ICELAND RESEARCH DRILLING PROJECT

REYDARFJORDUR 1978

DETAILED CORE LOG

VOLUME I

Compiled and Edited by

the scientific staff at the Reydarfjordur Drill Site and by

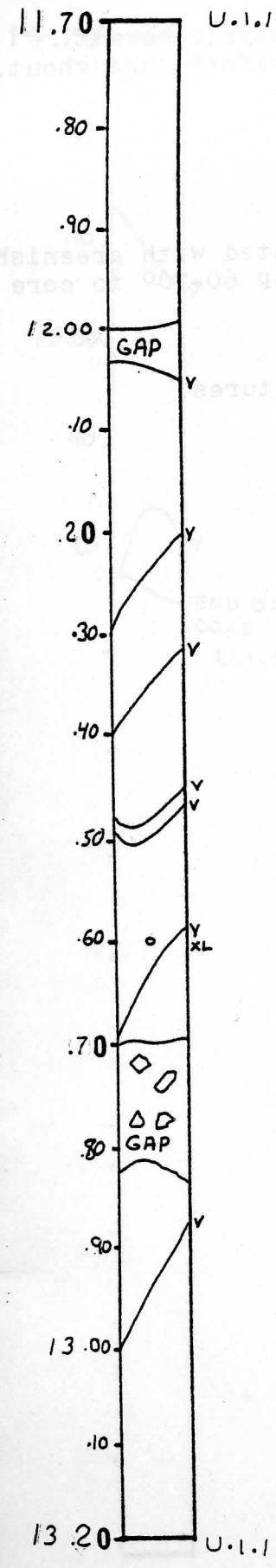
the technical and secretarial staff of

the Department of Geology, Dalhousie University

Visual Core Description Observer PTR

Depth Interval 1170 cm to 1320 cm

Box 1 , Section 1



LITHOLOGY PETROGRAPHY

Light to medium grey, fine to medium grained, equigranular basalt. Aphyric, non vesicular. Maximum grain size 1mm. Grain size is uniform throughout. Unit 1.1. no contacts in section.

12.60 Small crystals clot of plagioclase and clinopyroxene.

VESICLES/AMYGDALES

None observed.

FRACTURES - VEINS - BRECCIA

12.20 Hairline fractures coated with black smectite. Fractures have high core angle about 60°; mostly planar.

12.31 Veins at 12.31; also has minor white carbonate.

ROCK ALTERATION

Fresh; little or no alteration halo along fractures and veins.

STRUCTURE

Massive, equigranular basalt.

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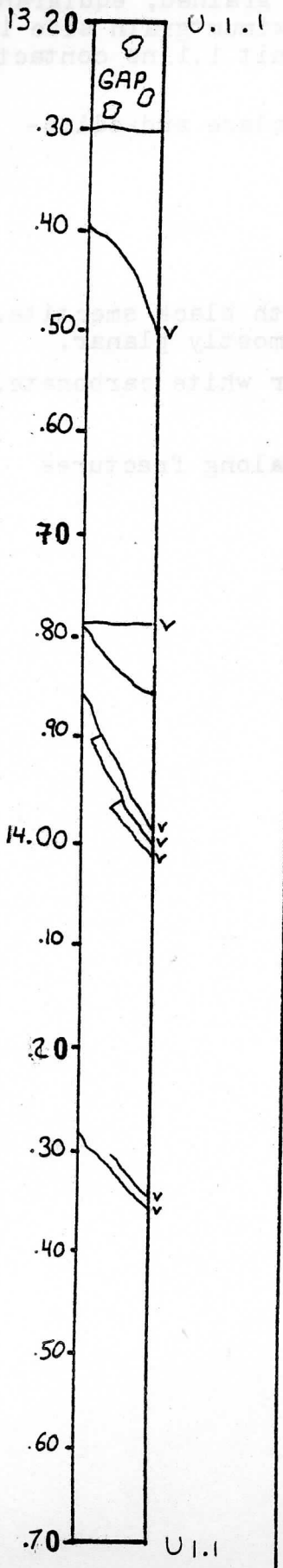
Visual Core Description Observer PTR .....

Depth Interval 1320 cm to 1470

Box 1 , Section 2



LITHOLOGY PETROGRAPHY

Light to medium grey, even grained, aphyric basalt. Maximum grain size 1mm. Grain size uniform throughout. No contacts in section. Unit 1.1.

VESICLES/AMYGDALES

None observed.

FRACTURES - VEINS - BRECCIA

13.45 Veins are hairline fractures coated with greenish-black smectite. Fractures mostly steep 60-70° to core axis.

ROCK ALTERATION

Fresh - no alteration halos along fractures.

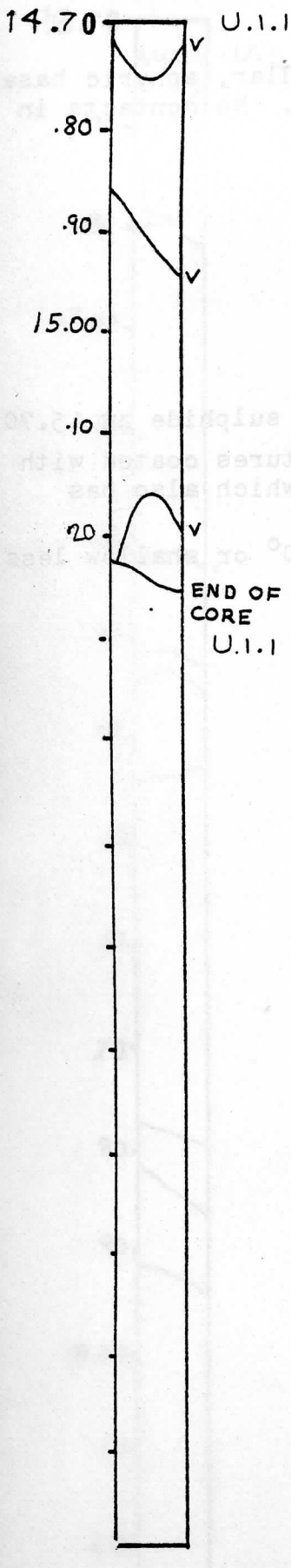
STRUCTURE

Massive, equigranular basalt.

Visual Core Description Observer PTR

Depth Interval 1470 cm to 1524 cm

Box1 , Section 3



LITHOLOGY PETROGRAPHY

Medium grey, equigranular, medium grained aphyric basalt. Grain size uniform throughout; no vesicles. No contacts in section. Unit 1.1.

VESICLES/AMYGDALES

None observed.

FRACTURE - VEINS - BRECCIA

Veins are hairline fractures coated with greenish-black smectite.

ROCK ALTERATION

None observed.

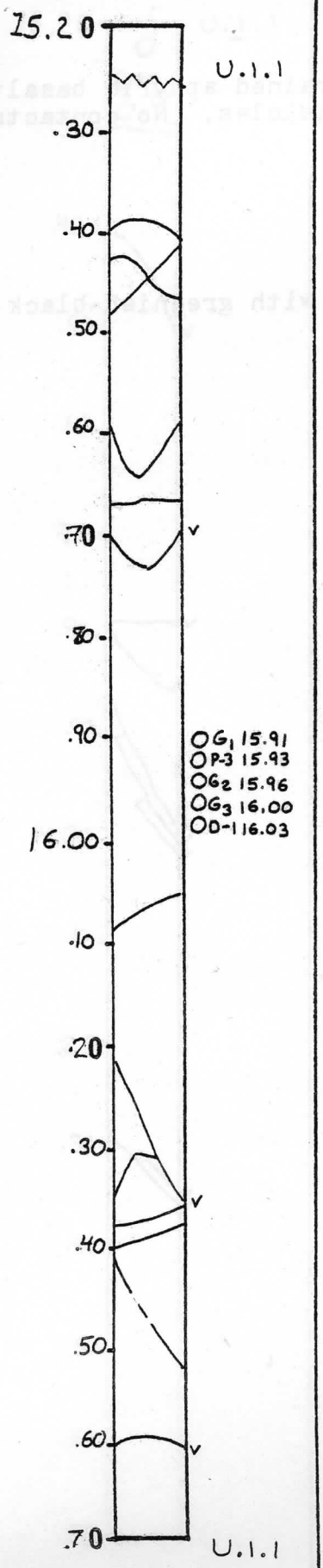
STRUCTURE

Massive, equigranular basalt.

Visual Core Description Observer .....PTR.....

Depth Interval | | | 1 | 5 | 2 | 4 | cm to | | | 1 | 6 | 7 | 3 | c

Box 2, Section 1



LITHOLOGY PETROGRAPHY

Medium grey, medium grained, equigranular, aphyric basalt. Grain size uniform throughout section. No contacts in section. Unit 1.1.

VESICLES/AMYGDALES

None observed.

FRACTURE - VEINS - BRECCIA

15.24 Veins, green-black smectite.

15.40 Veins, green-black smectite.

15.60 Veins, green-black smectite.

15.68 Veins, green-black smectite and sulphide at 15.70.

15.80 Veinlets are all hairline fractures coated with green black smectite except at 15.70 which also has pyrite.

15.95 Fractures either steep about 60° or shallow less than 20°.

16.30 Veins, green-black smectite.

16.50 Veins, green-black smectite.

ROCK ALTERATION

None observed.

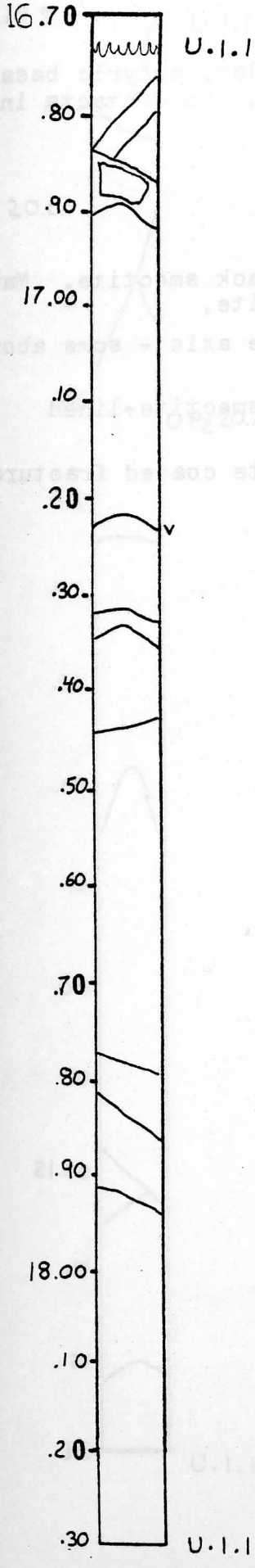
STRUCTURE

Massive, equigranular basalt.

Visual Core Description Observer PTR

Depth Interval 1673 cm to 1830 cm

Box 2 , Section 2



LITHOLOGY PETROGRAPHY

Medium grey, equigranular, medium grained aphyric basalt. Grain size uniform throughout section. No boundaries in section. Unit 1.1.

VESICLES/AMYGDALES

None observed.

FRACTURES - VEINS - BRECCIA

17.00 Veins; many hairline fractures coated with smectite between 17.00 and 17.20.

17.20 Fractures coated with green-black smectite with traces of pyrite.

17.25 Fractures mostly shallow about 10-20°, a few at 60°.

17.50 Veins, hairline fractures coated with smectite between 17.50 and 17.80.

ROCK ALTERATION

None observed.

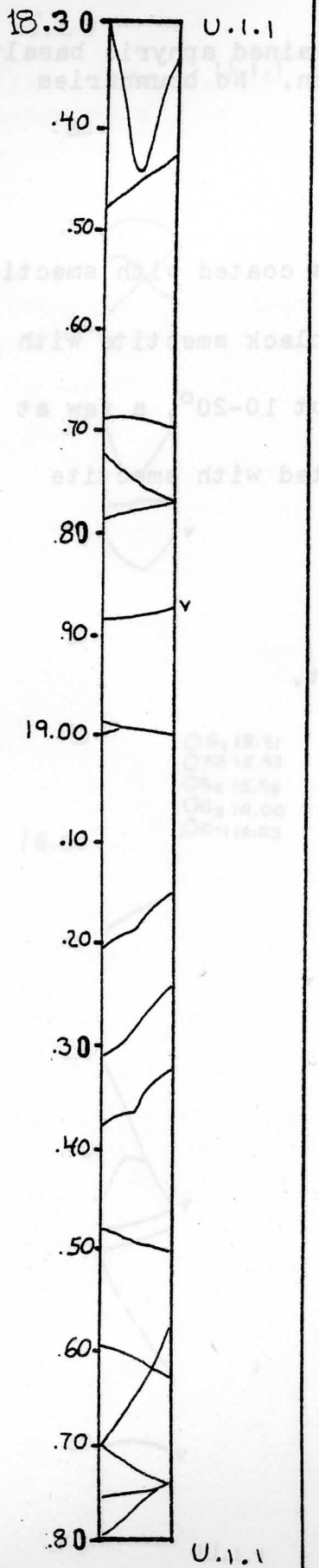
STRUCTURE

Equigranular, medium-grained basalt.

Visual Core Description Observer PTR

Depth Interval 1830 cm to 1980 cm

Box 2 , Section 3



LITHOLOGY PETROGRAPHY

Medium grey, medium grained equigranular, aphyric basalt. Grain size uniform throughout section. No contacts in section. Unit 1.1.

VESICLES/AMYGDALES

None observed.

FRACTURES - VEINS- BRECCIA

18.30 Fractures coated with green black smectite. Many hairline veins also filled with smectite.

18.40 Fractures mostly 10-20° to core axis - some about 60-70°.

18.80 Veins. Trace of carbonate on smectite-lined fracture.

19.50 Veins. Minor pyrite on smectite coated fractures.

ROCK ALTERATION

None observed.

STRUCTURE

Equigranular, medium-grained basalt.

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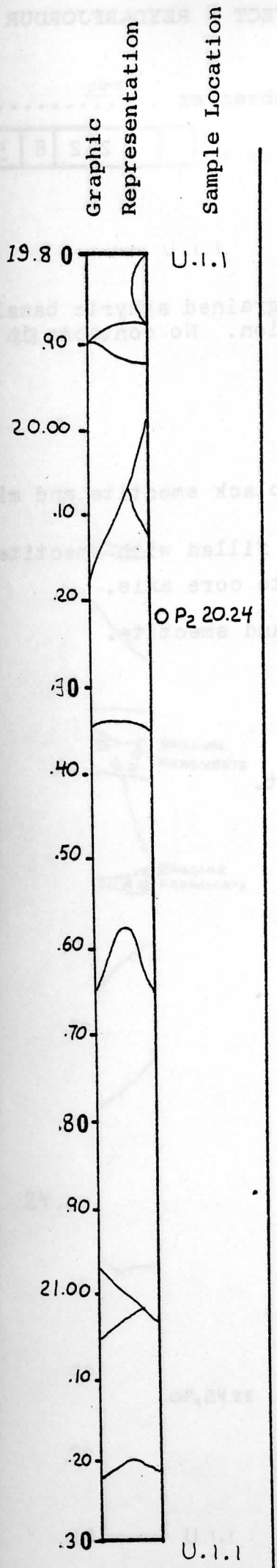
BOX 2 SECTION 4

Visual Core Description Observer PTR

Depth Interval 1980 cm to 2134 cm



LITHOLOGY PETROGRAPHY

Medium grey, equigranular, medium grained aphyric basalt. Grain size is uniform throughout section. No contacts in section. Unit 1.1.

VESICLES/AMYGDALES

None observed.

FRACTURES - VEINS - BRECCIA

19.80 Fractures coated with smectite and minor pyrite throughout.

19.90 Veinlets hairline to 1mm filled with green-black smectite.

20.10 Fractures mostly one of two sets 10-20o and 60-70^{o} to core axis.

ROCK ALTERATION

None observed.

STRUCTURE

Equigranular, medium-grained basalt.

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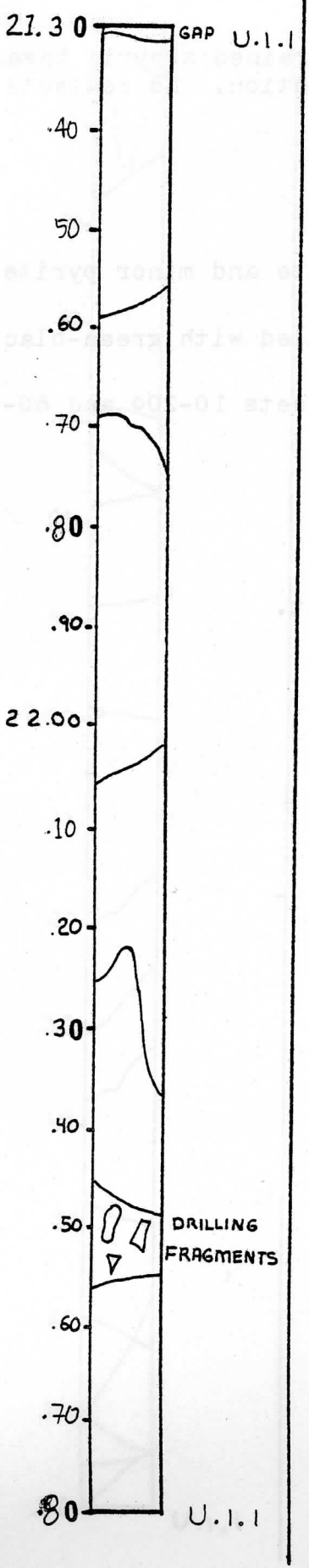
BOX 3 SECTION 1

Visual Core Description Observer PTR

Depth Interval | | | 2 | 1 | 3 | 4 | cm to | | | 2 | 2 | 8 | 5 |



LITHOLOGY PETROGRAPHY

Medium grey, equigranular, medium grained aphyric basalt. Grain size uniform throughout section. No contacts in section. Unit 1.1.

VESICLES/AMYGDALES

None observed.

FRACTURES - VEINS - BRECCIA

21.34 Fractures lined with green-black smectite and min pyrite.

21.40 Many hairline veinlets also filled with smectite.

21.50 Fractures 0-20° and 60-70° to core axis.

22.80 Veins have abundant pyrite and smectite.

ROCK ALTERATION

None observed.

STRUCTURE

Medium-grained, equigranular basalt.

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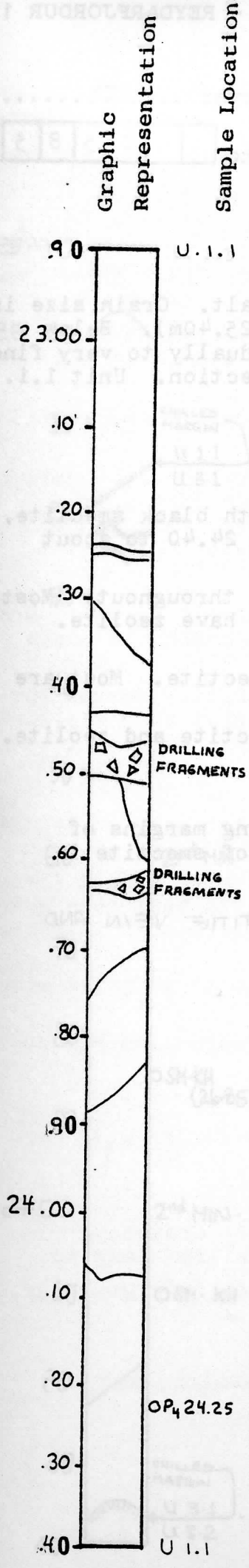
BOX 3 SECTION 2

Visual Core Description Observer PTR

Depth Interval 2285 cm to 2440 cm



LITHOLOGY PETROGRAPHY

Medium grey, equigranular, medium grained, aphyric basalt. Grain size uniform throughout section. No contacts in section. Unit 1.1.

VESICLES/AMYGDALES

None observed.

FRACTURES - VEINS - BRECCIA

22.90 Fractures coated with green-black smectite.

23.00 Veins from hairline to 1mm also filled with smectite.

23.10 Fractures are 10-20° and about 60° to core axis.

ROCK ALTERATION

None observed.

STRUCTURE

22.85 - 23.45 Medium-grained, equigranular basalt.
23.45 - 23.50 Drill fragments.
23.50 - 23.64 Medium-grained, equigranular basalt.
23.64 - 23.67 Drill fragments.
23.67 - 24.40 Medium-grained, equigranular basalt.

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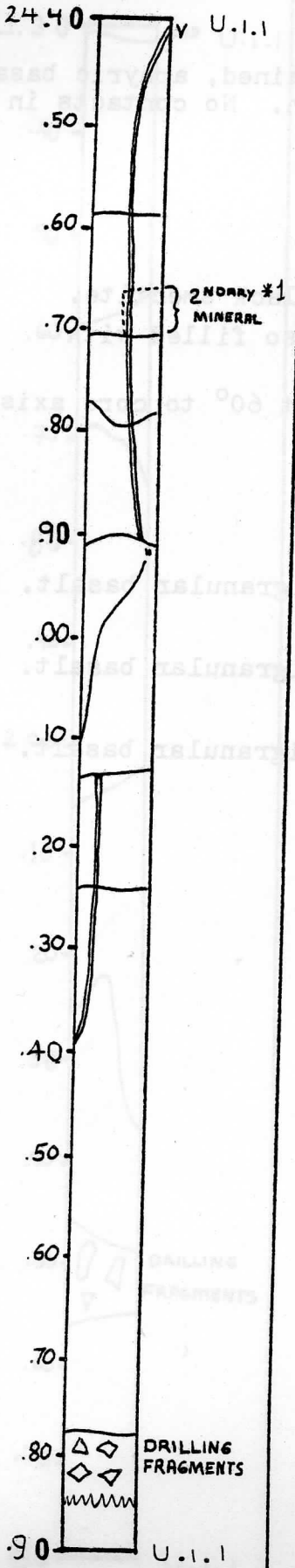
BOX 3 SECTION 3.

Visual Core Description Observer ....PTR.....

Depth Interval 2440 cm to 2585



LITHOLOGY PETROGRAPHY

Medium grey, equigranular aphyric basalt. Grain size medium in upper part (24.40 to about 25.40m). Below about 25.40m grain size decreases gradually to very fi at base of section. No contacts in section. Unit 1.1.

VESICLES/AMYGDALES

None observed.

FRACTURES - VEINS - BRECCIA

24.40 Veins about ~~7-8mm~~ wide filled with black smectite, and stringers of white zeolite? From 24.40 to about 24.90m.

24.60 Small (to 1mm) veinlets common throughout. Most filled with black smectite, some also have zeolite. Zeolite usually larger than smectite.

24.80 Fractures coated with black smectite. Most are 0-10°, some 60-70° from core axis.

25.14 Vein about 3-4mm wide with smectite and zeolite. From 25.14 to 25.39.

ROCK ALTERATION

Minor discolouring (black) occurs along margins of large veins. Probably due to growth of smectite in groundmass.

*1 SAMPLES TO PTR, JRD, ½ H.K., OF SMECTITE VEIN AND ADJACENT ROCK.

STRUCTURE

Medium-grained, equigranular basalt.

25.76 - 25.85 Drill fragments.

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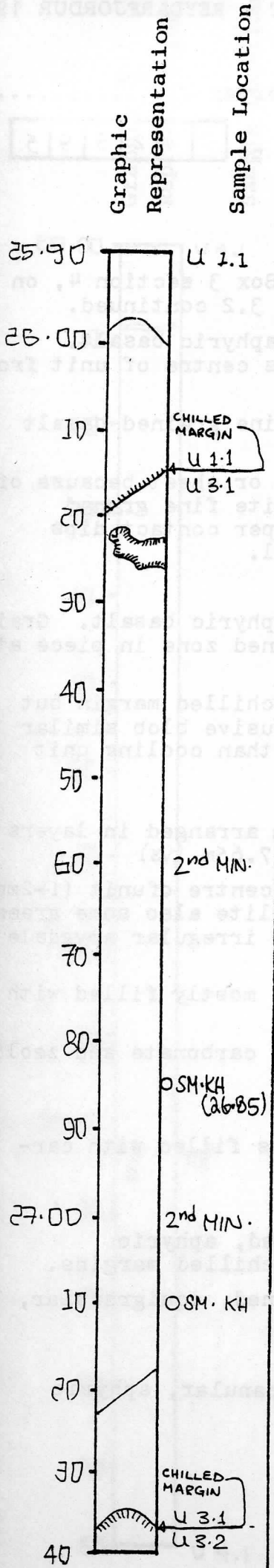
BOX 3 SECTION 4

Visual Core Description Observer PTR

Depth Interval 2585 cm to 2743 cm



LITHOLOGY PETROGRAPHY

Unit 1.1. Medium grey, very fine grained, aphyric basalt. Grain size decreases downward to chilled zone at 26.17.

26.17 Chilled contact at 26.17 to 26.20 upper unit chilled against lower with light grey zone along contact. Contact dips about 40° and is crudely planar. Below contact is aphoniric basalt zone (26.22 to 26.27) chilled against host material.

26.40 Unit 3.1. Contact dips 46° and strikes about 10° in direction of hatchurs -NG. Fine grained, greenish-grey aphyric basalt.

26.50 This unit is considered a flow because of highly vesicular nature, relatively altered character and fine grain size.

27.10 Chilled contact at 27.36 dips about 45° from core axis. Unit 3.2 below.

VESICLES/AMYGDALES

25.85 None

26.40 Relatively large (2-15mm) irregular amygdales, 3-5% filled with white zeolite and pinkish carbonate. More or less evenly distributed in section.

26.60 Small (1-2mm) elongate amygdales are evenly distributed and filled with green smectites; slight tendency to be aligned roughly at right angles to core axis.

FRACTURES - VEINS - BRECCIA

25.85 Fractures coated with green-black smectite.

26.17 Fractures rare (except for artificial breaks).

ROCK ALTERATION

25.85 None

26.17 Rock is greyish-green, relatively soft, with many amygdales. Probably some groundmass alteration to smectite.

STRUCTURE

25.85 - 26.17 End of unit 1.1. Medium-grained equigranular basalt. Bounded by chilled margin.

26.17 - 27.36 Unit 3.1 consists of vesicular, fine-grained basalt.

26.36 - 27.43 Start of unit 3.2, bounded by chilled margins, consisting of fine-grained, aphyric basalt.