

Item 35 N-2336

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

State Nevada

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MINERAL REPORT

NEVADA LAND OFFICE
NEVADA STATE OFFICE
RENO, NEVADA

FEB 12 1970

NEVADA STATE OFFICE
RENO, NEVADA

Hall mine
San Antonio District

The Anaconda Company
Patent Application
Lode Mining Claims
Moly 5, Moly 7, Moly 9, Moly 11,
Treasure Hill Nos. 7 thru 10,
Treasure Hill Nos. 17 thru 19,
Lee Nos. 1 thru 4, Chicago Number One,
Chicago Number Three, Chicago Extension
No. 2, Chicago Extension No. 3

(Title)

LANDS INVOLVED

Mineral Survey 4883
Mount Diablo Meridian
File in T. 5 N., R. 42 E. (unsurveyed)
Secs. 5 and 6
T. 6 N., R. 42 E. (unsurveyed)
Sec. 32

ACTION/ROUTE	
DISTRICT MGR	
Resource Mgmt	
Operations	
Administration	
FEB 9 1970	
RECEIVED _____ COPIES	
BUREAU LAND MGT, BATTLE MT. NEV.	
Shoshone	
Eureka	
Tonopah	

July 2, 1969
(Date)

By
Frederick A. Kuhlman
Mining Engineer

Technical Review

Management Review

Harry R. Finlayson

GPO 841 153

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CONCLUSIONS AND RECOMMENDATIONS

1. A discovery of valuable minerals, molybdenum and copper, within the meaning of the General Mining Laws and the "prudent man" concept, has been made and satisfactorily disclosed on the Moly 5, Moly 7, Moly 9, Moly 11, Treasure Hill Nos. 7 through 9, Treasure Hill Nos. 17 through 19, Lee Nos. 1 through 4, Chicago Number Three, Chicago Number One, Chicago Extension Number Two and Chicago Extension Number Three lode mining claims.
2. The Treasure Hill No. 10 lode mining claim does not contain a discovery of a valuable mineral within its exterior boundary.
 - a. Selected drill hole sample analyses show there exists on each claim (except the Treasure Hill No. 10) a zone of mineralization of appreciable tonnage and grade.
 - b. This contiguous group of lode mining claims, each containing a relatively small tonnage of low grade ore, make up one large continuous low grade ore body which under present mining and milling practices can be mined at a profit.
3. The Anaconda Company's expenditures on these claims is sufficient to meet the \$500.00 per claim requirement for patent.
4. It is recommended on the basis of field examination of the Hall Molybdenum property that all of the lode claims listed in patent application N-2336 (except the Treasure Hill No. 10) applied for by the Anaconda Company be granted.
5. It is further recommended that the Treasure Hill No. 10 lode mining claim for which patent was applied for be denied, and that this claim be declared null and void for lack of discovery of a valuable mineral.

Introduction

This report gives the results of field examination of 19 lode mining claims, an estimate of the tonnage, grade and value of a molybdenum-copper deposit outlined by drilling within the exterior boundaries of this group of mining claims. These lode claims are owned by the Anaconda Mining Company, represented by William J. Forman, attorney-in-fact, of Reno, Nevada. The writer visited the property on May 19 through 23, 1969, and again on June 9 through 12, 1969. Mr. William McNair, a geologist employed by the Anaconda Company, was present on the property during the above periods of inspection. Approximately 129,000 feet of diamond drilling in 113 holes was performed from 1958 to the present time. Drilling is now in progress. The area of this group of contiguous lode claims totals approximately 387 acres.

Status Record Data

Status of the public domain involved in the application for patent is unoccupied, unappropriated, unsurveyed except for the subject mining claims. Location data, amendments and chain of title regarding this group of lode mining claims are given in the application and need not be repeated here.

R. O., Inc., is the only range user on this and the surrounding land. Surface-use conflict problems are far outweighed by the value of the mineral deposit and will not be considered as a relevant factor of land status.

Physical Features

The Hall Molybdenum property is located about 24 miles north of Tonopah, Nevada. Access is by about 5 miles of paved U.S. Highway 6 west of Tonopah and then by 19 miles of unimproved dirt roads north to the property.

The group of claims are located in the very west central foothills of the San Antonio mountains. Elevations vary between 5800 to 6300 feet above sea level. The western fourth of the group of claims lies in gentle sloping terrain, but the majority of the claims are in the steep sloping foothills. There are no trees in the area. Most of the slopes are covered with a thin colluvial mantle. Cheat grass with some scattered sage brush occurs on these slopes with a thicker mantle of sage in the major draws.

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A power line which supplies the towns of Manhattan and Round Mountain, Nevada, passes about three miles west of the subject claims. An ample supply of water has been tested by the Anaconda Company by drilling. These tested water wells are from three miles to five miles due west of the property.

Identification of the land was established by finding on the ground all of the exterior claim corners and 90% of the interior corners established by Mineral Survey No. 4883 in the fall of 1966. Public notices of intent to patent were present in three well maintained and obvious sign displays. These displays were on roads in the west, center and east areas of the group of mining claims.

Transportation to this property is by truck via Tonopah. The closest railhead to Tonopah at the present is at Mina, Nevada, a distance of approximately 90 miles via U.S. Highway 95.

The climate is typical of the Great Basin, with rather severe winters and mild to hot summers. Annual precipitation is probably in the 8 - 10 inch range.

History and General Geology of the Area

Little published history of this area was available at this writing. Two publications 1/ 2/ refer to the general area and the Hall property only briefly. The area adjacent to this group of claims has produced some values in gold and silver. The Liberty mine one mile south is reported to have produced about \$100,000 in gold and silver between 1867 and 1873, and a rumored \$500,000 during 1910-1912.

The Hall property was originally a silver prospect. In 1935 to 1938 the U.S. Vanadium Corporation did extensive exploration and later in 1943 further exploration was encouraged by the Metals Reserve Company all to determine molybdenum reserves. In the above work a small inclined shaft was deepened from the 110 foot level to the 280 foot level. Drifting and crosscutting amounted to 4700 feet. The ore body as outlined on the 280 foot level totaled 1,300,000 tons of developed and indicated ore containing an average grade of 0.37 percent molybdenum sulphide. These underground workings are shown on Exhibit B.

1/ Kral, Victor E., "Mineral Resources of Nye County, Nevada", Univ. of Nev. Bulletin, Vol XLV, No. 3, 1951, pp 159-160.

2/ Nevada Bureau of Mines, Bulletin 65, "Mineral and Water Resources of Nevada", 1964, p. 128.

The Anaconda Company first drilled on this property in 1956. For nine years the exploration drilling continued. In the past four years the drilling program has been accelerated. During this later period up to four diamond drill rigs have been in operation at the same time. At the present time drilling is being done. Rotary and churn drill holes have been employed to outline the limits of the ore body. Drill holes have been completed outside the boundaries of this group of lode mining claims.

All of the core samples were logged by geologists on the site, then split and sent for assay. The remaining core is indexed and stored on the site and was made available to the writer for inspection or assay.

As far as is known no general or detail geologic maps of this general area or of the subject group of mining claims exists.

From field inspection, examination of many of the drill cores and conversation with the resident geologists a brief geologic picture of these claims evolved.

The area of these claims is probably the majority of an area underlain by a small quartz monzonite porphyry stock. This stock is exposed on the western side of the group, and in some areas south and east of the property. On these eastern and southern boundaries the stock contacts an andesite dike and quartzite. Along this contact there is evidence of alteration of the rocks and evidence of copper mineralization. From inspection of the drill core it is evident that the original quartz monzonite porphyry has been highly altered and invaded by quartz stringers. Some areas of the exposed stock show that 50% of the intrusive rock is quartz. The cores also show that the original stock has been altered because of the presence of sericite and similar clay minerals, and the abundance of quartz.

A study of the cores and the logs of the 113 diamond drill holes reveals the following mineralization: first, in the oxidized zone, which varies from 100 feet in depth to 250 feet in depth, secondary copper mineralization has taken place; secondly, molybdenum is present as molybdenite which is disseminated throughout the altered quartz monzonite porphyry and seems to occur in two zones the upper from surfaces to about 500 feet deep and the lower from about 900 feet to 1200 feet in depth; third, the molybdenum ore body is elliptical in shape. The upper zone of molybdenum mineralization seems to have a slight dip to the east.

Molybdenite occurs in all of the core samples as rosettes. It is not evenly disseminated throughout the entire stock, but occurs in zones both horizontal and vertical. The copper mineralization is present in only the oxidized zone and in the upper zone of molybdenum occurrence. Only copper and molybdenum occur in this stock in above normal quantities. Gold and silver are present, associated with the copper, but in small amounts. Pyrite is present in all areas.

Mineral Development Work

Underground workings on the Chicago Number One and Chicago Extension Number Two lode mining claims, consisting of drifts and crosscuts, are inaccessible due to lack of ventilation.

To make an estimate of tonnage and grade of ore on each lode claim in this group the writer scanned the drill logs of each diamond drill hole on each claim using as a cut-off 0.10% molybdenum. The holes which did not show appreciable amounts of this grade were discarded. These holes are shown on Exhibit "B", circled in red. Also, as noted on the same exhibit, some of these diamond drill holes were drilled on an incline and in many cases show occurrence of mineralization on claims adjacent to the claim on which they were collared. Diamond drill holes with core recovery and recorded assays were the only data used to compute tonnage and grade.

The table, Appendix A, shows the total footage and total number of holes drilled on each claim, including all rotary and churn drill holes. Shown also is the tonnage and grade calculated from selected data.

The writer's estimate of a total tonnage of 123 million tons with an average grade of 0.126% of molybdenum and 0.10% copper equals 2.52 pounds of molybdenum and 2 pounds of copper per ton. At present market prices the value per ton is \$4.92.

This is a group of contiguous mining claims which contains within it's boundaries a large low grade ore body. The description of the ore body given in the application for patent is reasonably valid except that the application mentions an average grade of ore of 0.15% molybdenum. This is higher than the author's estimate and in his opinion no large tonnage or part of this ore body would approach this grade.

This Hall Molybdenum property is very favorably situated for open pit mining. The ore body starts at an elevation above the sloping alluvium to the west, so that all of the waste and most of the ore can be transported to waste or mill area with very little uphill

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effort. The stripping ratio of the upper mineralized zone is estimated to be two to one. Some of this material which contains low value in molybdenum, but some copper value could be treated by leaching methods. The lower mineralized zone is not included in the tonnage estimate.

This examiner has no reservations as to the honesty or accuracy of the Anaconda Company's drill hole sampling or geologic interpretation of drilling. Company personnel were at all times helpful. Drill hole logs are attached to this application. Location of drill holes as shown on Exhibit "B" were established according to the company's survey and mapping coordinate system.

The company's expenditures in drilling 129,670 feet of diamond drill, churn and rotary holes on this property and logging and sampling cores, plus the earlier expenditures in underground work will easily total \$2,400,000. This is an average of \$126,000 per claim.

The Anaconda Company has expended at least \$1,500,000 direct costs in the past eleven or twelve years in developing this Hall Molybdenum property and is continuing drilling to further develop or outline the limits of this ore deposit.

There has been no ore produced from this group of mining claims. Approximately 100 tons of ore from the underground workings on the Chicago Number Three claim has been shipped to Anaconda research laboratories for metallurgical testing.

Data on Discoveries

Many large open pit low grade ore deposits are now being developed and presently being mined throughout this country. As a comparable deposit now being developed in Arizona, we will use the Sierrita Project. This ore body consists of 414 million tons with an average copper content of 0.35% and an average molybdenum content of 0.036%. This amounts to 7 pounds of copper per ton and 0.72 pounds of molybdenum per ton, which at present market price is \$4.11 per ton. This project is being developed by the Duval Corporation partly financed by GSA and will be in production within a year milling 60,000 tons of ore per day.

The subject ore body containing 123 million tons of slightly higher grade ore of the same metals could easily be mined and milled by an experienced mining company.

The opinion of this examiner is that a discovery of valuable mineral has been made on each of the nineteen lode mining claims, except the

Treasure Hill No. 10, for which patent application was made, in accord with the General Mining Laws and the "prudent man" concept.

The Treasure Hill No. 10 lode mining claim has no improvements on it. One inclined drill hole (57) penetrated within the vertical boundaries of this claim showing very low mineral values. Diamond drill holes to the immediate south of this claim also showed little values. The indicated edge of the main ore body is within about 400 feet of the south boundary of the claim, but present drilling data does not justify protracting this ore into the Treasure Hill No. 10 lode claim.

From the above conclusions it is recommended that Mineral Patent Application N-2336 as pertaining to the Treasure Hill No. 10 lode mining claim be denied and that this Treasure Hill No. 10 mining claim be declared null and void for the following reason.

Minerals have not been found within the limits of the claim in sufficient quantities and/or qualities to constitute a valid discovery.

Fredrich G. Keshman

Appendix A

Claim Name	Footage Drilled	No. of Holes	Average Mo%	Average Cu%	Tonnage x10 ⁶
Molybdenum #11	6,084	7	0.118	0.13	4.5
Molybdenum #9	4,896	7	0.151	0.10	4.1
Molybdenum #7	4,673	8	0.123	0.13	3.9
Molybdenum #5	722	3	0.090	0.09	0.3
Treasure Hill #9	11,939	12	0.107	0.10	13.3
Treasure Hill #8	11,918	10	0.104	0.10	18.9
Treasure Hill #7	8,950	7	0.136	0.10	11.7
Chicago No. 3	21,176	17	0.148	0.11	28.3
Chicago No. 1	7,254	7	0.124	0.13	6.2
Chicago Extension #2	3,095	2	0.101	0.11	1.0
Chicago Extension #3	7,657	6	0.107	0.10	5.0
Lee No. 1	2,591	2	0.119	0.11	1.0
Lee No. 2	5,714	4	0.116	0.10	1.6
Lee No. 3	15,642	9	0.117	0.10	16.0
Lee No. 4	5,213	4	0.112	0.09	3.0
Treasure Hill #17	6,292	4	0.120	0.09	2.1
Treasure Hill #18	4,889	3	0.095	0.09	2.3
Treasure Hill #19	965	1	0.112	0.09	3.0
Total	129,670	113	0.126	0.10	123.0

The Treasure Hill No. 10 lode mining claim contains no drill holes or other improvements.

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Scale 1" = 1 mile

ROAD CLASSIFICATION

Light duty Unimproved dirt

NEVADA

QUADRANGLE LOCATION

SAN ANTONIO RANCH, NEV.
N3815-W11715/15

1964

AMS 2560 IV-SERIES V796

Exhibit A

Cross References:

See also -

Disposal Instructions:

IMPORTANT

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Holes which have thicknesses of 100 feet or more of 0.10% Mo.
outline of the ore body as indicated by present drilling results.

HALL MOLYBDENUM PROPERTY
T. 5 N., R. 42 E. MDM. Secs. 5 & 6,
T. 6 N., R. 42 E. MDM. Sec. 32.
(All Unserved)

- EXPLANATION
- Vertical D.D. Hole
 - Inclined D.D. Hole
 - Churn Drill Hole
 - Rotary Drill Hole
 - Underground Workings

SCALE 1" = 200ft. Date 6/20/69