DATE: 21 August 1984 SAMPLE: 60 GK Spade core
CRUISE ID: SO 33
LOC: VII
AREA: E

	time (GMT)	LAT (N)	LON (W)	water depth (m)	wire o
ON BOTTOM =	2245				1571
OFF BOTTOM =	2245				1562

RECOVERY WEIGHT = total 0.5 kg

CRUST THICKNESS = 0.5 cm knobby crust

SUBSTRATE = hyaloclastite

COMMENTS:

* confidential

60 GK

Sample Description

Cruise I.D: SO 33

Sample I.D: Sta: 60 GK

Location: "Keli" Ridge

Size: _____ Weight: _____

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: _____

Description: _____

Mineralogy (XRD):

Analyses and subsamples:

analysis:	analyst:

60GK

Rock Type: Basaltic Hyaloclastite (AOB(?))

Color: Moderate brown (5YR 3/4)

Texture: Pyroclastic

Matrix: Basaltic glass fragments, shards

Cement: Calcite(?)

Average grain size: (Range: Sand to coarse gravel size) (± 1mm avg)

" grain shape: angular

Sorting: moderately poor

Porosity: ± 50%

Permeability: -do-

Alteration: Complete? (oxidation, hydration, iddingsitization of olivines, smectitization, zeolitization(?) of glass)

Remarks: Single ferromanganese crust, covered slab (± 5 mm thick knobby warty surface) ± 6 inches long by ± 3 inches wide, by ± 1 inch thick hyaloclasts apparently cemented, lithified in primary place of deposition as there is little evidence of reworking of the matrix material

(* no sample was given)

62DK1

Olivine [Tholeiitic(?)] Basalt

Pale brown (5YR 5/2)

Phyric; intersertal

(Phenocrysts) Plagioclase, ±15%, ± 2 mm avge (wide variation)
Olivine, ±10%, ±2 mm avge, -do-
Clinopyroxene, ±5%, ±1 mm avge

(Groundmass) Plagioclase
Clinopyroxene?
Olivine
glass?
opaques?
(not determined)

(Vesicles:) %: 35%
Size: ± 1 mm (large variation)
Shape: round to irregular
filling: zeolites, calcite

extensive (oxidation, hydration, smectitization, iddingsitization of olivines; carbonate zeolitization)

Large cobble-size, rounded clasts (wave-worked subaerially?) displaying effects of both chemical and mechanical weathering; probably oxidized in part (iddingsitization) prior to eruption; clasts display zone (± 1cm thick) of peripheral exposure weathering; feldspar phenocrysts display strong zonation (changes in magma chemistry prior to eruption); probably a subaerial flow basalt (flow structure evident, large, abun. vesicles); serves as substrate for deposition of ± 2 cm-thick encrustation of knobby, warty ferromanganese oxide.