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| Client: | Bettazza Graniti SA, Cevio |
| Work: | Certification of natural stones |
| Date: | 06.04.05 Mandate: 04-4389 |

PETROGRAPHIC ANALYSIS BY POLARIZING MICROSCOPE

Standards: EN 12407, EN 1341

Tested samples:

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| Description: | Biotitic paragneiss |
| Location: | Quarry Boschetto, Bettazza Graniti SA, CH - 6675 Cevio |
| Dimensions: | Thin section |
| Sampled by: | Client |
| Date of delivery: | 12.11.04 |
| Date of testing: | 13.04.05 |
| Technician: | Dr. M. Di Tommaso |

| Minerals | Theor. chemical composition | Hardness | %-Volume | Remarks |
|------------------|--|-------------|----------|----------------------------|
| Alkali feldspars | $K[AlSi_3O_8]$ | 6 | ~ 50 | K- e Na-feldspars |
| Biotite | $K(Mg,Fe,Mn)_3[(OH,F)_2 AlSi_3O_{10}]$ | 2.5 - 3 | ~ 25 | |
| Chlorite | $(Fe,Mg,Al)_6[(OH)_2 (Si,Al)_4O_{10}]$ | 2 | ~ 2 | Sum of all opaque minerals |
| Magnetite | $Fe^{\text{Fe}}_2O_4$ | 5.5 (- 6.5) | ~ 1 | |
| Muscovite | $KAl_2[(OH,F)_2 AlSi_3O_{10}]$ | 2 - 2.5 | ~ 5 | |
| Plagioclases | $Na_xCa_{5-x}[AlSi_3O_8]_5$ | 6 - 6.5 | ~ 7 | Locally sericitized |
| Quartz | SiO_2 | 7 | ~ 10 | |

Morphology: Sub-idiomorph crystals of k-feldspar and plagioclase

Habitus: Tabular crystals (k-feldspar and plagioclase); roundish till tabular crystals (quartz), foliated crystals (micas)

Structure: Granoblastic fine-grained (equidimensional crystals with mosaic structure), locally with fine-grained perthite, plagioclases and quartz

Texture: High developed schistosity along micas alignments

Remarks:

Checked and approved by: Dr. M. Di Tommaso


