

3890-0027

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Item 38

REPORT ON
AMADOR MINING PROPERTY
AUSTIN, LANDER COUNTY, NEVADA

SCOPE OF REPORT

The Amador group of claims was examined November 23 and 24, 1941. Field work consisted of a study of underground vein exposures. Five representative samples were taken primarily for indicative results- not for valuation purposes. Surface exposures and vein outcrops were examined at the large vein in the Amador shaft area. This report sets forth results of the field examination and general conclusions regarding the property relative to the Austin mining area as a whole.

PROPERTY

The Amador property consists of sixteen unpatented lode mining claims, as follows:

North Star Nos. 1,2,3,4,5,6,7,8,9.
Crescent Nos. 1,2,3,4.
Black Hawk Nos. 1,2,3.

The property lies in the Amador portion of the Reese River mining district on the west slope of the Toiyabe range approximately six miles north of Austin, County seat of Lander County, Nevada. The property is held by a partnership consisting of Walter Francis, Charles Kearns, and Harry Nakashima, all of Austin. Mr. Francis holds one-half interest; Kearns and Nakashima each hold one-quarter interest.

PRODUCTION

Regional production:

No accurate data are available on the gross production of minerals from Lander County prior to 1902. Production for the Reese River district in the early days is commonly estimated at \$40,000,000 to as high as \$60,000,000, but such estimates are not substantiated by the data available. The district was discovered in 1862 and in the first two years it produced \$100,000. The net annual production of gold and silver from the Reese River district for the period of major production - 1864 to 1903 - approximates \$30,000,000, as compiled from assessment rolls of the county assessor. For the period 1905-1936 the district produced 419,389-oz. of silver for a value of \$269,957, as recorded by the Mineral and Economics Division, Bureau of Mines. The great majority of production from the Reese River district was derived from the narrow veins on Union and Lander hills, a small area within the present limits of the city of Austin.

Amador production:

A table of ore shipments from the Amador group, as taken from notes by Mr. C.T. Van Winkle is given on the following page. The first shipment listed was taken from the winze in the long tunnel on North Star No. 3 claim. All other shipments were from the Amador tunnel. The average silver content from these shipments was 78.82-oz. per ton.

Amador Shipments (Incomplete)

<u>Date shipped</u>	<u>Gold oz./ton</u>	<u>Silver oz./ton</u>	<u>Lead percent</u>	<u>Copper percent</u>	<u>Dry wt. tons</u>	<u>Value net</u>
Feb. 4, 1919	.03	156.6	0.7	0.62	1.18	\$ 127.31
Dec. 10, 1934	--	45.49	---	---	3.24	811.98
June 29, 1935	.0075	65.67	1.2	0.45	29.69	1295.06
July 16, 1935	.0075	65.04	---	0.40	39.48	1231.38
Aug. 5, 1935	.0075	77.79	0.4	0.80	42.58	1730.52
Aug. 5, 1935	.0125	171.44	1.7	0.90	7.64	770.43
Aug. 16, 1935	.0150	93.23	1.1	0.50	29.23	1471.19
Mar. 25, 1936	.07	42.48				
Apr. 1, 1936	.02	43.70				
May 11, 1936	.01	47.68				
May 27, 1936	.01	47.30	Incomplete information			
June 8, 1936	.01	47.15				
July 2, 1936	.01	81.8				
July ?	.01	105.6				

AMADOR DEVELOPMENT

General: The major development work on the Amador group consists of four separate workings, as shown on the accompanying claim map. The Amador tunnel, scene of the present activity, consists of approximately seven hundred feet of horizontal workings with a minor amount of inclined raises and winzes driven on the narrow high-grade vein. The Amador shaft (Incline), the inclined shaft on the North Star No. 1 claim, and the tunnel and winze on the North Star No. 3 claim were all driven on larger, lower-grade veins. No correlation was established among the various veins cut in these workings.

Amador tunnel: A compass-tape survey of the Amador tunnel was made, from which the accompanying Assay Map was prepared. No attempt was made to take the detailed geology; however, the vein was followed out and the significant geologic features were noted, as indicated on the assay map. A tabular summary of the assay data is given:

<u>Sample No.</u>	<u>Width</u>	<u>Silver</u>	<u>Gold</u>
1	8-in.	167.7 oz/ton	0.010 oz/ton
2	12	250.6	0.011
3	24	227.7	0.011
4	32	31.8	0.020
5	dump sample	10.3	trace

Other workings:

The Amador shaft (inclined approximately 20°) was sunk on a large quartz vein which outcrops prominently on the surface. From local reports the shaft was sunk to the 290-ft. level sometime previous to 1870. The workings were de-watered by Charles Kearns and associates about 1920. Mr. Kearns reported that very little drifting had been done on the ore. The vein averaged about 5-ft. wide and carried about 15-oz. of silver per ton. One sample taken from the dump assayed 10.3-oz. silver per ton and a trace of gold. The sample was taken from what was evidently the last material removed from the mine. An estimate of 600-tons was made for the content of the dump, all of which was quartz of uniform megascopic appearance.

From the long tunnel on North Star No. 3 claim a winze was sunk to considerable depth on a vein of some 18-inch width, according to reports. In 1919 one small shipment was made from this property. The ore assayed 156.6-oz. silver per ton. These workings did not cut the large vein of the Amador shaft area.

The Coral shaft (inclined) on the North Star No. 1 claim was sunk to the 300-ft. level. Some information was obtained which indicated the vein averaged 24-in. in width and 80-oz. of silver per ton. However, no credence was given this report.

The Amador shaft, the long tunnel, and the Coral shaft were filled with water, thus obviating the possibility of further examination.

GEOLOGY

Geologic relations:

The general structure of the Toyake range is that of an anticline, arched by intrusion of an igneous stock into sediments of pre-Cambrian and Paleozoic age. These sediments consisted dominantly of shales and slates with locally important limestone beds.

The principal rock in the most productive portion of the district is quartz monzonite, which is cut by a series of basic dikes. The ore is in shoots in a number of quartz fissure veins frequently displaced by faults. While there are a number of other small veins in the district, the principal production has been derived from a series of parallel veins having a northwest strike and a dip to the northeast. The veins are narrow, ranging in width from a few inches to three feet. The average width mined in former years was probably about 15-in. The ores, however, were unusually rich, which in a great measure compensated for the narrowness of the veins. From old records the grade of ore mined in the early days apparently ranged from \$100 to as high as \$400 per ton and averaged about \$175 per ton. Silver chloride (horn silver) was the principal economic mineral in ores from the surface to a depth of about 75-ft. At that depth water was present and the mineralization changed to primary sulphides, with considerable arsenic and antimony present as evidenced by common occurrence of the

ruby silver group of minerals.

Ore Deposits: The ore deposits examined were true fissure veins of tabular form: The narrow vein of the Amador tunnel varied in width considerably in characteristic pinches and swells. The vein was persistent horizontally, unless otherwise faulted. Pay shoots occurred as lenses within the vein in no evident symmetrical pattern. Markedly high mineral concentrations were definitely associated with numerous small faults, indicating two stages of mineralization. Thus any considerable production of high grade ore could not be expected from this vein. However, the localized occurrence of unusually high silver mineral concentrations would tend to raise the average tenor of production to substantial grade.

Microscopic examination of a specimen from the Amador tunnel showed, under polished section, a number of opaque silver minerals, notably pyrrargyrite, proustite, polybasite, and stephanite associated with quartz gangue. Within the Austin district as a whole, the further minerals enargite, stibnite, galena, sphalerite, marcasite, arsenopyrite, and tetrahedrite occur. These minerals are dominantly hypogene thus indicating a primary source. Neither petrographic nor geologic evidence was noted which would indicate impoverishment of value with depth.

The vein in which the Amador shaft was sunk consisted of hard banded quartz of width varying from six to nine feet. Probably the values varied considerably from band to band; however, no samples were taken to determine that fact.

Considerable alteration of the wall rock was noted at the large vein, as a variation from the unaltered, clean contacts exposed in the Amador tunnel. Possibly some replacement had occurred but the major alteration was due to the increased hydrothermal action attendant upon deposition of the larger vein.

CONDITIONS AFFECTING MINING

The natural factors favorable to mining operations at Amador are topography, altitude, and climate. Austin lies on Route 50, a smooth oil surfaced highway. Fair desert roads offer access to the property. Trucking rates to East Ely, the nearest railroad shipping point some 148-miles east of Austin, vary from \$5.50 to \$6.50 per ton. For \$6.50 per ton, ore could be hauled direct to the McGill smelter.

Freight rates from East Ely to the Salt Lake Valley smelters are as follows:

Value per ton	\$20	40	60	80	100	150	300
20 ton lots	\$ 5.50	6.60	7.70	8.80	9.90	10.89	12.85
40 ton lots	\$ 3.85	5.39	6.93	8.47	8.80	---	---

Water resources are available for mining and camp use. Additional supplies would need be developed to insure adequate water for milling purposes. Development of the headwaters of small canyon streams is indicated as an auxiliary to water pumped from the underground workings.

drilling of wells in the adjoining valley offers an alternative.

No equipment now exists on the property except the usual run-of-mine track, cars, hand tools, and small buildings, all of which could be utilized to some extent.

The great distance from smelters, with attendant high transportation charges, indicates that for exploitation of the large vein at Amador Milling on the property would be required. The general character of ore minerals observed indicates apparent amenability to the flotation process.

Smelter charges at McGill average about \$5.50 per ton, payment being made for 90 per cent of the silver content. The open schedule for siliceous ores at the Garfield plant of the American Smelting and Refining Co. is on a sliding scale varying from \$3.75 to \$5.75 per ton, payment being made for 95 percent of the silver content.

Average cost figures for mining, milling, smelting, and transportation, under the conditions noted, are listed under three separate production rates. All costs are given per ton of crude ore. Smelting and transportation costs have been combined and back-calculated to a crude-ore basis.

Daily Production tons	Cost of Mining	Cost of Milling	Transportation and Smelting	Total
25	\$3.50	\$3.50	\$1.00	\$8.00
50	3.00	3.00	1.00	7.00
100	2.50	2.50	1.00	6.00

SUMMARY AND CONCLUSIONS

Preliminary examinations of the Amador property indicated two classes of ore deposits--one narrow vein of high grade and one or more wide veins of low grade. Economic and physical limitations on the narrow vein of the Amador tunnel obviated the possibility of any considerable production from that source. Although the vein offered possibility of some production of high grade ore at a profit, it is here recommended that further consideration of it be dismissed.

The wide vein exposed at the Amador shaft showed strong indicative characteristics further substantiated by geologic correlations with other portions of the district. Limited sampling and hearsay evidence indicated probable silver content ranging from 10 to 15-oz. per ton, which at present quotations would market at from \$7.00 to \$10.50 per ton.

Milling of the crude ore would be necessary. The strong vein and good walls suggest a relatively low mining cost on a bulk tonnage basis, which basis in turn makes possible a further reduction in milling cost.

This examination has been of a strictly preliminary character. No attempt has been made to outline the ore or to evaluate the property. Tentative cost figures have been listed for comparative purposes only. Present results indicate the Amador property could be developed into a marginal producer with the balance between grade of

ore and cost of production determining the profit. Ultimate analysis of this balance is determinable only through a thorough examination and sampling program at the property and a comparison of these results with carefully computed cost estimates.

A complete examination for valuation purposes would require careful sampling of all surface exposures, mine dumps, and underground workings. De-watering of all shafts and winzes would necessarily be required. Preparation of surface and underground geologic maps would be necessary. Ore dressing studies and other factors affecting mining and milling would need be investigated.

It is recommended that either:

- (1) - Further consideration of the Amador group be dismissed; or,
- (2) - A complete examination of the property be made as outlined above.

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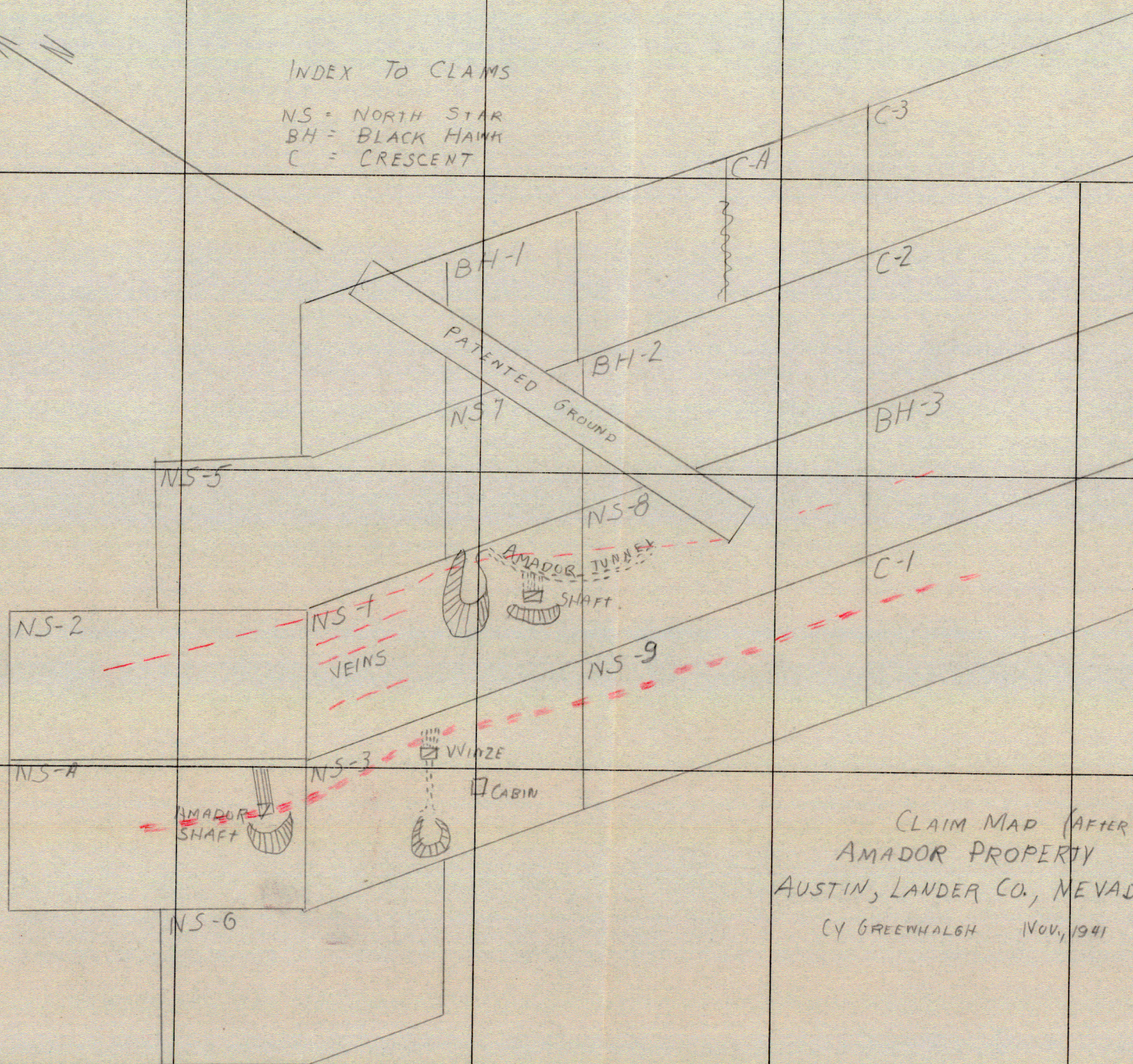
Cy Greenhalgh

Salt Lake City, Utah
December 8, 1941



INDEX TO CLAIMS



NS = NORTH STAR
BH = BLACK HAWK
C = CRESCENT



CLAIM MAP (AFTER VAN WINKLE)
AMADOR PROPERTY
AUSTIN, LANDER CO., NEVADA
CY GREENHALGH NOV., 1941

ASSAY MAP
AMADOR TUNNEL
AUSTIN, LANDER CO, NEVADA

CV GREENHALGH, NOV, 1941
SCALE 1"=50'

(NOTE) Geology Projected to Breast Height
Country Rock ~ Shale to Slate
Veins  Faults 

PORTAL
140
OLD WORKINGS

123°

DIKE

130

SAMPLE 4, 32" WIDE
AU=002, Ag=31.8

OLD STOPES

WINZE 30°

0 50'

SAMPLE 2, 12" WIDE
AU ~ 010, Ag ~ 250.6

7 TON STOPE

76°

SAMPLE 1, 8" WIDE
AU ~ 010, Ag ~ 167.7

129°

133°

SAMPLE 3, 2 1/2" WIDE
AU ~ 011, Ag ~ 227.7

153°

152°

117°