surface Texture: subdued botryoidal + granular

Mn Crust Thickness (mm):

Min: 1 Max: 4 Ave: 2

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1	1	4	2	Black, porous some trapped soft sediment
2				
3				
4				
5				
6				

D2-2

Comments and XRD Mineralogy:

All except one are basalt substrate the breccia contains a thicker crust max 13cm, min 3cm, Ave 4cm similar texture

Subsam

Substrate Description

Rock Type: Basalt + Limestone Breccia w/ basalt Frags.

Description: Basalt greyish green, dense with minor veins. This are filled w/ white nannofossils. Limestone Breccia cream colored matrix w/ basalt clasts this above a metal clastic limestone

effervescent →

D2-2 OC

D2-2 TS

Subsamples in [illegible]

Biology (?): minor encrusting Forams

Described by: G.S.

Subsampled by: HEIN

D2-2

SAMPLE DESCRIPTION

Cruise Id: F11-90-CP Size (cm): 7 pebbles Location: Chunk A

Sample Id: D2-3 Weight (kg): <1 Depth (m): 2335-2300

2050-1980

Mn Crust Description

Surface Texture: NONE

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:

NONE

Analyses

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

Substrate Description

Rock Type: Pumice

7 pebbles - rounded - 6 gray, 1 dark brown

Description:

Biology (?):

Described by: HEIN

Subsampled by:

SAMPLE DESCRIPTION

Cruise Id: F11-90-CP Size (cm): pebbles + cobbles Variable Location: Chunk A

Sample Id: D2-4 Weight (kg): 1 Depth (m): 2335-2300 2050-1980

Mn Crust Description

Surface Texture: Smooth + Lines borings - some chocolate-brown + Lines fractures

Mn Crust Thickness (mm):

Min: patina Max: patina Ave: patina

Outer to Inner Layers (mm)

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

NO Photo

Comments and XRD Mineralogy:

diffusion fronts along fractures + borings + next to crust

Analyses

Subsample No.	Analysis	Layer Thick.	Wt.(g)
D2-4A	Palco	14gm	G.S
D2-4A	OC		
D2-4A	T.S		

Substrate Description

Rock Type: Siltstone

Description: greenish-gray, grains of Qtz, shell fragments, volcaniclastic debris - mostly altered - to clays ? + zeolites ? - maybe minor phosphorite

60% USGS
40% KORDI

Biology (?):

Described by: HEIN

Subsampled by: GS

SAMPLE DESCRIPTION

Cruise Id: F11-90-CP Size (cm): pebbles & Cobbles Variable Location: Chain A

Sample Id: D2-5 Weight (kg): 3 Depth (m): 2335 ~ 2300, 2050 ~ 1980

Mn Crust Description

Surface Texture: Granular & Botryoidal

Mn Crust Thickness (mm):

Min: Patina Max: 25 Ave: 8

Outer to Inner Layers (mm)

		Min	Max	Ave	Texture & Color
granular surface	1				Massive + porous
	~~2~~				
	~~3~~				
botryoidal	~~4~~				massive
	~~5~~				
	~~6~~				

D2-5

Comments and XRD Mineralogy:

Some crusts w/ phosphorite blebs

Subsam

D2-5A	Paleo	~ 20 gms GS
D2-5A	OC	~ 27 gm misc piece
D2-5A	T.S	~ 13 gm " "
D2-5B	CC Bulk	0-23 cm 92 gm
D2-5B	XRD	~ 1 gm

Substrate Description

Rock Type: Foraminiferal Clastic LmS (Phosphatized)

Description: Pale-yellow-brown to pearl-gray sand-sized forams, friable - weakly effervesces w/ HCl - partly (Phosphatized)

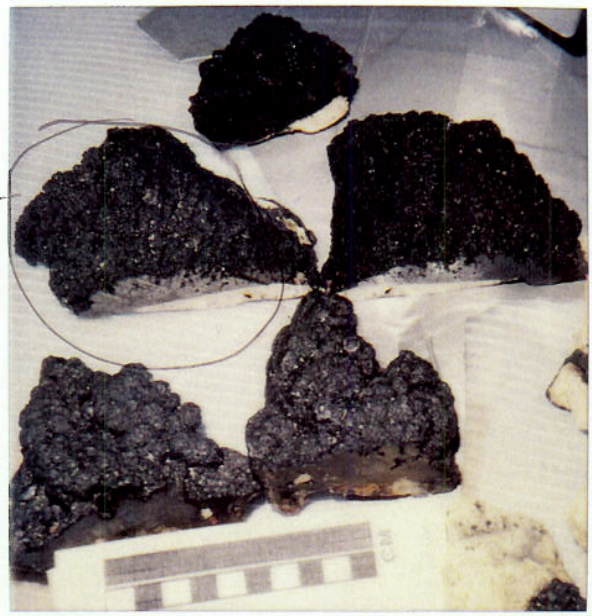
60% USGS
40% HORDI

Biology (?):

Described by: HEIN

Subsampled by: G.S.

Sampled
CC #
D2-5C



D2-5 Thickest crusts

SAMPLE DESCRIPTION

Cruise Id: F11-90-CP Size (cm): Pebbles & Cobbles Variable Location: Chuuk A

Sample Id: D2-6 Weight (kg): 5 Depth (m): ~~2335-2300~~ 2050-1980

Mn Crust Description

Surface Texture: granular to smooth rarely botryoidal (same as D2-1)

Mn Crust Thickness (mm):

Min: patina Max: 15 Ave: 5

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
1				massive
2				some w/ 2
3				layers - same as
4				D2-1 & probably
5				broken from it-
6				

Comments and XRD Mineralogy:

Subsample N

Calcite vein
D2-6 O+C isotopes 3mm thick vein
D2-6 XRD

60% USGS
40% MOKDC

Substrate Description

Rock Type: bioclastic limestone

Description: gray to yellowish-gray reefal debris - minor volcaniclastic grains - Strongly leached, recrystallized, neomorphism moldic porosity; some fracture-fill w/ ⊥ crystallites of calcite - samples for isotopes

~~Biology (?):~~

Described by: HEIN

Subsampled by:

SAMPLE DESCRIPTION

Pebbles & Cobbles

Cruise Id: F11-90-CP Size (cm): Variable Location: Chuuk A

Sample Id: D2 - 7 Weight (kg): 3 Depth (m): 2335 - 2300

2050 - 1980

Mn Crust Description

Surface Texture: Botryoidal to granular - granular on sides

Mn Crust Thickness (mm):

Min: 2 Max: 34 Ave: 20

Outer to Inner Layers (mm)

	Min	Max	Ave	Texture & Color
Granular 1	one layer			massive porous
Botryoidal 2	one layer			massive dense
3				
4				
5				
6				

D2-7

Comments and XRD Mineralogy:

Misc pieces of crust + one Nod. - little substrate

Subsampl

XRD 1.3g ~~D2-1~~

~~D2-1~~

CC 148.3gm

Substrate Description

Rock Type: Little or NONE

LMS

D2-7 CC Bulk Crust 0-20 m

(148.3 gm)

Description:

substrate missing but was probably foram sand - lm

Biology (?): minor encrusting forams + base of stalked animals

Described by: HEIN

Subsampled by: G.S.