Spec # Specimen description

001 **Quartz Xtals** SiO_2 Color plate #13
"Herkimer diamonds" on dolomitic limestone. The name comes from the location (Herkimer, NY) combined with the unusual clarity, luster and smoothness of the xtals. Having been formed in an extremely pure matrix, the crystals are exceptionally clear and brilliant. Fonda, NY is but a few miles from Herkimer, and at the time afforded collectors a relatively unspoiled opportunity to find choice specimens.

Collected at Fonda, New York, October 1977

002 **Quartz xtal druse** SiO_2
004 On matrix with sphalerite, fluorite xtals, mica and micro pyrite. Collected in , May 1976 during Rt25 road construction. Note pyrite/limonite cube on edge of drusy quartz. Small vugs on the matrix side contain double terminated micro quartz xtals.These specimens were removed from a seam pocket. The roadside rock formation is a continuation of what is now called "The Old Tungsten Mine", a prospect that was explored but unworked during World War 2. The mine site is now a community park.

Route 25 road cut, Trumbull, CT

003 **Quartz Xtals** (var. Smoky) SiO_2
On matrix. Purchased at Luray Caverns, VA in 1977
Dark color is caused by natural ground radiation

Hot Springs Arkansas.

005 **Quartz Xtal** SiO_2
Double terminated and coated with limonite, these were a gift from Thomas Buchanan. His uncle collected minerals in the late '30's, primarily to support his hobby of faceting gems and minerals.

Minas Gerais, Brazil.

Spec # Specimen description

006 **Brookite** TiO_2
This is micromount specimen was purchased 1978 simply to have a study piece of this material.
Magnet Cove, Arkansas

007 **Quartz Xtal** SiO_2
With rutile, mica and red clay inclusions. It was collected during the first trip to this location in 1966.
Rist Emerald Mine, Hiddenite, North Carolina

008 **Quartz** (var. Amethyst) SiO_2
Small xtal specimen 3 x 2 x 1.5" on matrix. The purple color of amethyst is generally accepted as being due to iron impurities. Source is unknown

009 **Garnet (var. Grossular)** $Ca_3Al_2(SiO_4)_3$
Calcium aluminum silicate. One of the varieties in the garnet group. Because they contain iron, the yellow/brown dodecahedral crystals are classed as "hessonite" variety. Fluorescent in UV light, this matrix specimen was a gift in 1995. Location is unknown, but is probably Maine or Vermont

010 **Quartz** (var. Rose) SiO_2
Pale and translucent, this specimen was found at a roadside rock dump in CT in 1977

011 **Agate Geode** SiO_2
This specimen was picked up at the Valley of Fire State Park outside of Las Vegas, Nevada in 1976. Found near the park ranger station, the piece had been cut and polished to show the inner layered configuration.

012 **Agate** SiO_2
This red/yellow stone, origin unknown, was a gift from Tom Buchanan in 1978 (his uncle polished & faceted minerals in the late 30's) The face has been cut and polished.

Spec # Specimen description

013 **Quartz** (var. Chalcedony) SiO_2
Blue, white and grey banded stone, polished one face. Gift from Laura Reid, 1978
Chihuahua, Mexico

014 **Quartz** (Var. Smokey) SiO_2
Herkimer diamond" druse on matrix This area is a large outcrop of very hard dolomitic limestone. The quart xtals are found in vugs (pockets) in the limestone and are high purity in both composition and xtal shape. These features are what led these specimens to being called "diamonds"
Collected at Fonda, NY, October 1977 field trip

015 **Quartz** SiO_2
This single xtal is described as "scepter quartz". In a two stage development a larger crystal termination developed as a secondary growth on the top of the original xtal. It is iron stained. Found at roadside outcrop in 1977..
Centralia, PA,

016 **Kyanite** Al_2SiO_5
Bladed blue xtals collected in 1977. This piece was difficult to acquire as the quartzite matrix is extremely hard.
Judd's Creek Bridge, CT

017 **Agate** SiO_2
Commonly referred to as "fire agate", this piece was a gift from a collector I met in Cherokee, North Carolina in 1977
Chihuahua, Mexico

018 **Mica** (var. muscovite) $KAl_3Si_3O_{10}(OH)_2$
This cluster of mica sheets clearly shows the red clay material from which this specimen was taken. Two very beautiful micro acicular, fully terminated deep pink tourmaline xtals are imbedded in a clay pocket. Very delicate, they "float" in the clay.
Rist Emerald Mine, Cherokee, NC, 1977

Spec # Specimen description

019 **Apatite** $Ca_5(PO_4)_3F$
Single xtal. Origin unknown, but probably CT. Gift from a collector in 1978

020 **Beryl** (var. Aquamarine) $Be_3Al_2Si_6O_{18}$
Single large unterminated crystal. Gift: Tom Buchanan in 1976.
Minas Gerais, Brazil

021 **Labradorite** (Feldspar group) $(Na,Ca)Al_{1-2}Si_{3-2}O_8$
Gift. Origin unknown

022 **Tourmaline (Lithia)**
Small, tight cluster of pink radiating crystals, the source is unknown, but probably Minas Gerais, Brazil. Gift from Tom Buchanan in 1978.

023 **Serpentine** $Mg_3Si_2O_5(OH)_4$
"Verde antique", or verdite, this piece was from a roadside outcrop. Verde antique is a serpentine marble.
Boston Post Road in Orange, CT. Collected 1976

024 **Apatite** $Ca_5(PO_4)_3F$
This single crystal was a 1976 gift from a local collector who claimed to have found it in an old quarry in Middletown CT. (Identity questionable)

025 **Wavelite** $Al_3(OH)_3(PO_4)_2 \cdot 5H_2O$
This small specimen was a gift from MGR in 1977.
Origin is unknown.

026 **Gold ore** Nevada, Colorado. Purchased as gift by MGR in 1976.

027 **Albite** (var. Clevelandite) $NaAlSi_3O_8$
One of the Feldspar group, this lamellar specimen was collected from a CT quarry dump site in 1977. One face is polished.
Strickland Quarry, Portland, CT

Spec # Specimen description

028 **Cerussite** $PbCO_3$
Origin unknown. Identification needs confirmation

029 **Muscovite** (mica group) $KAl_3Si_3O_{10}(OH)_2$
Strickland Quarry, Portland CT. Collected in 1977

030 **Muscovite** (mica group) $KAl_3Si_3O_{10}(OH)_2$
Book crystal from pegmatite vein. Collected in 1977
Long Lake, Maine, 1977

031 **Garnet** (var. Spessartite) $Mn_3Al_2Si_3O_{12}$
This fist-sized specimen was collected from a hillside out cropping located above the road running west of the Redding railroad station. It is called "cinnamon" garnet because of its orange-tan color. The quartzite matrix includes examples of "sugar quartz". The matrix is extremely hard, making acquisition of acceptable specimens difficult.
Redding,CT Collected on a field trip in 1977

032 **Garnet** (var. Almandine) $Fe_3Al_2Si_3O_{12}$
033 Mica schist matrix also contains Staurolite xtals. Collected during a 1977 field trip to this location.
Judd's Bridge, Roxbury, CT

034 **Galena** PbS
This massive specimen is from a seam deposit which included clear and purple fluorite (FL-LW), sphalerite and small quartz xtals. Galena is the primary ore of lead. Collected on a field trip 1997
Route 25 road cut, Trumbull, CT

035 **Galena** PbS
Small cubic xtal on matrix with calcite xtals and micro pyrite xtal. The calcite appears as both rhombodron form (matrix), and prism scalenohedron (large xtal at base). Double terminated calcite crystals are not common, but are seen on this specimen in both small and micro size. Purchased 1977, origin of this specimen is unknown

Spec # Specimen description

036 **Pyrite** - FeS_2
Large mass of cubic crystals on matrix. Matrix material [unidentified) fluorescent LW/UV. This large specimen measures 5" wide, 7" high and 6" deep, and weighs about 10 lbs. Gift from Heather Reid, December 1976
Magnet Cave, Arkansas.

038 **Pyrite** FeS_2
Small xtals on clay-like matrix. Collected from a small pocket in a highway road cut in 1977.
Danbury, CT.

039 **Beryl** $Be_3Al_2Si_6O_{18}$
Small imperfect xtal collected in 1977
Hale-Walker Quarry, Portland CT

040 **Arsenopyrite** FeAsS
Ore sample from the dump of an old mine. Also contains pyrite xtals. Collected 1977. (See *Gem & Mineral Trails* by E & B Sloan, Page 14. ©1975)
Carmel, New York.

041 **Arsenopyrite** FeAsS
With calcite, pyrite and quartz xtals. Micro acicular silver-metallic xtal cluster on one end are bismuthinite.
Zacataecas Province, Mexico. Purchased in 1977

042 **Arsenopyrite** FeAsS
Crystal mass purchase in 1977
Zacataecas, Mexico.

043 **Fluorite** CaF_2
Crystals are penetration twins, w/ calcite xtals on fluorite base. Fluorescent LW.
Purchased 1976. Location unknown

Spec # Specimen description

044 **Beryl** $Be_3Al_2Si_6O_{18}$
Collected in 1977
Case Quarry, Middletown CT

045 **Fluorite** CaF_2
Massive ore specimen from Motier Beque in 1977. His family owned a working mine.
Roseclare, Illinois

046 **Kunzite** (spodumene - Pyroxene Group) $LiAlSi_2O_6$
Single crystal. Fluoresces orange in LW ultraviolet. Gift from Tom Buchanan, 1980

047 **Pyrite** FeS_2
Pyritohedron crystal. 1980 gift
Location unknown

048 **Calcite** $CaCO_3$
Rhombic crystal, Fluoresces blue in LW ultraviolet.
Location unknown.

049 **Sodalite** (Feldspathoid Group) $Na_4Al_3Si_3O_{12}Cl$
Gift from Tom Buchanan 1976
Ontario, Canada

050 **Prehnite** $Ca_2Al_2Si_3O_{10}(OH)$
Associated with datolite on basalt matrix. Prehnite xtals are unusual in that they formed clusters of single "beads"which under a microscope shown the curved shape of prehnite xtals.
Cheshire Trap Rock Quarry, Cheshire, CT Collected in1976

051 **Turquoise** (Phosphate Group) $CuAl_6(PO_4)_4(OH)_8 \bullet 4\text{-}5H_2O$
Small piece of material from Tom Buchanan.
Origin unknown

170 **Calcite** (var. Amber) $CaCO_3$
Large crystal group purchased 1981 $6.00
Ellington, Missouri.

171 **Kyanite** Al_2SiO_5
Associated with ilmenite, andalusite, sillimanite, and damourite (green pseudomorph after kyanite). This same small isolated area of ledge outcrop has also yielded cabinet specimens of corundum, staurolite and almandine garnet (see 359) Collected in 1977.
Judd's Bridge, Litchfield, CT.

172 **Sphalerite** (ZnS)
Massive, deep red with FL willemite. Collected during April 1982 field trip.
Trotter Dump, Franklin, NJ.

173 **Rhodonite** (Var. Fowlerite) $(Mn,Ca)(SiO_3)$
In this varietal collected April, 1982, zinc is substituted for manganese. Pink blebs on a calcite/franklinite matrix with minor willemite. Calcite / willemite is FL in both short & long wave UV.
Trotter Dump, Franklin, New Jersey.

174 **Willemite** Zn_2SiO_4
Pink to brown blebs on calcite/franklinite matrix. FL-SW
Collected during 1982 trip to the Franklin area.
Trotter Dump, Franklin, NJ

175 **Willemite** Zn_2SiO_4
Massive brown specimen, (FL)
Trotter Dump, Franklin, NJ 1982

Spec # Specimen description

052 **Willemite** Zn_2SiO_4
This is a slabbed piece which includes a number of the mineral varieties found at this location. The willemite fluoresces strongly under both long and short wave ultraviolet light. This specimen was purchased in 1976 from Nick Zepco, a retired area miner and collector
Franklin, New Jersey.

053 **Barite** $BaSO_4$ Color Plate#18
An evaporate often referred to as "rose" crystals, this specimen was a gift from L. Reid in 1977.
New Mexico.

054 **Selenite -** Gypsum $CaSO_4 \cdot 2H_2O$
"Sand" selenite crystal group
Gift from LJR in 1977
Niaca, Mexico

055 **Realgar / Orpiment**
Red Arsenic Sulphide, AsS, with yellow Orpiment, As_2S_3.
The name comes from the Arabic "powder of the mine". This was a gift from an area collector in 1977
Golconda, Nevada -

057 **Azurite** $Cu_3(CO_3)_2(OH)_2$
Origin unknown. Purchased 1976

058 **Calcite, Sphalerite with Pyrite**
The calcite in this specimen is rhombic in shape, the cubes ranging from 1/2" to on all faces. The deep red sphalerite is best seen on the bottom of the specimen. The pyrite is micro in size, and scattered throughout the matrix material. Specimen size is 6" wide, 3" deep and 2.5" high.

Zacataecas Province, Mexico. Purchased in small mineral shop in Provincetown, Massachusetts, 1976

Spec # Specimen description

059 **Calcite / Conicalcite** $CaCO_3$
Napimi, Mexico. Purchased 1977

060 **Calcite** $CaCO_3$
Crystals on matrix. Two small micro's onmatrix, both are double terminated and seem to be in perfect prism form. Angle between faces 120°. Six sided, three faces on termination with angle between these 135°. Termination face to side 116°. Uncommon double termination is seen on two micro crystals which formed parallel to the matrix. These are on what would seem to be the bottom side of the specimen. The major crystal shapes seem to be modified scalenohedrons, but have fractured along cleveage planes which are 45°'s to (m) surface. The small area of matrix appears to be pyrite/ calcite mix, with the calcite as typical rhombohedrons.
St. Joseph, Missouri. Purchased 1977

061 **Prehnite** $Ca_2Al_2Si_3O_{10}(OH)$
Collected 1977
Cheshire Trap Rock Quarry, Cheshire, CT

062 **Chalcopyrite** $CuFeS_2$ **and native Copper** C
On matrix. From dump of old copper mine. Collected 1977
Cheshire, CT

063 **Staurolite** $Fe_2Al_9O_7(OH)(SiO_4)_4$
This large specimen contains many staurolite crystals on matrix of very hard native rock.
Wilkes, North Carolina. Collected on field trip in 1997

064 **Lava (basic basalt)**
Small pieces from around a fumarole. Collected by and gift from John DeMille, Peg Buchanan's father. 1977
Iceland.

Spec # Specimen description

065 Obsidian (volcanic glass)
Uncrystalized volcanic rock. Origin unknown. Gift Tom Buchanan 1976

066 **Siderite** $FeCO_3$
067 Bladed reddish crystal forms (oxidized) with quart crystals
068 on massive quartz matrix. Note siderite crystals penetration of quartz crystals. Specimen 068 with pyrite (pyritohedrons)
Roxbury Iron Mine, Roxbury CT Collected on field trip 1977

069 **Lepidolite** (mica group) $K(Li,Al)_3(Si,Al)_4O_{10}(F,OH)_2$
Feldspar matrix with schorl (black) tourmaline and micro-quartz crystals. Collected 1977
Gotta-Walden Beryl Prospect, Portland, CT

070 **Coal** (not a mineral; a fossil)
Collected in open pit seam
Coal Run, PA

071 **Tourmaline** $Na(Mg,Fe)_3Al_6(OH)_4(BO_3)_3(Si_6O_{18})$
Deep green, green blue xtals purchased in 1950's by T. Buchanan's uncle. Gift from Tom in 1977
Minas Gerais, Brazil.

072 **Tourmaline** $Na(Mg,Fe)_3Al_6(OH)_4(BO_3)_3(Si_6O_{18})$
Crystal cluster on quartz. Purchased at the mine outside Cherokee, NC on first visit in 1975.
Rist Emerald Mine, Hiddenite, N. Carolina.

073 Pyrite/Arsenopyrite FeS_2 / FeAsS
Encrustation on shale from strip mine dump
Centralia, PA. Col. 1977

074 **Fern imprints on shale**
Collected in 1977 from the overburden of strip mine tailings located about 7 or 8 hundred yards in back of the old police station and post office. I visited this location again in 1978 and found few remaining fern imprints.
Mount Carmel, Carbon County. PA 1977

Spec # Specimen description

075 **Tree Branch Concretions**
Removed from sedimentary rock found in the tailings of a strip mining operation. Collected 1997
Coal Run, PA.

076 **Limonite** $FeO(OH)\bullet nH_2O$
Pseudomorth after cubic pyrite xtals
Purchased 1977
Stanley County, Virginia

077 **Quartz** SiO_2
Xtals from coal mining area. Collected 1977
Centralia, PA.

078 **Biotite** (mica group) $K(Mg,Fe)_3(Al,Fe)Si_3O_{10}(OH,F)_2$
Collected 1976
Middletown, CT

079 **Muscovite** (Mica Group) $KAl_3Si_3O_{10}(OH)_2$
Pegmatite matrix with shorl tourmaline, feldspar, quartz, garnet and beryl from abandoned quarry. Field trip in 1977.
Long Lake, Maine

080 **Phlogopite** (mica group) $KMg_3AlSi_3O_{10}(OH)_2$
Collected at a small, working beryl mine in 1977
New Milford, CT

081 **Fluorite** CaF_2
White cubic with small green xtals on gneiss matrix. Micro quartz and pyrite. Clear fluorite is cubic. The pyrite crystals are small and cubic.Collected in 1977
Hiddenite, NC

082 **Zincite** ZnO
Typical red encrustation on matrix composed of franklinite, calcite, willemite. Fluorescent under long wave Ultraviolet light. Willemite fluoresces green, calcite a purple-red.
Franklin, NJ, Trotter dump, April, 1978

083 **Franklinite** (Zn, Mn, Fe^{2+}) (Fe^{3+}, Mn^{3+})$_2O_4$
Small xtals on surface of piece. Franklinite is mildly magnetic. Unidentified white coating at one end fluoresces blue-white in long wave UV. Collected in 1978
Trotter Dump, Buckwheat Rd., Franklin, Sussex County, NJ,

084 **Rhodonite** (var. Fowlerite) (Mn,Ca)(SiO_3)
084A In Fowlerite, zinc substitutes for manganese. Rose xtals with franklinite, calcite, and yellow andradite (garnet - formerly called polyadelphite). Specimen also includes a large area of spessartite garnet (yellow/orange), a small area of andradite garnet, and a small area of microcline (feldspar group, var. amazonite which is of a green hue). This is an excellent "Franklin" specimen for its variety of minerals. Specimen #084-a is similar but lacks the garnet and microcline.
Trotter Dump, Franklin, Sussex County, NJ, -1978

085 **Andradite** (garnet group) $Ca_3Fe_2(SiO_4)_3$ Calcium iron silicate
Calcite matrix with Franklinite blebs. Calcite fluoresces red under LW-UV.
Trotter Dump, Franklin, Sussex County, NJ, Collected 1978

086 **Chlorite** $(Mg,Fe,Al)_6(Si,Al)_4O_{10}(OH)_8$
On quartz matrix
Judd's Bridge, CT - Col. summer of 1977

087 **Willemite** Zn_2SiO_4
Brown variety, with franklinite and willemite on calcite matrix. Brown variety of willemite does not fluoresce.
Trotter Dump, Franklin, Sussex County, NJ, 1978

Spec # Specimen description

088 **Willemite** Zn_2SiO_4
Both green & brown varieties, associated with Franklinite on calcite matrix. Calcite is fluorescent bright red in both long and short wave UV; Willemite FL-LW, bright green; franklinite black blebs are embedded in the calcite. 1978 specimen.
Trotter Dump, Franklin, Sussex County, NJ

089 **Franklinite** (Zn, Mn, Fe^{2+}) $(Fe^{3+}, Mn^{3+})_2O_4$
with brown Willemite Xtals Zn_2SiO_4
Calcite matrix. Specimen purchased from Nick Zipco (miner) in 1978 while at the Trotter Dump.
Franklin, Sussex County, NJ,

090 **Pyrite** FeS_2
091 Individual cubes in shale/slate matrix.
092 Collected in 1978
093 Bethlehem Steel mine dump, Tamaqua, PA - 1978

094 **Arsenic / Arsenopyrite** As / FeAsS
On quartz matrix. From old mine dump in New York State. Reference NY location book or *Mineral & Gems Trails* E. & B. Sloan, page 14 for information completion.
Carmel, NY - Gypsy Trail Road at junction with Rt. 301

095 **Malachite** $Cu_2CO_3(OH)_2$
On calcite purchased as gift by Curt Thompson 1978
Zacataecas Province, Mexico

097 **Sphalerite** (Zn,Fe)S
Ore specimen with quartzite, sphalerite, calcite, galena and micro acicular metallic needle clusters of bismuthinite.
Zacataecas Province, Mexico. Purchased 1978

098 **Lepidolite** (mica group) $K(Li,Al)_3(Si,Al)_4O_{10}(F,OH)_2$
Pale lavender micaecous plates on matrix. Collected at abandoned feldspar mine in 1978.
Paris, Maine

Spec # Specimen description

099 **Corundum / Kyanite** Al_2O_3 Aluminum oxide / Al_2SiO_5
On mica schist matrix.
Judd's Bridge, CT - 1977

100 **Almandine** (garnet group) $Fe_3Al_2Si_3O_{12}$
Collected at old mine site in 1978,
Peru, Maine

101 **Strontianite** $SrCo_3$
Traded with original collector while on a dig at the Trotter Dump in Franklin, NJ, in 1978.
Beaver Creek, Mellot, Washington County, MD.

102 **Kyanite** - Al_2SiO_5
Massive cluster of small, light blue elongated tabular crystals with interlaced micro pyrite crystals. Large shelf specimen 8 x 6 x 3". Traded with original collector while at the Trotter Dump, Franklin, NJ, 1978
Baker Mountain, Cullen, Prince William County, KY.

103 **Malachite** $Cu_2CO_3(OH)_2$
Botroidal, banded specimen
Gift from Bruce Murray in 1978. Specimen was brought from Africa by his uncle in a diplomatic pouch as export of raw mineral material was banned by the government of Zaire.
Kolwezi mines, Shaba Province, Zaire

104 **Zincite** ZnO
Red micro plates on franklinite matrix. Also minor traces of brown willemite. Collected in 1979
Trotter Dump, Franklin, NJ

105 **Diopside** $CaMg(Si_2O_6)$ Color Plate #14
Purchased from Carousel Gem & Minerals
Hatboro, PA - March 1980 - $10.00
Minas Gerais, Brazil

Spec # Specimen description

106 **Calcite / Galena** CaCO3 / PbS Color Plate # 8
With quartz.
Tri-State area. Purchased 1979

107 Selenite (Gypsum) $CaSO_4 \cdot 2H_2O$ (Selenite - crystalized)
On quartz. Origin unknown. Gift from L. J. Reid in 1977.
May have been given to A. Nastri

108 **Rhodochrosite** $MnCO_3$
Slabbed & polished
Purchased in Raleigh, NC gem shop -1977

109 **Chalcopyrite** $CuFeS_2$ Copper iron sulfide
Xtals on calcite matrix with byssolite (acicular green needles)
From mine tailings dump. Collected 1979 -1st trip
French Creek Mine, St. Peters, PA.

110 **Chalcopyrite / Magnetite** $CuFeS_2$ / Fe_3O_4 Iron oxide
Massive specimen on calcite (FL-LW) from mine tailings dump of the French Creek Mine. Collected on my first trip to this location in 1979. Specimen also includes pyrite and byssolite (pale green acicular needles) Byssolite is in the tremolite/ actinolite series of amphiboles (Inosilicates). It is also produced by alteration of proxene. This specimen requires use of a microscope for detailed study. Calcite is fluorescent in LW as a light to deep red - more red than calcites from Franklin, NJ.
French Creek Mine, St. Peters, PA.

111 **Magnetite Xtals** Fe_3O_4
On calcite matrix with acicular byssolite.
Collected rom mine tailings dump in 1979 -1st trip.
French Creek Mine, St. Peters, PA.

112 **Chalcopyrite** $CuFeS_2$
112A On calcite matrix with Magnetite and
112B byssolite. From mine tailings dump. Collected 1979
French Creek Mine, St. Peters, PA.

113 **Calcite** $CaCO_3$
Classic rhomb. Green color is from inclusions of acicular byssolite The calcite areas free of byssolite fluoresce a warm red under long wave UV.From mine tailings dump. Collected in 1979
French Creek Mine, St. Peters, PA.

114 **Chalcopyrite / Pyrite** $CuFeS_2$ / FeS_2
Chalcopyrite is a copper iron sulfide. This specimen, 6.5 x 5 x 5" contains small disphenoidal crystals. Most are eroded, typical of old specimens from this mine location. Without analysis, it is visually difficult to separate the pyrite from the chalcopyrite. The calcite matrix is interesting in that it contains inclusions of byssolite, a green fibrous mineral. From mine tailings dump. Collected 1979 -1st trip to this site.
French Creek Mine, St. Peters, PA.

115 **Magnetite** Fe_3O_4 Iron oxide
Xtals with Byssolite and minor chalcopyrite. From mine tailings dump, 1979
French Creek Mine, St. Peters, PA.

116 **Chalcopyrite**
Eroded crystals associated with pyrite. Matrix is calcite with byssolite inclusions. From mine tailings dump in 1979.
French Creek Mine, St. Peters, PA.

117 **Chalcopyrite** $CuFeS_2$
Massive nodule with Malachite. From mine tailings dump in 1979.
French Creek Mine, St. Peters, PA.

118 **Vanadinite** $Pb_5(VO_4)_3Cl$ Color Plate #22
Small hexagonal orange-red prisms, also includes fibrous radiating crust. A lead vanadate chloride $Pb_5(VO_4)_3Cl$ Vanadanite is a secondary mineral found in the oxidation zone of lead deposits. Size: 2 x 1.5 x 1.5"
Purchased in 1979 - $12.00
Apache Mine, Gila County, Arizona.

119 **Fluorite** CaF_2
Pale purple xtal cluster with micro calcite xtals as a coating. (Formerly called fluorspar) This specimen is from a classic locality. Purchased in 1979 - $6.00
Rosiclare, Illinois

120 **Mimetite, Wulfenite** $Pb_5(AsO_4)_3Cl$ / $PbMoO_4$ (Lead Molybdenate)
(Mineral identified as wulfenite should be questioned. Probably vanadinite) Purchased 1980 - $4.00
Napimi, Mexico.

121 **Dolomite** - $CaMg(CO_3)_2$ Color Plate #19
Aggregate of pink rhombohedral crystals, many of with curved "saddle" faces. Dolomite is a basic constituent of sedimentary carbonate rocks, or found in low temperature hydrothermal veins and metamorphic environments. Specimens also includes micro chalcopyrite. Matrix is dolomitic limestone. 4.5 x. 5 x 2". Purchased 1980 - $3.50
Black Rock, Arkansas

122 **Feldspar** $KAlSi_3O_8$
Microcline (var. Amazonite) with deep red almandine garnet Collected in 1979
Trotter Dump, Franklin, N.J.

Spec # Specimen description

123 **Franklinite on Calcite** $(Zn, Mn, Fe^{2+})(Fe^{3+}, Mn^{3+})_2O_4$
Calcite is weakly fluorescent (SW), as is most calcite from this location. Collected 1978
Trotter Dump, Franklin, New Jersey.

124 **Willemite** Zn_2SiO_4
Acicular, clear micro crystals. This study specimen is associated with franklinite, brown willemite, and rhodonite (var. Fowlerite). This is on older specimen obtained from a retired miner (Nick Zipco), and is probably from the Sterling Hill mine where he worked. Sterling Hill was one of the areas most productive zinc mines. Purchased in 1979 - $20.00
Sterling Hill Mine, Franklin, New Jersey.

125 **Limonite** (after pyrite) $FeO(OH)\bullet nH_2O$
Purchased in 1979
Chester County, Pennsylvania

126 **Quartz xtals** on matrix SiO_2 Color Plate # 7
Specimen purchased in 1980 ($4.00) at the mine.
Hot Springs, Arkansas.

127 **Onyx**, banded SiO_2
(may be labeled 263. See specimen)
Origin unknown except that it is a California specimen. Gift from Bob Forester, Fullerton, California

128 **Chalcedony** (petrified wood) SiO_2 - Silicon oxide
This sepcime was a gift from Bob Forester in California and came from Death Valley. (See Specimen # 257 & 258 for details)

129 **Quartz** SiO_2 (var. Citrine)
Varietal name is indicative of the orange color.
Purchased in 1980
Minas Gerais, Brazil.

Spec # Specimen description

130 **Galena / Pyrite ore** PbS / FeS
Associated minerals include sphalerite, chalcopyrite and galena. One face of this ore specimen has been cut and polished to show the intermix of the major minerals.
Gift from Bob Forester, California, 1980
Lead Mountain, San Bernadino County, California.

131 **Sphalerite** (ZnS)
Gross matrix specimen with clusters of crystals. Zinc sulfide is an important ore of zinc, cadmium and germanium. Matrix and other minerals need identification. Purchased in 1980 from ConnGems, Plainville CT $6.00.
Pitcher, Oklahoma

132 **Sphalerite** (ZnS) Color Plate #16
Var. Marmetite (high in iron content) Crystals on matrix with pyrite. Purchased ($12.00) from small mineral shop outside of Denver Colorado.
Gilman, Colorado

133 **Copper Alteration Minerals**
Massive specimen containing native copper, cuprite, malachite, azurite, and microcline crystals on slabbed face.
Gift from Tom Forrester, 1980
Washington Mine, Patagonia Mountains, Arizona.

134 **Native Copper** Cu
Small shelf specimen from Keewahnee Peninsula, Michigan. Purchased 1980

135 **Tourmaline** (var. Shorl) $Na(Mg,Fe)_3Al_6(OH)_4(BO_3)_3(Si_6O_{18})$
136 Terminated black crystals on feldspar rich pegmatite matrix. (Large specimen and shelf specimen) Collected in 1978
Paris, Maine

138 **Chrysotile** (asbestos) $Mg_3Si_2O_5(OH)_4$
This fibrous variety of serpentine is the major source of commercial grade asbestos. In all probability this piece is from the Raybestos company owned Thetford mine. Specimen was obtained at Raybestos owned plant in California in 1980.
Thetford Mine, Megantic City, Quebec, Canada.

139 **Ulexite** $NaCaB_5O_9 \bullet 8H_2O$
Gift from Bob Forester (California) 1980
Boron, Kern County, California.

140 **Lepidolite - Mica** $K(Li,Al)_3(Si,Al)_4O_{10}(F,OH)_2$
Associated with small pink tourmaline xtals (lithia). Gift from Bob Forester in 1980.
Stewart Mine, Pala, California

141 **Garnet** (var. Andradite) $Ca_3Fe_2(SiO_4)_3$
With quartz, zoisite, clinzoisite and micro dialage. Gift of mine owner, Bob Forester 1980
Garnet Queen Mine, Santa Rosa Mountains, California.

142 **Tourmaline** (var. Lithia) $Na(Mg,Fe)_3Al_6(OH)_4(BO_3)_3(Si_6O_{18})$
1980 Gift, Bob Forrester
Stewart Mine, Pala, California

143 **Topaz** $Al_2SiO_4(F,OH)_3$
Small xtals in pockets. Also small double terminated quartz xtals. Gift from Bob Forester, 1980
Thomas Mines, Thomas Mountains, Utah

144 **Tourmaline** (var. Dravite) $Na(Mg,Fe)_3Al_6(OH)_4(BO_3)_3(Si_6O_{18})$
Pale brown radiating crystal cluster with molybdenite on calcite matrix. The dravite variey occurs in metamorphosed limestone. This specimen of dravite fluoresces a soft yellow under SW-UV. This is due to dravite being at the magnesia end of the tourmaline chain, and the lack of iron permits flourescence to occur. Collected 1979
American Limestone Quarry, Newtown, New Jersey

145 **Howlite** $Ca_2SiB_3O_9(OH)_5$ Calcium silicon borate
Gift from Bob Forester, 1980
Boron, Kern County, California

146 **Talc** $Mg_3Si_4O_{10}(OH)_2$
Gift from Bob Forester, 1980
Ord Mountain range, Southern California

147 **Azurite** $Cu_3(CO_3)_2(OH)_2$ Hydrous copper carbonate
With malachite, chrysocolla and limonite. From abandoned dumps of an Ord Mountains copper/gold/silver mine that was worked from 1876 to 1942. Similar specimens from this location have been identified as containing flakes of gold similar to what would be found in panning a stream.
Gift from Bob Forrester, 1980
Brilliant Ledge, San Bernadino County, California.

148 **Axinite** $(Ca,Mn,Fe)_3Al_2(OH)(BO_3)(Si_4)O_{12}$
Pale purple and brown, sharp edged crystals with shorl tourmaline associated. Gift, Bob Forrester, 1980
Jensen Quarry, Riverside County, CA

149 **Willemite** Zn_2SiO_4
Apple-green variety (brilliant green fluorescent)
Gift from Dave Pasake (area resident) 1980
Trotter Dump, Franklin, New Jersey

Spec # Specimen description

150 **Sphalerite** (var. Cleiophane - pale brown) (ZnS)
with brown and white willemite (FL/LW)
Gift from Dave Pasake, 1980
Trotter Dump, Franklin, Sussex County, NJ

151 **Mica** (var. Muscovite) $KAl_3Si_3O_{10}(OH)_2$
Single book crystal on quartz/feldspar matrix
Collected 1979
Paris, Maine.

152 **Willemite** Zn_2SiO_4
Pale green to clear blebs. With franklinite on calcite matrix.
Gift from Dave Pasake, 1980
Buckwheat Dump, Franklin, Sussex County, NJ

153 **Willemite** (var. Troostite) Zn_2SiO_4
Brown crystalline mass interlayered with franklinite.
Trotter Dump, Franklin, NJ, 1980

154 **Tourmaline** (var. Shorl) $Na(Mg,Fe)_3Al_6(OH)_4(BO_3)_3(Si_6O_{18})$
Section of a very large crystal. Location unknown

156 **Garnet** (var. Andradite) $Ca_3Fe_2(SiO_4)_3$
Wine red and deep green micro crystals in pockets on massive garnet matrix with calcite
Andover Mine, Sparta, New Jersey. Collected 1980

157 **Titanite** (sphene) $CaTiSiO_5$
Collected at the American Limestone Quarry 1979.
Newtown, New Jersey

158 **Norbergite** (Humite group) $Mg_5Si_2O_8(F,OH)_2$
On limestone matrix with pyrrhotite, phlogopite mica and graphite. (This specimen needs further identification for the possibility that it is chondrodite rather than norbergite, and molybdenite rather than graphite) Collected 1979
American Limestone Quarry, Newtown,NJ

159 **Bornite** (?) Pyrrhotite(?)
On calcite matrix with graphite (?)molybdenite.
American Limestone Quarry, Newtown, New Jersey 1979

160 **Sphalerite** ZnS
Origin unknown. Gift 1997

161 **Sulphur** S
Crystals on aragonite Color Plate # 3
Girenti, Cicily - Purchased 1980

162 **Chlorite** $(Mg,Fe,Al)_6(Si,Al)_4O_{10}(OH)_8$
(var. Clinochlore aka penninite)
Collected at old Tilly Foster iron mine. This mineral was found in a large ledge overburden which was cleared to permit pit mining the iron ore. Collected Fall of 1978
Tilly Foster iron mine, Brewster, New York.

163 **Pyrite / Siderite** FeS_2 /
Crystal pyritohedrons on siderite matrix.
Active during the American Civil War, the Roxbury Iron Mine output was limited as this type of ore had to be "roasted" prior to smelting. These specimens are from an ore storage pit located at the base of the source mountain, just above the furnace, which is still intact (1987). The Mine iproperty is now a public park. The old mine shafts have been fenced in, and as of 1987, mineral collecting is no longer permitted. Collected from lower dump, Summer of 1980.
Roxbury Iron Mine, Roxbury, CT

164 **Amethyst / Calcite** SiO_2 / $CaCo_3$
Found as lenses or vugs in trap rock (basalt), these quartz and calcite crystal clusters have golden fans of goethite as inclusions and surface features. There are also micro inclusions which appear to be bornite or chalcopyrite.
This location was a listed Connecticut favorite collection spot for many years, but is now part of a commercial development. The location was originally known as East Haven Trap Rock Quarry, but is better known as the Cinque Quarry. The site is located (1982) on Laurel St.in back of a restaurant.

East Haven, CT,

165 **Siderite / Quartz / Pyrite**
Micro crystals on massive siderite
Roxbury Iron Mine, Roxbury CT (See 163)

166 **Galena / Sphalerite / Quartz / Pyrite**
Roxbury Iron Mine, Roxbury CT (See 163)

167 **Pyrite** (Pyritohedron form) FeS_2
On siderite.
Roxbury Iron Mine, Roxbury CT (See 163)

168 **Galena / Sphalerite / Quartz / Fluorite**
PbS / (Zn,Fe)S / SiO_2 / CaF2
Collected in theSummer of 1977 from an ledge vein opened up during road construction of CT Route 25 in Trumbull. The rock formation is in the proximity of the Old Tungsten prospect in Trumbull, and is probably an extension of the same rock formation. As of 1998, collecting was still possible, but specimens were limited.

Route 25 in Trumbull, CT

169 **Garnet** (var. Almandine) $Fe_3Al_2Si_3O_{12}$
Garnets are on a mica schist matrix. Collected on a field trip in the summer of 1978.

Peru, Maine.

182 **Garnet** (Andradite or Grossular)
$Ca_3Fe_2(SiO_4)_3$ or $Ca_3Al_2(SiO_4)_3$
Massive specimen. Green and orange brown with minor calcite. Also Chlorite, var. clinichlore - 1982
Trotter Dump,
Franklin, NJ

183 **Siderite** $FeCO_3$
Micro crystals in a vug with double terminated quartz crystals. Collected in 1981
Roxbury Iron Mine, Mine Hill, Roxbury CT

184 **Goethite / Quartz / Calcite** $FeO•(OH)$ / SiO_2 / $CaCo_3$
Minerals are as a cluster in a vug or pocket in the basalt matrix. The Goethite appears as "golden" fan inclusions and surface coatings on the quartz and calcite crystals. Collected in 1979 (see 164 for other specimens)
Cinque Quarry, West Haven CT -

185 **Sphalerite / Pyrite / Quartz** $(Zn,Fe)S$ / FeS_2 / SiO_2
Semi-micro material on quartz matrix.
From road cut in Trumbull Ct during constructionin 1977
Route 25, Trumbull, CT

186 **Beryl** (var. Aquamarine) $Be_3Al_2Si_6O_{18}$
Piece of broken crystal
Greens Farm, South Paris Maine - 1980

187 **Quartz** SiO_2
Crystal druse. Collected from a road cut in 1976 on the first trip to this local location.
RT 25, Trumbull CT.

176 **Sphalerite/Calcite/Willemite/Zincite**
The sphalerite in this specimen is both fluorescent and triboluminescent (afterglow following exposure to UV). Purchased from a retired miner (Nick Zipco) in 1982 while on a dig at the Trotter Dump in Franklin, NJ This is the only specimen I have that is from this old location. $10.00
Ogdensburg Zinc Mine, Ogdensburg, NJ

177 **Azurite/Malachite** $Cu_3(CO_3)_2(OH)_2$ / $Cu_2CO_3(OH)_2$
Franklinite matrix.
Purchased from Nick Zipco, April 1982 - $7.00
Sterling Hill Mine, Ogdensburgh, NJ

178 **Garnet** (Andradite, yellow) $Ca_3Fe_2(SiO_4)_3$ Calcium iron silicate
On Franklinite matrix. Collected 1982
Trotter Dump, Franklin, NJ, 1982

179 **Malachite / Byssolite**
$Cu_2CO_3(OH)_2$ / $Ca_2(Mg,Fe)_5O_{22}(OH)_2$ (Actinolite)
Magnetite matrix, Green fibrous aggregate on the specimen is byssolite, a variety of actinolite. Frech creek mine and other locations in Pennsylvania and Virginia are considered prime areas for this mineral. Collected in 1979 (1st trip to this location)
French Creek Mine, St. Peters, PA

180 **Graphite** C
On calcite matrix. From old quarry located West of Trotter Dump, on right hand side of road leading to a new industrial section next to railroad tracks. Collected in 1982
Franklin, NJ

181 **Hornblende** (Blende) ZnS
On hornblend/pyrite/calcite matrix
Trotter Dump, Franklin, NJ - 1982

Spec # Specimen description

188 **Fluorite** CaF_2
Crystals on matrix. Collected at Thomaston Dam site railroad cut West of the dam.
Thomaston, CT - 1979

189 **Fluorite** CaF_2
190 Pale blue, associated with micro quartz crystals, galena, and sphalerite. - 1977
Route 25 road cut, Trumbull, CT

191 **Mica** (var. Muscovite) $KAl_3Si_3O_{10}(OH)_2$
Micro yellowish ball shapes with micro quartz crystals on feldspar matrix. Also contains micro autunite (FL green, SW). This, and all other specimens from this location are best explored by microscope. Collected at freshly blasted cut in the mountain back of Green's Farm during a 1979 field trip.
Green's Farm,South Paris, Maine

193 **Tourmaline** $Na(Mg,Fe)_3Al_6(OH)_4(BO_3)_3(Si_6O_{18})$
with micro quartz crystals on quartzite matrix.
Received as gift in 1980. Origin unknown

194 **Graphite** C
Individual circular plates on white limestone. This and all other specimens from this location (1979) were identified as graphite. While identification of samples this small is difficult (observation, physical properties and similar area specimens), there is a possibility that these metallic appearing flakes may be molybdenum.
American Limestone Quarry, Newtown, NJ

195 **Quartz** SiO_2
Quartz xtaline druse on eroded Barite.
Collected at an abandoned mine site while on a business trip to Missouri with Bruce Murray in 1978.
Town of Old Mine, Washington County, Missouri

196 **Gypsum (Var. Selenite)** $CaSO_4 \cdot 2H_2O$
Selenite is the crystalized form of gypsum and when it takes the shape seen in this specimen it is referred to as "horn" selenite. This is a small specimen. Origin unknown. A gift from Motier Beque in 1977.

197 **Chlorite /Serpentine / Magnetite**
$(Mg,Fe,Al)_6(Si,Al)_4O_{10}(OH)_8$ / $Mg_3Si_2O_5(OH)_4$ / Fe_3O_4
While the three main materials are listed, note the unidentified micro crystals,(you'll need a good microscope) transparent orange/brown in color. These may prove to be difficult in identification without the knowledge of other specimens cataloged from this old, classic, mine location.The principle ore of this mine was magnetite, used to produce iron.
Tilly Foster Mine, Brewster, New York - 1977

198 **Chalcopyrite** $CuFeS_2$ (Copper iron sulfide)
Associates in this specimen are magnetite, acicular green byssolite fibers and micro nodular malachite on calcite matrix. While the major dentification of this piece is chalcopyrite, there is a potential that many of the golden metallic crystals are actually pyrite - even though crystal form is chalcopyrite. In most specimens from this location (1979) , the chalcopyrite is badly eroded, and appears as a soft, rust-brown metamorph of the original chalcopyrite crystal. Positive identification would require a precise chemical analysis.
French Creek Mine, St. Peters, Chester County, PA

199 **Magnetite** Fe_3O_4
The French Creek Mine, depending on what level it was being worked, produced copper (from the chalcopyrite), iron (from magnetite) and briefly, iron from the pyrite. In this 1979 specimen, magnetite appears as layers of granular flat black sheets and micro xtals. Associates are byssolite and calcite.
French Creek Mine, St. Peters, Chester County, PA

Spec # Specimen description

200 **Pyrite** (pyritohedrons) FeS_2
201 Crystal form and massive with pyritohedrons coated by siderite (reddish coating). Matrix is siderite. Collected in1982

Roxbury Iron Mine, Mine Hill, Roxbury, CT

202 **Byssolite / Calcite / Chalcopyrite**
$Ca_2(Mg,Fe)_5O_{22}(OH)_2$ / $CaCo_3$ / $CuFeS_2$
Thisspecimen was collected in 1979. Byssolite is a varietal of actinolite, and is seen here as micro, greenish acicular rod-like crystals in stand-alone clumps and as inclusions in the calcite matrix. Careful dissolution of the calcite with dilute hydrochloric acid exposed the byssolite for viewing under the microscope.

French Creek Mine, St. Peters, Chester County, PA

203 **Beryl** $Be_3Al_2Si_6O_{18}$
Crystal fragment from one of the scattered mine sites that are abundant in this area, visited in 1979.

Gilsom, New Hampshire

204 **Wulfenite** $PbMoO_4$ (Lead Molybdenate)
Micro orange-red, stubby, tabular crystals with a square outline on matrix. Wolfenite is a secondary mineral found in the oxidation zone of lead deposits. This specimen is 6.5 x 3.5 x 1.5" and is from a classic collecting location. It was received as a gift in 1982.

Rawley Mine, Arizona, USA.

205 **Pyrite** FeS_2
This unusual form if termed pyrite "sun" or "dollar" because of its shape. Best appraisal is that all specimens of this nature are fossilized replacements, probably 3 million years old. Received as a gift in 1982, the source is not known.

206 **Bornite** Cu_8FeS_4
One of the principal ores of copper, it is commonly called "peacock" ore due to the multi colors which form when the surface oxidizes.
This was a gift, its source is not known.

Spec # Specimen description

207 **Quartz** (var. Chalcedony) SiO_2
Replacement of wood by silicate This multi-banded specimen is from an area of Death Valley in California noted for its abundance of petrified wood. A single face was slabbed and polished by Bob Forester, and given to me as a gift in 1982 after we had spent a day on a dig in the desert.
Death Valley, California

208 **Serpentine** $Mg_3Si_2O_5(OH)_4$ (Var. Verde Antique)
From field trip in the Ord Mountains, California with Ed Forester in 1982 . One face has been cut & polished

209 **Quartz** SiO_2 (var Amethyst) Color Plate #1
Crystal cluster on matrix. This was a gift from Curt Thompson in 1982. His hobby was faceting, and I provided a number of seciemens of minerals to support that endeavor.
Rio Del Sol, Mexico -

210 **Agate** (var. Tiger Eye) Quartz family SiO_2
Multi-banded. Polished face & polished cabochon.
Gift from Curt Thompson - 1981

211 **Norbergite / Graphite** $Mg_5Si_2O_8(F,OH_{)2}$ / C
Nobergite on this specimen is the small yellow blebs. Matrix is metamorphosed limestone. Collected on a field trip May, 1979
American Limestone Quarry. Newtown, NJ

212 **Feldspar** (var. Orthoclase) $KAlSi_3O_8$
Specimen also includes Microcline (var. perthite), andradite and almandine garnet, and franklinite. - April, 1982 trip
Trotter Dump, Franklin, NJ

213 **Willemite / Andradite / Franklinite**
Zn_2SiO_4 / $Ca_3Fe_2(SiO_4)_3$ / (Zn, Mn, Fe_2+) (Fe_3+, Mn_3+)$2O_4$
Pink/brown willemite is lightly fluorescent in LW UV, stronger in SW. Andradite garnet is yellow/brown. Franklinite is the major matrix. Collected April, 1982
Trotter Dump, Franklin, NJ

214 **Andradite** (garnet) / **Franklinite** / **Calcite**
$Ca_3Fe_2(SiO_4)_3$ / (Zn, Mn, Fe_2+) (Fe_3+, Mn_3+)$2O_4$ / $CaCo_3$
Calcite is fluorescent. Deep green mineral is probably feldspar. (see study notes) - 1983
Trotter Dump, Franklin, NJ

215 **Hematite** (var. "iron rose") Fe_2O_3
On drusy quartz formed over a decomposed barite nodule. Field tip to abandoned mine in 1978.
Village of Old Mine, Washington County, Missouri

216 **Mud concretion** replacement of a tree branch with the center a pyrite replacement. From the overburden dumps of a Bethlehem Steel coal mine.
Tamaqua, PA - 1978

217 **Rutile** TiO_2
Small crystals panned from a stream bed in 1977
Rist Emerald Mine, Hiddenite, North Carolina,

218 **Amethyst / Calcite** SiO_2 / $CaCO_3$
(see 164 for master description of pieces from this location - Cinque Quarry, West Haven CT

219 **Pyrite** (Pyritohedron) FeS_2 **Siderite** $FeCO_3$
Excellent pale (micro) siderite crystals in small pocket opposite the pyrite. Small quartz crystals line vug pockets. Collected in 1981 (see 164)
Roxbury Iron Mine, Mine Hill, Roxbury CT -

220 **Titanite** (var. Sphene) $CaTiSiO_5$
Quartz/limestone Matrix. Green and pale green/blue crystalline blebs (micro) are probably spinel.
Collected - 1980 near Sparta, NJ
American Limestone Quarry, Newtown, NJ

221 **Pyrite / Chalcopyrite / Byssolite**
FeS_2 / $CuFeS_2$ / $Ca_2(Mg,Fe)_5O_{22}(OH)_2$
Calcite matrix (FL) Collected in 1980
French Creek Mine, St. Peters, Chester County, PA.

222 **Corundum / Phlogopite / Graphite / Marcasite**
$A_{l2}O_3$ / $KMg_3AlSi_3O_{10}(OH)_2$ / C / FeS_2
Unidentified green blocky mineral and red crystalline inclusions on metamorphosed limestone. Marcasite requires confirmation. Old quarry nearest Franklin Pond (far side) across from railroad tracks. - 1982
Franklin, NJ

223 **Microcline** (var. Amazonite) **/ Sphalerite**
$KAlSi_3O_8$ / (Zn,Fe)S
Calcite matrix. Unidentified are the pale yellow transparent blebs. These fluoresce a cream white in LW-UV only.
Trotter Dump -Franklin, NJ - 1982

224 **Hematite (Iron rose)** Fe_2O_3
On eroded barite. From abandoned mine dump
Old Mine, Washington County, Missouri - 1978

225 **Quartz** (Chalcedony) SiO_2
Botroidal and seam veins. FL blue/white to pale creamy yellow SW very slightly, strongly in LW. Yellow calcite (yellow tan) FL in LW. Mildly in SW. Phosphorescent pale yellow white.
Location not known

226 **Quartz / Dog tooth Calcite / Goethite**
SiO_2 / $CaCO_3$ / $FeO•(OH)$
Two distinctly different pockets side by side separated by thin quartz wall. Larger pocket is dominantly quartz xtals with surface encrusted with black goethite blebs and occasional golden fans and balls. White powdery coatings on quartz xtals is not calcite.
The smaller pocket has a center of quartz xtals surface coated with exceptionally clean and brilliant goethite fans. Calcite xtals on the perimeter of the pocket are well formed, but pockmarked with goethite fans. The pinkish surface coatings in the larger pocket is probably metamorphosed feldspar and the earthy red coating and inclusion, hematite. The calcite is mildly FL a pinkish red (LW), less under SW. Very briefly phosphorescent the same color with a characteristic "flash". *See also 164, 218, 259 & 260)*
East Haven Trap Rock Quarry (Cinque Quarry)
Laurel Street, East Haven, CT - 1979

227 **Pegmatite** (multi-minerals)
The base material is relatively fine grain. Identified mineral composition includes beryl, fluorite, biotite, quartz, and feldspar. There are two other unidentified minerals. The first, rectangular, blocky and as micro blebs, FL orange/yellow LW, less SW. The second is as micro white flakes or horn-like bunches FL blue/white much more intensely than the fluorite. (check for sheelite?) Collected Spring, 1984
Road cut on connector between Route 8 and Route 15 in Trumbull, CT

228 **Autunite** $Ca(UO_2)_2(PO_4)_2•10\text{-}12H_2O$
Micro flakes on feldspar/quartz matrix. FL very bright green in both LW & SW. From freshly blasted face on Green's farm in 1977
Paris, Maine

Spec # Specimen description

229 **Quartz / Sphalerite** SiO_2 / (ZnS)
Drusy quartz xtals on one face, light yellow/tan to quite dark sphalerite xtals on the opposite face. Collected from fresh road cut in Summer of 1977

Road cut on connector between Route 8 and Route 15 in Trumbull, CT

231 **Unidentified**
From field trip to Woodbury trap rock quarry in 1977

232 **Feldspar** $KAlSi_3O_8$
(var orthoclase, microcline / amazonite

Origin unknown

233 **Unidentified**
Trotter dump, Franklin, N.J. 1982

234 **Bustamite** (Ca, Mn)Si_2O_6 (Calcian var of Rhodonite)
Zinc substitutes for manganese. Associated with brownish/ yellow andradite garnet, white to colorless willemite (FL green), pale greenish xtals are probably amazonite, though not tested. Purchased from Nick Zipco (area miner) at Trotter Dump in 1982 $5.00

Franklin, NJ,

235 **Zincite Zincite** ZnO
Massive vein, red and orange, transparent to opaque. Willemite is both as a coating and as colorless material (FL), brown to very light tan willemite (not FL), calcite (FL red), massive franklinite (black, submetallic). Purchased from Nick Zipco (area miner) in 1982 $8.00

From Sterling Hill Mine, Franklin, NJ

236 **Calcite** $CaCO_3$
Cluster of well formed scalenohedral prismatic crystals 1/2 to 3/4" with good terminations. Crystal has six sides, <'s between side is 20°'s. The terminations a three-sided, with the < between the faces 135°. The angle between the termination faces and the prism side of the crystals is 116°. There are several small, double terminated crystals around the base of the main crystal group. The matrix istightly compacted calcite of rhombic form, with a scattering of pyrite crystals. Specimen is 3 x 2 x 2". Specimen was purchased in1977

Origin is unknown, but probably Mexico.

237 **Willemite** Zn_2SiO_4
Both greenish and orange brown blebs, with franklinite on calcite matrix. Willemite (FL) bright green, calcite (FL) deep red. Collected on1982 field trip.

Trotter Dump, Franklin, NJ

238 **Franklinite / brown Willemite**
(Zn, Mn, Fe_2+) (Fe_3+, Mn_3+)$2O_4$ / Zn_2SiO_4
The matrix is calcite. Purchased from Nick Zipco (area miner) in 1979 while at the Trotter Dump in Franklin, NJ $12.00

From Sterling Hill Mine Franklin, NJ

239 **Serpentine** $Mg_3Si_2O_5(OH)_4$
With mica and fluorite on one face. Collected Summer of 1976

Old Tungsten Mine, Trumbull, CT

240 **Pyrite (chalcopyrite?) Byssolite / Calcite**
FeS_2 / $Ca_2(Mg,Fe)_5O_{22}(OH)_2$ / $CaCo_3$
On magnetite ore There is a potential that what is currently identified as pyrite, may well be chalcopyrite. This needs further analysis. Collected in 1980 from lower mine dump.

French Creek Mine, St. Peters, PA

241 **Calcite** (micro xtals) $CaCO_3$
Scalenohedral, prismatic on limestone. Collected 1980

American Limestone Quarry, Newtown, NJ..

242 **Graphite on Magnetite** C / Fe_3O_4
Transparent, colorless and tan matrix material unidentified, but not calcite. Material is layered and presents rough hackles on ends. Develops rhombs much like calcite in appearance, but there is no reaction to HCl, and material is harder than calcite. Collected in 1982.

Trotter Dump site, Franklin, Sussex County, NJ

243 **Chalcopyrite, Covelite and pyrite**
$CuFeS_2$ / CuS / FeS_2
On quartzite matrix. Gift from Bill Wells, owner of Winterhaven Mineral Shop, Milford, PA in 1988. Material identification is his, and has not been verified.

Ellenville, NY

244 **Basaltic Lava on Limestone**
245 Specimen is from Kenya trip, August 1989. The collecting area is best described as a large volcanic zone with the geologic appearance of a sea bed or lake bed uplift. This piece resembles pillow lava, formed by cooling under water. There is also an inclusion in the limestone which resembles a mollusk shell or organic piece that was trapped in the limestone.

Shaba Reserve near Sanburu, Kenya

246 **Obsidian** SiO_2
Volcanic in origin, obsidian is a silicate which cooled rapidly from a viscous liquid state to form a non crystalline black glass. Large quantities of these pieces were seen on a silt plain and a higher grass plain area. Collected during trip to Kenya, 1989.

Rift Valley.

247 **Chert** SiO_2
From same area of Kenya as 246

248 **Fluorite** CaF_2
Massive, this specimen fluoresces bright blue under LW UV.
Origin unknown

249 **Franklinite / Willemite / Zincite**
(Zn, Mn, Fe_2+) (Fe_3+, Mn_3+)$2O_4$ / Zn_2SiO_4 / ZnO
The Franklinite is seen as small xtals and black blebs, typical of specimens from this area. The willemite is clear and tan orange powdery coating is probably zincite as well. Matrix is calcite (FL -red) Collected in 1983.
Trotter Dump site, Franklin, Sussex County, NJ

250 **Magnetite / Andradite** Fe_3O_4 / $Ca_3Fe_2(SiO_4)_3$
Specimen is massive gangue material from the zinc mining operations of Franklin, NJ. Collected in 1983
Trotter Dump, Franklin, Sussex County, NJ

251 **Willemite** Zn_2SiO_4
Brown var. with minor franklinite on calcite matrix
Collected in 1983
Trotter Dump, Franklin, Sussex County, NJ

252 **Graphite or Molybdenite**
Differentiation of these two similar appearing minerals is difficult, particularly in the small flakes present in this specimen. Best probable solution is to research minerals occurring in the area, especially at the American Limestone Quarry in Newtown, NJ. The calcite matrix is not FL, and the white powdery coating on the top surface (FL- blue) is probably hydrozincite. There are also blebs of franklinite.
Trotter Dump site, Franklin, Sussex County, NJ
Collected 1978

Spec # Specimen description

253 **Willemite / Andradite** Zn_2SiO_4 / $Ca_3Fe_2(SiO_4)_3$
Reddish brown willemite, (FL) and andradite garnet on franklinite. Collected in 1978
Trotter Dump site, Franklin, Sussex County, NJ

254 **Magnetite** Fe_3O_4
Massive specimen from abandoned dump site of classic location of the in Brewster, NY. Interlacing pale yellow/orange crystalline material is unidentified. Collected on filed trip in 1978
Tilly Foster Mine, Brewster, NY

255 **Calcite / Prehnite** $CaCO_3$ / $Ca_2Al_2Si_3O_{10}(OH)$
Rhombic xtals of calcite on basalt matrix. In one area, the calcite overlays pale green prehnite. Collected in 1977
Silliman Quarry, Woodbury CT

256 **Mica** (muscovite) $KAl_3Si_3O_{10}(OH)_2$
Crystal "books" are typical habit. Clear platy matrix is probably quartz, but not established. There are 6 to 10 micro quartz xtals in pockets. Yellow/orange micro balls are lamellar like mica, but extremely soft. Identification is questionable, but probably decomposed or metamorphosed muscovite. (see also 191) Collected on field trip to Maine in 1979
Green's Farm, South Paris, ME

257 **Chalcedony** SiO_2

258 "Petrified wood", this silica replacement specimen is from Death Valley, Nevada. The material is FL in both long and short wave UV, with colors from medium bright white to pale dark green and orange/brown. Gift from Bob Forrester, Los Angeles in 1977 (also see 128),
Death Valley, California

259 **Calcite / Quartz** $CaCO_3$ / SiO_2

260 Micro crystals on basalt matrix. Also chalcopyrite xtals and hematite. Reddish and golden color inclusions in the quartz xtals is goethite. Calcite FL pale red in LW UV. (See also 164, 218, 226) Collected in 1979

East Haven Trap Rock Quarry (Cinque Quarry), West Haven, CT

261 **Volcanic rock**
Sub-crystalline specimen predominately quartz and feldspar. Associated minerals unidentified. Highly gas pocketed and very hard. Extremely light in weight for specimen size. Collected at the 1,350 foot level above the tree line in the tundra area of Long's Peak in 1977.

Este National Park, North of Denver, Colorado

262 **Serpentine** (Antigorite) $Mg_3Si_2O_5(OH)_4$
Green massive, conchoidal fracture. Crypto crystalline. 1980 field trip to California in (See also 269,70,71)

Ord Mountains, CA

263 **Chalcedony** SiO_2
Banded onyx.
Source not known.(see 127)

264 **Sphalerite** (ZnS)
Massive on siderite, minor pyrite. One of a number of specimens found at the lower ore dump just above the old roasting furnace. The stone furnace was still standing in 1977 when these specimens were uncovered.

Roxbury Iron Mine, Roxbury CT

265 **Pyrrhotite** Fe-xS

On basalt with quartz. Some samples from this location show either pyrite, chalcopyrite, or both. Magnetic property of these specimens, as well as specific gravity varies, suggesting that some of the material may be classified as "troilite", or be a magmatic mix of a number of varying components. A chemical analysis company, when provided with a sample of this specimen, simply identified the pieces as FeS, without further definition as to content percentages or the associated minerals.. Powdery coating on some of the pieces appears to be a reduction of iron sulfide to iron sulfate.

Pyrrhotite is FeS, magnetic, Sp Gr 4.6 -4.65. Study pieces include unidentified micro transparent crystals, light tan to deep grey which appear to have striated faces with a change of angle break near the center of the xtal. On a fresh break, the material is a silvery metallic. In a relatively short time, the surface oxidizes to a dark tan color. Collected in 1978 during excavation for building site.

Post Road, 1/2 mile South of Allingtown Hill on West side of the road, West Haven, CT.

266 **Pyrite / Andradite / Calcite**

FeS_2 / $Ca_3Fe_2(SiO_4)_3$ / $CaCo_3$
Origin unrecorded.

267 **Pyrite** FeS_2

Massive specimen, magnetic.
Origin unrecorded

268 **Fluorite** CaF_2

Pink, tan and colorless (FL LW) in mica schist pegmatite.
Note: Black lamellar material is not magnetite (not magnetic). Unidentified transparent clear micro xtals fluoresce bright yellow. From seam in granitic wall at road construction site near an old tungsten prospect in 1980

Trumbull, CT Rt 25

Spec # Specimen description

269 **Serpentine** / Antigorite
270 (see 262 for basic information

272 **Pyrite** (cubic) FeS_2
Shale matrix. From overburden dumps of the Bethlehem (steel) coal mine in 1979
Tamaqua, PA

273 **Pegmatite**
Composed of shorl tourmaline, andradite garnet, quartz and feldspar. Collected in 1979 at an abandoned, unidentified mining area in Maine.
Long Lake, Maine.

274 **Serpentine** $Mg_3Si_2O_5(OH)_4$
Origin nor recorded

275 **Magnetite** Fe_3O_4 Iron oxide
Massive sample with serpentine "slickensides" and some micro traces of chlorite. 1978 field trip to this classic location.
Tilly Foster Mine, Brewster NY

276 **Mica** (var. Muscovite) $KAl_3Si_3O_{10}(OH)_2$
Ball-like aggregate from a small working beryl mine in 1977.
New Milford, CT - 1977

277 **Crocoite** $PbCrO_4$
Crocoite is a lead chromium oxide found in the oxidation zone of lead and chromium mines. The color is bright red or orange with an orange-yellow streak. This specimen was a gift in1984 from LJR and is from one of the classic specimen locations.
Dundos, Tasmania

278 **Stilbite** $NaCa_2Al_5Si_{13}O_{36}•14H_2O$ Color Plate # 12
Crystals on matrix. Purchased in September 1994 from Stewart Minerals - $5.00
Jalgon, India

279 **Pectolite** $NaCa_2Si_3O_8OH$ Color Plate #21
This is a 1950's specimen Purchased in September of 1994 from Pequa Rare Minerals. ($5.00) simply because the source location is considered by many collectors to have produced specimens of outstanding quality. Unfortunately, this site has been depleted due to many years of collecting

Prospect Park Quarry,
Patterson, Passaic County, NJ.

280 **Stibnite** Sb_2S_3 Antimony Trisulfide Color Plate # 6
One of my favorite minerals, and prime specimens, even small ones, are genarally obtainable only though purchase. I bought this at a mineral show in Springfield, MA in 1994 for $20.00. Stibnite is the commonest of all the antimony minerals and occurs regularly with realgar, orpiment, and calcite in epithermal veins. While the finest lead-gray metallic appearing crystlal cluster are from the island of Shikoku, Japan, fine specimens came to maket in 1993 from China.

Xikuangshan Mine, Lengshuijiang,
Hunan Province, China

281 **Apophyllite / Stilbite**
$KCa_4FSi_4O_{10}•8H_2O$ / $(Ca,Na)_3Al_5(Al,Si)Si_{14}O_{40}15H_2O$
Apophyllite is a hydrous calcium potassium fluorisilicate, often with a small amount of iron and nickel. Vitreous or pearly in appearance, crystals are usually cubelike or tabular square in cross section. It is usually found in in cavities in basalt or volcanic rock, associates with other zeolites

Stilbite ia a hydrous calcium, sodium, aluminum silicate of the zeolite group. When found with apophyllite, it is distinguished by its numderous twinned crystals that are pinched in the middle resembling wheat sheaves. (see color plate 12)
Specimen purchased Sept. 1994 - $9.00

Jalgaon, India

283 **Quartz** (var. "rose") SiO_2
Purchased in Bath, ME 1993, origin unknown

284 **Calcite / Siderite / Sphalerite** Color Plate # 11
$CaCO_3$ - $FeCO_3$ - (Zn,Fe)S
Calcite is the white curved tabular crystals, the siderite appears as micro yellow crystals interlacing the calcite, and the sphalerite as black opaque masses and crystals. Specimen is 7" x 4" x 3.5" and was a gift from Sharon Clark-Fodor in 1993

Mined at Santa Eulalia, Mexico

285 **Rhodochrosite** $MnCO_3$
Slabbed specimen to show developmental banding. Gift from Tom Buchanan - 1982 from his uncle's 1930's collection.

Origin unknown

286 **Apatite** $Ca_5(PO_4)_3F$ Color Plate # 5
Single 2.5" crystal on pinkish-red feldspar matrix. Specimen measures 4.5 x 3 x 1.5". This specimen is from a classic location for this mineral, and was purchased at the Springfield Mineral Show from Greenville Minerals, Kingston, Ontario in 1991 for $15.00.

Yates Mine, Otter Lake, Quebec, Canada

287 **Prehnite** $Ca_2Al_2Si_3O_{10}(OH)$
Pale, greenish white in color, this unusual specimen of prehnite is composed of 1 to 2 inch long intertwined growth rods giving it the appearance of old fashioned rock candy. Its growth pattern suggests it was formed in a cavity or pocket of liquid which permitted free growth of the crystals
This specimen is 6" wide, 3" deep, and 2 1/2" high and was a gift from Heather Reid in 1994.

Specimen is from India. Precise location is not known.

Spec # Specimen description

288 **Rhodochrosite/Quartz/Sphalerite/ Pyrite** Color Plate # 9
$MnCO_3$ / SiO_2 / ZnS / FeS_2
Purchased at Springfield Mineral Show - 1993 $15.00
Pachapaqui, Peru

289 **Galena / Calcite** PbS / $CaCO_3$
Large cabinet specimen (9" wide, 4" deep and 6" high) exhibits classic associations of galena and calcite crystals. There are also minor small pyrite clusters. The large galena xtal cubes at the front of this specimen are 2 to 2 1/4 " square offset by a three inch calcite xtal. Smaller galena and calcite xtals complete the piece. The matrix has the appearance of being a concretion of the various sulfides present in the deposit. This is an old specimen from one of the many lead mines which were worked in the St. Louis, Missouri area. Purchased in 1981 in St. Louis - $30.00
This spectacular specimen is from the private collection of a St. Louis area mineral dealer, and was one of his last older examples of the galena/calcite minerals so well known from this area.
St Louis, Missouri mining district

291 **Quartz** (var. Amethyst) SiO_2
Gift from Curt Thompson - 1986
Rio Del Sol, Mexico

292 **Gypsum** (var. Selenite) $CaSO_4 \cdot 2H_2O$
The mineral gypsum is divided into three catagories based upon physical characteristics. Selenite is the crystalized form, Alabaster the compact form, and satin spar the fibrous form. Purchased in 1995 from "the Collectors Source" at the Danbury Mineral Show - $15.00
Pernatty's Lagoon, South Australia

293 **Copper** (native) C
Purchased 1995 - $9.00
Upper Keewinaw Peninsula, Michigan

294 **Quartz Geode** SiO_2
Gift - location not known

295 **Hyalite** $Ca_2SiB_5O_9(OH)_5$
Hyalite is a clear, colorless opal. It is silicon dioxide, like quartz, but with water up to 10 percent. This large cabinet specimen, like most of the opal family is fluorescent under both short and long wave ultraviolet light. The brilliant green hue is believed to be caused by colloidal trace particles of a uranium mineral. It was purchased 1990 from Winterhaven Minerals in Milford, PA. for $ 20.00. Location is unknown, although many fine specimens of colorless to blue hyalite have come from seams in pegmatities in the Spruce Pine, North Carolina district.

296 **Mica Schist** $KAl_3Si_3O_{10}(OH)_2$
Muscovite mica and quartz. Collected in 1979.
Lane Quarry, Westfield, Massachusetts

297 **Magnetite** Fe_3O_4 (Iron oxide)
Well formed small Xtals on magnetite matrix with minor traces of byssolite and chalcopyrite. Collected in 1978.
French Creek Mine, St Peters, Chester County, PA.

298 **Quartz / Calcite / Goethite** FeO•(OH) / SiO_2 / CaCo3
Minerals are as a cluster in a vug or pocket in the basalt matrix. The Goethite appears as "golden" fan inclusions and surface coatings on the quartz and calcite crystals. Collected in 1979 (see 184, 218, **226**, 259, 260)
Cinque Quarry, West Haven CT -

299 **Calcite / Byssolite / Magnetite**
$CaCO_3$ / $Ca_2(Mg,Fe)_5O_{22}(OH)_2$ / Fe_3O_4
Collected on field trip in1979
French Creek Mine, St. Peters, Chester County, PA.

300 **Byssolite / Magnetite** $Ca_2(Mg,Fe)_5O_{22}(OH)_2$ / Fe_3O_4
301 Prepared specimen, acid treated to expose the green acicular rods of byssolite. Specimen also includes chalcopyrite & pyrite. Collected in 1979
French Creek Mine, St Peters, Chester County PA.

302 As above (300), but from 1980 trip.

303 **Rhodonite** $(Mn,Ca)(SiO_3)$
(var. Fowlerite) Pink blebs $MnSiO_3$. Manganese silicate often with some calcium. Calcite/Franklinite matrix with micro brown willemite. Calcite strongly FL-LW, Low FL-SW. Collected in 1978
Trotter Dump, Franklin, Sussex County, NJ

304 **Chalcopyrite/Pyrite** CuFeS / FeS_2
Xtals on calcite/byssolite matrix. Calcite FL-LW, and is briefly phosphorescent (1 second or less flash) bright pink orange. Small area with brown coating is FL-LW yellow white. Collected 1979
French Creek Mine, St. Peters, Chester County PA -

305 **Magnetite** Fe_3O_4
Granular massive with chalcopyrite/pyrite and acicular byssolite. Collected in 1979
French Creek Mine, St. Peters, Chester County, PA.

306 **Chalcopyrite** CuFeS
Xtals on calcite. Collected in 1979
French Creek Mine, St. Peters, PA

307 **Willemite** Zn_2SiO_4
Brown variety on calcite/franklinite matrix. Also white and crystalline willemite which is FL-LW (green). Brown Willemite is rarely fluorescent. Collected 1979
Trotter Dump, Franklin, NJ

308 **Garnet** (var Almandine) $Fe_3Al_2Si_3O_{12}$
Deep red in color with minor micro pyrite. 1980 field trip.
Trotter Dump, Franklin, NJ

309 **Garnet** (var. Andradite) $Fe_3Al_2Si_3O_{12}$
Yellow/brown color on Franklinite. 1979 field trip
Trotter Dump, Franklin, NJ

310 **Willemite** Zn_2SiO_4
Pink/brown in color, FL-LW/SW. With franklinite on calcite.
Collected in 1982 field trip.
Trotter Dump, Franklin, NJ - 1982

311 **Quartz** (Druse) SiO_2
On eroded barite matrix. From abandoned open pit barite mining operation located in the village of Old Mine. Collected in 1978.
Old Mine, Washington County, Missouri.

312 **Quartz** (Druse) SiO_2
On eroded barite. Double layer of quartz xtal formation. First layer lightly coated with hematite. Second layer overgrowth has the appearance of "phantom" xtals within the surface xtals. 1978 field trip.
Old Mine, Washington County, Missouri.

313 **Tourmaline/Quartz** $Na(Mg,Fe)_3Al_6(OH)_4(BO_3)_3(Si_6O_{18})$ / SiO_2
Micro xtals on quartz/feldspar matrix. 1979 trip.
Green's Farm. S. Paris, ME

314 **Pegmatite** (example)
Muscovite mica, quartz, pyrope garnet
From working Beryl/Mica mine
New Milford, CT - 1977

315 **Franklinite/Calcite/Rhodonite/Willemite**
$(Zn, Mn, Fe^{2+})(Fe^{3+}, Mn^{3+})_2O_4$ / $CaCO_3$ / Zn_2SiO_4
Brown willemite is minor. 1982 field trip
Trotter Dump, Franklin, NJ

316 **Apatite** $Ca_5(PO_4)_3F$
On feldspar with muscovite mica - 1979
Green's Farm, S. Paris, Maine

317 **Siderite** $FeCO_3$
With micro pyrite and quartz xtals. 1979 field trip
Roxbury Iron Mine, Mine Hill, Roxbury, CT

318 **Calcite** $CaCO_3$
Dog tooth xtals with coating and inclusions of micro goethite "fans". Vug in basalt matrix. *(See **164**, 218, 259 & 260)*
East Haven Trap Rock Quarry (Cinque Quarry)
Laurel Street, East Haven, CT 1979

319 **Scapolite** $Na_4Al_3(AlSi)_3Si_6O_{24}(Cl,CO_3SO_4)$,
Minor xtals - O&G Quarry (Formerly Silliman Quarry), RT. 44.
Collected 1979 (face of North wall)
Woodbury, CT

320 **Apatite** (Manganapatite) $Ca_5(PO_4)_3(F,Cl,OH)$
Green xtaline masses on quartz/feldspar matrix
Gift from New Haven Mineral Club member - 1976.
Strickland Quarry, Portland, CT

Spec # Specimen description

321 **Graphic Granite** (Granite pegmatite)
From roadside quarry - 1976. An intergrowth of quartz and feldspar which looks roughly like cuneiform writing.

Portland CT

322 **Garnet** (Almandine) $Fe_3Al_2Si_3O_{12}$
On mica schist. 1978 field trip

Paris, ME

323 **Pyrite** FeS_2
Cubic habit. Gift in 1980, it is most probably from the Vesuvius area of Italy.

324 **Pyrite** (Pyritohedron) FeS_2
Reddish stain is from Siderite. 1979 field trip

Roxbury Iron Mine, Mine Hill, Roxbury

332 **Pyrite** FeS_2
Pyritohedron form. From tailings dump of a small working gold ore crushing mill while on a businesss trip to Denver, Colorado. Collected 1980

Golden, Colorado.

333 **Magnetite** Fe_3O_4
Massive speciment with minor crystal formations. Col. 1980

Mount Hope Mine
Morris City, New Jersey

334 **Graphite / Spinel / Phlogopite / Chalcopyrite**
C / $MgAl_2O_4$ / $KMg_3AlSi_3O_{10}(OH)_2$ / CuFeS
On calcite matrix. It still needs to be determined if the silvery metallic flakes are molybdenite rather than graphite. From 1979 field trip.

Collected at American Limestone Quarry,
Newtown, New Jersey

Spec # Specimen description

335 **Willemite/Calcite** Zn_2SiO_4 / $CaCO_3$
Both are FL-LW. Willemite, FL bright green, the calcite a dull red. Black blebs are Franklinite. Collected 1977

Trotter Dump, Franklin, Sussex County N.J.

336 **Goethite** FeO•(OH)
Origin unknown. Acquired in 1979

337 **Conglomerate concretion**
From a wash area in the Valley of Fire desert area in 1976

Las Vegas, Nevada

338 **Chrysotile** (Asbestos) $Mg_3Si_2O_5(OH)_4$
Chrysotile is the fibrous variety of serpentine
Acquired in 1980 at a California manufacturing plant owned by Raybestos-Manhattan.

Thetford Mines, Megantic, Ontario, Canada

339 **Topaz** $Al_2SiO_4(F,OH)_3$
Gem quality white topaz xtal (rough). 1934 specimen from a collection provided by Tom Buchanan from his uncles faceting material. Complete with original box and Customs declaration. Origin of this specimen is not recorded.

340 **Malachite** $Cu_2CO_3(OH)_2$
Shaped and polished ball. Gift from MGR 1993
Origin unknown

341 **Fluorite** CaF_2
Green color. Gift fromHamden Mineral Club - 1978

Westmoreland, New Hampshire

Spec # Specimen description

342 **Serpentine** (var. Retinalite) $Mg_3Si_2O_5(OH)_4$
Miners frequently call this form of serpentine "slickensides" a reference to its pearly luster and slippery feel.

Tilly Foster Mine, Brewster, NY - 1978

343 **Calcite** $CaCO_3$
Xtals on basalt matrix. - 1978

Silliman Quarry (O&G Quarry) Woodbury, CT

344 **Garnet** (var. Almandine) $Fe_3Al_2Si_3O_{12}$
On mica schist. From one of Perham's Minerals mine sites. Collected in 1978

Peru, Maine

345 **Ulexite** $NaCaB_5O_9 \cdot 8H_2O$
(Hydrous Sodium/calcium borate) Purchased in San Francisco August 1985

Boron, Kern County, California

346 **Dioptase** $CuSiO_2(OH)_2$
This is a basic copper silicate. A secondary mineral, it forms in the zone of alteration in all types of hydrothermal replacement deposits. Gift. Location & acquisition date not noted

347 **Quartz** SiO_2
Quartz crystalspecimens from this NY area are called "Herkimer diamonds". This imperfect xtal was found in dirt pockets in tree root clusters. Most of the quartz specimens in this area are extremely pure, having been formed in dolomitic limestone. Collected on field trip, 1977

Fonda, NY.

348 **Quartz** SiO_2
Xtal from Rist Emerald Mine in 1977 field trip
Hiddenite, North Carolina

349 **Apatite** $Ca_5(PO_4)_3F$
Broken Xtal. Gift in 1973, presumed to be CT specimen

350 **Serpentine** $Mg_3Si_2O_5(OH)_4$
From roadside cut on Donner Pass Highway on trip to San Francisco - 1985

351 **Pyrite** (Pyritohedron) FeS_2
On siderite. Minor sphalerite and Galena. Excellent example of pyritohedron habit. Collected in 1981
Roxbury Iron Mine, Mine Hill, Roxbury, CT

352 **Siderite** $FeCO_3$
Weathered Xtals on massive siderite. Collected 1980
Roxbury Iron Mine, Mine Hill, Roxbury, CT

353 **Graphite** C
Lamellar Xtal and granular on quartz/hornblende/feldspar matrix. Iron stained.
Old specimen. Gift. Location not known

354 **Tourmaline** $Na(Mg,Fe)_3Al_6(OH)_4(BO_3)_3(Si_6O_{18})$
Partial Xtal, "watermelon" variety - red & green. This was a gift from a local area collector in1979.
S. Paris, ME

355 **Aurichalcite / Calcite / Rosasite / Hemimorphite / Limonite**
$(Zn,Cu)_5(CO_3)_2(OH)_6$ / $CaCO_3$ / $Zn_4Si_2O_7(OH)_2 \cdot H_2O$ / $FeO(OH) \cdot nH_2O$
Classic location & mineral association, this was a gift from Curt Thompson in 1978.
Mina Ojuala, Mapimi, Durango, Mexico

356 **Azurite** $Cu_3(CO_3)_2(OH)_2$
Xtal form. Specimen is from an old collection.
Location not known

357 **Magnetite/Andradite** Fe_3O_4 / $Ca_3Fe_2Si_3O_{12}$
White seam on back side of specimen (pearly luster grains) is weakly FL-LW, slight phosphorescence with a very short afterglow. (need identification) Typical of the magnetite/ andradite from the Franklin, NJ, area. Magnetic property differentiates it from the Franklinite. 1978 field trip.
Trotter Dump, Franklin, Sussex County, N.J.

358 **Franklinite/Willemite**
(Zn, Mn, Fe^{2+}) $(Fe^{3+}, Mn^{3+})_2O_4$ / Zn_2SiO_4
On calcite with minor Zincite. Classic Franklin, NJ mineral suite. Willemite, ranges from clear to very light brown. Bright green FL-LW/SW. Calcite FL bright orange/red; Zincite, blood red. Franklinite "blebs" are typical associates of gangue calcite from mines in the Franklin/Ogdensburg area. Collected 1978
Trotter Dump, Franklin, Sussex County N.J.

359 **Kyanite** Al_2SiO_5 Color Plate #10
Mica schist/quartz matrix. Secondary small brown Xtals are staurolite. (See "Connecticut Mines & Minerals" Pg.11) Purchased July 1996, $15.00
Judd's Bridge, Roxbury, CT

360 **Orpiment/Realgar** As_2S_3 / AsS Color Plate #15
Yellow: orpiment. Red: realgar (arsenic sulfide)
Classic location for this combination of minerals
See Sinkankas Pg. 302-303 - Purchased specimen
Getchell Mine, Humboldt County, Nevada

361 **Willemite / Andradite / Calcite**
Zn_2SiO_4 / $Ca_3Fe_2Si_3O_{12}$ / $CaCO_3$
Grey color with deep red andradite garnet and FL calcite.
Field trip, 1978
Trotter Dump, Franklin, Sussex County N.J.

Spec # Specimen description

362 Garnet (Andradite) $Ca_3Fe_2Si_3O_{12}$
Massive with Xtal faces. April 1982 field trip.
Trotter Dump, Franklin, Sussex County, NJ

363 **Garnet** (Almandine) $Fe_3Al_2Si_3O_{12}$
Mined in Zimbabwe, Africa, precise location not known. Gift from Daryl Wigley while we were in Zimbabwe. This type of garnet is processed by his company (Caridorn Abrasives) in making "garnet" or "sand" paper.
Zimbabwe, Africa

364 **Pyrite** FeS_2
Unusual disc shaped specimen.
Purchased at mineral show in 1998 - $12.00
Luizhou, Guangxi Province, China

365 **Realgar** AsS Color Plate # 4
Small but classic specimen.
Purchased 1998 at local mineral show. - $18.00
Shimen Co., Hunan Province, China

366 **Cinnabar** HgS Color Plate # 2
Cabinet size specimen purchased at local mineral show in 1998. Associated minerals were not identified at time of purchase. - $65.00
Tongreng, Guizhou Province, China

367 **Opaline**
Rough opaline material which has been tumbled. Source location not identified. Gift from Heather Reid, 1998

368 **Quartz** (Var. Citrine) SiO_2
Shelf specimen, Typical color and crystal cluster face. Representative of type.
Source location not known Purchased in 1998 at local mineral show - $12.00

Spec # Specimen description

369 **Azurite** $Cu_3(CO_3)_2(OH)_2$ Color Plate #369
Crystal cluster specimen purchased at local mineral show in 1998. $ 12.00

Shilu Copper Mine, Yangchun CVo.,
Guangdong Province, China

370 **Gold** Au
2.6 gram nugget from Cripple Creek, Colorado, an old, but still working mining town about twenty miles from Colorado Springs. Purchased while on a business trip. Nugget recovered from local streambed panning operation.
Purchase price - $ 110.00

Cripple Creek, Colorado

371 **Gold** (dust or "color") Au
This container is "dust" or "color" panned by MGR and others from a stream near Killington Mountain, New Hampshire, in 1995. The event was a yearly "panning" party sponsored by the local mineral club. At the end of the day, all the stream sluices were emptied and the collected residue was "pan" refined for dust. The result was given to MGR as a gift from the event leader (we were his guest for the day)

Killington Mountain, New Hampshire

372 **Quartz** (Chalcedony Geode) SiO_2
Banded chalcedony shell with inner pocket of small, milky quartz xtals. Location unknown. Acquired about 1978

373 **Cobaltocalcite** $CoCO_3$ Color Plate #17
Pink material on both faces is the cobaltocalcite. The green material on the back face and scattered through the matrix is most probably malachite. Gift from Laura Reid in 2000.
She purchased it at "Les Mineraux", Le Carrousel du Louvre, Paris, France.