

THIN SECTION LABEL ID: **376-U1531A-1R-1-W 72/74-TSB-TS_121**

TS no.: 121

Description Group**Summaries****Igneous petrology:**

Unaltered, moderately vesicular plagioclase-pyroxene phyric dacite. The lava has entrained several clasts of holocrystalline dacite fragments with a similar mineral content to the host lava. The host lava contains pheno- and glomerocrysts of 10 vol.% plagioclase, 5 vol.% orthopyroxene and 3 vol.% Fe-Ti oxide. About 2 vol.% are of accessory clinopyroxene, apatite (often as inclusions in plagioclase), and magmatic sulfides. The groundmass is glassy (ca. 20 vol.%) with about 45 vol.% plagioclase microlites and 5 vol.% Fe-Ti oxides but shows some 'schlieren'-like texture where the crystallinity increases similar to the entrained clasts. The lava is moderately vesicular (about 10 vol.%, up to 8 mm large, subrounded and elongated vesicles). Melt inclusions are abundant and are hosted in plagioclase, pyroxenes and Fe-Ti oxides and commonly include bubbles. At least one Fe-Ti oxide aggregate is composed of ulvoespinel and illmenite and there is one example of a magmatic sulfide droplet being partially overgrown by magnetite.

Alteration:

Very fresh volcanic rock with one light-gray color 1 cm-size clast. Except for light gray clast, this rock is very fresh with plagioclase phenocrysts/microlites and crynopyroxene phenocrysts. In some voids and rims of plagioclase phenocryst, matrix is partly replaced by acicular clay mineral (smectite?), but this proportion is minor. In light gray clast, plagioclase phenocrysts/microlites and crynopyroxene phenocrysts are not altered, but matrix is partially replaced by acicular clay mineral (smectite?). Euhedral magnetite is disseminated throughout the sample as well as fine-grained minor pyrite.

Structure:

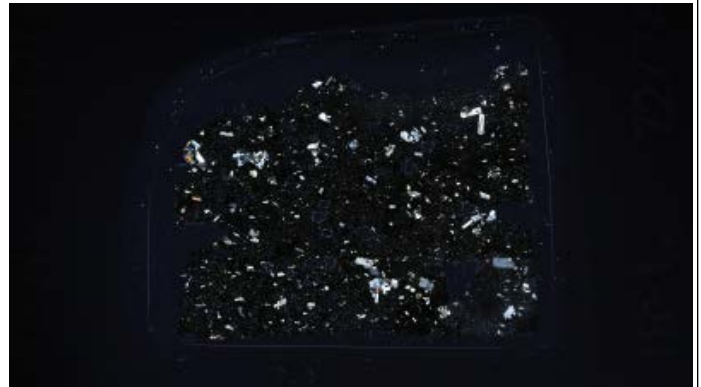
Volcanic fabric defined by vesicle shape preferred orientation and to a lesser extent aligned plagioclase microlites and phenocrysts. A volcanic clast also has a volcanic fabric that is sub-parallel (at least in 2D) to the host fabric. The host fabric is bent around the clast. Few fractures cut through plagioclase and into host glass.

Plane-polarized



47511811

Cross-polarized



47511851

THIN SECTION LABEL ID: 376-U1531B-1R-1-W 27/30-TSB-TS_122

TS no.: 122

Description Group

Summaries

Igneous petrology:

This is a polymict lapilli-tuff, containing of 2 types of volcanic clasts - both are fragments of glomeroporphyritic dacite lava and might represent the juvenile component; they all have irregular, possibly quenched margins. The dominant type is up to coarse lapilli-sized and contains 15% rounded, spherical vesicles. 11% plagioclase, 3% Cpx, and accessory Fe-Ti-Oxides reside in an igneous groundmass of 40% plagioclase microlites and 30% glass. The second type is up to fine lapilli-sized and contains 20% subrounded, highly irregular vesicles. 5% plagioclase, 2% Cpx, and accessory Fe-Ti-Oxides reside in an igneous groundmass of 30% plagioclase microlites and 42% glass. About 2 thirds of the matrix consist of subangular to subrounded, sand-sized fragments of the dominant clast type. There are also a few individual crystal fragments. These components are surrounded by a seemingly coherent glassy groundmass (about one third of the matrix) with microlites that align in flow textures. All components and the clasts are welded together either directly to each other or through the glassy matrix.

Alteration:

Almost fresh, with some light gray color slightly altered volcanic rock. Plagioclase and crynopyroxene phenocrysts are hardly altered, but some plagioclase phenocrysts are partially replaced by brown acicular clay mineral (smectite?). Except for the very fresh brown part, matrix is partly replaced by acicular clay mineral (smectite?). Subhedral magnetite grains are disseminated throughout the sample.

Structure:

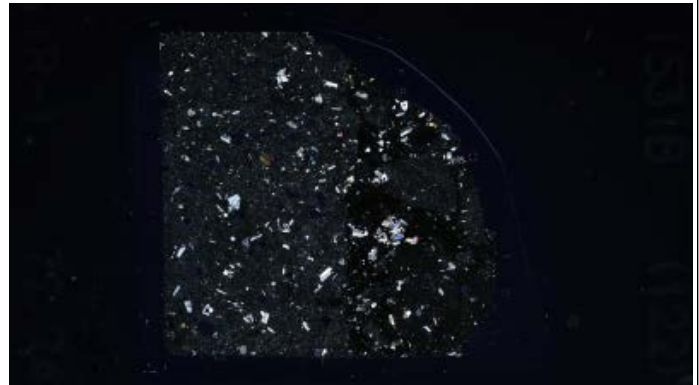
Two domains: one with volcanic clasts. Clasts may have volcanic fabric of different intensity and orientation. Domain two with a weak volcanic fabric defined by some vesicles and some plagioclase microlites and phenocrysts. Contact between domains is irregular, but sharp.

Plane-polarized



47511731

Cross-polarized



47511791

THIN SECTION LABEL ID: **376-U1531C-1R-1-W 38/40-TSB-TS_123**

TS no.: 123

Description Group

Summaries

Igneous petrology: This is a plagioclase-pyroxene phyric dacite lava. It plagioclase, pyroxene and magnetite phenocrysts, two types of plagioclase-pyroxene-magnetite glomerocrysts. Trace magmatic sulfides are present. The groundmass comprises glass and abundant seriate plagioclase microlites. The lava is sparsely vesicular with subrounded elongate vesicles. Cracks radiating from some vesicles contain trace sulfide. These later cracks crosscut glomerocrysts and groundmass.

Alteration: Very fresh dark gray volcanic rock. There is only one void filled with acicular clay mineral (smectite?) and one pyrite-vein crosscutting matrix and plagioclase phenocryst. No other alteration features. Subhedral to euhedral magnetite is disseminated throughout the sample with no pyrite.

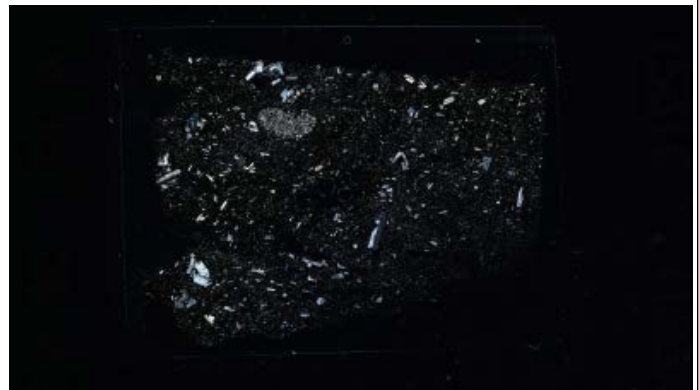
Structure: Volcanic fabric defined by well aligned vesicles and plagioclase microlites and to a lesser extent phenocrysts. Glomerocrysts tend to have their long axis parallel to foliation. Minor fracturing in plagioclase.

Plane-polarized



47511411

Cross-polarized



47511431

THIN SECTION LABEL ID: **376-U1531C-1R-2-W 55/57-TSB-TS_124**

TS no.: 124

Description Group**Summaries****Igneous petrology:**

Plagioclase-cpx phyric dacite. The rock consist of plagioclase phenocryst (20%), cpx phenocryst (5%), Fe-Ti oxide (2%), vesicles (10%) and groundmass (63%). Glomerocryst and phenocryst of plagioclase-cpx-Fe-Ti oxide. Resorption texture of cpx occur. Silicate melt inclusion assemblage in the growth zone of plagioclase. Plagioclase microlites in the groundmass show trachytic flow texture. Glass in the groundmass partly altered.

Alteration:

Slightly altered dark gray to light gray volcanic rock. Matrix and void are partially replaced/filled with acicular clay minerals (smectite?), but plagioclase phenocryst/microlite and crynopyroxene phenocryst are not replaced by any secondary minerals. Subheral to euhedral magnetite is disseminated throughout the sample, especially coarse-grained magnetite with plagioclase phenocrysts. No pyrite.

Structure:

Well defined volcanic fabric by vesicles and plagioclase microlites, to a lesser extent plagioclase phenocrysts and glomerocrysts. Very minor fracturing in plagioclase.

Plane-polarized



47511371

Cross-polarized



47511391