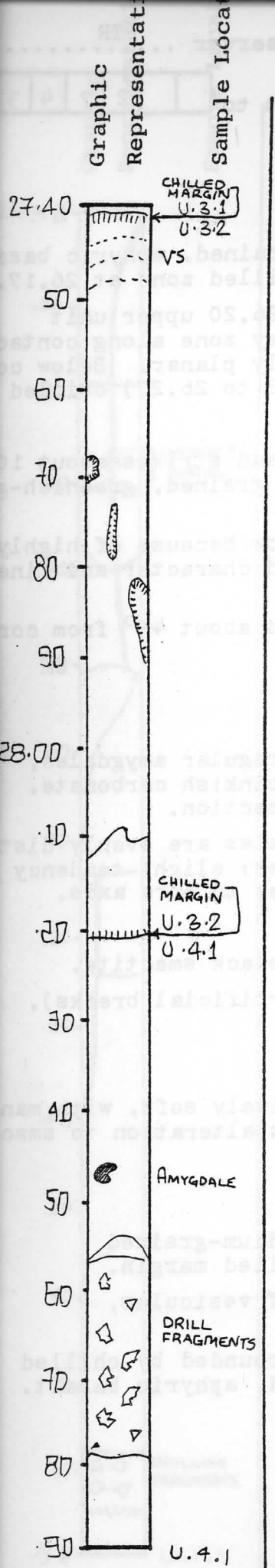
Visual Core Description Observer PTR

Depth Interval 2743 cm to 2895 cm



LITHOLOGY PETROGRAPHY

27.43 Chilled contact - same as in Box 3 section 4, on back of core - dips about 45°. Unit 3.2 continued.

27.50 Greenish-grey, fine grained, aphyric basalt. Grain size increases slightly towards centre of unit from chilled margins.

27.70 Small, irregular patches of fine grained basalt chilled against the host.

Unit 3.2 is considered a dike or sheet because of chilled contacts top and bottom despite fine grained character and abundant vesicles. Upper contact dips about 45°, lower one is subhorizontal.

28.20 Unit 4.1.

Greenish-grey, fine grained aphyric basalt. Grain size is uniform except for fine grained zone in piece at 28.70.

28.70 One piece in this zone has a chilled margin but this is probably a fine grained intrusive blob similar to those at 27.70 to 27.90m, rather than cooling unit boundary.

VESICLES/AMYGDALES

27.43 Minute vesicles less than 1mm arranged in layers dipping 10-15° from about 27.45 to 27.65m. (vs)

27.70 Vesicles become larger toward centre of unit (1-2mm) Partly filled with carbonate and zeolite also some green smectite. At 27.85 there is a 2-3cm irregular amygdale filled with zeolite.

28.25 Vesicles and amygdales 2-4mm, mostly filled with carbonate and zeolite.

28.47 Amygdale at 28.47 filled with carbonate and zeolit 3-4cm. (A)

FRACTURES - VEINS - BRECCIA

27.43 A few hairline to 1mm veinlets filled with carbonate and zeolite.

STRUCTURE

27.43 - 28.20 Unit 3.2 ; Fine-grained, aphyric basalt bounded on both contacts by chilled margins.

28.20 - 28.56 Unit 4.1 ; fine-grained, equigranular, aphyric basalt.

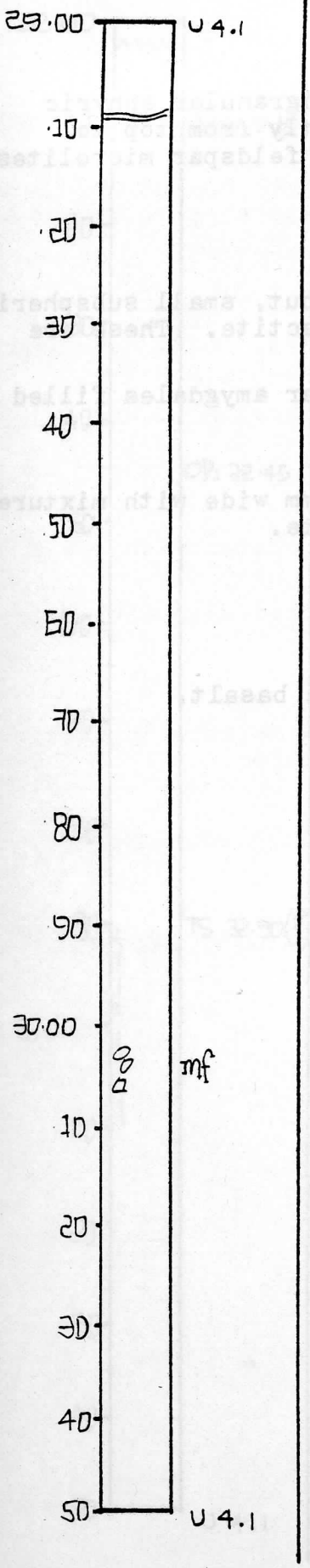
28.56 - 28.78 Drill fragments.

28.78 - 28.95 Fine-grained, equigranular, aphyric basalt of unit 4.1.

BOX 4 SECTION 2

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

Depth Interval 2895 cm to 3050 cm



LITHOLOGY PETROGRAPHY

Unit 4.1 continued

29.10 Very fine grained zone 5-10mm thick. Does not appear to be chill zone as grain size is identical on both sides. Most likely a smectite vein.

Greenish grey fine grained, equigranular aphyric basalt. Minute plagioclase microlites visible in groundmass. Grain size uniform throughout section except for zone at 29.08 which may be a segregation vein, or simply smectite.

No contacts in section.

30.04 Minor fragments enclosed in basalt. (mf)

VESICLES/AMYGDALES

28.95 Uniformly vesicular throughout. Most vesicles are 1-2mm, subspherical and filled with green smectite.

29.15 Larger amygdales 5-15mm are irregular and filled with carbonate and zeolite.

FRACTURES - VEINS - BRECCIA

No fractures. Veinlet at about 29.00m filled with zeolite.

STRUCTURE

Fine-grained, equigranular, aphyric basalt.

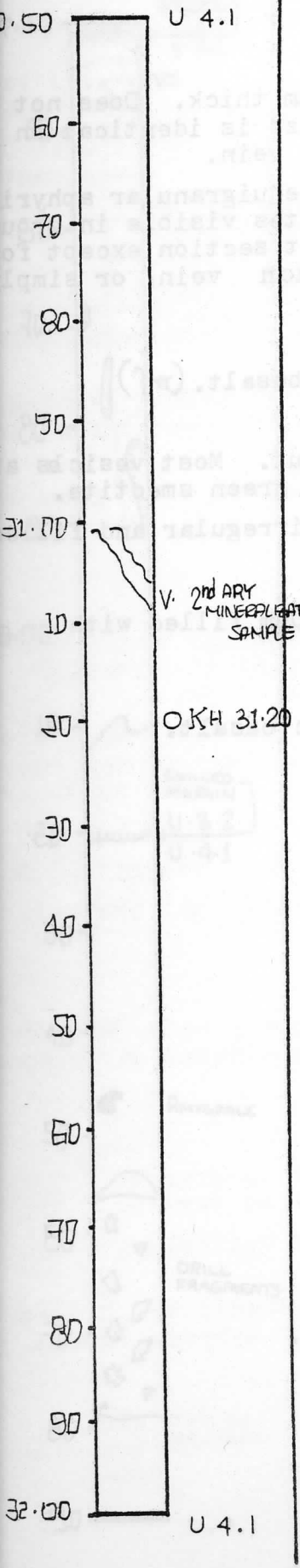
ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 197

Box 4 SECTION 3

Visual Core Description Observer PTR

Depth Interval 3050 cm to 3202 cm

Graphic Representation | Sample Location



LITHOLOGY PETROGRAPHY

Continues unit 4.1.

Grey green, fine grained equigranular aphyric basalt. Grain size decreases slightly from top to bottom of section - top has visible feldspar microlites, base is aphanitic.

No contacts in section.

VESICLES/AMYGDALES

Moderately vesicular throughout, small subspherical vesicles 1-2mm filled with green smectite. These are about 5%.

1-2% larger (to 1cm) irregular amygdales filled with carbonate and zeolite.

FRACTURES - VEINS - BRECCIA

31.05 Veins - irregular veins 5-10mm wide with mixtures of smectite and zeolite and carbonate.

ROCK ALTERATION

None observed.

STRUCTURE

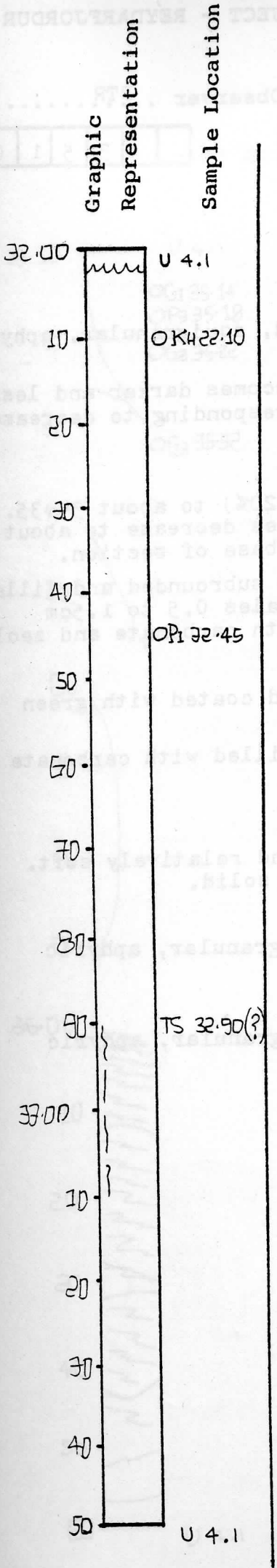
Fine-grained, equigranular, aphyric basalt.

ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 1978

Box 4 SECTION 4

Visual Core Description Observer PTR

Depth Interval 3202 cm to 3351 cm



LITHOLOGY PETROGRAPHY

Continues unit 4.1.

Uniform grey-green, very fine grained aphyric basalt. Grain size is uniform throughout section. No contacts are present.

VESICLES/AMYGDALES

Vesicles and amygdales 10-15%, mostly 1-10mm; smaller ones subspherical, larger ones irregular. To a depth of about 32.70m vesicles filled chiefly with green smectite with minor carbonate and zeolite.

Below 32.70 larger vesicles are lined with smectite filled with carbonate and zeolite.

FRACTURES - VEINS - BRECCIA

32.90 Poorly developed vein 1-5mm wide filled with smectite, zeolite and carbonate.

ROCK ALTERATION

Rock is soft and grey green in colour.

STRUCTURE

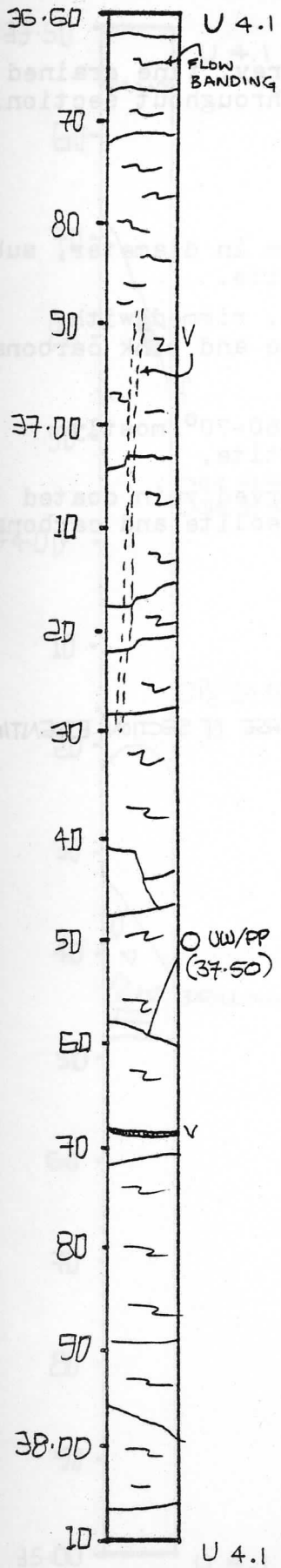
Fine-grained, equigranular, aphyric basalt.

ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 19

BOX 5 SECTION 3

Visual Core Description Observer PTR

Depth Interval 3660 cm to 3812 cm



LITHOLOGY PETROGRAPHY

Continues unit 4.1

Greyish-green, fine grained, flow banded, aphyric basalt. Grain size and character uniform throughout section. No contacts.

VESICLES/AMYGDALES

Amygdales 1-2%. Mostly 1-2mm, filled with green smectite.

Rare 1cm amygdales with rim of smectite and fillings of zeolite and pink carbonate.

FRACTURES - VEINS - BRECCIA

Fractures are nearly all subhorizontal - they are apparently controlled by subhorizontal flow banding.

36.90 Many hairline veins between about 36.90 and 37.30m Filled with green smectite and minor zeolite and carbonate.

37.68 About 1mm wide filled with zeolite.

37.95 2cm amygdale with smectite, carbonate and zeolite.

ROCK ALTERATION

Flow bands probably coated with smectite.

STRUCTURE

Fine-grained, aphyric basalt with flow banding.

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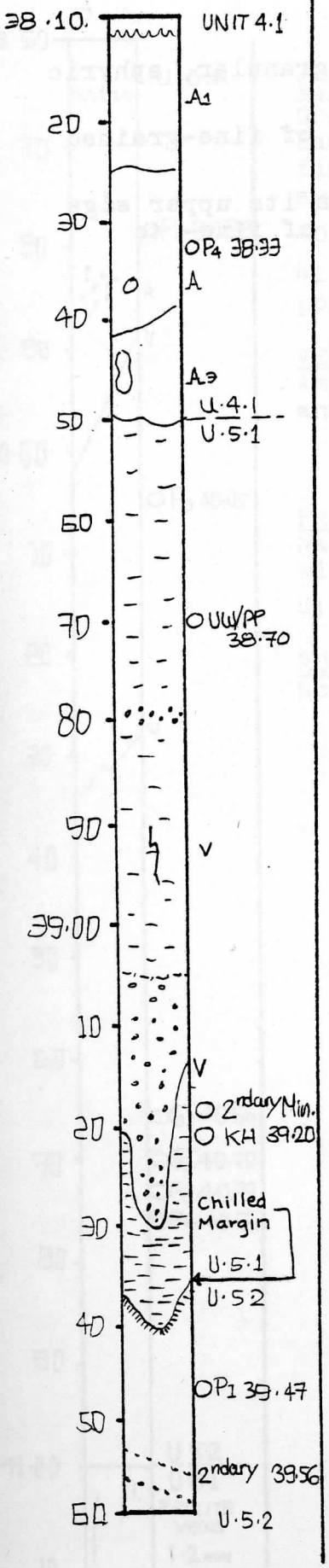
BOX 5 SECTION 4

Visual Core Description Observer PTR

Depth Interval 3812 cm to 3965 cm



LITHOLOGY PETROGRAPHY

Continues unit 4.1

Greenish-grey, fine grained, uniform aphyric basalt.

38.49 Contact with dark grey sedimentary material, no obvious chill zone or grain size change but lower 5cm free of amygdales.

38.50 Unit 5.1. Dark grey fine grained sediment, very fine grained with bedding defined by trains of 1mm grains to about 39.05m. From 39.05 to 39.22,

It is coarse grained with fragments to 1cm. Very poorly sorted. Bedding not well defined. Lithic fragments are angular and mostly green.

This is probably an altered pyroclastic unit.

39.05 Lighter grey zone from 39.05 to 39.22m.

39.25 Dark reddish-grey.

39.36 Chilled contact against overlying sediments, see drawing under other. Clearly an intrusive contact.

39.47 Unit 5.2. Dark grey aphanitic basalt to about 39.39 then becomes slightly coarser grained, greenish-grey and vesicular.

VESICLES/AMYGDALES

Amygdales about 5% mostly 1-2mm filled with smectite, larger about 1cm oval-shaped and filled with smectite and pink carbonate.

38.17 Amygdale on back of core. Zeolite and minor calcite, open spaces lined with quartz/chlorite. Inclined at 12-15°. (A_1)

38.37 Horizontal amygdale. Calcite with stringers of smectite. (A_2)

38.45 Irregular patch of calcite. (A_3)

Vesicles scattered below 39.39, mostly less than 1mm, filled with smectite. At 39.55 and 39.58 vesicles to 2mm form inclined trains. Dipping about 10° - lined and filled with smectite, zone from 39.40 to 39.43 has amygdales to 2cm filled with zeolite. About 5%.

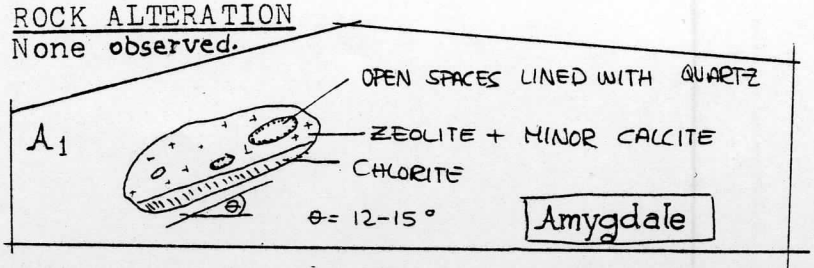
FRACTURES - VEINS - BRECCIA

Veins distributed as marked on core. 1mm to 1cm at 39.20m filled with write zeolite, probably stilbite,

30.36 Hairline fractures near contact less than 1mm, filled with zeolite.

ROCK ALTERATION

None observed.



Visual Core Description Observer ....P.TR.....

Depth Interval 3812 cm to 3965 cm

Graphic Representation | Sample

Box 5 , Section 4 , continued...

STRUCTURE

38.12 - 38.50 Fine-grained, equigranular, aphyric basalt of unit 4.1.

38.50 - 39.35 Unit 5.1 comprised of fine-grained poorly-bedded sediment.

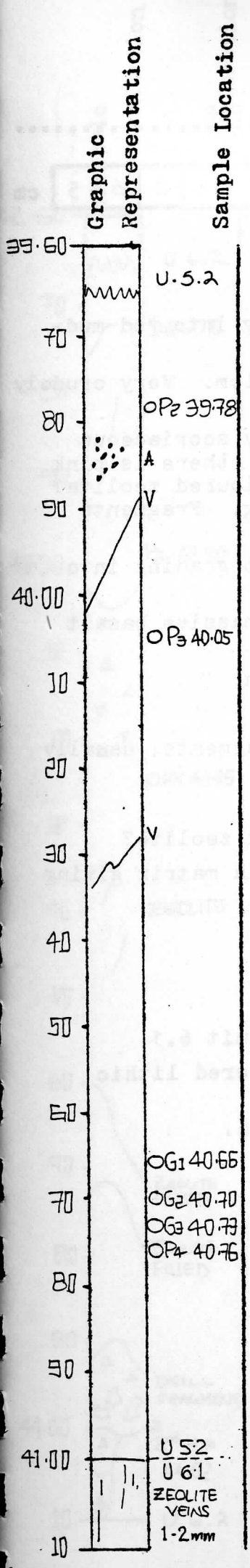
39.35 - 39.65 Unit 5.2 bounded on its upper edge by a chilled margin, is comprised of fine- to medium-grained basalt.

ICELAND RESEARCH DRILLING PROJECT

BOX 6 SECTION 1

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

Depth Interval | | 3 | 9 | 6 | 5 | **cm to** | | 4 | 1 | 1 | 0 | **cm**



LITHOLOGY PETROGRAPHY

Greenish-grey, fine to medium grained, equigranular aphyric basalt. Grain size is uniform to about 40.90, then becomes fine-grained toward lower contact but chill zone is not apparent. CONTINUES UNIT 5.2.

40.90 Aphanitic in lower 10cm but no chill zone.

41.00 Unit 6.1. Dark grey, fine-grained, mudstone - possibly altered tuff. No bedding. Soft.

VESICLES/AMYGDALES

Amygdales sparse, some zeolite-filled ones between 39.80 and 39.95. Elsewhere small amygdales 1mm filled of smectite

FRACTURES - VEINS - BRECCIA

Natural fractures sparse, usually veinlets 1-2mm filled with zeolite. Dip is about 60°.

41.00 Veinlets vertical

ROCK ALTERATION

None observed.

STRUCTURE

39.65 - 41.00 Unit 5.2 ; fine- to medium-grained equigranular, aphyric basalt. Lower 10 cm. is aphanitic, with poorly developed chill zone.

41.00 - 41.10 Unit 6.1 ; fine-grained mudstone.

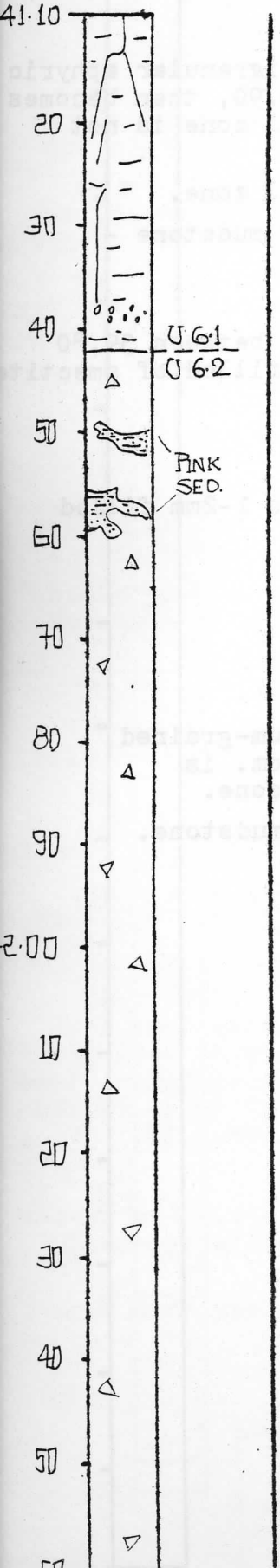
ICELAND RESEARCH DRILLING PROJECT

Box 6 SECTION 2

Visual Core Description **Observer** PTR

Depth Interval | | 4 | 1 | 1 | 0 | **cm to** | | 4 | 2 | 6 | 5 | **cm**

Graphic Representation | Sample Location



LITHOLOGY PETROLOGY CONTINUES UNIT 6·1

Grey, fine-grained mudstone at top grading into red mudstone at about 41.25.

41.35 Coarser zone, lithic fragments to 1cm. Very crudely bedded. Clay matrix.

41.42 Unit 6.2. Breccia composed of grey scoriaceous basalt fragments between 41.50 and 41.60, there is pink sediment matrix. Elsewhere much light coloured zeolite? between fragments. No layering or sorting. Fragments angular from 2-3cm to 10's of cm.

Believed to be scoriaceous flow top grading into massive centre.

42.10 Breccia grades downward into more massive basalt with scattered scoriaceous fragments.

42.50 All breccia ends at base of section.

VESICLES/AMYGDALES

41.55 Vesicles present in scoriaceous fragments; usually open.

FRACTURES - VEINS - BRECCIA.

41.10 1-2mm vertical veinlets filled with zeolite?

41.60 White zeolite? replaces much breccia matrix giving rock a mottled appearance.

ROCK ALTERATION

None observed.

STRUCTURE

41.10 - 41.35 Fine-grained mudstone of unit 6.1.

41.35 - 41.40 Coarse zone of crudely layered lithic fragments.(unit 6.1).

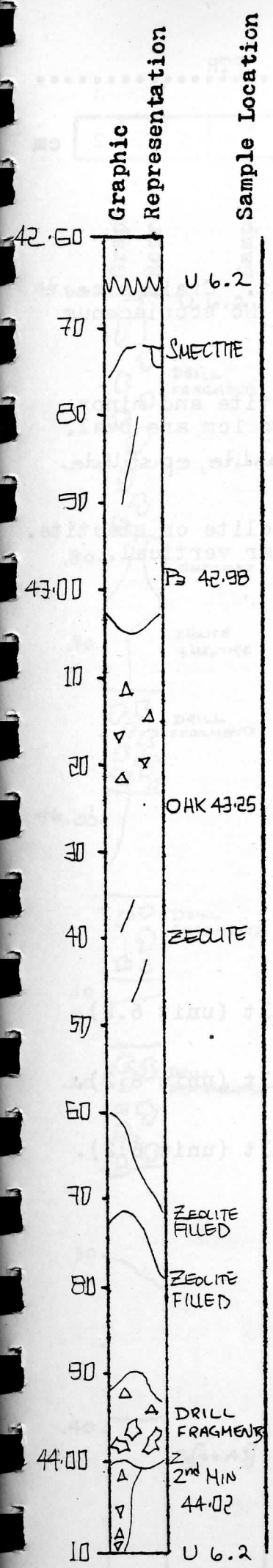
41.40 - 42.65 Unit 6.2 ; Basaltic breccia.

ICELAND RESEARCH DRILLING PROJECT

BOX 6 SECTION 3

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

Depth Interval | | 4 | 2 | 6 | 5 | **cm to** | | 4 | 4 | 1 | 2 | **cm**



LITHOLOGY PETROGRAPHY CONTINUES UNIT 6.2

Greenish-grey, fine-grained aphyric basalt. Generally non-vesicular except for some scoriaceous fragments. Appears gradational to breccia in last section.

43.10 Breccia with scoriaceous fragments from 43.10 to 43.23. Fragments angular and not much rotated.

44.00 Aphyric basalt in contact with breccia of same material - vertical contact. Appears to be fault breccia. Matrix and veins filled with white zeolite (epistilbite?) or laumontite?

VESICLES/AMYGDALES

None observed.

FRACTURES - VEINS - BRECCIA

Veinlets 1-2mm wide filled with white zeolite and some smectite in upper part of section.

ROCK ALTERATION

None observed.

STRUCTURE

42.65 - 43.10	Fine-grained aphyric basalt of unit 6.2.
43.10 - 43.23	Breccia with scoriaceous fragments.
43.23 - 43.90	Fine-grained aphyric basalt of unit 6.2.
43.90 - 44.00	Drill fragments.
44.00 - 44.12	Aphyric basalt in contact with breccia.

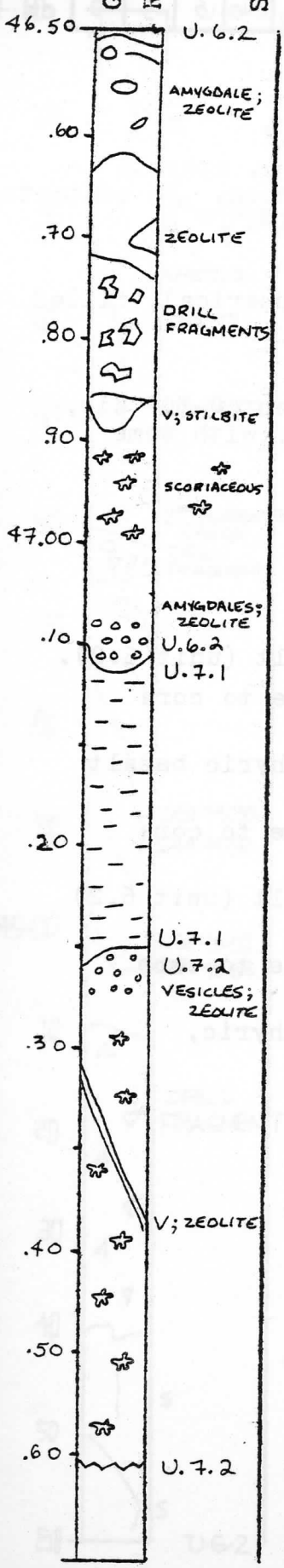
ICELAND RESEARCH DRILLING PROJECT

Visual Core Description **Observer** PTR

Depth Interval 4650 **cm to** 4760 **cm**

Box 7, Section 2

Section depth adjusted.



LITHOLOGY PETROGRAPHY - continues unit 6.2
Greenish-grey, fine-grained, holocrystalline, aphyric basalt. Many fractures and amygdales filled with zeolite (stilbite?).

46.90 Slightly scoriaceous to 47.00.

47.05 Highly vesicular, irregular vesicles 3-5mm, for about 6cm.

47.11 Unit 7.1 . Fine-grained, reddish brown to grey claystone. No apparent layering. Highly fractured. Inter-flow sediment.

47.24 Irregular contact with lower unit. No chilling or baking.

47.25 Sharp contact with sediment but somewhat irregular - not chilled.

47.30 Greenish-grey, fine-grained, holocrystalline, aphyric basalt. Slightly scoriaceous with irregular patches of zeolite and carbonate.

VESICLES/AMYGDALES
46.55 Amygdale on back of core, 7-8cm filled with zeolite.

2-3% large (2-3cm) amygdales scattered through core. Filled with zeolite.

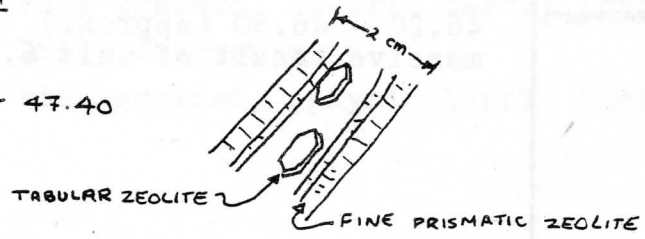
46.50 Amygdale also filled with quartz.

47.25 Vesicles irregular, 2-3mm. Filled with smectite and zeolite.

FRACTURES - VEINS - BRECCIA
47.30 - 47.40 Vein is about 2cm wide filled with zeolite.

ROCK ALTERATION
None observed.

VEIN AT 47.30 - 47.40



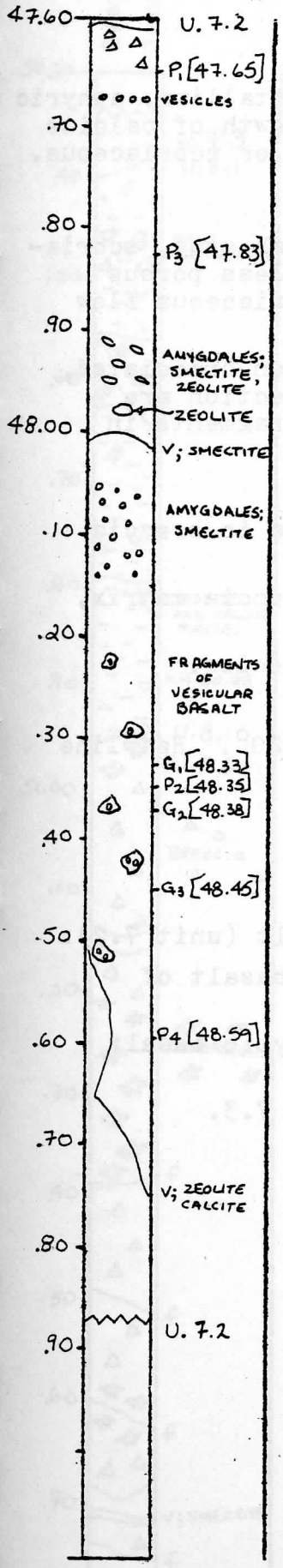
STRUCTURE
46.50 - 46.72 Fine-grained, aphyric basalt (unit 6.2).
46.72 - 46.86 Drill fragments.
46.86 - 46.90 Fine-grained, aphyric basalt (unit 6.2).
46.90 - 47.00 Scoriaceous section of unit 6.2.
47.00 - 47.10 Fine-grained, aphyric basalt (unit 6.2).
47.10 - 47.25 (approx.) Unit 7.1 consisting of fine-grained claystone.
47.25 - 47.60 (approx.) Fine-grained, aphyric, slightly scoriaceous basalt of unit 7.2.

ICELAND RESEARCH DRILLING PROJECT

Visual Core Description **Observer** PTR

Depth Interval 4760 **cm to** 4886 **cm**

Box 7 , Section 3



LITHOLOGY PETROGRAPHY - continues unit 7.2

Greenish-grey, fine-grained, holocrystalline, aphyric basalt. Grain size uniform throughout section. No contacts. Slightly brecciated in upper 50m.

Vesicular and amygdaloidal to about 48.16. Amygdales mostly in zones as shown, most 2-3cm. Slight ovate and filled with smectite. Some are up to 3cm, oval, and filled with smectite with a zeolite core.

47.90 Ovate amygdales dip about 45°.

VESICLES/AMYGDALES

Filled with smectite and later zeolite. Zeolite occurs only in large amygdales. Some irregular patches of zeolite 1-2cm across occur. This usually represents groundmass material in slightly brecciated zones.

FRACTURES - VEINS - BRECCIA

Natural fractures are few. These are lined with smectite. Fractures relatively flat, i.e. dip about 15°.

ROCK ALTERATION

None observed.

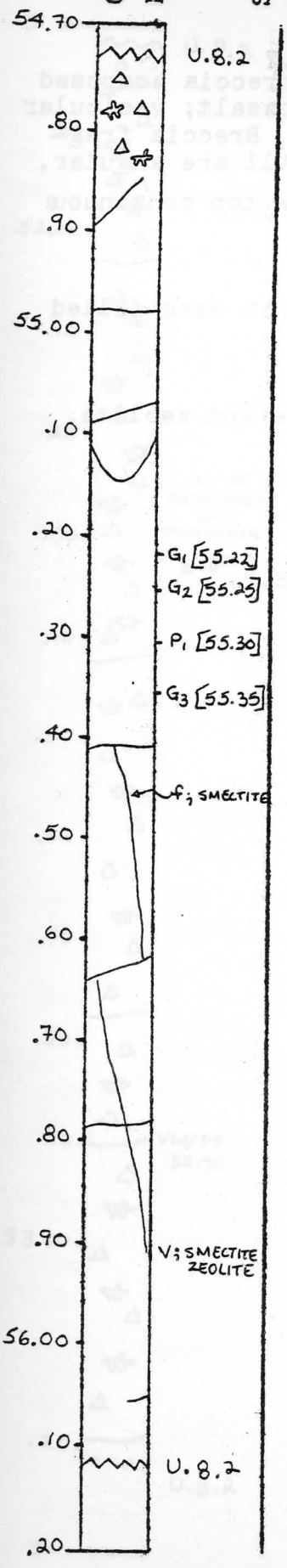
STRUCTURE

Fine-grained, holocrystalline basalt, which is slightly brecciated in upper section.

Visual Core Description **Observer** PTR

Depth Interval 54.72 **cm to** 56.12 **cm**

Box 8 , Section 4



LITHOLOGY PETROGRAPHY - continues unit 8.2
Red scoriaceous breccia identical to previous core to 54.84.

54.84. Gradational contact to massive underlying basalt.

Grey to greenish-grey, very fine-grained, holocrystalline, aphyric basalt, vesicles less than 1%, 1mm or less. Grain size uniform through lower part of section.

Interpreted as massive flow beneath a scoriaceous top.

VESICLES/AMYGDALES
54.84 Sparse vesicles less than 1mm, subspherical, filled with smectite.

Rare oval amygdales to 1cm, filled with zeolite.

FRACTURES - VEINS - BRECCIA
Most fractures subhorizontal probably due to drilling A few dip 60°, roughly parallel to veins. Hairline veinlets coated with smectite. Dip about 70°.

ROCK ALTERATION
None observed.

STRUCTURE
54.72 - 54.84 Scoriaceous breccia (unit 8.2).

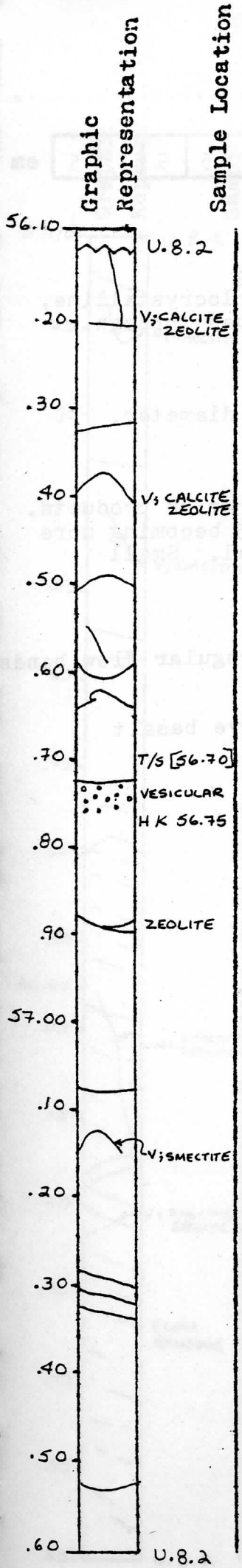
54.84 - 56.12 Very fine-grained, aphyric, massive basalt (unit 8.2).

ICELAND RESEARCH DRILLING PROJECT

Visual Core Description **Observer** PTR

Depth Interval | | 5 | 6 | 1 | 2 | **cm to** | | 5 | 7 | 6 | 1 | **cm**

Box 9 , Section 1



LITHOLOGY PETROGRAPHY - continues unit 8.2
Medium grey, fine-grained, equigranular, holocrystalline, aphyric basalt. Grain size uniform throughout section. No contacts.

VESICLES/AMYGDALES
Less than 1% vesicles, mostly lmm or less, subspherical, filled with smectite and minor zeolite. Vesicle zone at 56.75.

FRACTURES - VEINS - BRECCIA
Mostly hairline fractures coated with smectite and minor zeolite and calcite.

ROCK ALTERATION
None observed.

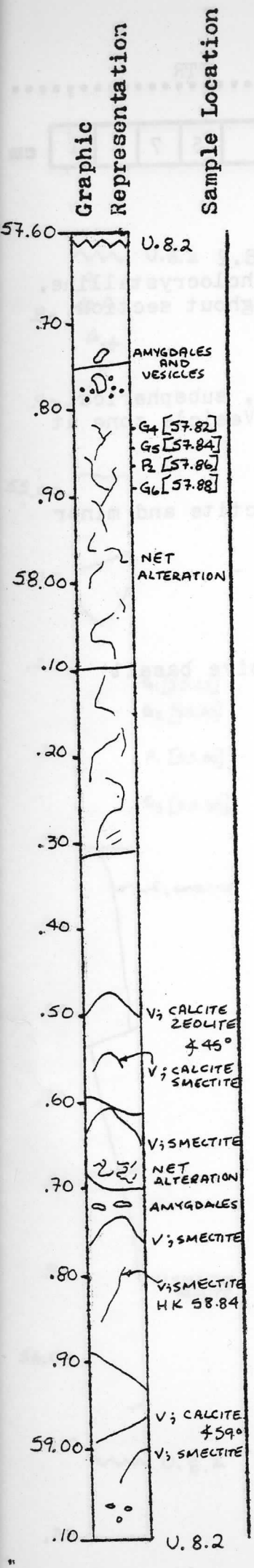
STRUCTURE
Fine-grained, equigranular, aphyric, massive basalt of unit 8.2.

ICELAND RESEARCH DRILLING PROJECT

Visual Core Description **Observer** RHW

Depth Interval 5761 **cm to** 5915 **cm**

Box 9 , Section 2



LITHOLOGY PETROGRAPHY - continues unit 8.2
Medium grey, fine-grained, equigranular, holocrystalline, aphyric basalt. Uniform grain size continues through section. No contacts.

VESICLES/AMYGDALES
Vesicles minor, less than 1%, 1mm or so in diameter. Two at 3-4mm at 57.70 and 58.85.

FRACTURES - VEINS - BRECCIA
Fractures hairline, filled of various alteration products. Large area of "net" veinlets 57.82 to 58.45 becoming more regular towards the bottom at 40° horizontal. Small recurrence at 58.65.

ROCK ALTERATION
None observed.(possible net alteration/irregular flow bands)

STRUCTURE
Fine-grained, equigranular, aphyric, massive basalt of unit 8.2.