

PREFACE

On the morning of April 6th, 1955, I was contacted by Dr. Vincent P. Gianella who wished to know if it would be possible for me to make a report on the Silver Bell group of mining claims at Marietta, Nevada. Dr. Gianella is the retired chairman of the Mackay School of Mines geology department and now a consulting mining engineer.

Dr. Gianella informed me that Mr. R.W. Van Deusen of Oakland, California had requested this preliminary report. Dr. Gianella was unable to make the trip to the Silver Bell property at the present time and wished to know if it would be possible for me to do so. He explained that Dr. Larsen, the present chairman of the geology department at the Mackay School of Mines, was on the property preparing a geological report and it would be to my advantage to go immediately in order that I might confer with Dr. Larsen at the property.

Having made the necessary arrangements, I left for Marietta, Nevada in my own car on the following morning, April 7th.

APRIL 7th - 8th - 9th 1955

THE SILVER BELL MINING PROPERTY

Introduction.

This preliminary report is based on a 3-day inspection trip to the property known as the Silver Bell group of mining claims.

The purpose of the report was to determine if the property warranted further exploration and development. If so, then what procedure should be followed in the exploration.

In my opinion the property does warrant further exploration. My reasons for this statement are set forth in the main body of this report.

Location.

The property known as the Silver Bell is approximately three miles west of the former town of Marietta, Nevada in Township 4 North, Range 32 East, Mount Diablo Base and Meridian. This is in the south central part of Mineral County, Nevada. The property is officially in the Black Mountain Mining District. However, the name Black Mountain is little used and the area is commonly referred to as the Marietta District by the local residents.

Mina Nevada is the nearest town and also the terminus of the Southern Pacific Railroad branch line which originates in Reno, Nevada.

The Silver Bell property is approximately 28 miles to the southwest of Mina.* Twelve miles of this distance is over modern paved highway. The remaining 16 miles is a dirt road maintained by the Mineral County Road Department. The road is passable in a passenger car but is better adaptable to truck transportation. The roads on the Silver Bell property are unimproved and steep and travel is impossible without 4-wheel drive. Also much of the property is inaccessible except to foot travel.

* The area has been marked on the U.S.G.S. Hawthorne Quadrangle map accompanying this report.

General History & Information

The district around Marietta, Nevada has been the scene of considerable mining activity since 1870.

The principal minerals obtained have been silver, lead, gold, copper and tungsten. Borax was also mined from Teal's Marsh. Complete figures are not available on the production in the area because of inaccuracies in early day production reports. However, a fairly accurate estimate may be obtained by referring to the University of Nevada Bulletin No. 4, titled "Nevada's Metal and Mineral Production".

In the past few years a number of small operations have been carried on in this district, mostly by leasers.

At the present time extensive operations are in progress by the American Lignite Company and the Earl Parker Company, who are in search of uranium ore in this district. Also, many smaller concerns and individuals are proceeding with exploration work.

The Silver Bell Group, comprising 57 claims, is situated approximately in the center of this activity. In the early days the Silver Bell was known as the Bass Mine and was worked for lead - silver ores. It is said that the property produced during this early era, but exactly when and how much would require further research.

The Silver Bell property is owned by a group of five men. Four of these men were made known to me by Mr. Frank Notterman. They are Mr. William Graham and Mr. Sam Potter of Reno, Nevada, and Mr. James Gish and Mr. Frank Notterman of Mina, Nevada.

Geology

The mineralized zone lies in what I have tentatively identified as a quartz monzonite intrusion. Others with whom I have discussed this particular area classify the rock as granodiorite. I prefer to classify it even further, inasmuch as the rock has a somewhat different appearance than does the rock generally classified as being a granodiorite. Under the hand lens there appears to be a complete lack of plagioclase.

The major gangue mineral in the mineralized stringers or veinlets is quartz. Also, hyalite is quite prevalent and is exceptionally pronounced when the workings are observed under an ultra-violet lamp.

There is a noticeable scarcity of the high-temperature minerals. However, epidote does occur at the adit and shaft on the Cara Mia claim, and in a minor amount at the Silver Bell No. 9 adit. I also observed a few pieces of chlorite in the talus on the Silver Bell No. 9 claim, but did not perceive any chlorite in place.

Limestone does exist on the property, but in small amounts as far as can be observed. I noted limestone in place in one particular spot, but this was of very minor quantity and had the appearance of being an inclusion in the quartz monzonite.

Radioactivity is pronounced over the entire property. It is interesting to note that the count on the northwest part of the property is quite low, but gains in magnitude as you proceed in a southeasterly direction across the property. Of course, places occur here and there which can be referred to as "hot spots" because the count is exceptionally high. The best count is obtained along the lead - silver bearing ore stringers.

Mr. Gish described the mineralized zone to me as a silver bearing vein with a parallel off-shoot. I mention this only because my mind at the time recorded this statement as a rather vague explanation. Undoubtedly this supposition was being quoted from a theory which someone who visited the property had formed. I disagree entirely with any such explanation.

There is not a definite vein to be observed at the present time. The minerals of commercial value occur in what appears to be a series or group of small stringers or veinlets varying in width from an inch or two up to possibly eight or nine inches. They have no apparent pattern. The strike of these stringers is erratic and it cannot be judged from present showings as to whether or not they might possibly converge. The dip varies anywhere from 52° up to 80° . It would be quite feasible to suppose that these stringers or veinlets are a series or group of fractures in a shear zone--the result of faulting. Only at the Cara Mia did I observe a definite foot wall and hanging wall. Other exposed mineralized zones do not show well defined walls.

The main fault runs in a southwest-northeast direction along the base of the ridge on which the Silver Bell Group is situated*. The American Lignite Company is doing exploration work on this fault on the Behm property approximately one mile northeast of the Silver Bell. This operation should be watched closely. I believe the fault might possibly be the source of all of the mineralization on the Silver Bell and other properties adjacent to the fault. At the time of my visit to the property, the American Lignite Company had bulldozed an extensive open-cut along the fault and exposed a radioactive zone upwards of ten feet in width.

See Plate II accompanying this report.

It must also be recognized that the uranium bearing stringers or veinlets could also be the result of leaching of quartz monzonite containing small amounts of uranium with the resultant deposition of the uranium in the fractures occurring in the formation. If this is so, then uranium will not exist at depth in commercial quantities. In all of the workings on the Silver Bell there is a tendency for the radio-activity to decrease with depth. However, I would not accept this theory without further exploration.

Ore.

There is no ore "blocked out" on the property at the present time. To estimate the existence of any probable ore would be extreme guess-work.

It can only be said there is a possibility of developing ore in sufficient quantity to make the property a producing mine.

Development.

There are a number of adits and shafts on the property, the most of which are old workings. I entered all of those which were accessible. The adits are all shallow workings extending underground for relatively short distances. There is one exception where an adit is possibly 900 feet long. However, the operations were all rather haphazard and do not add greatly to the obtaining of a true picture of the property. The adits and shafts were not established in any pattern to block out ore. It is obvious that work was started wherever mineralization appeared on the surface. If the mineralization continued, then the adit was extended. The result is a series of workings established in an erratic manner just as the stringers occur in the formation.

From these workings I observed that the ground stood exceptionally well in the adits. Timbering is only necessary at the portals, chutes and the like with the exception of an occasional stull now and then to hold a loose slab. This is an important factor with mine timber costing about \$75.00 per thousand board feet delivered at the mine.

Equipment, Machinery, etc.

There are no buildings, machinery or improvements on the property. There is evidence of the previous existence of a number of buildings, including a blacksmith shop and such items as mine rails, etc., necessary to mine operation. However, they are all gone at the present time.

Accessibility

The road to the property was described under the heading "location" on the first page of this report.

There are two roads on the property (See the map titled Plate I accompanying this report). Neither of these roads is passable except to four-wheel drive truck or jeep. The road to the Cara Mia is extremely rocky and steep (12° or more in one place). The road to the Silver Bell is in better condition, but much steeper than the road to the Cara Mia.

Natural Resources

There is no water on the property and it is extremely doubtful that water in any amount could be developed. It would be necessary to establish wells on Teel's Marsh to obtain water.

Neither is there timber on the property. There are a few pinion pine at scattered places, but these are of little use to mining operations. Timber and lumber would have to be purchased. Mine timber would cost approximately \$75.00 per thousand board feet delivered at the property in truck-load lots.

Electric power is not available to the property.

Recommendations

Work should be started to uncover and explore the main fault along the base of the ridge below the Silver Bell #9. It would be possible without too much difficulty to locate the fault within reasonable limits, and to expose the fault with relatively shallow dozer cuts. I firmly believe that if the ore bearing stringers are of hydrothermal origin, then the source could very well be in the fault.

Exploration work should also be done on the mountainside below the Silver Bell #9, (i.e. in an easterly direction). I traced what appeared to be the same formation for a considerable distance. In view of the assays obtained by Dr. Larsen in the Silver Bell #9, I believe this should be carried on in conjunction with the exposing of the fault. The assays obtained by Dr. Larsen at the Silver Bell #9 show not only uranium to be present, but are quite promising in gold, silver and lead. (Refer to "Assays" in this report).

In view of the present showings and the assays obtained, I would not attempt a major exploration program in the present Cara Mia workings at this time. I say this because of the excessive costs that would be required. It would be necessary to sink on the present showings, and shaft-work would cost upwards of \$65.00 per foot plus the expense of road construction and many other necessary details.

Of course, there is the possibility that depth could be reached on the Cara Mia by means of an exploratory drift extended under the present workings. This would necessitate going farther southward to obtain the lower elevation and require drifting a considerable distance in barren rock to cross-out the Cara Mia at depth. However, I believe this would be warranted in view of the fact that the cost of drifting would be approximately only one-third the cost of sinking. Should a major ore body be encountered the resultant mining costs also would not be so great. The tenor or grade of material required to make ore would be far less than would be necessary in shaft operations conducted in present Cara Mia workings.

Mill

In the present stage of development it would be impractical, if not impossible, to suggest any type of mill.

Millsite

A millsite should be established below, that is to say to the eastward of the present Silver Bell No. 9. This would necessitate acquiring the adjoining Gold Bell claims. In the event that ore was developed, the mill would be adjacent to the mine; water could be acquired by drilling on Teel's Marsh; advantage could be taken of the mountainside to construct a gravity feed mill, and space would be available for tailing disposal.

A millsite is now held by owners of the property which is approximately a mile and a half or two miles to the northeast of the Silver Bell No. 9. Test holes should be put down on this millsite to determine if water is available. If so, then the millsite should be retained possibly as the future site for a boarding house. Inasmuch that this millsite is on relatively level ground, it would require considerable construction to establish a gravity feed mill. Disposal of tailings in this area would also present further difficulties with the millsite surrounded by other claims.

Miscellaneous Recommendations

Holes should be drilled for water on Teel's Marsh and the millsite and applications filed for water rights. Tests should also be made of the amount of water available.

The road on the western shore of Teel's Marsh has been used for many years, but it does not appear on official maps as a public right-of-way. This should be established as a public thoroughfare at the earliest possible date.

Assay facilities should be made available with the beginning of exploratory operations. The appearance of the valuable minerals is deceiving and the ore boundaries are not readily discernable. This will no doubt require an extreme selective method of mining which will at times depend on assays to establish the boundary of the valuable mineral zone.

Assays

I am aware that innumerable assays have been made on samples taken from the property. After my examination, I do not doubt their authenticity, but I am not certain as to the manner in which they were obtained, nor of the exact location from which they came.

Knowing Dr. Larson, and having conferred with him on the way in which he obtained his samples and their location, I have complete faith in them. In addition to reporting on the U_3O_8 content, Dr. Larson also obtained a report on the gold, silver and lead values in his samples. These values other than U_3O_8 have considerable bearing on the recommendations I have made. There is an extreme tendency for the U_3O_8 to follow or, that is, accompany the lead content. For this reason I have advised exploration work in the Silver Bell #9 formation even though the structural characteristics are not so pronounced nor so strong as on the Cara Mia. Gold, silver and lead values along with U_3O_8 from samples taken on the Silver Bell #9 sub-level are very promising.

Dr. Larsen's inspection of the Silver Bell Group was completed on the day of my arrival at the property. Rather than repeat the assays which he obtained, I would recommend that the reader consult Dr. Larsen's report.

In order to obtain a clear picture I cut a group of ten samples which I ran for U_3O_8 content only. I did this in order to have a comparison with Dr. Larsen and also to confirm my theory that the U_3O_8 followed the lead (Pb). Or, in other words, the U_3O_8 increased or decreased according to whether the lead content increased or decreased. Following are the results of these assays:

- #1. 15' inside the portal of the Cara Mia adit across one and one half feet of the adit roof in the quartz monzonite. 0.11%
- #2. 25' inside the portal of the Cara Mia adit across 14" of vein structure on the floor adjacent to the left wall of the adit. 0.24%
- #3. At the bottom of the shaft which is located at the portal of the Cara Mia adit. Trace.
- #4. Across two feet of quartz monzonite in place on the surface, 12 feet to the right (southward) of the Cara Mia portal. 0.03%
- #5. From quartz monzonite in place approximately 200' south and slightly west of the Cara Mia adit, and at about a 70' lower elevation than the Cara Mia adit. 0.01%

- #6. From a surface showing that appears to be the same formation as the Silver Bell #9. Taken across 3 feet of the surface on the mountain-side below (southeast) the Silver Bell #9 adit. The elevation was between 70' and 80' lower than the Silver Bell #9 adit. 0.03%
- #7. On sub-level of Silver Bell #9. 0.69% U_3O_8
- #8. From same location as sample No. 7. 0.66% U_3O_8
- #9. Eight feet inside portal of Silver Bell #9. 0.47% U_3O_8
- #10. End of Silver Bell No. 9 adit. 0.13%

Conclusions and Summary

I have recommended exposing the fault (See Plate II). Also, I have recommended further exploration on the Silver Bell #9 in conjunction with the uncovering and investigation of the fault. I advise further investigation of the Cara Mia as set forth under "Recommendations" in this report.

I believe the fault to be of major importance in determining the source of the mineralization in the area. On the Silver Bell #9, I do not believe the lack of definite walls and what might be termed a weak geological formation to be indicative of what might possibly be encountered. Assay results obtained are exceptionally promising. To operate the Cara Mia, continuing with the present workings, would require that a major high grade deposit be encountered in order to be operated profitably. Possibly an ore body might be developed in the Cara Mia, but I do not believe it would be of sufficient grade and quantity to warrant expensive sinking costs. Further investigating should be done in the Cara Mia, but a different approach be adopted in order to avoid costly shaft work.

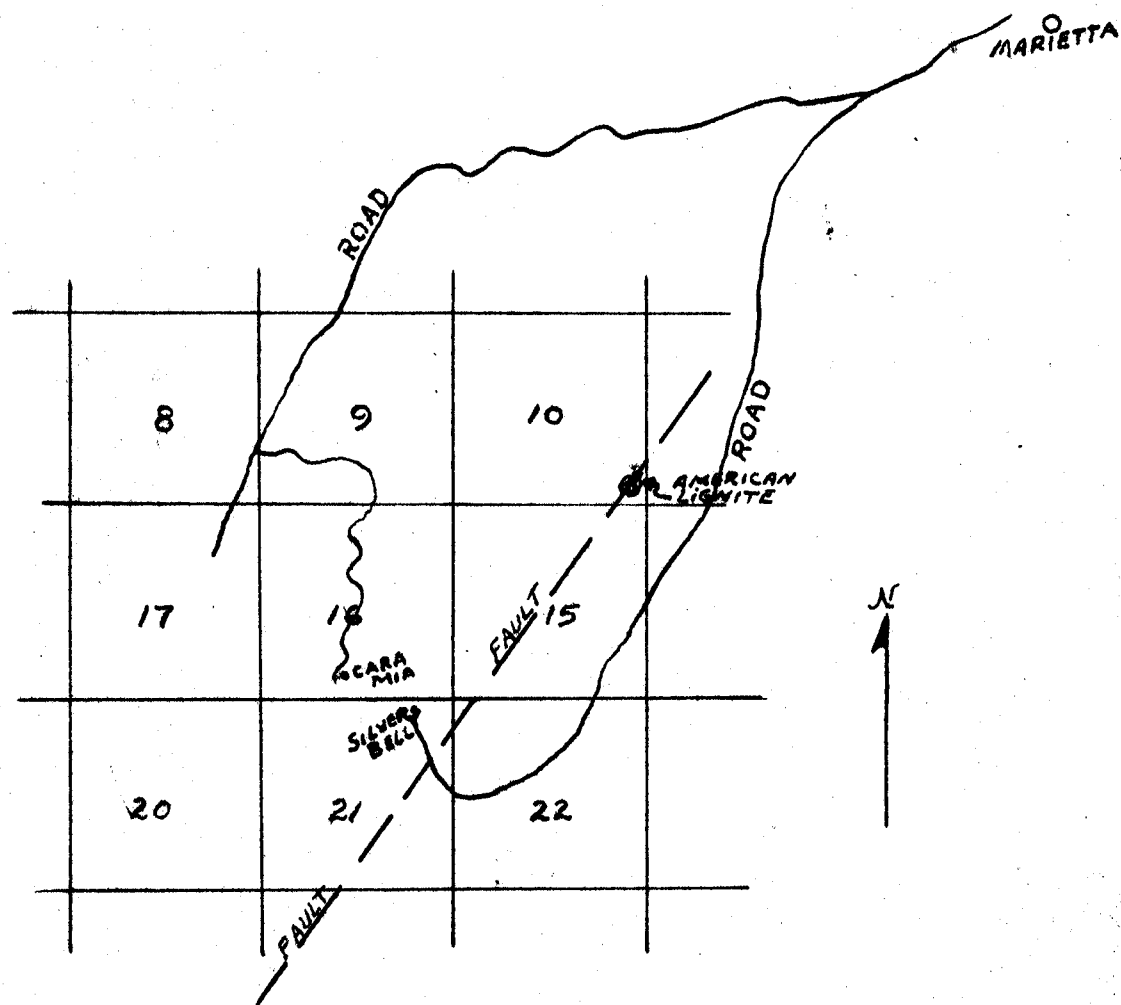
Under the heading of Millsite, I have recommended the acquiring of the Gold Bell claims. In addition I would advise the acquisition of the Silver Star Group to the northeast of the Silver Bell, if at all possible. The major fault passes through this property.

Minerals of uranium content do exist on the property. Gold, silver and lead are also present. Whether or not they occur in commercial quantity must be proven. Present showings are

very favorable, but it can be said that only the surface has been scratched. In my opinion an expenditure of between \$50,000 and \$75,000 will be necessary to carry on an exploration program in order to properly investigate the property. A like amount should be available in reserve for actual mining operations should an ore body of commercial grade and quantity be discovered.

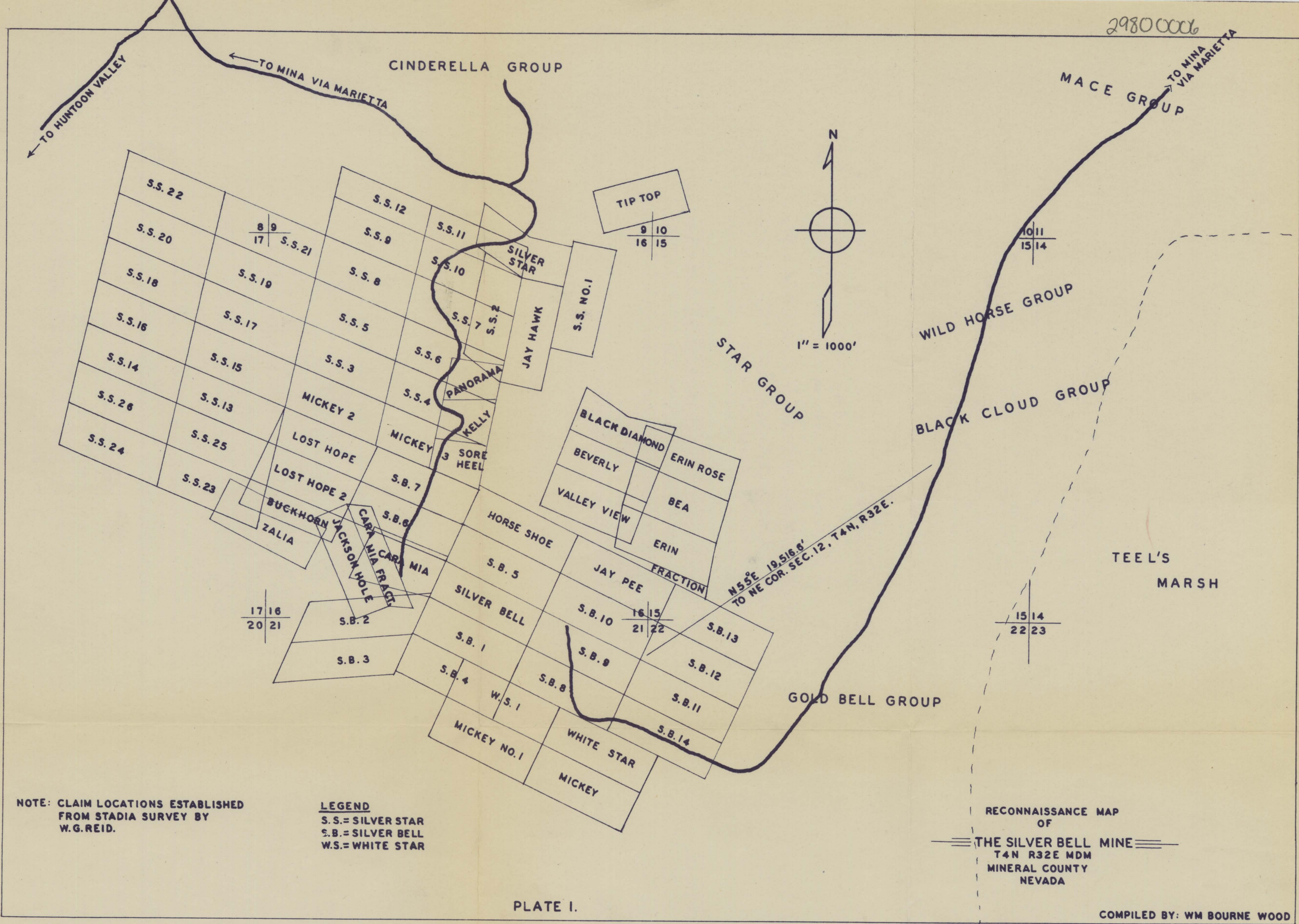
Respectfully Submitted,

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SKETCH MAP
 SHOWING MAJOR FAULT
 T. 4 N.-R. 32 E. M.D.M.
 NO SCALE

29800006



NOTE: CLAIM LOCATIONS ESTABLISHED FROM STADIA SURVEY BY W.G.REID.

LEGEND
S.S.= SILVER STAR
S.B.= SILVER BELL
W.S.= WHITE STAR

RECONNAISSANCE MAP
OF
THE SILVER BELL MINE
T4N R32E MDM
MINERAL COUNTY
NEVADA