DREDGE 6
Daon Smt.

SAMPLE ID	Mn CHEM	Pt & Au	REE	Si Chem	P.Sect.	35mm Pho	Archive	Paleo	Special KRD				
D6-1									✓				
D6-2													
D6-3													
D6-4													
D6-5													
D6-6									3 samples				
J. Hein wanted to do Mn crust chem by													
combining several samples from this													
dredge. However, not enough crust													
to do a clean sample. J.M. 2-88													

Sample Description

Cruise I.D: ~~L5-83-HW~~ MARIANA ISLANDS

Sample I.D: Sta: D6-1

Location: Daon Seamount

Size: 8 broken pieces 5x5x5cm (largest) Weight: 410g

Depth: 1946-1656m

Mn crust thickness:

Total: min: 0 max: 1 ave: .5mm

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: Granular / Porous (like substrate)

Internal structure: -0-

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

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:
Small amount of Fe oxides on crust
Also a few worm tubes

Substratum:

Rock type: Andesite

Description: Light gray glassy w/ pumice-like texture, vesicular (vesicles are 1-4mm in diameter) w/ abundant pyroxene needles, moderate plagioclase phenocrysts & another mafic oval-shaped mineral. The vesicles & pyroxene phenos are subparallel. Small areas of tan, calcareous sediment

Mineralogy (XRD):

Marianas Islands
D6-1

Analyses and subsamples:

analysis:	analyst:
Sampled for XRD: D6-1-II: Mn-bulk (contaminated w/ substrate)	Charlaine

Sample Description

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

Sample I.D: Sta: D6-2

Location: Daan Seamount

Size: 13x6cm Weight: 420g

Mn crust thickness:

Total: min: 0 max: 1mm ave: .5mm

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: Granular (microbotryoidal)

Internal structure: -

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

Mineralogy (XRD):

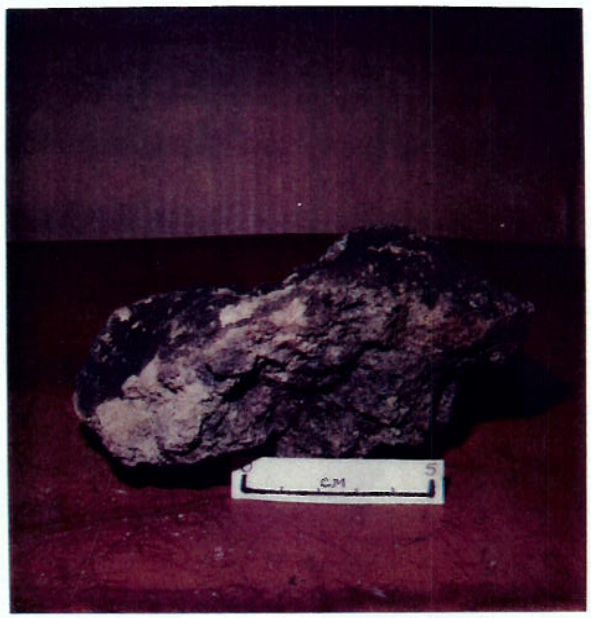
Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: Andesite

Description: See D6-1
Also has large areas of thin tan, calcareous sediment coating.

Mineralogy (XRD):



Marianas Islands
D6-2

Analyses and subsamples:

analysis:	analyst:

Sample Description

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

Sample I.D: Sta: D6-3

Location: Dawn Seamount

Size: 12x9x5cm Weight: 245g

Mn crust thickness:

Total: min: 1 max: 2 ave: 1mm

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: Microbotryoidal - porous

Internal structure:

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

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: Andesite

Description: See D6-1
Almost completely covered w/ a thin coating of silty, tan, calcareous, sediment

Mineralogy (XRD):

Marianas Islands
D6-3

Analyses and subsamples:

analysis:	analyst:

Sample Description

Cruise I.D: ~~L5-83-MW~~ Mariana Islands

Sample I.D: Sta: D6-4

Location: Door Seamount

2 largest

Size: 7x5x3cm Weight: 460g

7 small broken pieces

Mn crust thickness:

Total: min: 1 max: 2 ave: 1 mm

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: Microbotryoidal-porous

Internal structure:

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

Mineralogy (XRD):

ssociated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: Andesite

Description: See D6-1 Also one piece has one worm tube and possibly a sponge? or other type of cylindrical biota that is covered w/Mn

Mineralogy (XRD):

Mariana Islands
D6-4

Analyses and subsamples:

analysis:	analyst:

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

Sample Description

Sample I.D: Sta: D 6-5

Location: Daon Seamount

Size: ~~[illegible]~~ Weight: 3.82 kg

2 large & 5 small pieces ≈ 8x7x5.

Mn crust thickness:

Total: min: 0 max: 2 ave: 1mm

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: Granular porous

Internal structure: 0

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

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Fe-oxidized worm tubes

Substratum:

Rock type: Andesite

Description: See D6-1

Mineralogy (XRD):

Marianas Islands
D6-5

Analyses and subsamples:

analysis:	analyst:
Sampled for XRD	Charlaine
D6-5-I: bulk Mn	

Marianas Islands

D6-5

Sample Description

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

Sample I.D: Sta: D6-6

Location: Daan Seamount

Size: 14.9x8cm largest Weight: 1.31 kg

Mn crust thickness: none - just forming w/individual grains speckled on surface along w/lithic grains 6 pieces

Total: min: max: ave:

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: Granular

Internal structure:

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

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: 'Lithic' Mudstone

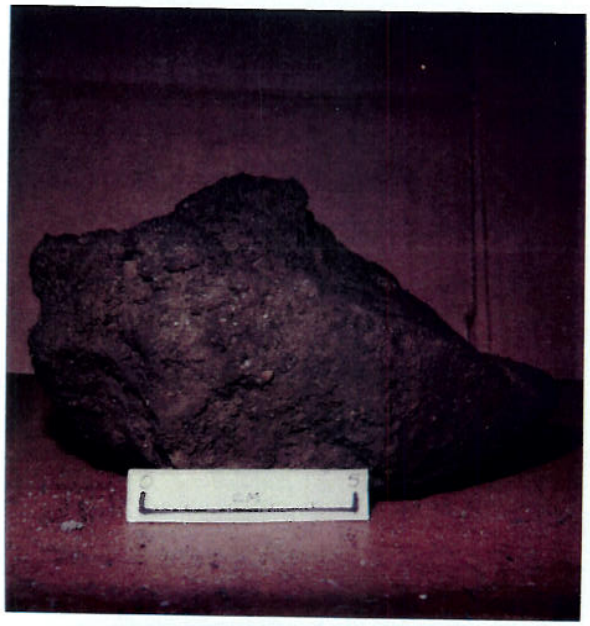
Description: Green-gray lightly compacted, slightly sandy mudstone with subrounded lithic fragments of quartz? feldspar? shells?? & Mn lightly coating outer surfaces. Mudstone is easily broken apart.

Mineralogy (XRD):

Mariana Islands
D6-6

Analyses and subsamples:

analysis:	analyst:
Sampled for XRD	Charlaine
D6-6-III - speckled surface	
D6-6-I - bulk mudstone	
D6-6-II - large grain or clast of ~~pyroxene~~? Amphibole	



Mariana Islands

D66