(219)

DATE: 6 August 1984 SAMPLE: 15 DK Box dredge

CRUISE ID: SO 33

LOC: II

AREA: B

	time (GMT)	LAT (N)	LON (W)	water depth (m)	wire out
ON BOTTOM =	0620	9°42.9798	162°10.0241	1602	1850
OFF BOTTOM =	0747				1299

RECOVERY WEIGHT = total 36 kg crust 10 kg

CRUST THICKNESS = 0.5 cm – 4 cm Avg = 2 cm

2 generations

Partly polished surface (current scour texture)

SUBSTRATE = Hyaloclastite boulder (60 cm × 6 cm)

COMMENTS: Top of crust has "living" burrows, and a worm attached. Shark's tooth encrusted in the Mn, also scour texture on the Mn surface.

One large boulder w/ thick crust (4 cm) and chips of Mn crust (loose)

(large boulder, immediately decrusted + pounded into pieces)

* 1 bio sample

	SO33 15DK1	SO33 15DK2	SO33 15DK3
Rock Type:	Basalt (AOB?) (massive)	Basaltic breccia	clastic - fragments [illegible]
Color:	Olive gray (5Y 4/1) to dusky yellowish brown to grayish-brown (5YR/3/2)	Moderate brown (5YR 4/4)	very pale orange (10YR 8/2) to pale yellowish-brown
Texture:	Aphanetic hyalopilitic	Clastic (hyalopilitic, aphanitic)	granular
Phenocrysts	not observed	not observed	—
Groundmass:	not resolved	not resolved	—
Vesicles	shape: round to irregular, size: ± 1mm – ±5 mm, % 0 – ±35%	not detected	—
Alteration:	Strong - intense (Smectitization, Zeolitization? oxidation/hydration	intense oxidation! (Smectitization, Zeolitization? hydration	phosphorization?
Remarks:	Scarcity of basalt (massive) in this dredge. Pebble clasts included in basaltic breccia is dense, aphanitic highly smectitized; 2 other, Manganese-coated fragments are heavily oxidized, very vesicular (top of a subaerial flow?). α-MnO_2(?) coating is thin (± 1mm), wavy, following rough topography of vesicular basalt.	most abundant rock recovered - seems consistent with similar material dredged from other parts of the gap. gravel-size fragments of glassy basalt cemented with calcite or calcareous ooze - probably phosphatized. much open space between grains not cement-filled. covered with thin (± 1 mm) layer of β-MnO_2? / has to some extent pseudomorphed open spaces in breccia; follows rough topography of the breccia	rare coarse gravel-size fragments (main mass plastic so friable that most was lost due to grinding by harder rocks in the dredge; contains ± 1 mm-dia pores; appears, in some samples, to have abundant coloring from MnO_2(?) dust.? Sparse nodules, warty botryoidal, reached 5-10 cm diameter, some thicker ± 1 cm, consists of some hydrotasite
Sorting:	—	moderately sorted	moderately well-sorted
Cement:	—	Calcite phosphorite Zeolite (?)	calcite / phosphorite?
Large grainsize:	—	± 3 mm (fine gravel)	± 0.20 mm
Matrix:	—	interspersed altered glassy basalt	80-95% globigerina (foraminifera) ooze - consolidated. basaltic glass shard fragments, MnO_2 micronodules
Porosity:	—	± 35%	± 50%
Permeability:	—	± 30%	± 50%
Grain shape:	—	subangular to subround	flattened subrounded coarse gravel

MISSING!

SO33 15DK4

Rock Type: Ferromanganese nodular

Color: Brownish-black (5YR 2/1)

Texture: dendritic (internally); grossly reniform, finely nodose surfaces

Remarks: probably dendritic accretion around volcanic, volcanogenic sedimentary rock fragments (pebble-size) (not sawed open to see); subspherical to favoid in shape; very similar to nodules recovered in dredge 9

SO33 15DK5

Ferromanganese encrustation

→ -do-

laminar internally

→ -do-

loose gravel-to-pebble-size fragments (angular, flat-spalls) derived from comminution (by dredge?) of encrustations on volcanic or volcanogenic sedimentary rock clasts (we were not allowed samples) took a few scraps with no adhering substrates)

SO33 15DK6

Basalt hyaloclastite (ADS?)

Pale yellowish-orange (10YR 8/6) + Black (N1) (pepper-and-salt texture) pyroclastic

(Matrix): Glass shards - ±80%

(Large Grain Size): ± 1mm

(Large Grain Shape): subangular

(Cement): ferromanganese? (black granular, ± 20%) / phosphate

(Sorting): moderately sorted

(Porosity): ± 80 %

(Permeability) ± 50%

(Alteration) Totally altered (argillation to smectite, zeolitization, phosphatization of cement

(Remarks): subangular pebbles forming nuclei for accretion of dendritic ferromanganese oxide; often over coated w/ thin patina of brown remobilized iron oxide; remarkably similar, (as is all material from 15DK) to lithologies of 9DK