Description of thin sections from geothermal borehole

|  |  |  |  |
| --- | --- | --- | --- |
| Sample | Mineralogy | Texture | Description |
| 72833  (Fig. 2A) | Quartz  Feldspars  Illte  Chlorite | Hemicrystalline micro-structure.  Aphanitic matrix | Rhyolite with undulating quartz and feldspars phenocrysts in an aphanitic matrix. Magmatic quarzt with micro-cracks filled with microcrystals of illite. Illite is coated around feldspars and quarzt. Growth of green chlorite on biotite is also found.  Microcrystals of illite grow in a glassy groundmass |
| 72836  (Fig. 2B) | Carbonate  Fe-oxides  Chlorite  Quartz  Mica  Clay Mineral | Aphanitic matrix | The association of Fe-oxides, carbonate, chlorite, and other clay minerals appears apparently. The Fe -chlorite appeared as sheets, small prismatic sub-idiomorphic flakes, imperfect hexagonal and sub-idiomorphic to idiomorphic crystals of well-ordered chlorite. Fe,Mg-chlorite also presented sheets grew on biotite (mica). |
| 72836  (Fig. 2C) | Muscovite,  Micro Quartz,  Illite  Chlorite | Holohyaline (glassy) to microlitic matrix | Rhyolite showing porphyritic fluidal texture and composed of muscovite, and the cryptogrytalline (microcrystalline) groundmass is composed of microquartz, illite and Fe-chlorite |
| 72838  (Fig. 2D) | Quartz  Feldspars  Sericitized Feldspars  Mica  Epidote | Aphanitic matrix | Sub-idiomorphic magmatic mica (biotite) and fresh plagioclas are observed together with sericitizatized feldspars, as well as growth of microscrytals of illite on feldspars. Fine pale yellow epidote is also found. |
| 72852  (Fig 2E) | Glassy  Illite  Chlorite  Micro Quartz | Holohyaline (glassy) to microlitic matrix | Development of vitreous-flow structures surrounded by recrystallized quartz and illite and chlorite crystals |
| 72852  (Fig 2F) | Feldspars  Illite  Epidote | Glassy matrix | Quartz and feldspars (plagioclase) were coated by micro-crystallites of mica in a transformed relictic glass matrix to microcrystals of illite, chlorite, and quartz |
| 72853  (Fig 2G) | Feldspars  Quartz  Illite  Chlorite | Phenocrysts with glassy matrix | The glassy matrix was transformed to microcrytals of illite, chlorite and quartz, new growth illite coated quarzt, and feldspars |
| 72854  (Fig 2H) | Biotite  Carbonate  Quartz  Illite, Muscovite  Hematite | Hemicrystalline micro-structure with glassy matrix | Fine grained porphyric rhyolite with crystals in a glassy groundmass. The glassy matrix was transformed to illite and biotite transformed to chlorite but fresh mica is found as well as hematite and carbonate minerals. |