Petrographic Description

Identification

Description ID: SampleDescription
Thin section ID: 1
Rock type: Igneous
Well/Outcrop name: SampleWell
Top depth: 3000.0
Base depth: 3000.0
Unit/Age: SampleUnit
Block/Province: SampleBlock
Country: Brazil
State: XX
Place: SamplePlace
Institution: Endeeper
Petrographer: Petrographer
First edition date: Oct 4, 2010
Last edition date: Jun 1, 2011
Uses: Stratigraphic, Exploration

Summary

Dolerite (diabase) constituted of calcic plagioclase and augite, in intergranular arrangement. Intersertal spaces originally occupied by glass, are presently crystallized partially to divergent aggregates of albite in variolitic texture. Abundant skeletal ilmenite in symplectitic intergrowth with the pyroxene and the plagioclase. Subordinate olivine crystals, presently replaced by iddingsite and serpentine. Incipient alteration and fracture filling by calcite and smectite (nontronite).

Macroscopic features

Structure(s): Massive, Vein
Granularity: Aphanitic

Microscopic textural features

Structure(s): Massive
Crystallinity: Hemicrystalline
Granularity: Aphanitic
Relative crystal size: Equigranular
Crystal size range: Very fine-grained (4.0E-4 mm) to Medium-grained (2.6 mm)
Modal crystal size: Fine-grained (0.84 mm), Fine-grained (0.23 mm), Very fine-grained (0.06 mm)

Crystal / fragment shape

Perfection crystal shape: Idiomorphic

Texture(s): Intergranular, Intersertal, Variolitic, Symplectitic

Composition

37.33% Calcic plagioclase, Prismatic, As primary constituent, Twinned, Primary;

11.67% Albite, Sheaf, Intercrystalline, Replacing <Constituent>, Mafic glass, Glass, Intercrystalline;

1.67% Albite, Skeletal, Intercrystalline, Replacing <Constituent>, Mafic glass, Glass, Intercrystalline;

28.33% Augite, Prismatic, As primary constituent, Twinned, Primary;

2.33% Augite, Skeletal, As primary constituent, Intergrown with <Constituent>, Ilmenite, Other Oxides, As primary constituent;

7.67% Mafic glass, Massive, Intercrystalline, Altered, Primary;

4.67% Ilmenite, Skeletal, As primary constituent, Intergrown with <Constituent>, Augite, Pyroxenes-Pyroxenoids, As primary constituent;

1.67% Ilmenite, Skeletal, Intercrystalline, Replacing <Constituent>, Mafic glass, Glass, Intercrystalline;

1.0% Ilmenite, Microcrystalline, Interparticle, Covering <Constituent>, Augite, Pyroxenes-Pyroxenoids, As primary constituent;

1.0% Ilmenite, Skeletal, As primary constituent, Intergrown with <Constituent>, Calcic plagioclase, Feldspars, As primary constituent;

0.67% Calcite, Coarsely-crystalline, Intercrystalline, Replacing <Constituent>, Mafic glass, Glass, As primary constituent;

0.67% Iddingsite, Microcrystalline, Intraparticle replacive, Replacing <Constituent>, Olivine, Olivines, As primary constituent;

0.67% Serpentine, Microcrystalline, Intraparticle replacive, Replacing <Constituent>, Olivine, Olivines, As primary constituent;

0.33% Nontronite, Microcrystalline, Rock fracture-filling, Fracturing of <Constituent>, Constituent undifferentiated, Other constituents;

0.33% Nontronite, Microcrystalline, Intraparticle replacive, Replacing <Constituent>, Olivine, Olivines, As primary constituent;

Classification

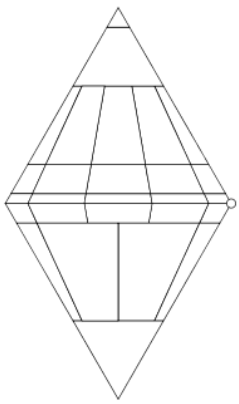
Streckeisen - Plutonic Original: Gabbro

Q: 0.0

A: 0.0

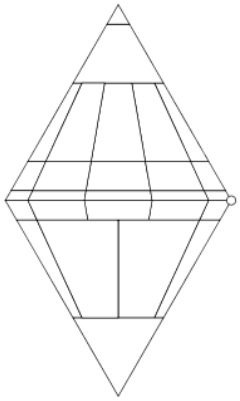
P: 100.0

F: 0.0



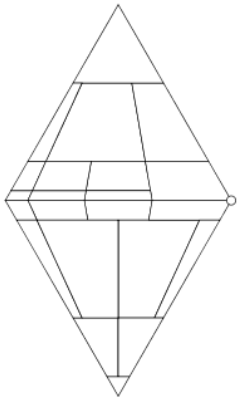
Streckeisen - Plutonic Present: Gabbro

Q: 0.0
A: 0.0
P: 100.0
F: 0.0



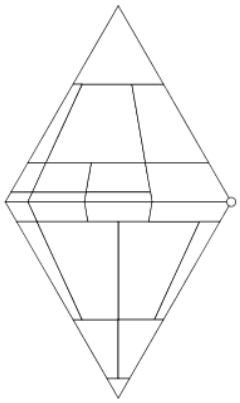
Streckeisen - Volcanic Present: Basalt

Q: 0.0
A: 0.0
P: 100.0
F: 0.0



Streckeisen - Volcanic Original: Basalt

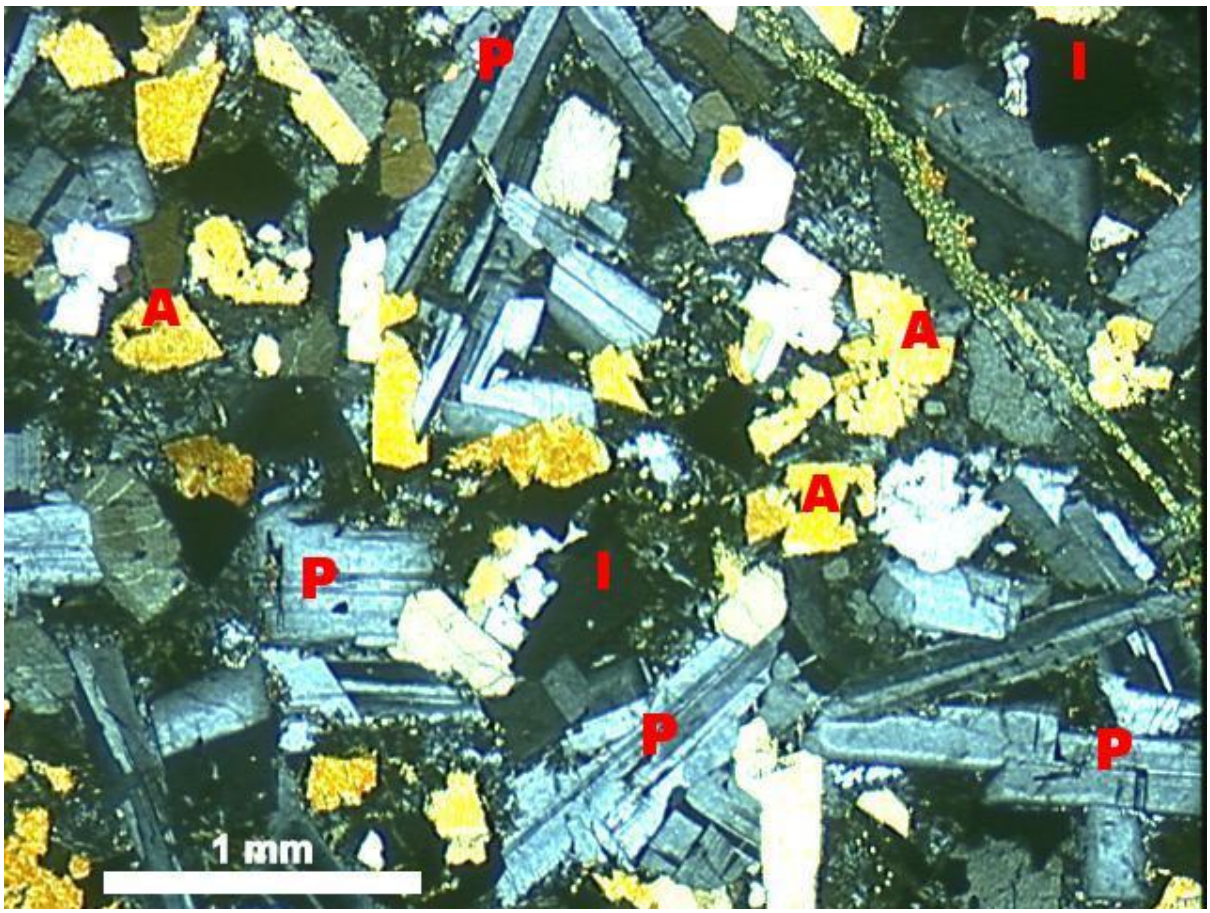
Q: 0.0
A: 0.0
P: 100.0
F: 0.0



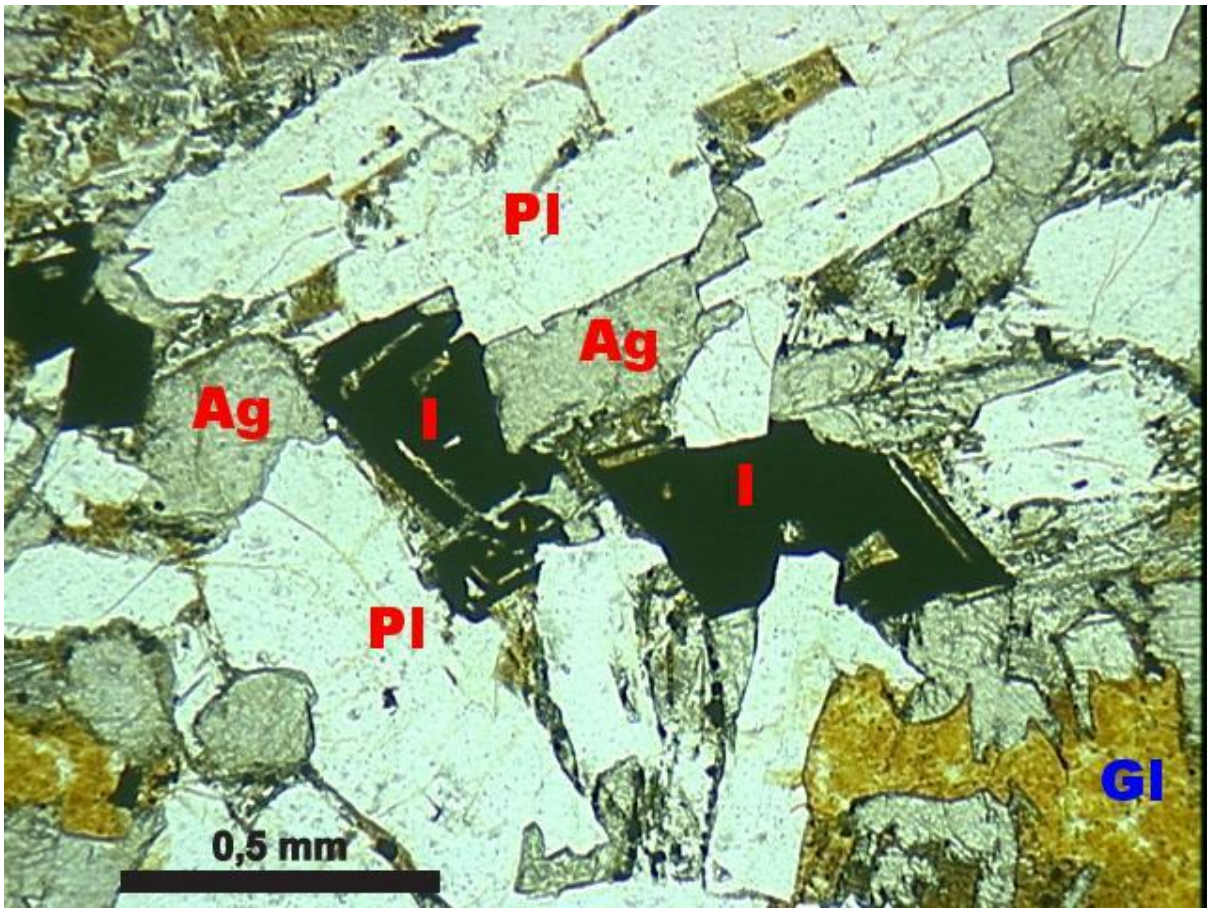
Total

Silicate	82.667
Non-Silicate	17.333
Porosity	0.0
Felsic minerals	50.667
Maphic minerals	39.667

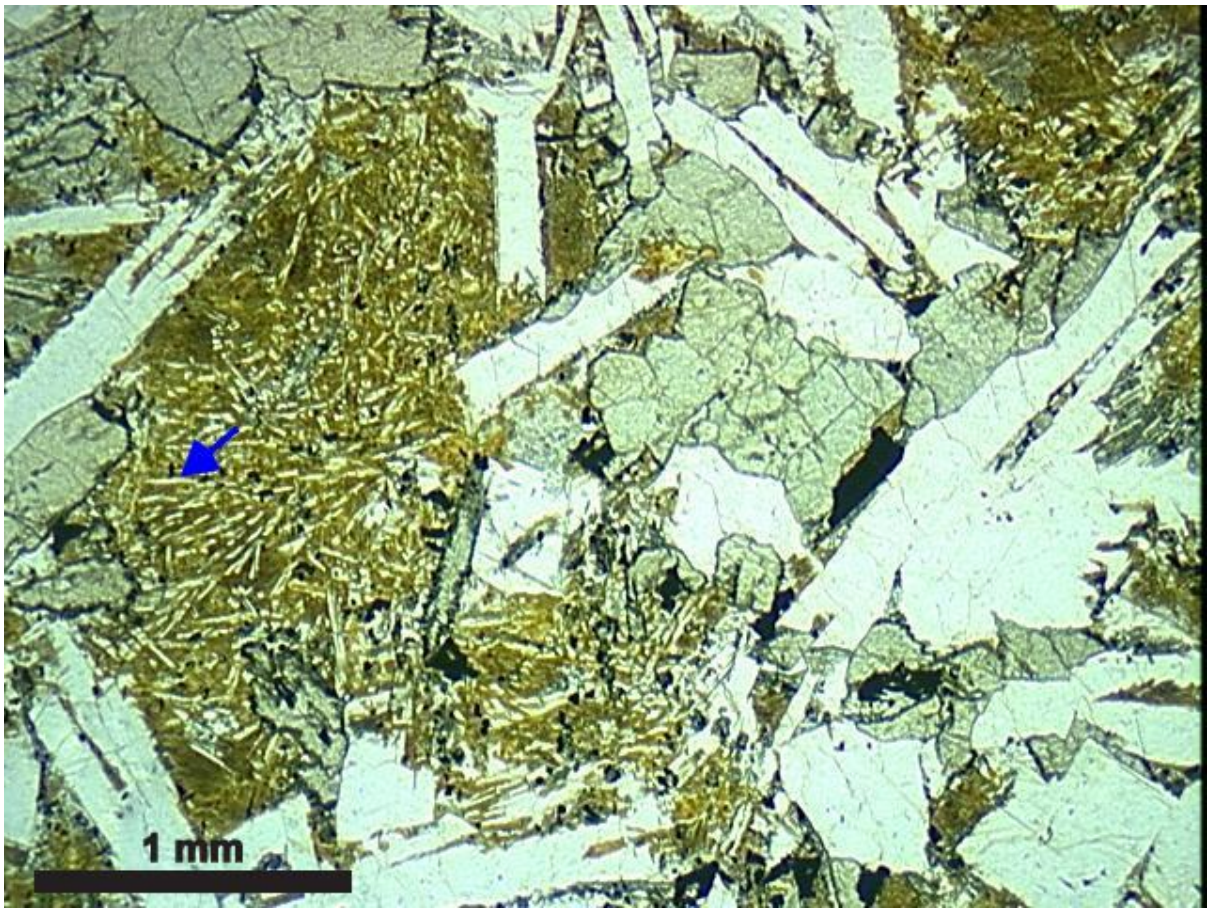
Images



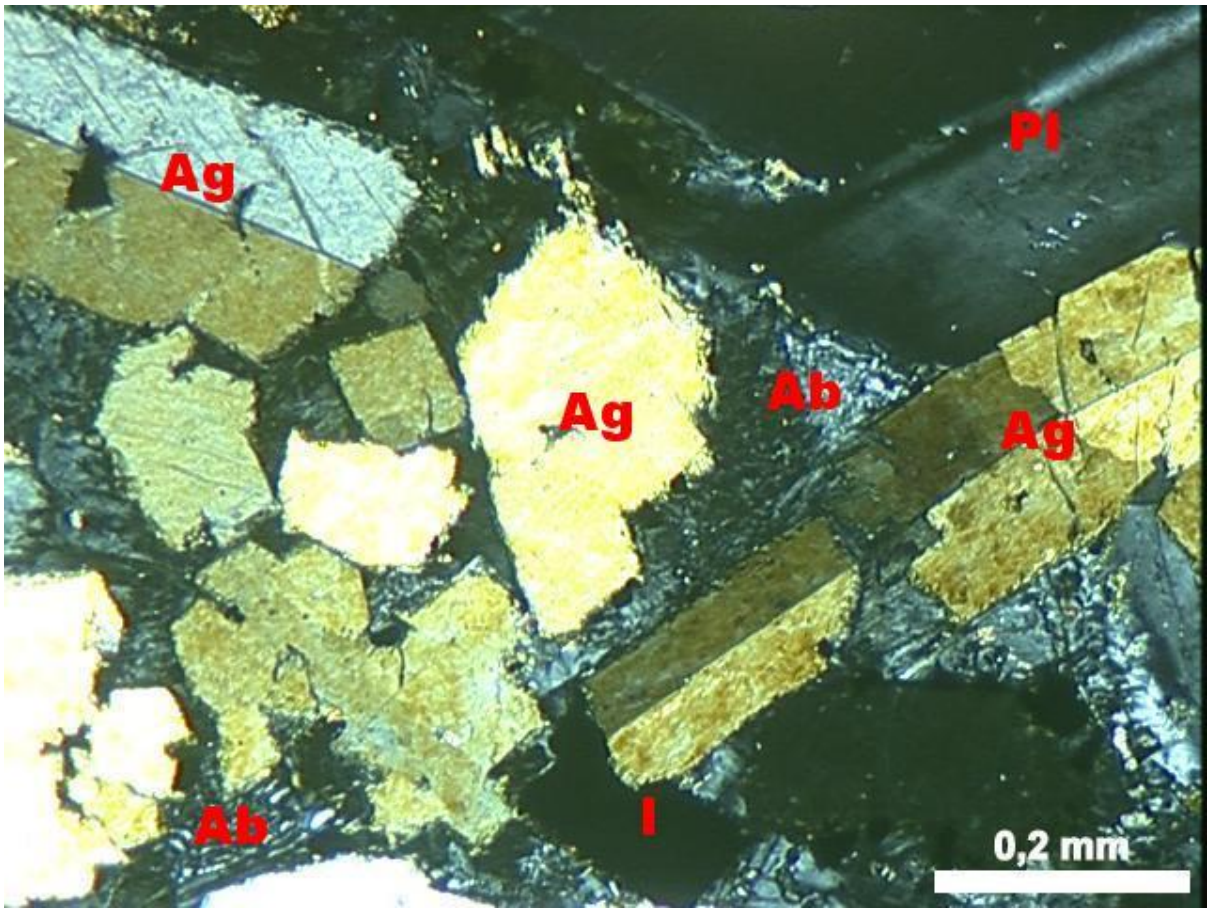
Description: Image1
Subtitle:
P: Constituent name: Plagioclase;
A: Constituent name: Augite;
I: Constituent name: Ilmenite;



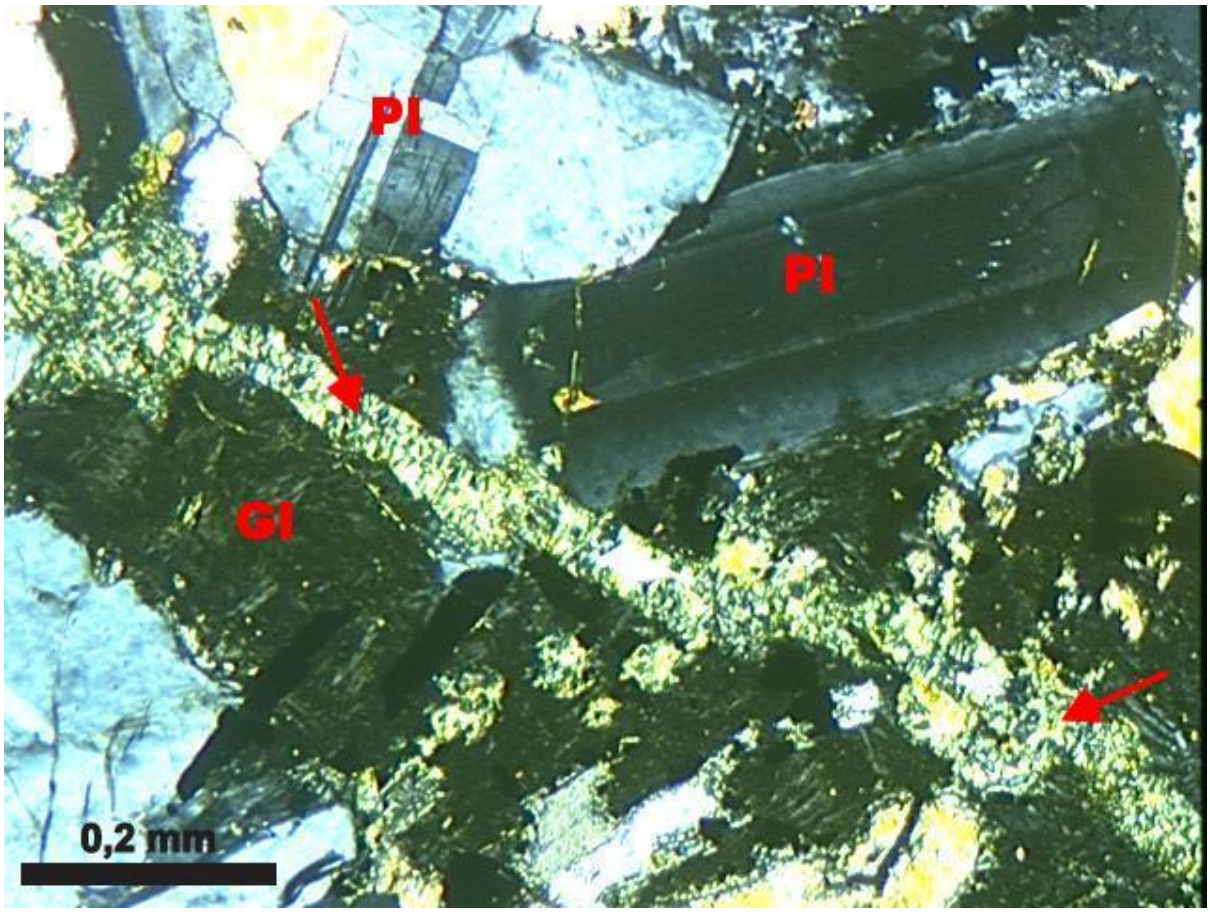
Description: Image2
Subtitle:
I: Constituent name: Ilmenite;
Pl: Constituent name: Plagioclase;
Ag: Constituent name: Augite;
Gl: Constituent name: Mafic glass;



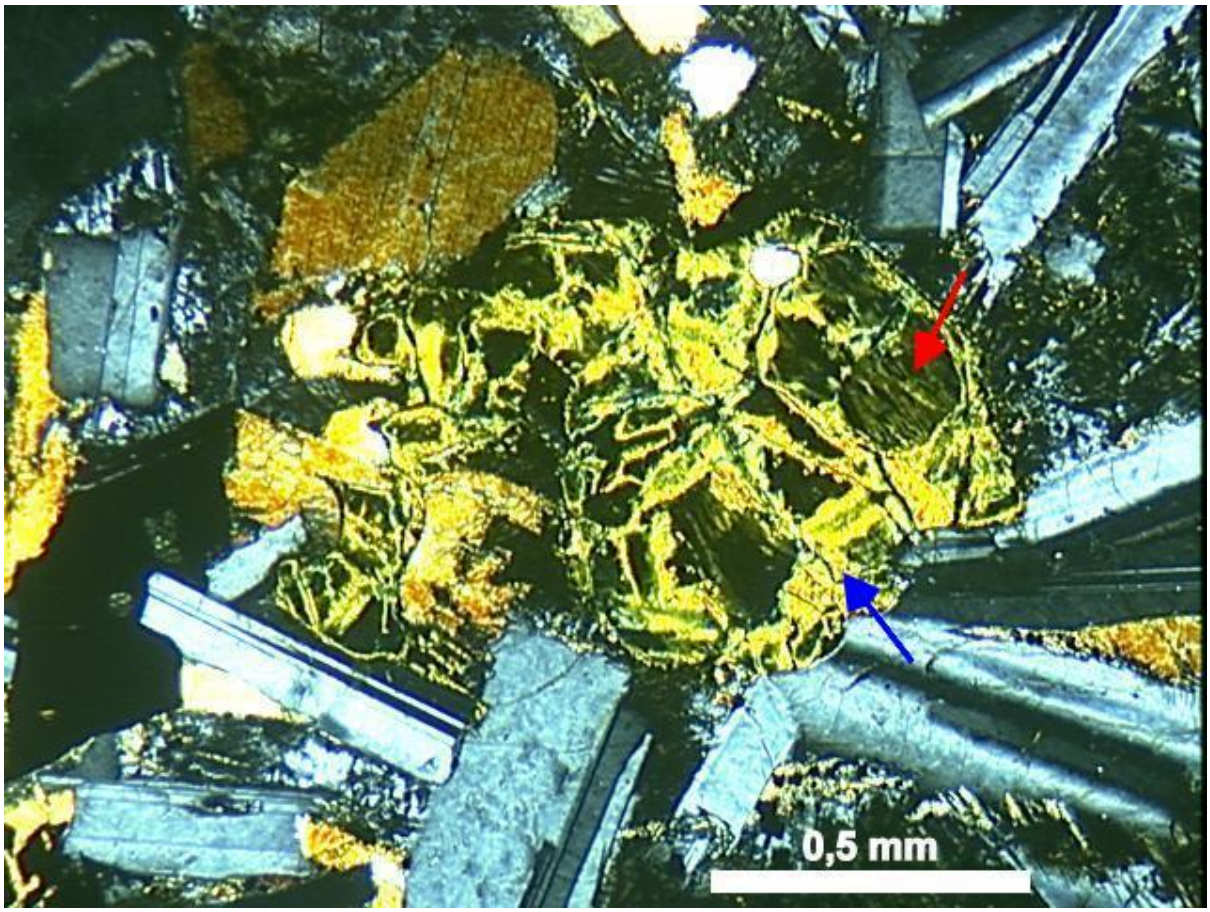
Description: Image3
Subtitle:
Dark blue Arrow: Constituent name: Albite - Paragenetic relation: Replacing < Constituent > - Paragenetic relation constituent: Mafic glass;



Description: Image4
Subtitle:
Ag: Constituent name: Augite;
Pl: Constituent name: Plagioclase;
Ab: Constituent name: Albite;
I: Constituent name: Illite;



Description: Image5
Subtitle:
Pl: Constituent name: Plagioclase;
Gl: Constituent name: Mafic glass;
Red Arrow: Constituent name: Nontronite - Habit: Sheaf - Location: Cavity-filling - Paragenetic relation: Fracturing of < Constituent > - Paragenetic relation constituent: Constituent undifferentiated;



Description: Image6
Subtitle:
Red Arrow: Constituent name: Serpentine - Location: Intracrystalline replacive - Paragenetic relation: Replacing < Constituent > - Paragenetic relation constituent: Olivine;
Dark blue Arrow: Constituent name: Iddingsite - Location: Intracrystalline replacive - Paragenetic relation: Replacing < Constituent > - Paragenetic relation constituent: Olivine;