6000 2301

Mining District File Summary Sheet

DISTRICT	Tuscarora - 6000 2301 Gold Circle - 60002302
DIST_NO	4950 Tuscarora 2090 Gold Circle
COUNTY If different from written on document	Elko
TITLE If not obvious	Possible Sites For Physical Exploration in Western Elko County
AUTHOR	Coats, R
DATE OF DOC(S)	
MULTI_DIST (Y) N? Additional Dist_Nos:	see District, District no.
QUAD_NAME	Tuscarora 15'; Mt. Blitzen 15' — 6000 2301 Mida 7½'; Oregon Canyon 7½ } 6000 2302 Squaw Valley Ranch 7½ Scrupper Sponge 7½
P_M_C_NAME (mine, claim & company names)	
COMMODITY If not obvious	
NOTES	Geologic summary; geology; Coats donation 4p.

Keep docs at about 250 pages if no oversized maps attached (for every 1 oversized page (>11x17) with text reduce the amount of pages by ~25)

SS: BD 12/12/08 (Initials / Date)

DB: (Initials / Date)

SCANNED: MT 12.23.09 (Initials / Date)

Revised: 1/22/08

Possible sites for physical exploration in western Elko County

In western Elko County, Nevada, two of the more important districts in terms of past heavy-metal production are Tuscarora, with a production of about $10 million, and Gold Circle (Midas), with a production of about $4 million. Both of these districts have yielded production only from veins and lodes in altered Tertiary lavas; in both, it is possible to infer that Paleozoic rocks lie beneath the Tertiary rocks at moderate depths (< 1 mile). The purpose of this memorandum is to evaluate these two areas as sites for drilling intended to locate and determine the configuration of the Roberts Mountains thrust.

Tuscarora district

In the Tuscarora district, the sketch map of Nolan (1936, pl. 1) shows one small outcrop of Paleozoic quartzite, about a mile northwest of town, (in NE ¼, sec. 33, T.40N.,R51E) and just west of the east-trending zone of major silver deposits. The Paleozoic rocks are described as dark quartzite and black chert; Nolan (1936, p. 17-18) thought these rocks Carboniferous(?), on the basis of a lithologic correlation with rocks of then unknown age in the Mountain City district. The correlative rocks in the Mountain City area are known to be part of the Valmy formation, of Ordovician age, of the western assemblage ~~Valmy formation~~. Twelve miles east of Tuscarora, on the east side of the Independence Valley, similar rocks form the upper plate of a major thrust, and have been shown (Kerr, 1962, p. 449) to contain Silurian fossils. It seems reasonably probable that the Paleozoic rocks at Tuscarora also represent the western assemblage and are in the upper plate of the Roberts Mountains thrust. The thickness of the volcanic rocks in which the major silver mines were developed is unknown. None of the shafts reached a depth greater than 750 feet (Nolan, 1936, p. 30), nor did any reach the base of the Tertiary.

It seems reasonable to suppose that a sufficiently deep drill hole sited near the exposed area of Paleozoic rocks would be an efficient measure of the local thickness of the upper plate of the Roberts Mountains thrust, below the local base of the Tertiary volcanic rocks. There is no reason to suppose that the single hole would yield much useful information concerning the local configuration of the thrust, Several additional holes, of similar or greater depth, would be required for this purpose. If properly placed, they <u>might</u> also yield information of value in predicting the possible occurrence of mineral deposits structurally related to the thrust, if any are present in this area. In my judgment, based only on a reading of the literature, such subsequent holes should be spaced out along a trend of about S. 70° E. from the Paleozoic rock exposure, but the results of the early drilling may substantially modify the choice of sites for later drilling.

Gold Circle (Midas) district

The ore produced in the Gold Circle district has been taken from relatively narrow veins that cut Tertiary volcanic rocks of uncertain age. The relation of the district to the major structures of the underlying, presumably Paleozoic rocks is uncertain. Emmons (1910, p. 47) mentions an occurrence of shaly limestone in a canyon about 5 miles northeast of Midas. Nelson and Roberts (in Plate 9, Granger and others, 1957) show an outcrop of quartzite that resembles the quartzite of Valmy in the Ivanhoe district, about 12 miles east-southeast of Midas. The scanty available evidence suggests that the ore deposits of Midas may be developed in volcanics that rest on a window eroded through the upper plate of the Roberts Mountains thrust, assuming that the limestones mentioned by Emmons are part of the eastern assemblage. It seems to me desirable that the nature and provenance of exposed Paleozoic rocks should be evaluated before any physical exploration is undertaken at Midas. I propose to see as many of these as possible next field season.

R. R. Coats

References

Emmons, W. H., 1910, A reconnaissance of some minig camps in Elko, Lander, and Eureka Counties, Nevada: U.S. Geol. Survey Bull. 408.

Granger, A., Bell, M. M., Simmons, G. C., and Lee, Florence, 1957, Geology and Mineral Resources of Elko County, Nevada: Nevada Bur. of Mines, Bull. 54, 1957.

Nolan, T. B., 1936, The Tuscarora Mining District, Elko County, Nevada: Univ. Nevada Bull., v. 30, no. 1,

Kerr, J. W., 1962, Paleozoic sequences and thrust slices of the Seetoya Mountains, Independence Range, Elko County, Nevada: Bull. Geol. Soc. America, v. 73, p. 439-460.