

Rare and Micro Minerals List - January 7, 2022

The minerals listed here are from a collection rich in uncommon species and/or uncommon localities. The descriptions in quotes are taken from the collection catalog (where available). The specimens vary from pretty and photogenic to truly ugly (as is common with rare species). Some are just streaks, specks, and stains. Previous dealer labels are included where available.

Key to the size given at the end of each listing: Small cabinet = larger than a miniature; fits in a 9 x 8 cm box. Miniature = fits in a 6 x 6 cm box, but larger than a thumbnail. Thumbnail = fits in a standard Perky thumbnail box. Small = fits in a box which (fits inside a standard thumbnail box; sometimes a true micromount). Very small = sample is a few mm in size. FragBag = a set of two or more chunks in a small plastic bag.

Price is \$8 per specimen. Multiple samples listed under the same number (example: 1234.5+6, or listed as a suite) count as a single specimen.

Please order by email to steve@dragon-minerals.com with specimen number and species name. All specimens subject to prior sale.

10.132.1AB2: Olivenite. Majuba Hill Mine, Antelope Mining District, Pershing County, Nevada. Samples 1A and 1B: "Intergrown green crystals on limonite, some terminated." Sample 2: Green intergrown crystals on very minor limonite matrix. Some nice small groups and crystal prisms. Poorly mounted." Samples 1A and B from Bourget Brothers; sample 2 from Microminerals International. Three small samples.

10.242.1: Metamunirite. Burro Mine, Slick Rock Mining District, San Miguel County, Colorado. "White to gray, very micro acicular crystals on small patch of conglomerate rock." From Excalibur Mineral. Very small. **Reserved**

10.261.2: Monazite. Parry Sound District, Ontario, Canada. "Orange crystal grains some showing roughly flat crystal (?) faces in mica crystal aggregate." From W. D. Christianson. Small.

10.713.2: Erythrite. Cobalt area, Cobalt-Gowganda region, Timiskaming District, Ontario, Canada. "Cluster of black spheroids, reddish-brown to yellow-brown when broken open, on gossan. Pseudo after smaltite." From W. D. Christianson. Small.

10.821.1+2: Pottsite (type locality). Linka Mine, Spencer Hot Springs District, Lander County, Nevada. Sample 1: "Bright yellow powdery crusts on rock may be pottsite or clinobisvanite which also occurs at this locality and is typically found as bright yellow powdery deposit. Bismutite and scheelite are probably also present." Sample 2: "has fractured masses of yellow glassy mineral, probably is pottsite. Also bright yellow powdery crust I believe is clinobisvanite." Both from Minerals Unlimited. Two small samples. **Reserved**

10.941.1: Roselite and Erythrite. Bou Azzer Vein No.2, Agdz Cercle, Zagora Province, Drâa-Tafilalet Region, Morocco. "Fine transparent [roselite] micro crystals, deep pink on micro erythrite and minor limonite. Some crystals terminated but in general thickly intergrown compose most of a very small sample and are not well displayed." From Hatfield Goudy. Small.

11.141.3: Cornetite (type locality). L'Etoile du Congo Mine, Lubumbashi, Haut-Katanga, DR Congo. "Fine blue crystals on rock." From David Shannon. Small.

11.171.11A: Fluorapatite. Jumilla, Murcia, Spain. "Small colorless crystals in very vuggy matrix with other fine micros of andesine rock (jumillite)." From Minerals Unlimited. Small.

11.171.7A: Fluorapatite. Bessemer City, Gaston County, North Carolina. "Small to micro brown intergrown crystals on pegmatite." From Douglas Berndt. Small.

11.174.1: Carbonate-apatite. Coquimbo, Chile. "White botryoidal crusts and sphericules in vug of rock. Some of the sphericules have micro crystals of apatite growing out from the surface." From Microminerals International. Small.

11.175.1A: Strontium Apatite and Arfvedsonite. Lovozero Massif, Murmansk Oblast, Russia. "Blocky crystal segments, some crude terminations in rock." A large, black crystal - probably arfvedsonite - not mentioned in the catalog description - also present. From David Shannon. Small.

11.175.1B: Strontium-Apatite. Seidozero Lake, Lovozersky District, Murmansk Oblast, Russia. "Blocky crystal segments, some crude terminations in rock." From David Shannon. Small.

11.182.37: Mimetite. Moon Anchor Mine, Hummingbird Spring, Osborn Mining District, Maricopa County, Arizona. "Fine yellow acicular crystals forming dense mats on rock. In center of vug, the upper layers of crystals appear white and may be another species although 'pure' mimetite is colorless." From David Shannon. Small.

11.231.2: Clinoclase. Majuba Hill Mine, Antelope Mining District, Pershing County, Nevada. "Micro crystal group on matrix." From Elmac Enterprises. Very small (but very nice).

11.241.1: Triplite. Olary Province, South Australia, Australia. "Dense mass, dark brown to mostly black. Green cast." From David Shannon. Thumbnail.

11.271.1: Cornubite. Majuba Hill Mine, Antelope Mining District, Pershing County, Nevada. "Pale green coating on matrix. Bright glassy green coating also on same matrix and partially coated by cornubite is possibly different copper mineral. Blue micro crystals of third copper mineral also present; possibly clinoclase." From David Shannon. Small.

11.351.1: Amblygonite. Viitaniemi pegmatite, Eräjärvi area, Orivesi, Pirkanmaa, Finland. "White fine grained mass showing casts after missing crystals, possibly tourmaline, which had been embedded in the amblygonite." From David Garske. Small.

11.393.1: Cobaltlotharmeyerite. Bou Azzer Vein No. 2, Agdz Cercle, Zagora Province, Drâa-Tafilalet Region, Morocco. "Small sample of carbonate rock, probably dolomite with vug forming much of top surface. Dolomite forms crystal faces in vug. The dolomite crystal faces are completely covered by short acicular reddish-brown crystals of cobaltlotharmeyerite." From Simkev Minerals. Small. *Reserved*

11.471.1: Rockbridgeite and Strunzite. Marlton, Burlington County, New Jersey. "Matted aggregates of acicular needles of green rockbridgeite and white to tan silky strunzite in vugs of limonite." From Elmac Enterprises. Small.

11.521.1: Hydroxylherderite. Fletcher Mine, Groton, Grafton County, New Hampshire. "Crude crystal groups (2), colorless to light tan." From David New. Two small specimens.

11.522.1: Hydroxylherderite. Waisanen Quarry, Greenwood, Oxford County, Maine. "Transparent to cloudy crystal with much surface staining on cookeite (?). Bottom of specimen is largely a vug lined with spherulites of intergrown plates (possibly cookeite) in which small quartz crystals are implanted." From Carter Rich. Small.

11.651.2: Cornwallite. Arkaroola Region, North Flinders Ranges, Flinders Ranges, South Australia, Australia. "Green crust on small rock fragment with crystallized copper mineral." From Mineralogical Research. Small.

11.661.6: Legrandite. Ojuela Mine, Mapimí, Mapimí Municipality, Durango, Mexico. "Fragment [of another sample] with [very nice] terminated crystal." From David New. Small.

11.662.2: Strashimirite. Copper stope, Majuba Hill Mine, Antelope Mining District, Pershing County, Nevada. "pale green hemispherical aggregates of acicular crystals. Most broken to give flat radiating aggregates. Attractive. May be pseudomorph of tyrolite." Supplier not recorded. Small.

11.673.1: Tinticite. Barcelona, Catalonia, Spain. "Small soft fine grained nodule with white to very pale cream to grey color. One small patch of dark tan material. Nodules often have very thin coat of montgomeryite. Collected by J. Melgarejo." From David Shannon. Small.

11.723.1+2: Zapatalite (type locality). Unnamed prospect, Cerro Morita, Naco Municipality, Sonora, Mexico. Sample 1: "Pale flue fine-grained to granular masses, very sparse in rock. Specimen originally obtained from author

who described the mineral." Sample 2: "Removed from sample 1. Small fragment with micro vug and botryoidal (2 spheroids) zapatalite." From Excalibur Mineral. Two small samples. *Reserved*

11.731.3: Lavendulan. El Guanaco Mine, Guanaco, Santa Catalina, Antofagasta Province, Antofagasta, Chile. "[Portion of another specimen] with nice micro crystallized lavendulan on white rock surface with scattered quantity of green mineral noted." From unidentified supplier. Small.

11.733.2: Sampleite. Endeavour 26, Goonumbla, Kennedy County, New South Wales, Australia. "Small, thin, scaly blue to blue-green crystalline aggregates scattered sparsely on very altered rock." From Excalibur Minerals. Small.

11.761.1: Mottramite variety Duhamelite. Navojoa, Navojoa Municipality, Sonora, Mexico. "Yellow green crystalline coatings on shattuckite. Stated to contain mimetite but this may be in error." From Carter Rich. Small.

11.772.3: Mixite. Gold Hill Mine, Gold Hill, Gold Hill Mining District, Tooele County, Utah. "Flattened spray of acicular pale green (blue-green?) on matrix." From Mineralogical Research. Small.

11.782.1: Goyazite. Fuchsbau Quarry, Leupoldsdorf, Tröstau, Wunsiedel im Fichtelgebirge, Upper Franconia, Bavaria, Germany. "Small segment of crystal with termination, off matrix. Translucent pale yellow." From David Garske. Very small.

11.8162.1ABC: Bermanite. El Criollo Mine, Cerro Blanco Pegmatite District, Tanti, San Roque District, Punilla Department, Córdoba Province, Argentina. "Golden brown prismatic micro crystals sparse on phosphate (triplite) rock." From David Shannon. Three small samples.

11.851.3: Eosphorite. Ilha Claim, Taquaral, Itinga, Minas Gerais, Brazil. "Very fine small brown crystals on matrix." From Hamel [Mining and Minerals]. Small.

11.871.1: Arseniosiderite. Ojuela Mine, Mapimí, Mapimí Municipality, Durango, Mexico. "Several small patches of silky scaly pale brown crystalline aggregates on limonite. Some of multiple coating, covered by subsequent alteration products may also be this species." From David Garske. Thumbnail.

11.894.1: Natrodufrénite. Těškov, Rokycany District, Plzeň Region, Czech Republic. "Micro spheroids and clots on yellow stained quartz crystals. The mineral is dark green but appears that way on only one spheroid. Most have black coating." From Minerals Unlimited. Small.

12.341.1: Tyrolite. Copper stope, Majuba Hill Mine, Antelope Mining District, Pershing County, Nevada. "Microcrystalline aggregates forming blue-green crust on rock." From Hatfield Goudey. Small.

12.671.1: Diadochite. Litošice, Pardubice District, Pardubice Region, Czech Republic. "Tan fine-grained friable mass." From David Garske. Small.

13.551.1: Coquimbite. Dexter No. 7 Mine, Calf Mesa, San Rafael Mining District, Emery County, Utah. "Pale lavender crystal segment with flat termination." From Southwest Scientific. Small.

13.841.1: Blödite. Soda Lake deposit, Soda Lake area, Carrizo Plain, San Luis Obispo County, California. "Single crystal, off matrix, with mostly smooth faces. Heavily impregnated with clay and other inclusions and is dark grey to black with faint translucency near surface." From Girdauskas Minerals. Small.

13.881.1A: Halotrichite. Denver Mine, Palmetto Mining District, Patagonia Mountains, Santa Cruz County, Arizona. "Scattered clusters of white acicular micro crystals on/in loose friable aggregates of granular to crystalline magnesiocopiapite." From David Shannon. Small.

14.161.5: Brochantite. Morococha Mine, Morococha District, Yauli Province, Junín, Peru. "Dark green intergrown tabular crystals, appearing almost black, in vugs of rock. Fair to poor [sample]." From Microminerals International. Small.

14.161.6: Brochantite. Zinc Hill Mine, Zinc Hill, Zinc Hill Mining District, Argus Mountains, Inyo County, California. "Rich green crystals, some double terminated in vugs of massive brochantite (?)." From Microminerals International. Two small samples in small sample box.

14.161.7: Brochantite. Grand View Mine, Horseshoe Mesa, Grand View Mining District, Grand Canyon, Coconino County, Arizona. "Stout poorly defined crystals and dark green crystalline crust with linarite (?) and cyanotrichite (?) on and in matrix. The cyanotrichite appears to be pseudomorphic after a previous material, perhaps spangolite (?) or brochantite." From Microminerals International. Two small samples in small sample box.

14.261.2: Jarosite. Goldfield Mining District, Esmeralda County, Nevada. "Crystal crust of intergrown tabular crystals sitting on edge. Transparent, rich brown crystals. Poorly displayed on matrix." From Microminerals International. Small.

14.264.1: Plumbojarosite. Lomo Deltoro Mine, Zimapán, Zimapán Municipality, Hidalgo, Mexico. "Capsule of tan, fine grained powder." From David Garske. Gel capsule.

14.271.2+3: Elyite. Lautenthal smelter slag locality, Lautenthal, Langelshiem, Goslar District, Lower Saxony, Germany. Sample 2: "Violet coatings of micro acicular crystals with thin 'wooly' appearance. Coating on fragment of rock (slag?)." Sample 3: "Fragment of [sample 2]. Violet micro crystals at edge of vug. Vug filled with white orthorhombic crystals of ?". Both from Weinrich Minerals. Numerous small fragments in two small sample boxes.

14.281.2: Linarite. Blanchard Mine, Hansonburg District, Socorro County, New Mexico. "Several small crystal groups on matrix. Broken crystals on all groups but parallel growth typical of this material is well displayed, and middle group has relatively large micro crystal laying up on one side with crystal form fairly well displayed." From Elmac Enterprises. Small.

14.281.3: Linarite. Blanchard Mine, Bingham, Hansonburg District, Socorro County, New Mexico. "Typical bladed crystals intergrown on very friable bladed matrix (probably anglesite)." From Elmac Enterprises. Small to very small.

14.381.2: Amaranthite. Chuquicamata District, Calama, El Loa Province, Antofagasta, Chile. "Six small crude crystal prisms segments or crystal groups with reddish-orange color. Said to be mixed with hohmannite but I cannot distinguish between the two minerals with similar color. Parabutlerite can also have similar color." From Excalibur Mineral. Tiny.

14.471.1: Fibroferrite. Croix-de-Pallières, Saint-Félix-de-Pallières, Le Vigan, Gard, Occitanie, France. "Yellow-tan micro to very small fibrous crystals as loose powder in micro box." From Paragon Minerals. Small.

14.572.1B: Aluminocopiapite. Champion Mine, White Mountain Peak, White Mountains, Mono County, California. "Orange-white masses, possibly pseudomorphs, as porous crusty deposits. Associated on bottom surface with white acicular crystals, possibly halotrichite." From David Shannon. Small. *Reserved*

14.573.1AB: Magnesiocopiapite. Denver Mine, Palmetto Mining District, Patagonia Mountains, Santa Cruz County, Arizona. "Loose friable aggregates of orange micro crystals or granular masses intergrown or overcoated with sparse to moderate quantities of acicular micro crystals of halotrichite. Typical products of the weathering of pyritic deposits." Both from David Shannon. Two small samples.

14.611.2: Connellite. 150 foot level, Gold Hill Mine, Gold Hill, Gold Hill Mining District, Tooele County, Utah. "Sky blue acicular crystals in vug of quartzite." From David Shannon. Small.

14.651.2: Ettringite. Juliushütte, Harz, Germany. "White acicular crystals in vugs of slag, abundant in one vug, spare in others." From Simkev Minerals. Small.

14.841.1: Lanarkite. C and B Mine, Christmas, Banner Mining District, Gila County, Arizona. "Tannish crust (?) covering small protuberance on matrix largely composed of cerussite. Fluorescent yellow." From David Shannon. Small. *Reserved*

14.941.1: Caledonite. Bingham, Hansonburg District, Socorro County, New Mexico. "Silky green crystal spray, off matrix." From Elmac Enterprises. Small.

14.941.4: Caledonite. Meadowfoot Smelter slag locality, Wanlockhead, Dumfries and Galloway, Scotland. "Silky green crystal spray, off matrix." From Elmac Enterprises. Small.

14.992.1: Schulenbergite. Bastenberg Mine, Ramsbeck, Bestwig, Hochsauerlandkreis, Arnsberg, North Rhine-Westphalia, Germany. "Pale blue-green to green-white (acicular?) crystals, very small, as crust over fine-grained blue copper mineral coating on small matrix sample." From Simkev Minerals. Small.

15.121.2: Scheelite. Tecoripa, Mun. de San Javier, Sonora, Mexico. "Two crystal fragments with etched faces. Pale golden color. One very fine twin." From Southwest Scientific. Small.

15.131.19: Wulfenite. Ojuela Mine, Mapimí, Mapimí Municipality, Durango, Mexico. "Very fine small tabular crystals with mimetite on matrix. Poorly mounted but possibilities for several other micros." From Microminerals International. Small.

15.131.54: Wulfenite. Mystery Mine, Gleeson, Turquoise Mining District, Cochise County, Arizona. "Thin yellow plates intergrown. Collected December of 1981." From David Shannon. Small.

15.131.58: Wulfenite. 79 Mine, Chilito, Hayden area, Banner Mining District, Gila County, Arizona. "Small crystal cluster off matrix. Thin yellow to dirty grey-yellow (due to inclusions) crystals." From David Garske. Small.

15.131.67+73: Wulfenite. Glove Mine, Glove Mine group, Cottonwood Canyon, Tyndall Mining District, Santa Cruz County, Arizona. Sample 67: "Blocky intergrown crystals with curved faces and color bands thru thickness. Repaired." Sample 73: "Blocky dull yellow crystal group with curved faces on matrix. Portion of [sample 67]." Both from David Shannon. Two small samples.

15.131.77+78ABC: Wulfenite. Wingate Wash Mine, Shore Line Butte, Death Valley, Inyo County, California. Sample 77: "Four matrix fragments with typical crystals for locality." Samples 78ABC: "Three small matrix specimens. Typical 'dust covered' crystals. Each sample shows multiple crystals even though crystals are relatively sparse on matrix. Samples A and B show crystal growth on fracture surfaces also typical." Supplier not recorded. Four small samples. *Reserved*

15.131.138: Wulfenite. Zorzone Mine, Zorzone, Vedra Valley, Oltre il Colle, Bergamo Province, Lombardy, Italy. "Yellow micro tabular crystals on, embedded in, and covered with quartz druse on rock." From Simkev Minerals. Small.

15.171.2-4: Crocoite. Dundas Mineral Field, Zeehan District, West Coast Municipality, Tasmania, Australia. Sample 2: "Flat segment of dark fragile limonite matrix with few micro crystals including one very small micro crystal which is double terminated." Sample 3: "[Has] a few poor broken crystals. Matrix retains shape of previous crystals both on the top and bottom of specimen but now is hallow and converted to limonite and/or wad." Sample 4: "Friable limonite matrix [containing] red-orange crystals, [mostly segments]. Attractive." All from Elmac. Four small samples.

15.541.1+2: Lindgrenite. Inspiration Mine, Inspiration, Globe-Miami Mining District, Gila County, Arizona. Sample 1: "Green powdery to crystalline smears on rock." Sample 2: "Cluster of transparent green micro crystals, on matrix. Very small with much bruising but some terminated crystals and one twin. Nice specimen." Both from David Shannon. Numerous small samples in two small sample boxes.

15.761.1+2: Phoenicochroite. Rat Tail Claim, Belmont Mountains, Maricopa County, Arizona. Sample 1: "Sparse bright red crystalline coating with a pastel white and a pale pastel yellow (mimetite?) coating on rock fragment. Transparent hexagonal thin plates in vug are fluorescent white to cream under shortwave and are probably rare wickenburgite." Sample 2: "Fragment of [sample 1] with sparse phoenicochroite." Both from David New. Two small samples.

20.111.1-3: Orthoclase. Goodsprings District, Spring Mountains, Clark County, Nevada. Sample 1: "Fine light pinkish-brown single crystal." Sample 2: "Fine light pinkish-brown Carlsbad twin crystal." Sample 3: "Light pinkish-

brown multiple crystal Carlsbad twin with three or more crystals intergrown." All three from Shortmann's Minerals. Three small samples.

20.114BC: Orthoclase variety Moonstone. Ceylon. "Two thin, colorless to pale tan stained [crystals] with very fine blue to white sheen." From Carl O'Baugh. Two small samples.

20.114.2: Sanidine. Daichi, Wakayama Prefecture, Japan. "Small twin crystal, fairly sharp. Grey from surface coating (?) and/or inclusions." From Minerals Unlimited. Small.

20.121.12: Albite (Baveno twin). Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "Small water clear to slightly cloudy crystals of albite with Baveno twin habit scattered on vuggy matrix." From Simkev Minerals. Small.

20.123.2: Andesine and Augite. Portland, Victoria, Australia. "Tabular white to translucent colorless crystals with dark augite crystals." From Simkev Minerals. Very small.

20.126.1: Anorthite. Yoichi, Shiribeshi Province, Hokkaido, Japan. "Crude gray-white intergrowth of one main crystal and a number of smaller ones on faces of larger crystal. Partially coated with thin lava rock. A number of smaller dull black crystals are implanted on all but one face of the anorthite. Identity of the black crystals unknown." From Minerals Unlimited. Small.

20.132.1: Hyalophane and Celsian. Kintore opencut, Broken Hill South Mine, Broken Hill, Broken Hill District, Yancowinna County, New South Wales, Australia. "Grey-white granular mass intermixed with celsian." From Minerals Unlimited. Small.

20.151.4C: Nepheline. Bellerberg volcano, Vordereifel, Mayen-Koblenz District, Rhineland-Palatinate, Germany. "Superb water clear hexagonal prisms with pinacoidal terminations in vugs of crystallized amphibole rock. Associated with a variety of other well crystallized minerals." From Simkev Minerals. Small.

20.152.1: Kalsilite. Vispi Quarry, San Venanzo, Terni Province, Umbria, Italy. "White to acicular crystals in vugs of volcanic rock. Crystals are uncommon. Small elongated white hexagonal prisms may also be kalsilite." From Paragon Mineral Co. Small.

20.211.2BCD: Natrolite. Head of Tick Canyon, Tick Canyon, Lang, Los Angeles Co., California. "Very fine, water clear, terminated micro crystals in crystalline white natrolite from vug in volcanic rock." Personally collected. Three small samples in small sample box.

20.221.1: Phillipsite and Gismondine. 23 km. south of Rome, Italy. Sample 1: "Water clear twin crystal aggregates forming roughly spherical forms intergrown with water clear bipyramidal gismondine." Sample 2: "Better sample than sample 1." Both from Hatfield Goudy. Two small samples.

20.235.3+4: Herschelite. Horseshoe Dam area, Maricopa County, Arizona. Sample 3: "Intergrowth of several crystals on saponite lined vug." Sample 4: "Similar to [sample 3]." From David Shannon. Two small samples.

20.241.1: Heulandite. Magheramore, Larne, County Antrim, Ulster, Northern Ireland. "Nearly water clear crystals intergrown in small vug of dense basalt. Crystals not well displayed." From Simkev Minerals. Small.

20.251.3: Mordenite. Hikuai, Thames-Coromandel District, Waikato Region, New Zealand. "Matted white fibers covering micro spherical grey mineral unidentified in vug, probably saponite [or cowlesite]." from Carter Rich. Small.

20.272.1AB: Pollucite. Westinghouse Quarry, Buckfield, Oxford County, Maine. "White to cloudy translucent crystalline masses in friable matrix." From David Shannon. FragBag.

20.632.1: Hydrodelhayelite. Rasvumchorr Mountain, Khibiny Massif, Murmansk Oblast, Russia. "Pale tan crystalline mass with minor attached matrix. Mass appears to be scaly intergrowth of aligned crystals." From David Shannon. Small.

20.641.9: Leifite. Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "Sprays of radiating acicular crystals fusing at terminations to yield lustrous terminations and almost clear prisms." From Simkev Minerals. Small.

20.811.11: Helvine. Luna County, New Mexico. "Small fragment with very fine small crystals, very sharp in vugs." From Walstrom Enterprises. Small.

20.831.5: Sodalite. Locality unknown. "Fragments of coarsely crystallized matrix with crystalline inclusions of blue sodalite. Some sodalite shows very crude crystal faces and some crystal groups have fairly lustrous smooth faces. In both cases, crystal form cannot be determined. Matrix fairly well crystallized and at least one water clear sharp micro crystal is present. Also sparse crude crystals of unknown mineral." Supplier not specified. Several fragments in a small sample box.

20.833.1: Häüyne. Pitigliano, Grosseto Province, Tuscany, Italy. "Blue anhedral crystal grains showing much etching. Removed from very friable sanidine-magnetite matrix. Bright orange fluorescence in longwave, weaker in shortwave." From David Shannon. Small.

21.113.1: Wollastonite-2M. Crestmore quarries, Crestmore, Riverside County, California. "Mass of white intergrown crystals, anhedral although some crude terminations are visible." From David Garske. Miniature.

21.411.13: Muscovite. Lengenbach Quarry, Fäld, Binn, Goms, Valais, Switzerland. "Small transparent crystals on sugary dolomite. Near colorless thru face, deep green on edge. Barian-rich variety. Three micro sulfosalt crystals (sartorite or jordanite) form small fan adjacent to muscovite." Supplier not recorded. Small.

21.413.1: Polyolithionite. Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "Pearly white scaly aggregates on and in matrix." From W. D. Christianson. Small.

21.413.5: Polyolithionite. Desourdy Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "This plates with slightly pearly appearance. Associated with blue fluorite and nice terminated (?) aegirine crystal on crystallized albite." From Carter Rich. Small.

21.632.1: Chromian Clinocllore. Kop Krom Mine, Kop Daglari, Aşkale District, Erzurum Province, Turkey. "Micro crystals and masses on matrix." From David New. Small.

21.633.1+2: Cookeite and Tourmaline. Mount Mica Quarry, Paris, Oxford County, Maine. Sample 1: "White to yellow-tan crystalline aggregates, showing some crystal faces on outer surfaces and forming casts after tourmaline crystals on interior." Sample 2: "[Contains] segments of green, pink, bicolor, blue-green, and green-white tourmaline crystals." Tourmalines are incomplete. From Elmac Enterprises. Two small samples.

21.634.1: Chamosite. Wyberget, Sweden. "Pale green micaceous mineral with minor quartz." From David Shannon. Small.

21.683.8ACDE: Tuperssuatsiaite. Aris Quarries, Aris, Windhoek Rural, Khomas Region, Namibia. Sample A: "Sample of Aris phonolite having...vug with green acicular crystal spray." Sample C: "Sample of Aris phonolite having ...small vug with small spray of green acicular crystals and small villiaumite crystals and small spray of white crystals." Sample D: "Small spray of green acicular crystals with several small translucent villiaumite crystals." Sample E: "Large vug with three acicular crystal sprays. Two are difficult to see." Samples A and C collected by David Shannon in November 1995. Samples D and E collected by David Shannon in November 1996. Four small samples. *Reserved*

21.721.3+4: Eudidymite. Vesle Arøya, Langesundsfjorden, Larvik, Vestfold, Norway. Sample 3: "Colorless, translucent flattened elongated crystals intergrown into crystalline aggregate. A few terminated crystals. Epididymite stated to be often associated with eudidymite but not necessarily present on this sample." Sample 4: "Aggregate of flat bladed crystals and multiple twinned crystal aggregates, all forming largely pure crystal group off matrix. A very small spray of acicular crystals in one corner of specimen may be another mineral." Sample 3 from Mineralogical Research. Sample 4 from Simkev Minerals. Two small samples.

21.722.3: Epididymite. Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "Colorless striated crystals and twinned (trillings) on aegirine coated with deep green mineral (~~ehlorite?~~). The trillings are not complete but [illegible] in appearance and the crystals and smaller crystal groups moderately abundant but not all well displayed on top of specimen." The green mineral is ferrocaldonite (Wight Quintin, private communication). From Simkev Minerals. Small.

22.182.1: Pyroxmangite. Sunnyside Mine group, Bonita Peak, Gladstone, Eureka Mining District, San Juan County, Colorado. "Pink crystalline mass." From David Shannon. FragBag.

22.231.1+3+4: Elpidite. Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. Sample 1: "Silky white acicular crystals on coarsely crystallized matrix. Lustrous black complex crystal intergrowths with red tones faintly visible may be brookite. Other associates include a grainy coating which varies from pale blue-green to medium green to dark green, and a granular brownish-black coating." Sample 3: "Tan acicular crystals, abundant on highly altered matrix with 'limonite' and 'wad' coatings. Crystals and matrix overcoated with abundant micro globular aggregates pale pink to tan. Matrix has crystal, resembling double terminated anatase but meets description (lustrous black with iridescent colors) of the related brookite. Very spectacular but micro crystal." Sample 4: "Abundant elpidite and unknown globular aggregates." Sample 1 from David New. Samples 3 and 4 from Microminerals International. Three small samples.

22.312.2: Enstatite-Ferrosilite. Jumilla, Murcia, Spain. "Fine micro crystals with other minerals in igneous rock. Not a choice sample." From Robert Eaton. Small.

22.333.1+2: Augite. Cedar Butte, Tillamook County, Oregon. Sample 1: "Single crystal, about 10 mm. Black with crude etched faces." Sample 2: Twin crystal, about 10 mm." Both from Scott Williams. Two small samples.

22.335.1: Augite variety Fassaitte. Case Collina, Pitigliano, Grosseto Province, Tuscany, Italy. "Fine green crystals embedded in crystalline matrix." From Grayson Lapidary. FragBag.

22.341.7: Aegirine. Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. No description or supplier in collection catalog. Two terminated aegirine crystals project from a crystalline feldspar matrix, forming a V. Small.

22.4.7.10.1AC: Ferro-glaucophane. Biella, Piedmont, Italy. "Attractive blue crystal aggregates with pale green phengite." From Paragon Minerals. Two small samples.

22.411.1A: Anthophyllite. Sleave Road, Nepaug, Litchfield County, Connecticut. "Grey-white radiating aggregates of acicular crystals, almost pure." From Dave Shannon. Small.

22.416.1: Anthophyllite. Ilmen Nature Reserve, Chelyabinsk Oblast, Russia. "Short green fibrous crystals on matrix." From Excalibur Mineral. Small.

22.431.6: Tremolite. Harquahala Mountains, Yuma County, Arizona. "White bladed radial aggregates off matrix. Fragile. Originally identified (visually?) as wollastonite, later testing indicated material to be tremolite." From David Shannon. Small.

22.433.1: Ferro-actinolite. D.H. Claim, Finch Mine, Keystone Gulch, Chilito, Hayden area, Banner Mining District, Dripping Spring Mountains, Gila County, Arizona. "Dense grey-green mass with fibrous structure. Collected by K. D. Smith on 06/91. Analysis: SiO₂ 47.8%, Al₂O₃ 1.2%, FeO 17.8%, MnO 6.0%, MgO 3.2%, CaO 23.1%, NaO 0.2%, and KO 0.01%." From Dave Shannon. Small.

22.438.1: Ferro-tschemakite. Lindenfels, Bergstraße, Darmstadt, Hesse, Germany. "Blocky black masses constituting majority of rock. Collected by S. Schaeffer in May 1996." From David Shannon. Small.

22.462.1: Fluoro-richterite. Wilberforce area, Haliburton County, Ontario, Canada. "Crude crystal aggregate. Some crystals with terminations. Dark greenish brown." From W. D. Christianson. Small.

22.613.1: Magnesiocarpholite. Pianche, Vinadio, Cuneo Province, Piedmont, Italy. "Gray fibrous aggregates coating rock surface. Curious appearance since fibrous aggregates are aligned in different directions at times appearing woven." From Excalibur Mineral. Small.

22.731.1AB: Aenigmatite. Eveslogchorr Mountain, Khibiny Massif, Murmansk Oblast, Russia. "Black bladed crystals in rock with astrophyllite." From David Shannon. Two small samples.

22.734.2: Rhönite. Nickenicher Sattel, Nickenich, Pellenz, Mayen-Koblenz District, Rhineland-Palatinate, Germany. "Dark red prisms appearing on most cases a lustrous black. Crystals are present in two large clusters of micro crystals probably multi-twinned and as individuals (possibly twins) scattered over vug surface. Some bruising of large crystals. Present are some orange crystals of amphibole minerals and micro hematite crystals." From Excalibur Mineral. Small.

22.831.3-5: Bertrandite. Foote Lithium Co. Mine, Kings Mountain Mining District, Cleveland County, North Carolina. "Very fine colorless micro crystals in vugs.:" From Douglas Berndt. FragBag. *Reserved*

22.831.6: Bertrandite. Wausau Intrusive Complex, Marathon County, Wisconsin. "Small colorless crystals with sharp faces on iron stained pegmatite matrix. Unusual locality." From Dave Shannon. Small.

22.921.1245: Narsarsukite. Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. Sample 1: "Yellow crystals and crystal group abundant in matrix. Attractive specimen." Sample 2: "Crystal faces (possibly cleavages) visible on fracture surface of rock. Tan inclusions occupy center of crystals. Some corners are clear, so inclusions appear as phantoms." Sample 4: "Attractive crystal group in vugs of syenite. Portion missing and remainder has cleavage cracks, but one crystal is nearly transparent. Nice color." Sample 5: "Two small crystals, one with very small amount of matrix and the other off matrix." Sample 1 from Wards, sample 2 from Microminerals International, sample 4 from Monteregian Minerals, and sample 5 from Girdauskas Minerals. Four small samples.

22.951.1: Astrophyllite. Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "Yellow-brown sunbursts and crystal aggregates with large reddish bladed crystals in vug with unidentified black (?) prisms." From Microminerals International. Small.

22.994.1: Pectolite. Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "White crystalline mass with some crystal prisms and some terminations. Crystals are colorless. Some crystal prisms including one double terminated are transparent to translucent green. Identity is unknown but they resemble the pectolite." From David Shannon. Small.

2251.4: Chalcocite. White Pine Mine, White Pine, Ontonagon County, Michigan. "Flattened crystal plates." From Simkev Minerals. Two very small samples.

23.232.2+4B: Gaidonnayite (type locality). Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. Sample 2: "Light grey, nearly white twin crystal with siderite crystals on matrix." Sample 4B: "...crystal clusters on crystallized feldspar with siderite. Two lustrous clusters with cube-like crystals. One is near high point of specimen at one end. The second is suspended under a feldspar plate to left of first cluster." Sample 2 from Simkev Minerals. Sample 4B from David Joyce. One thumbnail (sample 2) and one small sample.

23.232.4AC: Gaidonnayite. Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "Specimens from one matrix sample of gaidonnayite crystal clusters on crystallized feldspar with siderite." Sample A: "Cluster of box-like crystals, beige color at highest point of specimen. Below is smaller cluster with lighter color and less defined crystals." Sample C: "Very small lustrous crystal cluster, may be twinned, on flat feldspar plate at high point of specimen." From David Joyce. Two small samples.

23.251.157: Catapleiite. Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. Sample 1: "Very fine colorless crystal group off matrix." Sample 5: "Fine hexagonal crystals, some with white frosted appearance, other coated with shiny black coating, probably a manganese 'wad'. Also coated by the 'wad' are sharp pointed crystals resembling aragonite, some may be aegirine. Largest catapleiite crystals are coated by the 'wad'. Area of white fibrous material on side of specimen may be elpidite, as well as large, tan crystals on side near top." Sample

7: "Cluster of white crystals with crystal fragments of aegirine. Specimen form hollow with cluster of small parallel crystals growing on the catapleiite, possibly eudidymite." Samples 1 and 5 from Montereian Minerals. Sample 7 from David Garske. Three small samples.

23.261.2-10: Osumilite. McKenzie Pass, Lane County, Oregon. Sample 2: "Several nice crystal groups in large vug and another crystal in vug on side." Sample 3: "Large group of fine thin crystals on matrix." Sample 4: "Small to micro crystals in vugs of matrix." Sample 5: "Fine small crystal in vug." Sample 6: "Fine thin crystal, well exposed, on matrix." Sample 7: "Nice crystal group in vug at edge of specimen, with some crystals showing faint translucency indicated by blue reflections. A number of vugs have thin, pointed red opaque crystals which may be altered fayalite, some interesting parallel growth." Sample 8: "Three matrix samples with nice crystals and crystal groups. Nice specimens." Samples 9 and 10: "Matrix samples with crystals and crystal groups." All from Minerals Unlimited. Nine small samples.

23.262.2: Milarite. Jaguarçu pegmatite, Jaguarçu, Minas Gerais, Brazil. "Small curved crystal group of crude crystals, colorless to pale green. A few of the shorter crystals are terminated. The outer surface, with the terminated crystals, tends to be more glassy and colorless while the opposite side is pale green, highly fractured with a more opaque ceramic appearance." From David Shannon. Small.

23.281.4: Neptunite. Dallas Gem Mine, New Idria District, San Benito County, California. "Two minute fragments of crystal groups, each with terminated crystals. Terminated crystal on smallest fragment is chipped." From Bourget Bros. Very small.

23.331.1A: Cordierite. Sri Lanka. "Dark crystal fragments with very strong color change in transmitted light." From Parser. Small.

23.331.3B: Cordierite. Espírito Santo, Brazil. "Fine small fragment with good color." From David Shannon. Small.

23.812.2: Axinite-(Fe). Baja California, Mexico. "Fine 18 x 20 mm twin crystal. Surface has inclusions and appears bleached white in some areas but is translucent and may have cutting grade material on interior." Note: Twinning is unknown (or at least exceptionally rare) in axinite. This appears to be a normal (non-twinned) example. Supplier not recorded. Small.

23.812.6: Axinite-(Fe) and Quartz. Bor Pit, Dal'negorsk B deposit, Dalnegorsk, Dalnegorsk Urban District, Primorsky Krai, Russia. "Fine pale violet to yellowish micro crystals on quartz crystals and calcite on minor rock matrix. Specimen is portion of vug." From Simkev Minerals. Thumbnail.

23.813.2: Axinite-(Mn). Iron Cap Mine, Superior, Pioneer Mining District, Pinal County, Arizona. "Sharp green crystals (2) in vug coated in part with brown 'mud'." From U.V. Products. Small.

23.815.1AB: Tinzenite. Valgraveglia Mine, Monte Copello, Reppia, Ne, Genoa, Liguria, Italy. "Yellow fibrous aggregates (two pieces) with minor matrix (quartz?)." From David Shannon. Two small samples. *Reserved*

23.835.6B: Schorl. Timms Hill, Haddam, Middlesex County, Connecticut. "Small double terminated crystal, near equidimensional, so resembles isometric crystal." From David Shannon. Small.

24.322.1+2+4+6-9: Labuntsovite. Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. Sample 1: "Poorly formed micro crystal and/or crystalline aggregates in vug and in matrix, sparse. Vug has several very minute crystal sprays with pink micro crystals, possibly ancylite or rhodochrosite and one small group (one or two crystals) of an amber equidimensional crystal mineral." Sample 2: "Small sample of matrix with several very micro crystals or aggregates." Sample 4: "Segment of [another sample] with approximately six or more areas with labuntsovite, some with broken terminations, but showing some superb orange crystal groups." Sample 6: "Minute terminated crystal prims off matrix." Sample 7: "Short orange crystal on coarsely crystallized albite." Sample 8: "Very fine orange prims in vug of syenite with unidentified white acicular crystal spray of ?" Sample 9: "Orange micro crystals, sparse in vug with superb white to water clear crystal sprays." All from W. D. Christianson. Sample 6 is a speck; the others are small.

24.324.1: Labuntsovite-(Fe). Turii alkaline massif, Turii Cape, Murmansk Oblast, Russia. "Dark red/brown prism segments in rock." From Excalibur Mineral. Small.

24.521.4: Komarovite (type locality). Natrolite Stock, Karnasurt Mountain, Lovozersky District, Murmansk Oblast, Russia. "Pale rose chalky mass forming vein between yellow brown rock. Chalky white masses probably are natrolite and the vein may be intermixed with that mineral." From Minerals Unlimited. Small.

24.541.1: Bavenite. Foote Lithium Co. Mine, Kings Mountain Mining District, Cleveland County, North Carolina. "Water-clear, flat micro crystals standing in vug in pegmatite. Most crystals appear to be twinned." From Carter Rich. Small.

24.641.1: Bafertsite. Fountain Quarry, Fountain, Pitt County, North Carolina. "Pale straw colored acicular crystals, glassy to chalky, embedded in rock. Sparse, Three locations on small rock sample. What may be the largest is on edge of specimen (face adjacent to face with red pointer and on right side when pointed end and red arrow point away from viewer). Closest to viewer and is partially covered by rock and visible at base of step in rock surface." From Mineralogical Research. Two small samples in small sample box. *Reserved*

24.651.2: Joaquinite-(Ce) (type locality). Dallas Gem Mine, New Idria District, San Benito County, California. "Fine micro crystal group off matrix." From Mineralogical Research. A crystalline speck.

24.691.1: Hubeite (type locality) and Inesite. Fengjiashan Mine, Daye County, Huangshi, Hubei, China. "Yellow brown to reddish brown flattened crystals on a yellowish crystalline aggregate of ?. The hubeite crystals are largely overcoated by fine violet transparent crystals of inesite. Rather pretty specimen. A crude crystal of calcite also present as well as fine micro crystals of apophyllite and possibly quartz." From Simkev Minerals. Small.

24.731.6+7: Hemimorphite. Zinc Hill Mine, Zinc Hill, Zinc Hill Mining District, Argus Mountains, Inyo County, California. Sample 6: "Small crystals thickly intergrown on matrix with patches of blue and green copper minerals." Sample 7: "Fine clusters of small parallel growth crystals forming aggregate with hollow center, possibly a cast after a primary mineral. A few nice double terminated calcite crystals are implanted on the hemimorphite and a fibrous to botryoidal to thin granular crust of conical calcite coats the majority of all exposed surfaces." Both from Microminerals International. Two small samples.

24.832.1: Kentrolite. Långban Mine, Långban Ore District, Filipstad, Värmland County, Sweden. "Black glassy fragments in massive kentrolite." From Girdauskas Minerals. Many fragments in small sample box.

24.851.1: Niocalite. Oka complex, Oka, Deux-Montagnes RCM, Laurentides, Québec, Canada. "Light yellow crude prismatic crystals with fairly abundant gleaming black biotite in carbonatite. Some yellow hexagonal prisms may be apatite." From Carter Rich. Small.

24.864.1: Barytolamprophyllite. Gordon Butte, Meagher County, Montana. "Dark opaque crystals on matrix. Grey black on exposed surfaces but rich brown with yellow-brown lustrous highlights on cleavage surfaces." From David Shannon. Small.

25.226.1: Schorlomite. Kovdor Massif, Murmansk Oblast, Russia. "Black mass with bright adamantine luster on fracture surfaces." From David Shannon. Thumbnail.

25.232.1+2: Goldmanite. Sandy Mine, Laguna Subdistrict, Cibola County, New Mexico. Sample 1: "Dark coatings (green?) on dark sandstone. The coatings which are probably a very micro crystal aggregate appear as darker patches on the sandstone. A rare vanadium garnet." Sample 2: "Three small fragments of sample 1 with goldmanite." Both from Mineralogical Research. Two small sample boxes.

25.269.2: Creaseyite. Tonopah-Belmont Mine, Belmont Mountain, Tonopah, Osborn Mining District, Maricopa County, Arizona. "Single and clusters of micro spherical aggregates of yellow green acicular crystals. Very small but nice for species." From David Shannon. Small. *Reserved*

25.281.1: Strätlingite. Bellerberg Volcano, Vordereifel, Mayen-Koblenz District, Rhineland-Palatinate, Germany. "Transparent colorless stacked plates on white crust in vugs of rock. May be tridymite; identification of strätlingite uncertain." From Grayson Lapidary. Small.

25.312.7: Willemite. Tres Hermanas District, Tres Hermanas Mountains, Luna County, New Mexico. "Porous brown limonite matrix thickly covered with globular sprays, mats and single crystals of transparent to white micro crystals of willemite. Attractive." From Microminerals International. Small.

25.325.1+2: Fayalite and Cristobalite. Inyo County, California. Sample 1: "Terminated yellow transparent [fayalite] plates in cristobalite." Sample 2: "Yellow transparent [fayalite] plate with small fragment missing from one side of termination, on cristobalite." From Bourget Bros. Two small samples.

25.516.1: Manganvesuvianite. N'Chwaning II Mine, N'Chwaning Mines, Kuruman, Kalahari manganese field, Northern Cape, South Africa. "Very dark red in thinner portions of crystals, and transparent. Thicker areas of crystals are almost black and opaque. Crystals are moderately abundant on altered rock." From Simkev Minerals. Small.

25.521.10: Datolite, Copper, and Epidote. No. 2 shaft, Centennial Mine, Centennial Heights, Houghton County, Michigan. "Fragment of a vuggy rock with micro datolite crystals in one vug. The crystals have included copper which colors them red. In at least one crystal the surfaces are smooth, glossy and sharp. In other the copper appears to have continued to grow after the datolite crystal growth and to form a coating of tiny crystal points rising out of the crystals." From Simkev Minerals. Small.

25.531.8 et al: Epidote suite.

- Sample 8: Laxey Mine, South Mountain District, Owyhee County, Idaho. "Green-yellow crystals thickly intergrown, many with fine terminations. Minor chlorite matrix (?)." From Microminerals International. Small.
- Sample 9: With Pumpellyite. Copper City, Keweenaw County, Michigan. "Study dark green crystals with yellow overtones growing on fibrous radiating mat of pumpellyite which in turn lines vugs of rock. Small crystals and acicular sprays (?) of laumontite coat the epidote. Clear crystal (quartz or calcite) visible at bottom of one vug." From Carter Rich. Small.
- Samples 10A and B: Quincy Mine, Hancock, Houghton County, Michigan. "Two samples of rock from Michigan copper country with fine epidote crystals in vugs. In sample A the epidote is abundant and deposited on orthoclase. The second is similar but the epidote is almost buried in white crystalline aggregates of either a dehydrated zeolite or a clay from altered feldspar. Locality [might be Seneca Mine instead of Quincy Mine]." Two small samples.

25.632.2: Chondrodite. Otjiwa, Otjiwarongo, Otjozondjupa Region, Namibia. "Pale violet grains and masses constituting large part of rock. Collected by David Shannon on 11/10/95." From David Shannon. Small.

25.635.1: Leucophoenicite. Franklin, Franklin Mining District, Sussex County, New Jersey. "Pink masses in typical Franklin rock." From David Garske. Small.

25.733.1: Defernite. Kombat Mine, Kombat, Grootfontein, Otjozondjupa Region, Namibia. "Brown glassy blades in black hausmannite. Collected by M. Rheinlander 01/94." From David Shannon. Small sample box full of crystalline dust and fragments.

25.826.3: Ellenbergite. Dora Maira coesite-bearing unit, Cuneo Province, Piedmont, Italy. Specimen similar to "lilac to purple crystalline grains, some with crude crystal faces, in quartzite/muscovite rock. Associated with rutile which appears opaque black but in transmitted light is sometimes translucent with a red cast." From Ann Williams; ex Cureton. Small. *Reserved*

25.834.1: Vicanite-(Ce) (type locality). Vico volcanic complex, Viterbo Province, Lazio, Italy. "Green anhedral grain on edge of vug (indicated by arrow). A smaller, deeper green, more glassy grain is near right back edge of arrow (with arrow pointed up)." From Paragon Minerals. Small. *Reserved*

25.842.1: Iimoriite-(Y). Trimouns Talc Mine, Luzenac, Foix, Ariège, Occitanie, France. "Very pale pink crudely crystallized in massive dolomite and amongst dolomite crystals over the massive dolomite. Opaque to very slightly

translucent and very difficult to see in the dolomite due to the very pale color and similar appearance to the dolomite." From David Shannon. Small. *Reserved*

25.872.2AB: Hemihedrite. Wickenburg, Maricopa County, Arizona. "Brown crystals, sparse, in highly altered gossan with other unidentified minerals." From David New. Two small samples.

25.872.3: Hemihedrite. Potter-Cramer Mine, Vulture Mining District, Maricopa County, Arizona. "Micro orange crystals in vug of rock. Poor sample." From Minerals Unlimited. Small.

25.911.5: Andalusite. Itinga, Minas Gerais, Brazil. "Two corroded crystal segments. Pale green to very pale red translucent segments." From Excalibur Mineral. Two small samples in small sample box.

25.941.1: Staurolite and Almandine. New Mexico. "Fairy cross twin crystal. Twinned at 90°, with some mica schist matrix on faces and several small red garnets embedded in the schist and staurolite. Nice specimen." From Southwest Scientific. Small.

25.941.3A: Staurolite and Almandine. New Mexico. "Fairy cross twins" With almandine crystal(s) and mica schist matrix. From Southwest Scientific. Small.

2511.13: Galena. Nugget Fraction Mine, Silver Reef Mountains, Tat Momoli Mountains, Silver Reef Mining District, Tohono O'odham Indian Reservation, Pinal County, Arizona. "Bright cleavages with minor alteration products. Ore from minor mine but rich in gold (2 oz/ton) and silver (127.1 oz/ton)." From David Shannon. FragBag.

2521.19: Sphalerite. Demix-Varennes Quarry, Saint-Amable sill, Varennes & St-Amable, Lajemmerais RCM, Montérégie, Québec, Canada. "Micro yellow crystal, fine, in vug." From Simkev Minerals. Small.

2522.1: Metacinnabar. Mount Diablo Mine, Mount Diablo, Clayton, Contra Costa County, California. "Crude small crystal groups scattered on rock matrix." From Mathiasen Minerals. Small.

2526.1: Tiemannite. Deer Trail Mountain, Piute County, Utah. "Black masses in friable rock." From Excalibur Mineral. Small.

2531.2: Alabandite. Garpenberg Norra Mine, Garpenberg, Hedemora, Dalarna County, Sweden. "Black octahedral micro crystal in crevice of calcite crystal group. The face appears granular and scaly, not sharp. Associated with pyrrhotite, magnetite (?) crystals and cubanite and/or pyrite. Note: Octahedral black crystal could be magnetite. Original sample had arrow but no alabandite could be identified from arrow. Crystal noted above fairly good sized micro but somewhat difficult to locate." From David Shannon. Small.

2536.1: Kiddcreekite. Bisbee, Cochise County, Arizona. "Grey masses very sparse in fragment of quartz with abundant brassy sulfide (chalcopyrite?). Requires at least 20x." From Excalibur Mineral. Small. *Reserved*

2561.4: Cubanite. Strathcona Mine, Levack Township, Sudbury District, Ontario, Canada. "Two small samples of intergrown crystals with little or no matrix. Crystals are in part broken in part incomplete but some terminations present. Cleavage faces show excellent twinning, common in this rare mineral. Collected June 1972." From The Rare Earth. Two very small samples.

2561.5: Graphite. Franklin, Franklin District, Sussex County, New Jersey. No description in catalog. Small, dull to brilliant graphite crystal flakes scattered in opaque, white calcite cleavages. No supplier recorded. FragBag.

2571.1: Realgar. Getchell Mine, Adam Peak, Potosi Mining District, Humboldt County, Nevada. "Terminated micro crystals in parallel growth with minor stibnite." From Mathiasen Minerals. Very small.

261.11.1: Troilite. Alta Mine, Low Divide, Low Divide Mining District, Klamath Mountains, Del Norte County, California. "Silver-grey to bronze granular masses, oxidized in part." From Paragon Minerals. Small.

2611.5: Pyrrhotite. Brockville, Elizabethtown Township, Leeds and Grenville Counties, Ontario, Canada. "Twinned crude crystals of pyrrhotite. Curious since they do certainly appear twinned (twins are rare) but not as shown in an early Dana handbook." I do not believe this is a true twin. From David Joyce. Small.

2631.1: Millerite. US Highway 27 roadcut, Halls Gap, Lincoln County, Kentucky. "Starburst. Radiating groups of brassy filaments in small 20 mm geode segment." From Douglas Berndt. Small.

2661.2: Cinnabar. Barranca de Cobre, Chihuahua Municipality, Chihuahua, Mexico. "Red coating on four grouped clusters on calcite crystals, some calcite crystals over cinnabar coating." No supplier recorded. Small.

2661.6: Cinnabar. Sulphur Bank Mine, Clear Lake Oaks, Sulphur Creek District, Lake County, California. "Crystalline crust on calcite crystals. All on soft grey volcanic tufa." From Microminerals International. Small.

2911.1B: Pyrite. Trabzon, Trabzon Province, Turkey. "Lustrous silvery-white single octahedral crystal." Now has dull luster. From David New. Small.

2911.14: Pyrite. Canada Talc Mine, Huntingdon Township, Madoc Area, Hastings County, Ontario, Canada. "Fine small cubic crystal embedded in talc." From W. D. Christianson. Small.

2911.15-17+19: Pyrite. Lengnabach Quarry, Fäld, Binn, Goms, Valais, Switzerland. Sample 15: "Superb micro to small crystals on sugary dolomite." Sample 16: "Single small crystal with complex set of faces." Sample 17: "Single small crystal perched on dolomite." Sample 19: "Unusual elongated crystal with stubby prismatic appearance, on dolomite." All samples from David New. One very small samples (sample 16) and three small samples.

2911.18: Pyrite and Calcite. Pontoosuc, Hancock County, Illinois. "Portion of calcite geode, massive with vugs on outer portions, crystal aggregates on inside. Very small pyrite crystals in vugs and on crystal bases. Crystals are tarnished peculiar copper color." From Carter Rich. Small.

2911.21-23: Pyrite. Estacada, Clackamas County, Oregon. Sample 21: "Crystal aggregates in drusy quartz lined vugs in volcanic rock. One vug has crystal aggregate in center of vug (very small in comparison to vug size) with stout elongated filamentary crystals one of which reaches across width of vug to opposite wall. A second vug on side of specimen has cluster of rusty pyrite with several elongated crystals looking like flat plates with right angle bends and enlarged terminations. Difficult to see unless tilted to reflect light off flat surfaces. Several brilliant microcrystals visible which may be well terminated or double terminated, appear black and may be tarnished pyrite or different species. One vug almost filled with black warty coating with bronze highlights and others have clusters of green powdery aggregates scattered on the drusy quartz. Interesting specimens." Sample 22: "Fragment of [sample] 21 with vug containing small spray of very elongated hair-like pyrite crystals." Sample 23: "Small fragments of vug wall with several hair-like pyrite crystals rising from common origin." All three from Mineralogical Research. Two small and one very small samples.

2911.26: Pyrite. Wyoming Mine, Gilman Mining District, Eagle County, Colorado. "Five twinned pyritohedrons." From David Shannon. Five crystals (four complete, one incomplete) in small sample box. *Reserved*

2911.29B: Pyrite cast after...? Sweetwater Mine, Ellington, Reynolds County, Missouri. "Fine pseudo of orthorhombic crystal, possibly anhydrite or barite. Supplier believes may be anhydrite since evaporite beds located off ancient reef structure. Barite not present in deposits of Viburnum Trend from which this specimen removed." From Dan Weinrich. Two small pieces in small sample box.

2911.33: Tungstibite (Pyrite?). Clara Mine, Oberwolfach, Ortenaukreis, Freiburg Region, Baden-Württemberg, Germany. "[Fragments of another sample] with examples of the [tungstibite] twins and trillings noted for [the original] specimen. Some of these fragments are larger and definitely appear yellow. They may be pyrite although identification is still uncertain. Small samples with micro minerals but still striking." From Excalibur Mineral. Three small to very small samples in small sample box. *Reserved*

2911.40: Pyrite. Lengnabach Quarry, Fäld, Binn, Goms, Valais, Switzerland. "Small crystal of unusual form in dolomite." From Simkev Minerals. Small.

2942.1: Safflorite. Cobalt area, Cobalt-Gowganda region, Timiskaming District, Ontario, Canada. "Micro botryoidal crust." From W. D. Christianson. Small.

31.143.1A: Denisovite (co-type locality). Eveslogchorr Mountain, Khibiny Massif, Murmansk Oblast, Russia. "Grey white fibrous crystals with nepheline." From David Shannon. Several small samples in small sample box. *Reserved*

31.143.1B: Fersmanite. Khibiny Massif, Murmansk Oblast, Russia. "Glassy dark brown masses partially altered (or etched) to light yellow brown porous masses in matrix." From David Shannon. Small. *Reserved*

31.146.1: Tadzhikite-(Ce). Tre Croci, Vetralla, Viterbo Province, Lazio, Italy. "Spray of three or four acicular crystals in vug of sanadine pegmatite. Crystals are transparent and very pale yellow in color. A narrow vug on the side of the specimen has a wider crystal extending across the width of the vug. Crystal is darker yellow." From Paragon Minerals. Numerous small fragments in a small sample box. *Reserved*

31.157.1: Adamsite-(Y) (type locality). Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "Glassy white acicular crystal bundle on small matrix sample." From Ann Williams. Very small. *Reserved*

31.164.1: Eudialyte with Unknown. Kola Peninsula, Murmansk Oblast, Russia. "Purple translucent crystal plates and segments with eudialyte and a lustrous black prismatic mineral. In the larger of two samples the purple mineral is in part scattered in eudialyte and in part at interface with the black mineral. It is in blocky masses that appear to have some crystal faces. In smaller sample it is present as thin flat plate, one surface against flat eudialyte crystal face. The exposed upper face appears to be anhedral crystals grown together. Possibly murmanskite? [Cannot find murmanskite at Mindat.]" Supplier not recorded. Small.

31.172.1: Eveslogite (type locality). Fersman Gorge, Eveslogchorr Mountain, Khibiny Massif, Murmansk Oblast, Russia. "Small layered tan mass, off matrix. From the author who described the mineral." From Excalibur Mineral. Small. *Reserved*

3151.8: Polybasite. De Lamar Mine, De Lamar Mining District, Owyhee County, Idaho, "Nice lustrous micro crystal group with striations on faces. One crystal appears broken but still fine group." From David New. Small.

3151.9: Polybasite. De Lamar Mine, De Lamar Mining District, Owyhee County, Idaho. "Micro crystal group in narrow small vug. Crack is present at junction of crystals. Opposite end of vug has micro polybasite on edge with grey mineral (perhaps naumannite) and unknown mineral." From David Shannon. Small.

3153.1: Polybasite-Tac. Clara Mine, Oberwolfach, Ortenaukreis, Freiburg Region, Baden-Württemberg, Germany. "Black to grey tabular crystal segment in rock." From David Shannon. Small.

3171.1: Stephanite. St Andreasberg, Braunlage, Goslar District, Lower Saxony, Germany. "Bright black crystalline masses with crude crystal terminations." From David New. Several small to very small fragments in a small box.

3211.2: Pyrargyrite. Marien Empfängnis Mine, Bösenbrunn, Vogtlandkreis, Saxony, Germany. "Micro crystals on crumbly calcite matrix (all crumbled)." From Hatfield Goudy. Rather small.

3212.6: Proustite. Měděnec, Chomutov District, Ústí nad Labem Region, Czech Republic. "Approximately one dozen crystals both single and in clusters on sulfide ore. Crystals are fine rich red color." From Excalibur Mineral. Now granular to powdery, but proustites are visible. FragBag.

3222.1: Pyrostilpnite. Van Silver Property, Brandywine Creek, Vancouver Mining Division, British Columbia, Canada. "Very minute crystal prism on matrix. Crystal is adjacent to linear dark grey silver (?) mineralization lying flat on matrix while the pyrostilpnite originates at one end of the grey mineral is free standing off to one side of crystallized matrix containing the pyrostilpnite is a tetrahedral (?) crystal of unknown mineral, possibly octahedral (?) galena." [I just transcribe what is written with minimal editing...] From Simkev Minerals. Small.

3511.2: Sulvanite. Fivemile Pass, Greeley Mining District, Tooele County, Utah. "Partial bronze-colored crystal on matrix with several crystalline masses showing, in part, crystal faces. Crystal structure on best crystal does not appear cubic without doubt and identification is uncertain." From Bart Cannon. Small.

3511.1: Friedrichite. Panguitch, Garfield County, Utah. "Black needles (not visible) in massive stibnite, all in vuggy quartzite. The sulfosalt can be made visible, it is reported by etching the stibnite with alkali (KOH). The material was supplied by the famous exploratory geologist/mineralogist Sidney Williams." From David Garske. Small.

3511.2: Friedrichite. Vyšná Boca, Liptovský Mikuláš District, Žilina Region, Slovakia. "Grey micro needles sparse in quartzite. Needles sometimes grow on yellow sulfide/sulfosalt. Lindströmite and hammarite also present (?). Collected by Dr. D. Dula [?] in 2001." From David Shannon. Several chunks in small sample box. *Reserved*

3521.3: Lengenbachite (type locality). Lengenbach Quarry, Fäld, Binn, Goms, Valais, Switzerland. "Micro fan of flat black crystalline lengenbachite." From Natures Treasures. Small.

3533.1: Aschamalmite. Granite Gap, San Simon District, Peloncillo Mountains, Hidalgo County, New Mexico. "Lead-grey lustrous metallic masses in rock. Sparse." From Excalibur Mineral Company. Small. *Reserved*

3581.1: Owyheeite. Chelan County, Washington. "Black acicular needles coating quartz, ca. 8 mm." From Elmac Enterprises. Small. *Reserved*

3611.3: Andorite. Bear Basin Mines, Buena Vista District, King County, Washington. "Crude silver-grey to dark brassy crude crystals and crystalline masses in acid etched vuggy rock. Much may be sulfides of copper." From Bart Cannon, Two small samples in a small sample box.

3654.1: Sterryite. Pollone Mine, Valdicastello Carducci, Pietrasanta, Lucca Province, Tuscany, Italy. "Black needle-like crystals scattered sparsely on dolomite. Verified by analysis." from Excalibur Minerals. Small. *Reserved*

3861.5+6+10: Sartorite (type locality). Lengenbach Quarry, Fäld, Binn, Goms, Valais, Switzerland. Sample 5: "Small sample of Lengenbach dolomite with micro sulfosalt." Sample 6: "Nice crystal segment of sulfosalt." Sample 10: "Vug in sugary dolomite with fair dolomite crystals and two thin elongated sulfosalt prisms (may not be sartorite). Quartz crystal termination extends into vug. Quartz is rare at this locality." Samples 5 and 6 from David New. Sample 10 from The Prospectors. Three small samples.

3961.2: Getchellite and Wakabayashilite. Khaidarkan Sb-Hg deposit, Batken Region, Kyrgyzstan. "Red cleavages and masses in rock with very sparse fibers and crystalline masses of wakabayashilite." From Mineralogical Research. Small. *Reserved*

4111.6A: Cuprite. Ray Mine, Scott Mountain, Pinal County, Arizona. "Fine parallel growth of brilliant red translucent to transparent cubic crystals on highly altered rock. Matrix appears tough but tends to be friable. Much of matrix covered by sooty black to iridescent green coating." From David Shannon. Small.

4111.6B: Cuprite. Ray Mine, Scott Mountain, Pinal County, Arizona. "Fine parallel growth of brilliant red translucent to transparent cubic crystals on highly altered rock. Matrix appears tough but tends to be friable. Much of matrix covered by sooty black to iridescent green coating." From David Shannon. Small.

4161.1: Tenorite. Caspar Quarry, Ettringen, Vordereifel, Mayen-Koblenz District, Rhineland-Palatinate, Germany. "Feathery thin lustrous black plates on very porous volcanic rock." From David Garske. Small.

4211.1: Arsenolite. Saint-Étienne, Loire, Auvergne-Rhône-Alpes, France. "Aggregate of crude crystals with rounded edges." From Mathiasen Minerals. Very small but quite nice for the species.

4251.1: Valentinite. Sombrerete, Sombrerete Municipality, Zacatecas, Mexico. "Single crystal (dark with inclusions?) on jamesonite. Difficult to see, crystal not well displayed." From David Garske. Very small.

4261.10: Corundum. Synthetic. "Sapphire whiskers. Blue-grey matted spherical aggregates of acicular micro crystals." From Carborundum Company. Powdery material in a small sample box

4341.1: Akaganeite. Case Quarries, Portland, Middlesex County, Connecticut. "Reddish brown film to very thin coating on vug surface in quartzite rock. Several small inclusions of bismuthinite are embedded in the quartz and bismutite alteration of the bismuthinite fills portion of vein. The greenish bismutite may be intermixed with bismite." From David Shannon. Small.

4421.6: Rutile. Magnet Cove, Hot Spring County, Arkansas. "Variety 'nigrine'. Ferrian rutile. Black striated prisms with rough terminations which appear corroded. Intergrown crystal group with minor orthoclase." From David New. Small.

4421.7: Rutile. Sidney Point, Alexander County, North Carolina. "Golden needles on muscovite." From R. Eaton. Small.

4421.12: Rutile. Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "Fine small dark crystal appears black on matrix. Group of broken crystals and fine very micro crystals also present." From Microminerals International. Small.

4422.6: Cassiterite. St Just, Cornwall, England. "Micro crystals on massive cassiterite. Dark orange appearing black. One faintly transparent." From Hatfield Goudey. Small.

4423.5: Pyrolusite. Mexico. "Very fine large crystals intergrown on dense fine grained matrix probably also of pyrolusite." Lousy locality info but superb crystals. From Microminerals International. Small.

4424.3: Plattnerite. Tucson, Pima County, Arizona. "Fine sprays of black prismatic crystals on matrix. Attractive Micro." Probably from the Old Yuma Mine. From Microminerals International. Small.

4424.4: Plattnerite and Murdochite. Blanchard Mine, Hansonburg District, Socorro County, New Mexico. "Fine micro crystal sprays on murdochite crystals and single crystals lying flat on quartz crystal matrix. Plattnerite is sparse, the murdochite rather more common." From Microminerals International. Small.

4424.7: Plattnerite. Bisbee, Cochise County, Arizona. Portion of specimen having "fine black micro crystals scattered on/in limonite. Additional crystal(s) thickly intergrown on back of specimen but crystal form not as obvious. Fine specimen. Collected by Richard Graeme." From Microminerals International. Small. *Reserved*

4581.2: Murdochite. Blanchard Mine, Bingham, Hansonburg District, Socorro County, New Mexico. "Fine black micro cubic crystals on quartz crystals." From Microminerals International. Small.

4612.1AB: Gahnite. Hawks Pyrite Mine, Charlemont, Franklin County, Massachusetts. "Sharp to crudely formed crystals and crystal masses, weakly consolidated with quartz and brown to grey earthy deposits. The sharper crystals with faces developed in vug with no deposits coating faces are lustrous and deep black. From collection of Gunnar Bjareby, noted Eastern collector." From David Garske, with a Garske label. Two small samples.

4622.1: Franklinite. Franklin, Franklin Mining District, Sussex County, New Jersey. "Small lustrous crystals with typical rounded faces and edges in calcite. Brilliant fluorescence." Source not recorded. Small.

4624.1: Magnesioferrite. Långban Mine, Långban Ore District, Filipstad, Värmland County, Sweden. "Shining black masses in white silaceous rock." From David Garske. Small. *Reserved*

4631.1: Chromite. Madison County, North Carolina. "Three small crude octahedral crystals, off matrix." From Minerals Unlimited. Three very small crystals.

4651.1: Hausmannite. Hoholt, Sweden. "Intergrown micro crystals in vugs of crystalline hausmannite." From Carter Rich. Small.

4653.1: Hydrohetaerolite. Sterling Hill, Ogdensburg, Franklin Mining District, Sussex County, New Jersey. "Multimineral aggregate, largely dull black grains many with crude crystal shapes. Mineral is altered from franklinite." From Minerals Unlimited. Small.

4841.1: Coronadite. Tsumeb Mine, Tsumeb, Oshikoto Region, Namibia. "Silvery grey botryoidal (?) crystal aggregates (possibly on botryoidal matrix) intergrown with small calcite rhombs." From Simkev Minerals. Small.

4841.4: Coronadite. Australia. No description in collection catalog. Dull grey mass, with a few vugs displaying tiny, fuzzy crystals. Thumbnail.

5283.1: Barium titanite. Synthetic. "Light tan crystalline mass with ground, nonpolished faces. Removed from electrical or electroacoustical device." From L. Marantz. [Marantz was a high-end audio components company.] Small.

5531.2: "Columbite". Oka complex, Oka, Deux-Montagnes RCM, Laurentides, Québec, Canada. "Micro crystals (fines) recovered from the carbonatite at Oka. The crystals include sharp micro octahedral crystals with resinous luster, light tan-brown to dark reddish-brown to nearly black; shiny black cubes to slightly elongated rectangles with square cross section. Also one twinned micro pyrite and one sharp hexagonal green micro mica crystal. Purchased as columbite but probably mostly crystals from perovskite group." From W. D. Christianson. Very small.

7114.3-5: Chlorargyrite. Vekol Mine, Sif Vaya area, Vekol Mining District, Vekol Mountains, Tohono O'odham Indian Reservation, Pinal County, Arizona. Sample 3: "Thin slab of matrix with crystalline cerussite and numerous crystals of chlorargyrite." Sample 4: "Small fragments of matrix with good to excellent small crystals of chlorargyrite. Several crystals partially obscured by matrix but very sharp smooth faces." Sample 5: "Numerous small fragments of matrix with crude to good crystals of chlorargyrite." All from David Shannon. Three small sample boxes.

7114.6+7: Chlorargyrite. Nugget Fraction Mine, Silver Reef Mountains, Tat Momoli Mountains, Silver Reef Mining District, Tohono O'odham Indian Reservation, Pinal County, Arizona. Sample 6: "Six rock fragments with chlorargyrite crystals. Some crystals relatively sharp but with waxy 'grainy' appearance, others are flattened on matrix but exhibit crystal shape. Crystals largely dark green." Sample 7: "Sample of same material as [sample 6] with two chlorargyrite crystals. One appears to be sharp octahedron, the second a complete crystal, possibly a spinel twin. Both are a dark green color." Both from David Shannon. Two small sample boxes.

7115.1+2: Bromargyrite. Schöne Aussicht Mine, Dernbach, Wirges, Westerwald District, Rhineland-Palatinate, Germany. Sample 1: "Crude, nearly anhedral micro crystals, fragments and films on limonite with dense black goethite." Sample 2: "Fragment of [sample 1] with one micro crude crystal." Both from Mineralogical Research. Two small samples.

7151.1+2: Iodargyrite. Broken Hill South Mine, Broken Hill, Broken Hill district, Yancowinna County, New South Wales, Australia. Sample 1: "Pale yellow granular to crystalline mass with embedded crystals of darker tan with green tint, probably chlorargyrite. Minor matrix." Sample 2: "Pale yellow green to colorless micro prisms on limonite. Excellent specimen." Sample 1 from David New. Sample 2 from Carter Rich. Two small samples. *Reserved*

7151.5: Iodargyrite. Block 14 opencut, Broken Hill, Broken Hill district, Yancowinna County, New South Wales, Australia. "pale green micro crystals, scattered in moderate amounts on matrix. Matrix consists of broken rock, probably most as small pieces of quartz coated and cemented by black wad." From Simkev Minerals. Small. *Reserved*

7211.7: Fluorite. Beatty, Bare Mountain Mining District, Bare Mountain, Nye County, Nevada. "Granular aggregates, micro crystals and small crystals in part on limestone. Crystals vary from cubic to curious distorted crystals of pyramidal appearance. Color varies from water white to deep purple almost black with colored crystals showing pronounced color banding. Pink to reddish granular (micro crystalline?) aggregates may be fluorite. Aggregates of micro acicular blackish green crystals of unknown mineral also present. Not very attractive specimen." From Carter Rich.

7551.1ABC: Laurionite. Lavrion slag localities, Lavreotiki, East Attica, Attica, Greece. "Micro crystals in lead slag with other micro minerals. Broken into fragments." From Natures Treasures. Three small sample boxes.

7551.3: Laurionite and Botallackite. Lautenthal smelter slag locality, Lautenthal, Langelsheim, Goslar District, Lower Saxony, Germany. "Fine acicular spray in vug of slag (?) or volcanic rock. Possible paralaurionite in very micro crystals (sparse) in wedge shaped crystals lying flat in separate small vug. With botallackite. Collected by Mathias Rheinlander." From David Shannon. Small.

7622.2: Simonkolleite. Ochsenhütte slag locality, Grane Reservoir, Langelsheim, Goslar District, Lower Saxony, Germany. "White crystalline coating as micro crystals on rock on or with hydrozincite." From David Shannon. Small.
Reserved

7651.3: Paralaurionite and Botallackite. Lautenthal smelter slag locality, Lautenthal, Langelsheim, Goslar District, Lower Saxony, Germany. "Colorless flat prismatic crystals with wedge shape terminations in vugs of slag (?). Associated with botallackite (on bottom of specimen) and possible hemimorphite." From David Shannon. Small.

7731.1: Cumengeite and Boleite (type locality for boleite). Boleo District, Santa Rosalía, Mulegé Municipality, Baja California Sur, Mexico. "Micro overgrowths on boleite." From Hatfield Goudey. A speck, but a nice speck.

7731.2: Cumengeite. Boleo District, Santa Rosalía, Mulegé Municipality, Baja California Sur, Mexico. "Single micro crystal off matrix." From Hatfield Goudey. A speck, but a nice speck.

7732.4: Boleite and Pseudoboleite (type locality for both species). Boleo District, Santa Rosalía, Mulegé Municipality, Baja California Sur, Mexico. "Single boleite crystal with partial plates of pseudoboleite on crystal. The boleite and pseudoboleite crystals are both partial." From Runners. Small.

7732.5: Pseudoboleite. Beatriz Mine, Caracoles, Caracoles District, Sierra Gorda, Antofagasta Province, Antofagasta, Chile. "Small section of matrix with clusters of rich blue crystals in vug. Tetragonal prisms, possibly freely-grown on matrix, or may be overcoating on boleite which is not visible." From David Garske. Small.

7774.1: Hydrocalumite and Afwillite. Boisséjour, Beaumont, Clermont-Ferrand, Puy-de-Dôme, Auvergne-Rhône-Alpes, France. "Pale blue chalky mass with thin tan coat over much of sample. Under magnification, one surface is full of fine micro prismatic crystals of afwillite." Supplier not recorded. Several chunks in small sample box.

7842.1+2+5: Pachnolite (type locality). Ivigtut Mine, Arsuk Fjord, Sermersooq, Greenland. Sample 1: "Prismatic crystals in vugs of massive aluminofluorides with hematite plates, fine siderite cleavages and other crude aluminofluoride crystals." Sample 2: "Water clear crystals in vugs of massive cryolite. Some localized tan-yellow staining." Sample 5: "Crystals in vugs of altered cryolite." Sample 1 from Hatfield Goudey. Sample 2 from Robert Eaton. Sample 5 from Microminerals International. Three small samples.

7911.1: Corderoite (type locality). McDermitt Mine, Opalite Mining District, Humboldt County, Nevada. "Microscopic inclusions in fine grained rock, with cinnabar." From David Garske. Small.

8172.1: Vonsenite. Grotte di Castro, Viterbo, Viterbo Province, Lazio, Italy. "Fine sprays of grey acicular crystals in vugs of volcanic rock with opaque white hexagonal prisms of nepheline." From Simkev Minerals. Small.

8172.4+5: Vonsenite. Tre Croci, Vetralla, Viterbo Province, Lazio, Italy. Sample 4: "Six small samples of crystallized pegmatite with vonsenite crystals." Sample 5: "Two small samples with vonsenite crystals." Both from Minerals Unlimited. Two small sample boxes. *Reserved*

8562.2: Jeremejevite. Vulkaneifel District, Rhineland-Palatinate, Germany. "Very minute terminated crystal prism. Color is very dark, appears black. Very dark blue in parts under strong light. Crystal appears color zoned. A second smaller nonterminated prism also present and blue color more readily visible in tiny area of crystal. Fine colorless crystals on which the jeremejevite is located are probably sanidine." From Excalibur Minerals. Very small.

8712.1: Probertite. Borax Pit #3, near Ryan, Furnace Creek Mining District, Inyo County, California. "Pale tan crystalline fragments of elongated fibrous structure." From Dave Shannon. FragBag.

9113.3: Siderite. San Antonio Mine, East Camp, Santa Eulalia Mining District, Aquiles Serdán Municipality, Chihuahua, Mexico. "Brown microcrystals, thickly intergrown. Associated with small white rhombs probably calcite." From Elmac Enterprises. Two small samples.

9115.2: Spherochalcite. DR Congo. "Very small vug with drusy coating of spherochalcite. Much of the spherochalcite is overcoated with tannish powdery coating [having] several brilliant red micro crystals. The largest has pyramidal terminations. Nice crystal form." From Alain Carion. Small.

9116.11: Smithsonite. Juanita Mine, Magdalena District, Socorro County, New Mexico. "Water clear micro rhombs with crude rounded faces scattered on limonite. Sparse hemispherical sprays of rosasite sometimes overgrown with the smithsonite." From Microminerals International. Small.

9116.12: Smithsonite and Barite. Kelly Mine, Magdalena, Magdalena District, Socorro County, New Mexico. "Fine clear micro crystals sharp for the species on bladed barite. (Have seen [more superb] crystals from Tsumeb.) Sparse rosasite, aurichalcite and other (?) copper minerals scattered on barite and smithsonite. The micro smithsonite often appears bruised or capped with white on one or more surfaces, apparently because of etching." From Carter Rich. Small.

9124.4A et al: Cerussite suite.

- **Sample 4A:** Kapi Mine, North Dundas, Zeehan District, West Coast municipality, Tasmania, Australia. "Colorless to pale yellow 'chromian' cerussite crystal on friable matrix with unidentified spherules of white acicular mineral. Includes one fine double terminated crystal." From Carter Rich. Small.
- **Sample 5:** 79 Mine, Chiloto, Hayden area, Banner Mining District, Gila County, Arizona. "Crystals and crystalline masses on blue-green prisms (possibly chrysocolla-stained mineral) all on massive blue-green material showing good cleavage. Cerussite is very clean but generally poorly crystallized." From Microminerals International. Small.
- **Sample 8:** Great Southern Mine, Monarch Wash area, Black Rock Mining District, Yavapai County, Arizona. "Group of micro crystals in small vug in rock. One of the crystals is heart-shaped twin crystal. From mine run ore." From David Shannon. Small.
- **Sample 10B:** C and B Mine, Christmas, Banner Mining District, Gila County, Arizona. "Vugs in massive cerussite with pseudomorphs of cerussite after unknown minerals. [May also have] some clear prisms of cerussite." From Dave Shannon. Small.

9211.13: Ferroan Dolomite. Vekol Mine, Sif Vaya area, Vekol Mining District, Vekol Mountains, Pinal County, Arizona. "Pale to dark chocolate-brown curved crystal aggregates some on dense carbonate (dolomite?) rock. One piece on aggregate of quartz crystals. Several samples have nice calcite crystals (water clear)." From David Shannon. FragBag.

9231.1: Huntite. Kokšín, Švihov, Klatovy District, Plzeň Region, Czech Republic. "White, very fine grained mass with sprays of micro white aragonite in vugs." From David Shannon. Small.

9241.1: Shortite. FMC Green River Trona Mine, Green River Basin, Sweetwater County, Wyoming. "Colorless wedge shape crystals in matrix. Molds in the matrix where shortite crystals are missing are coated with numerous aggregates of white micro crystals with tendency towards dendritic growth. The mineral involved is probably not shortite but could be alteration product. One area of matrix also covered with sparse to moderate amounts of acicular crystals of unknown minerals." From Carter Rich. Two small samples.

9251.3: Barytocalcite (type locality). Blagill Mine, Alston Moor, Eden, Cumbria, England. "Very fine colorless translucent crystals in vug of carbonate rock. Many crystals have sharp terminations. Fine specimen." From Simon Cohen. Small.

9282.3: Sabinaite. Poudrette Quarry, Mont Saint-Hilaire, La Vallée-du-Richelieu RCM, Montérégie, Québec, Canada. "Colorless to milky white crystals on siderite crystals." From Simkev Minerals. Small. *Reserved*

9311.1: Lanthanite. Rocky Boy Stock Occurrence, Hill County, Montana. "Porous pink masses in feldspar. Poor specimen. Does not match [seller's] description." From Bart Cannon. Small.

9511.1-3: Zaratite. Lord Brassey Mine, Heazlewood District, Waratah-Wynyard municipality, Tasmania, Australia. "Emerald green coatings on serpentine." From David Shannon. Three small samples.

9531.1: Aurichalcite. Empress Mine, Zinc Hill, Zinc Hill Mining District, Argus Mountains, Inyo County, California. "Blue-green matted fibers with etched clear crystals of unidentified material on limestone. Some purple fluorite visible through matting of the aurichalcite." From Microminerals International. Small.

9551.4: Hydrocerussite. Lavrion Mining District, Lavreotiki, East Attica, Attica, Greece. "Thin colorless to grey-white platy hexagonal crystals in vug of slag. Most crystals do not exhibit the hexagonal shape but one or more show very good hexagonal form." From David Garske. Small. *Reserved*

9621.3: Rosasite and Hemimorphite. Chief Mine, Prince Mine group, Hilton Mines, Copper Camp, Hilton, Empire Mining District, Empire Mountains, Pima County, Arizona. "Blue to blue-green spheroids scattered over fine hemimorphite crystals and tan porous matrix. Some rosasite included in clear hemimorphite." From Microminerals International. Small.

9621.4: Rosasite, Hemimorphite, and Calcite. Ojuela Mine, Mapimí, Mapimí Municipality, Durango, Mexico. "Fine sprays and bowties of rosasite acicular crystal aggregates on matrix and fine elongated well-terminated hemimorphite in large vug. Vug coated with fine dust obscures both minerals. Small vug has smaller, very fine, water-clear terminated hemimorphite but no rosasite." From Carter Rich. Small.

9631.7: Malachite. Tsumeb Mine, Tsumeb, Oshikoto Region, Namibia. "Small group of globular aggregates consisting of intergrown fibrous malachite. Probably mixed with aurichalcite (?)." Supplier not recorded. Small.

9641.1: Artinite. Staten Island, Richmond County, New York City, New York. "Silky white sprays of long needles intergrown on rock with pearly plates and platy aggregates of hydromagnesite." From Microminerals International. Small.

9661.5: Azurite. Tsumeb, Oshikoto Region, Namibia. "Portion of crystal group partially altered to malachite with carbonate mineral - calcite or [illegible]?" Supplier not recorded. Small.

9672.1: Dypingite. Near Dallas Gem Mine, New Idria District, San Benito County, California. "White coating on rock. This specimen may actually be hydromagnesite." From Excalibur Mineral. Small.

97.10.1.1: Alumohydrocalcite. East Mount Hamilton area, Mount Hamilton, Black Wonder Mining District, Santa Clara County, California. "Light blue green waxy coatings on rock. Chrome bearing variety with sparse pink coatings and unidentified mineral." From David Garske. Small.

9751.1: Dawsonite. Francon Quarry, Montréal, Québec, Canada. "Colorless crystals and crystalline groups lining and filling vugs in limestone. Poor sample" From W. D. Christianson. Small.

9752.1AB: Dresserite. Francon Quarry, Montréal, Québec, Canada. "Intergrown silky white acicular crystal sprays with well-formed calcite (?) crystals in limestone vug. Attractive. Dresserite commonly occurs as compact white spheres. Dawsonite more common and occurs in variety of forms at this location. [Sample may actually] be dawsonite." From W. D. Christianson. Two small samples.

9761.1+2: Callaghanite (type locality). Sierra Magnesite Mine, Gabbs, Gabbs Mining District, Nye County, Nevada. Sample 1: "Blue micro crystals and crystal coatings on matrix with hydromagnesite crystal plates. The hydromagnesite is largely twinned." Sample 2: "Similar to [sample 1] callaghanite crystal forms: 221, 111, 001, and 1(bar)01. Hydromagnesite is present as water clear plates lying flat in stacks on matrix." Both samples from Hatfield Goudey. Two small samples. *Reserved*

9821.8A-G: Synchisite. Holmestrand, Vestfold og Telemark, Norway. "Seven samples all from larger matrix sample with fine micro to very micro crystals and crystal clusters in vugs of volcanic rock. Crystals are translucent orange and exhibit some banding possibly as intergrowth with parisite. Fine anatase crystals abundant in the vugs." Sample A: "Two fine crystals intergrown." Sample B: "Two interconnected vugs, each with small to micro crystal clusters." Sample C: "Fine small crystal on matrix." Sample D: "Micro crystals scattered on a small matrix." Sample E: "Complex crystal in vug." Sample F: "Micro crystals scattered in vug." Sample G: "Two parallel micro crystals [plus] several other micro minerals." All from Mineralogical Research. Seven small samples. *Reserved*

9862.1: Stichtite. Serpentine Hill, North Dundas, Zeehan District, West Coast Municipality, Tasmania, Australia. "Bright pink to silvery pinkish-white mass." From David Shannon. Small.

9863.1: Pyroaurite. Rutherglen Brucite, Calvin Township, Nipissing District, Ontario, Canada. "Pale green crystal grains impregnating rock." From W. D. Christianson. Small.

9864.1: Takovite. Carr Boyd Rocks Ni Mine, Menangina Station, Menzies Shire, Western Australia, Australia. "Greenish masses in/on matrix." From David Shannon. Small.

9865.1: Desautelsite. Artinite pit, Picacho Peak, New Idria Mining District, San Benito County, California. "Orange crystalline coatings on actinolite on serpentine." Collection catalog gives locality as the nearby Dallas Gem Mine. This is a common but erroneous locality assignment for this material. From Carter Rich. Small.

9931.1: Canavesite (type locality). Brosso Mine, Cálea, Lésolo, Metropolitan City of Turin, Piedmont, Italy. "Sprays of long acicular crystals on white glassy spherules all lining portion of vug. Nice material but much bruising of the canavesite." From David Shannon. Small.

The following specimens are from collections lacking the catalog descriptions of the previous specimens.

33517: Linarite and Brochantite. Blanchard Mine, Hansonburg District, Socorro County, New Mexico. Clusters of deep blue linarite crystals and green, acicular brochantite sprays scattered on a quartz matrix. Small.

33686: Hannebachite (type locality). Hannebacher Ley, Hannebach, Spessart, Brohltal, Ahrweiler District, Rhineland-Palatinate, Germany. A vug in matrix hosts a cluster of tiny, colorless hannebachite crystals. White patches elsewhere on the matrix may be massive hannebachite. Ex Chuck Trantham. Small.

34125: Smithsonite and Cuprian Adamite. Hilarion Mine No. 50, Lavrion Mining District, Lavreotiki, Attica, Greece. Abundant translucent to opaque, waxy and botryoidal smithsonite in/on limonite/goethite matrix. Cuprian adamite present as light green, sparkling spheroids. Small.

34246: Cuprite and Copper. Mashamba West Mine, Kolwezi Mining District, Lualaba, DR Congo. Vugs in matrix host numerous deep cherry red cuprite crystals which are partially to significantly incomplete. A small mat of very finely wiry copper is present in the center of one rock face. Some powdery chrysocolla and a calcium carbonate - either calcite or dolomite (not tested) also present in these vugs. Supplier not recorded. Miniature. *Reserved*

34247: Sphaerocobaltite. Agoudal Mines, Agdz Cercle, Zagora Province, Drâa-Tafilalet Region, Morocco. A patch of fine, deep magenta crystals in matrix. Supplier unknown. Small.

34249: Fornacite. Singer Mine, Goodsprings Mining District, Spring Mountains, Clark County, Nevada. Blue-green microcrystalline crusts abundant on matrix. From Simkev Minerals. Small. *Reserved*

34251: Erythrite. Ighem Mine, Ighem, Agdz Cercle, Zagora Province, Drâa-Tafilalet Region, Morocco. Several vugs lines with pink microcrystals, some acicular. From Simkev Minerals. Small.

34253: Clinozoisite-Epidote. Alchuri, Shigar Valley, Shigar District, Gilgit-Baltistan, Pakistan. A fine, beautifully transparent and brownish-green blade, perfectly terminated. The Simkev label labels the species as clinozoisite, but

this species and epidote form a series in which it is not possible to determine which end member is present (or if this is a mixture) by visual inspection alone. From Simkev Minerals. Small.

34256: Hemimorphite. Blue Bell Mine, Soda Mountains, Silver Lake Mining District, San Bernardino County, California. Abundant, colorless and transparent hemimorphite blades line vugs in a limonite matrix. The Simkev label indicates bromargyrite is present, but I did not see any under the microscope. Simkev Minerals. Thumbnail.

34257: Vladimirite. Vein No. 53, Aït Ahmane, Agdz Cercle, Zagora Province, Drâa-Tafilalet Region, Morocco. A few sprays of thin, colorless needles on matrix. From Simkev Minerals. Small. *Reserved*

34647ABC: Diopase. Blue Bell Mine, Zzyzx, Soda Mountains, Silver Lake Mining District, San Bernardino County, California. Crusts of blue-green diopase crystals, mostly lying flat on matrix, with calcite and hemimorphite. Supplier unknown. Three small samples. *Reserved*