Dredge 15

USGS DREDGE LOG

SHIP/LEG F7-91-WP

STATION # 23

DREDGE # 15

DEPTH INTERVAL(m) 4910 - 3720

DEPTH(m)corrected 4900-4000

DATE JD 209 LOCAL 209

TIME GMT 0445 LOCAL 1445

LATITUDE 7° 38.35' TO 7° 36.12'

LONGITUDE 135° 41.68' TO 135° 41.32'

TOTAL WEIGHT: DREDGE 500 CRUST ?

PERCENTAGE OF ROCK COVERED BY CRUST 100 Patina

PERCENT BROKEN FROM: OUTCROP 0 TALUS 100

THICKNESS OF MN CRUST: MAXIMUM <1 MINIMUM <1 AVERAGE <1

DOMINANT SURFACE TEXTURE Smooth

SUBSTRATE LITHOLOGY

Volcanic Rx, greenish-black, [illegible]

NODULES PRESENT 0

REMARKS: [illegible] Cobbles + [illegible] Pebbles

Talus

about 250-300 kg discarded

USGS DREDGE LOG

Depth Interval 4910 - 3720

Cruise I.D. F7-91-WP

Station No. 23

Dredge No. 15

Julian Date 209

Local Date (m/d/y) 7/28/91

Chief Scientist Hein/Ahn

Tech on Watch Walter

	On Station	Dredge on Btm	Dredge off btm	Off Station
GMT	0445	0625	1109	1224
LATITUDE	7°38.49	7°38.35	7°36.12'	7°36.06
LONGITUDE	135°41.73	13541.68	135°41.32'	135°40.79
WATER DEPTH	4935	4910	3720	4080m

Site Description and Target : Dredging up South side of basin - location called Palau B.

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
5100 m out/not on bottom	0621	4935	5100			moving slowly up line trying to move dredge on to sl
On bottom	0625	4910	5100			moving up line/paying out scope
Scope is out	0647		5900			Moving up line pulling outs
Tension incr.	0746					poss. starting to dredge
Bite?	0836	3660		4.7		went down slowly, acts in sediment
Bringing in scope	0839		5900			holding position
Bite	0840	3660	5900	6.25		"sticky clay" says L.I
Paying out?	0847	3685	?			- working bite
Broke?	0849	3685		7.0		
Bringing in scope	0851	3690				holding position
Bite	0853	3690		4.67		
Bite	0855	3690		4.72		
Bite	0856			4.18		
—	0858		5800			
Bite	0900	~3680		5.31		
Bite	0901	~3680		6.58		
Bite	0910	3675	5610	5.93		
Bite	0914	3675	5532	5.5		

*on/off bottom, bites, etc.

OTHER COMMENTS:

3286 → slack should pull out @ 2700-3000 ALO

alex is concerned about amount of wire on barrel!

34810000
24010000
10800000

4935

5900

OPERATION*	GMT	DEPTH (m)	WIRE OUT (m)	TENSION	HDG/SPD	COMMENTS
Bite	0925		5390	6.2		
Bites	0926		5385/5380	5.5,5.2		
Bite	0929		5346	6.8		
Bite	0931		5328	5.92		
Bite	0935		5287	6.78		
Bite	0936		5278	6.25		
Bite	0939		5254	6.8		
Seems to be some through sediment	0952			4.2		
Bite	1037	3730	4326	4.4		
Bite	1042		4220	4.55		
[illegible]	1[illegible]	3720	3720	[illegible]		[illegible]

*on/off bottom, bites, etc.

OTHER COMMENTS:

D 15

Palau B

Dredge Sample Summary Sheet

Sample ID	Bulk CC	Layer CC	Pt & Au	Ree	OC	DPTS/TS	XRD	35mm Photo	Paleo	ICP ~~Archive~~
D15-2					✓	✓	✓			
D15-4						✓				
D15-7			2		2	1/3	4			2
D15-10						✓	✓			
D15-12						✓/✓	✓			1
D15-13						✓				
D15-16						✓				
D15-21						✓				
D15-24						✓				
D15-25						✓				
D15-26						✓				
D15-27						✓				
D15-28						✓				
D15-29						✓	✓			

SAMPLE DESCRIPTION

Cruise Id: [illegible] Size (cm): 78 [illegible] x 18 Location: Palau [illegible]

Sample Id: D15-1 Weight (kg): [illegible] Depth (m): 4900 - 4000

Mn Crust Description

Surface Texture: [illegible] - smooth

[illegible]

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

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

D15-1

Comments and XRD Mineralogy:

Su

[illegible]

USGS [illegible]

Substrate Description

Rock Type: Basalt

Description: [illegible] (99 [illegible])

[illegible] ~~Hornblend, gla~~

olivin?

Biology (?): encrusting forams.

Described by: G.S.

Subsampled by:

[illegible]

D15-1

SAMPLE DESCRIPTION

Cruise Id: F7-91-LOP Size (cm): Small Boulder Location: Palau E ~~[illegible]~~

Sample Id: D15-2 Weight (kg): ~14 Depth (m): 4900-4000

Mn Crust Description

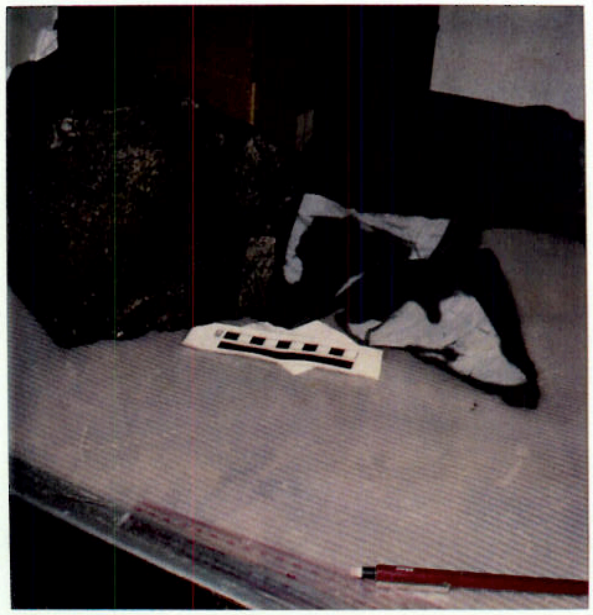
Surface Texture: Patina - smooth
eroded at edges

Mn Crust Thickness (mm):

Min:_____ Max:_____ Ave:_____

Outer to Inner Layers (mm)

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



D15·2

Comments and XRD Mineralogy:

Subs

D15-2 T.S., XRD
OC 46 gm

Substrate Description

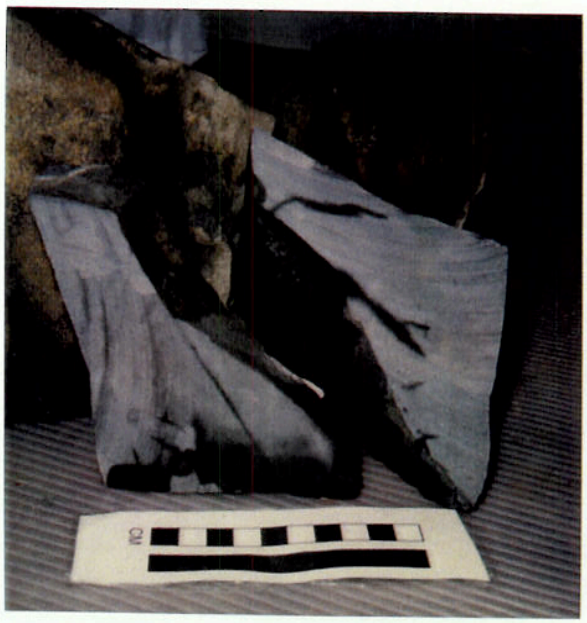
Rock Type: Basalt

Description: Dark gray Dense with
minor vesicles - filled
Magnetic, possible oliven, apatite?
Sulfides present
minor alteration along fractures

Biology (?):

Described by: [illegible]

Subsampled by: [illegible]



D15-2

SAMPLE DESCRIPTION

Cruise Id: _____ Size (cm): _____ Location: [redacted]

Sample Id: D15-3 Weight (kg): ~ 140 kg Depth (m): 4900 – 4900

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				

D15-3

Comments and XRD Mineralogy:

Subs

Substrate Description

Rock Type: Basalt

Description: uncut basalt cobbles and pebbles

Biology (?):

Described by: AJD,

Subsampled by:

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 18x15x12 ~ 18x10.5x6 Location: [redacted]

Sample Id: D15-4 Weight (kg): ~ 9 kg Depth (m): [illegible]

Mn Crust Description

Surface Texture: [illegible]

Mn Crust Thickness (mm):

Min: Max: [illegible] Ave:

Outer to Inner Layers (mm)

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

Comments and XRD Mineralogy:

Sub

T.S.

Substrate Description

Rock Type: Basalt

Description: [illegible]

Biology (?): [illegible]

Described by: [illegible]

Subsampled by: ASD

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 16×11×7 Location: Palau B ~~[illegible]~~

Sample Id: D15-5 Weight (kg): ~1 kg Depth (m): 4900-4000

Mn Crust Description

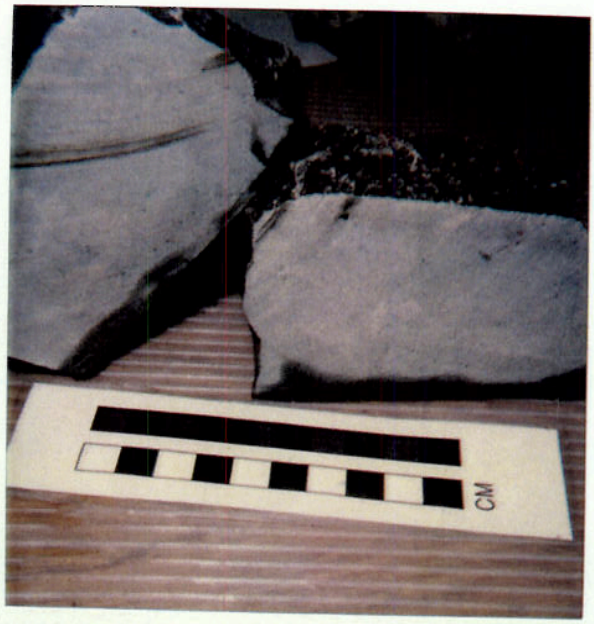
Surface Texture: Patina
eroded

Mn Crust Thickness (mm):

Min:_____ Max: P Ave:_____

Outer to Inner Layers (mm)

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



D15-5

Comments and XRD Mineralogy:

Sub

KORDI ~35%
USGS ~65%

Substrate Description

Rock Type: Basalt

Description: Massive, gray basalt like D15-4, but no [illegible] observed

Biology (?):

Described by: [illegible]

Subsampled by:

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 12x10x4.5 Location: Palau B [redacted]

Sample Id: D15-6 Weight (kg): [illegible] Depth (m): 4900 - 4000

Mn Crust Description

Surface Texture: [illegible] eroded

Mn Crust Thickness (mm):

Min:_____ Max: P Ave:_____

Outer to Inner Layers (mm)

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

D15-6

Comments and XRD Mineralogy:

Sub

Substrate Description

Rock Type: Basalt

Description: Same [illegible] [illegible] basalt as D15-5 only more [illegible]

Biology (?):

Described by: [illegible]

Subsampled by:

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 2 Cobbles 8-10 Pebbles Location: Between Yap & Palau Arc Palau B

Sample Id: D15-7 Weight (kg): 4 Depth (m): 4900-4000

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				

D15-7

Comments and XRD Mineralogy:

Subsample

D15-7-1 TS, XRD
D15-7-2 DPTS, XRD.
D15-7-3 TS, XRD
Os, ICP, Au 85 gm
D15-7-4 TS, XRD
OS, ICP, Au 57 gm
60% USGS
40% HARDI

Substrate Description

Rock Type: hydrothermally altered + metamorphosed? Volc. Rx?

Description: Epidote-quartz rock, minor disseminated sulfide in some

Biology (?):

Described by: HEM

Subsampled by: HEM

D15-7

SAMPLE DESCRIPTION

Cruise Id: F7-91-WP Size (cm): 12x7x5.5~11x4.5x2.5 Location: Palau B [redacted]

Sample Id: D15-8 Weight (kg): _____ Depth (m): 4900-4000

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				

D15-8

Comments and XRD Mineralogy:

Substrate Description

Rock Type: [illegible]

Description: Gray, massive, aphyric, aphanitic [illegible] small round [illegible] [illegible] (Mn?)

Biology (?):

Described by: [illegible]

Sul

KOR[illegible] ~ 20%

[illegible] ~ 80%

Subsampled by:

SAMPLE DESCRIPTION

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

Sample Id: D15-9 Weight (kg): [illegible] Depth (m): 4900-[illegible]

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				

D15-9

Comments and XRD Mineralogy:

Subs

KORDI ~ 25%

USGS ~ 75%

Substrate Description

Rock Type: Basalt

Description: Massive gray basalt [illegible]

Biology (?):

Described by: [illegible]

Subsampled by:

SAMPLE DESCRIPTION

Cruise Id: [illegible] NP Size (cm): 12 x 13 x 10 Location: [redacted]

Sample Id: D15-10 Weight (kg): ~3kg Depth (m): 4900 - 4900

D15-10

Mn Crust Description

Surface Texture: Patina traces in some areas

Mn Crust Thickness (mm):

Min:_____ Max: 2 Ave:_____

Outer to Inner Layers (mm)

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

Comments and XRD Mineralogy:

Substrate Description

Rock Type: Gabbro

Description: Mod. altered fine to med. grained gabbro olivine pseudomorphic [illegible] and minor plag. [illegible]

Biology (?):

Described by: [illegible]

Subsa[illegible]

[illegible] on back side

T.S., XRD

KORJT ~20%

USGS ~20%

Subsampled by:

D15-10