

e-Table 2. New mineral species that were discovered in the fumarole deposits of the 1975-1976 Tolbachik eruption

Number	Name of mineral	Formula of mineral	References
<i>Fluoride</i>			
1	Menyailovite	$\text{Ca}_4\text{AlSi}(\text{SO}_4)\text{F}_{13} \cdot 12\text{H}_2\text{O}$	Vergasova et al., 2004
<i>Chlorides and oxychlorides</i>			
2	Tolbachite	CuCl_2	Vergasova and Filatov, 1983
3	Melanothallite	Cu_2OCl_2	Vergasova and Filatov, 1982
4	Ponomarevite	$\text{K}_4\text{Cu}_4\text{OCl}_{10}$	Vergasova et al., 1988c
5	Lesukite	$\text{Al}_2(\text{OH})_5\text{Cl} \cdot 2\text{H}_2\text{O}$	Vergasova et al., 1997a
<i>Carbonates</i>			
6	Chlorartinite	$\text{Mg}_2(\text{CO}_3)\text{ClOH} \cdot 3\text{H}_2\text{O}$	Vergasova et al., 1998b
<i>Arsenates</i>			
7	Alarsite	AlAsO_4	Semenova et al., 1994
8	Coparsite	$\text{Cu}_4\text{O}_2[(\text{As}, \text{V})\text{O}_4]\text{Cl}$	Vergasova et al., 1999a
9	Urusovite	$\text{Cu}[\text{AlAsO}_5]$	Krivovichev et al., 2000; Vergasova et al., 2000
10	Filatovite	$\text{K}[(\text{Al}, \text{Zn})_2(\text{Al}, \text{Si})_2\text{O}_8]$	Vergasova et al., 2004
11	Bradaszekite	$\text{NaCu}_4(\text{AsO}_4)_3$	Filatov et al., 2001
12	Lammerite-b	$\text{b-Cu}_3(\text{AsO}_4)_2$	Starova et al., 2011
<i>Vanadates</i>			
13	Leningradite	$\text{PbCu}_3(\text{VO}_4)_2\text{Cl}_2$	Vergasova et al., 1990
14	Averievite	$\text{Cu}_5(\text{VO}_4)_2\text{O}_2 \cdot n\text{MX}$	Vergasova et al., 1988a; Starova et al., 1997
<i>Sulphates and oxysulphates</i>			
15	Pauflerite	b-VOSO_4	Krivovichev et al., 2007
16	Piypite	$\text{K}_4\text{Cu}_4\text{O}_2(\text{SO}_4)_4 \cdot \text{MeCl}$	Vergasova et al., 1984; Filatov and Vergasova, 1989
17	Fedotovite	$\text{K}_2\text{Cu}_3\text{O}(\text{SO}_4)_3$	Vergasova et al., 1988b
18	Kamchatkite	$\text{KCu}_3\text{OCl}(\text{SO}_4)_2$	Vergasova et al., 1988a
19	Klyuchevskite	$\text{K}_3\text{Cu}_3\text{Fe}^{3+}\text{O}_2(\text{SO}_4)_4$	Vergasova et al., 1989a
20	Alumoklyuchevskite	$\text{K}_3\text{Cu}_3\text{AlO}_2(\text{SO}_4)_4$	Gorskaya et al., 1995
21	Vlodavetsite	$\text{AlCa}_2(\text{SO}_4)_2\text{F}_2\text{Cl} \cdot 4\text{H}_2\text{O}$	Vergasova et al., 1995a
22	Nabokoite	$\text{Cu}_7\text{TeO}_4(\text{SO}_4)_5 \cdot \text{KCl}$	Popova et al., 1987
23	Atlasovite	$\text{Cu}_6\text{Fe}^{3+}\text{Bi}^{3+}\text{O}_4(\text{SO}_4)_5 \cdot \text{KCl}$	Popova et al., 1987
24	Vergasovaite	$\text{Cu}_3\text{O}[(\text{Mo}, \text{S})\text{O}_4][\text{SO}_4]$	Bykova et al., 1998
<i>Selenites and oxyselenites</i>			
25	Sophiite	$\text{Zn}_2(\text{SeO}_3)\text{Cl}_2$	Vergasova et al., 1989b
26	Ilinskite	$\text{NaCu}_5\text{O}_2(\text{SeO}_3)_2\text{Cl}_3$	Vergasova et al., 1997b
27	Bernsite	$\text{KCdCu}_7\text{O}_2(\text{SeO}_3)_2\text{Cl}_9$	Krivovichev et al., 2001
28	Chloromenite	$\text{Cu}_8\text{ZnO}_2(\text{SeO}_3)_4\text{Cl}_6$	Vergasova et al., 1999b
29	Georgbokiite	$\text{Cu}_5\text{O}_2(\text{SeO}_3)_2\text{Cl}_2$	Vergasova et al., 1999
30	Parageorgbokiite	$\text{b-Cu}_5\text{O}_2(\text{SeO}_3)_2\text{Cl}_2$	Vergasova et al., 2006
31	Prewittite	$\text{KPb}_{1.5}\text{ZnCu}_6\text{O}_2(\text{SeO}_3)_2\text{Cl}_{10}$	Krivovichev, 2008
32	Allochalcocelite	$\text{Cu}^+\text{Cu}^{2+}_5\text{PbO}_2(\text{SeO}_3)_2\text{Cl}_5$	Vergasova et al., 2005

Note: Oxygen of oxy-salts that is not included in acid radicals is highlighted in bold. Table and references taken from (Vergasova and Filatov, 2012).