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REPORT CMS 86/11/9

YOUR REFERENCE:	Letter dated 7.11.1986
DATE RECEIVED:	11th November, 1986
SAMPLE NOS.:	383744 - 383746
SUBMITTED BY:	A.M. Hespe
WORK REQUESTED:	Petrology

Hwander

H.W. Fander, M. Sc.

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REPORT CMS 86/11/9

Drillhole MC-16 Samples

Three samples were received for petrographic study; thin-sections were prepared and examined, and are described below. Offcuts were subjected to K-stain tests.

383744 (T.S. 56874) 14.0 m

This is a thoroughly silicified and sericitised volcanic rock, and no primary components have survived; textures, too, are indifferently preserved.

The rock now consists mainly of microcrystalline quartz, with irregular patches of fine sericite; the relict textures of some of the sericite are those of flow-banded glass, and it seems that the rock originally consisted of glassy lava fragments, and it was probably a flow-breccia of small glassy lava fragments, or possibly a welded tuff of that composition, and was relatively felsic.

383745 (T.S. 56875) K-stain test negative. 53.0m

This is a devitrified and altered porphyritic glassy rhyolite, as far as can be determined.

The phenocrysts are small (mostly < 1 mm), occurring singly and in clusters, and consist mainly of albite which is microfractured and variably replaced by carbonate, with occasional small, corroded quartz phenocrysts, all randomly arranged in a groundmass of pale greenish devitrified glass. This shows a type of "birds-eye" texture, with small spheroids of chalcedony scattered through fibrous greenish sericite. There are small clusters of leucoxenised ?magnetite.

The classification is based on the nature of the phenocrysts and the alteration-products of the glassy groundmass, but since phenocrystal quartz is sparse, the rock may have been more in the nature of a trachyte with a glassy groundmass having the composition of an alkali glass.

383746 (T.S. 56876) K-stain test negative. 76.3m

This is a silicified, brecciated lava, originally glassy with relatively conspicuous phenocrysts.

The fragments are brownish due to fine Fe pigmentation of the glass, and are cemented by fine quartz (lighter colour). The fragments consist of albite phenocrysts, often well-preserved (but in some fragments replaced by carbonate or quartz), set in a mass of devitrified glass; this now consists of small interlocking patches of pigmented albite riddled with small, thin, pipe-like bodies of chlorite which probably represent stretched vesicles. These features are still visible in completely silicified fragments.

Since the phenocrysts are albite, and the glass has devitrified to albite, the lava can be classified as a sodic trachyte; in its molten state, it was probably very mobile (Na-silicate glasses have a low softening point). The rock may be related to 383745.

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