NEW MINERAL NAMES

Preobrazhenskite

YA. YA. YARZHEMSKII. Preobrazhenskite, a new borate of the saliferous strata of the

The mineral is wide-spread in small amounts in several parts of the area. It occurs in
colorless, lemon-yellow, and dark gray nodules in fine-grained halite-polyhalite rock and
encloses kaliborite and boracite. In places it has been partially replaced by inyoite.

Chemical analysis by E. M. Petrov and V. P. Erekhovich gave B\(_2\)O\(_3\) 60.82,
CaO 0.01, K 0.25, Na 0.38, Cl 0.82, Br 0.008, SO\(_4\) not found, R\(_2\)O 0.11, SiO\(_2\) 0.13, insol.
0.06, H\(_2\)O\(^+\) 0.20, H\(_2\)O\(^-\) 14.30, sum 98.00\%. This corresponds to 3 MgO·5B\(_2\)O\(_3\)·4.5H\(_2\)O.

Hardness 4⅓–5. G. not given. Optically nearly uniaxial, positive, with \(\eta_0\) 1.594–
1.596, \(\beta\approx1.573–1.576\). X-ray study by V. I. Appolonov indicated low symmetry; the
powder data (not given M.F.) differ from those of other borates. A D.T.A. curve by V. P.
Ivanov shows a large endothermic break at 540–600°, a sharp exothermic break at 730–
750, and a moderate endothermic break at 900–950°.

The name is for Pavla Ivanovich Preobrazhensk (1874–1944), “tireless investigator of
salt deposits of the U.S.S.R.”

Michael Fleischer

Mauritzite

L. TOKODY, T. MÁNDY, AND S. NEMES-VARGA. Mauritzit, ein neues Mineral von

The mineral occurs in a quarry in hydrothermally altered pyroxene-andesite at Mula-
tóhegy near Erdőbénye, Hungary, with quartz, tridymite, opal, barite, halotrichite, calcite,
siderite, and ilmenite. It is in mammillary forms, intimately mixed with chalcedony
(“quartzin”). It is bluish-black, dull, streak and powder yellowish-brown with a greenish
tinge. Sp. gr. and hardness not determined. Under the microscope straw-yellow, trans-
parent, apparently isotropic with mean \(n\) 1.6035.

Analysis gave SiO\(_2\) 38.62, TiO tr., Al\(_2\)O\(_3\) 6.29, FeO 19.90, FeO 6.29, MnO 0.12, MgO
9.83, CaO 1.42, K\(_2\)O, Na\(_2\)O, and P\(_2\)O\(_5\) tr., H\(_2\)O\(^-\) 12.90, H\(_2\)O\(^+\) 4.99, CO\(_2\) 0.18, sum 100.54%.
This corresponds, after deducting all SiO\(_2\) as quartz and CO\(_2\) as CaCO\(_3\) to 2 (Mg,Fe)\(\cdot\)O\(\cdot\)(Fe,
Al)\(_2\)O\(_3\)·5H\(_2\)O. The water is all lost at 150° and the dehydration is reversible for material
heated up to 200°. The D.T.A. curve shows a single large endothermic break at 150°. The
mineral dissolves in cold (1\% 1) HCl, leaving a residue of chalcedony.

The x-ray pattern shows lines of following spacings (Å) and intensities: 14.5 5, 4.54 4,
2.619 4 (broad), 1.735 2, 1.531 5, 1.318 3 (broad). This is shown to correspond closely to
the pattern of a member of the montmorillonite group with \(a\) 5.31, \(b\) 9.19Å.

The mineral is interpreted as being a silica-free montmorillonite of formula

\[(\text{Al}_{1.45}\text{Fe}_{0.55})\text{O}_{1.9}\text{H}_{2.2}(\text{Fe}_{0.55}\text{Mg}_{0.44}\text{Ca}_{0.01})\text{O}_{10}(\text{OH})_2\]\

The name is for Bela Mauritiz, 1881—, Hungarian mineralogist.

Discussion.—I find it very difficult to accept the authors’ interpretation. The mineral
corresponds very well with a montmorillonite intermediate between nontronite and
griffithite (compare Faust, J., Wash. Acad. Sci. 45, 66–70 (1955)), if most of the SiO\(_2\) found
belongs to the mineral. The powder pattern shows no quartz lines and the authors’ inter-
pretation means that 38.6% quartz, even though present as chalcedony, gave no pattern.
It is also hard to believe that a hydrous oxide with the formula calculated could be dehy-
drated and rehydrated reversibly when heated to temperatures up to 200°. Further work
is obviously necessary.

M. F.