DATE: 31 July 1984 SAMPLE:
CRUISE ID: SO 33 2 DK Box dredge
LOC: I
AREA: A (Cross Seamount)

	time (GMT)	LAT (N)	LON (W)	water depth (m)	wire o
ON BOTTOM =	1247	18°38.5532	158°17.6935	1924	348
OFF BOTTOM =	1403	18°38.5784	158°18.0148	1883	200

time on bottom = 1 hr. 21 min

RECOVERY WEIGHT = Total: 500 kg Crust: 20?

CRUST THICKNESS = Veneer to 7.5 cm
Avg = 1 cm
2 generations of crust

SUBSTRATE = Altered basalt, hyaloclastite, breccia w/ trachyte clasts. Phosphorite between the Mn layers.

COMMENTS:

2 generations of Mn crust, with phosphorite between the layers. Surfaces of Mn are either very smooth (from currents) or knobby

* smear slides made of sediment (very little recovered)
* 1 microbio sample
* 1 bio sample

2DK

	2DK1	2DK2	2DK3	2DK4
	Trachyte, massive	Trachyte, Hyalo clasts in volcaniclastic breccia	Basalt, massive	Basalt, Hyaloclastite
Color:	Medium light gray (N6)	Light gray (N7)	Dark Gray (N3) to grayish black (N2)	Pale yellowish-orange (10 YR 8/2) to light brown (5 YR 5/6)
Groundmass:	tabular feldspar, biotite, opaques	tabular feldspar, biotite, opaques	acicular feldspar, opaques	
Texture:	Subaphyric subtrachytic to trachytic, hyalopilitic to intersertal	subaphyric subtrachytic to trachytic, hyalopilitic to intersertal	Porphyritic, hyalopilitic	Aphanitic, hyalopilitic
Phenocrysts:	plagioclase? Sanidine? Biotite	Plagioclase? Sanidine?) Biotite	Plagioclase	
Size (mm) Range:	0.5 – 1.5 mm (2)	← do →	1–3 mm	—
Avge:	0.00 mm		1.5 mm	—
%	1% Sanidine? (feldspar) 1–3% Biotite		7–10% Plag.	
Vesicles:	not observed, rare(?)		0.5 mm – 1.5 mm	not observed
Size (mm) Range:			1 mm	
Avge:				
filling:			Goethite lining, fascicalate zeolites (yellowish) Calcite (whitish)	not observed
Shape			round to oval	
%			10–15%	
% amygdules			35–40%	
Size-S	1 mm – 300 mm		1 – 30 mm	
Remarks:	Very directed texture, subparallel orientation of sanidine(?) plates, phenocrysts less so. pebble-to-cobble-size subangular to subrounded clasts, most coated with thin MnO_2 layer, though somewhat free of it, some dendritic MnO_2 along fractures and as spots on uncoated pieces;	Same as massive material but more altered (sweetitization, zeolitization, oxidation) pebble to boulder-size subrounded clasts frequently bearing no or little MnO deposits (removed through abrasion?) deposit rests directly on underlying massive trachyte; [illegible] rock fragments; Graded bedding	pebble-to-boulder-sized subangular to Intense layering of vesicles parallel to upper contact with Mn-oxide lag (usually thin) and alteration orientation of plagioclase pxts, oxidation particularly strong around pockets/series of vesicles and alteration near upper contact (paleosol?) phenocrysts include altered glass, sometimes [illegible]	Intensely altered to sweetitized zeolites iron oxides (goethite)

Schiff	Fahrt-Nr.	Stat.-Nr.	Gerät	Lok.	Areal
S O	33	2	DK	I	A

Datum: 31.07. 1984 (Date) Protokoll: Otten, Sattler (On Duty)

GMT — Water Depth — Cable — tension on cable

	Zeit	N	W	Tiefe	Seil (m)	Seilzug (t)
Beginn Operation	11.13	18°37.416	158°17.045	2680	0	
Beginn Fieren (Lower on bottom)	11.19	18°37.420	158°17.087	2677	0	1.0
1. Bodenkontakt	12.47	18°38.496	158°17.550	1927	3500	5.0
Ende Bodenkont. (off bottom)	14.03	18°38.291	158°17.433	1893	2000	4.0
Hieven Lift						
2. Bodenkontakt						
Ende Bodenkont.						
Hieven Lift						
3. Bodenkontakt						
Ende Bodenkont.						
Beginn Hieven						
Ende Hieven					0	
Ende Operation	14.44	18°38.039	158°17.153	2033	0	

Kurs Schiff (course ship): o Geschwindigkeit Schiff: kts

Ge samtzeit am Boden: min Länge des Dredgezuges (length of ship): m

Bodentopographie: Bottom topography

Ergebnis:

Knollen (nodule): Kg

Krusten (crust): "

Basalt: "

Sediment: "

Sonstiges (Bims, Org. u.a.): "

Echogramm:

Seil Ø : 18mm

Winde: Fischer

Fotos:

Comments

Weitere Bemerkungen siehe Anlageprotokoll

Basaltisches Substrat (Breccien) Hyaloklastit und Trachyt (?) mit häufig dicker Krustenbedeckung (2 Generationen). Phosphorit zwischen den beiden Generationen. Oberfläche meist glatt; Strömungsplatten (?) mit knotiger Kruste. Menge ca. 500 kg

ZDK

ANLAGEPROTOKOLL Seite: ..... von: .....

Zu: 2 DK

So 33 Fahrt: So 33 Station: 2 DK Position:

Bearbeiter: Ohm, Sa[illegible] Datum: 31.07.84

13.08 10.0 t

13.38 15.0 t (Hänger)

13.58 Dredge frei

2DK