



## ***Check lists of minerals for mining districts of Colfax, northern Taos, and Union Counties, New Mexico***

Stuart A. Northrop, 1966, pp. 99-102

*in:*

*Taos-Raton-Spanish Peaks Country (New Mexico and Colorado)*, Northrop, S. A.; Read, C. B.; [eds.], New Mexico Geological Society 17<sup>th</sup> Annual Fall Field Conference Guidebook, 128 p.

---

*This is one of many related papers that were included in the 1966 NMGS Fall Field Conference Guidebook.*

---

### **Annual NMGS Fall Field Conference Guidebooks**

Every fall since 1950, the New Mexico Geological Society (NMGS) has held an annual [Fall Field Conference](#) that explores some region of New Mexico (or surrounding states). Always well attended, these conferences provide a guidebook to participants. Besides detailed road logs, the guidebooks contain many well written, edited, and peer-reviewed geoscience papers. These books have set the national standard for geologic guidebooks and are an essential geologic reference for anyone working in or around New Mexico.

### **Free Downloads**

NMGS has decided to make peer-reviewed papers from our Fall Field Conference guidebooks available for free download. Non-members will have access to guidebook papers two years after publication. Members have access to all papers. This is in keeping with our mission of promoting interest, research, and cooperation regarding geology in New Mexico. However, guidebook sales represent a significant proportion of our operating budget. Therefore, only *research papers* are available for download. *Road logs, mini-papers, maps, stratigraphic charts*, and other selected content are available only in the printed guidebooks.

### **Copyright Information**

Publications of the New Mexico Geological Society, printed and electronic, are protected by the copyright laws of the United States. No material from the NMGS website, or printed and electronic publications, may be reprinted or redistributed without NMGS permission. Contact us for permission to reprint portions of any of our publications.

One printed copy of any materials from the NMGS website or our print and electronic publications may be made for individual use without our permission. Teachers and students may make unlimited copies for educational use. Any other use of these materials requires explicit permission.

*This page is intentionally left blank to maintain order of facing pages.*

# CHECK LISTS OF MINERALS FOR MINING DISTRICTS OF COLFAX, NORTHERN TAOS, AND UNION COUNTIES, NEW MEXICO

By

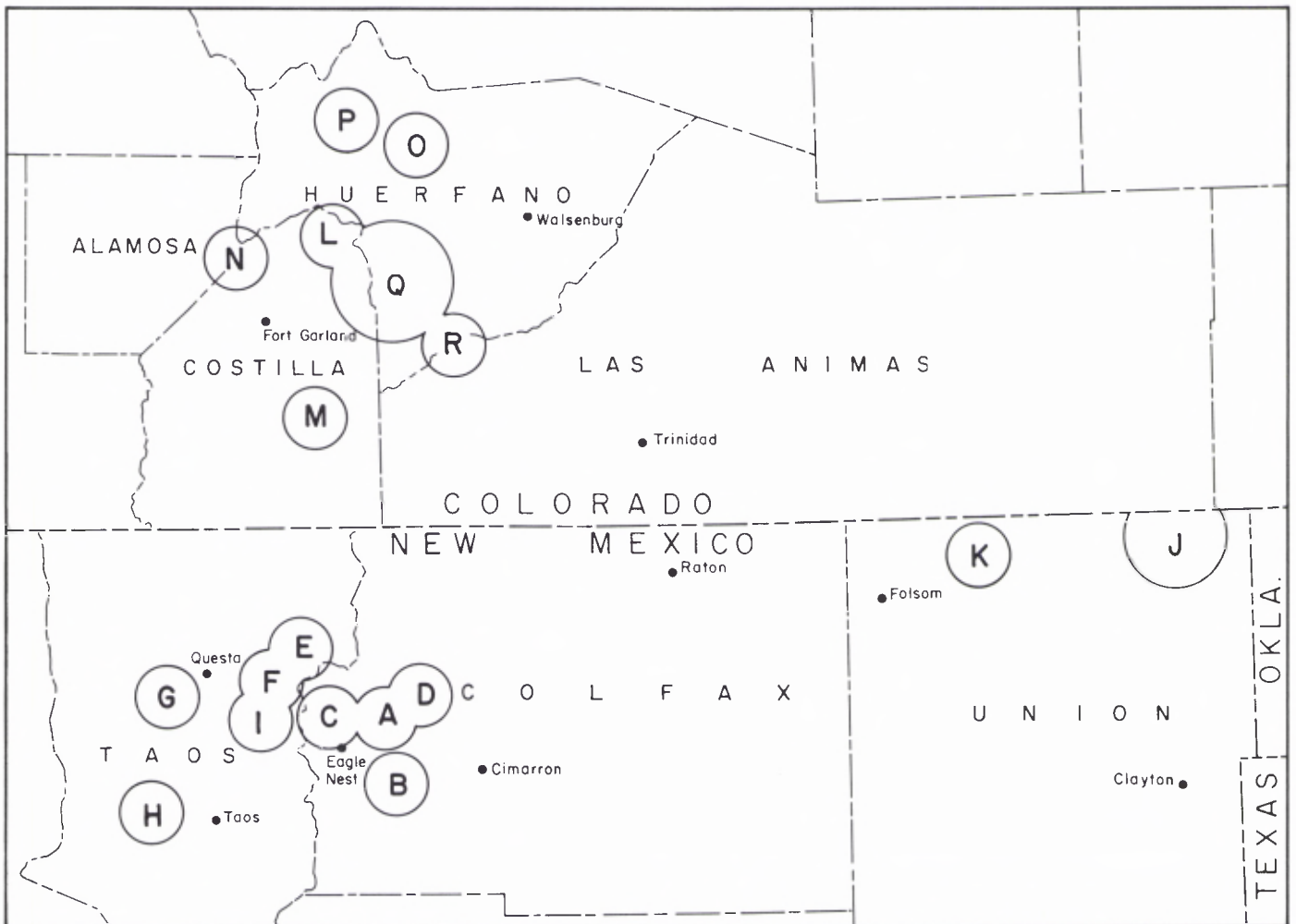
STUART A. NORTHROP

The University of New Mexico

Most of these records of occurrence are taken from the writer's (1959) "Minerals of New Mexico." Mineral occurrences of unusual interest are indicated by an exclamation mark (!); exceptional occurrences are indicated by two such marks (!!).

## COLFAX COUNTY

Lindgren, Graton, and Gordon (1910) recognized four mining districts in this county: Cimarroncito, Moreno (Elizabethtown), Ponil, and Ute Creek (Baldy). The



## INDEX MAP OF MINING DISTRICTS

NEW MEXICO: *Colfax County:* Baldy District (A), Cimarroncito District (B), Elizabethtown District (C), Ponil District (D). *Taos County:* Anchor District (E), Red River District (F), Rio Colorado Placers (G), Rio Grande Valley Placers (H), Twining District (I). *Union County:* Black Mesa District (J), Folsom District (K). *COLORADO:* *Costilla County:* Grayback District (L), Plomo District (M), Sierra Blanca Area (N). *Huerfano County:* Badito Cone District (O), Huerfano District (P), La Veta District (Q), Spanish Peaks Area (R).

Clason (1911) map shows the same four districts but uses the names Baldy (Ute Creek), Cimarroncito, Elizabethtown (Moreno Valley), and Ponil. Hill's (1912) map is essentially the same as Lindgren, Graton, and Gordon's (1910). Lasky and Wootton (1933) combined Baldy and Elizabethtown into a single district.

In the first edition of "Minerals of New Mexico" (1942), I recognized four districts: Baldy, Cimarroncito, Elizabethtown, and Ponil. Anderson's (1955) map shows five districts: Baldy (Ute Creek), Cimarroncito, Elizabethtown (Moreno), Ponil, and Willow Creek. Willow Creek District lies southeast of Baldy Mountain. In the revised edition of "Minerals of New Mexico" (1959), I regarded Willow Creek as an eastward extension of the Baldy District.

#### BALDY DISTRICT

Subdistricts and synonyms include Aztec, Baldy Mountain, Copper Park, Eagle Nest, Maxwell's, Mount Baldy, Ute Creek, and Willow Creek.

Amphibole	Magnetite
Anglesite	Malachite
Calcite	Molybdenite
Cerargyrite(?)	Proustite
Cerussite	Pyrrhotite
Chalcocite	Pyrite
Chlorite	Pyroxene
Chrysocolla	Quartz!
Copper	Rhodochrosite
Cuprite	Scapolite, var.
Epidote	Wernerite
Feldspar	Silver
Galena(?)	Sphalerite
Garnet	Stephanite
Gold!	Stilbite
Placer	Tetradymite
Hematite	Tetrahedrite
Specularite	Zoisite
"Limonite"	

#### CIMARRONCITO DISTRICT

Subdistricts and synonyms include Bonito, Cimarron Canyon, Uraga, Urraca, and Urraca Creek.

Calcite	Hematite
Chalcocite	Specularite
Epidote	"Limonite"
Garnet	Magnetite
Andradite	Malachite
Gold	Pyrite
Placer	Quartz

#### ELIZABETHTOWN DISTRICT

Subdistricts and synonyms include Eagle Nest, E-Town, Hematite, Hematite Creek, Iron Mountain, Moreno, Moreno Valley, and West Moreno.

Amphibole	Garnet
Argentite	Gold
Calcite	Placer
Chalcocite	Hematite
Chrysocolla	Specularite
Cuprite	Hornblende
Diopside	"Limonite"
Epidote	Magnetite
Feldspar	Malachite
Galena	Muscovite

Pyrite	Tremolite
Pyrrhotite	Uraninite
Quartz	Wolframite, var.
Scapolite, var.	Ferberite
Wernerite	Zoisite

In addition to these, Clark (1966) cites biotite, bor-nite(?), cassiterite(?), and lepidolite(?). The last two minerals were reported by R. F. Pettit, Jr. from the Hematite Creek subdistrict.

#### PONIL DISTRICT

From this district, placer gold and quartz have been cited.

#### EASTERN COLFAX COUNTY

Many of the following minerals have been cited in petro-graphic descriptions.

Acmite-diopside	Noselite
Aegirite!	Olivine
Analcime!	Orthoclase
Anorthoclase	Cryptoperthite
Apatite	Microperthite
Arfvedsonite	Soda-orthoclase
Barvikite	Plagioclase
Augite	Albite
Titan-augite	Andesine
Biotite	Bytownite
Cancrinite	Labradorite
Chlorite	Oligoclase
Diopside	Prehnite
Garnet	Pyrite
Gypsum, var.	Pyroxene
Selenite	Quartz
Hauynite	Chalcedony
Hematite	Resin!!
Hornblende	Riebeckite
Basaltic hornblende	Rutile
Hypersthene	Serpentine
Ice (in ice caves)	Antigorite
"Iddingsite"	Sodalite(?)
Ilmenite	Sphene
"Limonite"	Thomsonite
Magnetite	Thorium minerals
Titano-magnetite	Uranium minerals
Muscovite	Zeolites
Natrolite	Zircon
Nepheline	

Staatz (1965, p. 231) describes thorium-bearing veins in the Chico Hills area:

"at least seven veins ranging from a fraction of an inch to 15 feet in width . . . in irregularly brecciated zones in Dakota sandstone and in phonolite. Their exposed length is from 10 to 550 feet. Vein material consists principally of quartz, iron-oxide minerals, thorite, plumbogum-mite, and brockite; brockite is the principal thorium mineral."

Parker (1965, p. 294) describes an occurrence of niobium in the Laughlin Peak area:

"some veins which cut phonolite and the Dakota Sandstone are rich in thorium, niobium, and rare earths and contain also carbonate, phosphorus, barium, and strontium. The niobium content in some veins is as much as 0.37 percent, but the

minerals containing the niobium have not yet been identified."

At various other localities in Colfax County, the following have been noted.

Aragonite	"Limonite"
Arsenopyrite	Montmorillonite
Augite	Muscovite
Biotite	Olivine
Calcite	Orthoclase
Iceland spar	Sanidine
Graphite!	Plagioclase
Gypsum, var.	Quartz
Selenite	Jasper
Hauynite	Resin!!
Hornblende	Rutile
"Iddingsite"	Siderite
Ilmenite	Spherosiderite
"Leucoxene"	

### NORTHERN TAOS COUNTY

Mining districts in southern Taos County, such as Glenwoody, Harding Mine, and Picuris, are not included in this resume.

In northern Taos County, Lindgren, Graton, and Gordon (1910) recognized only three districts: Anchor (La Belle), Red River, and Twining (Arroyo Hondo). The Clason (1911) map shows six districts: Anchor (La Belle), Black Copper, Red River, Rio Colorado Placers, Rio Grande Placers, and Rio Hondo (Twining). Hill (1912) recognized the same three districts as did Lindgren, Graton, and Gordon (1910). Lasky and Wootton (1933) treated Anchor, Red River, Rio Grande Valley Placer, and Twining.

In the first edition of "Minerals of New Mexico" (1942), I used the same four, and Anderson's (1955) map uses the names Anchor, Red River, Rio Grande Placer, and Rio Hondo Districts. In the revised edition of my book (1959), I accepted Rio Colorado Placers as distinct from the Rio Grande Valley.

In his report on Taos County, Schilling (1960) noted that much confusion exists as to names and extent of some districts. He stated that the Anchor and Red River sub-districts are commonly included in a much larger Red River District which extends west to the Questa Molybdenum Mine and southeast to the Black Copper Mine. However, he recognized Rio Hondo (Twining, Arroyo Hondo) as a separate district. Schilling's Rio Grande Placer District extends from Questa southwestward along Red River to the Rio Grande and thence southward and southwestward to the south boundary of the county near Dixon, with lobes extending up several tributary streams such as the Rio Hondo. He also established No Agua as a new district to include the perlite and scoria deposits of northwestern Taos County.

#### ANCHOR DISTRICT

Subdistricts and synonyms include Keystone, La Belle, and Midnight.

Calaverite(?)	Gold
Chalcopyrite	Placer
Fluorite	Hematite

"Limonite"	Petzite
Muscovite, var.	Pyrite
Sericitite	Quartz

In addition to these, Schilling (1960) cites the following:

Argentite	Garnet
Biotite	Sphalerite

Argentite occurs at the Memphis Mine; sphalerite is rare at the Cora Gibson and Neptune prospects; biotite and garnet occur at the Enderman prospect.

#### RED RIVER DISTRICT

Subdistricts and synonyms include Alum Gulch, Black Copper, Black Mountain, Questa, and Sulphur Gulch. (As noted above, some writers have included the Anchor District in the Red River District.)

Actinolite(?) asbestos	Molybdenite!!
Alunite(?)	Monazite(?)
Anatase	Montmorillonite
Apatite	Muscovite
Argentite	Red and purple muscovite
Augite	Sericitite
Biotite!	Orthoclase!!
Bismuth	Adularia
Calaverite(?)	Petzite
Calcite	Plagioclase
Manganoan calcite	Albite
Chalcocite	Andesine
Chalcopyrite	Labradorite
Chlorite	Oligoclase
Dolomite	Pyrite
Epidote	Quartz
Feldspar	Rhodochrosite!
Ferrimolybdate!	Rhodonite(?)
Fluorite	Rutile
Galena	Serpentine, var.
Garnet	Asbestos(?)
Almandite	Sillimanite
Grossularite	Silver
Gold	Smithsonite
Placer	Sperrylite
Graphite	Sphalerite
Gypsum	Sphene
Selenite	Stibnite
Hematite	Tellurium minerals
Specularite	Tourmaline
Hornblende!	Uraninite
Ilmenite	Uranium minerals
Jarosite	Vanadinite
Kaolinite	"Wad"
Kyanite	Wolframite
"Limonite"	Huebnerite
Magnetite	Zircon
Malachite	Zoisite, var.
Microcline	Saussurite

In addition to these, the following have been cited by Schilling (1960):

Arsenopyrite	Pyrrargyrite(?)
Azurite	Tenorite
Proustite(?)	

Arsenopyrite and "ruby silver" were reported from the Jay Hawk Mine; azurite stains were observed at prospects along Spring Gulch and at the Copper King Mine; tenorite occurs also at the Copper King.



## RIO COLORADO PLACERS AND RIO GRANDE VALLEY PLACERS

Placer gold and quartz seem to be the only minerals reported from these districts.

## TWINING DISTRICT

Subdistricts and synonyms include Amizett, Amizette, Arroyo Hondo, and Rio Hondo. The last two names should not be confused with Hondo Canyon, northeast of Pilar, in southern Taos County. Northrop's (1959) Hondo Canyon District has been assigned by some writers to the large Picuris District. The following minerals have been reported from the Twining District.

Amphibole	Hematite
Azurite	Specularite
Bornite	"Limonite"
Calcite	Magnetite
Chalcocite	Malachite
Chalcopyrite	Molybdenite
Chlorite	Pyrite
Copper	Quartz
Epidote	Siderite
Galena	Sphalerite
Gold	Stibnite(?)
Placer	Talc
	Tourmaline

In addition, Schilling (1960) reported the following:

Biotite	Feldspar (pink)
Chrysocolla	Muscovite
Cuprite	

Chrysocolla occurs at the Frazer Mine and at the Comstock and Highline prospects; cuprite occurs at the Highline prospect. Clark (1966) cites hornblende.

A number of other minerals occur at isolated mines and prospects not generally assigned to any district, such as those in the Culebra Range, northern Taos Range, Cabresto Creek area, and San Cristobal Creek. See Schilling (1960).

## UNION COUNTY

No mining districts had been recognized by early workers, such as Lindgren, Graton, and Gordon (1910), the Clason (1911) map, Hill (1912), Lasky and Wootton (1933), Northrop (1942), and Anderson (1955). However, in his report on the geology and ore deposits of northeastern New Mexico exclusive of Colfax County, Harley (1940) had described two "mineralized districts," Folsom and Black Mesa. I decided in 1959 to accept these as mining districts.

## BLACK MESA DISTRICT

Both Black Mesa and Folsom have been called the Dry Cimarron area or district.

Azurite	Copper
Barite	Malachite
Bornite	Quartz
Chalcocite	Tenonite, var.
Chalcopyrite	Melaconite
Chrysocolla	Uranium minerals(?)

## FOLSOM DISTRICT

Azurite	Malachite
Chalcocite	Quartz
Gold	Silver(?)
Placer	Uranium minerals(?)

## OTHER LOCALITIES IN UNION COUNTY

Alunogen	Malachite
Analcime	Nepheline
Apatite,	Olivine
Carbonate-apatite	Quartz
Halloysite	Uranium minerals(?)
Hematite	

Baldwin and Muehlberger (1959) have cited the following, mostly in petrographic descriptions.

Aegirite(?)	Kaolin
Anorthoclase(?)	Magnetite
Augite	Microcline
Barite	Pigeonite(?)
Calcite	Plagioclase
Cancrinite(?)	Andesine
Enstatite	Bytownite
Gibbsite	Labradorite
Gypsum	Oligoclase
Selenite	Quartz
Hauynite	Agate
Hypersthene	Chalcedony
"Iddingsite"	Zeolite

## REFERENCES CITED

- Anderson, E. C., 1955, Metal mining districts and subdistricts, New Mexico—1955. This map accompanies Anderson, E. C., 1957, The metal resources of New Mexico and their economic features through 1954: New Mexico Inst. Min. and Tech., State Bur. Mines and Mineral Res. Bull. 39.
- Baldwin, Brewster, and Muehlberger, W. R., 1960, Geologic studies of Union County, New Mexico: New Mexico Inst. Min. and Tech., State Bur. Mines and Mineral Res. Bull. 63.
- Clark, K. F., 1966, Geology and ore deposits of the Eagle Nest quadrangle, New Mexico: Univ. New Mexico doctoral dissertation.
- Clason [Map Co.], 1911, Mining map of New Mexico: Denver, The Clason Map Co. This map accompanies Jones, F. A., 1915, The mineral resources of New Mexico: New Mexico School of Mines Mineral Res. Survey Bull. 1.
- Harley, G. T., 1940, The geology and ore deposits of northeastern New Mexico (exclusive of Colfax County): New Mexico Inst. Min. and Tech., State Bur. Mines and Mineral Res. Bull. 15.
- Hill, J. M., 1912, The mining districts of the western United States, with a geologic introduction by Waldemar Lindgren: U.S. Geol. Survey Bull. 507.
- Lasky, S. G., and Wootton, T. P., 1933, The metal resources of New Mexico and their economic features: New Mexico Inst. Min. and Tech., State Bur. Mines and Mineral Res. Bull. 7.
- Lindgren, Waldemar, Graton, L. C., and Gordon, C. H., 1910, The ore deposits of New Mexico: U.S. Geol. Survey Prof. Paper 68.
- Northrop, S. A., 1942, Minerals of New Mexico: Univ. New Mexico Bull. 379, Geol. ser., v. 6, no. 1. This first edition was reprinted in 1944 as a book by the Univ. New Mexico Press.
- , 1959, Minerals of New Mexico, rev. ed.: Albuquerque, Univ. New Mexico Press.
- Parker, R. L., 1965, Niobium and tantalum, in U.S. Geol. Survey, Mineral and water resources of New Mexico: New Mexico Inst. Min. and Tech., State Bur. Mines and Mineral Res. Bull. 87, p. 290-294.
- Schilling, J. H., 1960, Mineral resources of Taos County, New Mexico: New Mexico Inst. Min. and Tech., State Bur. Mines and Mineral Res. Bull. 71.
- Staatz, M. H., 1965, Thorium, in U.S. Geol. Survey, Mineral and water resources of New Mexico: New Mexico Inst. Min. and Tech., State Bur. Mines and Mineral Res. Bull. 87, p. 230-234.