Dredges 4 ~~and 5~~

Cruise I.D: L9-84-CP Sample I.D: Sta: 4 D 4-4 Location: Erikub SW7

Size: 7x5x4 cm Weight: 0.1 kg Depth: 3550 m

Mn crust thickness:

Total: min: 1mm max: 5mm ave: 3 mm

Inner crust: min: — max: — ave: —

Outer crust: min: — max: — ave: —

Surface texture: knobby (porous)

Internal structure:

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

Mineralogy (XRD):

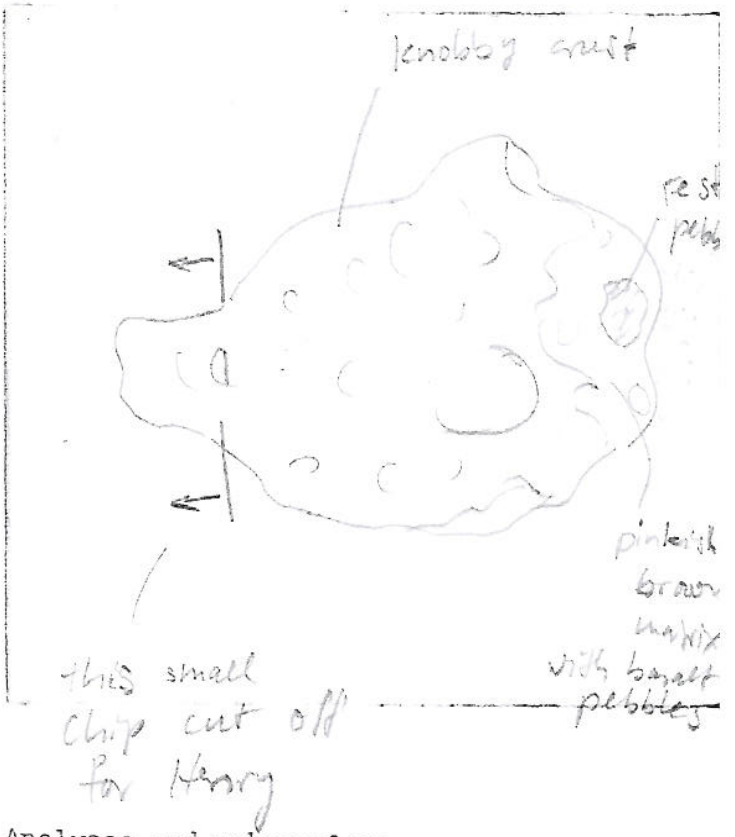
Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: volcanic breccia

Description: same as D4-1

Mineralogy (XRD):



Analyses and subsamples:

analysis:	analyst:
2cm piece to piece to	Henry Heyer Laurie M. (Scrip
Sampled for bulk chem Mn crust + substrate	C. Daniel

Sample Description

Cruise I.D: L9-84-CP Sample I.D. Sta: 4 & 4-2 Location: Erikub SW 70

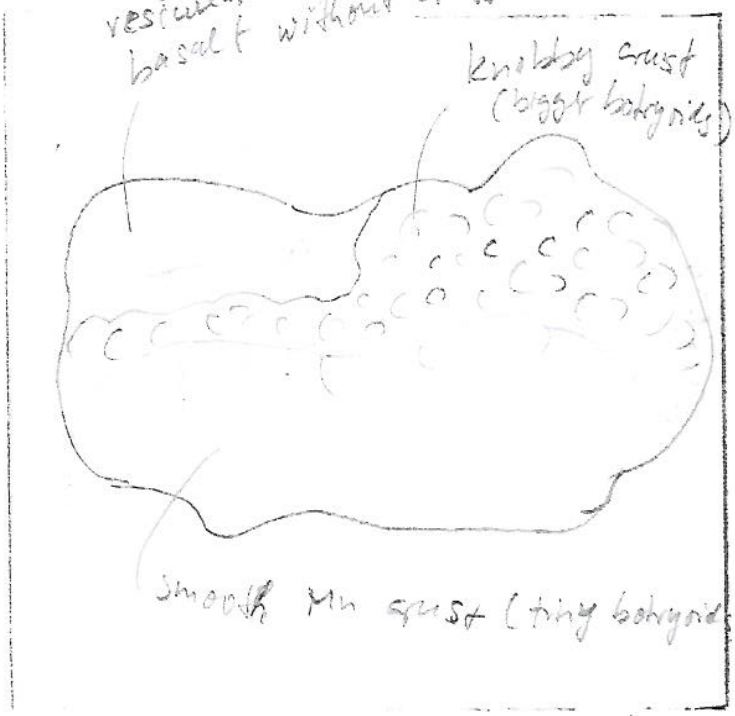
Size: _____ Weight: _____ Depth: 3550 m

Mn crust thickness:

Total: min: 1mm max: 6 mm ave: 3 mm

Inner crust: min: ___ max: ___ ave: ___

Outer crust: min: ___ max: ___ ave: ___



Surface texture: knobby and granular

Internal structure:

layered: ✓ faint layers
laminated:
massive: ✓
porous:
dendritic:
other:

Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:
clay + calcite in vugs, some Fe oxide stains

Substratum:

Rock type: basalt cobble

Description: dark-gray, well rounded basalt cobble, v. fine grnd. holoxylline plag. + augite (?) olivine (pseudo)? ~15% vesicles

Mineralogy (XRD):

Analyses and subsamples:

analysis:	analyst:
crust scraped off	Tim Ling XRF
piece for T.S.	A. Davis
small piece to	Henry Meyer
[illegible] for XRD	A. Davis?
D4-2 bulk Mn 0-6mm	

Sample Description

Cruise I.D: L9-84-CP | Sample I.D: Sta: 4 D 4 — 1 | Location: Erikub SW 77

Size: 12x10x10 Weight: ~1.2 kg

Depth: 3550 m

Mn crust thickness:

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

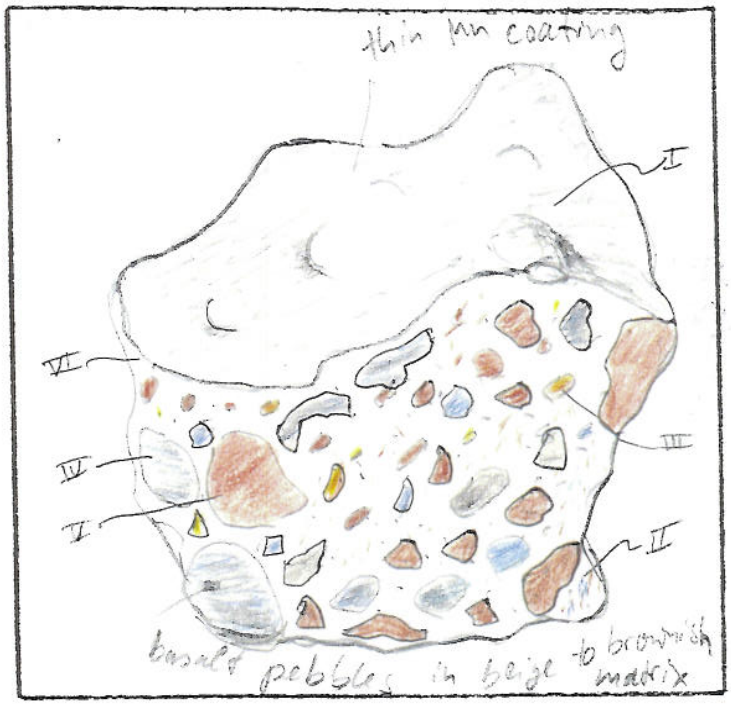
Inner crust: min: — max: ave:

Outer crust: min: — max: ave:

Surface texture: smooth

Internal structure: —

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



Mineralogy (XRD):

Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: Volcanic breccia in ~~phosphatized calcareous matrix~~

Description: well-rounded and angular basalt clasts (sand size to several cm) in beige phosphatized limestone matrix. Some basalt clasts vesicular most massive, some red-brown altered palagonite (?) clasts, also limestone clasts

Mineralogy (XRD):

Analyses and subsamples:

analysis:	analyst:
1/3 to Janet Higgerty piece for T.S.	A. Davis
For XRD:	C Daniel
I Mn crust too thin (mostly substrate)	
II breccia - bulk	
III tan sed (clast altered to clay)	
IV gray altered clast	
V orange " "	
VI white sed. (matrix) w/ Mn speckles	
Sampled for bulk chem of Mn crust + substrate	C. Daniel

USGS DREDGE STATION LOG

Erikub SW 770

SHIP / LEG L9-84-CP

	on bottom	off bottom
LATITUDE	08° 44.802	08° 44.378
LONGITUDE	169° 44.262	169° 43.833

STATION NO. Sta. 04

LINE NO. Dredge 4

Depth = 3550 m

DAY/MONTH/YEAR

DATE 29/7/841

TYPE OF STORAGE (check one)

☐ DRY ☐ COLD ☐ FROZEN

SAMPLE NO. TYPE & ID.	UNCORRECTED DEPTH (M)	CORE LENGTH	BASIC LITHOLOGY	AGE OF BOTTOM

REMARKS: Total recovery ≈ 4 kg : 5 cobbles of basalt and volcaniclastic rock ranging in size from 4 to 14 cm. All five have thin Mn oxide crust on one side. Mn crust ranges from very thin coating to 6 mm maximum. Surface texture vary from smooth, abraded to knobby with small botryoids. Basalt clasts are well rounded with some clastic (sandy) matrix adhering to one side indicating that these are large clasts out of same debris flow.

NEBOO

SMEAR SLIDE DESCRIPTION

LOCATOR	SAMPLE NO.	SEC.	INTERVAL	STATION NO.	Dom. LITH.	Minor LITH.	OBSERVER
L9-84-CP	D4-4						JAH

Sediment Name: palagonite and feldspar-bearing silty clay A.D.

ABUNDANCE	TEXTURE	SPECIFIC DATA
	Sand	
15%	Silt	
85%	Clay	
	COMPOSITION	
	Quartz	
7% ✓	Feldspar	
	Mica	
TR ✓	Heavy Mnls. / opaques	
	Total Detrital	
90% ✓	Clay Mnls.	
	Volc. Glass	
5 ✓	Palagonite	
	Chlorite	
	Glauconite	
	Pyrite	
	Micro Nodules	
	Dolo. Rhombs	
TR ✓	Zeolite	
3	Auth. Carb.	
	Rock Frags.	
TR ✓	Foraminifera	broken shells
TR ✓	Calc. Nannos	
	Diatoms	
	Radiolarians	
	Sponge Spic.	
	Silicoflag.	
	Fish Remains	
	Plant Debris	

PER-CENT	DETAILED MINERALOGY

REMARKS:

DATA CODE LEGEND

Fossil preservation
G = good
M = moderate
P = poor

Abundance code
1% = TR (trace)
1-5% = R (rare)
5-25% = C (common)
25-75% = A (abundant)
75% = D (dominant)

NEBCO

Cruise I.D: L9-84-CP Sample I.D: Sta 4 D 4-5 Location: Erikub SW

Size: 5x3x2 cm Weight: 0.05 kg Depth: 3550 m

Mn crust thickness:

Total: min: 0 max: 1 mm ave: 0.5 mm

Inner crust: min: max: ave:

Outer crust: min: max: ave:

Surface texture: Smooth, abraded

Internal structure:

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

Mineralogy (XRD):

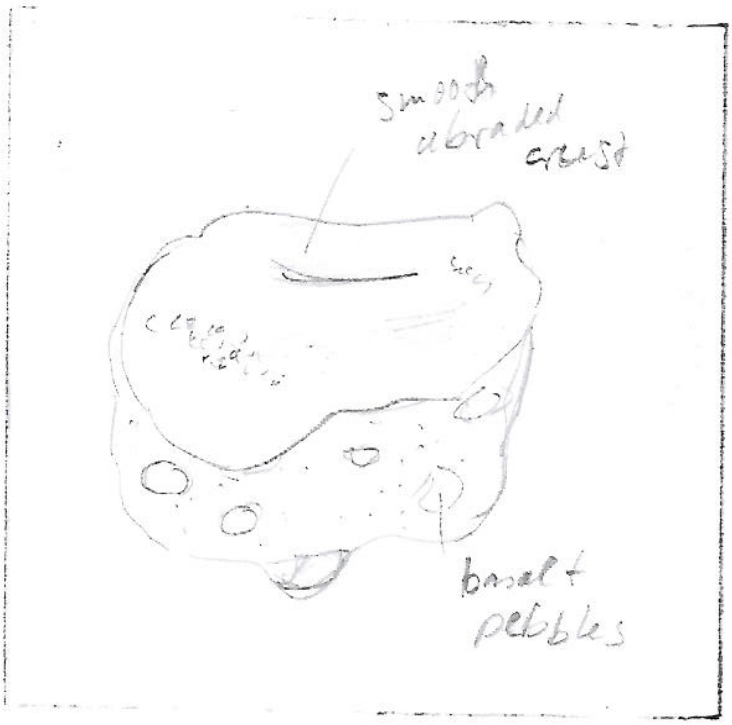
Associated alteration, phosphorite, or hydrothermal deposits:

Substratum:

Rock type: Volcanic breccia

Description: gray to tan calcareous matrix with rounded + angular basalt clasts, sand size to 1 cm

Mineralogy (XRD):



Analyses and subsamples:

analysis: analyst: