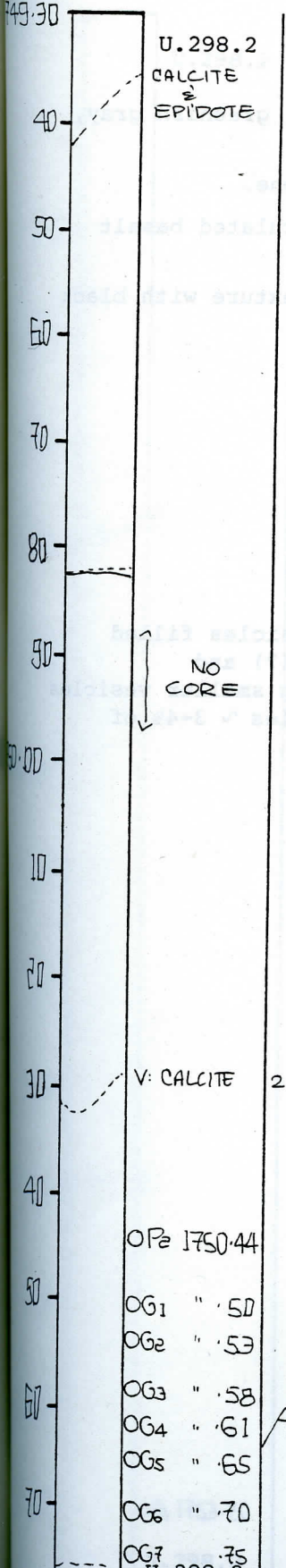
ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 1978

Visual Core Description Observer JM

Depth Interval 1749.29 cm to 1750.79 cm

Box 299, Section 1

Graphic Representation | Sample



LITHOLOGY-PETROGRAPHY

Continues U.298.2

1749.29-1749.99 Amygdales, medium-grained, holocrystalline, greenish-gray, aphyric basalt flow.

1749.82 Calcite, pyrite, massive white silica epidote and clays in veins and on fracture surface.

1749.90 Transition to a less vesiculated portion of the flow.

1750.00 - 1750.79 Medium - to fine-grained, holocrystalline, greenish-gray aphyric basalt flow, with a slightly mottled texture.

STRUCTURE

1749.29-1749.90 Amygdale. Massive.

1749.90-1750.79 Massive

VESICLES/AMYGDALES

1749.29-1749.88 Vesicles filled with green smectite, calcite and green epidote, epidote and calcite more abundant than green smectite. Vesicles 5-10% section, vesicles both rounded and irregular. Vesicles range in size from 1 cm - 1 mm, with smaller vesicles filled with smectite and larger vesicles filled with calcite, epidote appears in both and is intergrown. Green smectite lines larger vesicles.

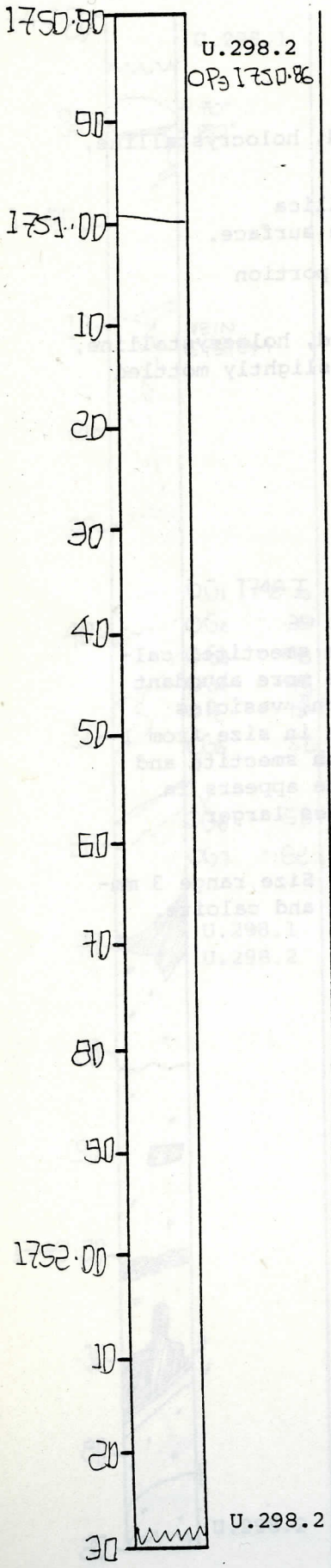
1749.90-1750.79 Vesicles ∿ 2% of section. Size range 3 mm-1 mm filled with epidote and green smectite and calcite.

Visual Core Description Observer .....

Depth Interval 1750.79 cm to 1752.29 cm

Box 299, Section 2

Graphic Representation Sample



LITHOLOGY-PETROGRAPHY

Continues U.298.2 Medium-to fine-grained, greenish gray, holocrystalline, aphyric basalt flow.

1750.98 1 cm wide sparsely porphyritic zone.

1751.03 Transition to slightly more vesiculated basalt flow.

1752.10 Transition to somewhat mottled texture with black smectite.

STRUCTURE

1750.79-1751.13 Massive

1751.03-1752.29 Amygdaloidal.

VESICLES/AMYGDALES

1750.79-1751.13 Vesicles ∿ 1%.

1751.03-1752.29 Rounded and elongated vesicles filled with intergrown epidote, calcite, silica (?) and green smectite lining vesicles and filling smaller vesicles 1.3 cm - 1 mm, average size ∿ 6 mm, vesicles ∿ 3-4% of core, decreasing in abundance downwards.

ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 1978

Visual Core Description Observer .....

Depth Interval 1752.29 cm to 1753.75 cm

Box 299, Section 3

Graphic Representation

Sample

U.298.2

OP4 1753.70

U.298.2
U.299.1

LITHOLOGY-PETROGRAPHY

Continues U.298.2 Medium-grained, holocrystalline, greenish, gray, basalt flow, mottled texture becoming better developed downward in the section towards the base of the flow.

1753.67 Transition to more vesiculated base of flow.

U.299.1 Contact occurs in the break between the two sections.

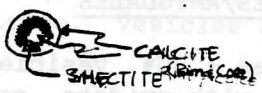
STRUCTURE

1752.29-1753.58 Massive, possibly a faint flow banding.

1753.67 Oriented vesicles.

VESICLES/AMYGDALES

Vesicles < 1%. Rounded, range from 5 mm - 1 mm in size, with calcite rims, smectite in outer core, calcite inner core. White massive quartz filling. Vesicles is subordinate to calcite and smectite.



1753.67 Vesicles ∿ 5-10% of section filled with epidote, calcite and smectite lining. Vesicles elongated and oriented subhorizontally.

FRACTURES - VEINS - BRECCIA

None

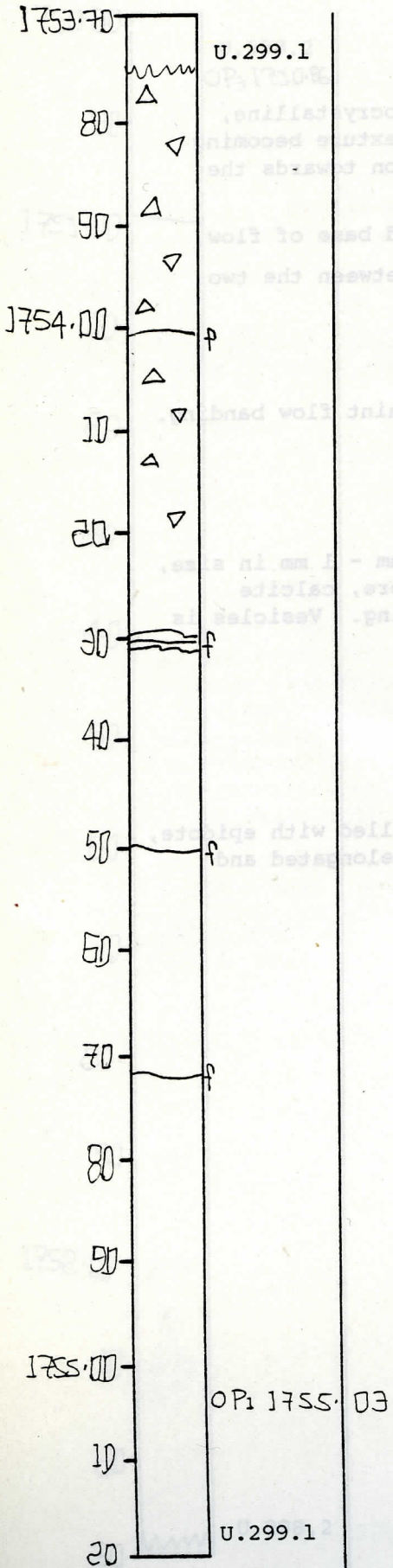
ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 1978

Visual Core Description Observer .....

Depth Interval 1753.75 cm to 1755.29 cm

Box 299, Section 4

Graphic Representation Sample



LITHOLOGY-PETROGRAPHY

Continues U.299.1

Contact between overlying flow and U.299.1 is somewhat arbitrary but was placed at the first occurrance of highly vesicular brecciated material (1753.75).

Gray green flow top breccia with highly vesicular medium-grained, aphyric basalt clasts. Clasts range in size from larger than core width to 10 cm in length.

1754.21 Transition from brecciated portion of basalt flow to amygdaloidal portion of flow, but highly altered.

1754.33 Transition from gray green to green coloration.

1754.70 Transition to gray green coloration.

STRUCTURE

1753.75-1754.20 Brecciated.

1754.20-1755.10 Amygdaloidal with some orientation of amygdales dipping 30°. Decreasing % amygdales.

VESICLES/AMYGDALES

Vesicles - 30%, vesicles in groundmass and clasts, filled with epidote, calcite, quartz and smectite. Vesicles change from 3 cm - 1 mm in size and are predomently irregular in shape. Epidote is extremely abundant down to 1754.65 meters then rapidly decreases in abundance.

ROCK ALTERATION

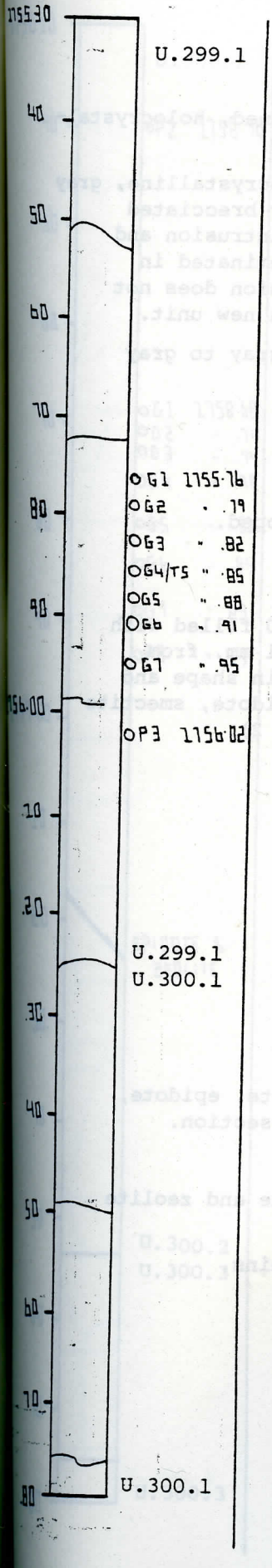
Minor amounts of pyrite dessiminated throughout core.

Visual Core Description Observer .....

Depth Interval 175525 cm to 175675 cm

Box 300, Section 1

Graphic Representation Sample



LITHOLOGY-PETROGRAPHY

Continues U.299.1

Gray, holocrystalline, medium- to fine-grained, aphyric basalt flow.

U.300.1 Glassy, flow - flow contact, 300.1 is most likely part of the 299.1 cooling unit--no alteration between 300.1 - is medium gray and fine-medium grained aphyric basalt.

STRUCTURE

U. 299.1 Amygdaloidal. Massive.

U.300.1 Faint flow banding developing.

VESICLES/AMYGDALES

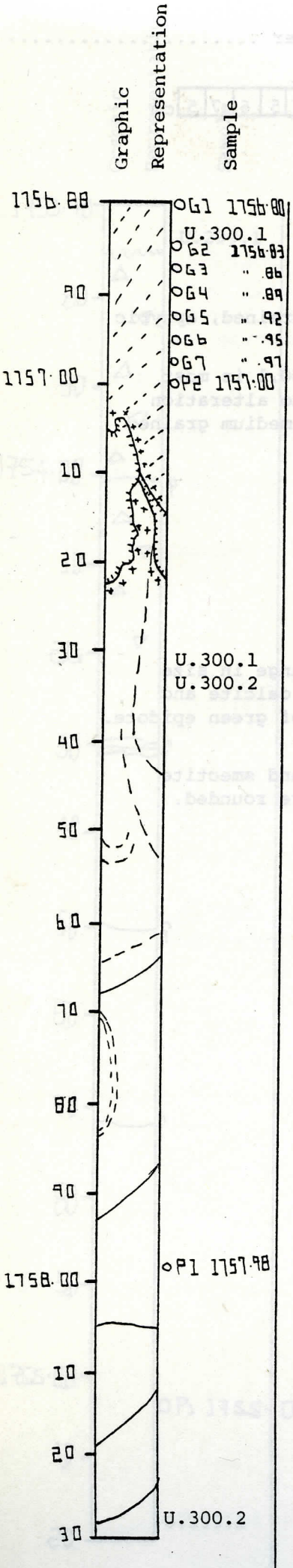
U.299.1 Vesicles - 5-10% of section, range in size from 1 mm - 1 cm, filled with smectite, calcite and white massive silica and minor amounts of green epidote. Vesicles irregular in shape.

U.300.1 Increase in amount of epidote and smectite filling vesicles. Vesicles becoming more rounded.

Visual Core Description Observer .....

Depth Interval 1756.75 cm to 1758.28 cm

Box 300, Section 2



LITHOLOGY-PETROGRAPHY

Continues U.300.1. Fine- to medium-grained, holocrystalline, greenish-gray, aphyric basalt flow.

1757.05-1757.20 Very fine-grained, holocrystalline, gray aphyric intrusion with chilled irregular brecciated margins. Calcite vein along margin of intrusion and cutting into country rock. Pyrite disseminated in intrusion and country rock. This intrusion does not completely cross the core so it is not a new unit.

U.300.2 Fine to medium grained, green-gray to gray basalt flow, aphyric.

STRUCTURE

U.300.1 Flow banded, dips 15-20°.

U.300.2 Flow banding not as well developed.

VESICLES/AMYGDALES

U.300.1 Vesicles from 1756.75 - 1757.20 filled with smectite and range in size from 3 mm - 1 mm, from 1757.20 - 1758.05, vesicles, irregular in shape and filled with pyrite, quartz, calcite, epidote, smectite and heulandite (?). (TROUGHOUT SECTION 2).

FRACTURES - VEINS - BRECCIA

Veins filled with pyrite, quartz, calcite, epidote, heulandite. Veins abundant throughout section.

1757.25 Calcite vein - 4 mm wide.

1757.38 and 1757.48 Epidote and calcite and zeolite filled veins (pyrite).

1757.54 Pyrite, epidote and zeolite veins.

1757.60 Calcite vein

1757.77 Pyrite and quartz veins

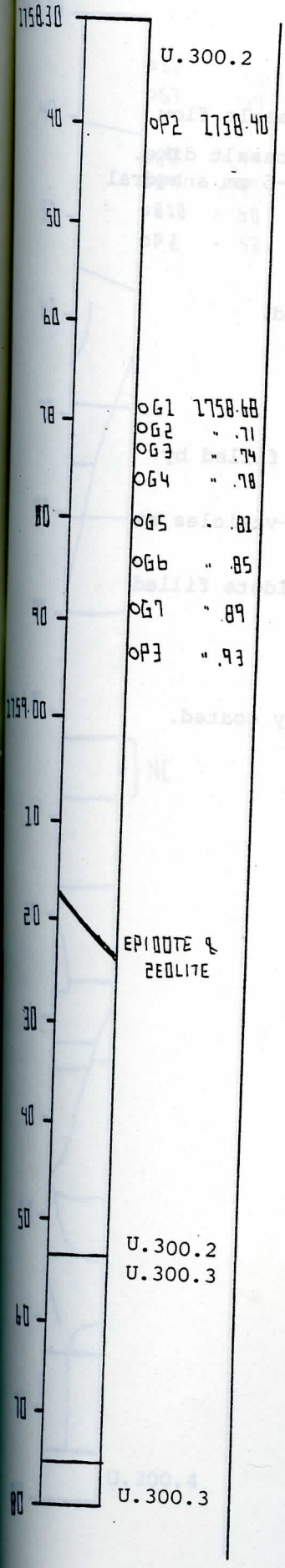
ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 1978

Visual Core Description Observer .....

Depth Interval 175828 cm to 175976 cm

Box 300, Section 3

Graphic Representation Sample



LITHOLOGY-PETROGRAPHY

Continues U.300.2

Gray, aphyric basalt flow.

U.300.3 Gray, aphyric basalt flow, fine-medium grained.

STRUCTURE

1758.50-1759.20 Well developed flow banding.

VESICLES/AMYGDALES

5%, mostly 5-10 mm vesicles filled by calcite, epidote and zeolite.

1759.20 10 - 15% - 1-10 mm vesicles filled by calcite, epidote and zeolite.

U.300.3 10-20% - 1-5 mm vesicles filled by zeolite, epidote and calcite or green clay.

FRACTURES - VEINS - BRECCIA

1759.21 Vein, dipping 65°

ROCK ALTERATION

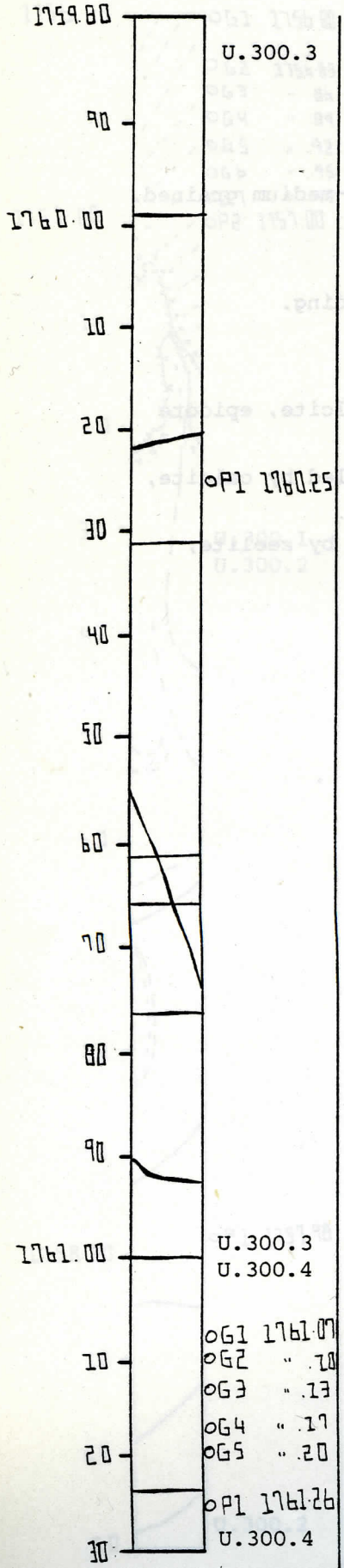
Moderately fresh

Visual Core Description Observer .....

Depth Interval 1759.76 cm to 1761.29 cm

Box 300, Section 4

Graphic Representation Sample



LITHOLOGY-PETROGRAPHY

Continues U.300.3

Fine to medium grained, gray, aphyric basalt flow.

U.300.4 Fine to medium grained, gray, basalt dike. Chilled margin. Top horizontal < 1%, 1-5 mm anhedral plagioclase phenocrysts.

STRUCTURE

U.300.3 Vesicles appear to be elongated.

U.300.4 Massive

VESICLES/AMYGDALES

1759.76-1760.09 20%, 1-10 mm vesicles filled by zeolites, epidote and calcite.

1760.10-1761.00 o-10% mostly, 5-10 mm vesicles as above.

U.300.4 < 1% zeolite, calcite, and epidote filled vesicles.

FRACTURES - VEINS - BRECCIA

Fracture dipping 65%. Zeolite and clay coated.

Fracture dipping 65%.

U.300.4 All horizontal.

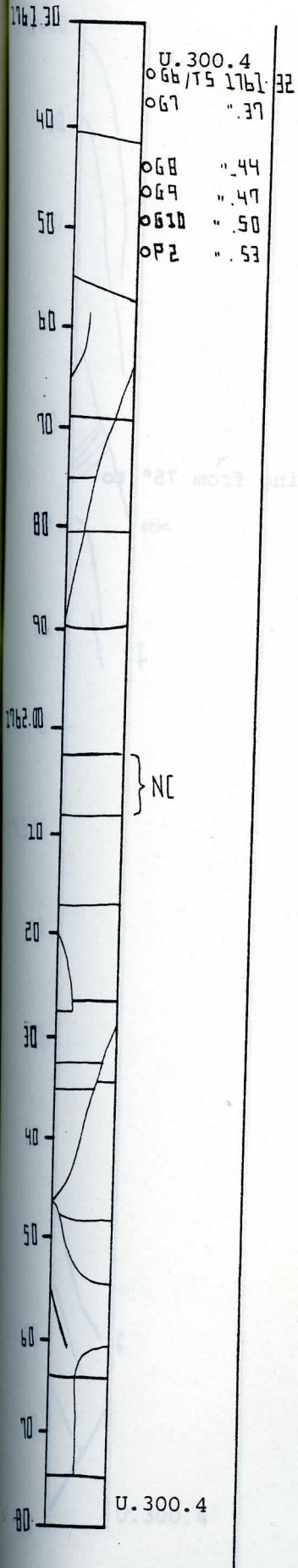
ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 1978

Visual Core Description Observer .....

Depth Interval 1761.29 cm to 1762.76 cm

Box 301, Section 1

Graphic Representation Sample



LITHOLOGY-PETROGRAPHY

Continues U.300.4

As above.

1761.62 Clay lined fracture, vertical.

1761.76 and 1762.32 Clay or chlorite lined fractures dip 80°.

1762.58 Fracture dip 65°.

STRUCTURE

Massive

VESICLES/AMYGDALES

None

ROCK ALTERATION

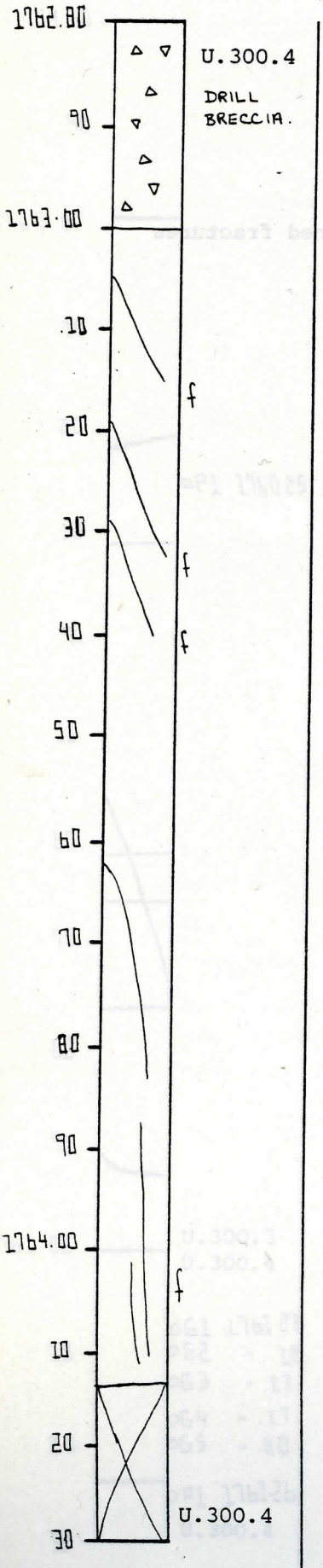
Moderately fresh.

Visual Core Description Observer .....

Depth Interval 1762.76 cm to 1764.12 cm

Box 301, Section 2

Graphic Representation Sample



LITHOLOGY-PETROGRAPHY

Continues U.300.4

As above

STRUCTURE

Massive

VESICLES/AMYGDALES

None

FRACTURES - VEINS - BRECCIA

Clay or chlorite lined fracture - dipping from 75° to vertical.

ROCK ALTERATION

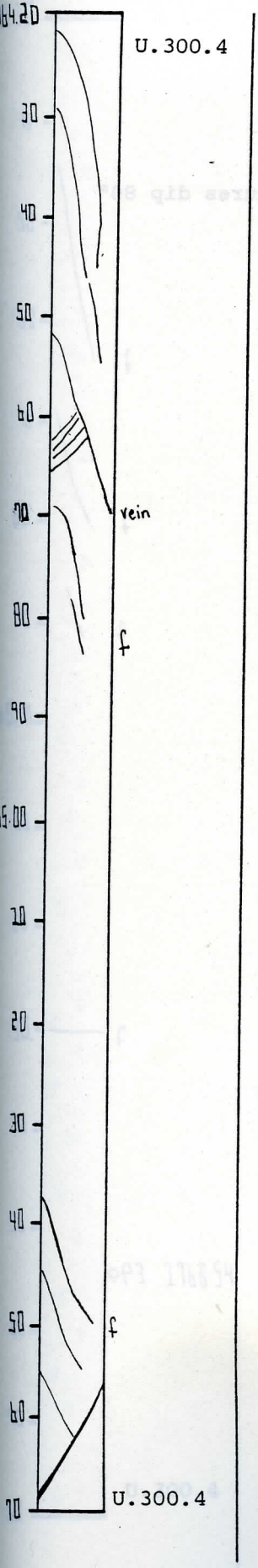
Moderately fresh.

Visual Core Description Observer .....

Depth Interval 1764.12 cm to 1765.70 cm

Box 301, Section 3

Graphic Representation Sample



LITHOLOGY-PETROGRAPHY

Continues U.300.4

As above.

1764.42 Fractures, clay lined, dip 80° to vertical.

1764.70 Calcite, zeolite and clay filled vein dip 80°, slickensides.

1765.50 Clay lined fractures dip 80° to vertical.

1765.60 Clay filled fracture, slickensides, dip 75°

STRUCTURE

Massive

VESICLES/AMYGDALES

None

ROCK ALTERATION

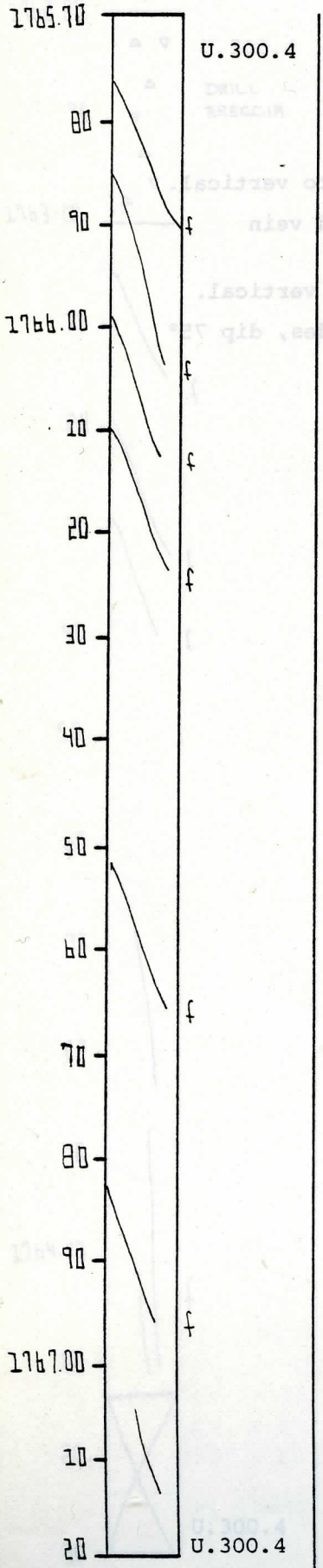
Moderately fresh

Visual Core Description Observer .....

Depth Interval 1765.70 cm to 1767.32 cm

Box 301, Section 4

Graphic Representation Sample



LITHOLOGY-PETROGRAPHY

Continues U.300.4

As above.

f. - many clay or chlorite filled fractures dip 80° to vertical.

STRUCTURE

Massive

VESICLES/AMYGDALES

None

ROCK ALTERATION

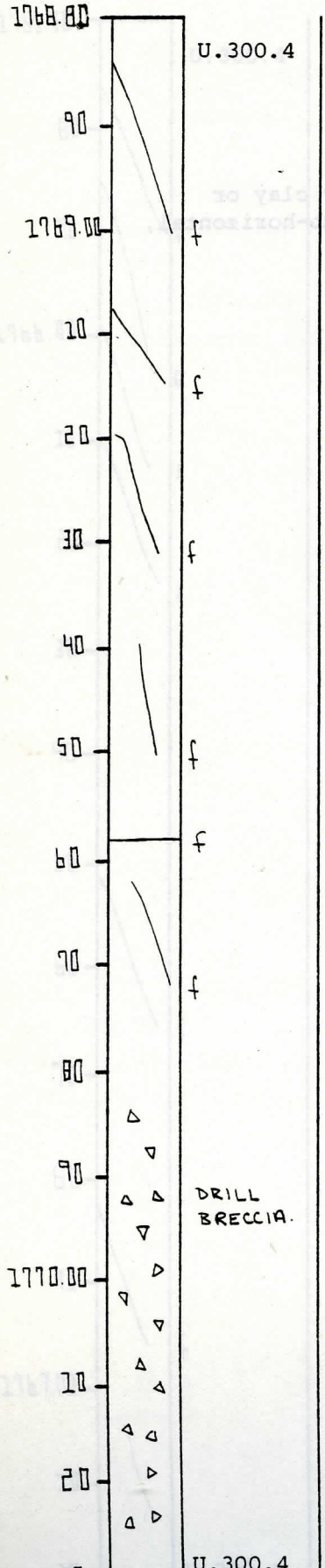
Moderately fresh

ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 1978

Visual Core Description Observer .....

Depth Interval 176882 cm to 177010 cm

Box 302, Section 2



LITHOLOGY-PETROGRAPHY

Continues U.300.4

As above.

f. - fractures - 80° - 90° dip and subhorizontal (to 30° dip). Clay filled.

STRUCTURE

Massive

VESICLES/AMYGDALES

None

ICELAND RESEARCH DRILLING PROJECT - REYDARFJORDUR 1978

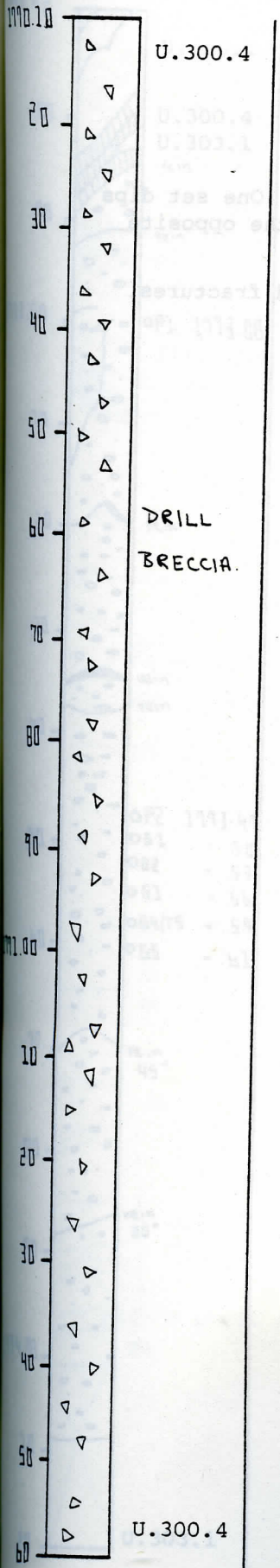
Visual Core Description Observer .....

Depth Interval 1701 0 cm to 1711 0 cm

Box 302, Section 3

Graphic Representation

Sample



LITHOLOGY-PETROGRAPHY

Continues U.300.4

As above.

Many fractures - dip 80° - 90° + 0° - 30°. Clay filled.

STRUCTURE

Massive

VESICLES/AMYGDALES

None

ROCK ALTERATION

Moderately fresh

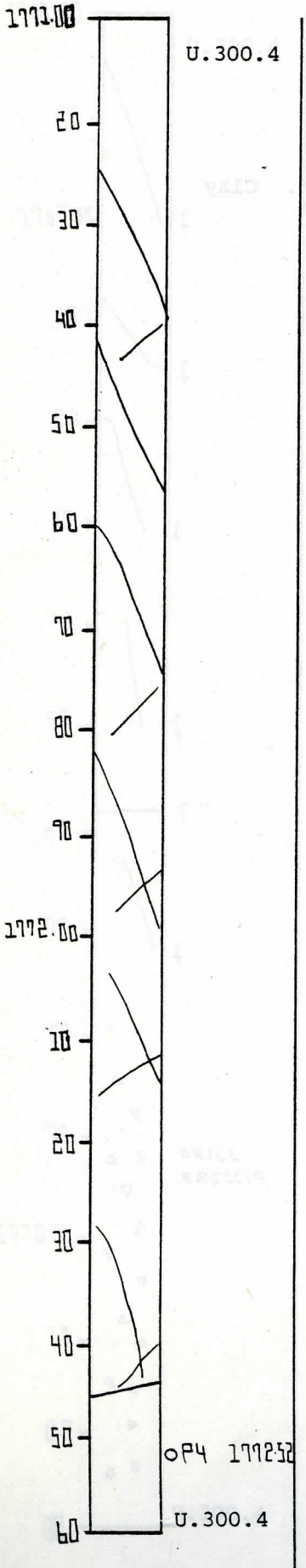
Visual Core Description Observer .....

Depth Interval 1771.10 cm to 1772.66 cm

Box 302, Section 4

Graphic Representation

Sample



LITHOLOGY-PETROGRAPHY

Continues U.300.4

As above.

Many clay or chlorite filled fractures. One set dips 80-90°, an other dips 40-50° in almost the opposite direction.

1772.42 Some calcite and zeolite filled fractures. Dip 40°.

STRUCTURE

Massive

VESICLES/AMYGDALES

None

ROCK ALTERATION

Moderately fresh