DREDGE 57
Fukutoku
Smt.

TT192

D57 - S.E. [illegible]

Some very [illegible]. Mn cemented Breccias
Mn sandstones. D57-2 may have sediment [illegible]
[illegible]

SAMPLE ID	*Mn CHEM	Pt & Au*	REE *	Si Chem*	P.Sect.	35mm Pho	Archive	Paleo	XRD
D57-1									of black [illegible]
D57-2	✓								[illegible]
D57-3									
D57-4	✓								
D57-5									

* All chemistry samples have XRD mineralogy done also.

SAMPLE DESCRIPTION

Id: TT192 Size: _____ Location: S.E. Fulmarkan Sm

Sample Id: D57-1 Weight: _____ Depth: 930-1730 m

Mn Crust Description

Surface Texture: [illegible]

Mn Crust Thickness:

Min: _____ Max: _____ Ave: _____

Layers (Outer to Inner):

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

Mariana Islands

D57-1

C[illegible]nts and XRD Mineralogy:

1 bed of green soft 2.5 cm thick [illegible] [illegible] sandstone w/ black [illegible] [illegible] bottom is yellow [illegible] mud and [illegible] mudstone

Substrate Description

Rock Type: [illegible]

Description:

[illegible] contains some large Volcanic clasts cemented by Mn. Upper surface contains some black crystals (probably [illegible])

Bottom [illegible] mudstone [illegible] Mn

ANALYSES

XRD – Black crystals, sampled larger ones (10mm) smaller ones still in place.

OVER

Described By: JSM Subsampled By:

TT192
D57-1

Sample Description

Cruise I.D: ~~L5-83-HW~~ Mariana Is.

Sample I.D: Sta: D57-2

Location: SE Fuko Sokoto Smt

Size: [illegible] Weight: [illegible]

Depth 930-1730 m

Mn crust thickness:

Total: min: max: ave:

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture:

Internal structure:

layered:
laminated:
massive:
porous:
dendritic:
other:

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: Breccia

Description: Red Mudstone clasts w/ sandstone matrix and Hydrothermal Mn cement (maybe hydrothermal iron)

More Black crystals in this sample

Dense Hydrothermal layers present, and a portion of Hydrogenous Crust encrusting forams

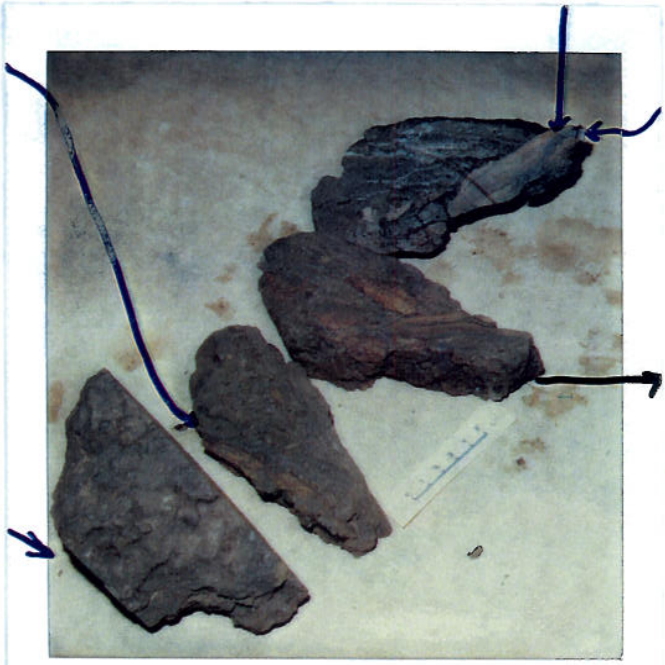
Mineralogy (XRD):

Mariana Islands

D57-2

Analyses and subsamples:

analysis:	analyst:
Chemistry: Bulk crust sample slabbed off back of one of the halves submitted for 'manhattan'	L. Morgenson
XRD: bulk crust from piece submitted for chem (D57-2-I)	
XRD D57-2A MUD/IRON CLASTS	
D57-2B Mn layer within the mud	
D57-2C Mn Sandstone layer	
DPTS	



TT192
D57-2

TT192
D57-2

D57-2
TT192

SAMPLE DESCRIPTION

Id: TT192 Size: 12x7 [illegible] Location: St [illegible]

Sample Id: D57-3 Weight: [illegible] Depth: 930 [illegible]

Mn Crust Description

Surface Texture:

Mn Crust Thickness:

Min: Max: Ave:

Layers (Outer to Inner):

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

Mariana Islands

D57-3

C[illegible]nts and XRD Mineralogy:

ANALYSES

Substrate Description

Rock Type: Breccia

Description:

Breccia of mudstone clasts, cemented by hydrothermal Mn. Mudstone is [illegible] (dry)

Black Crystals: [illegible]

Described By: JSM Subsampled By:

Sample Description

Cruise I.D: Mariana Is. ~~[illegible]~~ Sample I.D: Sta: D57-4 Location: SE Fukutoku Smt

Size: Spices Weight: 984 gms total (cont)
from 16x8x3 to 4.5x3x1.8 cm

Depth: 930-1730 m

Mn crust thickness:

Total: min: max: ave:

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture:

Internal structure:

layered:
laminated:
massive:
porous:
dendritic:
other:

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: Manganiferous Sandstone

Description: Volcanic clasts (up to 2.5 cm)
Some dense hydrothermal Mn Mn cement
Alone Black Crystals

Mineralogy (XRD):

Mariana Islands

D57-4

Analyses and subsamples:

analysis:	analyst:
Chemistry: Bulk crust sample from one of the medium-sized pieces (less labeled) for "manhole"	L. Morgenson
XRD: bulk crust from piece sent for chem. (D57-4-I)	

SAMPLE DESCRIPTION

Id: [illegible] Size: [illegible] Location: [illegible]

Sample Id: D57-5 Weight: [illegible] Depth: [illegible]

Mn Crust Description

Surface Texture:

Mn Crust Thickness:

Min: Max: Ave:

Layers (Outer to Inner):

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

Mariana Islands

D57-5

C[illegible]nts and XRD Mineralogy:

ANALYSES

Substrate Description

Rock Type: Breccia 2

Description:

One Volcanic Breccia w/ Mn cement (has black crystals)

One Breccia w/ mudstone clasts, sandy matrix and Mn cement; also contains layers of Mn

One small Manganese [illegible]

Described By: JSM Subsampled By: