DREDGE
11

Hess Seamount

2560 - 2540 m

SAMPLE ID	*Mn CHEM	Pt & Au*	REE *	Si Chem*	P.Sect.	35mm Pho	Archive	Paleo	XRD				
D11-1				mudstone				X	X	mudst. or phos.?			
D11-2					TS								
D11-3					TS								
D11-4	layers	Bulk	Bulk		dpts								
D11-5													
D11-6	Bulk												
D11-7	Bulk				dpts								
D11-8													
D11-9													
D11-10													
D11-11	Bulk	Bulk											

* All chemistry samples have XRD mineralogy done also.

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: 22 x 32 x Location: Hoss Seamount

Sample Id: D11-1 Weight: 5.4 kg Depth: 2540 - 2560

Mn Crust Description

Surface Texture: None

Mn Crust Thickness:

Min: _____ Max: _____ Ave: _____

Layers (Outer to Inner):

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

D11-1

Comments and XRD Mineralogy:

ANALYSES

Subsample & Type	Analysis	Weight
D11-1	XRD	
Bulk	OC	
Bulk	Paleo	

Substrate Description

Rock Type: Laminated Porcelanite

Description:

Ba possible phosphate NO
ature of Mn in bearings. Khaki to
Tan colored
High Mg Calcite +/or Calcite +
Dolomite

Described By: Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: 15x13x9cm Location: Hess Seamount

Sample Id: D11-2 Weight: 2.7 kg Depth: 2540 - 2560

Mn Crust Description

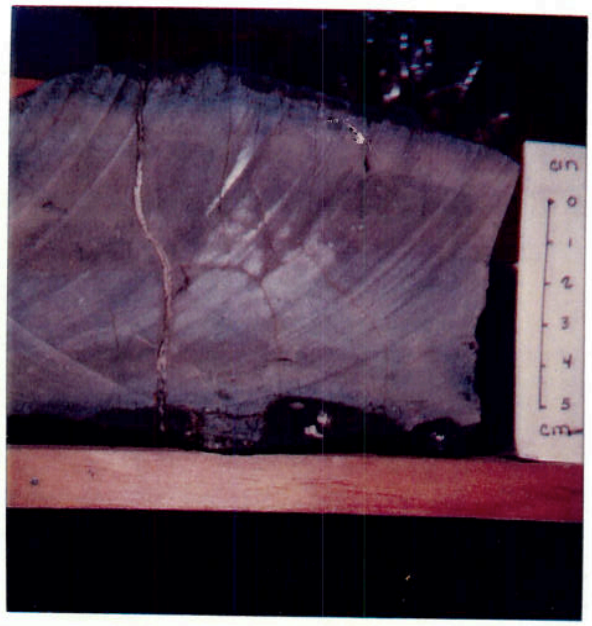
Surface Texture: Smooth to granular

Mn Crust Thickness:

Min: <1mm Max: 7mm Ave: 4mm

Layers (Outer to Inner):

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



Comments and XRD Mineralogy:

phosphorite layer between basalt & crust; crust appears to have been 'broken' as part of the sample

Substrate Description

Rock Type: Basalt

Description:

Cooling Rim on some edges Tan & grey basalt

sampled for [illegible] may want sample for bulk [illegible]

ANALYSES

Subsample & Type	Analysis	Weight
D11-2A	glass for	probe (A.S.)
big piece	for	W.R. chem.
Basalt	TS	

Described By: JSM Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: [illegible] x 16 x 7 cm Location: Hoss Se[illegible]

Sample Id: D11-3 Weight: 1.6 kg Depth: 2540-2560

Mn Crust Description

Surface Texture: [illegible]

Mn Crust Thickness:

Min: < 1mm Max: 4mm Ave: 2.5

Layers (Outer to Inner):

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

D11-3

Comments and XRD Mineralogy:

Thin reddish brown crust

ANALYSES

Subsample & Type	Analysis	Weight
basalt	TS	

Substrate Description

Rock Type: Basalt

Description:

encrusting Forams and rusty stain on outside of cobble

Described By: JSM, DJ Subsampled By: JSM

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: 20.5x13x4.5cm Location: Hess Seamount

Sample Id: D11-4 Weight: 1.5 kg Depth: 2540-2560

Mn Crust Description

Surface Texture: smooth to botryoidal at edges Fe stained

Mn Crust Thickness:

Min: 28 Max: 48 Ave: 36

Layers (Outer to Inner):

	Min	Max	Ave	Texture
1.	7mm	10mm	8.5mm	porous (fe stained) laminated
2.	17mm	20mm	19mm	massive
3.	4mm	7mm	5.5mm	laminated, porous Fe stained
4.		↑		
5.		not sampled near		
6.		max thickness		

D11-4

Comments and XRD Mineralogy:

ANALYSES

Subsample & Type	Analysis	Weight
D11-4A outer layer	CC	8mm
D11-4B Middle layer	CC	19mm
D11-4C Lower layer	CC	6mm
D11-4D Bulk	CC, Pt, Au, REE	36mm
D11-4D	dpts	

Substrate Description

Rock Type: None, Crust broken off substrate

Description:

Described By: JSM Subsampled By: JSM

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: 22x19x7cm Location: Hess

Sample Id: D 11-5 Weight: 2.5 Kg Depth: 2540-2560

Mn Crust Description

Surface Texture: smooth, bulbous

Mn Crust Thickness:

Min: 40 Max: 70 Ave: 49

Layers (Outer to Inner):

	Min	Max	Ave	Texture
1.	5	9	7	brown, laminated
2.	3	5	4	brown, laminated
3.	30	45	32	black shiny massive and laminated layers
4.	ϕ	10	6	brown laminated
5.				
6.				

D 11-5

Comments and XRD Mineralogy:

Probable phosphorite in brown layers.

ANALYS

Subsample & Type	Analysis	Weight

Substrate Description

Rock Type: ϕ

Description:

Described By: LB Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: 18x7x17 cm Location: [illegible]

Sample Id: D11-6 Weight: 1.6 kg Depth: [illegible]

Mn Crust Description

Surface Texture: [illegible]

Mn Crust Thickness:

Min: 35 Max: 70 Ave: 45

Layers (Outer to Inner):

	Min	Max	Ave	Texture
1.	8	12 mm	10	laminate w/ [illegible]
2.	25 mm	50 mm	32	[illegible]
3.	4 mm	[illegible]	4 mm	porous to massive
4.				
5.				
6.				

Comments and XRD Mineralogy:

Layer B only attached to part of crust broken off elsewhere.

Some Clasts floating in lower crust may be present in Chem Sample.

Fractures contain clay linings.

ANALYSES D11-6

Subsample & Type	Analysis	Weight
D11-6A Bulk	CC	50 mm

Substrate Description

Rock Type: None

Description:

Described By: [illegible] Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: [illegible] Location: Hoss

Sample Id: D11-7 Weight: 0.4 kg Depth: 2540 - 2560

Mn Crust Description

Surface Texture: smooth / bulbous botryoids

Mn Crust Thickness:

Min: 85 Max: 55 Ave: [illegible]

Layers (Outer to Inner):

	Min	Max	Ave	Texture
1.	16 mm	24 mm	17 mm	[illegible]
2.	25 mm	[illegible]	28 mm	[illegible]
3.				
4.				
5.				
6.				

D11-7

Comments and XRD Mineralogy:

[illegible]

2nd layer has a nearly metallic sheen along saw cut

encrust forams on surface

ANALYSES

Subsample & Type	Analysis	Weight
D11-7	dpts	
D11-7 Bulk	CC	45 mm

Substrate Description

Rock Type: [illegible]

none

Description:

[illegible]

clasts ___?___ lower part of sample (phosphorite)

Chemistry probably contains sample of these clasts

Described By: JSM Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: 12x11.5x[illegible] Location: Hess

Sample Id: D11-8 Weight: [illegible] Depth: 2540 - 2560 m

Mn Crust Description

Surface Texture: [illegible]

Mn Crust Thickness:

Min: 38 Max: 45 Ave: 42 mm

Layers (Outer to Inner):

	Min	Max	Ave (mm)	Texture
1.	5	7	7	[illegible]
2.	33	30	35	black [illegible] warts [illegible]
3.	[illegible]	[illegible]	[illegible]	brown [illegible]
4.				
5.				
6.				

D11-8

Comments and XRD Mineralogy:

ANALYSE

Subsample & Type	Analysis	Weight

Substrate Description

Rock Type: [illegible]

Description:

Described By: B

Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: 20 x 12 x 6 Location: Hess Seamount

Sample Id: D11-9 Weight: 1.1 kg Depth: 2540 - 2560 m

Mn Crust Description

Surface Texture: [illegible]

Mn Crust Thickness:

Min: 35 Max: 60 Ave: 45

Layers (Outer to Inner):

	Min	Max	Ave (mm)	Texture
1.	2.0	8.0	4.0	brown [illegible]
2.	25	40	[illegible]	massive black [illegible] fractured
3.	10	12	11	[illegible]
4.				
5.				
6.				

D11-9

Comments and XRD Mineralogy:

possible phosphorite in outer layer, definite in innermost layer

Substrate Description

Rock Type: Φ

Description:

ANALYSES

Subsample & Type	Analysis	Weight

Described By: LB

Subsampled By:

SAMPLE DESCRIPTION

Cruise Id: F7-87-SC Size: 14 x 13 x 6 cm Location: Hess

Sample Id: D11-10 Weight: 1 kg Depth: 2540-2560 m

Mn Crust Description

Surface Texture: smooth, granular sides & bottom

Mn Crust Thickness:
Min: 35 Max: 71 Ave: 45

Layers (Outer to Inner):

	Min	Max	Ave	Texture
1.	4	14	12	laminated, brown
2.	15	30	20	laminated black
3.	12	30	14	disrupted, massive? granular in places.
4.				
5.				
6.				

D11-10

Comments and XRD Mineralogy:

wavy outer layer overlies wavy middle layer which has common poy filled fractures. Round to ∡ phosphate clasts common at base of layer 2. Layer 3 disrupted granular to massive.

Substrate Description

Rock Type: Φ

Description:

ANALYSES

Subsample & Type	Analysis	Weight

Described By: LB Subsampled By:

SAMPLE DESCRIPTION

from 16cm x 10x3cm to 6 x 3x3 cm

Cruise Id: F7-87-SC Size: Various Pieces Location: Hoss

Sample Id: D11-11 Weight: 6.2 kg Depth: 2540 - 2560m

Mn Crust Description

Surface Texture: Smooth to porous, Fe stained

Mn Crust Thickness:
Min: 20 Max: 70 Ave: 32

Layers (Outer to Inner):

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

D11-11

THIS PIECE FOR CHEM

Comments and XRD Mineralogy:

All crust broke from substrate w/smooth to porous surface texture w/Fe Stain

Most Pieces show the same layers as the Rest of this dredge - Outer porous + laminated, Middle Layered - Inner, massive; some layered - 5-6 layers,

Substrate Description

Rock Type: VCNG

Description:

ANALYSES

Subsample & Type	Analysis	Weight
D11-11A	CC	70mm
	Pt, Au	
	REE	
	40-el ICP	

did not submit REE

Ree sample sent for Hg Chem

Described By: JSM Subsampled By: JSM