60002303

Mining District File Summary Sheet

DISTRICT	Aura - see back
DIST_NO	0400 - see back
COUNTY If different from written on document	Elko
TITLE If not obvious	Suitable Projects for Heavy-metal Investigations in Elko County, Nevada
AUTHOR	Coats R
DATE OF DOC(S)	
MULTI_DIST (Y) / N? Additional Dist_Nos:	see district/district/back
QUAD_NAME	Bullrun 15'; Wilson Reservoir 15' - See back
P_M_C_NAME (mine, claim & company names)	
COMMODITY If not obvious	Silver gold
NOTES	Brief geologic summaries; geology; Coats donation NOTE: A.I. to 60002303 only; includes Columbia See back for other additions 7p.

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)

Revised: 1/22/08

	Initials	Date
SS:	DD	12/12/08
DB:	VB	12/08/09
SCANNED:	MT	12.23.09

District	District No.	ID No	Quads
✓ Edgemont	1690	60002304	Wilson Reservoir 15'
✓ Gold Circle	2090	60002305	Midas 7½' Oregon Canyon 7½' Scraper Springs 7½' Squaw Valley Ranch 7½'
✓ Island Mountain	2420	60002306	Mountain City 15' Mt Velma 15' Rowland 15' Wild Horse 15'
Add to NOTES - placer			
Jarbidge	2520	60002307	Jarbidge 15'
Mountain City	3260	60002308	Mountain City 15'
Add to NOTES - includes Van Duzer Creek; placer			
Tuscarora	4950	60002309	Tuscarora 15' Mt. Blitzen 15'

Suitable projects for heavy-metal investigations in Elko County, Nevada.

R. R. Coats

Production statistics are useful in choosing areas for intensive geochemical, and geological investigations. The summary in Granger and others (1957, p. 23) while up to date only through 1949, is still useful, because production of gold and silver since that date has been negligible. The production of gold and silver given in that volume is here reproduced, and, on the right, a column has been added, giving, for selected districts, the ratio by weight, of silver to gold. At the present time, the price ratio is 1:27. Districts having a ratio of Ag/Au ratio of less than 27 may be considered predominantly gold districts. However, the use of production statistics as the sole criterion is apt to be deceptive, for several reasons. Production statistics include, in many cases, both placer and lode production, and the placer production is heavily weighted in favor of gold. Some districts have deposits of different types, and a part of the district may be predominantly a gold district, and another part a silver district. The records of past production are also apt to be heavily weighted in favor of the near-surface bonanza ores, which are in many places supergene, and if supergene, apt to be more enriched in silver than gold.

Summary of present state of knowledge, and proposed strategy of attack, on certain precious-metal districts in Elko County, Nevada

Jarbidge.

The general geology has been recently restudied (Coats, 1964) and a 1:62,500 map is available. The rock alteration associated with the ore deposits was not studied, except in cursory fashion, in connection with this mapping, but unpublished maps of the mine workings accessible in 1954-6 are available; in addition to these, Newmont Mining Company has made available detailed maps of the workings of the principal mine, complete to the date of its closing. Most of the workings in this mine are below the water level and are now flooded. Many of the workings in other mines are caved. The grade of these vein deposits, at best, would be marginal at present prices, even above the groundwater level; whether larger deposits, for which lower mining costs might compensate for a lower grade, are also present is not known.

Preferred course of action: 1. compilation and open-filing of available mine-geology data. 2. Geochemical prospecting and alteration studies in vicinity of known vein systems, to locate "hot spots."

Tuscarora

Present status of knowledge.

No published geological work has been done, to my knowledge, since Nolan's (1936) report. Nolan's mapping was hindered by the almost complete lack of outcrops in the principal mineralized area, and the inaccessibility of almost all the mine openings. The same conditions still prevail.

It is understood that Phillips has been doing geophysical work in the district.

Recommended course of action: I recommend a preliminary examination to determine the extent to which geochemical and rock alteration exploratory work can be carried on with the aid of physical exploration, and to estimate the amount of physical exploration, such as short-hole drilling, that would be needed for adequate coverage of the district.

Gold Circle

Present status of knowledge: The most complete available work is that of Rott (1931). This gives a brief resume of the general geology and mineralogy of the ores, and a description of the geology in some of the mines.

Recommended course of action: I recommend a preliminary reconnaissance to determine the scope of subsequent work. Available information strongly suggests that this district is one in which further geologic work is desirable, and in which useful work could be done from surficial exposures and workings now accessible. It appears also to be a likely area for alteration and geochemical prospecting studies.

Extra color aerial photos should be taken.

Island Mountain

Present status of knowledge:

The general geology of this area has been covered in a recent (1954) Yale Ph.D. thesis, by John R. Coash. No economic work was done. There are practically no accessible underground workings. The recorded production dates only from 1934, but the placers were discovered in 1873, and largely mined out before any records were kept of production; the placer area was said to have been one of the most productive in the state. The placer gold was certainly of local derivation.

Preferred course of action: I recommend a brief reconnaissance trip to the area to determine the desirability of a geochemical prospecting program in the vicinity of the small granodiorite stock at the headwaters of Godl Creek. It does not appear probable that substantial placer deposits still remain above the mouth of Gold Creek. Penrod Creek, into which Gold Creek empties, is unworked, but is held for agricultural purposes. It is reported to have been drilled.

Van Duzer Creek

Present status of knowledge: Van Duzer Creek is in the southern part of the Owyhee and Mountain City quadrangles. From the recent gravels placer gold has been produced for many years, beginning in 1893 (Vanderburg, 1936) and ending at the time of L-208. The latest substantial production was gotten by dredging both Van Duzer Creek and working part of Cobb Creek, its tributary by other means.

Preferred course of action: The possibility of other occurrences of a lode deposit of the Carlin type in the upper reaches of these streams, which follow the Roberts Mountain thrust for several miles, should not be overlooked. Exposures are fairly good.

Aura and Columbia Districts

Present state of knowledge: Knowledge of the ore deposits is due to Emmons (1910). Relatively little work has been done in the mines since his time. This is a district of quartz veins in Paleozoic sedimentary rocks of the eastern assemblage. Some of the veins are silver--rich, other gold-rich, according to Emmons. The general geology has been recently done by Decker (1962), who did not restudy the ore deposits. Decker suggests that gold placer deposits in Trail Creek may be derived from disseminated gold mineralization spatially related to the surface of the Trail Creek thrust (Roberts Mountain thrust).

Recommended course of action: Preliminary reconnaissance to determine the desirability of geochemical prospecting in the vicinity of the thrust, and of underground investigations of some of the known lode-gold deposits.

Edgemont district

Present state of knowledge: The Edgemont district, just west of the Aura district, is one of gold-quartz veins in Prospect Mountain(?) quartzite. Available geologic information is due to Emmons (1910), the general geology has been mapped by Decker (1962). Considerable prospecting activity was carried on in the Edgemont mine just before the last war.

Recommended course of action.--Visit the district and ascertain whether underground mapping, and surficial geochemical work, are possible. Geophysical prospecting might also be attempted.

Mountain City

Present status of knowledge: Production in the Mountain City district to 1930 was nearly all from the veins in granodiorite, in the immediate vicinity of Mountain City, and amounted to about 5,000 oz. gold and 1,140,000 oz. of silver. No detailed information is available on the geology. One mine was reopened during the last World War and produced substantial quantities of high-grade silver ore. The veins are relatively short and discontinuous; little drilling has, as far as is known, been done below the water level.

Preferred course of action: The known productive district is narrowly delimited; to the eastward, its possible extension is concealed beneath younger lavas and landslide debris. Physical exploration by diamond drilling would be necessary to explore for continuations in depth or beneath the lavas. Geologic mapping in detail, geochemical prospecting and rock alteration studies should be fully exploited before physical exploration is attempted.

References

Coats, R. R., 1964, Geology of the Jarbidge quadrangle, Nevada-Idaho: U.S. Geol. Survey, Bull. 1141-M.

Decker, R. W., 1962, Geology of the Bull Run quadrangle, Elko County, Nevada: Nevada Bureau of Mines, Bull. 60.

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

Nolan, T. B., 1936, The Tuscarora Mining District, Elko County, Nevada: Nev. Bureau of Mines Bull., v. 30, no. 1.

Rott, E. H., Jr., 1931, Ore deposits of the Gold Circle Mining District, Elko County, Nevada: Nev. Bureau of Mines, Bull., v. 25, no. 5.

Vanderburg, W. O., 1936, Placer Mining in Nevada: Nev. Bureau of Mines Bull., v. 30, no. 4.