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MINERAL REPORT

N3-MC-70-07

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Mineral Character Determination

of the

R. M. TUCKER

Private Exchange Application

in

Washoe County, Nevada

(Title)

LANDS INVOLVED

Mount Diablo Meridian, Nevada

T. 17 N., R. 20 E.; Sec. 6
E½SE¼.

FOR U.S. GOVERNMENT USE ONLY

November 27, 1970

(Date)

By

H. W. Mallery*

NOTED - STEPHENS
12/17/70
JKM

Technical Review

11-30-70

Management Review

Chief Resources MGT.

*District Geologist, Carson City, Nevada

GPO 841-153

NOTE

This report is the result of a mineral examination or geological investigation and should not be construed as being a geological or engineering report for appraisal purposes or for purposes other than that which the report was written.

No mineral report shall be released for inspection unless authorized by the Chief, Division of Lands and Minerals Program Management and Land Office.* (BLM Manual 3825.19A)

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INTRODUCTION

At the request of D. G. Pomi, Chief, Resource Management, Carson City District, Nevada, the writer examined an 80-acre tract of public lands situated in Washoe County, Nevada which had been selected with others by one R. M. Tucker in trade for privately owned lands in Carson City, Nevada.

The purpose of this report is to present an opinion concerning the mineral character of this parcel of selected land, and of the validity of mining locations which may be in conflict with it.

The selected land examined is described as follows:

Mount Diablo Meridian, Nevada

T. 17 N., R. 20 E.,

Sec. 6, E½SE¼.

The subject land is bounded by private tracts to the east and south, and public lands to the north and west; consists of open, gently sloping to very steep mountainous terrain on the southeast slope of a prominent ridge north and west of Pleasant Valley, Nevada; ranges in elevation from 4,820 to 5,540 ft. above sea level; and, is located about 15 miles north from Carson City, Nevada. The lands, untimbered and unoccupied, contain mostly sagebrush. The adjacent private lands have been developed into very high value suburban homesites. Access is via one of a number of streets trending NW from

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highway US 395, 0.25 miles distant to the SE.

The lands were identified by reference to the SE, NE and NW corners (brass cap) to sec. 6 (17N-20E) and to the E¼ (brass cap) of the same section. The field examination was made on November 3, 1970 and consisted primarily of a reconnisance-type survey of the geology of the subject and area, and a search of the subject and adjacent lands for the existence of mineralization and mining claims.[1/] The writer was accompanied by Benjamin J. Constant in this work.

The subject (surface and mineral estate) is estimated to have a fair market value of $24,000.

GENERAL GEOLOGY

Rocks common to western Nevada and eastern California--the area containing the lands involved--include Tertiary volcanics and interbedded sedimentaries, pre-Cretaceous metamorphosed volcanic and sedimentary sequences, and intrusive granitic rocks of Mesozoic and post-Mesozoic age. In general the Tertiary units blanket the older rocks but a combination of diversified basement geology, strong structural disturbances, and erosion has resulted in the creation of a complex outcrop pattern. These units lie in blocks of various sizes

1/ This examination represents a continuation of detailed geologic studies and investigations of other lands or mining locations in this area in particular, and Western Nevada and Eastern California generally, by the writer over the past 8 years.

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and orientations bounded by major faults and broken by lesser faults and fractures.

Tertiary volcanic rocks consist of agglomerates, tuffs, ignimbrites and lavas, and interbedded sedimentary rocks. In general the volcanics are relatively dark colored, fine-grained rocks ranging from rhyolite to basalt in composition. In contrast the interbedded sedimentaries are generally light-colored and consist of fine-grained tuffs and silt stones, coarser-grained sandstones and conglomerates, and limestones.

The Tertiary sequence lays upon older coarse-grained intrusive rocks of Cretaceous age (related to the Sierra Nevada batholith) which are generally granodioritic in character, and a wide variety of still older metamorphosed sedimentary and volcanic rocks which the intrusive rocks have invaded. All have experienced much faulting and in particular the metamorphics have suffered severe structural dislocations since their creation.

Quaternary alluvium and colluvium blanket much of the lower slopes and fill the valleys of the present landscape.

Two recent authoritative references cover the general area in which the lands are situate. Thompson and White, in Regional Geology of the Steamboat Springs Area, Washoe County, Nevada,[1/] state:

1/ U. S. Geological Survey Professional Paper 458-A, 1964.

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"Because of the proximity of the Comstock Lode district with its great bonanzas of silver and gold ore, prospecting in the Mount Rose quadrangle was carried on vigorously in the latter part of the 19th century. Hardly an intrusive contact of the granitic rocks or a patch of altered rock has escaped the prospector's pick, but it is generally difficult now to determine why the pits were dug where they are. The most persistent efforts at mining and prospecting have been at the Union lead mine (near the mouth of Galena Creek), at the gold prospects on the east side of Pleasant Valley, at the lead-silver prospects 2 miles southeast of Little Washoe Lake, at mercury and gold prospects around Steamboat Springs, and at the Wheeler Ranch mercury prospects on Evans Creek. . . . ."

Bonham, in Geology and Mineral Deposits of Washoe and Storey Counties, Nevada,[1/] writes:

"The Galena district encompasses the area around Pleasant Valley, a small valley between the Washoe Valley and the Truckee Meadows, and includes portions of the Virginia Range and of the Steamboat Hills. The main mine in the district, the Union or Commonwealth mine, is located in sec. 12, T. 17 N., R. 19 E.

"The ore deposits of economic interest in the Galena district occur in Mesozoic metamorphic and intrusive rocks. The metasedimentary rocks consist of hornfels, marbelized limestone, slate, metasandstone, and metaconglomerate, all intruded by granodiorite. The pre-Tertiary rocks are overlain unconformably by andesitic volcanic rocks of the Alta and Kate Peak Formations of Tertiary age, and by various alluvial deposits of Pliocene, Pleistocene, and Recent age.

(The Union Mine) ". . . . .was worked from three adits and two levels driven off of a winze. . . . .The bulk of the ore that was mined was mined by the shrinkage stope method, but some was mined by square-setting.

"The ore occurs in a mineralized fault zone up to 30 feet in width, which strikes N. 40°-60° E. and dips 55°S. The fault zone cuts hornfels, metaconglomerate and metasandstone. The mineralized fault zone is overlain unconformably

1/ Nevada Bureau of Mines Bulletin 70, 1969.

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by andesite of the Kate Peak Formation.

"The oxidized ore locally extends to depths of 175 feet below the present surface and consists of cerussite, smithsonsite, calamine, malachite, and chalcanthite with variable amounts of iron and arsenic oxides. The sulfide ore is a mixture of galena, sphalerite, chalcopyrite, pyrite, and arsenopyrite. The gangue minerals are quartz, calcite and chlorite.

* * * * *

"The Rocky Hill Mine on the east side of Pleasant Valley has produced a minor amount of gold from northeast-trending veins in hornfels. The main vein dips 55°W., and contains arsenopyrite, pyrite, and quartz.

"The Galena Hill mine (secs. 5 and 6, T. 17 N., R. 20 E.) explores a mineralized zone containing lead, zinc, silver and minor gold. . . . . The mineralization occurs in a fault zone which cuts fine-grained hornfels derived from the thermal metamorphism of shale and some interbedded limestone and dolomite. Intrusive granodiorite is exposed in the mine area. The mineralized zone strikes N. 80° E., and is divided into "east" and "west" zones because the central portion of the mineralized zone is covered by andesite of the Kate Peak Formation for a distance of 1000 feet. It varies in width from a few inches to approximately 5 feet.

"The workings in the Galena Hill mine consist of several prospect pits, trenches and shallow shafts, two short adits, and one 900 ft. adit. The portals of all the adits are caved. The mineralization exposed at the surface and in the shallow workings consist essentially of secondary oxidation products derived from the original sulfides. Cerrusite, iron oxides and sulfate, manganese oxides, and unidentified secondary zinc and silver minerals occur. Surface channel smaples across the mineralized zone and grab samples of dumps taken by Humphrey gave assays ranging up to a maximum of 12.6 percent lead, 1.2 percent zinc, 4.5 ounces of silver per ton and 0.01 ounces of gold per ton.

The subject land lies upon metamorphosed sedimentary rocks and is cut by a strong northeast-trending fault zone which parallels the southeast flank of Steamboat Hill. A minor portion of the southerly

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part of the subject is underlain by Quaternary alluvium or volcanic units of the Kate Peak fm. The Union Lead Mine lies less than 1½ miles to the SW on this fault structure. The Steamboat Hills lead-silver mine is situate approximately 0.25 of a mile NW from the subject lands on what apparently is a parallel structure. The principal working at the Steamboat Hills mine appears to be on public land immediately adjacent to a patented mining claim, the only patented land within sec. 6. Here an open cut has been made across the top of the ridge. The cut is several hundred feet long, is one hundred feet in width and is oriented nearly N-S. An inaccessible vertical shaft has been sunk in the bottom of this cut.

Rocks exposed on the ridge and in the open cut are varied reflecting the complex geology and structure of the Steamboat Hills area. The oldest rocks consist of a series of metamorphosed sedimentary rocks consisting principally of argillite, shale, shist, and hornfels with some conglomerate, limestone and marble. Granodiorite of Cretaeous age intrudes this sequence. Tertiary andesites--both intrusive and extrusive--blanket these rocks over a large area. And intruding or covering these lithologies are Quaternary(?) basaltic flows and one protrussive occurence of pumiceous rhyolite. All these types are exposed within one mile radius from the open cut.

The ridge known as Steamboat Hills is basically a horst projecting nearly 1500 feet above its base. It is an offshoot of the main Carson Range of the Sierra Nevadas to the W, and lies between it

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and the Virginia Range to the E. The range trends northeast; is steep, rocky, and rough; is treeless; is unoccupied by man; and contains no improvements other than those related to mining. A thick mantel of soil covers much of the terrain.

Steamboat Hot Springs--geologically unique and representing one of the three most scientifically important terranes of geothermal activity in the United States--lies at the northeast foot of the mountain. The exhalations carry a number of metallic elements and have mineralized a wide area from which mercury is currently being mined.

About $415,000 in metallic minerals have been produced in the district to date.

MINERAL VALUES

Despite the existence of relatively high grade mineralization in the immediate area, a careful study of the subject lands has not disclosed the presence of significant quantities of alteration or the existence of valuable mineralization although a number of old prospect workings do exist. For the most part these prospects are abandoned and are minor pits in overburden. One very old, caved adit exists in the northerly portion of the subject, but mineral values were sparse on its dump.

The subject and its surrounding countryside are covered with active

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mining location which encompass not only public lands but adjacent fee-owned private lands as well. The mining claimant, Mr. Constant, spoke at length about mineral values on the group of claims which he said he controls--the group which surrounds the Steamboat Hills lead-silver mine on the top of the ridge--and appeared to be extremely interested in maintaining control of the mining claims in conflict with the subject lands. He did, however, indicate to the writer that if worse came to worse he was not as concerned about those claims which lay within the SE¼ of the SE¼ of sec. 6 as he was for those claims which were in the NE¼ of the SE¼ of sec. 6. Regarding the latter "40", he indicated that the claims thereon were critical to his proposed development of a mine in the Steamboat Hills. He stated "I believe or hope to have an open pit mine on the hill some day. The pit would extend down the north and south slopes. This is why we have so many claims surrounding the patented claim for protection. My father purchased the claims in 1948. I was born into mining. I am an associate member of the AIME but I am not an engineer. The Federal Uranium Corp. drilled the property in 1956 and sunk a 58 ft. vertical shaft in the bottom of the open cut and then drifted southerly 138 ft. from its bottom. All these workings were in ore."

In addition to governmentpublications, a number of private reports going back to about 1930 are on file concerning the mineral values in the Steamboat Hills. The most recent exploration/development work, however, was completed in 1958 when Mr. Constant and his associates spent

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$150,000 on their property. Refering to the subject lands upon which lay 9 [1/] of the total group of claims he said: "There has been no production from these claims to date." (In 1961 a private report estimated the existance of 1,200,000 tons of ore at the Steamboat Hills mine but nothing was said about the 9 lode claims.)

In the open cut the ore zone is exposed over a width of 80 ft. and appears to strike northwesterly and dip southwesterly. The writer and Mr. Constant obtained 11 lbs. of mineralized specimens from loose rock in the floor of the pit as a character sample representative of the nature of the mineralization existing at this point. Upon analysis this sample indicated the following values:

1/	Name	Date Located	Recordation (Book - Page)	
1.	Starboard lode	April 3, 1923	P	446
2.	"Fraction" No. 1	Feb. 4, 1951	X	188
3.	"Susan Anita No. 1" aka Starboard No. 1	Feb. 4, 1951	X	191
4.	"Susan Anita No. 2" aka Susan Anita	Feb. 4, 1951	X	189
5.	Rib	Sept. 11, 1955	14	576
6.	Rib No. 1	Sept. 21, 1955	14	578
7.	Sail	Sept. 23, 1955	15	436
8.	Sail No. 2	Sept. 23, 1955	15	126
9.	Sail No. 8	Oct. 8, 1955	15	239

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gold	0.05	Ounces per ton
silver	2.6	do.
lead	4.5	Percent
zinc	0.9	do.
copper	0.5	do.

Mr. Constant's records indicate that approximately 4,000 tons of ore has been shipped from the Steamboat Hills mine since they acquired ownership. These shipments "averaged" $28.00 per ton principally in silver and lead values.

CONCLUSIONS

In view of the fact that the case file reflects that Mr. Constant has recently waived and relinquished right, title and interest in all claims which occupy the E½ of the SE¼ of sec. 6, and in view of the fact that the lands have very high value for purposes other than mining, it is 1) concluded that the subject lands are non-mineral in character (as the term is defined in the Code of Federal Regulations (Title 43, part 2710.0-5(e))), and 2) that no mining locations conflict with the subject parcel.[1/]

Respectfully submitted,

H. W. Mallery

sgd-57 NW 70

1/ Review of Washoe County records indicates one of the 9 lode claims was located by Fred J. Siebert (Starboard lode). The remaining 8 were located by Maurice Constant. It is assumed that the waiver is valid and that all locators have extinguished their rights without exception.

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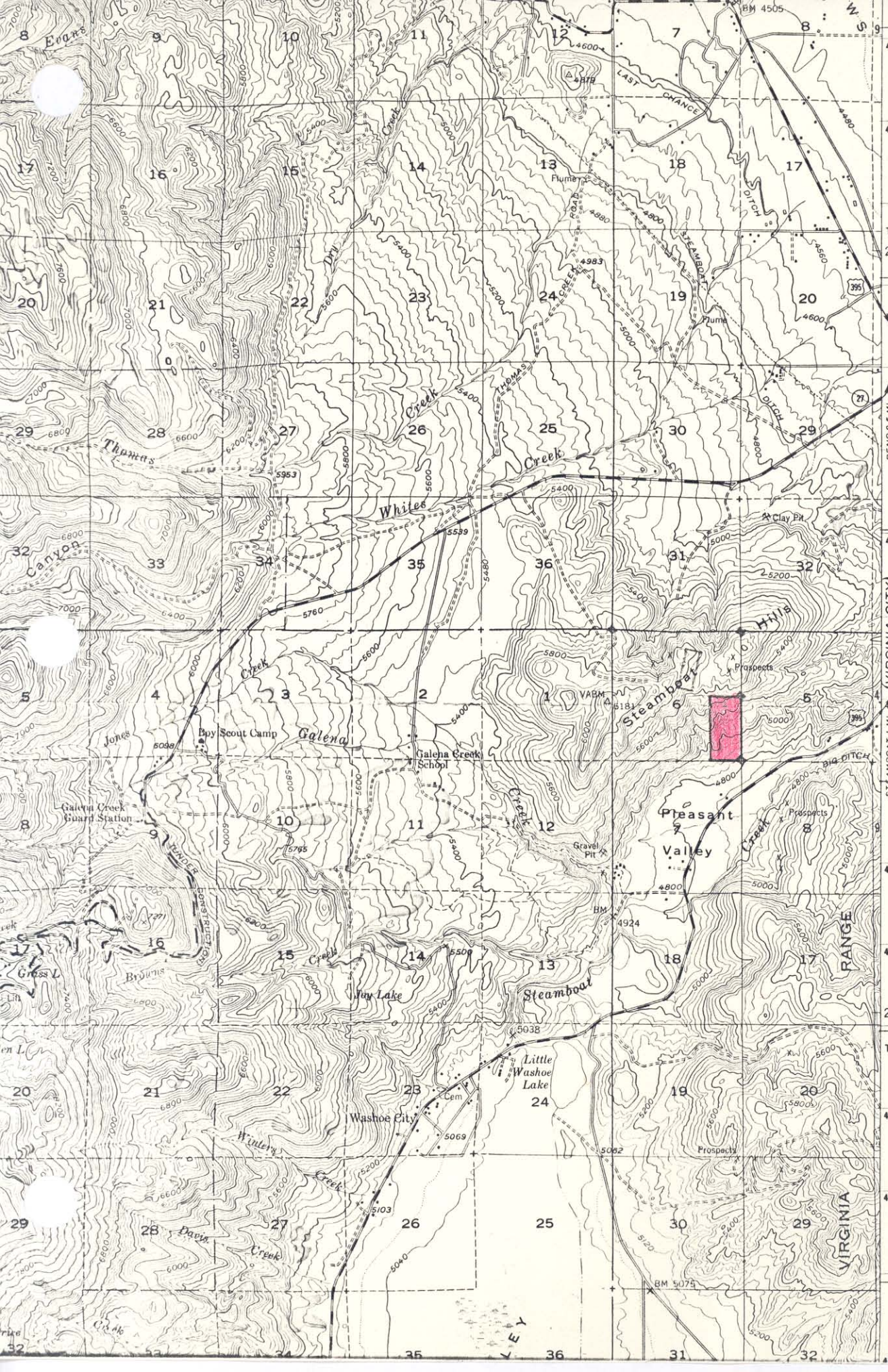
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Thomas Creek
Whites Canyon
Galena Creek
Jones
Boy Scout Camp
Galena Creek School
Galena Creek Guard Station
Jones
Bryans
Jay Lake
Steamboat Creek
Little Washoe Lake
Washoe City
Winters Creek
Davis Creek
Pleasant Valley
Steamboat Hills
Prospects
Clay Pit
Gravel Pit
Flumes
Steamboat Ditch
Last Chance Ditch
Big Ditch
Virginia Range
Virginia
Flume
Road
Creek
Ditch
BM 4505
BM 4924
BM 5079
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To: For the record

From: H. W. Mallery

Subject: Notes Concerning Mineral Report No. N3-MC-70-07

Date: 8 December 1970

Under date of November 27 the writer prepared a report on certain lands involved in the R. M. Tucker private exchange application (N-4571). The report was reviewed and accepted by R. T. Webb for the State Director on November 30.

Subsequent developments are capsulized as follows:

1. The waiver and relinquishment obtained by Tucker from mining claimant Constant apparently does not include Siebert's interest in the Starboard lode. (The Starboard lode conflicts with lands in the N½NE¼SE¼ of sec. 6, part of the subject parcel.)

2. Applicant Tucker expressed interest in withdrawing from the proposed exchange those lands a) in conflict with the Starboard lode, and b) which contain mineral values. He requested that a re-evaluation be made to determine, if possible, the location of mineral values more precisely than in the 80-acre tract, generally.

3. On December 4 the writer re-examined the subject parcel and its environs.

   There was no snow in the area other than a few, small scattered patches an inch or so in depth. There was no one present and there was no one in the area other than the near-by residents. There was no evidence that anyone had been on the selected parcel since the writers previous examination.

As the known mineralization in the Galena District is intimately associated with fault structures, and as a through-going fault traverses the subject parcel diagonally from SW to NE, a structure with which ore deposits are associated, it is concluded that those portions of the subject which are underlain by the fault zone are most susceptable to containing mineral values. Therefore, those portions that are apparently not lying upon this zone, the E½SE¼SE¼ and SW¼SE¼SE¼, may be considered to be free of mineral values insofar as can be determined with the information available as of this date.

The writers previous report is hereby amended. (These notes are intended to be utilized as a supplement to the subject report, and for no other purpose whatsoever.)

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H. W. Mallery

date signed: 8 Dec 70