VALID UNNAMED MINERALS, UPDATE 2023-01

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Users making reference to this compilation should refer to the primary source (Dorian G.W. Smith & Ernest H. Nickel (2007): A System of Codification for Unnamed Minerals: Report of the SubCommittee for Unnamed Minerals of the IMA Commission on New Minerals, Nomenclature and Classification. Canadian Mineralogist v. 45, p.983-1055). Additions and changes to the original publication are shown in blue print; deletions are "greyed out and struck through".
Previous list closed 01 January, 2012

IMA Code	Primary Reference	Secondary Reference	Comments
UM1886-01-OC:HNNa	*Bull. Soc. Minéral. *9*, 51	Dana (7th) *2*, 1104	Probably an oxalate but if not is otherwise similar to lecontite
UM1892-01-F:CaY	*Am. J. Sci. *44*, 386	Dana (7th) *2*, 37	Low analytical total because F not reported; unlike any other known fluoride
UM1910-01-PO:CaFeMg	US Geol. Surv. Bull. 419, 1	Am. Mineral. *34*, 513	(Ca,Fe,Mg)Fe^{3+}2(PO4)2(OH)2•2H2O; some similarities to mitridatite, calcioferrite, xanthoxenite, etc.
UM1913-01-AsO:CaCuV	*Am. J. Sci. *35*, 441	Dana (7th) *2*, 818	Possibly As-bearing tangeite
UM1922-01-O:CuHUV	*Izv. Ross. Akad. Nauk [6], *16*, 505	Dana (7th) *2*, 1048	Some similarities to sengierite
UM1926-01-O:HNbTaTiU	*Bol. Inst. Brasil Sc., *2*, 56	Dana (7th) *1*, 807	(Y,Er,U,Th,Fe^{3+})3(Ti,Nb,Ta)10O26; some similarities to samarskite-(Y)
UM1927-01-O:CaTaTiW	*Gornyi Zhurn. *12*, 740	Dana (7th) *1*, 741	No chemically similar minerals are known
UM1936-01-F:AlCaHMgNaS	*Accad. Sci. Lett. Arti, Modena Att. [5], *1*, 33	Dana (7th) *2*, 127	(Na,K)9(Mg,Ca)7(Al,Fe)13[(S,Si)O4]4(F,Cl)36(OH)10•11H2O
UM1940-01-SO:AlHP	Am. Mineral. *25*, 213	Dana (7th) *2*, 634	Al4(SO3)4(P2O5)O6•24H2O; resembles alunogen in appearance but has some compositional similarities to sanjuanite
UM1941-01-F:AlCaHMgNa	*Dokl. Akad. Nauk SSSR *33*, 140	Am. Mineral. *28*, 283	NaCaMgAl3F14•4H2O; later, the name "boldyrevite" was proposed but never formally accepted by the IMA; some gross compositional similarities to ralstonite
UM1941-02-SiO:AlCaFeMn	*Mad. Tet. Arama Enst. Mecmuasi *6*, 208	Mineral. Abst. *10*, 123	(Fe,Mn)8Al4Si13O40
UM1943-01-AsO:Bi	Am. Mineral. *28*, 536	Dana (7th) *2*, 907	Perhaps a polymorph of rooseveltite
UM1943-02-OH:Bi	Am. Mineral. *28*, 521	Mineral. Abst. *9*, 5	Bi(OH)3; diffraction pattern not similar to any Bi2O3 polymorph
UM1948-01-O:HMn	Am. Mineral. *33*, 695; 35, 485	Hey (1962), 7.2.4a	(Mn,Fe,Al,Na)Mn3O7; might be disordered cryptomelane; also some similarities to buserite and birnessite
UM1949-01-PO:Fe	Am. Mineral. *34*, 513		FePO4; referred to as a “dufrenite-like mineral”
~~**UM1949-02-PO:FeMn**~~	Am. Mineral. *34*, 513		Referred to as a "dufrenite-like mineral"; later described more fully as UM1982-08-PO:FeHMn; transferred to Invalid list
~~**UM1949-03-PO:FeMn**~~	Am. Mineral. *34*, 513	ICDD 15-0442	Dufrenite-like mineral". No chemical analysis; perhaps kidwellite; X-ray powder diffraction pattern later reported as mixture; transferred to Invalid list
UM1954-01-O:HU	Am. Mineral. *39*, 1018		UO3•2H2O; alteration product of ianthinite; possibly a polymorph of (para)schoepite.
UM1954-02-SiO:HKMnNa	*Trud. Mineral. Muz. Akad. Nauk SSSR *6*,	Mineral. Abst. *13*, 209.	(K,Na)4Mn4Si6O22•H2O; similar to chinglusite and perhaps the K analogue of that mineral; but note differences in Ti content

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UM1955-01-PO:FeHMn	Am. Mineral. *40*, 50		Mineral "B"; XRD pattern similar to that of ernstite
UM1955-02-SiO:AlCaFeHMg	*Trud. Mineral. Muz. Akad. Nauk SSSR *7*, 70.	Mineral. Abst. *13*, 209.	$(Ca,Fe^{2+})(Fe^{3+},Mg,Al)2[Si2Al2]O10(OH)2$; perhaps an Fe-analogue of clintonite
UM1955-03-SiO:FeMn	*Smirnov (*1955*), 18	Am. Mineral. *43*, 793	(Mn,Fe,Mg)3Si2O7; composition is analogous to synthetic Mn3Si2O7 (Glaser, Centralbl. Mineral. Abt. A, 81) after removing calcite & bustamite impurities; also similar to tephroite
UM1955-04-OH:U	Bull. Soc. fr. Minéral. Crist. *78*, 1		UO2.84•H2O
UM1956-01-O:HPbU	Am. Mineral. *41*, 539		Mineral "C"; XRD pattern similar to wölsendorfite
UM1956-02-SiO:CaHU	Am. Mineral. *41*, 539		CaUSiO6•H2O; mineral "B"; the Ca-analogue of kasolite
UM1957-01-SiO:U	Am. Mineral. *42*, 222		Mineral "X"; X-ray powder diffraction and optical data
UM1957-02-SiO:AlFeHMnREE	*Sci. Rept. Tohoku Univ., ser.3, *5*, 345	Eur. J. Mineral. *18*, 569	$Mn^{2+}(REE)AlAlFe^{2+}SiO4Si2O7O(OH)$; unnamed member of allanite subgroup of the epidote group
UM1958-01-PO:CaMn	Am. Mineral. *43*, 1148		Mineral "B"; possibly a member of the wyllieite group
UM1958-02-PO:Fe	Am. Mineral. *43*, 1148		Mineral "A"; some similarity to azovskite; incomplete optical properties and X-ray powder diffraction data
~~**UM1958-03-SiO:AlCaFeKNa**~~	*Akad. Nauk SSSR, Kola Filial *1* (1958), 146	Am. Mineral. *44*, 909.	(K,Na)4Ca2(Al,Fe)(Si,Al)6(O,OH,F)18•0.6NaCl; mineral "no. 3"; later named delhayelite: Vopr. Geol. Mineral. Kol'sk. P-va, #1 (1959), 146; moved to Invalid list
UM1958-04-SiO:AlHK	*Akad. Nauk SSSR, Kola Filial *1* (1958), 146	Am. Mineral. *44*, 909	K2Al3Si7O18(OH,F)3; mineral "no. 4"
UM1958-05-AsO:HU	Jahr. geol. Landes. Baden-Wurtemburg *31*, 17	Aufschluss *9*, 279	(UO2)H(AsO3)•H2O; mineral "D"
UM1959-02-CO:HNa	*Semenov (1959)	Mineral. Abst. *15*, 363	Na2CO3•H2O; has the composition of thermonatrite, but optical properties different
UM1959-03-S:CuGeNi	Fortsch. Mineral. *37*, 87	Mineral. Abst. *15*, 290	(Ni,Cu)2GeS4; mineral "S"
UM1959-04-SiO:AlH	*Zap. Vses. Mineral. Ob. *88*, 554	Mineral. Abst. *14*, 501	"Analogue of allevardite"; possibly rectorite
UM1959-05-SiO:FeHTh	US Geol. Surv. Bull. 1072-H, 491	Mineral. Abst. *15*, 45	"A hydrated thorite-like mineral"
UM1960-01-AsO:CaHPbU	CSIRO Minerag. Invest. Tech. Paper 2, 44	ICDD 15-0530	Mineral "D"; X-ray powder diffraction and optical data; may be related to zeunerite
~~**UM1960-02-F:KMg**~~	*Bull. Acad. Roy. Sci. Outre-Mer *6*, 964	Hey (1963) 8.4.1b	No X-ray powder diffraction data but composition is unique; Povarennykh used the name "kamaflagite" for this compound; formula: KMgF3; later named parascandolaite: Phys.Chem. Min. 41(6), 403; moved to Invalid list
UM1960-03-O:CaFeHMgPbU	CSIRO Minerag. Invest. Tech. Paper 2, 47	ICDD 15-0444	Mineral "G"; X-ray powder data. Minor Al, As Cu, Si , Th & V reported
~~**UM1960-04-O:HU**~~	CSIRO Minerag. Invest. Tech. Paper 2, 39	ICDD 15-0569	Mineral "B"; X-ray powder data; minor Ca and trace Al, Cu, Fe, Si & Th; identified later under the name heisenbergite: Neues Jh. Mineral. Abh. *189* (2) (2012), 117
UM1960-05-PO:CaFeHU	CSIRO Minerag. Invest.	ICDD 15-0443	Mineral "H"; unique X-ray powder diffraction data

	Tech. Paper 2, 48		
UM1960-06-SiO:Be	*Dokl. Earth Sci. *133*, 812	Am. Mineral. *46*, 241	X-ray powder data unlike those for any other beryllium silicate
UM1960-07-SiO:CaHU	CSIRO Minerag. Invest. Tech. Paper 2, 37	ICDD 15-0529	Mineral "A"; X-ray powder diffraction and optical data
UM1960-08-SiOPO:CaCeFeHLa	Mineral. Mag. *32*, 389		X-ray powder data (not reported) indicate the structure may be similar to monazite
UM1960-09-VO:Ca	CSIRO Minerag. Invest. Tech. Paper *2*, 46	ICDD 15-0609	Mineral "F"; X-ray powder diffraction data; minor U, Pb, Mg & Si reported
UM1961-01-As:IrOsPt	Mineral. Mag. *32*, 833		Pt(Ir,Os)2As4; no X-ray powder data but composition is unique
UM1961-02-AsO:FePbZn	*Jahr. geol. Landes. Baden-Wurtemburg *4*, 7	Am. Mineral. *47*,418.	Qualitative compositional, and optical data only; might be zincgartrellite
UM1961-03-Bi:Pd	*Geol. Rudn. Mest. (1961) (5), 64	Am. Mineral. *47*,810	Pd5Bi2; X-ray powder diffraction and some chemical data; d-values correspond to those of sobolevskite
UM1961-04-E:CuPtSn	Mineral. Mag. *32*, 833		No X-ray powder data but composition is unique; suggested formula: Pt4Cu4Sn3; but perhaps tatyanaite
UM1961-05-F:OPb	Science *133*, 2017	Am. Mineral. *46,* 1021	X-ray powder diffraction data identical to synthetic Pb2OF2
UM1961-06-O:Mn	Am. Mineral. *46*, 355		X-ray powder diffraction and chemical data; possibly related to romanechite
UM1961-07-S:FeNi	Mineral. Mag. *32*, 833.		(Fe,Ni)2S; no X-ray powder diffraction data but composition is unique
~~**UM1961-08-Sb:BiPd**~~	Mineral. Mag. *32*, 833		Pd8Sb4Bi3; or perhaps a Bi-rich sudburyite; no X-ray data; transferred to Invalid list
UM1961-09-Sb:CuPd	Mineral. Mag. *32*, 833		Pd2CuSb; no X-ray powder diffraction data; composition is similar to UM1990-48-Sb:CuPd but optics are different
UM1961-10-Sb:CuPd	Mineral. Mag. *32*, 833		Pd8CuSb3; no X-ray powder diffraction data but composition is unique
UM1961-11-Te:BiPd	*Geol. Rudn. Mest. (1961) (5), 64	Am. Mineral. *47*, 809	Pd5Bi2Te6
UM1962-01-CO:AlCaH	*Kwart. Geol. Warsaw *5*, 539-570	Mineral. Abst. *17*, 766	A polymorph given a temporary, working name "beta-alumohydrocalcite"; this name was rejected by the IMA
UM1962-02-SiO:AlCaFeMgTi	Geochim. Cosmochim. Acta *26*, 1085		"Mokoia SW"; in the Mokoia carbonaceous chondrite; said to resemble terrestrial chlorites or serpentines
UM1962-03-SiO:AlFeMg	Geochim. Cosmochim. Acta *26*, 1085		"Mokoia HT"; in the Mokoia carbonaceous chondrite; said to resemble terrestrial chlorites or serpentines
UM1962-04-SiO:AlFeMg	Geochim. Cosmochim. Acta *26*, 1085		"Murray F"; in the Mighei carbonaceous chondrite; said to resemble terrestrial chlorites or serpentines
UM1962-05-SiO:AlFeMgNi	Geochim. Cosmochim. Acta *26*, 1085		"Haripura M"; in the Haripura carbonaceous chondrite; said to resemble terrestrial chlorites or serpentines
UM1962-06-SiO:CaFeMg	Acta Geol. Hungarica *7*, 315	Mineral. Abst. *16*, 399	X-ray diffraction data suggests the mineral has the talc structure
UM1962-07-SiO:FeMg	Geochim. Cosmochim. Acta *26*, 1085		"Orgueil LM"; in the Orgueil carbonaceous chondrite; said to resemble terrestrial chlorites or serpentines
UM1962-08-SO:HNa	Proc. Ann. Mtg. MSA, 162A	Hey (1962), 25.1.4a	Na2SO4•7H2O

~~**UM1963-01-AsO:MgU**~~	Bull. Soc. fr. Minéral. Crist. *86*,17	Mineral. Abst. *16*, 457	U,Mg-arsenate with distinctive X-ray powder diffraction pattern; later described under the name seelite: Mineral. Record (1993) *24*, 463. Transferred to Invalid list
UM1963-02-PO:AlCaH	Am. Mineral. *48*, 1144		CaAl3(PO4)2(OH)5•H2O; appears to be a polymorph of crandallite
UM1963-03-PO:HU	*Voprosy Priklad. Radiogeol. Sbornik (*1963*) 174-177	Am. Mineral. *50*, 265.	(UO2)3(PO4)2•12H2O; appears to be a P-analogue of trögerite
UM1963-04-SiO:BaTi	*Trudy IMGRE, *16*, 141	Am. Mineral. *50*, 265	Some resemblance to bario-orthojoaquinite
UM1963-05-SiO:BeHREEY	*Kristallografiya *8*, 677	Am. Mineral. *49*, 443	(UO2)3(PO4)2•12H2O; distinctive X-ray powder diffraction pattern
UM1964-01-CO:HZn	Can. Mineral. *8*, 92	Am. Mineral. *50*, 267	Zn5(CO3)2(OH)6•H2O; powder pattern is similar to but distinct from that of hydrozincite; compositional similarities to brianyoungite
UM1964-02-CO:MnNa	*Kristallografiya *9*, 109	Am. Mineral. *49*, 1154	Probably a carbonate
UM1964-03-S:NiSe	Geologi (Helsinki) *16* (5), 53		Ni3(S,Se)4; possibly just a Se-bearing polydymite
UM1964-04-Se:Ni	Geologi (Helsinki) *16* (5), 53		Ni(Se,Te)2; possibly not distinct from kullerudite
~~**UM1964-05-SiO:Fe**~~	Nature, Phys. Sci. *201*, 596	ICDD 16-0376	Qualitative chemistry with X-ray powder diffraction data; card later withdrawn by ICDD.
UM1965-01-E:AgAu	Trans. Inst. Mining Metall. *74*, 933		Ag2Au
UM1965-02-E:AgAu	Trans. Inst. Mining Metall. *74*, 933		Au3Ag2
UM1965-03-E:AgAuCu	Trans. Inst. Mining Metall. *74*, 933		AuAgCu
UM1965-04-E:AuCu	Trans. Inst. Mining Metall. *74*, 933		Au7Cu3
UM1965-05-E:AuCu	Trans. Inst. Mining Metall. *74*, 933		Au3Cu4
UM1965-06-E:CuSn	Trans. Inst. Mining Metall. *74*, 933	Am. Mineral. *58*, 347	Cu6Sn5; described again several times subsequently; ε-bronze
UM1965-07-E:CuSn	Trans. Inst. Mining Metall. *74*, 933	*Zap. Vses. Mineral. Ob. *102*, 437	Cu3Sn
UM1965-08-OH:FeMgNi	Am. Mineral. *50*, 1708		Same group but distinct from desaultelsite & pyraurite with Ni replacing Mn
UM1965-09-S:Cr	Geochim. Cosmochim. Acta *29*, 1131		CrS
~~**UM1965-10-S:CuFeGeZn**~~	Bull. Soc. fr. Minéral. Crist. *88*, 432	Am. Mineral. *51*, 1816	Cu2(Zn,Fe)GeS4; the zinc analogue of briartite; later described under the name zincobriartite, Cu2ZnGe4+S4; IMA 2015-094; transferred to Invalid list
UM1965-11-S:IrOsRu	Trans. Inst. Mining Metall. *74*, 933	Minerals Sci. Eng. *4*, 3	(Ru,Os,Ir)1+xS2
UM1966-01-As:CoNiS	Mineralium Deposita *1*, 113	Mineral Abst. 69-1531	(Co,Ni,Fe)2As2S
UM1966-02-E:FeNi	Am. Mineral. *51*, 37		Fe0.94Ni0.06; Tetragonal unit cell; different from tetrataenite
UM1966-03-S:AsCoNi	Mineralium Deposita *1*, 113	Mineral Abst. 69-1531	Mineral Y; (Co,Ni)4(S,As)11

UM1966-04-S:AsPb	Neues Jb. Mineral. Mh. (1966), 353		Pb11As8S31
UM1966-05-SeO:BaHPbU	C.R. Acad. Sci. Paris, Ser. D, *263*, 465	Mineral. Abst. *20*, 69-559	Some similarities to guilleminite
~~**UM1966-06-SiOPO:CaFFeHMnNaPREEY**~~	*Zap. Vses. Mineral. Ob. *95*, 339	Mineral. Abst. *18*, 125	Later described under the name proshchenkoite-(Y): Mineral. Mag. *72* (2008), 1071; transferred to Invalid list
UM1967-01-AsO:CeFeHY	USGS Prof. Paper *575-B*, 108	Am. Mineral. *53*, 349	(Y,Ce)6Fe^{3+}2As4O22•14H2O
~~**UM1967-02-AsO:Mn**~~	Can. Mineral. *9*, 301		Ineligible (abstract only); mineral No.10; later described under the name magnussonite: Mineral. Mag. *42*, (1978), 129; transferred to Invalid list
UM1967-03-Bi:PbPd	*Zap. Vses. Mineral. Ob. *96*, 432	CIM Sp. Vol. *23*, 177	Pd3Pb3Bi (CIM Sp. Vol. 23, 182)
UM1967-04-E:CuPdSbSn	*Zap. Vses. Mineral. Ob. *96*, 432	CIM Sp. Vol. *23*, 177	(Pd,Cu)4.75(Sn,Sb) (CIM Sp. Vol. 23, 188)
UM1967-05-E:PbPd	*Zap. Vses. Mineral. Ob. *96*, 432	CIM Sp. Vol. 23, 177	Compositionally indistinguishable from plumbopalladinite but with discrepancies in VHN & reflectance properties (CIM Sp. Vol. 23, 184)
UM1967-06-O:HNb	*Semenov (1967), 30	Am. Mineral. *54*, 1496	Nb2O5•5H2O
UM1967-07-O:HMnPb	Econ. Geol. *62*, 186	Mineral. Abst. *19*, 126	PbMn5O11•5H2O
~~**UM1967-08-PO:CaCl**~~	Can. Mineral. *9*, 286		Ca5(PO4)3Cl; a monoclinic polymorph of chlorapatite; later named chlorapatite-M: Eur. J. Mineral. *22* (2010), 163; transferred to the Invalid list
UM1967-09-SiO:AlHKNa	*Semenov (1967), 14	Am. Mineral. *53*, 1777	(K,Na)AlSi2O6•H2O; probably a zeolite
UM1967-10-SiO:AlHNa	*Semenov (1967), 14	Am. Mineral. *54*, 1497	NaAlSiO4•H2O; probably a zeolite
UM1967-11-SiO:HMnNaZr	*Semenov (1967), 3	Am. Mineral. *54*, 1222	(Na,K,Ca)2MnZrSi4O12•6H2O; some similarities to gaidonnayite
UM1967-12-SiO:HNaZr	*Semenov (1967), 3	Am. Mineral. *54*, 1222	NaZrSi4O10(OH)•2H2O
UM1967-13-SiO:FeHNaZr	*Semenov (1967), 14	Khomyakov (1995)	(Na,□)2(Zr,Fe^{3+})Si3(O,OH)9•nH2O; mineral "M36"; perhaps the "HFe-analogue" of gaidonnayite
UM1967-14-SiO:HMnNaZr	*Semenov (1967), 14	Khomyakov (1995)	(Na,□)2(Zr,Mn^{3+})Si3(O,OH)9•nH2O; mineral "M35"; perhaps the " H,Mn-analogue" of gaidonnayite (equivalent to UM1967-11?)
UM1968-01-Bi:Pd	*Dokl. Akad. Nauk SSSR *170*, 183	Mineral. Abst. *18*, 125	Bi3Pd (see also Am. Mineral. *56*, 358)
UM1968-02-OH:CrV	Bull. Geol. Soc. Finland *40*, 125	Mineral. Abst. *20*, 69-1536	(Cr,V)4•3H2O
UM1968-03-SO:FeHMg	*Geol. Geofiz. (1968) (6), 15	Am. Mineral. *63*, 599	(Mg,Fe^{2+})Fe^{3+}2(SO4)4.15•5H2O; a Mg-analogue of römerite
UM1968-04-SiO:CaZn	Am. Mineral. *53*, 231		~(Zn,Pb)CaSi3O8
UM1968-05-Te:Bi	*Dokl. Earth Sci. *181*, 443	Am. Mineral. *54*, 1218	Bi2Te5
UM1969-01-E:CuPbPdSn	*Zap. Vses. Mineral. Ob. *98*, 708	CIM Sp. Vol. *23*, 177	Pd12Sn5PbCu2; Sn content in error in secondary reference (CIM Sp. Vol. 23, 186)
UM1969-02-MoO:CaHNaU	*Zap. Vses. Mineral. Ob. *98*, 679	Mineral. Abst. *21,* 70-3433	(Ca0.4Na0.6)(UO2)4(MoO4)4(OH)2•10-13H2O to Na2(UO2)5(MoO4)5(OH)2•8H2O; "Group B"
UM1969-03-MoO:CaHNaU	*Zap. Vses. Mineral. Ob.	Mineral. Abst. *21,* 70-	Na(UO2)4(MoO4)4(OH)•12H2O; Group "C"

	98, 679	3433	
UM1969-04-MoO:CaHU	*Zap. Vses. Mineral. Ob. *98*, 679	Mineral. Abst. *21,* 70-3433	Suggested formula: (Ca0.9Na0.1)(UO2)4(MoO4)4(OH)2•14H2O, does not balance exactly; "Group A"
UM1969-05-PO:CaHREE	*Semenov (1969), 41	Am. Mineral. *55*, 2136	(Ce,Ca)PO4•H2O; other REE present; similarities to rhabdophane-(Ce)
UM1969-06-S:AgBiCu	*Zap. Vses. Mineral. Ob. *98*, 452	Am. Mineral. *57*, 1313	(Cu,Ag)2Bi5S13; some similarities to pavonite and benjaminite
UM1969-07-S:AgSbTe	*Altai Izv. Akad. Nauk Kaz. SSR, Ser. Geol. *26*, 74	Am. Mineral. *58*, 1114	Ag10Sb2TeS5; mineral "U"
UM1969-08-S:AgSbTe	*Altai Izv. Akad. Nauk Kaz. SSR, Ser. Geol. *26*, 74	Am. Mineral. *58*, 1114	Ag8SbTe2S5; mineral "X"
UM1969-09-S:AgTe	*Altai Izv. Akad. Nauk Kaz. SSR, Ser. Geol. *26*, 74	Am. Mineral. *58*, 1114	Ag11Te3S4; mineral "Z"
UM1969-10-S:AgTe	*Altai Izv. Akad. Nauk Kaz. SSR, Ser. Geol. *26*, 74	Am. Mineral. *58*, 1114	Ag5Te2S3; mineral "Y"
UM1969-11-S:BiPb	Schweiz. Mineral. Petrog. Mitt. *49*, 97	Am. Mineral. *55*, 533	Pb8Bi6S17; compositional similarities to lillianite
UM1969-12-SiO:AlFeHK	*Semenov (1969), 106	Am. Mineral. *55*, 2138	(Na,Ca,K)(Fe,Mg)Al2Si4O13•2H2O; may be a zeolite
UM1969-13-SiO:AlHNa	*Semenov (1969), 96	Am. Mineral. *55*, 2139	(Na,Li)Al4(AlSi3)O10(OH)8; probably an Na-analogue of cookeite
UM1969-14-SiO:FeHMn	*Semenov (1969), 103	Am. Mineral. *55*, 2138	(Mn,Fe)9Si12O30(OH)6•10H2O; "Red Mn-silicate"
UM1969-15-Te:Ag	Geol. Soc. Am. Mem. *109*, 107	Am. Mineral. *55*, 1067	No known silver tellurides with similar diffraction lines
UM1969-16-SiO:HNaZr	*Semenov (1969)	Khomyakov (1995)	Formula given as H3NaZrSi6O16•nH2O, but compositionally rather variable; Khomyakov's mineral "M37"
UM1969-17-OH:CFeMg	Am. Mineral. *54*, 437	Mineral. Mag. *76*, 1289	~Mg10Fe^{3+}2(OH)24[OH,CO3]:2H2O; perhaps the hydroxide analogue of coalingite
UM1970-01-As:NiPd	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	Pd3Ni4As3
UM1970-02-Bi:PbPd	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	Pd3Pb2Bi
UM1970-03-Bi:Pd	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	Pd2Bi; but compound Pd2Bi is not known in the synthetic system; (CIM Sp. Vol. 23, 186)
UM1970-04-E:CuPbPdSbSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	~(Pd,Pb,Sb)5CuSn
UM1970-05-E:CuPdPtSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	(Pd,Pt)2SnCu (CIM Sp. Vol. 23, 183)
UM1970-06-E:CuPdPtSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	(Pd,Pt,Cu)3Sn (CIM Sp. Vol. 23, 185); see also UM1973-08-E:AsPdPtSn
UM1970-07-E:CuPdSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	Pd3SnCu (CIM Sp. Vol. 23, 186)

UM1970-08-E:CuPdSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	Pd5Cu2Sn2; some similarities to cabriite
UM1970-09-E:PbPdPtSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	(Pd,Pt)3(Pb,Sn)
UM1970-10-E:PbPdSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	Pd8SnPb
UM1970-11-E:PdPtSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	Pd3Pt2Sn2; the mineral may be a Pt-bearing atokite (CIM Sp. Vol. 23, 192)
UM1970-12-E:PdPtSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	Pd3Pt3Sn2; the mineral may be Pt-bearing atokite (CIM Sp. Vol. 23, 192)
UM1970-13-E:PdPtSn	Geokhimiya No. *10*, 1155	Geochem. Internat. *7*, 788	Pt3Pd2Sn2
UM1970-14-O:CrFeMgTiV	Norg. Geol. Unders. *266*, 86	Am. Mineral. 57, 1004	~(Mg,Fe)Ti3(V,Cr,Fe)2O10
UM1970-15-O:Pb	Mineralium Deposita *5*, 86	Am. Mineral. *55*, 1813	Pb9O16; mineral "X"
UM1970-16-OH:GeMn	Neues Jb. Mineral. Abh. *114*, 89	Am. Mineral. *56*, 1488	(Mn,Fe)(Ge,Sn)(OH)6; unnamed mineral "B"; Ge-analogue of wickmanite
UM1970-17-PO:Fe	Carnegie Inst. Wash. Year book *68*, 330	Am. Mineral. *55*, 1814	Fe4(PO4)3; some similarities to lipscombite
UM1970-18-S:As	Am. Mineral. *55*, 1338		Equivalent to synthetic alpha-As4S4; a polymorph of realgar
~~**UM1970-19-S:As**~~	Am. Mineral. *55*, 1338		Equivalent to synthetic beta-As4S4; a polymorph of realgar; later described under the name bonazziite: Mineral. Mag 79:121; transferred to invalid list
UM1970-20-S:AsSbTl	Bull. Soc. fr. Minéral. Crist. *93*, 66	Mineral. Abst. *21*, 70-3428	Tl(As,Sb)10S16; mineral is amorphous and compositionally somewhat similar to bernardite
UM1970-21-S:BiPbTe	*Geol. Geofiz. (1970) (11), 123	Am. Mineral. *56*, 1839	Proposed formula: (Bi,Pb)3TeS is clearly in error; composition is much closer to Bi3Te2S2; mineral "M"
UM1970-22-S:BiTe	*Geol. Geofiz. (1970) (11), 123	Am. Mineral. *56*, 1839	Proposed formula: Bi9Te2S2 is clearly in error; composition is much closer to Bi9Te4S2; mineral "K"
UM1970-23-S:BiTe	*Geol. Geofiz. (1970) (11), 123	Am. Mineral. *56*, 1839	Proposed formula: Bi15TeS4 is clearly in error; composition is much closer to Bi15Te2S8 or Bi6TeS3; Mineral "P"
UM1970-24-S:CuFe	Econ. Geol. *65*, 590	Am. Mineral. *56*, 632	(Fe,Cu)S
~~**UM1970-25-S:CuFeH**~~	Am. Mineral. *55*, 2110		2(Fe,Cu)S•1.47[Fe(OH)2]; a valleriite-type mineral; later described under the name ferrovalleriite: Geol. Ore Dep. *55*(8), 637; transferred to invalid list
UM1970-26-S:CuZn	Am. Mineral. *55*, 1021	Mineral. Abst. *21,* 70-3390	Cu3ZnS4
UM1970-27-Te:BiPd	*Yushko-Zakharova et al. (1970)	CIM Sp. Vol. *23*, 177	Pd2Bi2Te3; see CIM Sp. Vol. 23, 181
UM1971-01-AsO:CuFeS	Mineral. Record *2*, 214	Am. Mineral. *57*, 1005	Mineral "6a"; some similarities to tyrolite
~~**UM1971-02-AsO:Fe**~~	*Ann. Rept. Univ. Leeds Res. Inst. African Geol. *15*, 63	Am. Mineral. *57*, 1315	An iron arsenate later described under the name karibibite: Lithos *6* (1973), 265.; transferred to invalid list
UM1971-03-CO:CeLa	Bull. Geol. Soc. Finland		X-ray powder diffraction pattern has some similarities to that of borcarite

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UM1971-04-O:FeNbTiYZr	Earth Planet Sci. Lett. *12*,145	Am. Mineral. *58*, 141	~Fe(REE,Ca)ZrTi2(Nb,U,Th)O11; "Phase ß"; similarities to zirconolite
~~**UM1971-05-S:AgBiCu**~~	Soc. Mining Geol. Japan Spec. Issue *2*, 35	Am. Mineral. *57*, 1316	(Ag,Cu,Pb)3Bi7S12; "Phase II"; not distinct from benjaminite
UM1971-06-S:AgBiCu	Soc. Mining Geol. Japan Spec. Issue *2*, 35	Am. Mineral. *57*, 1316	AgCu4Bi7S13; "Phase IV"
UM1971-07-S:AgBiCuPb	Internat. Geol. Rev. *13*, 1628	Am. Mineral. *57*, 1314	X-ray powder diffraction data suggest affinities with benjaminite; poor quality analytical data
UM1971-08-S:AgBiCuPb	Soc. Mining Geol. Japan Spec. Issue *2*, 35	Am. Mineral. *57*, 1316	~(Cu,Ag,Pb)3Bi7S12; "Phase III"; some similarities to makovickite
UM1971-09-S:AgBiCuPb	Can. Mineral. *10*, 871	Mineral Abst. *23*, 72-2327	Ag4Cu6Bi12Pb18S41; mineral "A";
~~**UM1971-10-S:AgBiCuPb**~~	Soc. Mining Geol. Japan Spec. Issue *2*, 35	Am. Mineral. *57*, 1316	Ag5Cu2PbBi13S24; phase "V"; not compositionally distinct from dantopaite described later; transferred to Invalid list
UM1971-11-S:AgBiCuPb	Soc. Mining Geol. Japan Spec. Issue *2*, 35	Am. Mineral. *57*, 1316	(Ag,Cu)4PbBi6S12; phase "VI"
UM1971-12-S:BiCu	Mineralium Deposita *6*, 111	Am. Mineral. *57*, 326	~Cu8BiS6; mineral "II"
UM1971-13-S:BiCuFePb	Can. Mineral. *10*, 871	Mineral Abst. *23*, 72-2327	Bi4Cu8Fe10Pb12S37; mineral "B"
UM1971-14-S:BiCuFePb	*Vest. Mosk. Univ. Geol. Ser. 1971 (3), 60	Zap. Vses. Mineral. Ob. *102*, 442	(Cu,Fe)3Pb7Bi12S20
UM1971-15-S:BiCuPb	Mineralium Deposita *6*, 111	Am. Mineral. *57*, 326	~Cu8Bi3Pb3S21; mineral "I"
UM1971-16-S:CoFeNi	Tscherm. Mineral. Petrog. Mitt. *16*, 215	Mineral Abst. *23*, 72-1408	Distinctly different from pentlandite and cobalt-pentlandite
UM1971-17-S:Mo	Nature Phys. Sci. *234*, 177	Am. Mineral. *57*, 1559	MoS2.85-3.1
UM1971-18-S:MoPbSb	*Trudy Inst. Geol. Nauk AN KazSSR *31*,162	Zap. Vses. Mineral. Ob. *102*, 440	Pb8Mo6Sb2S23
~~**UM1971-19-SO:AlCu**~~	Mineral. Record *2*, 214	Am. Mineral. *57*, 1004	Some similarities to cyanotrichite; later described under the name grandviewite: Austral. J. Mineral. 14 (2) (2008), 3; transferred to Invalid list
UM1971-20-SiO:Mo	Nature Phys. Sci. *234*, 177	Am. Mineral. *57*, 1559	Possibly a Mo-analogue of chrysocolla
UM1971-21-SiO:AlCaMgTi	Am. Mineral. *56*, 2053	Mineral. Mag. *72*, 839	Ca4(Mg7AlTi^{3+}2Ti^{4+}2)O4[Si5Al7O36]; Ti^{3+}-bearing Mg-analogue of rhönite
UM1971-22-SiO:CaClFeHMgMnNaNbZr	Tscherm. Mineral. Petrog. Mitt. *16*, 105	Cryst. Reports *52*, 47	Na12Ca5(Ce,La,Y,Ca)Zr3(Zr,Nb)0-0.9(Fe,Mn)3[Si9O24-26(OH)1-3]2[Si3O9]2Cl0.7-1.4; described originally as “eudialyte” but subsequently more detailed work has shown that it differs from eudialyte in having Zr in both M3 & M4 sites
UM1972-01-AsO:BaCaU	Aufschluss *23*, 279	Am. Mineral. *58*, 561	Mineral "F"
UM1972-02-AsO:Ca	Aufschluss *23*, 279	Am. Mineral. *58*, 561	X-ray powder diffraction pattern and composition suggest this could be an As-analogue of rapidcreekite (and hence may contain CO2 & H2O)
UM1972-03-AsOSO:Cu	Aufschluss *23*, 279	Am. Mineral. *58*, 561	Distinctive X-ray powder data; microchemical tests +ve for Cu, arsenate and

			sulphate
UM1972-04-Bi:PtTe	*Yushko-Zakharova *et al.* (1972), 58	Zap. Vses. Mineral. Ob. *103*, 614	Pt0.8BiTe
UM1972-05-BiO:AlCaP	*Ann. Rept. Univ. Leeds Res. Inst. African Geol. *16*, 53	Am. Mineral. *59*, 1139	The X-ray powder diffraction pattern has some similarities to that of preisingerite and the mineral is assumed to contain oxygen
UM1972-06-CO:CaK	Schweiz. Mineral. Petrog. Mitt. *52*, 93	Am. Mineral. *58*, 139	Possible formula: K2Ca(CO3)2•4H2O, by analogy with associated mineral K2Mg(CO3)2•4H2O (baylissite)
UM1972-07-MoO:BiW	*Ann. Rept. Univ. Leeds Res. Inst. African Geol. *16*, 53	Mineral. Abst. *24*, 73-1946	Isostructural with uraninite; X-ray diffraction pattern also very similar to koechlinite; perhaps BiWMoO6
UM1972-08-O:CaFeNdTiYZr	Nature *236*, 215	Am. Mineral. *58*, 141	(Fe,Ca,YREE)(Ti,Zr)O5; mineral "Y"; similarities to zirconolite and to tranquillityite
UM1972-09-S:AgBiPbSb	*Mater. Genet. Eksp. Mineral. *7*, 49	Am. Mineral. *60*, 163	Diffraction pattern has similarities to that of franckeite; compositional similarities to vikingite and cosalite
UM1972-10-S:BiCuNi	*Dokl. Akad. Nauk SSSR *203*, 1382	Am. Mineral. *58*, 348.	Mineral "B"; Ni present but not determined - perhaps (Cu,Ni)2BiS3 or Cu(Ni,Cu)BiS3; there are distinct similarities to muckeite
UM1972-11-S:BiPbTe	Can. J. Earth Sci. *9*, 1596	Am. Mineral. *58*, 967	PbBiTeS
~~**UM1972-12-S:FeMnZn**~~	Meteoritics *7*, 429	Am. Mineral. *58*, 806	(Fe0.54Zn0.25Mn0.16)S; the Fe-dominant end-member later described as rudashevskyite; transferred to Invalid list
UM1972-13-SCO:CaFeH	Am. Mineral. *57*, 1037		(FeS)2(CaCO3•H2O)0.84; Designated "Type I"
UM1972-14-SiO:CaHREE	*Lunts (1972), 98	Zap. Vses. Mineral. Ob. *102*, 457	(REE,Ca)Si(O,OH,F)4·0.3H2O; metamict, X-ray amorphous; perhaps related to cerite
UM1972-15-SiO:FeHNaZr	*Semenov (1972)	Zap. Vses. Mineral. Ob. *102*, 456	Composition close to Na2FeZr2Si6O20
UM1972-16-Te:AgPbPd	*Izv. Akad. Nauk SSSR, Ser. Geol. #11, 85	CIM Sp. Vol. *23*, 177	Possible formula: (Pd,Ag)3(Ag,Pb)(Te,Se); (CIM Sp. Vol. 23, 184)
UM1972-17-Te:BiPbPd	*Izv. Akad. Nauk SSSR, Ser. Geol. #11, 85	CIM Sp. Vol. *23*, 177	Pd(Pb,Te,Bi); (CIM Sp. Vol. 23, 184)
~~**UM1972-// SiO:AlCaFeMgTi**~~	Tscherm. Mineral. Petrog. Mitt. *18*, 17	Mineral. Mag. *72*, 839	Ca4(Fe^{2+}10Ti2)O4[Si8Al4O36]; substantial solid solution towards rhönite of which it is the Fe^{2+} analogue; later described under the name Kuratite: Mineral. Mag. 80:1067; transferred to invalid list
UM1973-01-As:NiPd	*Trudy TsNIGRI *108*, 96	Am. Mineral. *61*, 179	~(Ni,Pd)7As3
UM1973-02-As:PbPdPtSn	*Trudy TsNIGRI *108*, 96	Am. Mineral. *61*, 179	(Pd,Pt)5(As,Sn,Pb)2; compositionally, appears to be the As-dominant analogue of palarstanide, but latter is trigonal
UM1973-03-As:PdSbSn	*Trudy TsNIGRI *108*, 96	Am. Mineral. *61*, 179	Pd8(As,Sn,Sb)3; compositionally similar to arsenopalladinite but orthorhombic
~~**UM1973-04-AsS:IrPt**~~	*Geochimica *2*, 76	Am. Mineral. *65*, 813	(Pt,Ir)2As5S3; Ir-rich platarsite
UM1973-05-Bi:AgPd	*Sci. Rept. Tohoku Univ., ser.3, *12*, 69	Zap. Vses. Mineral. Ob. *104*, 617	(Ag,Pd)2Bi
UM1973-06-CO:MgH	*J. Japan. Assoc. Mineral. Petrol. Econ. Geol. *68*, 353	Am. Mineral. *62*, 596	Mg5(CO3)4(OH)2•8H2O

UM1973-07-E:AgAuCu	*Geol. Rudn. Mest. *15* (6), 32	Zap. Vses. Mineral. Ob. *104*, 617	Au3AgCu
UM1973-08-E:AsPdPtSn	*Trudy TsNIGRI *108*, 96	Am. Mineral. *61*, 179	~(Pd,Pt)3(Sn,As); tetragonal, therefore not atokite; see also UM1970-06-E:CuPdPtSn
UM1973-09-E:FeIrPt	*Geochimica *1973*, 76	Am. Mineral. *65*, 813	Possible formula: Pt2IrFe; perhaps the Ir-analogue of tulameenite
UM1973-10-E:FeIrRh	Am. Mineral. *58*, 189	CIM Sp. Vol. *23*, 177	(Rh,Ir)Fe; isotropic (CIM Sp. Vol. 23, 181)
UM1973-11-E:FeIrRh	Am. Mineral. *58*, 189	CIM Sp. Vol. *23*, 177	Similar to UM1973-10-E:FeIrRh but anisotropic (CIM Sp. Vol. 23, 181)
UM1973-12-E:NiPdPtSbSn	*Geochimica *1973*, 23	Am. Mineral. *60*, 738	~(Pt,Pd,Ni)5(Sn,Sb)2; likely stibiopalladinite
UM1973-13-E:PbPdPtSn	*Trudy TsNIGRI *108*, 96	Am. Mineral. *61*, 179	(Pd,Pt)4.5-5.5(Sn,Pb,As)2; perhaps a Pb-bearing atokite
UM1973-14-E:PbPdPtSn	*Trudy TsNIGRI *108*, 96	Am. Mineral. *61*, 179	Pd20Pt3Pb2Sn7; similarities to atokite
UM1973-15-E:PbPdSn	*Trudy TsNIGRI *108*, 96	Am. Mineral. *61*, 179	Pd22Pb4Sn5; similarities to atokite
UM1973-16-S:AgCuFeTe	*Vest. Mosk. Univ. Geol. Ser. (3) 58	Zap. Vses. Mineral. Ob. *103*, 619	(Ag,Fe,Cu)5Te2S
UM1973-17-S:FeNi	Am. Mineral. *58*, 195	Mineral. Abst. *24,* 73-4083	(Fe,Ni)9S11; appears to be a dimorph of smythite; Ni-poor
UM1973-18-S:FeNi	Am. Mineral. *58*, 195	Mineral. Abst. *24,* 73-4083	(Fe,Ni)9S11; Ni-rich isotropic; said to be violarite-like
UM1973-19-S:FePb	*Issled. Oblast Rudn. Mineral. (1973), 156.	Am. Mineral. *59*, 1140	Compositional data are qualitative but appear distinctive
~~**UM1973-20-S:IrOs**~~	*Geochimica *4*, 254	Am. Mineral. *65*, 812	(Ir,Os)S2; same as “iridisite”
~~**UM1973-21-Sb:NiPdPtSn**~~	*Geochimica *1*, 23	Am. Mineral. *60*, 739	(Pd,Pt,Ni)2(Sb,Sn); perhaps a Sb-analogue of paolovite; likely naldrettite
UM1973-22-Te:AgHgPd	Can. Mineral. *12*, 193	Am. Mineral. *60*, 947	AgHgPdTe
UM1973-23-Te:AgPd	Internat. Geol. Rev. *15*, 1284		(Pd,Ag)4Te
UM1973-24-Te:AgSb	Can. Mineral. *12*, 55	Am. Mineral. *59*, 384	~AgSbTe2
UM1974-01-As:PdSb	*Geochimica *3*, 169	Am. Mineral. *61*, 182	Pd2(As,Sb); possibly Sb-rich paladoarsenide
UM1974-02-Bi:AsPdPtSb	Neues Jb. Mineral. Mh. (1974), 514	Am. Mineral. *60*, 739	(Pt,Pd)(Bi,Sb,As); probably the Pt-analogue of sobolevskite
UM1974-03-CO:BaCaMg	Geol. Fören. Förh. *96*, 375	Am. Mineral. *60*, 738	(Ba,Ca,Mg)CO3
UM1974-04-CO:HNa	Aufschluss *25*, 613	Zap. Vses. Mineral. Ob. *106*, 86	Na4H2(CO3)3•1.5H2O; inferred from X-ray powder diffraction pattern matching that of the K-analogue
UM1974-05-E:AsPdSn	*Zap. Vses. Mineral. Ob. *103*, 582	Am. Mineral. *64*, 1333	Compositional similarities to palarstanide
UM1974-06-O:CuH	*Karinthin *80*, 99	Am. Mineral. *66*, 439	X-ray powder diffraction data are distinct
UM1974-07-S:AgBiCu	*Minerogenezis (Bulg. Acad. Sci.), 419	Am. Mineral. *63*, 427	Ag3Cu3Bi2S6
UM1974-08-S:AgCuTe	Mineralium Deposita *9*, 325	Am. Mineral. *61*, 178	Ag5CuTeS2
UM1974-09-S:BiCuPb	Minerogenezis (Bulg. Acad. Sci.), 419	Am. Mineral. *63*, 427	Compositionally similar to gladite but different reflectance values
~~**UM1974-10-S:CrFeMn**~~	Am. Mineral. *59*, 465		(Mn,Fe)Cr2S4; the Mn-analogue of daubréelite; later described under the name joegoldsteinite: Am. Mineral. 101:1217; transferred to invalid list
UM1974-11-S:CuFeIrNi	*Acta Geol. Sinica *48*,	Am. Mineral. *61*, 184	(Ir,Ni,Fe,Cu)S or perhaps Ir(Ni,Fe,Cu)2S3;

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~~UM1974-12-S:IrNiRh~~	*Acta Geol. Sinica *48*, 202	Am. Mineral. *61*, 184	(Ir,Rh,Ni)S; same as xingzhongite; transferred to Invalid list
~~UM1974-13-S:IrRh~~	*Acta Geol. Sinica *48*, 202	Am. Mineral. *61*, 184	(Ir,Rh)S2; same as “iridisite”
~~UM1974-14-S:NiOs~~	*Acta Geol. Sinica *48*, 202	Am. Mineral. *61*, 184	(Os,Ni)S2; likely Ni-rich erlichmanite
~~UM1974-15-Sb:Pd~~	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	PdSb; similar to sudburyite but reflected light characteristics differ; later determined to be sudburyite: Geochimica *1979* (1), 72; transferred to Invalid list
UM1974-16-Se:CoFe	*Ingeniero Geol. Univ. Nacl. Mayor de San Marcos, *16*, 65	Am. Mineral. *60*, 738	(Co,Fe)S2; not a Fe^{2+}-bearing hastite, the latter mineral having been discredited: Can. Mineral. *47* (2009), 969
UM1974-17-Te:AsPd	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	Pd2(Te,As); Te & As present in nearly equal atomic proportions
UM1974-18-Te:BiNiPd	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	(Pd,Ni)(Te,Bi)
~~UM1974-19-Te:BiNiPdSb~~	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	(Pd,Ni)(Te,Sb,Bi); later determined to be sudburyite: Can. Mineral. *12*, 275; transferred to Invalid list
~~UM1974-20-Te:BiPdSb~~	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	Pd(Te,Sb,Bi)2; likely merenskyite
UM1974-21-Te:BiPdSb	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	Pd2Sb2(Te,Bi)
~~UM1974-22-Te:NiSb~~	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	Ni2SbTe2; later determined to be vavřinite: Can. Mineral. *45*, 983; transferred to Invalid list
UM1974-23-Te:Pd	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	PdTe3
UM1974-24-Te:Pd	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	Pd3Te; compositionally similar to keithconnite but reflected light characteristics differ
UM1974-25-Te:PdPt	Econ. Geol. *69*, 257	Am. Mineral. *61*, 179	(Pd,Pt)3-xTe5
UM1974-26-Te:PdPt	Econ. Geol. *69*, 257	Am. Mineral. *61*, 179	~(Pt,Pd)Te2; possibly related to moncheite-merenskyite series
UM1974-27-Te:PdPt	*Geochimica *1974* (3), 169	Am. Mineral. *61*, 182	(Pd,Pt)3Te; compositional and other similarities to keithconnite but also to synthetic Pd20Te3
UM1974-28-S:BiPbTe	Neues Jb. Mineral. Monat. (1974), 316		(Bi,Pb)5Te3(S,Se)4
UM1974-29-S:BiPbTe	Neues Jb. Mineral. Monat. (1974), 316		(Bi,Pb)5TeS5
UM1975-01-As:AgCoNiPdS	*Mineral. Polonica *6*, 87	CIM Sp. Vol. 23, 177	~(Pd,Ag)4(Co,Ni,Cu)3(As,S)4; but might be the Co-analogue of majakite (CIM Sp. Vol. 23, 190)
UM1975-02-As:AgCuNiPdS	*Mineral. Polonica *6*, 87	CIM Sp. Vol. 23, 177	~Pd3(Ag,Cu,Ni)As2S (CIM Sp. Vol. 23, 190)
UM1975-03-As:AgCuPdS	*Mineral. Polonica *6*, 87	CIM Sp. Vol. 23, 177	~(Pd,Ag,Cu)3(As,S)2 (CIM Sp. Vol. 23, 190)
UM1975-04-As:NiPdS	*Mineral. Polonica *6*, 87	CIM Sp. Vol. 23, 177	~(Pd,Ni)(As,S); (CIM Sp. Vol. 23, 190)
UM1975-05-As:Pd	Can. Mineral. *13*, 321	Am. Mineral. *62*, 1061	Pd5As2
UM1975-06-As:Pd	*Mineral. Polonica *6*, 87-	CIM Sp. Vol. *23*, 177	PdAs2 (CIM Sp. Vol. 23, 184)

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UM1975-07-As:PdSn	Nat. Inst. Metall. Rept. No. 1726, 1	Am. Mineral. *64*, 1333	(Pd,Pt)2.2(As,Sn)
UM1975-08-AsOSO:FeHPb	Aufschluss *26*, 369	Am. Mineral. *62*, 175	Pb2Fe(AsO4)(SO4)(OH); diffraction pattern is similar to that of heyite
UM1975-09-O:BaCrFeMgTiV	Phys. Chem. Earth *9*, 295	Am. Mineral. *61*, 1055	Possibly related to a mineral described under the unapproved name mongshanite (see Am. Mineral. *73*, 441)
UM1975-10-O:CaFeMgTi	Phys. Chem. Earth *9*, 295	Am. Mineral. *61*, 1055	~Ca2Ti2(Fe,Mg)2O9
UM1975-11-S:AgSbTe	*Parilov *et al*. (1975), 66	Zap. Vses. Mineral. Ob. *106*, 85	Ag12Sb2Te3S6; compositional similarities to benleonardite
UM1975-12-S:BiCu	*Dokl. Akad. Nauk SSSR *222*, 183	Am. Mineral. *61*, 1055	Cu4BiS4
UM1975-13-S:BiPb	*Geol. Rudn. Mest. *17*, 30	Zap. Vses. Mineral. Ob. *106*, 86	Pb4Bi6S13; with different d-values from cannizzarite; and previously referred to as "cannizzarite-B" (Schweiz. Mineral. Petrog. Mitt. *49*, 97)
UM1975-14-S:CuFeNi	Contr. Mineral. Petrol. *52*, 57		(Fe0.73Ni0.19Cu0.07)S
UM1975-15-S:CuIrRh	Dokl. Akad. Nauk SSSR *225*, 1408	Am. Mineral. *62*, 175	Ir0.91Cu0.74Rh0.39S3; might, perhaps, be a Cu-bearing kashinite
UM1975-16-SO:HKZn	*Repub. Rwandaise, Bull. Serv. Géol. (1975) #8, 1	Am. Mineral. *62*, 175	K2Zn(SO4)2•2H2O; known synthetically
UM1975-17-Sb:PdPt	Mineralium Deposita *10*, 71	CIM Sp. Vol. *23*, 177	(Pt,Pd)3Sb2 (CIM Sp. Vol. 23, 192)
UM1975-18-SiO:Mn	*Mineral. Polonica *6*, 75	Am. Mineral. *66*, 220	X-ray pattern of synthetic alpha-MnSiO3
UM1975-19-Te:HgPd	*Dokl. Earth Sci. *224*, 97	CIM Sp. Vol. *23*, 177	(Pd,Hg)Te; could be Hg-bearing kotulskite (CIM Sp. Vol. 23, 182); some similarities to UM1966-//-Te:HgPd
UM1975-20-Te:Pd	*Dokl. Earth Sci. *224*, 97	CIM Sp. Vol. *23*, 177	Significantly low analytical total makes formula uncertain; perhaps Pd3Te4; (CIM Sp. Vol. 23, 183)
UM1975-21-Te:BiPbSSe	Econ. Geol. *70*, 1092		PbBi2(Te,Se)2(S,Se)2
UM1975-22-SiO:HNaZr	*Trudy Mineral. Muz. Akad. Nauk SSSR *24*,120	Khomyakov (1995)	(Na,Ca)2Zr2Si4O12(OH,O)•3H2O; mineral "M34"; similarities to keldyshite
UM1976-01-As:BiPd	Can. Mineral, *14*, 410		Pd2(As,Bi); hexagonal and distinct from palladobismutharsenide
UM1976-02-As:IrPtRhRuS	Econ. Geol. *71*, 1399	Am. Mineral. *62*, 598	~(Ru,Rh,Pt,Ir)2(As,S)3
UM1976-03-As:NiPd	*Trudy TsNIGRI *122*, 96	Zap. Vses. Mineral. Ob. *107*, 340	Pd1.19Ni0.71As
UM1976-04-AsOSO:CuFeHPb	Aufschluss *27*, 369	Am. Mineral. *62*, 1061	Pb(Fe,Cu)2(AsO4)(SO4)(OH)
UM1976-05-BO:HMgNaSU	*Mitteilungsbl. Landesmuseums "Joanneum", Abt. Mineral. *44*, 35	Am. Mineral. *62*, 1261	(Na,Mg)2(UO2)2BO3(OH)3-4•nH2O; Mineral "B"; may be a variety or different hydrate of UM1976-06-BO:HMgNaMgSU; later report does not include S (Aufschluss *59*, 47)
UM1976-06-BO:HMgNaSU	*Mitteilungsbl.	Am. Mineral. *62*, 1261	Mineral "A"; may be a variety or different hydrate of UM1976-05-

	Landesmuseums "Joanneum", Abt. Mineral. *44*, 35		BO:HMgNaMgSU
UM1976-07-BO:HMgNaSU	*Mitteilungsbl. Landesmuseums "Joanneum", Abt. Mineral. *44*, 35	Am. Mineral. *62*, 1261	Mineral "C"; distinctive X-ray powder pattern and qualitative composition
~~**UM1976-08-Bi:PdSbTe**~~	Econ. Geol. *71*, 1451	Am. Mineral. *62*, 598	Pd3(Bi,Sb)2Te; probably Te- and/or Sb rich varieties of sobolevskite Pd(Bi,Te,Sb); transferred to Invalid list
UM1976-09-BiOTeO:HPd	Econ. Geol. *71*, 1429	CIM Sp. Vol. 23, p.177	Perhaps (Pd,Pt,Bi)BiTeO4•2H2O; (CIM Sp. v.23, 182)
UM1976-10-E:AgAuHg	Dokl. Earth Sci. *227*, 121		Ag10Au5Hg
~~**UM1976-11-O:NbU**~~	*Rev. Asoc. Geol. Argentina *31*, 232	Am. Mineral. *63*, 1284	Distinctive X-ray powder pattern and qualitative composition; not distinct from carlosbarbosaite: Mineral. Mag. *76* (2012), 75; transferred to Invalid list
UM1976-12-S:AgTe	Lithos *9*, 253	Am. Mineral. *63*, 424	(Ag4TeS); mineral "B"; formula is identical to that of cervelleite but, unlike cervelleite, it is distinctly anisotropic
UM1976-13-S:AsCoCuFeNi	Geol. Surv. Canada, Pap. 76-1, 311	Zap. Vses. Mineral. Ob. *107*, 341	(Cu,Co,Fe,Ni)33As8S26
UM1976-14-S:BiCuPbSe	Geol. Surv. Canada, Pap. 76-1, 311	Zap. Vses. Mineral. Ob. *107*, 342	(Bi,Pb,Cu)4(S,Se)5; distinct compositional similarities to nordströmite
UM1976-15-S:CuSe	Geol. Surv. Canada, Pap. 76-1, 311	Zap. Vses. Mineral. Ob. *107*, 342	Cu4(S,Se)3; perhaps a Se-bearing spionkopite or Se-bearing geerite
UM1976-16-S:IrRhSb	CIM Bull. *69*, 111-119	CIM Sp. Vol. 23, p.177	(Rh,Ir)SbS; see CIM Sp. Vol. 23, 180
UM1976-17-S:IrRhSb	CIM Bull. *69*, 111-119	CIM Sp. Vol. 23, p.177	(Ir,Rh)SbS; (CIM Sp. Vol. *23*, 190); possibly a Rh-bearing tolovkite
UM1976-18-S:RhRu	Econ. Geol. *71*, 1399	Am. Mineral. *62*, 598	(Rh,Ru)S; perhaps (Rh,Ru)17S15 which is known synthetically and as the mineral miassite: Zap. Vser. Mineral. Ob. *130* (2001) (2), 41
UM1976-19-S:Ru	Econ. Geol. *71*, 1399	CIM Sp. Vol. 23, p.177	Reported as close to RuS2 but empirical formula is closer to (Ru,Ir,Os,Rh,Pt)3(S,As)4; see CIM Sp. Vol. 30, 180
UM1976-20-S:SbTl	Schweiz. Mineral. Petrog. Mitt. *56*, 69	Nowacki *et al. (1982)*, 689	TlSb11S17; amorphous
UM1976-21-SO:AlCuHNi	Am. Mineral. *61*, 366		X-ray powder diffraction data are distinct from those of woodwardite & carrboydite
UM1976-22-SO:AlFeH	*Dokl. Akad. Nauk SSSR *228*, 185	Am. Mineral. *69*, 1194	(Al,Fe)2(SO4)3•1.2H2O
UM1976-23-Sb:BiPdTe	Econ. Geol. *71*, 1159		Pd(Sb,Te,Bi); could be a Te- & Bi-rich variety of sudburyite
UM1976-24-Se:BiPbS	Geol. Surv. Canada, Pap. 76-1, 311	Zap. Vses. Mineral. Ob. *107*, 342	(Bi,Pb)19(Se,S)16
UM1976-25-SiO:AlKNa	Mineral. Mag. *40*, 721		(K,Na)AlSi5O12; observed in a meteorite; might possibly be a glass
UM1976-26-SiOSO:AlCaClHNa	*Soveshch. Molodykh Uchen. Mineral. Geokhim., Primorsk Otdel, Vses. Mineral. Ob., Nal'nevost. Geol. Inst. Vladivostok, (1970),	Am. Mineral. *62*, 596	Triclinic and pseudo-orthorhombic; the code is based on the reported dimorphic relationship with lazurite

~~**UM1976-27-Sn:PdSb**~~	*Trudy TsNIGRI *122*, 107	Zap. Vses. Mineral. Ob. *107*, 340	Pd2(Sn,Sb); probably Sb-bearing paolovite; transferred to Invalid list
UM1976-28-Te:AgBiPb	*Geol. Rudn. Mest. (1976), 111	Am. Mineral. *62*, 597	Mineral "B"; Ag0.15Pb1.18Bi1.88Te4; might be Pb-rich rucklidgeite but stoichiometry is rather different
UM1976-29-Te:BiNi	Econ. Geol. *71*, 1206	Am. Mineral. *62*, 597	Ni5(Te,Bi)8
UM1976-30-Te:BiPbS	*Geol. Rudn. Mest. (1976), 111	Am. Mineral. *62*, 597	PbBi4Te4(S,Se)3; mineral "C"; described again later from several other localities
UM1976-31-Te:BiPdSb	Econ. Geol. *71*, 1429	Am. Mineral. *62*, 597	Pd5(Bi,Sb)2Te4; "Phase A"; little data but formula is distinctive
UM1976-32-Te:BiPdSb	Econ. Geol. *71*, 1429	Am. Mineral. *62*, 597	Pd5(Te,Bi,Sb)2; "Phase B"
UM1976-33-Te:Pd	Econ. Geol. *71*, 1429	CIM Sp. Vol. 23, p.177	PdTe2; "Phase C"; intergrown with Bi-bearing merenskyite (CIM Sp. Vol. 23, p.183)
UM1977-01-AsO:U	Aufschluss *28*, 177		Mineral "D"; a U-arsenite; d-values reported but no quantitative compositional data
UM1977-02-CO:AlCaH	*Geol. Surv. Israel Bull. *70*, 1	Am. Mineral. *63*, 425	Ca3Al2O6•3CaCO3•32H2O
UM1977-03-COSiO:CaClH	*C. R. Soc. Phys. Hist. Nat. Genève *12*, 30	Am. Mineral. *64*, 658	Ca10-11(CO3)7(SiO4)Cl1-2(OH)1-2
UM1977-04-E:CuFeNiPtSb	Can. Mineral. *15*, 380	CIM Sp. Vol. 23, 177	Pt10Fe3Ni3Cu3Sb."Alloy 2"; X-ray powder diffraction pattern is said to be unique
UM1977-05-E:HgPb	*Z. Angew. Geol. *23*, 535	Am. Mineral. *64*, 652	Hg0.8Pb0.2; deposited from natural gas and could be considered anthropogenic
UM1977-06-E:IrOsPtRu	Can. Mineral. *15*, 59	CIM Sp. Vol. 23, 177	(Ir,Os,Ru,Pt,Rh); No X-ray powder diffraction pattern; (CIM Sp. Vol. 23, p.191)
UM1977-07-O:AlCaFeH	*Geol. Surv. Israel Bull. *70*, 1	Am. Mineral. *63*, 425	Ca(Al,Fe)2O4•nH2O
UM1977-08-O:AlCaH	*Geol. Surv. Israel Bull. *70*, 1	Am. Mineral. *63*, 425	Ca2Al2O5•nH2O
UM1977-09-O:AlCaH	*Geol. Surv. Israel Bull. *70*, 1	Am. Mineral. *63*, 425	Ca4Al2O7•nH2O
~~**UM1977-10-PO:CaClKMg**~~	Mineral. Mag. *41*, 33		A phosphate with distinctive X-ray powder diffraction pattern; later described under the name phoxite: Am.Mineral.104:973; transferred to invalid list
UM1977-11-S:CuFeKNi	Earth Planet. Sci. Lett. *35*, 421		K6-9CuFe19Ni0-6S28; perhaps related to djerfisherite
UM1977-12-S:PbPdSe	*Kovalenker (1977), 39	Zap. Vses. Mineral. Ob. *107*, 342	PdPb(S,Se)
UM1977-13-SiO:AlBaCaH	*Dokl. Akad. Nauk SSSR *234*, 1445	Am. Mineral. *70*, 878	(Ca,Ba)Al2Si3O10(OH)2.6; described as the Ca-analogue of edingtonite
UM1977-14-SiO:CaH	*Geol. Surv. Israel Bull. *70*, 1	Am. Mineral. *63*, 425	Ca2SiO4•H2O
UM1978-01-E:AgAuIrOsPtRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ir,Au,Pt,Os,Ru,Ag); (CIM Sp. Vol. 23, 191); apparent Au-content possibly derived from surrounding envelope
UM1978-02-E:CuPbSn	*Grønlands Geol.	Am. Mineral. *66*, 439	Close to Cu3(Sn,Pb)2

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UM1978-03-E:IrOsPt	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ir,Pt,Os); (CIM Sp. Vol. 23, 190); possibly related to UM1977-06-E:IrOsPtRu and/or UM1978-07-E:IrOsPtRu
UM1978-04-E:IrOsPtRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ru,Pt,Ir,Os) alloy; (CIM Sp. Vol. 23, 180)
UM1978-05-E:IrOsPtRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ru,Pt,Os,Ir) alloy; (CIM Sp. Vol. 23, 180)
UM1978-06-E:IrOsPtRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ru,Os,Ir,Pt); (CIM Sp. Vol. 23, 190)
UM1978-07-E:IrOsPtRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ir,Pt,Os,Ru); (CIM Sp. Vol. 23, 190); possibly related to UM1977-06-E:IrOsPtRu and/or UM1978-03-E:IrOsPt
UM1978-08-O:AlCaCrFeMgTi	Proc. 9th Lunar Planetary Sci. Conf. *1*,1331	Am. Mineral. *65*, 812	$(Ti^{3+}$,Cr,Al,Ca,Mg,Fe)(Ti)2-3O7; likely identical to magnéliite
UM1978-09-O:CuHPbSbSi	Grønlands Geol. Undersøgelse Bull. *126*, 1		(Sb,Cu)2(Pb,Fe,Ca)(Si)0.4(O,OH,H2O)9.6; similarities to bindheimite and monimolite
UM1978-10-O:U	*Erzmetall *31*, 13	Am. Mineral. *63*, 1284	U3O7, equivalent to synthetic alpha-U3O7
UM1978-11-S:AgBiCuTe	*Przeglad Geol. *26*, 337	Am. Mineral. *64*, 1332	Ag3CuBiTe2S2
UM1978-12-S:AgBiCuTe	*Przeglad Geol. *26*, 337	Am. Mineral. *64*, 1332	(Ag,Cu,Bi)6Te2S
UM1978-13-S:BiTe	*Przeglad Geol. *26*, 337	Am. Mineral. *64*, 1332	Bi3Te2S2
UM1978-14-S:CuFePtRh	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Rh,Cu,Pt,Fe)S2; (CIM Sp. Vol. 23, 181)
UM1978-15-S:IrOsPtRhRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ru,Ir,Rh,Os,Pt)3S2; (CIM Sp. Vol. 23, 180)
UM1978-16-S:IrOsPtRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ir,Pt,Os,Ru)S2; (CIM Sp. Vol. 23, 191); possibly related to UM1973-20-S:IrOs
UM1978-17-S:IrOsPtRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Pt,Os,Ru,Ir)2S3; (CIM Sp. Vol. 23, 193)
UM1978-18-S:IrOsRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ru,Ir,Os)5S8; (CIM Sp. Vol. 23, 180)
UM1978-19-S:IrOsRu	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Ir,Os,Ru)3S2; (CIM Sp. Vol. 23, 191)
UM1978-20-S:PtRh	Can. Mineral. *16*, 641	CIM Sp. Vol. 30, 175	(Rh,Pt,Fe,Ir)14.83S17.17; (CIM Sp. Vol. 23, 180); possibly related to UM1976-18-S:RhRu
UM1978-21-Sb:Pd	Am. Mineral. *63*, 1166	CIM Sp. Vol. 30, 175	PdSb2; (CIM Sp. Vol. 23, 183)
UM1978-22-SiO:FeHMg	Am. Mineral. *63*, 1000		(Mg,Fe)17Si20O54(OH)6; monoclinic polymorph of chesterite
UM1978-23-Te:Ag	*Przeglad Geol. *26*, 337	Am. Mineral. *64*, 1332	Ag10Te3; formula given in seconday reference is in error
UM1978-24-Te:Bi	*Przeglad Geol. *26*, 337	Am. Mineral. *64*, 1332	Bi3Te4
UM1978-25-Te:Bi	*Przeglad Geol. *26*, 337	Am. Mineral. *64*, 1332	Bi3Te5
UM1979-01-AsO:CaCu	Aufschluss *30*, 213	Am. Mineral. *65*, 209	Cu,Ca-arsenate with minor Fe, Sb & Zn and distinctive d-values
UM1979-02-AsO:CuFe	Aufschluss *30*, 213	Am. Mineral. *65*, 209	Cu,Fe-arsenate with minor Ca & Sb and distinctive d-values
UM1979-03-AsO:Fe	Aufschluss *30*, 213	Am. Mineral. *65*, 209	Orthorhombic Fe-arsenate with minor Cu and distinctive d-values
UM1979-04-AsO:Fe	Aufschluss *30*, 213	Am. Mineral. *65*, 209	Monoclinic Fe-arsenate with minor Cu & Al and distinctive d-values
~~**UM1979-05-CO:AlCaHY**~~	Mineral. Record *10*, 99	Mineral. Record *21*, 363	"UK32"; hydrous carbonate of Ca-Y-Al; transferred to Invalid list
UM1979-06-O:CaHMn	Nature *280*, 137	Am. Mineral. *65*, 812	Described as the Ca-analogue of birnessite and hence Ca2Mn14O27:9H2O
UM1979-07-PO:CaFeHREESiTh	*Mineral. Polonica *10*, 1	Am. Mineral. *67,* 417	$(Th,Fe^{2+},Ca,Fe^{3+}$,REE)(PO4,SiO4)(OH); mineral "U-1"; appears to be related to cheralite but with Th > Ca
UM1979-08-PO:CCaFeHREESiTh	*Mineral. Polonica *10*, 1	Am. Mineral. *67,* 417	(Th,Fe,Ca,REE)(PO4,SiO4,CO3)•0.5H2O; mineral "U-2"; appears to be related to brockite but with Th > Ca
UM1979-09-PO:FeH	*Mineral. Polonica *10*, 1	Am. Mineral. *67,* 417	Mineral "U-4"; X-ray diffraction pattern similar to that of synthetic

			Fe^{2+}3(H2O)(PO4)2: Am. Mineral. *60*, 454
UM1979-10-PO:FeHREETh	*Mineral. Polonica *10*, 1	Am. Mineral. *67,* 417	(Fe^{2+}1-x,Th1-x,REE,Fe^{3+})2x(PO4)2•1-3H2O; mineral "U-3"; perhaps related to ningyoite with Fe replacing Ca and Th replacing U
UM1979-11-S:AgAsAuSe	*New Zealand J. Geol. Geophys. *22*, 339	Am. Mineral. *67*, 416	Empirical formula: ~(Ag,Au)7(S,Se,As)5
UM1979-12-S:AgAsAuSe	*New Zealand J. Geol. Geophys. *22*, 339	Am. Mineral. *67*, 416	Empirical formula: ~(Ag,Au)7(S,Se,As)6
UM1979-13-S:AgAsAuSe	*New Zealand J. Geol. Geophys. *22*, 339	Am. Mineral. *67*, 416	Empirical formula close to (Ag,Au)7(S,Se,As)6
UM1979-14-S:AgPbSb	Am. Mineral. *64*, 432		Ag2Pb18Sb12S37
UM1979-15-S:AgSbTe	*Medd. Grønland, Greenland Geoscience *2*, 1	Am. Mineral. *66*, 1280	Ag8Sb(S,Te); mineral "C"; perhaps Te-bearing polybasite or benleonardite
UM1979-16-S:AsPbSb	*Dokl. Akad. Nauk SSSR *248*, 447	Dokl. Earth Sci. *248*, 131	Pb8Sb6As8S29; mineral "X"
UM1979-17-S:BiCuFe	*Godishnik. Vissh. Minno-Geol. Inst. Sofia *26*,143	Am. Mineral. *70*, 879	Empirical formula: ~Cu18Fe4BiS16
`	Am. Mineral. *64*, 446-448		(Zn,Cu)5(SO4)2(OH)6•6H2O; the Zn-analogue of ktenasite
UM1979-19-Sb:Rh	CIM Sp. Vol.30, 175	Am. Mineral. *69*, 411	RhSb
~~**UM1979-20-SiO:AlCaFeHKMgMnNaTi**~~	Mineral. Record *10*, 99	Mineral. Record *21*, 363	(Na,Ca,K)0.35-0.45(Fe^{2+},Mg,Al,Mn,Ti)3.10-3.23(Si,Al)4O10•nH2O;"UK29"; transferred to Invalid list
UM1979-21-SiO:AlHNaV	Clay Minerals *14*, 241	Am. Mineral. *65*, 1070	Described as a vanadium mineral of the montmorillonite group
UM1979-22-SiO:CeLaNd	Neues Jb. Mineral. Abh. *137*, 42	Zap. Vses. Mineral. Ob. *111*, 243	(Ce,La,Nd)2Si6O15
UM1980-01-E:CuZn	*Soobshch. Akad. Nauk Gruz. SSR *97*, 133	Am. Mineral. *66*, 639	Cu3Zn
UM1980-02-E:CuZn	*Soobshch. Akad. Nauk Gruz. SSR *97*, 133	Am. Mineral. *66*, 639	Cu4.45Zn
UM1980-03-F:AlHO	Am. Mineral. *65*, 1057		Al16(F,OH)48•12-15H2O
UM1980-04-PO:CaHREETh	Mineral. Polonica *11*, 123	Am. Mineral. *68*, 850	Ca1-x,Th1-x,REE2x(PO4)2•2H2O; Perhaps related to ningyoite and UM1979-10PO:FeHREETh
UM1980-05-S:BiCuPb	11th IMA Sulfosalt Volume, 109	Am. Mineral. *70*, 880	~Pb5(Cu,Fe)15Bi9Sb3S34; mineral "2"
UM1980-06-S:BiPb	11th IMA Sulfosalt Volume, 109	Am. Mineral. *70*, 880	~Pb3Bi4S9; mineral "1"
UM1980-07-S:BiTe	11th IMA Sulfosalt Volume, 127	Am. Mineral. *70*, 881	Bi3Te2.27S0.73; mineral "F"
UM1980-08-S:ClPbSb	11th IMA Sulfosalt Volume, 83	Am. Mineral. *70*, 1333	Pb3Sb8S14Cl4.5; "Phase A"
UM1980-09-S:ClPbSb	11th IMA Sulfosalt Volume, 83	Am. Mineral. *70*, 1333	Pb7Sb8S16Cl3.4; "Phase B"
UM1980-10-S:ClPbSb	11th IMA Sulfosalt	Am. Mineral. *70*, 1333	Pb2Sb2S4.76Cl0.31; "Phase C"

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UM1980-11-S:CuIrPtRh	*Dokl. Akad. Nauk SSSR *252*, 1452	Am. Mineral. *66*, 1279	(Cu,Ir,Rh,Pt)3S4; possibly related to cuproiridsite
UM1980-12-S:CuZn	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. 198(2), 38	0 Zap. Vses. Mineral. Ob. 112, 704	(Zn0.75Cu0.34Fe0.02)S
UM1980-13-S:IrRh	*Dokl. Akad. Nauk SSSR *252*, 1452	Am. Mineral. *66*, 1279	Near Ir3Rh3S8; authors' proposed formula ((Ir1.54Pt0.93Rh1.41)S4) is at variance with their compositional data
UM1980-14-Sb:AsSn	*SoOb. Akad. Nauk Gruz. SSR *97*, 133	Am. Mineral. *66*, 639	Sn(Sb,As)4
UM1980-15-SiO:REETi	Earth Planet Sci. Lett. *48*, 97	Am. Mineral. *70*, 879	(REE,Ca)(Ti,Fe)SiO5; a REE-analogue of titanite
UM1980-16-Te:Bi	*Zap. Vses. Mineral. Ob. *109*, 230	Am. Mineral. *66*, 439	Significant deviations from proposed formula Bi2Te; many similarities to hedleyite
UM1980-17-TeO:CuPb	*Dokl. Akad. Nauk SSSR *253*, 1448	Am. Mineral. *66*, 436	PbCu(TeO3)O
UM1980-18-VO:Cu	Am. Mineral. *65*, 1146		Cu4V2O9; known synthetically
UM1980-19-SiO:FeHNaTi	Khomyakov (1980)	Khomyakov (1995)	H3Na3(Fe,Ti)Si6O18; probably the Fe-analogue of tisinalite
UM1980-20-SiO:CaFeHMnNaTi	Khomyakov (1980)	Khomyakov (1995)	Na6(Ca,Mn)(Ti,Fe)Si6O18·H2O; Mineral "M42"; perhaps a trigonal polymorph of koashvite
UM1981-01-AsTe:Ru	*Izv. Akad. Nauk SSSR, Ser. Geol. 1981, (2), 103	Zap. Vses. Mineral. Ob. *112*, 704	RuAsTe
UM1981-02-Bi:AsPbPd	CIM Sp. Vol. 23, 175	Am. Mineral. *69*, 409	~ (Pd,Pb,Pt)3(Bi,As,Te); listed in CIM Sp. Vol. 23, 187 as un1979-3 but unpublished at that time
UM1981-03-Cl:BiPd	*Zap. Vses. Mineral. Ob. *110*, 86	Am. Mineral. *66*, 1279	Pd4Bi5Cl3
UM1981-04-E:AgAuHg	Neues Jb. Mineral. Abh. *141*, 21	Am. Mineral. *68*, 473	~Ag61Au25Hg14
UM1981-05-E:CrFe	*Dokl. Akad. Nauk SSSR *256*, 958	Zap. Vses. Mineral. Ob. *112*, 704	Cr2Fe
UM1981-06-E:CrFeNiSi	*Dokl. Akad. Nauk SSSR *256*, 958	Zap. Vses. Mineral. Ob. *112*, 704	Fe3(Cr,Ni,Si)
UM1981-07-E:FeIrNiOsRu	Mineral. Mag. *44*, 225	Mineral. Petrol. *60*, 185	(Ni,Ru,Fe,Os,Ir)
UM1981-08-E:FeIrPtRhRu	Bull. Minéral. *104*, 508	Am. Mineral. *67*, 1079	Low analytical totals (~70%) suggest oxygen is probably present
UM1981-09-S:AsPbSb	*Zap. Vses. Mineral. Ob. *110*, 480	Bull. Geol. Soc. Finland *55*, 3	Pb2Sb20As8S19; mineral "Y"
UM1981-10-S:AsPbSb	*Zap. Vses. Mineral. Ob. *110*, 480	Bull. Geol. Soc. Finland *55*, 3	PbSb6As2S6; mineral "Z"
UM1981-11-S:BiPb	*Akad. Nauk SSSR, Inst. Geol, Yakut Filial, Sibirsk Otdel (1981) 5	Am. Mineral. *68*, 1041	Compositionally indistinguishable from UM1980-08-S:BiPb but there are discrepancies in powder diffraction data
UM1981-12-S:CoFe	*Ann. Geol. des Pays Héllèniques *32*, 534	Am. Mineral. *70*, 218	Close to (Co,Fe)4S3 but empirical formula reported is incorrect

UM1981-13-S:CoFeNiRh	Bull. Minéral. *104*, 508	Am. Mineral. *67*, 1080	(Fe,Ni,Rh,Co)9S8; perhaps simply Ni- and Rh-rich pentlandite
UM1981-14-S:CuFeIrNiRh	Bull. Minéral. *104*, 508	Am. Mineral. *67*, 1081	(Fe,Ni,Ir,Rh,Cu,Pt,Co)1.06S0.94; cf. UM1981-13-S:CuFeIrNiRh
UM1981-15-S:CuFeIrNiRh	Bull. Minéral. *104*, 508	Am. Mineral. *67*, 1080	(Rh,Fe,Ni,Cu,Ir)S; cf. UM1976-18-S:RhRu and miassite
UM1981-16-S:CuFeIrNiRh	Bull. Minéral. *104*, 508	Am. Mineral. *67*, 1080	(Fe,Rh,Ni,Cu,Ir)S
UM1981-17-S:CuIrPtRh	Bull. Minéral. *104*, 508	Am. Mineral. *67*, 1080	Pt(Rh,Ir)CuS4
UM1981-18-S:CuSn	Mineral. Zhurn. *3* (5), 79	Zap. Vses. Mineral. Ob. *112*, 704	Cu6CuSn2S8; Cu-analogue of chatkalite
UM1981-19-S:CuSnZn	Mineral. Zhurn. *3* (5), 79	Zap. Vses. Mineral. Ob. *112*, 704	Cu6ZnSn2S8; Zn-analogue of chatkalite
UM1981-20-S:NiSbSnTe	Econ. Geol. *76*, 1686	Am. Mineral. *67*, 1079	Approximately (Ni,Cu)4(Sn,Te,Sb)S
UM1981-21-Se:BiCuPb	Can. Mineral. *19*, 341	Am. Mineral. *71*, 847	Bi9Cu4Pb2Se18; mineral "A"
~~**UM1981-22-Se:BiTe**~~	Can. Mineral. *19*, 341	Am. Mineral. *71*, 847	Bi2Se2Te; mineral "B"; not distinct from skippenite on basis of available data; transferred to Invalid list
UM1981-23-Si:Mg	*Zap. Vses. Mineral. Ob. *110*, 186	Am. Mineral. *67*, 416	Mg2Si; some concern about the possibility of sample contamination
UM1981-24-SiO:CaU	*Bulgarski Akad. Nauk, Sofia, Dokl. *34*, 1693	Am. Mineral. *68*, 1040	~(Ca,K,Ba)U8Si2O21; "Group #1"
UM1981-25-SiO:CaU	*Bulgarski Akad. Nauk, Sofia, Dokl. *34*, 1693	Am. Mineral. *68*, 1040	~(Ca,Mg,K,Ba)U7Si4O21; "Group #2"
UM1981-26-SiO:CaU	*Bulgarski Akad. Nauk, Sofia, Dokl. *34*, 1693	Am. Mineral. *68*, 1040	~(Ca,K,Mg)U3Si11O29; "Group #5"
UM1981-27-SiO:HU	Am. Mineral. *66*, 610		Qualitative chemistry, X-ray powder diffraction pattern.
UM1981-28-SiOCaU	*Bulgarski Akad. Nauk, Sofia, Dokl. *34*, 1693	Am. Mineral. *68*, 1040	~(Ca,K,Ba)U5Si11O33; "Group #4"
UM1981-29-Te:BiRh	Bull. Minéral. *104*, 508	Am. Mineral. *67*, 1079	Rh(Te,Bi)2; may be related to synthetic alpha-RhTe2 or synthetic RhTeBi
UM1981-30-Te:BiSe	Can. Mineral. *19*, 341	Am. Mineral. *71*, 847	Bi4Se3Te3; mineral "C"
UM1981-31-Te:Pd	CIM Sp. Vol. 23, 175	Am. Mineral. *69*, 410	Pd8Te3; (CIM Sp. Vol. 23, 188)
UM1981-32-PO:FeH	Chem. Erde *40*, 217	Mineral. Mag. *62*, 93	$Fe^{2+}Fe^{3+}6(PO4)4\text{-}x(PO3OH))x(OH)8{\cdot}4H2O$; a member of turquoise group approved by the IMA but left unnamed
UM1982-01-As:CuPd	Econ. Geol. *77*, 1511	Am. Mineral. *69*, 409	(Pd,Cu)7As2; similarities to UM1974-01-As:PdSb
UM1982-02-AsO:CuNiPd	Econ. Geol. *77*, 1511	Am. Mineral. *69*, 409	Possible formula: (Pd,Cu,Ni)18AsO4•4H2O
UM1982-03-AsO:HMnZn	Am. Mineral. *67*, 1043		(Mn,Zn)5AsO4(OH)7•2H2O
~~**UM1982-04-AsO:HMnZn**~~	Am. Mineral. *67*, 1043		(Mn,Zn)3Zn2AsO4(OH,O)6; duplicate entry; transferred to Invalid list
UM1982-05-Bi:PdTe	Econ. Geol. *77*, 1511	Am. Mineral. *69*, 1195	Pd7(Bi,Te)8; suggested stoichiometry not reported in phase equilibrium studies of Pd-Bi-Te system
UM1982-06-C:Si	Dokl. Akad. Nauk SSSR *262*, 204	Dokl. Earth Sci. *262*, 163	Reported with powder data as ß-SiC but composition ~ Si3C4; may be same mineral reported in Geol. Soc. Am. Bull. *69*, 1633 (Conf. Abst.)
UM1982-07-OH:FeSn	*Marshukova, *1982*, 189	Zap. Vses. Mineral. Ob. *114*, 485	FeSnO(OH)5; closely related to natanite
UM1982-08-PO:FeHMn	Schweiz. Mineral. Petrog. Mitt. *62*, 343	Am. Mineral. *69*, 213	Approximate formula assuming water by difference: FeMnPO5•2H2O; similarities to UM1949-01-PO:Fe
UM1982-09-S:AsCoFeNi	*Vokes & Strand (1982), 118	Am. Mineral. *69*, 213	(Co,Ni,Fe,Cu)2AsS2
UM1982-10-S:AsSbTl	Nowacki *et al*. (1982),		Tl(Sb,As)7S11; compositionally very similar to chabournéite

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UM1982-11-S:CuFeSb	Neues Jb. Mineral. Mh. (1982), 201	Am. Mineral. *68*, 850	Cu6Fe6Sb4S13; possible a tetrahedrite-like mineral with Cu & Fe ordered 1:1
UM1982-12-S:CuFeSn	*Dokl. Akad. Nauk SSSR *264*, 182	Am. Mineral. *69*, 814	Cu3FeSnS5
UM1982-13-S:MoPb	Can. Mineral. *20,* 281	Am. Mineral. *68*, 473	~(Pb,Bi,W,Fe)S•2MoS2
UM1982-14-Si:CrFeTi	*Izv. Akad Nauk Kirgiz SSR *5*, 25	Am. Mineral. *69*, 214	(Cr,Fe,Ti)3Si
UM1982-15-SiO:AlBaH	Mineral. Mag. *46*, 365	Am. Mineral. *68*, 642	Probably related to known synthetic zeolite (Am. Mineral. *49*, 656)
UM1982-16-SiO:AlCaFeTi	Bull. Minéral. *105*, 364	Am. Mineral. *68*, 1040	Compositional similarities to schorlomite
UM1982-17-SiO:CaTiU	*Bulgarski Akad. Nauk, Sofia, Dokl. *35*, 203	Am. Mineral. *68*, 1041	~CaU10Si10Ti5O51
UM1982-18-SiO:ThTiU	*Bulgarski Akad. Nauk, Sofia, Dokl. *35*, 203	Am. Mineral. *68*, 1041	Empirical formula: ~(U,Th)4Ti7Si4O30;
UM1982-19-SiO:TiU	*Bulgarski Akad. Nauk, Sofia, Dokl. *35*, 203	Am. Mineral. *68*, 1041	Empirical formula: ~U2Ti4SiO14; compositional similarities to orthobrannerite
UM1982-20-Te:AgAuFePb	*Novye Dannye Mineral. *30*, 140	Am. Mineral. *70*, 879	(Au,Ag)Fe2(Te,Pb)4; mineral "1"
UM1982-21-Te:AuCuFePb	*Novye Dannye Mineral. *30*, 140	Am. Mineral. *70*, 879	Au(Fe,Cu)(Te,Pb); mineral "12"
UM1982-22-Te:AuCuFePb	*Novye Dannye Mineral. *30*, 140	Am. Mineral. *70*, 879	Au3(Fe,Cu)(Te,Pb); mineral "2"
UM1982-23-Te:AuCuPb	*Novye Dannye Mineral. *30*, 140	Am. Mineral. *70*, 879	Au5Cu3(Te,Pb); mineral "8"
UM1982-24-Te:AuCuPb	*Novye Dannye Mineral. *30*, 140	Am. Mineral. *70*, 879	Au5Cu(Te,Pb)2; mineral "5"
UM1982-25-Te:BiPd	Econ. Geol. *77*, 1511	Am. Mineral. *69*, 1195	Pd7(Te,Bi)8; suggested stoichiometry not reported in phase equilibrium studies of the Pd-Bi-Te system
UM1982-26-Te:BiSSe	*Tikho-okeaniskaya Geol. *5*, 113	Am. Mineral. *70*, 878	Bi13(Te,S,Se)8
UM1983-01-As:AgCu	*Z. Angew. Geol. *29*, 86	Am. Mineral. *72*, 227	(Cu,Ag)2As
UM1983-02-As:Cu	Tscherm. Mineral. Petrog. Mitt. *32*, 111	Am. Mineral. *70*, 219	Cu2As; mineral "x"
~~**UM1983-03-As:NiRh**~~	*Zap. Vses. Mineral. Ob. *112*, 554	Am. Mineral. *69*, 1195	RhNiAs; later named zaccariniite: Mineral. Mag. *76* (2012), 154; transferred to Invalid list
UM1983-04-BO:FeMgMnSb	Geol. Fören. Förh. *105*, 335	Am. Mineral. *71*, 231	(Mg,Mn)2(Mn^{3+},Sb^{3+},Fe^{3+})(BO3)O2; possibly Sb-bearing orthopinakiolite
UM1983-05-E:CoFe	*J. Japan. Assoc. Mineral. Petrol. Econ. Geol. *78*, 467	Am. Mineral. *70*, 879	Fe2Co; distinct from wairauite
UM1983-06-GeO:AlClFeHKSi	Tscherm. Mineral. Petrog. Mitt. *31*, 97	Am. Mineral. *69*, 568	K(Fe,Al)3Al(Ge,Si,Al)3O10(Cl,OH)2; Ge-analogue of biotite
UM1983-07-O:FeNaTi	Neues Jb. Mineral. Mh.	Am. Mineral. *69*, 1194	Na2FeTi7O16; probably the Fe-analogue of freudenbergite

	(1983), 375		
UM1983-08-PO:BaCCaHREETh	J. Less Common Metals *93*, 433	Am. Mineral. *70*, 439	(Ca,Ba,Th,REE)(PO4,CO3)•H2O
UM1983-09-S:BiPbTe	*Istambul Earth Sci. Rev. *3*, 53	Am. Mineral. *70*, 219	Pb1.22Bi3.22S2.22Te1.00
UM1983-10-S:BiSe	*Uzbek Geol. Zhurn. *#6*, 82	Am. Mineral. *70*, 878	Bi2SeS; "Phase III"
UM1983-11-S:BiSeTe	*Uzbek Geol. Zhurn. *#6*, 82	Am. Mineral. *70*, 878	~Bi4Te3(S,Se)2; "Phase I"
UM1983-12-S:CuFe	*Mineral. Rudn. Mest. (1983), 109	Am. Mineral. *75*, 435	Close to Cu2FeS3 (not the reported Cu2Fe3S3)
UM1983-13-S:CuPd	Zap. Vses. Mineral. Ob. *112*, 3	Zap. Vses. Mineral. Ob. *114*, 485	Pd4CuS2
UM1983-14-S:IrNi	Zap. Vses. Mineral. Ob. *112*, 3		Ir2Ni4S7
UM1983-15-S:MoPb	*Dokl. Akad. Nauk Uzbek SSSR *#12*, 30	Am. Mineral. *70*, 879	Mo0.791Pb0.132Fe0.073Sb0.02S2.000
UM1983-16-SO:CaHNa	*Kali u. Steinsalz, *8*, 374	Am. Mineral. *70*, 439	Na2Ca2(SO4)3•3H2O; perhaps related structurally to eugsterite & hydroglauberite
UM1983-17-Se:CuPb	*Novye Dannye Mineral. *31*, 140	Am. Mineral. *70*, 219	PbCuSe
UM1983-18-SiO:AlFeHMg	Mineral. Mag. *47*, 238	Am. Mineral. *69*, 1195	~(Mg,Fe)Al4Si4O12(OH)8; compositional similarities to magnesiocarpholite
UM1983-19-SiO:AlH	Econ. Geol. *78*, 422	Am. Mineral. *69*, 213	(Al2O3)2-4.5(SiO2)3-5(H2O)0-1.5; mineral "2"; composition very variable
UM1983-20-SiO:AlH	Econ. Geol. *78*, 422	Am. Mineral. *69*, 213	Al2Si2O7•4H2O; mineral "1"; composition very similar to kaolinite, endellite, etc.
UM1983-21-SiO:AlH	Econ. Geol. *78*, 422	Am. Mineral. *69*, 213	(Al)1.25-2(Si)1-1.2O5•0-0.3(H2O); mineral "3"; composition very variable
UM1983-22-SiO:BaClFeGaGe	Tscherm. Mineral. Petrog. Mitt. *31*, 97	Am. Mineral. *69*, 568	BaFe3Ga(Si,Ge)O4(Si2O7)Cl
UM1983-23-SiO:BaFeHMnTi	Southeastern Geol. *24*, 13	Am. Mineral. *69*, 409	(Ba,Ca,K,Na)3(Fe^{2+},Mn)7Ti2Si8O24(O,OH)7
UM1983-24-SiO:CaNa	Neues Jb. Mineral. Mh. (1983), 49	Am. Mineral. *69*, 214	Na2Ca2Si3O9; a dimorph of combeite
UM1983-25-SiO:U	Geol. Balcanica *13* (4)*, 63*	Zap. Vses. Mineral. Ob. *114*, 486	U4SiO10
UM1983-26-SiO:U	Geol. Balcanica *13* (4)*, 63*	Zap. Vses. Mineral. Ob. *114*, 486	U2SiO6
UM1983-27-SiO:U	Geol. Balcanica *13* (4)*, 63*	Zap. Vses. Mineral. Ob. *114*, 486	USi2O6
UM1983-28-SiO:U	Geol. Balcanica *13* (4)*, 63*	Zap. Vses. Mineral. Ob. *114*, 486	USi4O10
UM1983-29-Te:BiSSe	*Uzbek Geol. Zhurnal *#6*, 82	Am. Mineral. *70*, 878	Bi3(Te,Se,S)2; "Phase II"
UM1983-30-AsO:FeHMgMnZn	Mineral. Mag. *47*, 381	Am. Mineral. *69*, 814	(Mn,Mg,Fe^{3+}Al)15(AsO3)(AsO4)2(OH)23; said to be distinct from arakiite (Mineral. Record, *31* (2000), 253)
UM1984-01-	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	Ideally Pd5(As,S)2 or Pd3(As,S); similarities to UM1975-05-As:Pd

As:AgAuCuNiPdS			
UM1984-02-As:AgNiPd	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	(Ni,Ag,Pd)2As3
UM1984-03-As:Ni	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	Ni3As5
UM1984-04-As:NiPd	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	(Ni,Pd)3As4
UM1984-05-As:Pd	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	Pd3As5
UM1984-06-As:Pd	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	Pd2As3
UM1984-07-As:Pd	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	Pd4As3
UM1984-08-As:PdS	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	Pd8As2S; possibly a sulphur-substituted stillwaterite
UM1984-09-AsO:ClHMn	Am. Mineral. *69*, 800		Mn10As6O18(OH)Cl; probably related to magnussonite
UM1984-10-AsS:CuPd	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	Pd2Cu2As5S7
UM1984-11-AsS:CuPd	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	Pd2Cu2As6S5
UM1984-12-AsS:Pd	Chem. Erde *43*, 27	Am. Mineral. *74*, 1218	Pd8As6S3
UM1984-13-C:Cr	*Geol. Geofiz. (1984) (4), 38	Am. Mineral. *73*, 442	Cr2C
UM1984-14-CH:ClNOV	*Austral. J. Chem. *37*, 761	Am. Mineral. *70*, 881	C33H35Cl3N4OV
UM1984-15-E:CrFeIrOsRu	Econ. Geol. *79*, 491	Am. Mineral. *74*, 1217	(Ru,Os,Ir,)5(Fe,Cr,Ni)6
UM1984-16-E:CrFeMnNi	*Geol. Geofiz. (1984) (4), 38	Am. Mineral. *73*, 442	(Fe,Cr,Ni,Mn)
UM1984-17-E:FeIrOsPtRu	Econ. Geol. *79*, 491	Am. Mineral. *74*, 1217	(Os,Ir,Ru,Pt)2Fe3
UM1984-18-E:FeNiPt	Econ. Geol. *79*, 491	Am. Mineral. *74*, 1217	(Fe,Ni)3Pt; some Cr, Cu, Ir & Os may also be present; described again later from several other localities
~~**UM1984-19-E:FeOs**~~	Econ. Geol. *79*, 491	Am. Mineral. *74*, 1217	Os2Fe3; an inadvertent duplication of UM1984-17-E:FeIrOsPtRu; transferred to Invalid list
UM1984-20-O:CrFeHTiV	Am. Mineral. *69*, 388		$(Fe^{3+},Cr^{3+},V^{3+})Ti2O6•nH2O$; perhaps related to pseudobrookite or crichtonite group
UM1984-21-PO:AsCu	*Dokl. Akad. Nauk SSSR *279*, 197	Am. Mineral. *71*, 847	Cu3(PO4,AsO4)2; probably the phosphate-analogue of lammerite
UM1984-22-S:AsCuSbSn	*Izv. Akad. Nauk SSSR Ser. Geol. *5*, 91	Am. Mineral. *70*, 880	Cu(Sn,As,Sb)S5
UM1984-23-S:BiCuPb	*Trudy Inst. Geol. Komi Filial, Akad. Nauk SSSR *#45*, 60	Am. Mineral. *70*, 880	Pb3Cu3Bi8S17
UM1984-24-S:BiCuPbSe	*Izv. Akad. Nauk SSSR Ser. Geol. *5*, 91	Am. Mineral. *70*, 880	PbCu7Bi11(S,Se)21
UM1984-25-S:BiCuSe	*Izv. Akad. Nauk SSSR Ser. Geol. 5, 91	Am. Mineral. *70*, 880	Cu3+xBi5-x(S,Se)9
UM1984-26-S:BiPb	*Trudy Inst. Geol. Komi Filial, Akad. Nauk SSSR *#45*, 60	Am. Mineral. *70*, 880	Pb2Bi3S7
UM1984-27-S:ClPbSb	*Dokl. Akad. Nauk SSSR *277*, 1464	Am. Mineral. *71*, 1281	Pb2SbS3Cl
~~**UM1984-28-S:Cr**~~	*Geol. Geofiz. (1984) (4),	Am. Mineral. *73*, 442	CrS; transferred to Invalid list

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UM1984-29-S:CuFePbSb	*Rend. Soc. Ital. Mineral. Petrol. *39*, 657	Am. Mineral. *71*, 231	Pb2(Cu,Fe)4(Sb,As)2S9
UM1984-30-S:CuFeSn	*Zap. Vses. Mineral. Ob. *113*, 443	Am. Mineral. *72*, 227	Cu2Fe2Sn3S7; stannite group
UM1984-31-S:CuFeSn	*Izv. Akad. Nauk SSSR Ser. Geol. *5*, 91	Zap. Vses. Mineral. Ob. *115*, 616	Cu8Fe2Sn3S12
UM1984-32-S:CuPbSb	Can. Mineral. *22*, 219		Pb2CuSb3S7; mineral "JC"
UM1984-33-S:PbSbTe	*Proc. Australasian Inst. Min. Metall. *#289*, 309	Am. Mineral. *71*, 1281	~Pb5(Sb,Te,As)3S9
UM1984-34-Sb:AsCoNi	Neues Jb. Mineral. Mh. (1984), 145	Am. Mineral. *70*, 439	(Co,Ni)(Sb,As)2; Co-analogue of nisbite and seinajokite
UM1984-35-SiO:AlCaFeKMg	*Dokl. Akad. Nauk SSSR *276*, 1208	Am. Mineral. *71*, 846	~(K,Na)2Ca2Mg2(Fe,Mg)3(Si,Al)12O30; perhaps a member of the osumilite group
UM1984-36-SiO:CaNaZr	Geochim. Cosmochim. Acta *47*, 1833	Am. Mineral. *70*, 439	Empirical formula: ~(Zr,Na,Ca)3Si6O17
UM1984-37-SiO:CrMn	*Geol. Geofiz. (1984) (4), 38	Am. Mineral. *73*, 445	$Mn^{2+}3(Cr^{3+},Mn^{3+})2Si3O12$; a garnet
UM1984-38-SiO:TiU	*Geokhim. Mineral. Petrol. (Bulgarian Acad. Sci.) *18*, 43	Am. Mineral. *71*, 1281	Possibly U3Ti3SiO14
UM1984-39-SiO:U	*Dokl. Bolg. Akad. Nauk *37*, 1359	Am. Mineral. *71*, 1281	U3SiO8
UM1984-40-Te:AgBi	Can. Mineral. *22*, 13	Am. Mineral. *70*, 439	Ag3BiTe2
~~**UM1984-41-Te:AuSb**~~	Geol. Fören. Förh. *106*, 245		AuSbTe; later described under the name pampaloite: Mineral. Mag. *83*, 393; transferred to invalid list
UM1985-01-Bi:PdSb	*Dokl. Akad. Nauk SSSR *284*, 438	Am. Mineral. *72*, 228	Pd2SbBi; intermediate between sudburyite and sobolevskite
UM1985-02-E:AlZn	*Zap. Vses. Mineral. Ob. *114*, 90	Am. Mineral. *71*, 1278	(Zn,Cu)Al2
UM1985-03-E:AlZn	*Zap. Vses. Mineral. Ob. *114*, 90	Am. Mineral. *71*, 1278	(Zn,Cu)2Al
UM1985-04-E:CuNiSn	*Dokl. Akad. Nauk SSSR *285*, 203	Am. Mineral. *72*, 227	~Cu2Ni2Sn3
UM1985-05-E:CuSn	*Dokl. Akad. Nauk SSSR *285*, 203	Am. Mineral. *72*, 227	(Cu,Pb)5Sn2
UM1985-06-O:CrFeMgTi	*Contr. Mineral. Petrol. *91*, 245	Am. Mineral. *73*, 444	$(Fe^{2+},Mg,Ti,Cr)6O7$; mineral "H"; perhaps a wüstite-type compound
UM1985-07-OH:AlCuSZn	Mineral. Mag. *49*, 583		Specimen "H858"; composition close to zincowoodwardite, but unit cell different
UM1985-08-OH:Fe	Mineral. Mag. *49*, 139		Epsilon-FeOOH
UM1985-09-PO:CaFeHMn	Can. Mineral. *23*, 247		$(Mn,Fe^{3+},Fe^{2+},Mg,Ca,Na)7Ca2(PO4)6$
UM1985-10-S:AgBiPb	*Izv. Akad. Nauk SSSR, Ser. Geol. (1985), 65	Am. Mineral. *73*, 443	PbAg4Bi4S9

UM1985-11-S:AgBiPb	*Izv. Akad. Nauk SSSR, Ser. Geol. (1985), 65	Am. Mineral. *73*, 443	PbAg4Bi6S12
UM1985-12-S:AgBiPb	*Izv. Akad. Nauk SSSR, Ser. Geol. (1985), 65	Am. Mineral. *73*, 443	PbAg12Bi12S25; compositionally very similar to matildite
UM1985-13-S:AgCu	Austral. J. Earth Sci. *32*, 311		Ag6Cu3S4; no data
UM1985-14-S:AgCuFe	*Ann. Soc. Geolog. Pol. *53*, 143	Am. Mineral. *73*, 443	Cu(Fe,Ag)S2
UM1985-15-S:AgCuFe	*Ann. Soc. Geolog. Pol. *53*, 143	Am. Mineral. *73*, 443	(Fe,Cu)Cu2(Ag,Cu)3S4
UM1985-16-S:AgCuFe	*Ann. Soc. Geolog. Pol. *53*, 143	Am. Mineral. *73*, 443	FeCu3Ag6S7
UM1985-17-S:AgCuFe	*Ann. Soc. Geolog. Pol. *53*, 143	Am. Mineral. *73*, 443	Cu5.28Fe0.55Ag1.17S4
UM1985-18-S:AgCuFe	*Ann. Soc. Geolog. Pol. *53*, 143	Am. Mineral. *73*, 443	FeCu2(Ag,Cu)2S5
UM1985-19-S:AgHg	Austral. J. Earth Sci. *32*, 311		Ag4HgS2; no data
UM1985-20-S:AsCuSbSeTe	*Dokl. Akad. Nauk SSSR *280*, 476	Am. Mineral. *71*, 847	$Cu^{1+}10Cu^{2+}2$(Te,As,Sb)4(S,Se)13; possibly Se-bearing goldfieldite
UM1985-21-S:ClCuPb	Austral. J. Earth Sci. *32*, 311		(Cu,Pb)2SCl2; no data
UM1985-22-S:ClCuPb	Austral. J. Earth Sci. *32*, 311		(Pb,Cu)2SCl2; no data
UM1985-23-S:CuFeInZn	Bull. Minéral. *108*, 245	Am. Mineral. *71*, 846	(Zn,Fe)2Cu3In3S8
UM1985-24-SO:HU	*Thermochimica Acta *86*, 383	Am. Mineral. *73*, 1498	U10(SO3)O30•25H2O
UM1985-25-SiO:AlCaMgPb	Mineral. Mag. *49*, 579		Perhaps Pb7(Ca,Mg)Al3Si5O22(OH)
UM1985-26-SiO:CaMgPbZn	Mineral. Mag. *49*, 721		Pb2Zn5Ca4Mg2Si7O27
UM1985-27-SiO:FeU	*Dokl. Bolg. Akad. Nauk *38*, 1171	Am. Mineral. *73*, 933	Possible formula: U4FeSi3O15
UM1985-28-SiO:FeU	*Dokl. Bolg. Akad. Nauk *38*, 1171	Am. Mineral. *73*, 933	Possible formula: U5Fe2Si5O22
UM1985-29-SiO:FeU	*Dokl. Bolg. Akad. Nauk *38*, 1171	Am. Mineral. *73*, 933	Possible formula: U4Fe5Si4O21
UM1985-30-SiO:FeU	*Dokl. Bolg. Akad. Nauk *38*, 1171	Am. Mineral. *73*, 933	Possible formula: UFe6Si2O12•5H2O (assuming H2O present)
UM1985-31-TiO:AlCaFeMnSi	*Zap. Vses. Mineral. Ob. *114*, 34	Am. Mineral. *71*, 846	(Fe,Mn,Ca)3(Fe,Ti,Al)2(Ti,Si)3O12; interpreted as a titanate garnet
UM1986-01-As:AuPdTe	Neues Jb. Mineral. Mh. 1986, 423	Am. Mineral. *75*, 711	~(Pd,Au)4(As,Te)
UM1986-02-As:PdSbSn	Proc. 13th Gen. Mtg. IMA, Varna, Bulgaria	Am. Mineral. *74*, 1218	Pd11As2(Sb,Sn)2

	(1982), 165		
UM1986-03-As:PdSn	Proc. 13th Gen. Mtg. IMA, Varna, Bulgaria (1982),165	Am. Mineral. *74*, 1218	Pd6SnAs
UM1986-04-As:PdTe	Neues Jb. Mineral. Mh. 1986, 423	Am. Mineral. *75*, 711	Pd3As; may be the same as "guanglinite"
UM1986-05-AsO:HMn	Am. Mineral. *71*, 1515		Mn3As2O4(OH)4; a polymorph or manganarsite
UM1986-06-AsO:HMn	Am. Mineral. *71*, 1515		Mn3As2O4(OH)4; a polymorph or manganarsite
UM1986-07-Bi:PbPdPtRhTe	Lithos *19*, 87	Am. Mineral. *72*, 1027	Some compositional similarities to polarite
~~**UM1986-08-C:W**~~	*Kuangwu Xuebao *6*, 349	Am. Mineral. *74*, 948	WC; later described under the name qusongite: Am. Mineral. *94*, 387; transferred to Invalid list
UM1986-09-CO:CaHNaSrY	Rocks & Minerals *61*, 182	Mineral. Record *21*, 363	Sr3NaCaY(CO3)6•3H2O; "UK37A"; dimorphous with donnayite-(Y)
UM1986-10-CO:ClHMgMnZn	Mineral. Record *17*, 126	Am. Mineral. *72*, 228	Mg5(Zn,Mn)3(CO3)2(OH,Cl)12•H2O
UM1986-11-CO:Zn	Mineral. Record *17*, 126	Am. Mineral. *72*, 228	X-ray powder diffraction pattern appears to be distinctive; probably a carbonate, possibly hydrated
UM1986-12-E:CuFeNiPt	*Geol. Rudn. Mest. (1985) (5), 16	Am. Mineral. *74*, 1217	(Ni,Cu,Fe)3Pt
UM1986-13-E:CuFeNiPt	*Geol. Rudn. Mest. (1985) (5), 16	Am. Mineral. *74*, 1217	(Cu,Fe,Ni)Pt
UM1986-14-E:CuFePt	*Geol. Rudn. Mest. (1985) (5), 16	Am. Mineral. *74*, 1217	PtCu2Fe
UM1986-15-E:CuFePt	*Geol. Rudn. Mest. (1985) (5), 16	Am. Mineral. *74*, 1217	Pt2CuFe
UM1986-16-E:CuFePt	*Geol. Rudn. Mest. (1985) (5), 16	Am. Mineral. *74*, 1217	Cu2Pt3Fe
UM1986-17-E:CuPt	*Geol. Rudn. Mest. (1985) (5), 16	Am. Mineral. *74*, 1217	PtCu3
UM1986-18-GaO:FeGeSnZn	*C. R. Acad. Sci. Paris, Ser. II, *303*, 811	Am. Mineral. *73*, 933	Fe4(Ga,Sn,Fe)4(Ga,Ge)6O20; sapphirine structure
UM1986-19-GeO:AlCaSi	*C. R. Acad. Sci. Paris, Ser. II, *303*, 811	Am. Mineral. *73*, 933	Ca3Al2(Ge,Si)3O12; garnet structure
UM1986-20-GeO:CaGa	*C. R. Acad. Sci. Paris, Ser. II, *303*, 811	Am. Mineral. *73*, 933	Ca3Ga2Ge3O12; garnet structure
UM1986-21-NbO:CaH	Rocks & Minerals *61*, 182	Mineral. Record. *21*, 363	CaNb4O11•12H2O; Mont St. Hilaire "UK56"; possibly the higher-hydrate counterpart of hochelagaite; also chemically similar to charleshatchettite.
UM1986-22-O:BaCeFeKTiV	Neues Jb. Mineral. Mh. 1986, 376	Am. Mineral. *73*, 932	(K,Ba)3(Fe,V,Ce)3Ti14O32; compositional similarities to priderite
UM1986-23-O:BaMnU	Mineral. Record *17*, 126	Am. Mineral. *72*, 228	X-ray powder diffraction pattern appears distinctive; probably an oxide or carbonate, possibly hydrated
UM1986-24-O:Cu	Mineral. Record *17*, 126	Am. Mineral. *72*, 228	X-ray powder pattern appears to be distinctive; Cu only detected cation; possibly hydroxide, oxalate or nitrate
~~**UM1986-25-P:Ti**~~	Science *234*, 189	Am. Mineral. *73*, 197	TiP; later described under the name Badengzhuite: Eur. J. Mineral. *32*, 557;

transferred to Invalid list

UM1986-26-PO:HMg	Neues Jb. Mineral. Mh. 1986, 343	Am. Mineral. *73*, 444	The very low analytical total suggests H2O and/or CO2 are present
UM1986-27-S:AgBiCu	*Geol. Geofiz. (1986) (10), 60	Zap. Vses. Mineral. Ob. *117*, 727	Ag1.3Cu1.7Bi10S16.8; some similarities to UM1971-05-S:AgBiCu
UM1986-28-S:AgBiCuPb	*Geol. Geofiz. (1986) (10), 60	Zap. Vses. Mineral. Ob. *117*, 727	Ag1.7CuPb0.7Bi10S15.6; some similarities UM1971-05-S:AgBiCu
UM1986-29-S:AgBiCuPb	*Geol. Geofiz. (1986) (10), 60	Soviet Geol. Geophys. *27*, 53	(Ag,Cu)2.07Pb2.1Bi10S18.2; some similarities to makovickyite
UM1986-30-S:AgBiCuPb	*Acta Mineral. Sinica *6*, 338	Am. Mineral. *75*, 712	(Cu,Ag)Pb6Bi7S17
UM1986-31-S:AgBiCuPb	*Geol. Geofiz. (1986) (10), 60	Soviet Geol. Geophys. *27* (10), 53	Ag0.34Cu0.2Pb0.14Bi2S3.1; some similarities to UM1971-05-S:AgBiCu
UM1986-32-S:AgBiCuPb	*Geol. Geofiz. (1986) (10), 60	Soviet Geol. Geophys. *27* (10), 53	Ag1.5Cu1.7Pb0.3Bi10S16.1; some similarities to UM1971-08-S:AgBiCuPb
UM1986-33-S:AgBiCuPbSe	*Kovalenker (1986), 111	Am. Mineral. *74*, 949	Approximate formula: (Cu,Ag)3(Bi,Pb)7(S,Se)12; perhaps the Cu-analogue of benjaminite; see also UM1969-06-S:AgBiCu
UM1986-34-S:AgCuPbSb	*Novye Dannye Mineral. *33*, 140	Am. Mineral. *74*, 950	"Mineral MK"; might be Ag- or Cu-bearing robinsonite
UM1986-35-S:AsBiPbSb	Bull. Minéral. *109*, 649	Am. Mineral. *73*, 932	(Pb,Ag)8BiAs11Sb11S41
UM1986-36-S:AsCuFeGe	*Kovalenker *et al*. (1986), 91	Am. Mineral. *73*, 444	Cu11Fe4GeAsS16; apparently distinct from renierite
UM1986-37-S:AsCuFePdRh	Lithos *19*, 87	Am. Mineral. *72*, 1027	Some compositional similarities to cuprorhodsite
UM1986-38-S:AsPdPtRh	Lithos *19*, 87	Am. Mineral. *72*, 1027	Possibly Pd-bearing platarsite. No X-ray data
UM1986-39-S:AuBiPbTe	*Vest. Ústred. Ústavu Geol. *61*, 217	Am. Mineral. *73*, 932	~Au(Pb,Cu)2(Bi,Sb,As,Se)Te2S3; compositional similarities to buckhornite
UM1986-40-S:BiCuPb	*Geol. Geofiz. (1986) (10), 60	Soviet Geol. Geophys. *27* (10), 53	Close to Cu3Pb4Bi33S36
UM1986-41-S:BiPbTe	*Geol. Geofiz. (1986) (10), 60	Soviet Geol. Geophys. *27* (10), 53	Close to (Pb,Cu,Fe)10Bi8(Te,Se)4S11
UM1986-42-S:CuFe	Meteoritics *21*, 23	Am. Mineral. *73*, 932	Cu2Fe3S5; compositionally close to haycockite and isocubanite
UM1986-43-S:CuFeSn	*Geol. Rudn. Mest. 1986 (2) 67	Am. Mineral. *73*, 443	Cu11Fe2Sn4S16; mineral "III"
UM1986-44-S:CuFeSn	*Geol. Rudn. Mest. 1986 (2) 67	Am. Mineral. *73*, 443	Cu5FeSn2S8; mineral "IV"
UM1986-45-S:CuFeSn	*Geol. Rudn. Mest. 1986 (2) 67	Am. Mineral. *73*, 443	Cu10Fe3Sn3S16; mineral "V"; similar composition to stannoidite and UM1982-12S:CuFeSn but tetragonal (pseudocubic)
UM1986-46-S:CuFeSn	*Geol. Rudn. Mest. 1986 (2) 67	Am. Mineral. *73*, 443	Cu13Fe4Sn3S18; mineral "VII"; compositional similarities to mawsonite
UM1986-47-S:CuFeSn	*Geol. Rudn. Mest. 1986 (2) 67	Am. Mineral. *73*, 443	Cu9Fe2Sn2S12; compositional similarities to mawsonite
UM1986-48-S:CuFeSn	*Geol. Rudn. Mest. 1986 (2) 67	Am. Mineral. *73*, 443	Cu12Fe3Sn3S16

UM1986-49-S:CuSn	*Geol. Rudn. Mest. 1986 (2) 67	Am. Mineral. *73*, 443	Cu11Sn5S16; mineral "VI"
UM1986-50-S:PbTe	Zap. Vses. Mineral. Ob. *115,* 459	Am. Mineral. *74*, 949	Pb2TeS
UM1986-51-S:Re	Can. Mineral. *24*, 329		Re2S3
UM1986-52-Sb:AsPd	Neues Jb. Mineral. Mh. 1986, 423	Am. Mineral. *75*, 711	~Pd3(Sb,As); close to isomertieite in composition and optics
UM1986-53-Sb:AsPdSn	Proc. 13th Gen. Mtg. IMA, Varna, Bulgaria (1982),165	Am. Mineral. *74*, 1218	Pd3(Sb,Sn,As)
UM1986-54-Sb:PdSn	Proc. 13th Gen. Mtg. IMA, Varna, Bulgaria (1982),165	Am. Mineral. *74*, 1218	Pd6SnSb2
UM1986-55-Sb:PdSn	Proc. 13th Gen. Mtg. IMA, Varna, Bulgaria (1982),165	Am. Mineral. *74*, 1218	Pd5(Sb,Sn)2
UM1986-56-SbO:CuFeHSiSn	Mineral. Record *17*, 383	Am. Mineral. *72*, 1027	CuFeSn3(Sb,Si)O7(OH)7
UM1986-57-Si:Fe	Acta Mineral. Sinica *6*, 63		FeSi5
~~**UM1986-58-Si:Fe**~~	Acta Mineral. Sinica *6*, 63		Fe2Si5; the same as luobusaite; transferred to Invalid list
UM1986-59-Si:FePTi	Science *234*, 189	Am. Mineral. *73*, 197	FeTi(Si,P)2; composition is close to zangboite, described later: Can. Mineral. *47,* (2009) *1265*
~~**UM1986-60-SiO:AlCaFeHKMnNaTi**~~	Rocks & Minerals *61*, 182	Mineral. Record. *21*, 363	(Na,K)2(Mn,Fe,Ca,Ti,Al)3(Si,Al)8O20•8H2O; Mont St. Hilaire "UK38" Transferred to Invalid list
UM1986-61-SiO:BBeCaHY	Rocks & Minerals *61*, 182	Mineral. Record. *21*, 363	Ca(Y)1-2(Si,Be,B)4(O,OH)10•2H2O; Mont St. Hilaire "UK48"
UM1986-62-SiO:CaHNaNbTiZn	Neues Jb. Mineral. Abh. *155*, 289	Am. Mineral. *73*, 933	~(Na,K,Ca,Zn,Fe)3(Nb,Ti)6Si2O20•6H2O
UM1986-63-SiO:FeHKMnNa	Rocks & Minerals *61*, 182	Mineral. Record. *21*, 363	(K,Na)2.5-4(Mn,Fe)3.5-4Si8O20•4H2O; Mont St. Hilaire "UK52"
UM1986-64-SiO:NbREETi	Zhang & Tao (1986)	Am. Mineral. *73*, 1498	~(Nd,Ce,REE)6Ti24Nb4Si12O91
UM1986-65-Te:AgBi	Zap. Vses. Mineral. Ob. *115,* 459	Am. Mineral. *74*, 949	AgBi2Te4
UM1986-66-Te:AsAuPd	Neues Jb. Mineral. Mh. 1986, 423	Am. Mineral. *75*, 711	~(Pd,Au)8(Te,As)
UM1986-67-Te:Pb	Zap. Vses. Mineral. Ob. *115,* 459	Am. Mineral. *74*, 949	Pb2Te3
UM1986-68-Te:Pb	Zap. Vses. Mineral. Ob. *115,* 459	Am. Mineral. *74*, 949	PbTe2
UM1987-01-CO:HMgS	Mineral. Mag. *51*, 459	Am. Mineral. *73*, 1498	Mg4(CO3)2(OH)4•6H2O
UM1987-02-O:AlPTiZr	*Dokl. Akad. Nauk SSSR *296*, 1458	Am. Mineral. *74*, 950	(Al,Ti^{3+}Zr,P)2TiO5

UM1987-03-O:FePbTiU	Schweiz. Mineral. Petrog. Mitt. *67*, 93	Am. Mineral. *74*, 1401	Crichtonite group - "REE-free davidite
UM1987-04-O:Ti	Contr. Mineral. Petrol. *96*, 35	Am. Mineral. *75*, 1434	TiO1.71-1.83; perhaps related to Magnéli phases
UM1987-05-OH:AlCMg	Clays Clay Minerals *35*, 401		Mg4Al2(OH)12(CO3,SO4)•3H2O
UM1987-06-S:AgBiPb	*Dokl. Akad. Nauk SSSR *292*, 1235	Am. Mineral. *73*, 444	AgPbBiS3; similarities to matildite
UM1987-07-S:AgBiPb	*Dokl. Akad. Nauk SSSR *292*, 1235	Am. Mineral. *73*, 444	Ag2Pb3Bi2S7
UM1987-08-S:AgBiPb	*Dokl. Akad. Nauk SSSR *292*, 1235	Am. Mineral. *73*, 444	Ag3Pb7Bi3S13
UM1987-09-S:AgCu	Mineral. Zhurn. *9* (6), 5	Am. Mineral. *75*, 435	~Cu9Ag2S10
UM1987-10-S:AgFe	Proc. Yorks. Geol. Soc. *46I*, 133	Am. Mineral. *73*, 1497	Ag2Fe15S20
UM1987-11-S:BiCuPbSb	*Izv. Akad. Nauk SSSR Ser. Geol. 1, 86	Am. Mineral. *73*, 444	Pb5Cu2(Sb,Bi)15S23; similarities to zinkenite (Se,S)2; the Se-analogue of miargyrite
UM1987-12-SO:AlH	Neues Jb. Mineral. Mh. (1986), 171	Am. Mineral. *73*, 932	Al3(SO4)2(OH)5•9H2O; compositionally similar to jurbanite & khademite but d-values distinctive
UM1987-13-SO:AlH	*Izv. Akad. Nauk Azerb. SSR Ser. Nauk	Am. Mineral. *75*, 436	Identical powder diffraction pattern to that of Al2(SO4)3•12H2O (ICDD 18-0061) Zemle (1987) 112
~~**UM1987-14-SO:ClHZn**~~	J. Geophys. Res. B, *92*, 11373		Zn12(SO4)3Cl3(OH)15•5H2O; later described under the name gordaite: Neues Jb. Mineral. Mh. (1997):155; transferred to invalid list
UM1987-15-Se:AgSSb	Mineral. Zhurn. *9* (1), 25	Am. Mineral. *74*, 950	AgSb
UM1987-16-Se:BiPbTe	Can. Mineral. *25*, 625	Am. Mineral. *74*, 948	(Bi,Pb)2(Se,Te,S)3
UM1987-17-Se:BiTe	Can. Mineral. 25, 625		Bi(Se,Te)
UM1987-18-SiO:AlCaHKNa	Mineral. Mag. *51*, 231	Am. Mineral. *73*, 1498	Perhaps a partially dehydrated K-analogue of laumontite
UM1987-19-SiO:FeHMgMnTi	Mineral. Mag. *51*, 247	Am. Mineral. *73*, 1498	$(Mn^{2+},Fe^{3+},Fe^{2+},Ti,Mg)9Si6O20(OH)5$
UM1988-01-CO:BaMn	J. Mineral. Soc. Japan *18*, 347	Am. Mineral. *76*, 301	BaMn(CO3)2
UM1988-02-F:AlHO	Am. Mineral. *73*, 855		AlF3•H2O
UM1988-03-POSiO:AlFeHPbREESr	Ann. Acad. Bras. Cienc. *60* (1988), *223*	Zap. Vses. Mineral. Ob. *119* (5), 71	$(REE,Pb,Sr)(Al,Fe^{3+})3(P,Si)2O7(O,OH)(OH)5$; appears to be related to florencite-(La) & plumbogummite
UM1988-04-SiOPO:CaFeHNaNbTi	*Zap. Vses. Mineral. Ob. *117*, 696	Am. Mineral. *75, 936*	$(Na,Ca)5(Ti,Fe^{3+},Nb)4Si4P2O22(OH)4$
UM1988-05-S:AgBiCuHgPb	Can. Mineral. *26*, 355		(Hg,Ag,Cu)5Pb8Bi11S27; mineral "X"
UM1988-06-S:AgBiCuHgPb	Can. Mineral. *26*, 355		(Hg,Ag,Cu)Pb2Bi2S5; mineral "Y"; close compositional similarities to UM1988-05- S:AgBiCuHgPb

UM1988-07-S:AgBiPbTe	*Rev. Roum. Geol. Geophys. Geogr., Ser. Geol. *32* (3), 8	Zap. Vses. Mineral. Ob. *119* (5), 71	PbBi3.14Ag0.09Te3.89S2.81
UM1988-08-S:AgCu	Mineral. Zhurn. *10* (1), 3	Am. Mineral. *75*, 711	Ag1.42Sn0.03Cu3.54S5; similarities to UM1987-09-S:AgCu
UM1988-09-S:AgCu	Mineral. Zhurn. *10* (1), 3	Am. Mineral. *75*, 711	Ag2.03Cu2.10S2.99As0.01
UM1988-10-S:AgCu	Mineral. Zhurn. *10* (1), 3	Am. Mineral. *75*, 711	Ag2.01Cu4.24S5
UM1988-11-S:AgPbTe	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (1982), (2), 13	Am. Mineral. *75*, 1212	Ag4PbTe2S
UM1988-12-S:AgSn	Mineral. Zhurn. *10* (1), 3	Am. Mineral. *75*, 711	Ag1.95Sn0.90S3
UM1988-13-S:Bi	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (1982), (2), 13	Am. Mineral. *75*, 1212	Bi3S5
UM1988-14-S:Bi	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (1982) (2), 13	Am. Mineral. *75*, 1212	Bi3S4
UM1988-15-S:BiPb	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (1982), (2), 13	Am. Mineral. *75*, 1212	BiPb2S2
UM1988-16-S:BiSeTe	*Novye Dannye Mineral. *35*, 128	Am. Mineral. *77*, 209	Bi3Se2TeS
UM1988-17-S:CuFe	*Dokl. Akad. Nauk SSSR *301*, 1186	Am. Mineral. *75*, 711	Cu6.78Fe7.78S15.72As0.28; close to chalcopyrite composition
UM1988-18-S:CuFe	*Dokl. Akad. Nauk SSSR *301*, 1186	Am. Mineral. *75*, 711	Cu4.76Fe9.00S13.67As0.33
UM1988-19-S:CuFeNiPdRu	Can. Mineral. *26*, 177	Am. Mineral. *74*, 1216	Cu2(Fe,Ru)2(Ni,Pd)4S7
UM1988-20-SO:FeH	Kexue Tongbao *33*, 1783	Am. Mineral. *76*, 670	Fe2.67(SO4)2•14H2O; possibly defective römerite
UM1988-21-Se:AgBiHg	Mineral. Mag. *52*, 719	Am. Mineral. *75*, 710	(Ag,Bi,Hg)2Se
UM1988-22-SiO:AlCaFFeHKLiMg	*Dokl. Akad. Nauk SSSR *303*, 199	Am. Mineral. *76*, 1730	Ideally KLiMgAl2Si3O10F2; probably the Mg-analogue of zinnwaldite
UM1988-23-SiO:HKNbTi	*Izv. Vyssh. Uchebn. Zaved., Geologia I Razvedka (1988), 38	Am. Mineral. *75*, 1213	K(Nb,Ti)3Si(O,OH)10•1.5H2O
UM1988-24-Te:AgBi	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (1982), (2), 13	Am. Mineral. *75*, 1212	Ag8Bi3Te7
UM1988-25-Te:Bi	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol(1982), (2), 13	Am. Mineral. *75*, 1212	Bi9Te4
UM1988-26-SiO:AlMg	Phys. Chem. Mineral. *15*, 548	Mineral. Mag. *72*, 839	Mg4Al2O[Si3Al2O15]; unnamed Be-free analogue of surinamite

UM1989-01-AsS:CoFeNi	*Zap. Vses. Mineral. Ob. *118* (4), 64	Am. Mineral. *76*, 670	(Ni,Fe,Co)AsS; apparently the Ni member of the arsenopyrite group
UM1989-02-AsTe:AgAuPb	Austral. Mineral. *4*, 133	Am. Mineral. *76*, 1436	Au3(Ag,Pb)As2Te3
UM1989-03-C:FeMnSi	*Dokl. Akad. Nauk SSSR *308*, 699	Am. Mineral. *76*, 669	(Mn,Fe)3(C,Si)
UM1989-04-C:TiV	Can. Mineral. *27*, 617	Am. Mineral. *75*, 1434	(V,Ti)C; probably the V-analogue of khamrabaevite
UM1989-05-ClOH:FeMn	Can. Mineral. *27*, 311		Possibly (Fe,Mn)(OH)Cl
UM1989-06-CO:AlHNa	Clay Minerals *24*, 531		Na2Al2O2(CO3)2•2.9H2O; compositionally very similar to dawsonite
UM1989-07-CO:CaSr	*Dokl. Akad. Nauk SSSR *304*, 1449	*Mineral. Zhurn. *13* (3), 70	(Sr0.5Ca0.5)CO3; known experimentally
UM1989-08-E:CaSi	*Bol. Geol. Miner. *100* (3), 158	Zap. Vses. Mineral. Ob. *120* (4), 111	Approximately SiCa
UM1989-09-E:FeMnSi	*Dokl. Akad. Nauk SSSR *308*, 699	Am. Mineral. *76*, 669	alpha or beta Mn
UM1989-10-E:FeSiTi	*Bol. Geol. Miner. *100* (3), 158	Zap. Vses. Mineral. Ob. *120* (4), 111	Approximately Si5Fe5Ti4
UM1989-11-E:FeSiTi	*Bol. Geol. Miner. *100* (3), 158	Zap. Vses. Mineral. Ob. *120* (4), 111	~Si2(Fe,Ti)3
UM1989-12-E:NiSn	Neues Jb. Mineral. Abh. *160*, 193	Am. Mineral. *75*, 434	(Ni,Cu,Fe)8Sn5; Cu & Fe are minor constituents
UM1989-13-O:HMn	ICDD 42-1316		MnO2•nH2O; isostructural and intergrown with ramsdellite
UM1989-14-OC:HMg	Mineral. Mag. *53*, 505		Mg(C2O4)•2H2O; the alpha modification of glushinskite
UM1989-15-S:AgBiCuFePbSe	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (1989) (3), 45	Am. Mineral. *76*, 1733	Fe3CuBi(Ag,Pb)(S,Se); mineral "B"; very poor analytical total
UM1989-16-S:AgClPbSb	Eur. J. Mineral. *1*, 381	Am. Mineral. *75*, 1435	Pb8AgSb8S20Cl; mineral "C1"
UM1989-17-S:AgCuPd	*Dokl. Akad. Nauk SSSR *306*, 430	Am. Mineral. *76*, 1438	Pd2(Cu,Ag)2S3
UM1989-18-S:AgFeTe	Neues Jb. Mineral. Abh. *160*, 299	Am. Mineral. *76*, 670	Ag10FeTe2S4
UM1989-19-S:AsCuHgSbTlZn	*Geol. Surv. Canada Econ. Geol. Rept. 38	Am. Mineral. *75*, 935	CuTlHg2(Sb,As)2S6; the Sb-analogue of routhierite
UM1989-20-S:AsPt	*Dokl. Akad. Nauk SSSR *306*, 430	Am. Mineral. *76*, 1438	PtAs2S4
UM1989-21-S:BiCuFePbSe	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (1989) (3), 45	Am. Mineral. *76*, 1733	(Cu,Fe,Pb,Bi)(S,Se); mineral "A"
~~**UM1989-22-S:BiPb**~~	*Dizhi Kexue, Yichang Dizhi Kuang. Yanj. Sokan, 161	ICDD 42-1403	Pb2Bi3S6; compositionally very similar to cannizzarite but with different d-values; later determined to be lillianite: Bull. Yichang Inst. Geol. Mineral Res. *14*, 161; transferred to Invalid list
UM1989-23-S:ClPbSb	Eur. J. Mineral. *1*, 381	Am. Mineral. *75*, 1435	Pb17Sb18S43Cl2; mineral "C"

UM1989-24-S:CuFeZn	*Mining Geol. *39*, 355	Am. Mineral. *80*, 406.	(Zn,Fe,Cu)S; anisotropic; not sphalerite
UM1989-25-S:FeNi	Neues Jb. Mineral. Abh. *160*, 46	Am. Mineral. *75*, 434	Fe(Ni,Co)S2
UM1989-26-Sb:Pd	Mineral. Petrol. *40*, 289	Am. Mineral. *76*, 1438	Pd4Sb
UM1989-27-Se:AgAsFeS	*Mineral. Zhurn. *11* (6), 3	Am. Mineral. *77*, 210	Ag11FeAs4(Se,S)12.5
UM1989-28-Se:AgBiCuS	*Mineral. Zhurn. *11* (6), 3	Am. Mineral. *77*, 210	(Ag,Cu)Bi3(Se,S)5
UM1989-29-Se:Te	*Mineral. Zhurn. *11* (6), 3	Am. Mineral. *77*, 210	Te3Se4
UM1989-30-SiO:AlBaCaFeHKMgMn	Mineral. Mag. *53*, 85		(Ba,Ca)(Mn,Fe,Mg)22(Si,Al)32O76(OH)16•12H2O; the Ba-analogue of bannisterite
~~**UM1989-31-SiO:AlCaCeHLaV**~~	Can. Mineral *27*, 565	Can. Mineral *40*, 1411	Ca(La,Ce)V^{3+}Al2(Si2O7)(SiO4)O(OH); later recognised as an unnamed end-member of the allanite subgroup; clearly related to mukhinite and dissakisite-(La) ; later described under the name vanadoallanite-(La): Mineral. Mag. *77*, 2739; transferred to Invalid list
UM1989-32-SiO:AlCaFeHREE	Am. Mineral. *74*, 750	Can. Mineral. *40*, 1411	(Ca0.5□0.5)(Ce,La,Nd)Fe^{3+}Al2(Si2O7)(SiO4)O(OH); later recognised as an unnamed end-member of the allanite subgroup
UM1989-33-SiO:BaHMnTi	*Zap. Vses. Mineral. Ob. *118* (4), 81	Am. Mineral. *76*, 1439	BaMn2TiOSi2O7(OH)2; within the compositional range of hejtmanite but with different symmetry
UM1989-34-SiO:FeKMgMnNa	Bull. Geol. Surv. S. Africa *93*, 1	ICDD 47-1841	(K,Na,Sr)(Na,Ca)1.3(Mg,Na,Mn)2(Mg,Fe,Al)3(Si,Al)12O30; mineral "X"; similarities to roedderite
UM1989-35-SiO:KTi	Dokl. Earth Sci. *309*, 155	Am. Mineral. *77*, 451	K2TiSi3O9
UM1990-01-As:CuPdPt	Mineral. Petrol. *42*, 287	Am. Mineral. *76*, 1439	(Pt,Pd)17Cu8As3
UM1990-02-As:FeIrNiOsRhRu	Can. Mineral. *28*, 579	Am. Mineral. *76*, 1437	(Ru,Os,Fe,Rh,Ir,Ni)3As
UM1990-03-As:NiPdSb	Can. Mineral. *28*, 489		(Pd1.35Ni0.56)(As0.87Sb0.13); perhaps Ni-bearing palladoarsenide or Pd-bearing majakite
UM1990-04-As:PdPtSb	Mineral. Petrol. *42*, 287		(Pd2.37Pt0.61)(As0.89Sb0.10); perhaps Pt-bearing vincentite or guanglinite
UM1990-05-Bi:PbPdPt	*Dokl. Akad. Nauk SSSR *315*, 700	Dokl. Earth Sci. *315*, 217	(Pd,Pt)6PbBi7
UM1990-06-Bi:PbPt	*Dokl. Akad. Nauk SSSR *315*, 700	Dokl. Earth Sci. *315*, 217	Pt(Bi,Pb)3
UM1990-07-Bi:Pt	*Dokl. Akad. Nauk SSSR *315*, 700	Dokl. Earth Sci. *315*, 217	PtBi4
UM1990-08-Bi:Pt	*Dokl. Akad. Nauk SSSR *315*, 700	Dokl. Earth Sci. *315*, 217	Pt3Bi7
UM1990-09-C:Si	Nature *346*, 352	Am. Mineral. *77*, 208	ß-SiC; a cubic polymorph of moissanite
UM1990-10-CO:BaCaHREESr	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK60"
UM1990-11-CO:BaCaHREESr	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK60A"
UM1990-12-CO:HNa	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK73"
~~**UM1990-13-CO:HNaREESrY**~~	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK33A"; Sr2Na2(Ce,La)Y(CO3)6•3H2O; later described under the name alicewilsonite(YCe): Eur. J. Mineral. *32*, 647; transferred to Invalid list
UM1990-14-E:AuCuPt	Mineral. Petrol. *42*, 287	Am. Mineral. *76*, 1439	Cu5(Pt,Au)6; perhaps Au-bearing hongshiite
UM1990-15-E:CuPdPt	Mineral. Petrol. *42*, 287	Am. Mineral. *76*, 1439	(Pt,Pd)2Cu3

UM1990-16-E:CuRhSn	Can. Mineral. *28*, 579	Am. Mineral. *76*, 1437	Rh2SnCu
UM1990-17-E:FeIrOsPt	Mineral. Petrol. *42*, 249	Am. Mineral. *76*, 1439	Pt2(Ir,Os)Fe0.65; similarities to UM1973-09-E:FeIrPt
UM1990-18-E:FeIrOsRu	Mineral. Petrol. *42*, 211	Am. Mineral. *76*, 1437	(Ru,Os,Ir)2Fe3; some similarities to both UM1984-15-E:CrFeIrOsRu & hexaferrum
UM1990-19-E:FeIrOsRu	Mineral. Petrol. *42*, 211	Am. Mineral. *76*, 1437	(Ru,Os,Ir)Fe3
UM1990-20-E:NiPtSn	Mineral. Petrol. *42*, 287	Am. Mineral. *76*, 1439	(Ni,Pt)Sn
~~**UM1990-21-F:AlCaHMgNa**~~	Mineral. Mag. *54*, 599	Am. Mineral. *77*, 211	(Na,Ca)2(Mg,Al)2F6(OH,O,F); a Ca-bearing ralstonite-like mineral; later described under the name flournatrocoulsellite: Austral. J. Mineral. *15*, 21; transferred to Invalid list
UM1990-22-MoO:CaHP	*Dokl. Akad. Nauk SSSR *312*, 1437	Am. Mineral. *77*, 450	[Ca2O2(OH)3]xPMo9O28(OH)3(PO)x
UM1990-23-O:Al	*Dokl. Akad. Nauk SSSR *313*, 689	Am. Mineral. *77*, 210	Theta-Al2O3
UM1990-24-O:Al	*Dokl. Akad. Nauk SSSR *313*, 689	Am. Mineral. *77*, 210	Delta-Al2O3 later re-designated sigma-Al2O3
UM1990-25-O:ClPbS	Neues Jb. Mineral. Mh. (1990), 337	Am. Mineral. *76*, 1733	Pb4O3(Cl,SO4)2
UM1990-26-O:HMnNaNb	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	Mineral "UK68"
UM1990-27-O:Pt	Can. Mineral. *28*, 503	Am. Mineral. *76*, 1436	PtO
UM1990-28-OHF:Al	Can. Mineral. *28*, 147	Am. Mineral. *76*, 2025	Al(OH,F)3; polymorph of gibbsite, nordstrandite, doyleite & bayerite
UM1990-29-OHS:CrFe	Neues Jb. Mineral. Mh. (1990), 269		Fe2S2(Fe,Cr)7.5(OH)15
UM1990-30-PO:AlFeHZn	Austral. Mineral. 5, 125		"UK1a"; (Fe,Zn)(Fe,Al)3(PO4)3(OH)2
UM1990-31-S:AgCuFe	*Dokl. Bolg. Akad. Nauk *43*, 87	Am. Mineral. *78*, 674	(Cu,Ag,Fe)6S4
UM1990-32-S:AgPbSb	*Sb. Nar. Muz. Praze, Rada B, *46*, 87	ICDD 45-1333	AgPb4Sb3S10; compositionally similar to rayite, but different symmetry
UM1990-33-S:AsCuHg	*Mineral. Zhurn. *12* (2), 84.	ICDD 42-1433	Cu11Hg5As9S25; compositionally similar to aktashite but with different d-values
UM1990-34-S:AsIrOsPtRhRu	Contr. Mineral. Petrol. *105*, 66	Mineral. Petrol. *60*, 185	(Os,Ir,Pt,Ru,Rh,Pd)7(As,S)12; some similarities to erlichmanite
UM1990-35-S:BiCuPbPdSe	*Dokl. Akad. Nauk SSSR *315*, 700	Dokl. Earth Sci. *315*, 217	Pd3(Bi,Pb)4Cu3(S,Se)8
UM1990-36-S:BiPd	*Dokl. Akad. Nauk SSSR *315*, 700	Dokl. Earth Sci. *315*, 217	Pd5Bi6(S,Se)6
UM1990-37-S:CuFeHO	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	Cu3FeS4•4H2O; mineral "UK82"
UM1990-38-S:CuFeIrNiPtRh	Mineral. Petrol. *42*, 211	Am. Mineral. *76*, 1437	(Ni,Fe,Rh,Cu,Ir,Pt)S; appears to be the Ni-analogue of UM1981-16-S:CuFeIrNiRh
UM1990-39-S:CuFeIrNiPtRh	Mineral. Petrol. *42*, 265	Am. Mineral. *76*, 1437	(Rh,Ir,Pt)4(Ni,Fe,Cu)5S6
UM1990-40-S:CuFePdPtRh	Mineral. Petrol. *42*, 287	Am. Mineral. *76*, 1439	(Pd,Cu,Rh,Pt,Fe)3S2
UM1990-41-S:CuPd	Mineral. Petrol. *42*, 265	Am. Mineral. 76, 1438	Pd7Cu2S4
UM1990-42-S:IrOsPbPt	Mineral. Petrol. *42*, 249	Am. Mineral. *76*, 1439	(Ir,Pt,Pb,Os)2S3 or perhaps (Ir,Pt,Pb,Os)3S7
UM1990-43-S:PbPd	*Dokl. Akad. Nauk SSSR	Dokl. Earth Sci. *315*,	Pd4Pb2S3

	315, 700	217	
UM1990-44-S:PbPd	*Dokl. Akad. Nauk SSSR *315*, 700	Dokl. Earth Sci. *315*, 217	Pd2PbS2
~~**UM1990-45-SO:AlCHMn**~~	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	Mn6Al3(SO4)2(CO3)x(OH)17-2x•yH2O; mineral "UK76"; transferred to Invalid list
UM1990-46-SO:CuHPb	Austral. Mineral. *5*, 125		Cu2Pb2SO4(OH)6•2H2O; mineral "UK7"
UM1990-47-Sb:CuNi	Can. Mineral. *28*, 503	Am. Mineral. *76*, 1436	(Ni,Cu)2Sb
UM1990-48-Sb:CuPd	Mineral. Petrol. *42*, 265	Am. Mineral. *76*, 1438	Pd2CuSb; compositionally similar to UM1961-09-Sb:CuPd but optically distinct
UM1990-49-Sb:Ni	Can. Mineral. *28*, 503	Am. Mineral. *76*, 1436	Ni3Sb
UM1990-50-Sb:PbPdPt	Mineral. Petrol. *42*, 265	Am. Mineral. *76*, 1438	(Pd,Pt)2PbSb; close to PdPtPbSb
UM1990-51-Sb:Pd	*Dokl. Akad. Nauk SSSR *315*, 700	Dokl. Earth Sci. *315*, 217	Pd5Sb3
~~**UM1990-52-Se:BiCu**~~	Mineral. Record *21*, 133		Cu11(Ni,Co)0.4Bi2Se13; later described under the name eldragónite (Cu6BiSe6): Can. Min. *50* (2012), 281; transferred to Invalid list
UM1990-53-Se:BiCuHgPb	Mineral. Record *21*, 133		Cu2Pb0.4HgBi2Se8
UM1990-54-Se:BiCuPb	Mineral. Record *21*, 133		CuPb(Ni,Co)0.3Bi3Se6; strong similarities to UM1981-21-Se:BiCuPb
UM1990-55-Se:BiCuPbPdS	*Dokl. Akad. Nauk SSSR *315*, 700	Dokl. Earth Sci. *315*, 217	Pd6(Bi,Cu,Pb)8(Se,S)9
UM1990-56-Si:FeMn	Mineral. Zhurn. *12*, (6), 35	Am. Mineral. *77*, 1118	(Mn,Fe)7Si2
~~**UM1990-57-Si:FeMn**~~	Mineral. Zhurn. *12*, (6), 35	Am. Mineral. *77*, 1118	(Mn,Fe)5Si3; described later under the name mavlyanovite: Mineral. Mag. *73* (2009), 43; transferred to the Invalid list
UM1990-58-SiO:AlBaH	Mineral. Mag. *54*, 81	Am. Mineral. *75*, 1435	BaAl2Si2O8•4H2O
UM1990-59-SiO:AlBCHMg	Mineral. Mag. *54*, 105	Am. Mineral. *75*, 1436	Ca24Mg8(BO3)13Al0.75Si3(O,OH)12(CO3)8•8H2O
UM1990-60-SiO:AlCaFe	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK72"; X-ray powder diffraction data
UM1990-61-SiO:AlCaHKMnNa	*Rend. Fisiche Accad. Lincei, Ser. 9, *1* 159	Am. Mineral. *77*, 673	(Ca,Na,K)3Mn24(Si,Al)40O100•30H2O; distinct similarities to tamaite
UM1990-62-SiO:AlCaKMnNb	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK70"; X-ray powder diffraction data
UM1990-63-SiO:AlMnNa	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK80"; X-ray powder diffraction data
UM1990-64-SiO:BNa	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	NaBSiO4; mineral "UK53"; a monoclinic polymorph of malinkoite
~~**UM1990-65-SiO:CaFFeMnNaNbTiZr**~~	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	NaCa(Mn,Fe)(Ti,Nb,Zr)Si2O7(O,F)2; mineral "UK59"; transferred to Invalid list
UM1990-66-SiO:CaFHNa	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	NaCaSi3O7(F,OH)•2-3H2O; "UK77"
UM1990-67-SiO:CaFeKMnNaZr	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK67"; X-ray powder diffraction data
~~**UM1990-68-SiO:CaFeNaNbTi**~~	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK74"; transferred to Invalid list
UM1990-69-SiO:CaHKNaTi	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	(Na,K)CaTi2Si10O25(OH)•6H2O; "UK75"
UM1990-70-SiO:CaMnNaThTi	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK83"; X-ray powder diffraction data
UM1990-71-SiO:FeHKMnNaTi	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	(Na,K)3Ti2(Fe,Mn)2-3Si8O20•4H2O; "UK52A"
UM1990-72-SiO:FeMnNa	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK79"; X-ray powder diffraction data
UM1990-73-SiO:KMnNaZn	Dokl. Akad. Nauk SSSR *313*, 865	Am. Mineral. *77*, 451	(K,Na)2Zn3Mn1.5Si12O30; may be the Na-analogue of shibkovite

UM1990-74-SiO:MnNa	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	"UK78"; X-ray powder diffraction data
UM1990-75-Te:Ag	Can. Mineral. *28*, 489		Ag3Te2; compare with UM1969-15-Te:Ag
UM1990-76-Te:BiIrPbPtRh	Mineral. Petrol. *42*, 265	Am. Mineral. *76*, 1437	(Rh1.52Pb0.22Ir0.19Pt0.09)(Te2.83Bi0.15)
UM1990-77-Te:BiPb	*Garcia de Orta, Sér. Geol. *13*, 35	Am. Mineral. *79*, 390	(Bi,Pb,Pd)Te
UM1990-78-SiO:CaClFeHKNaZr	Soviet Phys. Cryst. *35*, 814	Cryst. Reports *52*, 47	(Ca,Sr,Mn)6Zr3[Si3O7(O,OH)2]2[Si9O23(O,OH)4]2[SiNaFe(Zr,Ti,Al,Nb)□](H3O)7(Na,K)5Cl1.5(O,OH); described as a potassium oxonium eudialyte group mineral
UM1990-79-SiO:CaClFeHMnNaNbREEZr	Mineral. Zhurnal *12* (4), 81	Cryst. Reports *52*, 47	Na14Ca5(Mg,Ca,Mn)Zr3(Si3O9)2(Si9O27)2(Si,Nb,Al,Zr)2(Fe,Zr)3(Mn,Na,Ce,La,Y)(Na,H2O ,K,Sr)(OH)4-5(OH,Cl); described originally as "(TR,Fe) eucolite"; subsequent work showed that it differs from eudialyte in the M & N site occupancy
UM1990-80-SiO:CaFeHMnNaNbREEZr	Mineral. Zhurnal *12* (4), 81	Cryst. Reports *52*, 47	Na14Ca4(Mn,Ca)2Zr3(Si3O9)2(Si9O27)2(Si,Nb,Al,Zr)2(Fe,Mn,Al,Ti)3(Na,Ce,La,Y,Mn)(Na, H2O,K,Sr)(OH)7-8; described originally as "(TR,Mn) eucolite"; subsequent work has showed that it differs from eudialyte in the occupancy of the *M* & *N* sites
UM1990-81-O:CaCeHNbTi	*Khomyakov (1990)	Khomyakov (1995)	CaCe(Ti,Nb)10O23•17-18H2O; mineral "M1"; compositional similarities to belyankinite
UM1990-82-SiO:AlBaCaHKNaSr	*Khomyakov (1990)	Khomyakov (1995)	(K,Na,Ba,Sr,Ca)Al3Si5O16•4.5H2O; mineral "M14"; compositionally very similar to merlinoite but with a distinct X-ray powder pattern
UM1990-83-SiO:AlBaCaHKNaSr	*Khomyakov (1990)	Khomyakov (1995)	(Ba,K,Sr,Na,Ca)Al4Si4O16•7H2O; minerals "M15 & M17"; compositionally somewhat similar to merlinoite but with a distinct X-ray powder pattern
UM1990-84-SiO:AlBaCaHKNaSr	*Khomyakov (1990)	Khomyakov (1995)	(Na,Ba,K,Sr,Ca)Al4Si4O16•4H2O; mineral "M16"; compositionally somewhat similar to merlinoite but with a distinct X-ray powder pattern
UM1990-85-SiO:AlCaFeHMnNa	*Khomyakov (1990)	Khomyakov (1995)	NaCaMn5Fe^{3+}2Al3Si4O22•6H2O; mineral "M23"; cryptocrystalline with appearance similar to shafranovskite/zakharovite
UM1990-86-SiO:AlFeHKMnNa	*Khomyakov (1990)	Khomyakov (1995)	(K,Na)3(Fe^{3+},Al,Mn)3Si8O22•7H2O; mineral "M27"; may be equivalent to kalifersite
UM1990-87-SiO:AlHNa	*Khomyakov (1990)	Khomyakov (1995)	Na2AlSi4O10(OH)•4H2O; mineral "M28"
UM1990-88-SiO:BNa	Mineral. Record *21*, 363	Am. Mineral. *76*, 302	Mont St. Hilaire mineral "UK53A"; previously thought to be equivalent to malinkoite and entered as UM1990-//-SiO:BNa; later shown to be a polymorph of malinkoite: Dokl. Akad. Nauk. SSSR *319*, 879
UM1990-89-SiO:CaFFeHKNa	*Khomyakov (1990)	Khomyakov (1995)	NaKCaFe^{3+}2Si4O12(OH,F)2•4H2O; mineral "M25"; cryptocrystalline with appearance similar to shafranovskite/zakharovite
UM1990-90-SiO:CaFNaZr	*Khomyakov (1990)	Khomyakov (1995)	Perhaps (Ca,Na)13Zr2Si8O28(F,OH)6; mineral "M18"
UM1990-91-SiO:CaHTi	*Khomyakov (1990)	Khomyakov (1995)	Ca4TiSi4O14•2H2O; mineral "M50"
UM1990-92-SiO:FeHMnNaTi	*Khomyakov (1990)	Khomyakov (1995)	Na4(Mn^{2+},Ti,Fe)3Si8(O,OH)24•9H2O; mineral "M19"; appears to be a polymorph of raite
UM1990-93-SiO:FeHNa	*Khomyakov (1990)	Khomyakov (1995)	NaFe^{2+}2Fe^{3+}3Si4O12(OH)5; mineral "M22"; cryptocrystalline with appearance similar to shafranovskite/zakharovite
UM1990-94-SiO:FFeHNaTi	*Khomyakov (1990)	Khomyakov (1995)	Na4Fe^{2+}Fe^{3+}6TiSi6O24(OH,F)4•3H2O; mineral "M24"; cryptocrystalline with appearance similar to shafranovskite/zakharovite
UM1990-95-SiO:HNaZr	*Khomyakov (1990)	Khomyakov (1995)	Na5Zr[Si6O15)OH)3]; mineral "M41"

UM1990-96-SiO:NaTh	*Khomyakov (1990)	Khomyakov (1995)	Na4Th3Si8O24; mineral "M33"; X-ray amorphous
~~**UM1990-97-SiO:NaZr**~~	*Khomyakov (1990)	Khomyakov (1995)	Na8ZrSi6018; mineral "M39"; later described under the name townendite: Am. Mineral. *95* (2010), 646; transferred to the Invalid list
UM1990-98-CO:BaCaNaREESr	*Khomyakov (1990)	Khomyakov (1995)	(Na,Ca)3(Sr,Ba,Ce)3[CO3]5; similar to burbankite but distinctly biaxial
UM1990-99-SiO:BaCaFFeHMnNaSrTi	*Khomyakov (1990)	Khomyakov (1995)	Na2(Ba,Sr,Ca)2(Fe,Mn)TiSi**2**O9(F,OH)2•2H2O; compositional similarities to bussenite but the symmetry and X-ray powder pattern are distinct. Mineral "M74"
~~**UM1990-100-SiO:BaCeFeHKNaNbTi**~~	*Khomyakov (1990)	Khomyakov (1995)	Ba2(K,Na)4Ce(Ti,Nb,Fe^{3+})2Si8O28•5H2O; mineral "M30"; later described under the name diversilite-(Ce): Zap. Vseross. Mineral. Ob. *132* (5) (2003), 34; transferred to the Invalid list
UM1990-101-S:CuFeK	*Khomyakov (1990)	Khomyakov (1995)	$KCu^{1+}19Cu^{2+}18Fe^{2+}10S38$
UM1991-04-AsS:CoFeNi	*C. R. Acad. Sci. Paris, Ser. II, *312*, 55	Am. Mineral. *79*, 1213	(Co,Ni,Fe,Cu)AsS; probably Co-dominant equivalent of UM1989-01-AsS:CoFeNi
UM1991-05-CO:BiCaCl	*Izv. Akad. Nauk SSSR, Ser. Geol. (4), 102	Am. Mineral. *78*, 234	Ca(BiO)Cl(CO3); apparently a Cl-dominant analogue of kettnerite
~~**UM1991-06-E:AuCu**~~	Eur. J. Mineral. *3*, 451		CuAu3; may be same as cuproauride; transferred to Invalid list
~~**UM1991-07-E:FePt**~~	*Dokl. Akad. Nauk. SSSR *317*, 1458	Zap. Vser. Mineral. Ob. *122* (5), 64	Fe3Pt; only plots of analytical data shown; transferred to Invalid list
UM1991-08-O:Ti	Am. Mineral. *76*, 343		A monoclinic polymorph of TiO2; space group differs from akaogiite and riesite
UM1991-09-OH:AlCr	*Dokl. Akad. Nauk. SSSR *320*, 1455	Am. Mineral. *78*, 234	Gamma-(Cr,Al)O(OH)
UM1991-10-PO:BaCaHMgSr	Can. Mineral *29*, 87	Am. Mineral. *76*, 2025	~(Ca,Mg,Ba)Sr2P2O7(OH)2•1.7H2O
UM1991-11-S:AgBiCu	Mineral. Petrol. *44*, 89		(Cu,Ag)11Bi13S25; compositional similarities to UM1971-06-S:AgBiCu and cuprobismutite
UM1991-12-S:AuBi	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (3), 63	Am. Mineral. *79*, 1212	(Bi,Au)4S5
UM1991-13-S:AuBiPb	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (3), 63	Am. Mineral. *79*, 1212	(Bi,Pb)5AuS3
UM1991-14-S:AuBiPb	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (3), 63	Am. Mineral. *79*, 1212	(Bi,Pb)6AuS3
UM1991-15-S:AuBiPb	*Izv. Akad. Nauk Kaz. SSR, Ser. Geol. (3), 63	Am. Mineral. *79*, 1212	(Bi,Pb)6AuS4
UM1991-16-S:CuFeTl	Neues Jb. Mineral. Abh. *163*, 197	Am. Mineral. *77*, 1118	(Cu,Tl,Ag)FeS2
UM1991-17-S:IrPtRh	*Dokl. Akad. Nauk SSSR *320*, 705	Am. Mineral. *78*, 673	(Ir,Pt,Rh)S2
UM1991-18-Sb:BiIrOsPt	Mineral. Zhurn. *13* (1), 31	Am. Mineral. *78*, 233	(Pt,Ir,Os)2(Sb,Bi)3
UM1991-19-Se:AsCo	Can. Mineral *29*, 411		CoAsSe
UM1991-20-Si:Fe	Acta Mineral. Sinica *11*, 285	Am. Mineral. *79*, 188	Fe5Si2
UM1991-21-SiO:AlFeHMg	Eur. J. Mineral. *3*, 27		(Fe,Al,Mg)6(Si,Al)4O10(OH)4•H2O; a chloritic mineral with interstratified water layers

UM1991-22-SiO:CaFHK	Yamaguchi Univ. College of Arts Bull. Nat. Sci. Rept. *25*, 15	Am. Mineral. *77*, 1119	An orthorhombic polymorph of apophyllite-(KF)
UM1991-23-SiO:CaFeHHfZr	*Mineral. Zhurn. *13* (1), 7	Am. Mineral. *77*, 1118	(Ca,Fe)(Zr,Hf)5Si4O19•10H2O
UM1991-24-SiO:CaKNaZr	*Dokl. Akad. Nauk SSSR *320*, 1220	Am. Mineral. *79*, 1010	(Ca,Na,K)2-xZrSi3O9•5H2O; perhaps the Ca-analogue of gaidonnayite; but hydration state is higher; also could be related to calciohilairite or calciocatapleiite
UM1991-25-Te:AgPd	Mineral. Petrol. *43*, 181		Pd6AgTe4
UM1991-26-Te:AsPd	*C. R. Acad. Sci. Paris, Ser. II, *312*, 55	Am. Mineral. *76*, 1733	Pd3(Te,As)
UM1991-27-Te:BiNiPdPt	Mineral. Petrol. *43*, 181		(Pt,Pd,Ni)3(Te,Bi)4
UM1991-28-Se:BiTe	Geol. Surv. Finland Sp. Paper *12*, 81	Mineral. Mag. *72*, 953	Bi6Te2Se
UM1991-29-SiO:FeMgNa	Mineral. Mag. *55*, 529	Mineral. Mag. *72*, 839	Na4(Mg5Fe^{3+}7)O4[Si9Fe^{3+}3O36]; perhaps an Mg-analogue of wilkinsonite
UM1992-02-BOCO:CaHMgNa	*Revista Museo de la Plata *11*, 57	Am. Mineral. *80*, 187	Probably hydrated borate-carbonate of Na or Na-Mg-Ca
UM1992-03-Bi:CuPdPtSb	*Mineral. Zhurnal *14* (2), 12	Am. Mineral. *80*, 406	(Pd,Pt)3(Bi,Sb)
UM1992-04-Bi:Pt	Mineral. Petrol. *47*, 37	Am. Mineral. *78*, 1111	(Pt,Fe)(Bi,Sb)
UM1992-05-CO:CaCeLaNaSr	*Moscow Univ. Geol. Bull. *47*, 60	Am. Mineral. *80*, 1332	(Sr,Na,Y,REE,Ca,Ba)2(CO3)2; trigonal dimorph of donnayite-(Y)
UM1992-06-E:AgPd	Mineral. Mag. *56*, 47	Am. Mineral. *77*, 1307	AgPd
UM1992-07-E:AuCuPdPt	Can. Mineral. *30*, 983	Am. Mineral. *78*, 1110	(Pd,Pt,Au)2Cu
UM1992-08-E:AuHg	Can. Mineral. *30*, 1033	Am. Mineral. *78*, 1110	Au88-94Hg6-12; monoclinic
UM1992-09-E:CuFePt	Can. Mineral. *30*, 983	Am. Mineral. *78*, 1110	Pt3(Cu,Fe)
UM1992-10-E:CuPt	*Dokl. Akad. Nauk. SSSR *323*, 539	Am. Mineral. *79*, 390	PtCu5
UM1992-11-E:CuPtSb	*Mineral. Zhurnal *14* (2), 12	Am. Mineral. *80*, 406	Pd(Cu,Sb)3
UM1992-12-E:IrPtSb	Mineral. Petrol. *47*, 37	Am. Mineral. *78*, 1111	(Pt,Ir,Fe)3Sb
UM1992-13-O:IrPt	Can. Mineral. *30*, 983	Am. Mineral. *78*, 1110	(Ir,Pt)O2
UM1992-14-PO:CaFeHMn	Mineral. Record *23* (4), 39		~Ca(Fe,Mn,Mg)4P4O14(OH)2•7H2O; unknown No. 2a; compositionally similar to jahnsite
UM1992-15-PO:FeHMg	Mineral. Record *23* (4), 39		~(Fe,Mg)5(PO4)3(OH)•2H2O; unknown No. 5a
UM1992-16-PO:FeHMg	Mineral. Record *23* (4), 39		~(Mg,Fe)5(PO4)3(OH)•2H2O; unknown No. 5b
UM1992-17-PO:FeHMn	Mineral. Record *23* (4), 39		~(Fe,Mn,Ca)4P3O10(OH)3•15H2O; unknown No. 2b; compositional similarities to laueite
UM1992-18-PO:FeHMnNa	Mineral. Record *23* (4), 39		~NaFe4MnP5O18•10H2O; unknown No. 4
UM1992-19-PO:FeHNa	Mineral. Record *23* (4), 39		NaFePO4•2H2O; unknown No. 1

UM1992-20-PO:FeMn	Mineral. Record *23* (4), 39		Unknown No. 6; X-ray powder diffaction and qualitative compositional data
UM1992-21-S:AgFeSb	*Dokl. Akad. Nauk. SSSR *326*, 337	Am. Mineral. *79*, 390	(Ag,Fe,Zn,Hg)12(Sb,As)4S13; tetrahedrite group
UM1992-22-S:AgPd	Can. Mineral. *30*, 109	Am. Mineral. *77*, 1307	Pd2AgS2
UM1992-23-S:BiCuFePbSb	*Vest. Mosk. Univ. Geol. Ser. 4, 47	ICDD 46-1414	Pb22.4Cu3.45(Bi15.5Sb15.5)S69; X-ray pattern different from that of kobellite
UM1992-24-S:CuFeIrNiPtRh	*Mineral. Zhurn. *14*, (1), 29	Am. Mineral. *79*, 1211	(Rh,Pt,Ir)3(Fe,Ni,Cu)3S8
UM1992-25-S:CuOsPdPtRh	Can. Mineral. *30*, 983	Am. Mineral. *78*, 1110	(Pt,Cu,Pd,Rh,Os)3S2
UM1992-26-S:CuPdPt	Can. Mineral. *30*, 983	Am. Mineral. *78*, 1110	(Pd,Pt)3(Cu,Ni)S2
UM1992-27-S:CuPdPtRh	Can. Mineral. *30*, 983	Am. Mineral. *78*, 1110	(Pd,Pt)2RhCuS4
UM1992-28-S:Pd	Can. Mineral. *30*, 983	Am. Mineral. *78*, 1110	Pd4S
UM1992-29-S:PdPt	Can. Mineral. *30*, 983	Am. Mineral. *78*, 1110	(Pd,Pt)2S
UM1992-30-SO:CCuHZn	Mineral. Mag. *56*, 215	Am. Mineral. *78*, 235	(Zn,Cu)7(SO4,CO3)2(OH)10•3H2O; apparently the Zn-analogue of schulenbergite
UM1992-31-Sb:AsPdRh	*Mineral. Zhurn. *14*, (1), 29	Am. Mineral. *79*, 1211	(Pd,Rh)2(Sb,As)
UM1992-32-Sb:PdSn	*Geol. Rudn. Mest. (1992) (2), 32	Am. Mineral. *78*, 673	Pd4SnSb
UM1992-33-SiO:AlCaFeHMg	Zap. Vser. Mineral. Ob. *121* (5), 81	Am. Mineral. *79*, 391	(Ca,Mg,Na)0.3Mg3(Si,Al,Fe^{3+})4O10(OH,F)2•2H2O; similarities to UM1979-20SiO:AlCaFeHKMgMnNaTi
~~**UM1992-34-SiO:AlCaFeMgV**~~	Can. Mineral. *30*, 153	Am. Mineral. *77*, 1307	Ca8(V,Mg,Fe)4(V,Al)8Si12O46-56(OH)0-10; closely related to pumpellyite; later described under the name poppiite: Am. Mineral. *91*, 584; transferred to Invalid list
UM1992-35-SiO:CaHKMg	*Dokl. Akad. Nauk. SSSR *320*, 561	Am. Mineral. *79*, 573	K(Ca,Mg)6[Si11O28](OH,F)•10H2O; similarities to apophyllite-(KF)
UM1992-36-SiO:FeHKMgMnNa	*Dokl. Akad. Nauk. SSSR *322*, 589	Am. Mineral. *78*, 675	(K,Na)(Mn,Fe,Mg)2Si4O10(OH)2•3H2O; probably mica family
~~**UM1992-37-SiO:KTi**~~	Can. Mineral. *30*, 1153	Am. Mineral. *78*, 1112	K2TiSi3O9; transferred to Invalid list
UM1992-38-Sn:CuPdPt	Mineral. Petrol. *47*, 37	Am. Mineral. *78*, 1111	(Pd,Pt)4(Cu,Fe)2(Sn,Sb)3
UM1992-39-Te:AgNiPd	Dokl. Bolg. Akad. Nauk *45* (4), 37	Am. Mineral. *79*, 1212	(Pd,Ag,Ni)3Te4
UM1992-40-Te:CuPd	Dokl. Bolg. Akad. Nauk *45* (4), 37	Am. Mineral. *79*, 1212	(Pd,Cu)2Te3
UM1992-41-Te:PtRh	Internal Tech. Rept. Medellín, (INGEOMINAS), Hannover (BGR) 216	Explor. Mining Geol. *5*, 73	(Pt,Rh,Ir)2Te3
UM1992-42-Te:PtRh	Internal Tech. Rept. Medellín, (INGEOMINAS), Hannover (BGR) 216	Explor. Mining Geol. *5*, 73	(Pt,Rh)4Te5

UM1992-43-Te:Sb	*Rom. J. Mineral. *75*, 65	Mineral. Abst. *46*, 95M/0900	SbTe2
UM1993-01-AsO:CaH	Mineral. Record *24*, 11		A hydrous calcium arsenate; the X-ray powder diffraction pattern appears unique
UM1993-02-AsTe:Pd	Can. Mineral. *31*, 61	Explor. Mining. Geol. *5*, 73	Pd8(As,Te)3; possible similarities to vincentite and UM1972-//-As:PdTe
UM1993-03-Cl:BiHOPd	Can. Mineral. *31*, 31	Am. Mineral. *78*, 1317	~Pd5Bi4(Cl,OH)5•7H2O
UM1993-04-E:BiCuHgPdRh	Mineral. Petrol. *47*, 263	Am. Mineral. *79*, 390	(Pd,Rh)CuHg
UM1993-05-E:CuFeHgPd	Mineral. Petrol. *47*, 263	Am. Mineral. *79*, 390	(Pd,Cu,Fe)3Hg2
UM1993-06-F:CaNaREEY	*Dokl. Akad. Nauk. SSSR *330*, 713	Am. Mineral. *79*, 1213	(Na,Ca)3(Y,REE)3F12
UM1993-07-PO:CaCeHLa	*Zap. Vser. Mineral. Ob. *122* (3), 79	Am. Mineral. *80*, 632	(Ca,REE)PO4•nH2O
UM1993-08-S:AgAuSb	*Geol. Surv. Finland, Sp. Pap. *18*, 37	Mineral. Abst. *45*, 94M/3531	Ag3Au3Sb10S10; perhaps an Ag-analogue of criddleite
UM1993-09-S:AgHgSb	*Geol. Ore Deposits *35*, 297	Am. Mineral. *80*, 1331	AgHgSbS3
UM1993-10-S:AgSb	*Geol. Ore Deposits *35*, 297	Am. Mineral. *80*, 1331	Ag4Sb2S5
UM1993-11-S:BiClHOPd	Can. Mineral. *31*, 31	Am. Mineral. *78*, 1317	~(Pd,Pt,Pb)8Bi2(Fe,Ni,Zn)S5(H2O,OH,Cl,O)12
UM1993-12-S:BiCu	Mineral. Petrol. *47*, 183	Am. Mineral. *78*, 1317	Cu3BiS3; dimorph of wittichenite
UM1993-13-S:BiCuTl	*Mineral. Zhurnal *15* (1), 75	Am. Mineral. *79*, 1211	(Cu,Fe,Tl)2Bi2S5
~~**UM1993-14-S:CdIn**~~	*Geol. Rudn. Mest. *35*, 547	Am. Mineral. *80*, 1330	CdIn2S4; later described under the name cadmoindite: Zap. Vser. Mineral. Ob. *133* (4) (2004), 21; transferred to Invalid list
UM1993-15-S:CdInZn	*Geol. Rudn. Mest. *35*, 547	Am. Mineral. *80*, 1330	ZnCdIn2S5
UM1993-16-S:CdInZn	*Geol. Rudn. Mest. *35*, 547	Am. Mineral. *80*, 1330	Zn3CdIn2S7
UM1993-17-S:CuFePb	Mineral. Petrol. *47*, 183	Am. Mineral. *78*, 1317	~Cu9(Pb,Fe)S6 or perhaps (Cu,Pb,Fe)5S3
UM1993-18-S:CuPd	Can. Mineral. *31*, 61	Explor. Mining. Geol. *5*, 73	Pd3CuS2
UM1993-19-S:CuPt	Can. Mineral. *31*, 61	Explor. Mining. Geol. *5*, 73	Pt12Cu8S5
UM1993-20-S:CuPt	Can. Mineral. *31*, 61	Explor. Mining. Geol. *5*, 73	Pt12Cu10S4
UM1993-21-S:IrOsRu	Mineral. Petrol. *47*, 263	Am. Mineral. *79*, 390	(Os,Ir,Ru)2S3
UM1993-22-Se:Mo	Can. Mineral. *31*, 745	Am. Mineral. *79*, 573	Mo3Se4
~~**UM1993-23-SiO:AlFeK**~~	Mineral. Mag. *57*, 289		K(Fe,Al)Si3O8; referred to as "ferrian high sanidine" but represents a distinct species; later described under the name ferrisanidine: Minerals *9*, 770; transferred to Invalid list
UM1993-24-SiO:CaHMg	*J. Geol. Soc. Japan *99*, 679	Am. Mineral. *80*, 633	Ca2(Mg,Fe)8SiO32(OH)4; the Ca-analogue of clinojimthompsonite

UM1993-25-Te:AgAu	*Acta Mineral. Sinica *13*, 65	Am. Mineral. *79*, 572	AuAgTe3; mineral "C"
UM1993-26-Te:AgPdSn	Dokl. Akad. Nauk *329,* 497		(Pd,Ag)2(Te,Sn)
UM1993-27-Te:AuTl	*Mineral. Zhurnal *15* (1), 75	Am. Mineral. *79*, 1211	Au3TlTe2
UM1993-28-Te:Mo	Internal Tech. Rept. Medellín, (INGEOMINAS), Hannover (BGR) 216.	Am. Mineral. *79*, 573	Mo3Te4
UM1993-29-TeO:AuPb	*Acta Mineral. Sinica *13*, 65	Am. Mineral. *79*, 572	Mineral "A"; (Au,Pb)3TeO2
UM1993-30-TeO:AuPb	*Acta Mineral. Sinica *13*, 65	Am. Mineral. *79*, 572	Mineral "B"; Au4Pb3Te2O11
~~**UM1993-31-VO:KU**~~	Aufschluss *44*, 291	Am. Mineral. *79*, 1214	Qualitative compositional information plus d-values, *etc*. ; later described under the name vandermeersheite: J. Geosci. *64*, 219; transferred to Invalid list
~~**UM1993-32-CH:NO**~~	Rivista Mineralogica Italiana *17,* 261		C5H4N4O3•2H2O; as a weathering product, the mineral passes IMA tests for validity. ; later described under the name tinnunculite: Zap.Ross.Mineral.Ob. *145*, 20; transferred to Invalid list
UM1994-01-AsO:FeHSTl	Neues Jb. Mineral. Abh. *167*, 359	Am. Mineral. *80*, 1076	Fe2TlAs3O12•4H2O; see also UM1993-//-AsO:FeHSTl
UM1994-02-CO:HNi	Mineral. Record *25*, 283	Am. Mineral. *80*, 187	(Ni,Mg)5(HCO3)2(CO3)4•8.4H2O
UM1994-03-CO:HNi	Mineral. Record *25*, 283	Am. Mineral. *80*, 187	Ni4(CO3)3(OH)2•2.5H2O
UM1994-04-F:OREE	C. R. Acad. Sci. Paris, Ser. II, *318*, 1333	Am. Mineral. *80*, 187	Ce4O5F2
~~**UM1994-05-F:OREE**~~	C. R. Acad. Sci. Paris, Ser. II, *318*, 1333	Am. Mineral. *80*, 187	(Ce,La)OF; later described under the name håleniusite: Can. Mineral. *60*, 713; transferred to Invalid list
UM1994-06-O:AlCo	Mineral. Mag. *58*, 247	Am. Mineral. *80*, 187	CoAl2O4
UM1994-07-O:BaCrFeMgTi	Acta Mineral. Sinica *14*, 228	Am. Mineral. *81*, 769	BaTi5Fe4Mg2CrO19 – referred to as a Ba-Ti yimengite
UM1994-08-O:CaFeKMgTi	Acta Mineral. Sinica *14*, 228	Am. Mineral. *81*, 769	KTi5Fe3Ca2Mg2O19 – referred to as a K-Ti yimengite
UM1994-09-O:CrKTi	Acta Mineral. Sinica *14*, 234	Am. Mineral. *81*, 766	K2Cr2Ti6O16 - referred to as a K-Cr priderite
UM1994-10-O:FeIrPtRh	Econ. Geol. *89*, 1454	Am. Mineral. *80*, 847	(Pt,Fe,Rh,Ir)O
UM1994-11-O:FeIrRh	Econ. Geol. *89*, 1454	Am. Mineral. *80*, 847	(Rh,Fe,Ir)3O
UM1994-12-O:FePtRh	Econ. Geol. *89*, 1454	Am. Mineral. *80*, 847	(Fe,Rh,Pt)O
UM1994-13-O:FeMnRu	Econ. Geol. *89*, 1454	Am. Mineral. *80*, 847	(Ru,Mn,Fe)(O,OH)3
UM1994-14-O:FeIrPtRh	Econ. Geol. *89*, 1454	Am. Mineral. *80*, 847	(Fe,Pt,Rh,Ir)O
UM1994-15-O:FePt	Econ. Geol. *89*, 1454		(Pt,Fe)2O
UM1994-16-O:FePt	Econ. Geol. *89*, 1454		(Pt,Fe)3O2
UM1994-17-O:FePt	Econ. Geol. *89*, 1454		(Pt,Fe)4O
UM1994-18-O:FePtRh	Econ. Geol. *89*, 1454	Am. Mineral. *80*, 847	(Rh,Fe,Pt)O
UM1994-19-PO:CuHMoPb	Mineral. Record *25*, 203	Am. Mineral. *79*, 1214	Pb2Cu(Mo,As,Cr)O4(PO4)(OH); Pb-analogue of molybdofornacite

UM1994-20-S:AgSn	Resource Geol. *44*, 369	Am. Mineral. *80*, 1075	(Ag,Pb)12Sn2S11
UM1994-21-S:AgTe	Mineral. Polonica *25*, 21	Am. Mineral. *81*, 1016	Ag3TeS; compositional similarities to UM1969-09-S:AgTe
UM1994-22-S:CuFe	*J. Magnetism Magnetic Mater. *132*, 31	Am. Mineral. *80*, 186	CuFe3S4
~~**UM1994-23-S:Re**~~	Nature *369*, 51	Am. Mineral. *80*, 406	ReS2; later described under the name rheniite: Zap. Ross. Mineral. Ob. *134* (5), (2005), 32; transferred to Invalid list
UM1994-24-S:Rh	*Zap. Vser. Mineral. Ob. *123* (2), 41	Am. Mineral. *80*, 1330	Rh11S9
UM1994-25-SiO:AlCaFeHREEV	Bull. Nat. Mus. Tokyo, ser. C, *20*, 1	Eur. J. Mineral. *18*, 569	$CaREEV^{3+}AlFe^{2+}SiO4Si2O7O(OH)$; unnamed member of allanite subgroup of the epidote group corresponding to the hypothetical name 'vanadoallanite'
~~**UM1994-26-SiO:AlCaTi**~~	Meteoritics *29*, 673	Am. Mineral. *80*, 633	Ca3Ti(Al,Ti)2(Si,Al)3O14; later described under the name paqueite: 47th Lun. Planet. Sci. *1595*; transferred to Invalid list
~~**UM1994-27-SiO:AlK**~~	*J. Mineral. Soc. Japan *23*, 171	Earth Planet. Sci. Lett. *176*, 259	KAlSi3O8; K-feldspar composition with hollandite structure; later described under the name liebermannite: Meteor. Planet. Sci. *2017*, 1; transferred to Invalid list
~~**UM1994-28-SiO:MgHPb**~~	Mineral Wealth *91*, 33	Am. Mineral. *81*, 520	~Mg2Pb3Si2O8(OH)2•3.5H2O; later described under the name britvinite: Zap. Ross. Mineral. Ob. *136* (6) (2006), 18; transferred to Invalid list
UM1995-01-Bi:AgPdTe	*Dokl. Akad. Nauk *341*, 666	Am. Mineral. *83*, 188	(Pd,Ag)3(Bi,Te)
UM1995-02-CO:BaCaClFKMgNaSr	Dawson *et al.* 1995	Mineral. Mag. 61, 779	(Na2,Ba,Ca,Sr,Mg,K2)CO3; "phase X"
UM1995-03-CO:Pb	Mineral. Mag. *59*, 305		Pb3O2CO3; X-ray powder diffraction data reported in Am. Mineral. *49* (1964), 1184
~~**UM1995-04-E:CuSn**~~	Moscow Univ. Geol. Bull. *50* (6), 65	Am. Mineral. *82*, 821	Cu6Sn5; transferred to Invalid list
UM1995-05-E:FeMn	*Dokl. Akad. Nauk. *341*, 511	Am. Mineral. *81*, 1015	Fe6Mn
UM1995-06-E:FeSn	Moscow Univ. Geol. Bull. *50* (6), 65	Am. Mineral. *82*, 821	Fe10Sn
UM1995-07-E:PbSbSn	Moscow Univ. Geol. Bull. *50* (6), 65		Sb(Sn,Pb)
UM1995-08-E:PbSn	Moscow Univ. Geol. Bull. *50* (6), 65	Am. Mineral. *82*, 821	PbSn
UM1995-09-E:PbSn	Moscow Univ. Geol. Bull. *50* (6), 65	Am. Mineral. *82*, 821	PbSn7
UM1995-10-E:PtRhRu	Can. Mineral. *33*, 1023	Am. Mineral. *81*, 768	Pt2Ru2Rh
UM1995-11-E:SbSn	Moscow Univ. Geol. Bull. *50* (6), 65	Am. Mineral. *82*, 821	SbSn2
UM1995-12-E:SbSn	Moscow Univ. Geol. Bull. *50* (6), 65	Am. Mineral. *82*, 821	Sb2Sn3
UM1995-13-E:SbSn	Moscow Univ. Geol. Bull. *50* (6), 65	Am. Mineral. *82*, 821	Sb3Sn4
UM1995-14-N:Si	Meteoritics *30*, 387	Am. Mineral. *81*, 253	Si3N4; the beta dimorph of nierite

UM1995-15-O:Al	Clay Minerals *30*, 39	Am. Mineral. *80*, 1331	Al2O3; the chi alumina polymorph
UM1995-16-O:AuClH	*Geol. Ore Deposits *37*, 32	Am. Mineral. *81*, 768	AuO(OH,Cl)•nH2O
UM1995-17-O:CaHTiUY	Mineral. Record *26*, 123		Semi-quantitative analysis with distinct X-ray powder pattern
~~**UM1995-18-O:CuPd**~~	Mineral. Mag. *59*, 455	Am. Mineral. *81*, 1016	(Pd,Cu)O; palladinite
UM1995-19-O:Y	*Dokl. Akad. Nauk *340*, 681	Am. Mineral. *81*, 1284	Y2O3; likely yttriaite-(Y)
UM1995-20-OH:AlMgMnNi	*Dokl. Akad. Nauk *342*, 781	Am. Mineral. *81*, 766	Mn^{4+}(O,OH)2(Mg,Ni,Al,OH)2•nH2O
~~**UM1995-21-PO:AlCaHMgNa**~~	Mineral. Record *26*, 449	Am. Mineral. *81*, 519	(Na,Ca)2Mg2Al10(PO4)8(OH,O)12•4H2O; appears to be an Mg-analogue of burangaite; later described under the name matioliite: Am. Mineral. *91*, 1932; transferred to Invalid list
~~**UM1995-22-PO:AlCuFFeHV**~~	Mineral. Record *26*, 449	Am. Mineral. *81*, 519	Cu(Al,V,Fe)5(PO4)4(F,OH)5•7H2O; designated "unknown #1"; later described under the name nevadaite: Can. Mineral. *42* (2004), 741; transferred to Invalid list
UM1995-23-PO:BaHMgSr	Zap. Vser. Mineral. Ob. *124* (1), 90	Am. Mineral. *81*, 517	(Mg,Mn)5(Ba,Sr,Ca)(PO4)4•8H2O; the hexagonal dimorph of rimkorolgite
UM1995-24-S:AsNiSe	*Acta Mineral. Sinica *15*, 425	Am. Mineral. *81*, 1515	Ni3As3(S,Se)4
UM1995-25-S:BiPbTe	*Zap. Vser. Mineral. Ob. *124* (6), 24	Am. Mineral. *81*, 1285	Pb2Bi2TeS3
UM1995-26-S:BiPbTe	*Zap. Vser. Mineral. Ob. *124* (6), 24	Am. Mineral. *81*, 1285	Pb2Bi3Te2S3
UM1995-27-S:BiPbTe	*Zap. Vser. Mineral. Ob. *124* (6), 24	Am. Mineral. *81*, 1285	Pb2Bi5Te5S2
UM1995-28-S:BiPbTe	*Zap. Vser. Mineral. Ob. *124* (6), 24	Am. Mineral. *81*, 1285	PbBi4Te2S2
UM1995-29-S:BiPbTe	*Zap. Vser. Mineral. Ob. *124* (6), 24	Am. Mineral. *81*, 1285	PbBi4Te3S
UM1995-30-S:CuFeIrNiRh	Can. Mineral. *33*, 509		(Ir,Rh)(Fe,Ni,Cu)2S3; appears to be the Fe-dominant analogue of UM1974-11-S:CuFeIrNi
UM1995-31-S:CuIrPdRhRu	Can. Mineral. *33*, 509	Am. Mineral. *81*, 518	(Rh,Cu,Pd,Ru,Ir)3S2; "unknown #2"
UM1995-32-S:FeRu	Mineral. Petrol. *54*, 249	Am. Mineral. *81*, 768	(Fe,Ru)S2; might be a Ru-bearing pyrite
UM1995-33-S:Rh	Can. Mineral. *33*, 1023	Am. Mineral. *81*, 768	Rh5S4; similarities to UM1976-18-S:RhRu
UM1995-34-SO:Fe	Mineralium Deposita *30*, 78	Am. Mineral. *80*, 1331	FeS2O3
UM1995-35-SO:FePb	Mineralium Deposita *30*, 78	Am. Mineral. *80*, 1331	Fe3PbS6O14
UM1995-36-SOSiO:AlHPb	*Periodico Mineral. *64*, 309	Am. Mineral. *82*, 821	Pb27(Al,Mn)(Si6O15)2(SO4)2O10(OH)24
UM1995-37-Se:CuHgSb	*Acta Mineral. Sinica *15*, 418	Am. Mineral. *81*, 1515	(Cu,Hg)1-0.7(Sb)0-0.3(Se,S)
~~**UM1995-38-Se:CuSb**~~	*Acta Mineral. Sinica *15*, 418	Am. Mineral. *81*, 1515	CuSbSe2; later described under the name přibramite: Eur. J. Mineral. *29*, 653; transferred to Invalid list

UM1995-39-Se:Pd	*Dokl. Akad. Nauk *344*, 91	Am. Mineral. *82*, 1040	Pd3Se2
UM1995-40-SiO:AlHMg	Lithology & Mineral Resources *30* (3), 221	Zap. Vser. Mineral. Ob. *125* (6), 88	Regularly interstratifed chrysotile and hydrotalcite layers
UM1995-41-SiO:AlSr	Z. Krist. *210*, 741	Am. Mineral. *81*, 767	SrAl2Si2O8; a triclinic polymorph of slawsonite
UM1995-42-SiO:BaCaFeKMnNaSrTi	*Kristallografiya *40*, 217	Am. Mineral. *81*, 766	(K,Ba,Sr)2Na(Na,Fe,Mn,Ca)2Ti3Si4O18; K-analogue of barytolamprophyllite
UM1995-43-SiO:BTh	*Dokl. Akad. Nauk *342*, 361	Am. Mineral. *81*, 769	Th6B8Si7O38
UM1995-44-Sn:Pd	*Dokl. Akad. Nauk *344*, 91	Am. Mineral. *82*, 1040	PdSn2
UM1995-45-Te:BiSSe	Neues Jb. Mineral. Abh. *169*, 305	Am. Mineral. *81*, 519	Bi3Te2(Se,S)2; previously equated erroneously with UM1976-30-Te:BiPbS
UM1995-46-E:AuPdPt	S. Afr. J. Geol. *98* (2), 168	Am. Mineral. *81*, 1016	(Pt,Au)0.66Pd0.34; transferred from Invalid list
UM1996-01-As:PdSbTe	Mineral. Mag. *60*, 672	Am. Mineral. *82*, 209	Pd8(As,SbTe)3
~~**UM1996-02-As:PdTe**~~	Geol. Surv. Finland Sp. Paper 26, 63	Can. Mineral. *42*, 563	Pd11Te2As2; later described under the name törnroosite: Can. Mineral. *49* (2011), 1643; transferred to Invalid list.
~~**UM1996-03-AsO:AlFeGaHPbS**~~	Can. Mineral. *34*, 1305		PbGa3(AsO4,SO4)2(OH)6; the Ga-analogue of segnitite; later described under the name gallobeudantite: Can. Mineral. *34*, 1305; transferred to Invalid list
UM1996-04-AsO:CaGaGeH	Can. Mineral. *34*, 1305		Ca(Ga,Fe,Al)(AsO4)2(OH)6; the Ga-analogue of arsenocrandallite
UM1996-05-E:AgAuPd	Geol. Surv. Finland Sp. Paper 26, 63		Au6AgPd
UM1996-06-E:AuCuPd	Geol. Surv. Finland Sp. Paper 26, 63		Au4(Pd,Cu)
UM1996-07-E:AuCuPd	Geol. Surv. Finland Sp. Paper 26, 63		Au7CuPd
UM1996-08-E:CuFePt	Geol. Surv. Finland Sp. Paper 26, 63		Pt6FeCu; intermediate between UM1992-09-E:CuFePt & isoferroplatinum
UM1996-09-E:CuPt	Geol. Surv. Finland Sp. Paper 26, 63		Pt2Cu
UM1996-10-E:CuPt	Geol. Surv. Finland Sp. Paper 26, 63		Pt5Cu2
~~**UM1996-11-E:CuPt**~~	Geol. Surv. Finland Sp. Paper 26, 63		Pt7Cu; later described under the name kitagohaite: Mineral.Mag. *78*, 739; transferred to Invalid list
UM1996-12-E:FePt	Mineral. Petrol. *56*, 25	Am. Mineral. *81*, 1515	Very close to Pt4Fe3
UM1996-13-E:FePt	Mineral. Petrol. *56*, 25	Am. Mineral. *81*, 1515	Very close to Pt2Fe
UM1996-14-E:HgPbPdPt	Explor. Mining Geol. *5*, 73		(Pd,Pt)2(Pb,Hg)
UM1996-15-E:PdPt	Geol. Surv. Finland Sp. Paper 26, 63		Pt4Pd
UM1996-16-O:Al	Clays Clay Minerals *44*, 658	Am. Mineral. *82*, 623	Eta-Al2O3; polymorph of corundum

UM1996-17-O:CrFeNbTiV	Mineral. Mag. *60*, 403	Am. Mineral. *82*, 209	(V,Cr,Ti)2(Ti,V^{4+},Nb)O5; perhaps related to berdesinskiite
UM1996-18-O:FeIrPtRh	Explor. Mining Geol. *5*, 73		(Ir,Fe,Rh,Pt)2O3
UM1996-19-O:FeIrPtRh	Explor. Mining Geol. *5*, 73		(Ir,Fe,Rh,Pt)O
UM1996-20-O:FeIrPtRh	Explor. Mining Geol. *5*, 73		(Ir,Fe,Rh,Pt)3O7
UM1996-21-O:FeMnZn	Materials Res. Bull. *31*, 1587	Am. Mineral. *82*, 1041	(Zn,Mn)Fe2O4; tetragonal dimorph of franklinite
UM1996-22-O:FePt	Explor. Mining Geol. *5*, 73		~(Pt,Fe)2O3
UM1996-23-O:FePt	Explor. Mining Geol. *5*, 73		~(Pt,Fe)O2
UM1996-24-O:FePt	Explor. Mining Geol. *5*, 73		~(Pt,Fe)3O4
UM1996-25-OH:AlCMg	*Kristallografiya *41*, 1024	Am. Mineral. *82*, 1041	Mg4Al2(OH)12(CO3)•3H2O; similar composition to UM1987-05-OH:AlCMg but different cell dimensions
UM1996-26-PO:FeGaHPb	Can. Mineral. *34*, 1305		PbGa(Fe,Al)(PO4,SO4)2(OH)6; P-analogue of gallobeudantite
UM1996-27-S:AgBiPbSb	Neues Jb. Mineral. Mh. (1996), 377	Am. Mineral. *82*, 1264	~(Pb,Ag)3(Sb,Bi)5S8
UM1996-28-S:AgPbTe	*Acta Petrol. Mineral. *15*, 80	Am. Mineral. *82*, 209	(Ag,Pb)3(S,Te)4; mineral designated "M3"
UM1996-29-S:AgTe	*Acta Petrol. Mineral. *15*, 80	Am. Mineral. *82*, 209	Ag(S,Te)2; mineral designated "M1"
UM1996-30-S:BiCuPb	Mineralium Deposita *31*, 1	Am. Mineral. *81*, 1016	Cu2Pb6Bi8S19
~~**UM1996-31-S:CuFeGe**~~	Can. Mineral. *34*, 1305		Cu7(Ge,Fe,As)S12; transferred to Invalid list
UM1996-32-S:CuPb	Acta Mineral. Sinica *16*, 304	Am. Mineral. *83*, 402	CuPbS2
UM1996-33-S:CuPdPt	Explor. Mining Geol. *5*, 73		(Pd,Pt)Cu2S2
UM1996-34-S:PbTe	*Acta Petrol. Mineral. *15*, 80	Am. Mineral. *82*, 209	Pb(S,Te)2; mineral designated "M4"
UM1996-35-S:Sb	J. Mater. Sci. *31*, 6507	Am. Mineral. *84*, 1687	Sb2S3; possibly a new polymorph of stibnite
UM1996-36-Sb:Au	Econ. Geol. *91*, 1239		Au2Sb3; distinct from aurostibite
~~**UM1996-37-SbO:CaFHNa**~~	Mineral. J. *18*, 155	Am. Mineral. *82*, 1264	(Na1.00Ca0.80Mn0.01)Sb2.00[O5.69F0.89(OH)0.36]; subsequently named fluornatroroméite: Can. Mineral. *48* (2010), 673; transferred to Invalid list
UM1996-38-SiO:AlCaHNa	Austral. J. Mineral. *2* (1), 11-20	Am. Mineral. *82*, 210	A Na-Ca zeolite
UM1996-39-SiO:BaClFeNbTi	Mineral. Mag. *60*, 473	Am. Mineral. *82*, 433	Ba4(Nb,Ti,Fe)8Si4O28Cl; a Nb-dominant analogue of baotite
UM1996-40-SiO:BaFFeHKNaTi	Can. Mineral. *34*, 779	Am. Mineral. *82*, 430	(Ba,K,Na)FeTi2Si2O9(F,O,OH)2; similarities to bafertisite
UM1996-41-SiO:CCaCeFFeNbPbThTiU	Can. Mineral. *34*, 779	Am. Mineral. *82*, 433	~(Ce,Ca,K,Na,Ba)Pb2(Fe,Al,Mn,Zn)(Nb,Ti,Zr,Th,U)5(SiO2)6(CO2)9(F,OH,O); possibly a silicocarbonate

UM1996-42-Te:Pt	Geol. Surv. Finland Sp. Paper 26, 63		PtTe
UM1997-01-As:FeIrNiS	J. Petrol. *38*, 1419		~(Ir,Fe,Ni,Rh)3(As,S)2
UM1997-02-As:IrOs	J. Petrol. *38*, 1419		~(Ir,Os)2As
UM1997-03-As:IrOsTe	Eur. J. Mineral. *9*, 457	Am. Mineral. *82,* 1263	(Ir,Os)(As,Te)
UM1997-04-As:IrSSe	Zap. Vser. Mineral. Ob. *126* (6), 23	Am. Mineral. *83*, 1349	Ir(As,Se,S)2
UM1997-05-As:NiOs	J. Petrol. *38*, 1419		~(Ni,Os)2As
~~**UM1997-06-AsO:CaCuH**~~	J. Czech Geol. Soc. *42 (4)*, 77		An arsenate with a distinct X-ray powder diffraction pattern; later described under the name ondrušite, CaCu4(AsO4)2(AsO3OH)2•10H2O: Can. Mineral. *49*, 885; transferred to Invalid list
~~**UM1997-07-AsO:CaH**~~	J. Czech Geol. Soc. *42* (4), 77	Am. Mineral. *84*, 687	Ca(H2AsO4)2; later named svenekite: J. Czech Geol. Soc. *48*, 149
UM1997-08-AsO:CaHMg	J. Czech Geol. Soc. *42 (4)*, 77		An arsenate with a distinct X-ray powder diffraction pattern; it dehydrates to picropharmacolite
UM1997-09-AsO:CaHMgZn	J. Czech Geol. Soc. *42 (4)*, 77		(Mg,Ca,Zn)5(AsO4)2(AsO3)2(OH)2•4H2O; X-ray diffraction pattern distinctive; originally described as "Mg-Villyaellenite"; possibly chongite
UM1997-10-AsO:CaV	J. Czech Geol. Soc. *42 (4)*, 77		An arsenate with a distinct X-ray powder diffraction pattern
UM1997-11-AsO:CuH	J. Czech Geol. Soc. *42 (4)*, 77		An arsenate with a distinct X-ray powder diffraction pattern
UM1997-12-AsO:CuH	J. Czech Geol. Soc. *42 (4)*, 77		An arsenate with a distinct X-ray powder diffraction pattern
~~**UM1997-13-AsO:CuH**~~	J. Czech Geol. Soc. *42 (4)*, 77		An arsenate with a distinct X-ray powder diffraction pattern; later named slavkovite: Can. Mineral. *48* (2010), 1157; transferred to Invalid list
UM1997-14-AsO:FeH	J. Czech Geol. Soc. *42 (4)*, 77		An arsenate with a distinct X-ray powder diffraction pattern
UM1997-15-AsO:FeH	J. Czech Geol. Soc. *42 (4)*, 77		A secondary Fe-arsenate with a distinct X-ray powder diffraction pattern
UM1997-16-AsO:HMg	J. Czech Geol. Soc. *42 (4)*, 77		A secondary Mg-arsenate with a distinct X-ray powder diffraction pattern
~~**UM1997-17-AsO:HMo**~~	J. Czech Geol. Soc. *42* (4), 77	Am. Mineral. *84*, 687	MoAs2O9•3H2O; transferred to Invalid list
~~**UM1997-18-AsO:HNiU**~~	J. Czech Geol. Soc. *42 (4)*, 77		Ni(UO2)2(AsO4)2•6-8H2O; X-ray powder diffraction pattern distinctive; later described under the name metarauchite: Can. Mineral. *48* (2010), 335; transferred to Invalid list
UM1997-19-AsO:HU	J. Czech Geol. Soc. *42 (4)*, 77		(H3O)2(UO2)2(AsO4)2•8H2O; X-ray powder diffraction pattern distinctive
~~**UM1997-20-AsO:HU**~~	J. Czech Geol. Soc. *42 (4)*, 77		U^{4+}(HAsO4)2•4H2O; X-ray powder diffraction pattern distinctive; later described under the name štěpite: Mineral.Mag. 77, 137; transferred to Invalid list
UM1997-21-AsO:HZn	J. Czech Geol. Soc. *42 (4)*, 77		A hydrated zinc arsenate with a distinct X-ray powder diffraction pattern
UM1997-22-Cl:KNa	*Zap. Vser. Mineral. Ob.	Am. Mineral. *83*, 1349	Assumed to be a chloride; d-values appear to be distinctive

	126 (5), 78		
UM1997-23-CO:CaCuHU	J. Czech Geol. Soc. *42* (4), 77	Am. Mineral. *84*, 687	Ca5Cu(UO2)4(CO3)6(OH)8•4H2O
UM1997-24-CO:CaCuHU	J. Czech Geol. Soc. *42* (4), 77	Am. Mineral. *84*, 687	Ca2Cu(UO2)2(CO3)2O3•3H2O
UM1997-25-CO:CaCuHU	J. Czech Geol. Soc. *42 (4)*, 77		A uranyl carbonate with a distinct X-ray powder diffraction pattern
UM1997-26-CO:CaFREE	*Acta Mineral. Sinica *17*,239	Am. Mineral. *83*, 910	(Ce,La)Ca[CO3]2F; a trigonal polymorph of synchysite-(Ce)
UM1997-27-CO:CaHKSU	J. Czech Geol. Soc. *42 (4)*, 77		KCa3[UO2][CO3]3[SO4]F•10H2O; X-ray powder diffraction pattern distinctive
UM1997-28-CO:CaHMg	Am. Mineral. *82*, 812		(Mg,Ca)CO3•3H2O
UM1997-29-E:CuFeOsRu	J. Petrol. *38*, 1419		(Os,Ru)(Cu,Fe)
UM1997-30-E:CuPtSb	Can. Mineral. *35*, 1		(Pt,Cu,Sb)
UM1997-31-O:AlCrFeMg	Neues Jb. Mineral. Mh. (1997), 163	Am. Mineral. *83*, 189	Tetragonal Mg(Al,Cr,Fe)2O4; a component of the discredited mineral donathite
UM1997-32-O:CaNbREETi	*Acta Mineral. Sinica *17* (3), 270	Am. Mineral. *83*, 910	(REE,Nb,Ca)2Ti3O9; Ce2Ti3O9
UM1997-33-O:FeHgIrOsRu	Can. Mineral. *35*, 1	Am. Mineral. *82,* 1263	(Ru,Fe,Hg,Os,Ir)O2; perhaps related to UM1999-12-O:FeIrOsPtRu
UM1997-34-O:FeIrOsRu	Can. Mineral. *35,* 611	Am. Mineral. *84,* 197	(Ru,Os,Ir,Fe)2(O)2-3; of dubious validity because of very poor totals
UM1997-35-O:HPbU	J. Czech Geol. Soc. *42 (4)*, 77		Probably a hydrated oxide; X-ray powder diffraction pattern distinctive
~~**UM1997-36-O:HU**~~	J. Czech Geol. Soc. *42 (4)*, 77		Probably a hydrated oxide; X-ray powder diffraction pattern distinctive; identified later under the name heisenbergite: Neues Jh. Mineral. Abh. *189 (2)* (2012), 117
~~**UM1997-37-PO:BiHU**~~	J. Czech Geol. Soc. *42 (4)*, 77		Bi4(UO2)(PO4)2O4•2H2O; given 'working name' "phosphate-walpurgite"; transferred to Invalid list
UM1997-38-S:AsIrOs	J. Petrol. *38*, 1419		~(Ir,Os)2(S,As)3
~~**UM1997-39-S:BiPbTe**~~	Austral. J. Mineral. *3*, 119	Am. Mineral. *83*, 1119	PbBi4Te4S3; transferred to Invalid list
UM1997-40-S:CuFeIrNiOsRh	Can. Mineral. *35*, 611	Am. Mineral. *83*, 402	(Fe,Cu,Ni)(Os,Ir,Rh)2S4; very poor analytical total
UM1997-41-S:CuFeKNiPbTl	Can. Mineral. *35*, 1421	Am. Mineral. *84*, 193	(K,Tl,Pb)6(Fe,Cu,Ni)25S27
UM1997-42-S:CuFeKNiPbTl	Can. Mineral. *35*, 1421	Am. Mineral. *84*, 193	(Tl,K,Pb)6(Fe,Ni,Cu)25S27
UM1997-43-S:Fe	*J. Trace and Microprobe Techniques *15*, 515	Am. Mineral. *83*, 910	FeS3
UM1997-44-S:FeK	Mineral. Mag. *61*, 779		(K)1-2(Fe)2-3(S)3-4; substantial grain to grain compositional variations
~~**UM1997-45-SO:CuHU**~~	J. Czech Geol. Soc. *42 (4)*, 77		A uranyl sulphate later equated with pseudojohannite; transferred to Invalid list
UM1997-46-SO:FeHKMgU	J. Czech Geol. Soc. *42 (4)*, 77		(Mg,Fe,K2)2-3(UO2)6(SO4)3(OH)12•9-16H2O; X-ray powder pattern distinctive
UM1997-47-SO:FeHMgU	J. Czech Geol. Soc. *42 (4)*, 77		(Mg,Fe)2-3(UO2)6(SO4)3(OH)12•4-16H2O; X-ray powder diffraction pattern distinctive
UM1997-48-SO:HPbU	J. Czech Geol. Soc. *42 (4)*, 77		A hydrated uranyl lead sulphate with distinct X-ray powder diffraction pattern

~~**UM1997-49-SiO:AlFeMg**~~	Nature *387*, 486	Am. Mineral. *83*, 188	$(Mg,Fe^{3+})(Al,Cr,Mn)2(Mg,Fe^{2+})2Si3O12$; acronym "TAPP" (tetragonal almandine-pyrope phase) used; later described under the name jeffbenite: Mineral.Mag. *80*, 1219; transferred to Invalid list
UM1997-50-SiO:CaHU	J. Czech Geol. Soc. *42 (4)*, 77		Ca2(UO2)2(Si2O5)3•10H2O; X-ray powder diffraction pattern distinctive
UM1997-51-SiO:CeCrLaNdTi	*Russian Geol. Geophys. *38*, 405	Am. Mineral. *83*, 403	(Ce,La,Nd)4(Mg,Fe,Ca)Cr2(Ti,Al,Nb)2Si4O22; perhaps a Cr-analogue of chevkinite-(Ce)
~~**UM1997-52-SiO:FeMg**~~	Science *277*, 1084	Am. Mineral. *83*, 402	(Mg,Fe)SiO3; a high-pressure ilmenite-type mineral; later described under the name akimotoite: Am. Mineral. *84*, 267; transferred to Invalid list
~~**UM1997-53-SiO:FeMg**~~	Science *277*, 1084	Am. Mineral. *83*, 402	(Mg,Fe)SiO3; a high-pressure perovskite-type mineral; later described under the name bridgmanite: Am. Mineral. *105*, 913; transferred to Invalid list
UM1997-54-Te:AsIrOs	Eur. J. Mineral. *9*, 457	Am. Mineral. *82,* 1263	(Ir,Os)(Te,As)
UM1997-55-Te:BiPd	Econ. Geol. *92*, 490	Am. Mineral. *83*, 655	Approximately Pd3(Te,Bi)2
UM1997-56-Te:IrOsRu	Eur. J. Mineral. *9*, 457	Am. Mineral. *82,* 1263	(Ru,Ir,Os)Te
UM1997-57-Te:RhRuSb	Can. Mineral. *35*, 1	Am. Mineral. *82,* 1263	(Ru,Rh)(Te,Sb)2
UM1998-01-AsSb:CoFeNi	Can. Mineral. *36*, 855		(Fe,Co,Ni)SbAs
~~**UM1998-02-BOSiO:AlFeMg**~~	Can. Mineral. *36*, 399	Am. Mineral. *84*, 993	(Mg,Fe)2Al12(Al,Fe)2Si4B2(B,Al)2O37; originally thought to be the Fe-analogue of werdingite but further research showed that Fe is distributed between sites and not dominant at any; Eur. J. Mineral. *23*, 577; transferred to Invalid list
~~**UM1998-03-Cl:Tl**~~	Lithology & Mineral Resources *33*, 525	Am. Mineral. *84*, 993	TlCl; later described under the name lafossaite: Mineral. Record *37* (2006), 165; transferred to Invalid list
UM1998-04-CO:CaCeF	Mineral. Mag. *62*, 55	Am. Mineral. *83*, 1119	Ca6Ce14(CO3)20F14; regularly interstratified bastnasite-(Ce)/synchysite-(Ce), designated "B8S6-I"
UM1998-05-CO:CaCeF	Mineral. Mag. *62*, 55	Am. Mineral. *83*, 1119	Ca6Ce14(CO3)20F14; regularly interstratified bastnasite-(Ce)/synchysite-(Ce), designated "B8S6-II"
UM1998-06-CO:CaCeF	Mineral. Mag. *62*, 55	Am. Mineral. *83*, 1119	Ca6Ce16(CO3)22F16; regularly interstratified bastnasite-(Ce)/synchysite-(Ce), designated "B10S6-I"
UM1998-07-CO:CaCeF	Mineral. Mag. *62*, 55	Am. Mineral. *83*, 1119	Ca6Ce16(CO3)22F16; regularly interstratified bastnasite-(Ce)/synchysite-(Ce), designated "B10S6-II"
UM1998-08-CO:CaCeF	Mineral. Mag. *62*, 55	Am. Mineral. *83*, 1119	Ca4Ce11(CO3)15F11; regularly interstratified bastnasite-(Ce)/synchysite-(Ce), designated "B7S4-I"
UM1998-09-CO:CaCeF	Mineral. Mag. *62*, 55	Am. Mineral. *83*, 1119	Ca4Ce11(CO3)15F11; regularly interstratified bastnasite-(Ce)/synchysite-(Ce), designated "B7S4-II"
~~**UM1998-10-CO:CoHNi**~~	Clay Minerals, *33*, 285	Am. Mineral. *84*, 687	Ni6Co2(CO3)(OH)16•4H2O; some similarities to comblainite; later described under the name kaznakhite: Mineral.Mag. *85*, 913; transferred to Invalid list
UM1998-11-O:AuHSb	C.R. Acad. Sci. Paris, Ser. D, *326*, 533	Am. Mineral. *84,* 197	Au2SbO2(OH)
UM1998-12-S:AgBiCuPb	Mineral. Zhurn. *20* (4), 14	Am. Mineral. *86*, 378	Ag5CuBi4Pb(S,Se)11
~~**UM1998-13-S:CuFeNi**~~	J. Petrol. Mineral. Econ. Geol. *93*, 369	Mineral. Abst. *52*, 01M/0724	CuFe6Ni2S8; designated mineral "Y"; later described under the name sugakiite: Can. Mineral. 46, 233; transferred to Invalid list
~~**UM1998-14-S:CuFeNi**~~	J. Petrol. Mineral. Econ. Geol. *93*, 369	Mineral. Abst. *52*, 01M/0724	Cu2Fe5Ni2S8; designated mineral "Z"; similarities to UM1975-14-S:CuFeNi; later described under the name Samaniite: J. Mineral. Petrol. Sc. 106, 204; transferred to Invalid list

UM1998-15-S:CuFeZn	*Geol. Ore Deposits *40*, 228	Am. Mineral. *84,* 197	Cu2Fe3Zn5S10
~~**UM1998-16-S:FeNi**~~	J. Petrol. Mineral. Econ. Geol. *93*, 369	Mineral. Abst. *52*, 01M/0724	Fe6Ni3S8; designated mineral "X"; similarities to UM1975-14-S:CuFeNi & UM2002-25-S:FeNi; later described under the name Horomanite: J. Mineral. Petrol. Sc. 106, 204; transferred to Invalid list
UM1998-17-SO:AlHNaPSr	*Dokl. Akad. Nauk *359*, 223	Am. Mineral. *84*, 1687	Alunite group
UM1998-18-Se:AgBi	Neues Jb. Mineral. Mh. (1998), 36	Am. Mineral. *83*, 1349	Ag3BiSe3
UM1998-19-SiO:BBaBeCaFPb	Mineral. Mag, *62*, 77	Am. Mineral. *83*, 1119	(Pb,Ba,K)4Ca2Si8(B,Be)2(Si,B)2O28F; Pb-analogue of hyalotekite
UM1998-20-SiO:BeCaHREEY	Can. Mineral. *36*, 793		Ca(Y,Ce,Nd,Tb,Er)Be2Si2(O,OH)10
UM1998-21-SiO:CaCeClHMnNaZr	*Dokl. Akad. Nauk *362*, 784	Am. Mineral. *84*, 1198	Na16Ca6(Mn,Ce)3Zr3(Si3O9)2(Si9O27)2(OH,Cl)4; probably a eudialyte group mineral
UM1998-22-Te:BiFeNiPd	*Vest. Ceského Geol. Ústavu *73*, 117	Am. Mineral. *84*, 1197	Pd2(Ni,Fe)BiTe6
UM1998-23-Te:BiNiPdSb	*Vest. Ceského Geol. Ústavu *73*, 117	Am. Mineral. *84*, 1197	PdNi(Sb,Bi)Te2
UM1999-01-As:CuIrPdPtRh	Can. Mineral. *37*, 1117	Am. Mineral. *85*, 1325	(Pt,Rh,Cu,Pd,Ir)4As
~~**UM1999-02-As:NiRh**~~	Can. Mineral. *37*, 1131	Am. Mineral. *85*, 1325	(Rh,Ni)7As4; data do not allow distinction from Ni,Pt-bearing polkanovite; transferred to Invalid list
~~**UM1999-03-As:NiRh**~~	Can. Mineral. *37*, 1131		(Rh,Ni)2As; data do not allow distinction from Ni,Pt-bearing polkanovite; transferred to Invalid list
UM1999-04-AsO:CaYREE	Can. Mineral. *37*, 961		(Nd,Pr,La,Ca,Y)AsO4
~~**UM1999-05-AsO:REE**~~	Can. Mineral. *37*, 961		(La,Ce,Pr,Nd)(As,V)O4; later described under the name gasparite-(La): Am. Mineral. *104*, 1469; transferred to Invalid list
~~**UM1999-06-AsO:REE**~~	Can. Mineral. *37*, 961		(Y,Ce,Nd,Th,Ca)(As,P)O4; same as chernovite-(Y); transferred to Invalid list
UM1999-07-E:AuCuPt	Eur. J. Mineral. *11*, 363		CuPt0.3Au0.1
UM1999-08-E:AuHgPd	Eur. J. Mineral. *11*, 363		Pd0.7Au0.3Hg0.1
UM1999-09-E:AuPd	Dokl. Earth Sci. *369*, 1161	Am. Mineral. *85*, 1845	Pd3Au2
UM1999-10-E:CuPtSb	*Zap. Vser. Mineral. Ob. *128* (5), 79	Am. Mineral. *86*, 377	Pt(Cu,Sb); Sb-rich Skaergaardite?
UM1999-11-I:CuS	*Dokl. Earth Sci. *369*, 1166	Am. Mineral. *85*, 1845	Cu(I,S)
~~**UM1999-12-O:FeREETi**~~	Can. Mineral. *37*, 177		(Ce,Nd,Pr,La)1.4Ti2O6; later described under the name anzaite-(Ce): Mineral.Mag. *79*, 1231; transferred to Invalid list
UM1999-13-O:HIrRh	Can. Mineral. *37*, 1117	Am. Mineral. *85*, 1325	(Ir,Rh)O(OH)•H2O
UM1999-14-O:HPd	Mineral. Mag. *63*, 345	Am. Mineral. *85*, 265.	Probably PdO•3H2O
UM1999-15-O:IrOsRu	Can. Mineral. *37*, 1131		(Ru,Ir,Os,Fe)O; perhaps related to UM1997-34-O:FeIrOsRu
UM1999-16-O:PbPd	Can. Mineral. *37*, 1507	Am. Mineral. *85*, 1564	Pd9PbO10; properties differ from those of "palladinite"; *cf* UM1995-18-O:CuPd
UM1999-17-O:PbV	Can. Mineral. *37*, 1507	Am. Mineral. *85*, 1564	Pb4V2O9; composition different from that of chervetite
UM1999-18-OH:Pd	Mineral. Mag. *63*, 345	Am. Mineral. *85*, 265	Probably Pd(OH)2; may be hydrated

UM1999-19-PO:FeKMnNa	Meteor. Planet. Sci. *34*, 285	Am. Mineral. *84*, 1688	(K,Na)(Fe,Mn)4(PO4)3; perhaps the K-dominant analogue of galileiite
UM1999-20-S:AgAsPbSbTl	*Resource Geol. Spec. Issue *20*, 31	Am. Mineral. *86*, 378	(Tl,Ag)2Pb6(As,Sb)16S31
UM1999-21-S:AgCu	Natura Carpatica *40*, 9	Mineral. Abst. *53*, 02/1959	AgCu4S4
UM1999-22-S:CuFeInSnZn	*Resource Geol. *49*, 89	Am. Mineral. *85*, 628	(Zn,Cu,Fe)13(In,Sn)3S16; similarities to sakuraite
UM1999-23-S:CuFeSnZn	*Resource Geol. *49*, 75	Am. Mineral. *85*, 628	Cu6(Fe,Cu,Zn)Sn3S10; distinctly similar to kuramite
UM1999-24-S:CuIMn	Dokl. Earth Sci. *369*, 1166	Am. Mineral. *85*, 1845	(Cu,Mn)3(S,I)2
UM1999-25-S:CuIrNiRh	Can. Mineral. *37*, 1099		(Ir,Rh)(Ni,Cu)2S4
UM1999-26-S:CuPtRh	Can. Mineral. *37*, 1117	Am. Mineral. *85*, 1325	(Cu,Rh,Pt)S
UM1999-27-S:FeIrNiOsRu	Eur. J. Mineral. *11*, 363		(Ni,Fe,Os,Ru,Ir)7S5; PGE content very variable
~~**UM1999-28-SO:HMg**~~	*Zap. Vser. Mineral. Ob. *128* (4), 99	Am. Mineral. *85*, 1564	MgSO4•4H2O; later named cranswickite: Am. Mineral. *96* (2011), 869; transferred to Invalid list
~~**UM1999-29-SeO:ClCuHPb**~~	Can. Mineral. *37*, 1493	Am. Mineral. *85*, 1563	Pb4(Cu,Zn)Cl3 [SeO3](OH,Cl); later described under the name sarrabusite: Acta Cryst. *B68* (2012), 15; transferred to Invalid list
UM1999-30-Si:AlFe	*Zap. Vser. Mineral. Ob. *128* (2), 80	Am. Mineral. *85*, 876	(Al,Fe)Si
UM1999-31-Si:REE	*Zap. Vser. Mineral. Ob. *128* (2), 80	Am. Mineral. *85*, 876	(Ce,La,Nd,Gd,Pr)Si
~~**UM1999-32-SiO:**~~	Science *284*, 1511	Am. Mineral. *85*, 265.	SiO2 polymorph; later named seifertite: Eur. J. Min. *20* (2009), 523; transferred to Invalid list
UM1999-33-SiO:AlHKNa	Cryst. Reports *44*, 776		K7Na5Al12Si20O64•24H2O; a zeolite - the Na-K analogue of merlinoite
~~**UM1999-34-SiO:Ca**~~	Earth Planet. Sci. Lett. *173*, 1	Am. Mineral. *85*, 876	CaSiO3; polymorph of wollastonite; later described under the name breyite: Am. Mineral. *106*, 38; transferred to Invalid list
UM1999-35-SiO:Ca	Earth Planet. Sci. Lett. *173*, 1	Am. Mineral. *85*, 876	CaSi2O5
UM1999-36-SiO:CaCeHMnNaNbSrZr	*Cryst. Reports *44*, 765	Am. Mineral. *85*, 1846	Na17Mn3Ca2Zr3Si26O72(OH,F,Cl)4; an Mn-rich eudialyte group mineral
~~**UM1999-37-SiO:CaClFeHMnNaREESrTiZr**~~	*Z. Krist. *47*, 246	Am. Mineral. *85*, 265	A Ti-rich member of the eudialyte family; later described under the name dualite: Zap. Ross. Mineral. Ob. *136* (2007) (4), 31; transferred to Invalid list
UM1999-38-WO:CrV	*Aufschluss *50*, 23	Am. Mineral. *84*, 1687	Possible formula: (V,Cr)WO4 (?); distinctive X-ray powder diffraction pattern; could alternatively be an oxide
UM2000-01-E:AuCuFePd	Mineralium Deposita *35*, 762		Au2(Cu,Pd,Fe)3
UM2000-02-E:AuCuHgSn	*Zap. Vser. Mineral. Ob. *129* (2), 54	Am. Mineral. *88*, 933	Cu3AuHg0.4Sn0.7
UM2000-03-E:AuCuHgSn	*Zap. Vser. Mineral. Ob. *129* (2), 54	Am. Mineral. *88*, 933	Cu3Au1.8HgSn
UM2000-04-E:AuCuPd	Can. Mineral. *38*, 1251		Au0.69Pd0.23Cu0.08, or approximately Au2(Pd,Cu)
UM2000-05-E:AuSn	Schweiz. Mineral. Petrog.	Am. Mineral. *86*, 1537	AuSn2

	Mitt. *80*, 291		
UM2000-06-E:BiNb	Zap. Vser. Mineral. Ob. *129* (5), 1		Bi0.45-0.52Nb0.40-0.45Cu0.02-0.03Zn0.01-0.02
UM2000-07-E:CrFeNi	Can. Mineral. *38*, 585		(Ni,Fe,Cr)
UM2000-08-E:CrFeNi	Can. Mineral. *38*, 585		(Fe,Ni,Cr)
UM2000-09-E:CuFeNiPtRh	Can. Mineral. *38*, 585		(Pt,Rh)0.55(Fe,Cu,Ni)0.45; similarities to tetraferroplatinum
UM2000-10-E:CuNiZn	Zap. Vser. Mineral. Ob. *129* (5), 1		Cu0.65Zn0.21Ni0.14
UM2000-11-E:CuPbSn	Zap. Vser. Mineral. Ob. *129* (5), 1		Sn0.61-1.00Pb0-0.38Cu0-0.18; a wide range of Sn-Pb-(Cu) compositions
UM2000-12-E:CuPbSn	Zap. Vser. Mineral. Ob. *129* (5), 1		Pb0.64Sn0.23Cu0.13
UM2000-13-E:CuPbSn	Zap. Vser. Mineral. Ob. *129* (5), 1		Sn0.51-0.60Cu0.40-0.49Pb0-0.05
UM2000-14-E:FeIrNi	Can. Mineral. *38*, 585		~ Ir(Ni,Fe)2
UM2000-15-E:FeIrNi	Can. Mineral. *38*, 585		~ Ir(Ni,Fe)4
UM2000-16-E:FeIrNi	Can. Mineral. *38*, 585		~ Ir2(Fe,Ni)
UM2000-17-E:FeIrNi	Can. Mineral. *38*, 585		~ Ir3(Ni,Fe)2
UM2000-18-E:FeIrNiOs	Can. Mineral. *38*, 585		~ (Ir,Os)(Ni,Fe)
UM2000-19-E:FeNiPtRh	Can. Mineral. *38*, 585		(Pt,Rh)0.64(Fe,Ni)0.36
UM2000-20-E:PbPdTe	Mineralium Deposita *35*, 762		Pd2(Pb,Te)
UM2000-21-E:Ti	Earth Planet Sci. Lett. *177*, 237		A tetragonal polymorph of Ti-metal
UM2000-22-O:AgFeH	Zap. Vser. Mineral. Ob. *129* (5), 60		~Ag4Fe9O16•8H2O, assuming monovalent state of Ag shown by authors; anal. #8
UM2000-23-O:BiFeHPbSb	Zap. Vser. Mineral. Ob. *129* (5), 60		~Pb(Fe,Cu)2(Sb,Bi)6O13•3H2O, assuming Sb & Bi are trivalent as shown by authors; anal. #9
UM2000-24-O:BiFeHSSb	Zap. Vser. Mineral. Ob. *129* (5), 60		~Fe4(Sb,Bi)15O27(SO4)(OH), assuming Sb & Bi are trivalent as shown by authors; anal. #10
UM2000-25-O:BiFeHSSb	Zap. Vser. Mineral. Ob. *129* (5), 60		~Fe2Sb9Bi9O30(SO3)•26H2O, assuming Sb & Bi are trivalent as shown by authors; anal. #11
UM2000-26-O:BiFeHSSb	Zap. Vser. Mineral. Ob. *129* (5), 60		~Fe10Sb8Bi5O34(SO3)2(OH)•42H2O, assuming Sb & Bi are trivalent as shown by authors; anal. #12
UM2000-27-O:BiPd	Eur. J. Mineral. *12*, 431	Am. Mineral. *86*, 199	A solid solution series from Pd5Bi40O55 to Pd29Bi31O40
UM2000-28-O:BiPdSb	Eur. J. Mineral. *12*, 431	Am. Mineral. *86*, 199	A solid solution series from Pd(Sb,Bi)O2 to Pd2(Sb,Bi)O
UM2000-29-O:FeHMnPb	Zap. Vser. Mineral. Ob. *129* (5), 60		Pb(Fe,Mn)15O26•14H2O, approximately, assuming tetravalent state of Mn shown by authors; anal. #5
UM2000-30-O:FeHMnPb	Zap. Vser. Mineral. Ob. *129* (5), 60		Pb(Mn,Fe)5O10•3H2O, approximately, assuming tetravalent state of Mn shown by authors; anal. #6
UM2000-31-O:FeHMnPb	Zap. Vser. Mineral. Ob. *129* (5), 60		Pb3(Mn,Fe)18O36(OH)•7H2O, approximately, assuming tetravalent state of Mn shown by authors; anal. #7
UM2000-32-O:FeHPbSbSiSn	Zap. Vser. Mineral. Ob.		PbSn3(Si,Fe,Sb)O8(OH)•11H2O, approximately, assuming trivalent state of Sb

	129 (5), 60		shown by authors; anal. #13
UM2000-33-O:FeHPbSbSiSn	Zap. Vser. Mineral. Ob. *129* (5), 60		PbSn3(Sb,Fe,Si)5O15•17H2O, approximately, assuming trivalent state of Sb shown by authors; anal. #14
UM2000-34-O:FeHSbSn	Zap. Vser. Mineral. Ob. *129* (5), 60		Sn4Sb5Fe5O22(OH)2•15H2O, approximately, assuming trivalent state of Sb shown by authors; anal. #15
UM2000-35-O:FeNbScTaTi	Can. Mineral. *38*, 907		(Sc,Fe^{2+},Fe^{3+},Mn)(Ti,Sn,Zr)1.5(Nb,Ta,W)1.33O8; a rutile-group mineral
UM2000-36-O:HFePb	Zap. Vser. Mineral. Ob. *129* (5), 60		PbFe4O7:5H2O; anal. #1
UM2000-37-O:HMnPb	Zap. Vser. Mineral. Ob. *129* (5), 60		PbMn5O11•7H2O, approximately, assuming tetravalent state of Mn shown by authors; anal. #2
UM2000-38-O:MnPb	Zap. Vser. Mineral. Ob. *129* (5), 60		PbMn6O7; anal. #3
UM2000-39-O:MnPb	Zap. Vser. Mineral. Ob. *129* (5), 60		PbMn7O8; anal. #4
UM2000-40-O:PdSb	Eur. J. Mineral. *12*, 431	Am. Mineral. *86*, 199	Pd5Sb2O4
UM2000-41-O:Ti	Science *288*, 321	Am. Mineral. *85*, 1846	A TiO2 polymorph; might be considered a zirconium-free srilankite
UM2000-42-P:CrFeNi	Am. Mineral. *85*, 1082		(Fe,Ni)5CrP3
~~**UM2000-43-P:CrFeNi**~~	Am. Mineral. *85*, 1082		(Fe,Ni)4Cr2P3; evidently the same as andreyivanovite (Am. Mineral 93, 1295); transferred to Invalid list
UM2000-44-S:AgAsPbSb	*J. Czech Geol. Soc. *45*, 63	Am. Mineral. *86*, 941	Pb9Ag(Sb,As)13S29
UM2000-45-S:AgAsSb	*J. Czech Geol. Soc. *45*, 63	Am. Mineral. *86*, 942	Ag2SbAsS4
UM2000-46-S:BiCuPb	Eur. J. Mineral. *12*, 899	Am. Mineral. *86*, 199	Cu0.3Pb0.3Bi7.7S12; "phase 88.6"; a bismuthinite derivative
UM2000-47-S:CuFePdPt	Can. Mineral. *38*, 1251		PtPd(Fe,Cu)S
UM2000-48-S:CuPdPt	Can. Mineral. *38*, 1251	Am. Mineral. *86*, 941	(Pd,Cu,Pt)8S3; (Table 7, anal. #3)
UM2000-49-S:FePdPt	Can. Mineral. *38*, 1251	Am. Mineral. *86*, 941	(Pt,Pd,Fe)3S2; (Table 7, anal. #1 & #2); close to UM2000-51-S:PdPt
UM2000-50-S:FeRh	Can. Mineral. *38*, 1251		(Fe0.79Rh0.11Cu0.04Pt0.01)S
UM2000-51-S:PdPt	Can. Mineral. *38*, 1251	Am. Mineral. *86*, 941	(Pt,Pd)3S2; possibly related to UM1992-26-S:CuOsPdPtRh
UM2000-52-SO:Ag	Zap. Vser. Mineral. Ob. *129* (5), 60		~Ag2SO4, assuming the valence state of Ag shown by the authors; anal. #21
UM2000-53-SO:Ag	Zap. Vser. Mineral. Ob. *129* (5), 60		~Ag6(SO3)4O3, assuming the valence state of Ag shown by the authors; anal. #22
UM2000-54-SO:AgBiFeSb	Zap. Vser. Mineral. Ob. *129* (5), 60		~Ag4Fe8(Sb,Bi)2O15(SO4)2, assuming trivalent Sb & Bi and monovalent Ag as shown by authors; anal. #18
UM2000-55-SO:AgBiFeSb	Zap. Vser. Mineral. Ob. *129* (5), 60		~Ag12Fe18(Sb,Bi)O30(SO4)5, assuming trivalent Sb & Bi and monovalent Ag as shown by authors; anal. #19
UM2000-56-SO:AgCu	Zap. Vser. Mineral. Ob. *129* (5), 60		~Ag26Cu4(SO3)20O17•3H2O or perhaps (Ag,Cu)3[S(O,OH)4]2; anal. #20
UM2000-57-SO:AgHPb	Zap. Vser. Mineral. Ob. *129* (5), 60		~Pb7Ag4O5(SO4)5•7H2O, assuming the valence state of Ag shown by the authors; anal. #23
UM2000-58-SO:FeHPb	Zap. Vser. Mineral. Ob. *129* (5), 60		~Pb4Fe2O5(SO4)2•10H2O; anal. #17

UM2000-59-SO:FeHPbSbSn	Zap. Vser. Mineral. Ob. *129* (5), 60		~Pb4Fe4Sn5Sb2(SO3)4O21(OH)2•36H2O, assuming trivalent state of Sb shown by authors; anal. #16
UM2000-60-Si:Fe	Can. Mineral. *38*, 585	Am. Mineral. *86*, 199	Fe3Si7
UM2000-61-SiO:	Science *288*, 1632	Am. Mineral. *86*, 378	A monoclinic SiO2 polymorph
~~**UM2000-62-SiO:AlNa**~~	Science *287*, 1633	Am. Mineral. *85*, 1564	NaAlSi3O8;a shock-induced albite polymorph; later described under the name lingunite: Earth Planet Sci. Lett. *246* (2006), 317; transferred to the Invalid list
UM2000-63-SiO:BaHKNaNbSrTi	*Dokl. Akad. Nauk *371*, 336	Am. Mineral. *86*, 379	(H3O)4Na2K(Sr)0.4(Ba)0.3(H2O)0.8(Ti)4.5(Nb)3.5(OH)4.5(O)3.5Si16O48•4.2H2O; nenadkevichite-labuntsovite group
UM2000-64-SiO:BFeHKMg	J. Czech Geol. Soc. *45*, 3	Am. Mineral. *86*, 940	(K,Na)Fe^{3+}3(Mg2Fe^{3+}4)Si6O18(BO3)3(OH)3O; a K-dominant analogue of tourmaline
UM2000-65-SiO:CaCe	*Zap. Vser. Mineral. Ob. *129* (1), 99	Am. Mineral. *86*, 378	CaCe2(SiO4)2
~~**UM2000-66-SiO:CaClFeHMnNaNbSrZr**~~	*Cryst. Reports *45*, 930	Am. Mineral. *86*, 940	Zr3(Ca,Mn)6(Fe,Mn,Ti)3(Na,Sr)15Si24O66(Nb,Si)2Cl(OH)10•H2O; a eudialyte-group mineral; later described under the name taseqite: Neues Jb. Mineral. Mh. (2004), 83; transferred to Invalid list
UM2000-67-SiO:CaClFeHMnNaNbZr	*Cryst. Reports *45*, 219	Am. Mineral. *86*, 940	Zr4(Ca,Na,Mn,Fe)6(Fe,Mn,Ti)3Na17Si25O75(Al,Nb,Ti)Cl(OH)4•H2O; a eudialyte-group mineral
UM2000-68-SiO:CaHKNaNbTi	*Dokl. Chem. *375*, 263	Am. Mineral. *86*, 1114	□4KNa(Ca,Na)2(Nb,Ti)8Si6O48(OH,O)8•11H2O; appears to be related to labuntsovite
UM2000-69-SiO:FeHPb	Zap. Vser. Mineral. Ob. *129* (5), 60		PbFe18Si3O34•9H2O; anal. #27
UM2000-70-SiO:FeHPb	Zap. Vser. Mineral. Ob. *129* (5), 60		Approximately (Fe,Pb)10Si2O19•6H2O; anal. #24
~~**UM2000-71-SiO:FeMg**~~	*Joannea Mineral. *1*, 53	Am. Mineral. *86*, 1114	(Fe,Mg,Mn,Al,Zn)5Si12O30; later described under the name trattnerite: Eur. J. Mineral. *16* (2004), 375; transferred to Invalid list
UM2000-72-SiO:KLiZr	*Zap. Vser. Mineral. Ob. *129* (3), 66	Am. Mineral. *86*, 378	KLi3Zr2Si12O30; an osumulite-group mineral
UM2000-73-SiO:Pb	Zap. Vser. Mineral. Ob. *129* (5), 60		PbSi6O13; anal. #25
UM2000-74-SiO:Pb	Zap. Vser. Mineral. Ob. *129* (5), 60		PbSi9O19; anal. #26
UM2000-75-Te:AsFePd	Mineralium Deposita *35*, 762		(Pd,Fe,Pt,Cu,Ni)4(Te,As)
UM2000-76-Te:CuFePdPt	Mineralium Deposita *35*, 762		(Pd,Pt,Fe,Cu)5Te
UM2000-77-Te:FePbPd	Mineralium Deposita *35*, 762		(Pd,Pb,Fe,Cu,Ni)7Te4
UM2000-78-Te:Pd	Can. Mineral. *38*, 1251	Am. Mineral. *86*, 941	Pd2Te
UM2000-79-O:CaFeMnNbREEThTiZr	Can. Mineral. *38*, 961		(Ca,Ce,La,Th,Y)Zr(Ti,Nb,Mn,Fe)2O7; a REE-dominant analogue of zirconolite
UM2000-80-SiO:CaCeFFeHMnNaNbTiZr	Cryst. Reports *45*, 591	Cryst. Reports *52*, 47	Zr3(Mn,Ca,Ce)(Na,Ca,Ce)[Si3O9]2[Si9O27]2[Fe1.55(Zr,Na)(□,Ti,Nb)][Si,Al]Na14(OH,O)4(F,Cl)•H2O; Mn,Na-ordered analogue of eudialyte
UM2001-01-As:HgPbPd	*Zap. Vser. Mineral. Ob. *130* (5), 21	Am. Mineral. *87*, 1512	Pd11(Pb,Hg)As2

UM2001-02-As:IrNiPdRhS	Can. Mineral. *39*, 591		~(Ni,Fe,Cu)4(Rh,Pd,Ir,Pt,Ru)9S7As10
UM2001-03-C:MoS	Am. Mineral. *86*, 852		(Mo,Fe,Ni)(S,As)2C8
UM2001-04-E:AgAuCu	Can. Mineral. *39*, 889.		Au3Ag0.71Cu0.23; composition "Z"
UM2001-05-E:AuCu	Can. Mineral. *39*, 889.		Au2Cu0.96Ag0.04 or Au2(Cu,Ag)
UM2001-06-E:CrFeNi	Dokl. Earth Sci. *378*, 491		Fe73Cr16Ni11
UM2001-07-E:FeSn	*Geochem. Internat. *39*, 604	Am. Mineral. *87*, 182	Fe3Sn
~~**UM2001-08-O:CaNbREESiTaTiY**~~	Mineral. Mag. *65*, 509	Am. Mineral. *87*, 998	(Y,REE,Ca,Th)(Nb,Ti,Si,Ta)2(O,OH)6 ; the Y-analogue of niobo-aeschynite-(Ce); later described under the name nioboaeschynite-(Y): Can. Mineral. *46*, 395; transferred to Invalid list
UM2001-09-O:CaNbREESiTiY	Mineral. Mag. *65*, 509	Am. Mineral. *87*, 998	(Ca,Y,REE)(Ti,Nb,Si)2(O,OH)6; the Ti-dominant analogue of vigezzite
~~**UM2001-10-O:Ti**~~	Science *293*, 1467	Am. Mineral. *87*, 357	TiO2; a monoclinic polymorph of rutile; later given the name akaogiite: Am. Mineral. *95* (2010), 892; transferred to the Invalid list
~~**UM2001-11-O:Ti**~~	Earth Planet. Sci. Lett. *192*, 485		Not distinct from UM2000-41-O:Ti; transferred to Invalid list
UM2001-12-S:AgBiCuPb	Can. Mineral. *39*, 1641	Am. Mineral. *87*, 1735	Cu2AgxPb10-2xBi12+xS29 (x=1.23 - 1.49)
UM2001-13-S:AsCuSbZn	*Geol. Kazakhstana (5-6), 75	Am. Mineral. *88*, 934	(Cu,Zn,Fe)3.23(As,Sb)0.82S3; compositionally near tennantite but anisotropic
UM2001-14-S:AsCuSbZn	*Geol. Kazakhstana (5-6), 75	Am. Mineral. *88*, 934	(Cu,Zn)3(Sb,As)S3
UM2001-15-S:CuFePtRh	Dokl. Earth Sci. *378*, 491	Am. Mineral. *87*, 183	(Rh,Pt,Fe,Cu)9S10
UM2001-16-S:CuSnZn	Mineral. Mag. *65*, 351		(Zn,Fe)6Cu6SnS12
~~**UM2001-17-S:PtSn**~~	Can. Mineral. *39*, 1397	Am. Mineral. *87*, 998	PtSnS; later described under the name bowlesite: Mineral.Mag. *84*, 468; transferred to Invalid list
UM2001-18-Si:CuFePt	*Dokl. Earth Sci. *378*, 464	Am. Mineral. *87*, 182	(Cu,Pt,Fe)4Si
UM2001-19-SiO:AlCaMgNa	Contr. Mineral. Petrol. *142*, 119	Am. Mineral. *87*, 767	(Na,Mg,Ca)(Mg,Al)Si2O6; Na-analogue of omphacite
~~**UM2001-20-SiO:CaClFeHKNaZr**~~	Cryst. Reports *46*, 647	Am. Mineral. *87*, 357	Na27K8Ca12Fe3Zr6Si52O144(O,OH,H2O)6Cl2; later described under the name rastsvetsaevite: Zap. Ross. Mineral. Ob. *135* (2006) (1), 49; transferred to Invalid list
~~**UM2001-21-SiO:CaFeHKNaSrTiZr**~~	*Cryst. Reports *46*, 752	Am. Mineral. *87*, 767	(Na,Sr,K)35Ca12Fe3Zr6TiSi51O144(O,OH,H2O)9Cl3; later named labyrinthite: Zap. Ross. Mineral. Ob. 135 (2) (2006), 38. Transferred to Invalid list
~~**UM2001-22-SiO:CaHKMnTi**~~	*Cryst. Reports *46*, 415	Am. Mineral. *87*, 183	K3Ca(K,Ca,Ba,□)MnTi8Si16O48(O,OH)8•10H2O; appears to be the same as gutkovaiteMn; transferred to Invalid list
UM2001-23-SiO:CaHU	*Dokl. Akad. Nauk *378*, 201	Am. Mineral. *87*, 767	Ca(UO2)2(SiO3OH)2•5H2O
UM2001-24-Te:BiSe	Neues Jb. Mineral. Mh. (2001), 289	Am. Mineral. *87*, 182	Bi4Te2Se
~~**UM2002-01-BiSb:Pd**~~	Can. Mineral. *40*, 277		Pd2BiSb; "Un7"; (Table 7, anal. 17 & 18); apparently the same as UM1985-01-Bi:PdSb. Transferred to Invalid list
UM2002-02-COH:FeNi	*Acta Geol. Hungarica	Am. Mineral. *88*, 1628	$(Fe^{2+},Ni)6Fe^{3+}2CO3(OH)16$; Fe^{2+}-analogue of reevesite

	45, 373		
UM2002-03-O:AuHgPd	Can. Mineral. *40*, 1451		~(Pd,Au,Hg)9O5; (Table 9, anal. 4)
~~**UM2002-04-O:CaNaNbREETaTiTh**~~	Can. Mineral. *40*, 1609		(Na,Ca,REE,Th)2(Nb,Ti,Ta)2(O,OH)7; the Na-analogue of pyrochlore; later named "natropyrochlore": Can. Mineral. *48* (2010), 673; transferred to Invalid list
UM2002-05-O:CrTiV	Neues Jb. Mineral. Mh. (2002), 541	Am. Mineral. *88*, 1628	(Cr,V)2Ti2O7
UM2002-06-O:CrTiV	Neues Jb. Mineral. Mh. (2002), 541	Am. Mineral. *88*, 1628	(Cr,V)2Ti4O11
UM2002-07-O:CrTiV	Neues Jb. Mineral. Mh. (2002), 541		(Cr,V)2TiO5; Cr-analogue of berdesinskiite with which it apparently forms a series
UM2002-08-O:CuPd	Can. Mineral. *40*, 1451		~Pd4Cu5O9; (Table 9, anal. 7 & 8)
~~**UM2002-09-O:HW**~~	Austral. J. Mineral. *8* (2), 55	Am. Mineral. *89*, 470	WO3•0.5H2O; later described under the name elsmoreite: Can. Mineral. *43* (2005), 1061; transferred to Invalid list
UM2002-11-O:PdPtSe	Can. Mineral. *40*, 1451		~(Pd,Pt,Se)7O3; (Table 9, anal. 1, 2 & 3)
UM2002-12-OS:CuFe	*Geol. Ore Deposits *44*, 385	Am. Mineral. *88*, 934	A Cu-Fe oxysulphide? ~(Cu,Fe)SO?
UM2002-13-S:AgAuSe	Zap. Vser. Mineral. Ob. *136* (6), 61		(Ag,Au)5(S,Se)2 or perhaps Ag3Au2(S,Se)2
UM2002-14-S:AgCuSbTeZn	Annual Univ. Mining Geol. "St/Rilski", Sofia, *45* (1), 39	Zap. Vser. Mineral. Ob. *133* (6), 45	(Cu1.75Ag1.29Zn0.26)(Sb0.44Te0.33)S2.93; some similarities to tetrahedrite-group
UM2002-15-S:BiCuFePb	*Vest. Mosk. Univ. Ser. *4*, Geol. (3), 37	Am. Mineral. *88*, 1628	Cu5Fe6Pb6Bi2S21; compositional and othes similarities to UM1971-13-S:BiCuFePb
UM2002-16-S:CrFeHO	Meteor. Planet. Sci. *37*, 577	Am. Mineral. *88*, 254	~FeCr2S4 but with some oxygen and/or water present
UM2002-17-S:CrHO	Meteor. Planet. Sci. *37*, 577	Am. Mineral. *88*, 254	~CrS2•(O,H2O); "phase A"
UM2002-18-S:CrHO	Meteor. Planet. Sci. *37*, 577	Am. Mineral. *88*, 254	~CrS2•2(O,H2O); "phase B"
UM2002-19-S:CuFeIrNiPtRh	Can. Mineral. *40*, 277		~(Ni,Cu,Fe)10(Rh,Pt,Ir)5S16
UM2002-20-S:CuFeIrNiPtRh	Can. Mineral. *40*, 357		(Fe,Ni.Cu)1.67(Rh,Ir,Pt,Os)1.09S3
~~**UM2002-21-S:CuFeK**~~	*Geol. Ore Deposits *44*, 385	Am. Mineral. *88*, 934	$KCu^{1+}19Cu^{2+}18Fe^{2+}10S38$; same as UKI-1990-(S:CuFek); transferred to Invalid list
UM2002-22-S:CuFeNa	Meteor. Planet. Sci. *37*, 577		Na4.5(Fe,Cu)25S26; misidentified as chalcopyrite and perhaps related to djerfisherite
UM2002-23-S:CuFeZn	*Resource Geol. *52*, 67	Am. Mineral. *88*, 254	Zn2(Fe,Cu)S3
UM2002-24-S:CuNiRh	Can. Mineral. *40*, 357		(Rh,Cu,Ni)4S3
UM2002-25-S:FeGaMnZn	Meteor. Planet. Sci. *37*, 577		(Fe,Zn,Mn,Ga)S; misidentified as sphalerite
UM2002-26-S:FeNi	*Dizhi Keiji Qingbao *21* (2), 51	Am. Mineral. *88*, 1627	(Ni,Fe)8.86S8; hexagonal dimorph of pentlandite; similarities to UM1998-16-S:FeNi
UM2002-27-S:Rh	Can. Mineral. *40*, 435		RhS; perhaps same as UM1981-//-S:Rh[1] reported with inadequate data

UM2002-28-Se:AsCoCuNi	Can. Mineral. *40*, 225		~(Co,Ni,Cu)(Se,As)2; some similarities to UM1991-19-Se:AsCo
UM2002-29-Se:AsCoCuNi	Can. Mineral. *40*, 225		~ (Co,Ni,Cu)7(Se,As)9
UM2002-30-Se:BiPd	Can. Mineral. *40*, 1451		~Pd3(Se,Bi); (Table 7, anal. 5)
UM2002-31-Se:CdHg	Can. Mineral. *40*, 989		Cd2Hg3Se5; possibly a member of a ss series between CdSe & HgSe
UM2002-32-Se:CdHg	Can. Mineral. *40*, 989		CdHgSe2; possibly a member of a ss series between CdSe & HgSe
UM2002-33-Se:CdHg	Can. Mineral. *40*, 989		Cd2HgSe3; possibly a member of a ss series between CdSe & HgSe
UM2002-34-Se:CdHg	Can. Mineral. *40*, 989		Cd4HgSe5; possibly a member of a ss series between CdSe & HgSe
UM2002-35-Se:CdHg	Can. Mineral. *40*, 989		Cd9HgSe10; possibly a member of a ss series between CdSe & HgSe
UM2002-36-Se:CuHgPd	Can. Mineral. *40*, 419	Am. Mineral. *88*, 254	~Cu2(Hg,Ag)2(Pd,Pt)3Se6
UM2002-37-Se:HgPd	Can. Mineral. *40*, 1451		~(Pd,Hg)3Se; (Table 7, anal. 6)
UM2002-38-Se:Pd	Can. Mineral. *40*, 1451		Pd9Se2
UM2002-39-SiO:AlCaFeHMg	*Dokl. Akad. Nauk *382*, 374	Am. Mineral. *88*, 1179	Lizardite-saponite regular interstratification
UM2002-40-SiO:AlCaHKMgNa	J. Phys. Chem. *B106*, 10277	Am. Mineral. *88*, 1180	(Mg,Ca,Na,K)7.5(Al12.8Si51.2)O128•65H2O; the Mg-analogue of the tetragonal polytype of tschernichite?
~~**UM2002-41-SiO:AlFeHMgMnTiZn**~~	Geochem. Internat. *40*, 1225	Am. Mineral. *88*, 1629	Ca0.02(Fe2.23Mn1.06Mg0.52Zn0.17Ti0.08)(Si5.94Al0.06)O15[(OH)1.74O0.26] •nH2O; later approved as the Fe-dominant analogue of sepiolite (IMA 2010-061); transferred to the Invalid list
UM2002-42-SiO:CaFeTi	Mineral. Petrol. *76*, 1	Am. Mineral. *88*, 934	(Ca,Fe)3TiSi2O9; the Ti-dominant analogue of baghdadite
UM2002-43-SiO:CaHNaZr	Cryst. Reports *47*, 748		(Ca,Na)0.67ZrSi3O9•[H2O,H3O]3; related to calciohilairite by cation deficiency and a halved c dimension
UM2002-44-SiO:FeMg	Am. Mineral. *87*, 1257		(Fe,Mg)2SiO4; a silicate with the spinel structure
~~**UM2002-45-Te:AgBiPdSb**~~	Can. Mineral. *40*, 277		~(Pd,Ag)(Te,Sb,Bi); "Un3"; later described under the name ahrensite: Geochem. Cosmochem. Acta. *184*, 240; transferred to Invalid list
UM2002-46-Te:BiNiPdSb	Can. Mineral. *40*, 651		(Pd,Ni)4(Sb,Te)5
UM2002-47-Te:NiPdSb	Can. Mineral. *40*, 651		(Pd,Ni)3(Te,Sb)4
UM2002-48-Te:NiPdSb	Can. Mineral. *40*, 651		(Ni,Pd)2(Te,Sb)3
UM2002-49-Te:NiPdSb	Can. Mineral. *40*, 651		(Ni,Pd)3(Te,Sb)4
UM2002-50-Te:PdPtRhS	Can. Mineral. *40*, 435		(Rh,Pd,Pt)3(Te,S)2
UM2002-51-Se:PdPt	Econ. Geol. 97*, 1127*		Pd9PtSe2 or perhaps (Pd,Pt)5Se
UM2002-52-SiO:AlFeMg	Internat. Geol. Rev. *44*, 859	Mineral. Mag. *72*, 839	Mg4(Mg1.5Fe^{2+}0.3Fe^{3+}1.6Al8.5)O4[Si1.7Al10.3O36]; unnamed Al-analogue of sapphirine
UM2002-53-PO:CaHPb	Mineral. Mag. *66*, 915	Eur. J. Mineral. *22* 163	Pb5(PO4)3(O,OH,Cl); perhaps the (OH)-dominant analogue phosphohedyphane
UM2003-01-AsO:AlCuFeMg	Mineral. Record *34* (4), 315		~(Cu,Al,Fe,Mg)3.6(As,S,Si,P)O4; inferior data; similarities to clinoclase, gilmarite, cornubite and cornwallite
UM2003-02-AsSNiRu	Can. Mineral. *41*, 331		~(Ru,Ni)2(S,As)3
UM2003-03-E:AgAuCuZn	Proc. 15th Internat. Conf. X-ray Diffr. & Cryst. Dokl. Earth Sci. 395A, 448	Chem. Minerals (St. Petersburg), 368	(Cu,Au,Ag)4Zn; a Lunar mineral
UM2003-04-E:C	*C. R. Geosci. *335*, 889	Am. Mineral. *89*, 896	A cubic carbon polymorph; distinct from diamond
UM2003-05-E:CuFeIrPtRh	Can. Mineral. *41*, 597		~Cu45Fe19Pt16Rh12Ir8

UM2003-06-E:FeIrNiOsRu	Can. Mineral. *41*, 597		~Ni60Ru21Os9Ir4Fe4Rh1Cu1
UM2003-07-E:FeIrOsPtRu	Neues Jb. Mineral. Abh. *179*, 143		~Os5Pt3IrRuFe
UM2003-08-O:AlCaFeREEScTiV	Can. Mineral. *41*, 561	Am. Mineral. *89*, 251	(Ca,Ce)Sc(Ti,V,Fe,Al)20O38; crichtonite-group
UM2003-09-O:BaFePbTi	Mineral. Mag. *67*, 957		(Ba,Pb,K)Ti6Fe^{3+}2O16; a hollandite-type structure
~~UM2003-10-O:CrFe~~	Geochim. Cosmochim. Acta *67*, 3937	Am. Mineral. *89*, 897	FeCr2O4; later described under the name xieite: Chinese Science Bulletin *53* (2008), 3341; transferred to Invalid list
~~UM2003-11-O:CrFe~~	Proc. Nat. Acad. Sci. (USA) *100* (25) 14651	Am. Mineral. *89*, 1578	FeCr2O4; another high-pressure orthorhombic polymorph of chromite; later described under the name chenmingite: Am. Mineral. *104*, 1521; transferred to Invalid list
UM2003-12-O:Pd	Mineral. Mag. *67*, 453		Pd-oxide of variable composition clustering near Pd2O
UM2003-13-S:AgAuCu	Eur. J. Mineral. *15*, 147		Ag6AuCu2S5
UM2003-14-S:AgBiFeTe	Eur. J. Mineral. *15*, 147		Ag16FeBiTe3S8
UM2003-15-S:AgCuTe	Neues Jb. Mineral. Mh. (2003), 321	Am. Mineral. *89*, 897	Ag2Cu2TeS
~~UM2003-16-S:AgFeTe~~	Eur. J. Mineral. *15*, 147		Ag9FeTe2S4; later described under the name chenguodaite: Chinese Sci. Bull. *53*(22), 3567; transferred to Invalid list
UM2003-17-S:AgTe	Eur. J. Mineral. *15*, 147		Ag6TeS2
UM2003-18-S:CuFeHNaO	*Dokl. Earth Sci. *389*, 219	Am. Mineral. *88*, 1628	Cu(Fe0.75Cu0.25)(S1.99As0.01)(NaOH)0.23(KOH)0.02•nH2O
UM2003-19-S:CuFe	*Dokl. Earth Sci. *389*, 219	Am. Mineral. *88*, 1628	(Cu0.96K0.04)(Fe0.6Cu0.4)(S1.98O0.02)
UM2003-20-SO:CuHZn	*Erzgräber *17* (1), 1	Am. Mineral. *89*, 470	(Cu,Zn)4(SO4)(OH)6•4H2O; probably the Cu-dominant analogue of namuwite
UM2003-21-Se:AsPdPt	Mineral. Mag. *67*, 453		Empirical formula: ~(Pd,Pt)8(Se,As)
UM2003-22-Si:AlCaFe	Am. Mineral. *88*, 1817		(Al,Fe,Ca)11Si9
UM2003-23-Si:AlCaFe	Am. Mineral. *88*, 1817		(Al,Fe,Ca)3Si2
UM2003-24-Si:AlFe	Am. Mineral. *88*, 1817		(Fe,Al)2Si3
UM2003-25-Si:Ca	Am. Mineral. *88*, 1817		CaSi2
UM2003-26-Si:FeTi	Am. Mineral. *88*, 1817		TiFe2Si4
UM2003-27-SiO:AlCsFFeHLi	Am. Mineral. *88*, 1832		$CsFe^{2+}$3(Si3Al)O10(F,OH)2; the Cs-analogue of fluorannite
UM2003-28-SiO:AlCsFFeHMg	Am. Mineral. *88*, 1832		Cs(Mg,Fe)3(Si3Al)O10(F,OH)2; the Cs-analogue of fluorphlogopite
~~UM2003-29-SiO:AlCsFLi~~	Am. Mineral. *88*, 1832		CsLi2AlSi4O10(F,OH)2; the Cs-analogue of polylithionite; Later described under the name sokolovaite: New Data on Minerals *41*, 5
UM2003-30-SiO:AlFLiRb	Am. Mineral. *88*, 1832		RbLi2AlSi4O10(F,OH)2; perhaps the Rb-analogue of polylithionite or lepidolite (voloshinite)
UM2003-31-SiO:AlHLiRb	Am. Mineral. *88*, 1832		$RbFe^{2+}$3(Si3Al)O10(OH,F)2; the Rb-analogue of annite
~~UM2003-32-SiO:Ca~~	Z. Krist. *218*, 811		CaSiO3; A naturally-occurring high-pressure polymorph of the synthetic compound "wollasonite-II"; later described under the name breyite: Am. Mineral. *106*, 38; transferred to Invalid list
~~UM2003-33-SiO:CaFFeHKMnNaNbZr~~	Can. Mineral. *41*, 1	Am. Mineral. *89*, 252	K2(Na,Ca)(Fe^{2+},Mn)7(Zr,Nb)2Si8O26(OH)4F; the Fe-dominant analogue of zircophyllite; later described under the name zircophyllite: Int'l. Geol. Rev. *15*,

			621; transferred to Invalid list
UM2003-34-SiO:CaFFeMnNaNbTiZr	Mineral. Mag. *67*, 749		(Na,Ca)2(Fe^{2+},Mn)(Zr,Ti)Si2O7(O,OH,F); appears to be the Fe^{2+}-dominant analogue of låvenite
~~**UM2003-35-SiO:CaFHKMnNa**~~	*Dokl. Chem. *391*, 177	Am. Mineral. *89*, 470	Ca4.5Mn0.45Fe0.05Na3K3Si12O30F2.8(OH)•1.2H2O; later described under the name fluorcanasite: Zap. Ross. Mineral. Ob. *138* (2) (2009), 52; transferred to Invalid list
UM2003-36-SiO:CaNa	Am. Mineral. *88*, 1605		Incommensurate interlayering of kosmochlor- and diopside-rich slabs
UM2003-37-SiO:HMnSbZn	Can. Mineral. *41*, 201		~(Mn,Zn)10Sb2Si3O30•9H2O
UM2003-38-SiO:AlFeHMgMnTi	Mitt. Öster, Mineral. Ges. *148*, 194		(Mg,Fe,Ti,Mn)6(Si,Al)3O8(OH)8; probably related to carlosturianite
UM2003-39-SiO:CaClFeHHfNaNbSrTaTiZr	Cryst. Reports *48*, 216	Cryst. Reports *52*, 47	Na12(Na,K,Mn,Sr)2Ca5(Ca,Mn)(Zr,Hf)3(Fe,□,Ta)3(Si,Nb,W)(Si,Al,Ti)Si24O72(OH,O)3.5Cl•1.2H2O; a eudialyte group mineral with Ta dominant in one of the M sites
UM2003-40-As:NiPd	Geol. Ore Deposits *45*, 329		Ni6Pd2As3; Table 5, No. 3
UM2003-41-As:PdSb	Geol. Ore Deposits *45*, 329		Pd3(As,Sb)2; Table 5, No. 9
UM2003-42-S:AgBiCu	Can. Mineral. *41*, 441	Can. Mineral. *50*, 313	Cu7.94(Ag1.91Pb0.21Bi13.76)S26.17; an unnamed member of the the cuprobismutite homologous series
UM2003-43-S:CuFePdPt	Geol. Ore Deposits *45*, 329		(Cu,Pt,Fe,Pd)2S; Table 3, Nos.11-13
UM2003-44-S:CuPdPt	Geol. Ore Deposits *45*, 329		(Cu,Pt,Pd)S; Table 3, Nos. 14-15
UM2004-01-As:FeIrPtSSb	Geol. Geofiz. *45*, 1128		(Pt,Ir,Fe)(As,Sb,S); perhaps a compositional variant of UM2004-02-As:FePtSb
UM2004-02-As:FePtSb	Geol. Geofiz. *45*, 1128		(Pt,Fe)(As,Sb)
~~**UM2004-03-AsO:HU**~~	Erzgräber *18*, 24	Am. Mineral. *90*, 1232	(UO2)H(AsO3)•H2O. Same as UM2003-03-E:AgAuCuZn; transferred to Invalid list
UM2004-04-AsTe:Pd	Mineral. Petrol. *82*, 137		Pd5AsTe; “Un.4”
UM2004-05-Bi:Pd	Can. Mineral. *42*, 499		Pd3Bi; similarities to UM1981-02-Bi:AsPbPd
UM2004-06-E:AgCuHgPdTe	Can. Mineral. *42*, 563		Pd1.06(Cu0.40Hg0.34Te0.11Ag0.09)Σ0.94; some similarities to potarite
UM2004-07-E:AgHg	Can. Mineral. *42*, 1745		Ag2Hg; anal. #8
UM2004-08-E:AuCuPd	Can. Mineral. *42*, 563		Cu2PdAu
UM2004-09-E:CuFeNiPt	Dokl. Earth Sci. *396* (4), 508		(Cu,Ni,Fe)3Pt; Table 1, anal. 22; appears to be the Cu-analogue of UM1986-12-E:CuFeNiPt
UM2004-10-E:CuNiPt	Dokl. Earth Sci. *396* (4), 508		Pt(Cu,Ni)4; Table 1, anal. 19
~~**UM2004-11-E:CuPdPt**~~	Dokl. Earth Sci. *396* (4), 508		(Pd,Pt)Cu3; Table 1,anal. 17. Apparently equivalent to nielsenite:Can. Mineral. *46*, 709; transferred to Invalid list
UM2004-12-E:CuPdPt	Dokl. Earth Sci. *396* (4), 508		(Pd,Pt)Cu4; Table 1, anal. 15 & 16
UM2004-13-E:CuPdPt	Dokl. Earth Sci. *396* (4), 508		(Pt,Pd)Cu6; Table 1, anal. 20

UM2004-14-E:CuPdPt	Dokl. Earth Sci. *396* (4), 508		(Pt,Pd)2Cu9; Table 1, anal. 21 & 23
UM2004-15-E:CuPdTe	Can. Mineral. *42*, 563		Pd(Cu,Te); possibly the same mineral as UM1975-//-E:CuFePdPt
UM2004-16-E:FePd	Can. Mineral. *42*, 563		Pd3Fe
UM2004-17-I:Rh	Dokl. Earth Sci. *395A*, 448	Am. Mineral. *90*, 521	RhI3; a Lunar mineral
UM2004-18-O:AlCaGdThTiZr	Dokl. Earth Sci. *394*, 39	Am. Mineral. *89*, 1578	CaGd3ThAlTi3Zr3O21; a Lunar mineral
UM2004-19-O:AlCeGdZr	Dokl. Earth Sci. *394*, 39	Am. Mineral. *89*, 1578	(Gd,Ce)4Zr4Al2O17; a Lunar mineral
UM2004-20-O:AlGdLaThTiZr	Dokl. Earth Sci. *394*, 39	Am. Mineral. *89*, 1578	(Gd,Th,La)3Th3Al3Ti3Zr2O25; a Lunar mineral
UM2004-21-O:CaFeGdZr	Dokl. Earth Sci. *394*, 39	Am. Mineral. *89*, 1578	Ca2GdFe5ZrO15; a Lunar mineral
UM2004-22-O:CuFePdPt	Can. Mineral. *42*, 325		~(Pd,Pt)3CuFe4O11
UM2004-23-O:CuFePdPt	Can. Mineral. *42*, 325		~(Pd,Pt)4Cu2Fe2O9
UM2004-24-O:CuPd	Can. Mineral. *42*, 325		~PdCu2O3
UM2004-25-O:FeHPt	Can. Mineral. *42*, 325		~PtFe3O5(OH)•7H2O
UM2004-26-O:FeMnTi	Neues Jb. Mineral. Mh. (2004), 97		(Mn^{3+},Fe^{3+})2Ti3O9; alteration product of pyrophanite and Mn-analogue of pseudorutile
UM2004-27-O:GdTi	Dokl. Earth Sci. *394*, 39	Am. Mineral. *89*, 1578	Gd2Ti4O11; a Lunar mineral
UM2004-28-O:GdTiZr	Dokl. Earth Sci. *394*, 39	Am. Mineral. *89*, 1578	Gd2ZrTiO7
UM2004-29-OH:FePt	Can. Mineral. *42*, 325		~PtFe4O(OH)12
UM2004-30-PO:BeCaFeHMg	Dokl. Chem. *398*, 191		Ca2Be4(Fe,Mg)5(PO4)6(OH)4•6H2O; a Mg-rich triclinic polymorph of greifensteinite
UM2004-31-S:AgAuCuTe	Neues Jb. Mineral. Abh. *179*, 295	Am. Mineral. *89*, 1578	(Ag,AuCu)9Te2S3
UM2004-32-S:AgCuFePdPtSnTe	Can. Mineral. *42*, 439		(Pd,Pt)5(Ag,Cu,Fe)4SnTe2S2; the Ag-analogue of oulankaite
UM2004-33-S:AgCuHgSe	Can. Mineral. *42*, 1745		~(Ag,Cu)8Hg3(S,Se)7; anal. #9
UM2004-34-S:AgCuTe	Neues Jb. Mineral. Abh. *179*, 295	Am. Mineral. *89*, 1578	(Ag,Cu)12Te3S2
UM2004-35-S:AsCuFePdPtSb	Geol. Geofiz. *45*, 1128		Fe(Pd,Pt)3(S,Sb,As)3
UM2004-36-S:AsFeOsPtRh	Geol. Geofiz. *45*, 1128		(Rh,Pt,Os,Fe)2(S,As)3; conceivably a bowieite compositional variant
UM2004-37-S:Au	Dokl. Earth Sci. *395A*, 448	Am. Mineral. *90*, 521	AuS; a Lunar mineral, known synthetically
UM2004-38-S:CoCuFeNiPtRh	Can. Mineral. *42*, 423		~$(Pt_{1.00}Cu_{0.90}Rh_{0.46}Co_{0.28}Fe_{0.19}Ni_{0.15}Ir_{0.02})\sum_{2.99}S_4$
UM2004-39-S:CoCuFePtRh	Can. Mineral. *42*, 423		~$(Fe_{0.55}Pt_{0.11}Cu_{0.09}Co_{0.05}Rh_{0.04}Ni_{0.02})S$
UM2004-40-S:CuFeIrPbPdRh	Can. Mineral. *42*, 499	Am. Mineral. *90*, 274	(Cu,Fe,Pb)(Rh,Ir,Pd)2S4
UM2004-41-S:CuFeIrPbPt	Geol. Geofiz. *45*, 1128		Pb(Cu,Fe)3(Pt,Ir)8S16; the Pt-dominant analogue of inaglyite
UM2004-42-S:CuFePdPtRh	Geol. Geofiz. *45*, 1128		(Cu,Fe,Pt,Rh,Pd)1+xS; Cu-dominant with very variable metal proportions
UM2004-43-S:CuIrOs	Ann. Naturhist. Mus. Wien *105A*, 1		(Os,Ir)2CuS
~~**UM2004-44-SO:AlHNiZn**~~	New Data on Minerals *39*, 32		(Zn,Ni)Al4(SO4)(OH)12•3H2O; the Zn-analogue of nickelalumite; later described under the name kyrgyzstanite: New Data Mineral. (Mosc.) *40*, 23; transferred to Invalid list

UM2004-45-Se:AgHgPd	Can. Mineral. *42*, 1745		~(Ag,Cu)6Hg2Pd2Se3; anal. #10
UM2004-46-Se:PdS	Dokl. Earth Sci. *396* (4), 546		(Pd0.96Pt0.01Cu0.07)(Se0.51S0.45); perhaps related to palladseite
UM2004-47-SiO:AlCaNa	Earth Planet Sci. Lett. *219*, 1	Am. Mineral. *89*, 1833	(Na,Ca)(Si,Al)6O11; a Martian mineral
UM2004-48-SiO:AlClCaNaS	Cryst. Reports *49*, 635	Am. Mineral. *90*, 1468	(Na,Ca)8(Si6Al6)O24(SO4)1.7Cl1.3; a 12-layer polymorph of tounkite (cancrinite group)
UM2004-49-SiO:AlCsFHKLi	Can. Mineral. *42*, 883	Am. Mineral. *90*, 274	(Cs,K)(Al,Li)2.6(Si,Al)4O10(F,OH)2; a Cs-dominant analogue of polylithionite
UM2004-50-SiO:AlFeGd	Dokl. Earth Sci. *394*, 39	Am. Mineral. *89*, 1578	$GdFe^{2+}AlSiO_6$; a Lunar mineral
UM2004-51-SiO:CaClFFeHNaNbTi	Dokl. Akad. Nauk 399, 791	Am. Mineral. *90*, 1466	Na16Ca6(Fe,Mn)3Zr3(Ti,Nb)Si26O72FCl0.5•nH2O
UM2004-52-Te:AsPd	Mineral. Petrol. *82*, 137		Pd7(As,Te)2 or perhaps Pd10(As,Te)3; “Un.1 & Un.2”
UM2004-53-Te:AsPd	Mineral. Petrol. *82*, 137		Pd9(Te,As)4 or perhaps Pd7(Te,As)3; “Un.3”
UM2004-54-Te:NiPdSb	Can. Mineral. *42*, 667		(Pd,Ni)2(Te,Sb)3
UM2004-55-Te:PdRh	Can. Mineral. *42*, 563		(Pd,Rh)3Te2
UM2004-56-OS:BiCuPb	Aufschluss *55*, 332		PbCu4Bi4S2(O,OH,H2O)16
UM2004-57-O:FeTi	32. Int’l Geol. Congress, 2004, Abs. 1, 42-3, 215	Mineralien-Welt *20*, 38-49	“unnamed natural monoclinic Fe2TiO5”; polymorph of pseudobrookite
UM2005-01-As:PbPdSnTe	Can. Mineral. *43*, 1663		Pd5(As,Te,Sn,Tb)2; similarities to UM1996-02-As:PdTe & UM1975-05-As:Pd
~~**UM2005-02-AsO:AlHMgPScSi**~~	Micro (2005), 81		(Sc,Al,Mg)(As,P,Si)O4•2H2O; a Sc-analogue of metavariscite; later described under the name bonacinaite: Mineral. Mag. *84*, 568; transferred to Invalid list
UM2005-03-AsSiO:CaCoHNi	*Erzgräber *19*, 51	Am. Mineral. *91*, 1202	(Co,Ni,Ca,Mg)2SiAs2O9•2.5H2O
UM2005-04-Bi:Pd	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	Close to Pd5Bi3; given the working name "bismuthpalladinite"
~~**UM2005-05-Ge:Pd**~~	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	Close to Pd2Ge; later described under the name palladogermanide: Can. Mineral. *59*, 1865; transferred to Invalid list
UM2005-06-O:AsHPdPtSbTe	Mineral. Mag. *69*, 981		~(Pd,Sb,Pt,As,Bi,Te,Fe)4O•nH2O; variable composition; probably inhomogeneous
UM2005-07-O:AsHHgPdSbTe	Mineral. Mag. *69*, 981		~(Pd,Sb,Hg,As,Te,Fe)2O•nH2O; variable composition; probably inhomogeneous
UM2005-08-O:AsHHgPdSbTe	Mineral. Mag. *69*, 981		~(Pd,Hg,Sb,As,Bi,Te)3O•nH2O; variable composition; probably inhomogeneous
UM2005-09-O:AsHgPdSbTe	Mineral. Mag. *69*, 981		~(Pd,Sb,As,Te,Hg)3O; variable composition; probably inhomogeneous
UM2005-10-O:AsPdSbTe	Mineral. Mag. *69*, 981		~(Pd,Sb,As,Te)6O; variable composition; probably inhomogeneous
UM2005-11-O:AsPdSbTe	Mineral. Mag. *69*, 981		~(Pd,Sb,As,Te)5O; variable composition; probably inhomogeneous
UM2005-12-O:AsPdSbTe	Mineral. Mag. *69*, 981		~(Pd,Sb,As,Te)4O; variable composition; probably inhomogeneous
UM2005-13-O:BiHPdTe	Mineral. Mag. *69*, 981		~(Pd,Te,Bi)6O•nH2O; variable composition; probably inhomogeneous
UM2005-14-O:BiHPdTe	Mineral. Mag. *69*, 981		~(Pd,Te,Bi)5O•nH2O; variable composition; probably inhomogeneous
~~**UM2005-15-O:BaFe**~~	Eur. J. Mineral. *17*, 623		$BaFe^{3+}12O19$; later described under the name barioferrite: Zapiski Ross. Mineral. Obshch. *139* (2010) No. 3, 22; transferred to Invalid list
UM2005-16-O:CaFe	Eur. J. Mineral. *17*, 623		$CaFe^{3+}4O7$
UM2005-17-O:CuFePdPt	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	~(Pd,Pt)2(Cu,Fe)2O3; (Table 11, anal. #1)
UM2005-18-O:FeIrRh	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	(Rh,Ir,Fe)4O5 – an approximate formula; (Table 11, anal. #10)
UM2005-19-O:IrOs	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	(Os,Ir,Fe)(OH,O)3; (Table 11, anal. #9)

UM2005-20-OH:CuIrOsRh	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	(Rh,Cu,Ir,Os)(OH)2; (Table 12, anal. #5)
UM2005-21-OH:FeIrPtRh	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	(Ir,Fe,Rh,Pt)(OH,O)3; (Table 12, anal. #1 & #2)
UM2005-22-OH:IrPtRh	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	(Rh,Ir,Pt)(OH)3; (Table 12, anal. #3)
UM2005-23-S:AsPt	Can. Mineral. *43*, 1687		Pt3As2S3 or Pt(S,As)2-x; some similarities to platarsite
UM2005-24-S:FeIrNi	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	(Fe,Ni,Ir)S; isotropic; *cf*: UM1981-16-S:CuFeIrNiRh
UM2005-25-Sb:BiPd	Can. Mineral. *43*, 637	Am. Mineral. *90*, 1947	Close to Pd9(Sb,Bi)2; (Table 8, anal. #8 & #9)
UM2005-26-Se:AgBiCu	Can. Mineral. *43*, 899	Am. Mineral. *91*, 224	(Cu,Ag)2Bi2Se4; perhaps the Cu-analogue of bohdanowiczite or Se-analogue of emplectite
~~**UM2005-27-SiO:AlCa**~~	Can. Mineral. *43*, 857	Am. Mineral. *91*, 220	Ca(Al,Fe,Mg)[AlSi]O6; clinopyroxene with Ca-tschermak's molecule dominant; later described under the name kushiroite: Am. Mineral. *94*, 1479; transferred to Invalid list
UM2005-28-SiO:AlCaFeHMn	Contr. Mineral. Petrol. *150*, 212		~Ca(Mn,Fe)Si2O6•2H2O
~~**UM2005-29-SiO:CCaClFeHKNaNbZr**~~	Dokl. Akad. Nauk *400*, 640	Am. Mineral. *90*, 1467	(Na,Ce)9(Ca,Na,K)12Zr3Fe2(Nb,Si)Si24O72(CO3)Cl0.5•0.5H2O. Later named mogodivite; transferred to Invalid list
~~**UM2005-30-SiO:CClCaHKMnNaNbZr**~~	Dokl. Akad. Nauk *403*, 636	Dokl. Chem. *403*, 148	Na12(K,Sr,Ce)3Ca6Mn3Zr3NbSi(Si3O9)2(Si9O27)2(O,OH)4(H2O,CO3,Cl)2; a K-analogue of kentbrooksite; later named andrianovite: Zap. Ross. Mineral. Ob. *137* (2) (2008), 43-52. Transferred to Invalid list.
UM2005-31-SiO:CuH	*Erzgräber *19*, 1	Am. Mineral. *91*, 710	Cu11SiO4(OH)18•9H2O
UM2005-32-SiOCO:CaH	Dokl. Akad. Nauk *405A*, 1347		Ca4(Si2O6)(CO3)(OH)2; a dimorph of fukalite. Coding changed from the original entry
UM2005-33-Te:AgBiPd	Can. Mineral. *43*, 1355		AgPd2(Te,Bi)5; designated "Un1". Coding changed from the original entry
UM2005-34-Te:PdPt	Mineral. Mag. *69*, 981		(Pd,Pt)9Te. Coding changed from the original entry
UM2005-35-VO:CaFePSiTh	Can. Mineral. *43*, 1663		(Th,Ca,Fe)(V,Si,P)O4; perhaps related to huttonite and monazite group. Coding changed from the original entry
UM2005-36-SiO:AlBaCaClFeHKMnNaREESrTiZr	Eur. J. Mineral. *17*, 875	Cryst. Reports *52*, 47	[(H3O)9.32Na5.86K0.53Ba0.36Sr0.15][Ca5.22Sr0.49Ce0.16Mn0.13][Zr2.42Ti0.54Hf0.02Nb0.02][Na1.48(Fe0.10(H2O)0.1)][Si1.0(OH)1.0][Si0.44Al0.06(OH)0.50][Si3O9]2[Si9O26.25(OH)0.75]2Cl1.0•1 H2O; described as a decationized and hydrated eudialyte group mineral—"Hydrated eudialyte-1" (sample no. 31 in secondary reference)
UM2005-37-SiO:AlBaCaClFeHKMnNaREESrTiZr	Eur. J. Mineral. *17*, 875	Cryst. Reports *52*, 47	[(H3O)9.26Na2.12K1.20Ba0.46Sr0.48][Ca5.76Ce0.24][Zr2.92Ti0.08][Na0.62(Fe0.23Mn0.11(H2O)0.34)][(Si0.57)(Si0.21Al0.19Nb0.03)(OH)1.44][(Si0.45)(Ti0.21)(Si0.34)(O,OH)0.34(OH)1.08][Si0.19(OH)0.57][Si3O9]2[Si9O27]2Cl1.05•0.8H2O; described as a decationized and hydrated eudialyte group mineral—"Hydrated eudialyte-2" (sample no. 32 in secondary reference)
UM2005-38-SiO:AlBaCaClFeHKMnNaNbREESrT iYZr	Eur. J. Mineral. *17*, 875	Cryst. Reports *52*, 47	[(H3O)10.85Na3.3Sr0.48K0.21Ce0.2Y0.1Ba0.04][Ca2.1Na0.9][Ca2.4Na0.3Mn0.3][Zr2.97Hf0.03][Fe1.32Mn0.6O1.44(H2O)1.80][(Ti0.22Nb0.02)(Si0.23)(Si0.19)(OH)0.42][(Si0.44)(Nb0.1Al0.1)(Nb0.04)(OH)0.44][Si3O9]2[Si9O26.01(OH)0.99]2Cl1.0•1.19H2O; described as a decationized and hydrated eudialyte group mineral—"Hydrated eudialyte-3" (sample no. 33 in secondary reference)
UM2005-39-SiO:AlBaCaClFeHKMnNaNbREESrT iYZr	Eur. J. Mineral. *17*, 875	Cryst. Reports *52*, 47	[(H3O)11.61Na3.0Sr0.63Ce0.22K0.2Y0.05Ba0.03][Ca2.25Na0.75][Ca2.4Mn0.6][Zr2.98Hf0.02][Fe^{3+}0.66Mn0.3Mn0.3(H2O)1.43(OH)0.79][(Ti0.16Al0.07Mg0.03)(Si0.17)(OH)0.17][(Si0.50)(Si0.31)(Nb0.18Ta0.01)(OH)0.81][Si3O9]2[Si9O26.14(OH)0.86]2Cl1.1•0.63H2O; described as a decationized and hydrated

			eudialyte group mineral—"Hydrated eudialyte-4" (sample no. 34 in secondary reference)
UM2005-40-SiO:AlCaClFeHKMnNaNbREESrTiY Zr	Eur. J. Mineral. *17*, 875	Cryst. Reports *52*, 47	[(H3O)5.58Na5.25Ce0.63K0.3Y0.19Sr0.05][Ca3][Ca1.71Mn1.29][Zr2.96Hf0.04][(Fe^{3+}1.0Fe^{2+}0.35)(Fe^{3+}0.57)(Zr0.32Mn0.22)(O,OH)1.77(H2O)1.34][(Zr0.18)(Si0.5)(OH)0.5][(Nb0.41)(Al0.2Ti0.05)(Si0.18)(OH)0.93][Si3O9]2[Si9O26.28(OH)0.72]2Cl0.2•1.45H2O; described as a decationized and hydrated eudialyte group mineral—"Hydrated eudialyte-5" (sample no. 35 in secondary reference)
UM2005-41-SiO:BaCaFeHKMgMnNaNbREESrTi YZr	Eur. J. Mineral. *17*, 875	Cryst. Reports *52*, 47	[(H3O)8.53Na3.51Sr0.55Ce0.45Y0.3Ba0.15K0.06][Ca2.25Sr0.45Na0.3][Ca2.4Mn0.6][Zr2.97Hf0.03][(Mn0.64Fe0.38)O0.3(H2O)0.72][(Si0.49)(Si0.41)(Nb0.1)(OH)0.9][(Si0.29)(Si0.2)(Ti0.1Mg0.07Nb0.02)(OH)1.06][Si3O9]2[Si9O26.52(OH)0.48]2•2.12H2O; described as a decationized and hydrated eudialyte group mineral—"Hydrated eudialyte-6" (sample no. 36 in secondary reference)
UM2006-01-COPO:FNa	Mineral. Mag. *70*, 211		(Na,□)5PO4(CO3 ,F,Cl); an ephemeral mineral
UM2006-02-E:HgPdPt	Can. Mineral *44*, 385		(Pt,Hg)2Pd
~~**UM2006-03-O:BeTiV**~~	Can. Mineral *44*, 1147		(Be,□)(V,Ti)3O6; distinct similarities to kyzylkumite; later described under the name byrudite: Am. Mineral. *101*, 1240; transferred to Invalid list
~~**UM2006-04-O:CrHMnPb**~~	Australian J. Mineral. *12*, 59		Pb2CrMn2(O,OH,H2O)8; later described under the name reynoldsite: Am. Mineral *97* (2012), 1187; transferred to Invalid list
UM2006-05-O:CaFeKMnNaREESrTiZr	Eur. J. Mineral. *18*, 493	Am. Mineral. *92*, 705	(Sr,Na,K,REE)(Ca,Zr,Mn)(Ti,Fe)18Fe2O38; a member of the crichtonite-group
UM2006-06-O:CaFeKMnNaREESrTiZr	Eur. J. Mineral. *18*, 493	Am. Mineral. *92*, 705	(Sr,Na,K,REE)(Zr,Ca,Mn)(Ti,Fe)18Fe2O38; a member of the crichtonite-group
UM2006-07-O:CaFeKMnNaREESrTiZr	Eur. J. Mineral. *18*, 493	Am. Mineral. *92*, 705	(Na,Sr,K,REE)(Ca,Zr,Mn)(Ti,Fe)18Fe2O38; a member of the crichtonite-group
UM2006-08-O:CaFeKMnNaREESrTiZr	Eur. J. Mineral. *18*, 493	Am. Mineral. *92*, 705	(Na,Sr,K,REE)(Zr,Ca,Mn)(Ti,Fe)18Fe2O38; a member of the crichtonite-group
UM2006-09-O:CaFeMnREESrTiZr	Eur. J. Mineral. *18*, 493	Am. Mineral. *92*, 705	(REE,Sr)(Ca,Mn,Zr)(Ti,Fe)18Fe2O38; a member of the crichtonite-group
UM2006-10-S:AsIrOs	Mineral. Petrol.*87*, 1		(Ir,Os)3As0.85S; Table 3, anal. 5-6
~~**UM2006-11-S:CuFeGeZn**~~	Can. Mineral. 44, 1481		Cu8Fe2ZnGe2S12; the germanium analogue of stannoidite; later described under the name Omariniite: Mineral. Mag. *81*, 1151; transferred to Invalid list
UM2006-12-Sb:Pd	Mineral. Petrol.*87*, 1		Pd20Sb7; compositionally similar to stibiopalladinite but with distinctly different optical characteristics
~~**UM2006-13-SiO:AlBFFeHNa**~~	Eur. J. Mineral. *18*, 583		NaFe^{2+}3Al6Si6O18(BO3)3(OH)3F; IMA-approved, the name fluor-schorl has been used; transferred to Invalid list
UM2006-14-SiO:AlCaHMnREE	Eur. J. Mineral. *18*, 569		CaREEAlAlMn^{2+}SiO4Si2O7O(OH); unnamed member of allanite subgroup of the epidote group
UM2006-15-SiO:AlFHMgMnREE	Eur. J. Mineral. *18*, 569		Mn^{2+}REE MgAlMn^{2+}SiO4Si2O7F(OH); unnamed member of dollaseite subgroup of the epidote group
UM2006-16-SiO:BaFeHKMgMnNaNbTi	Dokl. Earth Sci. *410*, 1062		K3.58Na2.06Ba1.65(H2O)1.58(Mn0.42Mg0.20Fe0.16)[Ti6.75Nb0.65((OH)0.9O0.1)8(Si4O12)4]•11. 5H2O; labuntsovite group

UM2006-17-SiO:CaClFFeHMnNaZr	Cryst. Reports *51* (2), 205		Na15(Ca3Mn3)Zr3(Fe,Zr)3SiSi[Si3O9]2[Si9O27]2O2,(OH,F,Cl)3•2H2O; a eudialyte group mineral
UM2006-18-SiO:CaClFFeHMnNaZr	Dokl. Akad. Nauk *409*, 807	Am. Mineral. *92*, 1540	Na15Ca3(Mn,Fe)3Zr3(Zr,Na)3(Si,Nb)(S,Ti,Si)(Si3O9)2(Si9O27)2(O,OH)5(Cl,F,H2O); a eudialyte group mineral with Zr dominant in two sites
~~**UM2006-19-VO:AsHMn**~~	Can. Mineral. *44*, 229		Mn7 (VO4,AsO4)2 (OH)8; later described under the name argandite: Am. Mineral. 96, 1894; transferred to Invalid list
UM2006-20-VO:AsHMnSi	Can. Mineral. *44*, 229		(V,As,Si)4Si2(Mn,Mg)24O19(OH)38
UM2006-21-VO:AsHMnSi	Can. Mineral. *44*, 229		(V,As,Si)4Si2(Mn,Mg)22O25(OH)22
UM2006-22-SiO:V	Mineral. Petrol. *87*, 171		(V^{3+}SiO3(OH); the presence of hydroxyl is based only on consistently low analytical totals
UM2006-23-PO:AlBiCaFeH	J. Czech Geol. Soc. *51* (1-2)*, 159*		(Ca,Bi)(Fe,Al)3(PO4)(PO3OH)(OH)6; "UNK11"; the Ca-analogue of zairite or the Fe-analogue of crandallite.
UM2006-24-PO:AlCuFeH	J. Czech Geol. Soc. *51* (1-2)*, 159*		(Fe,Cu,□)3(Al,Fe)3(PO4)3(OH)5•4H2O; "UNK8"; compositional similarities to turquoise or perhaps a Cu-rich variety of childrenite
UM2006-25-PO:AlFeHZn	J. Czech Geol. Soc. *51* (1-2)*, 159*		Zn(Fe,Zn,Al)4(PO4)3(OH)4; "UNK3"; compositionally similar to UM1990-30-PO:AlFeHZn; it may be an orthorhombic polymorph of zinclipscombite
UM2006-26-PO:CuFeH	J. Czech Geol. Soc. *51* (1-2)*, 159*		(□,Cu)Fe^{3+}6(PO4)2(PO3OH)2(OH)8•4H2O; "UNK10"
UM2006-27-PO:FeHZn	J. Czech Geol. Soc. *51* (1-2)*, 159*		$ZnFe^{3+}$2(PO4)2(OH)2•4H2O; "UNK7"
UM2006-28-SiO:CaHMnNaZr	Dokl. Earth Sci. *410*, 1075		Na33Ca12Zr6 Mn3(Mn,Nb,Ti)2Si50O132(O,OH)12(OH,H2O,Cl)10; a eudialyte-group mineral with doubled c cell dimension
~~**UM2006-29-SiOPO:AlCaFHSr**~~	J. Czech Geol. Soc. *51* (1-2)*, 159*		(Ca,Sr)3Al7(SiO4)3(PO4)4(F,OH)3•16.5H2O; "UNK1"; later described under the name krásnoite; IMA No. 2011-040; transferred to Invalid list
UM2006-30-S:AgBiCuPbSe	Axis *2* (4), 1		Cu0.44Ag0.78Pb1.37Bi2.70(S5.73Se0.26Te0.01); "UN1"
UM2006-31-S:AgBiCuPbSe	Axis *2* (4), 1		Cu0.20Ag0.88Pb1.06Bi2.94(S5.55Se0.44Te0.01); "UN2"
UM2006-32-SiO:CaClFFeHMnNaSTiZr	Dokl. Earth Sci. *409A*, 985	Cryst. Reports *52*, 47	Na15[Ca3(Mn,Fe)]Zr3(Zr,Na)3(Si,Nb)(S,Ti,Si)(Si3O9)2(Si9O27)2(O,OH)5(Cl,F,H2O); described as a hyperzirconium sulphate analogue of eudialyte
UM2006-33-Te:AgBiNiPdPt	Mineral. Petrol. *86*, 109		Ag0.40Pd0.37Ni0.11Cu0.05Pt0.04Fe0.03(Te0.87Bi0.13)
UM2006-34-N:Ga	Chinese Sci. Bull. *51*, 1101		GaN; cell and qualitative compositional data
UM2006-35-PO:HPbREEY	J. Geosci. *54*, 15		Pb(REE)3(PO4)3(OH)2•1-2H2O; Ce is the dominant REE
UM2007-01-As:CuPd	Acta Petrol. Mineral. *26*, 418		(Pd,Cu)7As3; Table 5, sample 70-11-8
UM2007-02-As:NiPd	Acta Petrol. Mineral. *26*, 418		(Pd,Ni)7As4; Table 5, sample 23-181; cf. UM1990-03-As:NiPdSb
UM2007-03-As:NiRh	Acta Petrol. Mineral. *26*, 418		Rh3Ni3.57As3; Table 7, sample 89-35-1; similarities to UM1983-03-As:NiRh (RhNiAs)
UM2007-04-As:Pd	Acta Petrol. Mineral. *26*, 418		Pd4As; Table 5, sample 70-2-8; perhaps stillwaterite
UM2007-05-As:PdTe	Acta Petrol. Mineral. *26*, 418		Pd7(As,Te)2; similarities to UM2004-52-Te:AsPd; Table 6, sample 70-2-9

UM2007-06-As:Rh	Acta Petrol. Mineral. *26*, 418	Rh7As3; a typographical error of Ru for Rh appears in the source reference (Table 5, sample 69-7)
UM2007-07-AsO:BaFeHK	Can. Mineral. *45*, 485	(Ba,K)Fe^{3+}6(AsO4)5(O,OH)3•3H2O; published formula is incorrect
UM2007-08-AsO:FeHSn	Can. Mineral. *45*, 485	Sn9Fe8(AsO4)4O24•9H2O; published formula is incorrect
UM2007-09-Bi:PdPtSb	Neues. Jb. Mineral. Abh. *183 (2)*, 173	(Pd,Pt)(Bi,Sb); analytical formula reported was incorrect; Table 4, anal. 96
UM2007-10-E:CuPtSn	Neues. Jb. Mineral. Abh. *183 (2)*, 173	Pt5Cu3Sn2; Table 2, anal. 58; compositionally distinct from tatyanaite
UM2007-11-E:FeIrNiOsRu	Can. Mineral. *45*, 631	(Ru,Ir,Os)3(Fe,Ni)2; Table 4, no. 0325137
UM2007-12-E:FeIrNiOsRu	Can. Mineral. *45*, 631	(Ru,Ir,Os)(Fe,Ni); Table 4, no. 0325i35 & 0325i38
UM2007-13-E:FeIrNiOsRu	Can. Mineral. *45*, 631	(Ru,Ir,Os)3(Fe,Ni); Table 4, no. 0325i31
UM2007-14-E:FeIrNiOsRu	Can. Mineral. *45*, 355	(Os,Ir,Ru)4(Ni,Fe)7 or perhaps (Os,Ir,Ru)(Ni,Fe)2; "UN#3"
UM2007-15-E:FeIrNiPt	Can. Mineral. *45*, 631	(Fe,Ni)2(Pt,Ir); Table 4, no. 98c121
UM2007-16-N:Ti	Acta Petrol. Mineral. *26*, 418	Ti7N3; Table 9, sample 57-7-1-2
UM2007-17-PO:CaClCuHNa	Eur. J. Mineral. *19*, 75	NaCaCu5(PO4)4Cl•nH2O (n~4.5); a slightly different hydrate or polymorph/polytype closely related to sampleite
~~**UM2007-18-PO:CaClMn**~~	Can. Mineral. *45*, 901	Mn3Ca2(PO4)3(Cl,F,OH); the Mn-dominant analogue of apatite later described under the name Parafiniukite: Minerals 8(11), 485; transferred to Invalid list
~~**UM2007-19-PO:CaFeHMg**~~	Can. Mineral. *45*, 293	Ca(Fe^{2+},Mn^{2+})Mg2Fe^{3+}2[PO4]4[OH]2•8H2O; later described under the name Jahnsite-(CaFeMg): Eur. J. Mineral. *28*, 991; transferred to Invalid list
UM2007-20-S:AgBiCu	Izv. Akad. Nauk Kaz., Ser. Geol. (2007) (1),	(Cu,Ag)4BiS3
UM2007-21-S:AsIrRh	Acta Petrol. Mineral. *26*, 418	(Rh,Ir)3(S,As)7; Table 8, sample 76-12-2-22
UM2007-22-S:AsRu	Acta Petrol. Mineral. *26*, 418	Ru3(S,As)7; Table 10, sample 71-2-14
UM2007-23-S:BiPbTe	Can. Mineral. *45*, 417	Pb3Bi4Te4S5; Table 4, sample 99/89b
UM2007-24-S:BiPbTe	Can. Mineral. *45*, 417	Pb5Bi4Te4S7; Table 4, sample LA 12/B
UM2007-25-S:BiPbTe	Can. Mineral. *45*, 417	Pb3Bi2Te2S4; Table 4, sampleLA 12/C
UM2007-26-S:CuFeIrNiPtRh	Acta Petrol. Mineral. *26*, 418	(Ir,Cu,Ni,Pt,Rh,Fe)9S11; Table 1, sample 70-1-2-5
UM2007-27-S:CuFeIrNiRh	Acta Petrol. Mineral. *26*, 418	(Ni,Fe,Cu,Rh,Ir)11S9; Table 1, sample 70-16-7; similarities to UM2002-26-S:FeNi
~~**UM2007-28-S:CuFeIrNi**~~	Acta Petrol. Mineral. *26*, 418	(Ni,Ir,Fe,Cu)8S9; Table 1, samples 96-6-2-3 & 76-3-6; similarities to UM1974-11-S:CuFeIrNi; likely Ir-rich godlevskite
UM2007-29-S:CuFeIrNi	Acta Petrol. Mineral. *26*, 418	(Ir,Ni,Fe,Cu)8S9; Table 1, sample 71-14-3-4; similarities to UM1974-11-S:CuFeIrNi
UM2007-30-S:Fe	Acta Petrol. Mineral. *26*, 418	Fe3S2; Table 2, sample 32-22; perhaps the Fe-analogue of heazlewoodite

UM2007-31-S:Ti	Acta Petrol. Mineral. *26*, 418		Ti7S3; Table 9, sample 57-6-1-3
UM2007-32-Sb:BiCuPtSn	Neues. Jb. Mineral. Abh. *183 (2)*, 173		(Pt,Cu)3(Sb,Bi,Sn)4; Table 4, anal. 29
UM2007-33-Se:CuRhS	Acta Petrol. Mineral. *26*, 418		(Rh,Cu)9(Se,S)11; Table 9, sample76-12-20; note Rh value omitted from table assumed by difference
UM2007-34-SeOTeO:BiH	Eur. J. Mineral. *19*, 255		Bi3(TeO6)(SeO3)(OH)•3H2O
~~**UM2007-35-SiO:AlCaFFeMgREE**~~	Can. Mineral. *45*, 1073		(Ce,La)3CaAl2(Fe^{3+},Al)(Fe^{2+},Mg)[Si2O7][SiO4]3O(OH)2; an Fe^{3+}-Fe^{2+}-analogue of västmanlandite-(Ce); later described under the name of ferriperbøeite-(Ce), [CaCe3]Σ4[Fe3+Al2Fe2+]Σ4[Si2O7][SiO4]3O(OH)2; Eur.J.Mineral., 31, 173
~~**UM2007-36-SiO:AlCaFFeMgREE**~~	Can. Mineral. *45*, 1073		(Ce,La)3CaAl2(Fe^{3+},Al)(Mg,Fe^{2+})[Si2O7][SiO4]3O(OH)2; an Fe^{3+}-analogue of västmanlandite-(Ce); later described under the name of ferriperbøeite-(La), [CaLa3]Σ4[Fe3+Al2Fe2+]Σ4[Si2O7][SiO4]3O(OH)2; Eur.J.Mineral., 31, 173
~~**UM2007-37-SiO:CaFREEY**~~	Can. Mineral. *45*, 1073		(Ca,Ce)2(Y,Nd,Ce)3(SiO4,PO4)3(F,OH); later described under the name fluorbritholite-(Y): Neues. Jb. Mineral. Abh. *188*: 191; transferred to Invalid list
UM2007-38-SiO:ClFFeHMgREE	Can. Mineral. *45*, 1073		(Ce,La,Ca)9(Fe,Mg)(SiO4)3(SiO3OH)4(F,Cl,OH)3•nH2O(?); very close to a somewhat hydrated, F-dominant cerite-(Ce) with also abnormal Cl content;designated unnamed mineral "E sample A37"; Fe-dominant analogue of taipingite-(Ce)?
UM2007-39-SiO:ClFHMgREE	Can. Mineral. *45*, 1073		(Ce,La,Ca)9Mg(SiO4)3(SiO3OH)4(Cl,F,OH)3•nH2O(?); very close to a somewhat hydrated, Cl-dominant cerite-(Ce) with substantial F and Mg replacing Fe; designated unnamed mineral "E sample UU318/77 M"
UM2007-40-SiO:FMgREEY	Can. Mineral. *45*, 1073		(Y,Ce,Nd)4MgSi4O14F2; perhaps the Mg-analogue of rowlandite-(Y); designated unnamed mineral "D"
UM2007-41-SiO:FeMgREEW	Can. Mineral. *45*, 1073		(Ce,La,Nd,Ca)5Mg(Fe^{3+},Al)3WSi5O26; a rare W-bearing silicate designated unnamed mineral "C"; later described under the name delhuyarite-(Ce): Eur. J. Mineral. *29*, 897; transferred to Invalid list
UM2007-42-Te:AsPd	Acta Petrol. Mineral. *26*, 418		Pd7(Te,As)2; Table 6, sample 76-12-2; similarities to UM1991-26-Te:AsPd
UM2007-43-Te:Pd	Acta Petrol. Mineral. *26*, 418		Pd5Te2; Table 6, sample 16-2-5; typographic error in reported Pd content; perhaps telluropalladinite
UM2007-44-SiO:CaFREEY	Can. Mineral. *45*, 1073		(Ca,Ce)2(Nd,Y,Ce)3(SiO4,PO4)3(F,OH); Table 5, #430644; the Nd analogue of fluorbritholite-(Ce)
UM2007-45-PO:AlHCaKNaSiTh	Zap. Ross. Mineral. Ob. *136* (1), 3	Geol. Ore Deposits *49*, 758	~[X,Na,K,Ca,Mg]Th2(P,Si,Al)O4•3H2O; metamict; only one analysis--Table 6, anal. 3
UM2007-46-SiO:CaHREEThTi	Zap. Ross. Mineral. Ob. *136* (1), 3	Geol. Ore Deposits *49*, 758	~(Ti,Th,REE,Ca)Si2O4(O,OH)2•4-6H2O; metamict and rather variable in composition; Table 4, anal. 4, 7, 8 & 9
UM2007-47-SiO:HKNaTh	Zap. Ross. Mineral. Ob. *136* (1), 3	Geol. Ore Deposits *49*, 758	~(Na,K,□)4Th3[Si8(O,OH)24]•9H20; metamict and rather variable in composition; Table 5, analyses 1-6
UM2007-48-SiO:HNaSrThTi	Zap. Ross. Mineral. Ob. *136* (1), 3	Geol. Ore Deposits *49*, 758	~(Na,Sr,□)7TiThSi8O22(O,OH)1-2•6H2O; metamict and rather variable in composition; Table 4, anal. 1, 5 & 6
UM2007-49-SiO:HNaSrThTi	Zap. Ross. Mineral. Ob. *136* (1), 3	Geol. Ore Deposits *49*, 758	~(Na,Sr,Ba,Ca,□)4TiThSi8O22(OH)•5H2O; metamict and rather variable in composition; Table 4, anal. 2 and 3

~~**UM2008-01-As:IrNi**~~	Mineral. Petrol. *92*, 31	(Ni,Ir)3As; Table 8, #6 & p.44 (Ni2.45Ir0.40Fe0.11Cu0.02Os0.01Ru0.01)As1.01; Iridian dienerite; transferred to Invalid list
UM2008-02-As:IrNi	Mineral. Petrol. *92*, 31	(Ni,Ir)2As; p.44, para. 2
UM2008-03-AsS:IrOs	Mineral. Petrol. *92*, 31	(Ir,Os)5As4S3; Table 8, #17
UM2008-04-AsS:IrOsRu	Mineral. Petrol. *92*, 31	(Os,Ir,Ru)7AsS; Table 8, #13
~~**UM2008-05-BO:FHMgSi**~~	Eur. J. Mineral. *20*, 951	Mg2(BO3)1−x(SiO4)x(OH,F)1−x; later named pertsevite-(OH): Am. Mineral. 95 (2010), 953; transferred to Invalid list
UM2008-06-Bi:AgAuTe	Dokl. Earth Sci. *421A*, 919	(Au,Ag)(Bi,Te)
UM2008-07-CO:AlBCaHSSi	J. Mineral. Petrol. Sci. *103*, 47	Ca6(Al,Si)2(CO3,SO4)2[B(OH)4](OH,O)12•26H2O; the CO3-dominant analogue of charlesite; compare Imayoshiite
UM2008-08-CO:BaCaNaREESr	Can. Mineral. *46*, 753	(Na,Ca)3(Ba,Ce,La,Sr,Nd)10(CO3)15
UM2008-09-E:AgAuCu	Dokl. Earth Sci. *421A*, 919	CuAu3Ag2
UM2008-10-E:AuNi	Dokl. Earth Sci. *421A*, 919	Ni3Au
UM2008-11-E:AuPd	Neues Jh. Mineral. Abh. *184* (3), 329	Au3Pd; synthetic alloy is known
UM2008-12-E:CuFeIr	Mineral. Petrol. *92*, 31	Ir2(Cu,Fe)3; Table 4, #9
UM2008-13-E:CuFeIrNiOsRu	Mineral. Petrol. *92*, 31	(Os,Ru,Ir)(Ni,Cu,Fe); Table 4, #5
UM2008-14-E:CuFeIrNiOsRu	Mineral. Petrol. *92*, 31	(Os,Ir,Ru)(Cu,Fe,Ni); Table 4, #6
UM2008-15-E:CuFeIrNiOsRu	Mineral. Petrol. *92*, 31	(Os,Ir,Ru)(Cu,Ni,Fe)2; Table 4, #11
UM2008-16-E:CuFeIrOsRu	Mineral. Petrol. *92*, 31	(Ru,Os,Ir)3(Cu,Fe)2; Table 4, #7
UM2008-17-E:CuFeOsRu	Mineral. Petrol. *92*, 31	(Os,Ru)3(Cu,Fe)4; Table 4, #10
UM2008-18-E:CuIrNi	Mineral. Petrol. *92*, 31	Ir(Ni,Cu)5; Table 4, #4
UM2008-19-E:CuPdPt	Dokl. Earth Sci. *421A*, 919	(Pd,Pt)4Cu
~~**UM2008-20-E:FeIrNi**~~	Mineral. Petrol. *92*, 31	Ir(Ni,Fe)3; Table 4, #2; later described under the name garutiite: Eur. J. Mineral. *22* (2010), 293; transferred to Invalid list
UM2008-21-E:FeIrNiRu	Mineral. Petrol. *92*, 31	(Ir,Ru)2(Ni,Fe)3; Table 4, #3
UM2008-22-E:FePt	Can. Mineral. *46*, 343	Pt4Fe; analyses show a range around this formula and include minor Cu, Ni and other PGE (Table 1 & Fig. 6)
UM2008-23-E:FePt	Can. Mineral. *46*, 343	Pt5Fe; analyses show a range around this formula and include minor amounts of other PGE (Table 1 & Fig. 6)
UM2008-24-E:IrNiOsRu	Mineral. Petrol. *92*, 31	(Os,Ir,Ru)2Ni; Table4, #1
UM2008-25-E:PdPt	Dokl. Earth Sci. *421A*, 919	Pt3Pd
~~**UM2008-26-F:AlCaNa**~~	Fjölrit náttúrufræðistofnunar Nr. 52, 1	Na2Ca3Al2F14; "mineral HG"; X-ray powder data and formula only; later described under the name verneite: Minerals *8*, 553; transferred to Invalid list

~~**UM2008-28-F:AlHMgO**~~	Fjölrit náttúrufræðistofnunar Nr. 52, 1		MgAlF5•2H2O; "mineral HR"; later described under the name leonardsenite: Mineral. Mag. *75* (2011), 2889; transferred to Invalid list
UM2008-27-F:AlHO	Fjölrit náttúrufræðistofnunar Nr. 52, 1		AlF3•3H2O; "mineral HU"; X-ray powder data and formula only
UM2008-29-F:CoFeHN	Fjölrit náttúrufræðistofnunar Nr. 52, 1		NH4(Fe,Co)2F6; "mineral HD"; X-ray powder data and formula only
~~**UM2008-30-F:FeHO**~~	Fjölrit náttúrufræðistofnunar Nr. 52, 1		Fe^{3+}F3•3H2O; "mineral HI"; X-ray powder data and formula only; later described under the name topsøeite: Eur. J. Mineral. *30*, 841; transferred to Invalid list
UM2008-31-F:FeHOSi	Fjölrit náttúrufræðistofnunar Nr. 52, 1		FeSiF6•6H2O; "mineral HT"; X-ray powder data and formula only
UM2008-32-GeO:AlFSi	Acta Mineral. Sinica *28*, 15	Am. Mineral. *94*, 1078	Al9(Ge,Si)4O20F3; low total suggests presence of (OH) or H2O
UM2008-33-O:BaSiTi	Am. Mineral. *93*, 154		Ba(Si,Ti)3O7
UM2008-34-O:BaSiTi	Am. Mineral. *93*, 154		Ba(Ti,Si)2O5
UM2008-35-O:BaTi	Am. Mineral. *93*, 154		BaTi3O7
UM2008-36-O:CuFeNiPdPtSi	Can. Mineral. *46*, 329		(Pd,Pt,Cu,Fe,Si)O; analyses "A" & "B", Table 4.
UM2008-37-PO:BaKScZr	Can. Mineral. *46*, 1131		(K,Ba)2(Sc,Zr)5(PO4)6; Table 3, #3
UM2008-38-POSiO:HScZr	Can. Mineral. *46*, 1131		ZrSc(SiO4)(PO4)•H2O; Table 3, #4
UM2008-39-S:AgBiPb	N. Jb. Miner. Abh. *185*, 199		PbAg2Bi2S5 ; exsolution product of galena-matildite ss
UM2008-40-S:AgBiPb	N. Jb. Miner. Abh. *185*, 199		Pb8Ag11Bi11S30; exsolution product of galena-matildite ss
UM2008-41-S:AsIrOsRu	Mineral. Petrol. *92*, 31		(Ru,Ir,Os)3AsS2; Table 8, #12
UM2008-42-S:AsPbSb	Mineralium Deposita *43*, 383		Pb(As,Sb)2S4; Table 4; a new sulphosalt? perhaps the As-analogue of twinnite
UM2008-43-S:BiTe	Mineral. Mag. *72*, 953		Bi6Te2S; close compositional similarities to UM1982-26-Te:BiSSe
UM2008-44-S:CuFeIrNiOs	Mineral. Petrol. *92*, 31		(Ni,Ir,Cu,Os,Fe)3S4; Table 6, #10
UM2008-45-S:CuFeIrNiOsRhRu	Mineral. Petrol. *92*, 31		(Ir,Ni,Cu,Os,Fe,Ru,Rh)S or perhaps (Ir,Os,RuRh)3(Ni,Cu,Fe)4S7; Table 6, #7
UM2008-46-S:CuIrNiOs	Mineral. Petrol. *92*, 31		(Ni,Ir,Os,Cu)S; Table 6, #9, 11 & 12
UM2008-47-S:CuIrNiRh	Mineral. Petrol. *92*, 31		(Ir,Rh)(Ni,Cu)S3; Table 6, #4
UM2008-48-S:CuIrOsRu	Mineral. Petrol. *92*, 31		(Os,Ir,Ru)2CuS5; Table 6, #13
UM2008-49-SO:FeNa	Fjölrit náttúrufræðistofnunar Nr. 52, 1		Na3Fe(SO4)3; mineral "EN"; X-ray powder data and formula only
UM2008-50-SO:HMgNa	Fjölrit náttúrufræðistofnunar Nr. 52, 1		Na2Mg3(SO4)2(OH)2•4H2O; "mineral SH"; X-ray powder data and formula only

~~**UM2008-51-Se:HgPdPt**~~	Terra Nova *20*, 32		(Pt,Pd)2HgSe3; later named jacutingaite: Mineral. Mag. *75* (2011), 289; transferred to Invalid list
UM2008-52-SiO:AlBCaFFeHLiMgNa	Crystal. Repts. *53*, 223		(Ca,Na,□)(Al,Li,Fe,Mg)3Al6[Si6O18](BO3)3(OH,O)3(F,O); compositionally close to, but distinct from, liddicoatite
UM2008-53-SiO:SrTiZr	Am. Mineral. *93*, 1153		Sr4ZrTi4(Si2O7)2O8; an orthorhombic polymorph of rengeite
UM2008-54-Te:AgAsAu	Mineral. Petrol. *93*, 273		(Ag,Au)AsTe2
UM2008-55-Te:BiPdSb	Mineral. Petrol. *92*, 129		Pd8Te4(Bi,Sb)5; some similarities to kotulskite
UM2008-56-E:AuCu	*Can. Min. *46* (3), 709-716	Zap. RMO 143 (4), 1-23	Au3Cu
UM2009-01-As:IrNiRhRuS	Can. Mineral. *47*, 1057		(Ru,Ni,Rh,Ir)8(As,S)9; table 6 #54
~~**UM2009-02-As:NiPd**~~	Geol. Ore Deposits *51*, 467		Ni6Pd2As3; Table 2 #5; same as UM2003-40-AsNiPd
UM2009-03-As:PdTe	Can. Mineral. *47*, 1057		Pd3(As,Te); table 6 #45 & 46; perhaps the As-analogue of UM1991-26-Te:AsPd and compositionally very similar to UM1996-02-As:PdTe
UM2009-04-AsS:IrOsRu	Can. Mineral. *47*, 1057		(Ir,Os,Ru)2AsS; table 6 #40
UM2009-05-E:CuPdSnTe	Geol. Ore Deposits *51*, 467		(Pd,Cu)8(Sn,Te)5; Table 2 #8
UM2009-06-E:FeIrNi	Neues. Jb. Mineral. Abh. *185* (3), 335		Ir(Fe,Ni)2 or perhaps Ir3(Fe,Ni)7; Table 3, anal. 7-10
UM2009-07-E:FeIrNi	Neues. Jb. Mineral. Abh. *185* (3), 335		Ir3(Ni,Fe)8; Table 3, anal. 28 & 31,
UM2009-08-E:FeIrNi	Neues. Jb. Mineral. Abh. *185* (3), 335		Ir3(Fe,Ni)4; Table 3, anal. 26
UM2009-09-E:FeIrNi	Neues. Jb. Mineral. Abh. *185* (3), 335		Ir2(Fe,Ni)3; Table 3, anal. 27
UM2009-10-E:FeIrNiPt	Can. Mineral. *47*, 1057		(Pt,Ir)5(Fe,Ni)8
UM2009-11-PO:CaHZr	Mineral. Mag. *73*, 415		CaZr(PO4)2(H2O)4
UM2009-12-S:AsIrOsPtRu	Can. Mineral. *47*, 1057		(Os,Ru,Ir,Pt)2(S,As); Table 6, #39
UM2009-13-S:AsIrOsRu	Can. Mineral. *47*, 1057		(Os,Ir,Ru)4(S,As); Table 6, #38
~~**UM2009-14-S:CuFePdPt**~~	Geol. Ore Deposits *51*, 467		(Cu,Pt,Fe,Pd)2S; Table 4 #2-5; same as UM2003-43-S:CuFePdPt
UM2009-15-S:CuFeRhRu	Can. Mineral. *47*, 1057		(Rh,Fe,Ru,Cu)3S; Table 6 #52
UM2009-16-S:CuIrOs	Can. Mineral. *47*, 1057		(Os,Ir,Cu)3S; Table 6 #53
~~**UM2009-17-S:CuPdPt**~~	Geol. Ore Deposits *51*, 467		(Cu,Pt,Pd)S; Table 4 #1 & 6; same as UM2003-44-S:CuPdPt
UM2009-18-S:CuPdPtTe	Can. Mineral. *47*, 1057		(Pd,Cu,Pt)3(S,Te); Table 6 #43
UM2009-19-S:FeIrNiOsRu	Neues. Jb. Mineral. Abh. *185* (3), 335		(Fe,Ru,Ni,Os,Ir)2S; Table 4
UM2009-20-S:FeIrNiOsRu	Neues. Jb. Mineral. Abh.		(Ru,Fe,Ni,Os,Ir)2S; Table 4

	185 (3), 335	
~~UM2009-21-S:OPbSb~~	Can Mineral. *47*, 3	Pb15-2xSb14+2xS36Ox; later described under the name chovanite: Eur. J. Mineral. *24* (2012), 727; transferred to Invalid list
UM2009-22-Se:Pb	Proc. Nat. Acad. Sci. Kazakhstan Geol. Ser. 4 (420), (2009), 28	Pb2Se3
UM2009-23-SiO:AlCCaClHKNaS	Crystal. Repts. *54*, 195	(Na,Ca)24K10[(Si,Al)60O120](SO4)5.6Cl1.5(CO3)0.4·11H2O; a10-layer cancrinite group feldspathoid
~~UM2009-24-SiO:AlCaFeHMnREE~~	Am. Mineral. *94*, 121	$CaCeFe^{3+}AlMn^{2+}(Si2O7)(SiO4)O(OH)$; Mn analogue of ferriallanite in which Mn^{2+} takes the place of Fe^{2+}; later described under the name ferriakasakaite-(Ce): Minerals *9*, 353; transferred to Invalid list
~~UM2009-25-SiO:AlCaFeNbSnTaTi~~	Mineral. Mag. 73, 709	Ca(Ti,Al,Ta,Sn,Fe,Nb)SiO5; a triclinic polymorph of titanite; a variety: Mineral. Mag. *73*, 709; transferred to Invalid list
~~UM2009-26-SiO:CaClFeHKNaZr~~	Dokl. Chem. *424* (1), 11	Na12K3Ca6Fe3Zr3Si26O72(O,OH)2Cl2; later described under the name davinciite: Mineral. Mag. *75*, 2552 (IMA No. 2011-019)
~~UM2009-27-SiO:CaFH~~	Am. Mineral. *94*, 1361	Ca7(SiO4)3F2; given working name "Ca-humite" but later described under the name fluorchegemite: Mineral. Mag. 76 (2012), 812; transferred to Invalid list
~~UM2009-28-Te:AsNiPd~~	Geol. Ore Deposits *51*, 467	Pd2Ni(Te,As)2; Table 2, #7-9; later described under the name monchtundraite: Mineral. Petrol. *114*, 263; transferred to Invalid list
UM2009-29-Te:Bi	Proc. Nat. Acad. Sci. Kazakhstan Geol. Ser. *4* (420), (2009), 28	BiTe3; formula erroneously shown as BiTe4
UM2009-30-Te:CuFePbPdS	Geol. Ore Deposits *51*, 467	(Pd,Pb,Ag)5(Cu,Fe,Ni)5(Te,S)4; Table 2 #21-23; proposed formula (Pd,Cu)9Pb(Te,S)4 does not fit analytical data well; perhaps related to oulankaite
UM2009-31-Te:Pd	Geol. Ore Deposits *51*, 467	Pd5Te3; Table 2, #14; The proposed formula “Pd9Te4”, appears to be grossly in error
~~UM2009-32-N:B~~	Proc. Nat. Acad. Sci. (U.S.A.) *106* (46), 19233	BN (boron nitride); known commercially as “cBN” or “beta-BN”; later described under the name qingsongite: Am. Mineral. 99, 764; transferred to Invalid list
UM2009-33-SiO:AlKMgTi	Proc. Nat. Acad. Sci. (U.S.A.) *106* (46), 19233	Approximately (Al,K,Mg,Ca)(Si,Ti)2O5 or perhaps KAl2MgTi(Si,Al)11O28; low analytical total; amorphous
~~UM2010-01-F:AlCa~~	IMA 2010, CD of Abstracts, p.496.	CaAlF5; apparently same as the compound αCaAlF5 (known synthetically); later named jakobssonite: Mineral. Mag.46 (2012), 751; transferred to Invalid list
UM2010-02-O:AsMnSbTaTiU	Am. Mineral. *95*, 1478	Mn3UAs2Sb2Ta2Ti2O20; Table 6
UM2010-03-PO:BaMgNa	Zap. Ross. Mineral. Ob. *139* (2) (2010), 101	Na2MgBa(PO4)2 (?); possible affinities with the arrojadite group
UM2010-04-S:PdTe	Can. Mineral *48*, 583	Pd11Te2S2; perhaps the Te analogue of isomertieite or the S analogue of miessiite and UM1996-02-As:PdTe
UM2010-05-SiO:AlCaHK	Cent. Eur. J. Geosci. *2* (2), 175	Ca5K2Al11Si21O64·18.4H2O; "Mineral X2a"; distinct similarities to merlinoite, UM1990-82SiO:AlBaCaHKNaSr and UM1987-18-SiO:AlCaHKNa
UM2010-06-SiO:CaFeHMnNaNbREETiZr	*Dokl. Akad. Nauk, *431* (2), 201	Dokl. Chem. *431* (1), 76 [Na,(H3O)]15(Ca3Mn3)Na3Zr3(Si,Ti)[Si25O72OH](OH)2:2H2O; the Mn-analogue of raslakite

UM2010-07-S:AgCuSe	Geol. Ore Deposits *52*, 811	(Ag,Cu)14Se3S6; replaces polybasite
UM2010-08-S:AgPd	Geol. Ore Deposits *52*, 624	~(Pd,Ag)4S; perhaps a Ag-rich variety of UM1992-28-S:Pd
UM2010-09-Te:Pd	Geol. Ore Deposits *52*, 624	Pd11Te7; analytical total is ~5% low
~~**UM2010-10-S:Cr**~~	73rd A. Meteo. Soc. Meet., 5135.pdf	Cr5S6; later described under the name Murchisite: Am. Mineral. 96, 1905; transferred to Invalid list
UM2011-01-CrO:CaH	Am. Mineral. *96*, 659	CaCrO4:2H2O; appears to be calcium chromate dihydrate
UM2011-02-O:CaCeGdLaTiUZr	Dokl. Earth Sci. *437* (2), 479	(Gd,Ce,CaLa,U)4ZrTi2O12; a Lunar mineral
UM2011-03-O:CaKUV	Dokl. Earth Sci. *437* (2), 479	K2(U4+,Ca)5V3+5O18; a Lunar mineral
UM2011-04-O:LaMnSrTi	Dokl. Earth Sci. *437* (2), 479	(La,Sr)2(Mn,Ti)2O5; a Lunar mineral
UM2011-05-OH:FOSn	Eur. J. Mineral. *23*, 695	Sn4O(OH,F)6; only formula and X-ray powder data
UM2011-06-PO:AlFeHMn	Can. Mineral. *49*, 521	(Fe,Mn,Al)3Al(PO4)(OH)7
UM2011-07-POSO:AlBaH	Mineral. Petrol. *101*, 81	BaAl3[PO4][SO4][OH]6; the Ba-analogue of svanbergite
UM2011-08-S:AgBiCuPbSe	Mineral. Petrol. *103*, 79	Close to (Ag,Cu,Fe,Zn)3Pb3Bi5(S,Se)11; considered to be a lillianite homolgue
UM2011-09-S:AgBiPbSe	Mineral. Petrol. *103*, 79	Close to Ag2(Cu,Zn,Fe)0.4Pb6Bi8S19; considered to be a lillianite homolgue
UM2011-10-S:AgCuTe[1]	Mineral. Petrol. *101*, 169	Ag2CuTeS
UM2011-11-S:AgCuTe[2]	Mineral. Petrol. *101*, 169	(Ag,Cu)2TeS
UM2011-12-S:CuFeHgNiPd	Can. Mineral. *49*, 1413	~(Pd,Fe,Cu,Ni,Hg)9S8; some similarities to vysotskite
UM2011-13-S:CuTl	Bull. Geol. Soc. Denmark *59*, 13	Tl2(Cu,Fe)6S5; designated mineral "X"; considered a new member of the thalcusite homologous series
~~**UM2011-14-SO:AlHN**~~	Campostrini *et al*. (2011)	(NH4)3Al(SO4)3; designated: UKI-fo16-(SO:NH4Al); later described under the name aluminopyracmonite: Mineral. Mag. 77, 443; transferred to Invalid list
UM2011-15-SO:FeHKNNa	Campostrini *et al*. (2011)	(K,Na,NH4)Fe-sulphate; designated: UKI-fo17-(SO:FeKNaNH4); cell dimensions determined
UM2011-16-SOCl:FeHKNa	Campostrini *et al*. (2011)	(Na,K,Li?)Fe(OH)-chlorosulphate; designated: UKI-fo26-(SOCl:Fe,Na,K); cell dimensions determined
~~**UM2011-17-SOCl:FeHNNa**~~	Campostrini *et al*. (2011)	(NH4,K)4Na(Fe,Al)2(SO4)4Cl(OH)2; designated: UKI-fo30-(SOCl:NH4NaFe); later described under the name adranosite-(Fe): Can. Mineral. *51*, 57; transferred to Invalid list
~~**UM2011-18-SOCl:Na**~~	Campostrini *et al*. (2011)	A Na-chlorosulphate; designated "UKI-fo29-(SOCl:Na); cell dimensions determined; later described as d'ansite-(Fe); Mineral. Mag., 76, 2773; transferred to Invalid list
UM2011-19-SiO:AlAsBHSb	Mineral. Mag. *75*, 303	A dumortierite-like phase with composition close to Al5(□,Al)2B(Sb,As)3O12(O,OH)3
UM2011-20-SiO:AlFeMg	Am. Mineral. *96*, 430	Na0.06Ca0.02Mg0.71Fe0.20Al0.11Si0.94O3; olivine structure with enstatite composition
~~**UM2011-21-SiO:CH**~~	Nature Commun. *2*, 196 Z. Krist. *166***,** 11	SiO2·*n*(CH4,C2H6,C3H8,C4H10); isostructural with the sH natural gas hydrate;

			later described under the name bosoite: Mineral. Mag. *84*, 941; transferred to Invalid list
UM2011-22-SiO:ClFeHNi	Eur. J. Mineral. *23*, 717		(Ni,Fe)42Si16O54(OH,Cl)40; the Ni,Fe-analogue of balangeroite?
UM2011-23-SiO:FeHNi	Eur. J. Mineral. *23*, 717		(Fe,Ni)42Si16O54(OH)40
UM2011-24-Te:FeHgNiPdPtRh	Can. Mineral. *49*, 1413		~(Rh,Pt,Pd,Fe,Ni)(Te,Hg)
~~**UM2011-25-Te:Au**~~	*Geol. Bull. of China *30* (11), 1779	Min. & Petr. *108*, 853-871	Mixture of gold and calaverite: Can. Mineral. 55, 181; Transferred to Invalid list
~~**UM2013-01-SiO:AlFLiK**~~	*Acta Min. Sinica *33*(4), 713		Later named Fluorluanshiweiite: Minerals *10*, 93; Transferred to Invalid list
UM2014-01-S:Re	*Acta Min. Sinica *35*(1), 107		(Re,Cu,Os,Fe,Ni,Pb)S_2 Tetragonal; Raman very different from rheniite
UM2014-02-S:Re	*Acta Min. Sinica *35*(1), 107		(Re,Cu,Fe)S_2 Hexagonal (trigonal); Raman very different from rheniite
~~**UM2015-01-Te:Ag**~~	*Can. Min. *52*, 883		$AgTe_3$; Phase A; later named lingbaoite: J. Earth Planet. Mat., 105 (5), 745; transferred to invalid list
UM2015-02-Te:BiCuFePb	*Can. Min. *52*, 883		$Cu_{20}FePb_{11}Bi_9S_{37}$; Phase B
UM2015-03-S:AgFe	*Mineral. Petrol. *109*, 413		Ag_2FeS_2 Monoclinic
UM2015-04-SiO:BaCaFFeMgNaTi	*Cryst. Rep. *59*, 867		$Ba_2Na(Ca,Mn)(Fe2+,Fe3+)MgTi_2[Si_2O_7]_2O_2(O,F)F$ Triclinic; Seems to be Ca-Fe2+-dominant analogue of schüllerite
UM2015-05-SO:Bi	*Min. Mag. 79, 597		Bi14O16(SO4)5; Potentially new bismuth sulfate compound still under investigation
UM2015-06-Se:BiCuPd	*Min. & Petro 109, 649		PdCuBiSe3
UM2015-07-Se:AgPb	*Can. Min. 53 (5), 845		(Ag,Au)Pb2(Se,Te)2
UM2015-08-As:Pd	*Can. Min. 53 (5), 845		(Pd,Au)3(As,Sn)
UM2015-09-E:FePd	*Can. Min. 53 (5), 845		(Pd,Au)3(Fe,Cu)
UM2015-10-E:FePd	*Can. Min. 53 (5), 845		(Pd,Pt)2(Fe,Cu,Ni); Similar to UM2005-//-E:FePd
UM2015-11-Te:Pd	*Can. Min. 53 (5), 845		(Pd,Pt)2(Te,Bi)
UM2015-12-Sn:Pd	*Can. Min. 53 (5), 845		Pd(Sn,Te,Bi)
UM2015-13-E:FePt	*Can. Min. 53 (5), 845		(Pt,Pd)2(Fe,Cu); Similar to UM1996-13-E:FePt; Similar to UM2008-//-E:FePt
UM2015-14-E:CuPt	*Can. Min. 53 (5), 845		Pt2(Cu,Sn); Similar to UM1996-09-E:CuPt
UM2015-15-As:Pd	*Can. Min. 53 (5), 845		Pd2(As,Bi,Te); Similar to Palladoarsenide; Similar to UM1974-01-As:PdSb
UM2015-16- Bi:Pd	*Can. Min. 53 (5), 845		Pd2(Bi,As); Similar to UM1970-03-Bi:Pd
UM2015-17-Bi:Pd	*Can. Min. 53 (5), 845		Pd2(Bi,Te,Pb)
UM2015-18-Te:Pd	*Can. Min. 53 (5), 845		Pd2(Te,Bi); Similar to Pd2Te (Can. Min. 38, 1251-1264); Similar to (Pd,Ag)2Te (IMA1993-062)
UM2015-19-Te:Pd	*Can. Min. 53 (5), 845		Pd4(Te,Bi)3
UM2015-20-S:Pd	*Can. Min. 53 (5), 845		(Pd,Ge)2S
UM2015-21-As:Rh	*Can. Min. 53 (5), 845		(Rh,Pd)As2
UM2015-22-As:Pd	*Can. Min. 53 (5), 845		Pd(As,Te)
UM2015-23-Ge:Pd	*Can. Min. 53 (5), 845		Pd2Ge; Palladogermanide; IMA2016-086; Similar to UM2005-05-Ge:Pd
UM2015-05-SO:Bi	*Min. Mag. 79 (3), 597		Bi14O16(SO4)5; Potentially new bismuth sulfate compound still under investigation
UM2015-06-Se:BiCuPd	*Min. & Petro 109, 649		PdCuBiSe3

UM2015-07-Se:AgPb	*Can. Min. 53 (5), 845	(Ag,Au)Pb2(Se,Te)2
UM2015-08-As:Pd	*Can. Min. 53 (5), 845	(Pd,Au)3(As,Sn)
UM2015-09-E:FePd	*Can. Min. 53 (5), 845	(Pd,Au)3(Fe,Cu)
UM2015-10-E:FePd	*Can. Min. 53 (5), 845	(Pd,Pt)2(Fe,Cu,Ni); Similar to UM2005-//-E:FePd
UM2015-11-Te:Pd	*Can. Min. 53 (5), 845	(Pd,Pt)2(Te,Bi)
UM2015-12-Sn:Pd	*Can. Min. 53 (5), 845	Pd(Sn,Te,Bi)
UM2015-13-E:FePt	*Can. Min. 53 (5), 845	(Pt,Pd)2(Fe,Cu); Similar to UM1996-13-E:FePt; Similar to UM2008-//-E:FePt
UM2015-14-E:CuPt	*Can. Min. 53 (5), 845	Pt2(Cu,Sn); Similar to UM1996-09-E:CuPt
UM2015-15-As:Pd	*Can. Min. 53 (5), 845	Pd2(As,Bi,Te); Similar to Palladoarsenide; Similar to UM1974-01-As:PdSb
UM2015-16-Bi:Pd	*Can. Min. 53 (5), 845	Pd2(Bi,As); Similar to UM1970-03-Bi:Pd
UM2015-17-Bi:Pd	*Can. Min. 53 (5), 845	Pd2(Bi,Te,Pb)
UM2015-18-Te:Pd	*Can. Min. 53 (5), 845	Pd2(Te,Bi); Similar to Pd2Te (Can. Min. 38, 1251-1264); Similar to (Pd,Ag)2Te (IMA1993-062)
UM2015-19-Te:Pd	*Can. Min. 53 (5), 845	Pd4(Te,Bi)3
UM2015-20-S:Pd	*Can. Min. 53 (5), 845	(Pd,Ge)2S
UM2015-21-As:Rh	*Can. Min. 53 (5), 845	(Rh,Pd)As2
UM2015-22-As:Pd	*Can. Min. 53 (5), 845	Pd(As,Te)
~~**UM2015-23-Ge:Pd**~~	*Can. Min. 53 (5), 845	Pd2Ge; Palladogermanide; IMA2016-086; Similar to UM2005-05-Ge:Pd; Can. Mineral. 59, 1865; transferred to Invalid list
UM2016-01-Te:BiPb	*Ore Geol. Rev. 79, 408	Unnamed (Bi,Pb)3(Te,S)4; Relationship to Aleksite? [UM1976-//-Te:BiPbS]
UM2016-02-Te:Bi	*Ore Geol. Rev. 79, 408	Unnamed Bi2Te; Relationship to Hedleyite? [UM1982-//-Te:Bi; same as UM1980-16-Te:Bi]
UM2016-03-Te:AgBi	*Ore Geol. Rev. 79, 408	Unnamed Ag4Bi3Te3
UM2016-04-IOH:CuPb	*J.Solid State Chem. 238, 9	Pb2Cu(OH)2I3
UM2016-05-Sb:Ni	*Min. Mag. 80, 187	Ni3Sb; Relationship to UM1990-49-Sb:Ni?
UM2016-06-Sb:Ni	*Min. Mag. 80, 187	Ni3(Sb,As); Relationship to UM1990-49-Sb:Ni?
~~**UM2016-07-As:Ni**~~	*Min. Mag. 80, 187	Ni3As; later redefined as Dienerite: Can. Mineral *59*, 1887; transferred to Invalid list
UM2016-08-As:Ni	*Min. Mag. 80, 187	Ni5(Sb,As)2
UM2016-09-Sb:Ni	*Min. Mag. 80, 187	Ni7(Sb,As)3
UM2016-10-As:Ni	*Min. Mag. 80, 187	Ni11(Sb,As)8
UM2016-11-E:AlCuFe	*79th Ann. Meet. Meteor. Soc. (2016), 6017.pdf	*Minerals 12, 188 Unnamed Al78Cu15Fe7 phase
UM2016-12-SiO:AlFe	*79th Ann. Meet. Meteor. Soc. (2016), 6124.pdf	(Fe,Mg,Ca,Na)3(Al,Si,Mg)2Si3O12; high pressure tetragonal dimorph of Almandine
~~**UM2018-01-S:CrCu**~~	* IX Russ. Young Sci. Conf., 229	Phase CuCrS2; later described as Grokhovskyite: Mineral. Mag. 83, 890; transferred to Invalid list
UM2019-01-O:AlMgSiTiZr	*LPI Contrib. No. 2157, 6098 pdf	(Ti3+,Al,Zr,Si,Mg)1.95O3; Zr-rich ultrarefractory phase from Allende meteorite
UM2019-02-OH2O:CaNaTiSi	*Min. Mag. 83, 199	Na2CaTi4(Si2O7)2O4(H2O)4; Possible Ca-rich and Na-poor analogue of Murmanite
~~**UM2020-01-Si:Ti[1]**~~	* Eur. J. Mineral. 32, 557 *Goldschmidt	Ti10(Si,P,□)7; later described as Wenjiite: Am. Mineral. (in press); transferred to

		Abstr.2020, 2928	Invalid list
~~**UM2020-02-Si:Ti[2]**~~	* Eur. J. Mineral. 32, 557	*Goldschmidt Abstr.2020, 2928	Ti11(Si,P)10; later described as Kangjinlaite: Am. Mineral. (in press); transferred to Invalid list
~~**UM2020-03-Si:FeTi**~~	* Eur. J. Mineral. 32, 557		FeTiSi; later described as toledoite: Eur. J. Mineral. 34, 390; transferred to Invalid list
UM2020-04-Si:Fe	* Eur. J. Mineral. 32, 557		Fe5Si
UM2020-05-N:B	* Eur. J. Mineral. 32, 557		BN; hexagonal analogue of Qingsongite
UM2020-06-O:AlCaKSi	* Eur. J. Mineral. 32, 557	*Goldschmidt Abstr.2020, 2928	(KCa3)(Al7Si9)O32; potassic analogue of Dmisteinbergite
UM2020-07-P:Fe	*Minerals 10, 437		(Fe,Ni)4P; Fe analogue of merriliniite (“Ferro-melliniite”) from Elga meteorite
UM2020-08-PO:FeH	*Minerals 10, 437		Na-rich Fe2+3(PO4)2·8H2O from Elga meteorite
UM2020-09-PO:FeMgNa	*Minerals 10, 437		Na2(Fe,Mn)(Mg,Ca)(PO4)2; (“Na-Fe-Mg Phosphate”) from Elga meteorite
UM2020-10-SiO:FeMgNaTi	*Minerals 10, 437		NaNa2Mg3Fe2=0.5Ti0.5[Si8O22]O2;Obertiite-related oxyamphibole (“Titan-obertiite”) from Elga meteorite
UM2020-11-SiO:MgNaTi[1]	*Minerals 10, 437		Na(Mg,Fe)0.5Ti0.5Si2O6; Na-Ti-rich clinopyroxene from Elga meteorite
UM2020-12-SiO:MgNaTi[2]	*Minerals 10, 437		Na2Mg5TiSi6O18O2; Mg-analogue of Aenigmatite from Elga meteorite
UM2021-01-As:PdGe	*Minerals 11, 1193		Pd germanide-arsenide
UM2021-02-As:PdNi	*Minerals 11, 1193		Pd-Ni arsenide
UM2021-03-As:PdSn	*Minerals 11, 1193		Pd stannide-arsenide
UM2021-04-As:Pt	*Minerals 11, 1193		Pt arsenide
UM2021-05-E:PtCuSn	*Minerals 11, 1240		Pt(Cu0.67Sn0.33); Synchrotron micro-Laue diffraction: P4/mmm, a = 2.838 (3) Å, c = 3.650 (4) Å, and V = 29.40 (10) Å3, Z = 1
UM2021-06-O:YZrTi	*Minerals 11, 1193		YZrTi2O6O, metamict Y-dominant zirconolite-related mineral
UM2021-07-S:PtCuAsO	*Minerals 11, 1193		Pt-Cu arseno-oxysulfide
UM2021-08-Te:Pd	*Minerals 11, 1193		Pd telluride
UM2021-09-Te:PdAg	*Minerals 11, 1193		Pd-Ag telluride
UM2021-10-Te:Pt	*Minerals 11, 1193		Pt telluride
UM2021-11-S:BiTe	*Ore Geol.Rev. 139, 104502		sulpho-tellurian nevskite
UM2021-12-S:NiFe	*Bull. Min. Petrol. 29, 90		NiFe2S4 phase
UM2021-15-S:RhPtAs	*Doklady Earth Sciences. 498, 482		RhPtAsS2
UM2021-16-S:CuMnSn	*Ore Geol. Rev. 138, 104348		Cu2MnSnS4
UM2021-17-S:PdAgTl	*Min. Mag. *85, 161*		Pd9Ag2(Tl,Pb)2S4; most probably isostructural with panskyite and thalhammerite
UM2022-01-OH:Ni	*Minerals, 12, 1214		(Ni,Co,Mn)(OH)2 with a varying compositional range
UM2022-02-S:AgBi	*Mineralogy, 8, 67		AgBiS2 phase
UM2022-03-Te:AuSe	*J.Raman Spectrosc. 53, 1012		AuTe0.7Se0.3
UM2022-04-Se:AuS	*J.Raman Spectrosc. 53, 1012		AuSe0.7S0.3
UM2022-05-E:PdTeSbBi	*Lithosphere 21, 574		Pd2(TeSbBi)3
UM2022-06-S:Bi	*Minerals 12, 222		Bi2S3

UM2022-07-S:Bi	*Minerals 12, 222	Bi3S2
UM2022-08-S:CdGe	*Minerals 12, 222	Cd4GeS6
UM2022-09-S:GeAs	*Minerals 12, 222	GeAsS
UM2022-10-S:PbGe	*Minerals 12, 222	PbGeS3
UM2022-11-S:Sb	*Minerals 12, 222	Sb2S3
UM2022-12-S:SnSb	*Minerals 12, 222	Sn5Sb3S7
UM2022-13-Se:Bi	*Minerals 12, 222	Bi2Se3
UM2022-14-Te:Bi	*Min.Mag. 86, 606	Bi3(Te,S)4