THE GEOLOGY OF, AND KNOWN MINERAL OCCURRENCES WITHIN, WILDERNESS STUDY AREA 4-60 VARNAR HILLS-PELONCILLO MOUNTAINS

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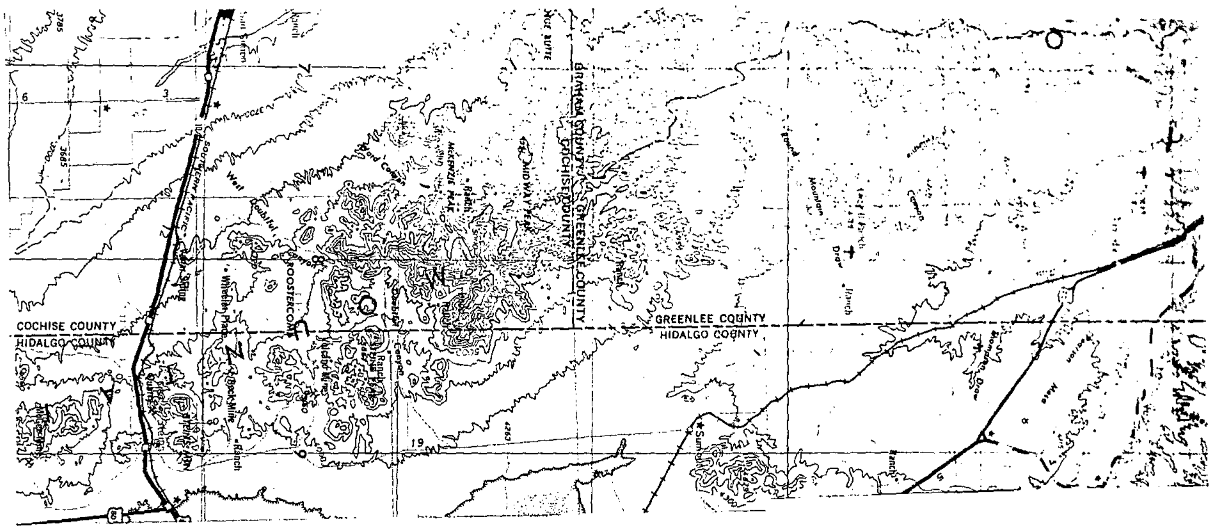
7) Several mines and prospects are located to the south of the WSA, in the Steins Mountain - Steins Peak region of New Mexico. Information regarding these operations is largely unavailable. Gillerman (1958; see enclosed article, pages 95-97) describes the McGhee Mine, located in the southeast corner of the mapped area, as a lead-zinc mining operation that produced 100,000 tons of ore prior to 1955;

8) The Steins Pass Mining District, to the southeast of the WSA in New Mexico, has been actively mined and prospected since the late 1800's. Most of the mining activity occurred prior to 1920; later operations have been sporadic, and most of the older properties are presently inaccessible.

Lead, zinc, copper, and silver, in the form of galena, sphalerite, and chalcopyrite, are the most abundant ore metals in this region. Small deposits of gold and tungsten have also been mined. Trace amounts of fluorspar have been reported.

9) The Peloncillo Mining District, geologically and mineralogically similar to the Steins Pass district, lies just across the state border in Arizona and includes the Vanar Hills region. The few known ore bodies tend to be small, sporadic, and widely disseminated. Old prospecting activities uncovered small and weak showings of oxidized copper ore; only a few test lots of ore were produced. According to Keith (1973; "Index of Mining Properties in Cochise County, Arizona"), "The possibilities for economic mineralization in this district are not favorable."

For additional discussions of the mineral potential of the Steins Pass - Peloncillo Mountains region, see Gillerman (1958).


COCHISE COUNTY
HIDALGO COUNTY
GREENLEE COUNTY
HIDALGO COUNTY
GREENLEE COUNTY
COCHISE COUNTY
ROOSTERCOMB
MIDWAY PEAK
Ranch
Canyon

KNOWN MINERAL OCCURRENCES

PELONCILLO MOUNTAINS AREA (4-60)

Gold, Manganese, Diatomite, and Gravel Deposits

The Vanar Hills region of the central Peloncillo Mountains is primarily composed of middle Tertiary rhyolite flows, vitric tuffs, and breccias. The lower slopes of the mountains are blanketed by older alluvial deposits of poorly sorted coarse gravel; ancient lake deposits of interbedded fine sand and clay, ranging from 10 to 20 feet thick; and younger alluvial deposits of unsorted and unconsolidated sand and gravel, characteristic of the Animas and San Simon valleys. Northwest-striking high-angle faults are numerous within the mountain uplands and divide the range into a number of variously tilted, diagonally-trending fault blocks. Intensive folding during late Tertiary-Quaternary times created an upbowing in the central part of the range, known as the Peloncillo Arch.

Map numbers 5 and 9 represent two known metalliferous mineral occurrences in this region. Map number 5 contains a small gold deposit; minor amounts of gold, in association with silver, copper, lead, and zinc are contained in well-defined fissure veins cutting Tertiary lava flows. Map number 9 locates a manganese deposit. Manganese minerals have been reported from faulted Tertiary andesitic rocks on the eastern slopes of the Peloncillo Range.

Numerous gravel and sand quarries lie to the west and east of the Peloncillo Mountains, in the Animas and San Simon valleys (map numbers 1,2,6,7,8).

Diatomite deposits (map numbers 3,4) have been stripped and quarried from outcrops along the Gila River north of Duncan. Diatomite beds are found interbedded with clay in the Pliocene-Pleistocene Gila Formation.

Lead, zinc, copper, and silver are reported as being the most abundant ore minerals in the Peloncillo Mountains (Gillerman, 1958). For a discussion of mineral occurrences to the north and south of the Vanar Hills region, see Gillerman.

Map No.: 4-60-2

Mine: ADOT Gravel Pit

Location:	T. 08S	Sec. 02	Lat. 32-46-00N
	R. 31E	SWSWSW	Long. 109-08-34W
			Elev. 3680 Ft.

Geology:

Coarse gravel, sand, and silt covering floodplains, terraces, pedimetns, and low ridges in Gila River basin (late Tertiary-Quaternary). Thickness several meters to hundreds of meters thick. Weakly-to well-indurated, poorly rounded clasts.

Mineral Products: Sand and gravel

Development and Production: Surface workings; active producer.

References:

USBM Files, ADOT Gravel Pit
USGS York Valley Quad (1:62500)
Wynn, 1981

Map No.: 4-60-4

Mine: Diatomite Prospect

Location: T. 08S, R. 31E; Sec. 22, C W 1/2; Lat. 32-43-20N, Long. 109-10-00W, Elev. 3980 Ft.

Geology:

Diatomaceous earth deposits alternating with beds of clay in Gila Formation.

Mineral Products: Diatomite

Development and Production: Surface workings; extent of development unknown. Past producer.

References:

USGS Duncan Quad (1:62500)
USBM Files, Diatomite Prospect
Elevatorski, 1978, p. 34

Map No.: 4-60-6

Mine: Gravel Pit

Location: T. 08S, R. 32E; Sec. 27, C W 1/2; Lat. 32-42-43N, Long. 109-03-49W, Elev. 3760 Ft.

Geology:

Coarse gravel, sand, and silt covering floodplains, terraces pediments, and low ridges in Gila River basin (late Tertiary-Quaternary).

Mineral Products: Sand and gravel

Development and Production: Surface workings; extent of development and production unknown.

References:

USBM Files, Gravel Pit
USGS Duncan Quad (1:62500)
Wynn, 1981

Map No.: 4-60-8

Mine: Gravel Pit

Location: T. 08S, R. 32E; Sec. 30, C S 1/2; Lat. 32-42-14N, Long. 109-06-25W, Elev. 3800 Ft.

Geology:

Coarse gravel, sand, and silt covering floodplains, terraces, pediments and low ridges in Gila River basin (late Tertiary-Quaternary).

Mineral Products: Sand and gravel

Development and Production: Surface workings; extent of development and production unknown.

References:

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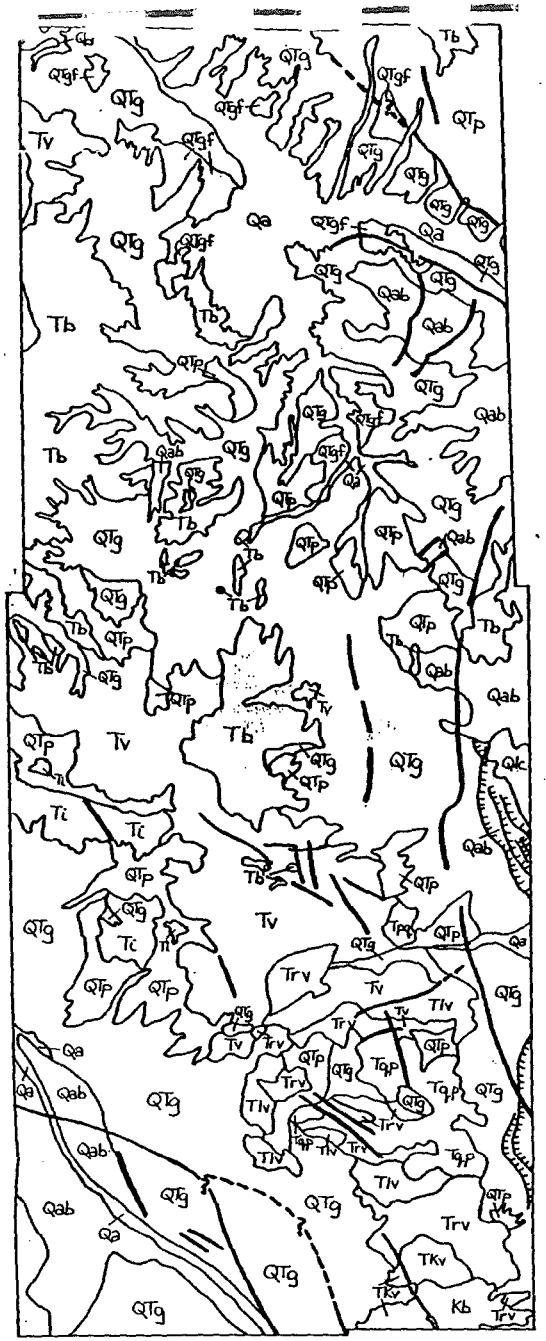

GEOLOGY OF THE VANAR HILLS – PELONCILLO MOUNTAINS AREA (4-60)

EXPLANATION

QUATERNARY

- Qlc — Clay and water soluble salts devoid of vegetation; marginal parts of the barren ground contain considerable silt and sand.
- Qa — Younger alluvium; unconsolidated silt, sand, and gravel on active flood plains and in stream channels.
- Qab — Extensive, broad, low-gradient alluvial fans that are largely inactive and generally dissected by erosion.

QUATERNARY-TERTIARY

- QTg — Weakly- to well-indurated conglomerate, fanglomerate, and breccia capping low terraces and ridges.
- QTp — Older alluvium and colluvium; coarse pediment gravel, sand, and silt of older valley fill.
- QTgf — Gila Conglomerate; small benches and nearly perpendicular bluffs of terrace gravels and boulders, interbedded with layers of semi-indurated sand and sheets of basalt.

TERTIARY

- TIv — Vanar Hills volcanic rocks; latitic flows, vitric tuffs, crystal tuffs and pitchstone.
- Tqp — Steins Mountain quartz latite porphyry; columnar jointed flows and devitrified tuffs.
- Trv — Quarry Peak rhyolite complex; flows and well-bedded breccias and tuffs of rhyolitic composition.
- Tb — Basalt and basaltic andesite flows and pyroclastic deposits.
- Tv — Rhyolite welded ash-flow tuffs and coarse-grained porphyritic andesite flows.
- Ti — Intrusive rocks, including granitic plutons and aphanitic to porphyritic plugs and dikes.

TERTIARY-CRETACEOUS

- TKv — Flows, tuffs, breccias, and volcanic conglomerates of andesitic to rhyolitic composition.

CRETACEOUS

- Kb — Bisbee Formation; interbedded sandstone, shale, and limestone, with basal conglomerate unit.

contact

fault, dashed where inferred or covered

ancient shorelines of Lake Animas; erosional and evaporation features

Sources of information include:

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