

5290 0061

344

Item 61

RECORD OF DATA ON

KENT E. KELLER'S MINES

Hamilton, White Pine County, Nevada

By

WILBUR H. GRANT

TABLE OF CONTENTS

—oOo—oOo—oOo—

	Page
INTRODUCTION.....	1
LOCATION.....	1
IMPROVEMENTS.....	2
WATER.....	3
CLIMATE.....	3
WOOD.....	3
PROPERTY.....	4
GENERAL GEOLOGY.....	4
MINERALIZATION.....	7
ORE CONTROLS.....	8
GEOLOGICAL POSSIBILITIES.....	10
STATUS OF PROPERTY.....	11
CONCLUSIONS.....	11

—oOo—oOo—oOo—

RECORD OF DATA ON
KENT E. KELLER'S MINES

Hamilton, White Pine County, Nevada

—ooc—

INTRODUCTION

The following record of data is not intended to be a report on the above properties, as my trip was for the purpose of fulfilling a promise made by Mr. Elliott to examine these mines. As there was no possibility of The Metals Exploration Company becoming interested, I devoted my time essentially to the geology. Other recorded data of a commercial nature is only casual and incomplete.

LOCATION

The town of Hamilton is 45 miles by road westerly from Ely, Nevada, or 35 miles from Kimberly, the railroad terminus. Treasure Hill, around which the mines center, is about a mile south of Hamilton, and rises to an elevation of 9,227 feet above sea level. A road circles Treasure Hill to the east, which follows down a gulch which turns westerly on the south side of the Hill, and extends on down this Cathedral Canon westerly to Railroad Valley, thence to Eureka or Tonopah. The old Eberhardt mill, tailings and camp are in this gulch south of Treasure Hill, five miles by road from Hamilton, and at an elevation of 6,400 feet above sea level.

IMPROVEMENTS

There are very few buildings south of Hamilton, and what there are, are in a poor state of repair. There is some junk scattered all over the Hill that might be put to use, but should not be given any value.

There is a well constructed wagon road of easy grade from the Eberhardt millsite to the old mine entrances 3000 feet above. Although this has not been used for thirty years, it is still passable by horse and wagon. There are also other roads that connect all the principal workings on the Hill with both Hamilton and Eberhardt. These roads, which will cost very little to put in first class shape, are the principal improvements on the property.

Treasure Tunnel, which was driven northerly from the south side of the Hill at an elevation about 1600 feet vertically below the principal works on the top of the Hill, is claimed to be straight for 6115 feet, with branches, making a total of 13,000 feet of drifts, crosscuts and raises. These workings are in good condition. It is claimed that this cost \$50 per foot to drive (including equipment), or a total of \$650,000. An incline raise, 2200 ft. long, connects the breast of the main tunnel with the workings above. A small amount of low grade ore was found in the lateral workings, but all the principal values were found within 300 feet of surface on the top of the Hill. This tunnel, therefore, cannot be considered of any immediate value to mining in this district, but might be valuable if future development warrants it.

WATER

Mr. Keller has options or rights on the city water system of Hamilton, on three springs east and southeast of Treasure Hill, on one in Sherman Canon west of Treasure Hill, and on Eberhardt Tunnel. He therefore has control of all the valuable water rights in the immediate vicinity of the Hill. Treasure City (on the top of the mountain), and Hamilton, originally received its water supply from Illipah Springs to the northeast by pumping through a twelve inch pipeline over the Mokomeke Range. This pipeline has recently been sold and removed. It is problematical if the small springs around Treasure Hill will be able to furnish all the water necessary for milling and domestic purposes. Mr. Keller is negotiating a contract for developing one of the springs 1-1/2 miles east of the Eberhardt Millsite, where he hopes to get enough water for all purposes.

CLIMATE

It is claimed that at the Eberhardt Millsite the weather is moderate, permitting mill operation to continue throughout the winter. At the upper workings (nearly 3000 feet higher at the elevation of 9000 feet) a cold wind blows throughout the year with the temperature getting as low as 30 degrees below zero in winter.

WOOD

There is enough pine and cedar in the vicinity for mine timbers. There is plenty also for fuel, but Mr. Keller

said it would be less economical to use wood for fuel than to bring in "tops" for gas engines. He claims that the last operators left 400 cords of firewood all cut at a point six miles distant, which can be used for all necessary purposes.

PROPERTY

Mr. Keller has under option nearly all the ground which produced by far the larger part of the \$40,000,000 which was mined in this district. This property extends in a northerly direction from the mouth of the Eberhardt Tunnel to the Edgar Claim.

No attempt was made to determine the length or width of this group of claims, the number and names of claims or area. The group, however, does cover the Edgar, Ward Beechers, North and South Aurora, Iceberg, and Eberhardt Claims, which produced by far the largest part of the Treasure Hill production.

GENERAL GEOLOGY

The White Pine Mountains in which Treasure Hill is centered, is composed essentially of limestone, considerable shale, and some quartzose beds being in the transition stage between fine conglomerate and quartzite.

The White Pine Range has the structure of an elongated dome with a north-south trend to the major axis. At both the north and south end of the range the dome effect is slight, giving the appearance of a typical anticline. Centering just east of the escarpment east of Treasure City, extending a mile north of Hamilton and a mile south of Eberhardt Millsite,

is a very pronounced dome with the bedded formation dipping away in all directions. There are minor rolls, folds and faults on the flanks of this dome. One prominent fault striking east-west, crosses the north end of this dome half-way between Hamilton and Telegraph Peak of Treasure Hill. It is possible there are other prominent faults outside of the area which I covered. The Pogonip Mountain forms the west flank of this dome and Mokomoke ridge the east flank.

Most of the limestone in which the ore on Treasure Hill occurs, is a bluish gray, considerably broken, and somewhat sheared limestone which is more or less light gray, somewhat recrystallized near the orebodies. This has been classified as Devonian limestone.

Covering this Devonian limestone like a blanket, is a limy shale series from 50 to 100 feet thick, the upper part of which is the conglomeritic-quartzite above referred to. It is this material that forms the rough point of Telegraph Peak.

Immediately above is a series of limestone about 100 feet thick which is characterized by an abundance of elongated, somewhat iron-stained cherts. This limestone is found most conspicuously along the north east slope of Treasure Hill and down the Eberhardt Canon.

Stratigraphically above the cherty limestone is a thick series of black shale several hundred feet thick. This extends from Hamilton easterly nearly to the top of the Mokomoke Ridge, and had an important influence in controlling the topography, as it is much softer than the other rocks and eroded out more

readily. It is interesting to note that both Hamilton on the north and Eberhardt Millsite on the south are located on the base of this thick shale formation with the intermediate portion eroded off, exposing the older limestones and shale.

I did not traverse the areas which exposed the formations which are stratigraphically above the thick shale, so have no data on them. They are exposed in the Pogonip and Mokomoke ridges. The Base Range between Treasure Hill and Pogonip (which receives its name from the fact that leady ore is found in it) was not visited nor its geology determined.

Although the Treasure Hill area was originally covered by the above described conformable series, it has been domed, somewhat folded and faulted and eroded, so that the formations are exposed irregularly. The Devonian Limestone is exposed continuously from a point a few hundred feet north of Eberhardt Millsite to the north end of Edgar Claim on the top of Treasure Hill. Treasure City was built on a gentle westerly dipping portion of the Devonian Limestone which immediately underlay the first shale - the shale having been eroded. From near the north end of the Edgar Claim the uneroded shale is exposed, dipping gently to the west and northwest, extending nearly to Hamilton. It also extends underneath Telegraph Peak and then pitches northeasterly on that flank of the dome. At one point only on the north slope of the dome is the shale eroded, exposing a small island of Devonian limestone in the vicinity of the Mammoth Claim. This shale contact appears to be of considerable importance, and will be discussed under "Ore Controls".

There were no intrusives found on the area studied, but the sharp dome at Treasure Hill and the mineralization therein indicates that possibly there is a plug of igneous rock underneath it which never came to surface.

MINERALIZATION

At least three distinct periods of mineralization were found at Treasure Hill. The oldest was the ore-bearing quartz period. The second is the white coarsely crystalline calcite called the "spar veins", and the third was a dark dingy grayish brown carbonate which is frequently found cutting the white calcite, but did not occur in large quantity. The second and third periods were barren so need no further description.

The ore-bearing period contained quartz which was usually associated with silicified limestone.

Usually accompanying the ore zones are an abundance of brownish to mottled black and white carbonate bodies and stringers. It was not determined whether these carbonates belonged to the ore-bearing period, whether they were the second period of mineralization, or whether they belonged to the barren coarse white calcite period. The indications were that the ore was reduced in grade where these carbonates were abundant, so it is possible that this is the second period of mineralization, making four in all. This will have to be determined by more careful work. It was this type of mineralization that was found most abundantly in the N 47 E vein in the northwest workings of the Eberhardt Tunnel accompanying low grade ore.

There were no primary sulphides found in any of the

workings visited. It is claimed that the values in the ore extracted were entirely in the form of silver halloids and some gold, showing that all ores mined were oxidized ores. It is claimed that some galena was found in a 200 foot winze below the Eberhardt Tunnel.

ORE CONTROLS

An inspection of the old stopes showed that there were three principal features which controlled the deposition of the primary ores on Treasure Hill. They are north-south and east-west fissures and the Devonian limestone-shale contact.

The north-south fissure appears to be the main feeder, as it is claimed that an orebody has been mined along this continuously for a distance of 2450 feet, and the maps of the inaccessible workings appear to verify this. It appears that this original ore-bearing fissure was reopened and intruded by masses, veins and stringers of the mottled carbonates described above. These carbonate stringers do not necessarily confine themselves to the north-south fissure even though most abundant there, but cross and parallel the east-west fissure and penetrate the limestone country rock outside of the ore zone. The north-south fissure is not characterized by being a distinct fissure, but occurs as an indefinitely mineralized zone. Its limits are exceedingly irregular. Where the zone is most highly mineralized the bedding and original character of the limestone is destroyed. It is in this type of ore deposits that it is easiest to overlook bodies of ore.

The east-west fissures appear to be pre-mineral. The

mineralizing solutions ascending along the main north-south fissure concentrated at the intersection with the east-west fissures and precipitated their metallic minerals and gangues in decreasing quantity away from the north-south fissure. It is at these intersections that stopes are now found as large "chambers" in the mines. Sharp slickensided post-mineral faults occur along these east-west pre-mineral fissures.

The shale which blanketed the Devonian limestone was somewhat limy, but was sufficiently greasy to tend to prevent the fissures and ascending solutions from passing up through them. Therefore, the ascending mineralizing solutions were compelled to spread out under the shale replacing the topmost beds of Devonian limestone (where the solutions were strongest), and permeating the abundant joints therein, forming pockets of ore at junctions of these joints. It is this pocket type of ore deposits which proved so profitable to previous operators on the Pegonip, Bromide, Chloride, and other flats within a distance of 500 feet west of the main north-south fissure. These deposits have always been a puzzle because they have been so shallow. It probably has not occurred to mining men that barely more than the shale has been eroded over this territory. Wherever the shale-limestone contact is exposed from the Mammoth around east of Telegraph Peak, through the Hidden Treasure Claim, low grade siliceous ore is found, indicating that the extension of the main Aurora-Ward-Beecher belt under the shale has ore-bearing possibilities.

As practically all ore which has been mined is

secondary chloride of silver, there is no data on the characteristics of the primary ores, either as to quantity or grade. More study is necessary to deduce these features. It is probable that the surface water descending along the shale-limestone contact has leached and reconcentrated the silver for a short distance westerly, but the blanketing shale has probably preserved much of the mineralization beneath it in the primary form.

At the present time Mr. Keller has no option on the area which indicates these extensive possibilities under the shale contact, but claims he can get it.

GEOLOGICAL POSSIBILITIES

During my two day reconnaissance examination of this property, I arrived at no definite conclusions regarding the geological possibilities. It did seem, however, that detailed mapping of the geology might show up the following geological possibilities:

(1) The undeveloped area between the Edgar and Mammoth Claims might produce considerable ore under the shale on the extension of the main ore zone.

(2) Orebodies might be found on the east-west fissures west of the main north-south ore zone.

(3) Mapping might show the feeders to the main ore zone to be ore-bearing, and extending below the 300 Level, to which level ore has been proven to extend.

The data obtained during my visit, showed that no valuable ore extends below a point 300 feet from the surface on

Treasure Hill. It appeared, however, that there is considerable low grade ore left in the walls of the old stopes, and in several fissures found in the Eberhardt Tunnel. The data further indicated that the chances were poor for finding bonanza ore in the Eberhardt Tunnel, or for some distance above. The bonanza ore would probably be found above an elevation of 8,500 feet above sea level. There is, however, a block of ground between the Eberhardt Tunnel and the bottom of the upper workings, of 1,000 feet in height, which has been undeveloped, so little data can be furnished regarding it.

STATUS OF PROPERTY

It is claimed by Mr. Keller that there are 50,000 tons of tailings in the Eberhardt tailing dumps, which will average 6.5 oz. of silver per ton; and that there are 125,000 tons in the mine dumps, which will average 8 oz. silver. He estimates that there is \$180,000 net in the tails, and \$495,600 net in the mine dumps, giving a total of \$675,600 net in material on surface.

No attempt was made to verify this information, during my inspection. If his figures are true, those assets, combined with the geological possibilities, indicate that the property is worthy of a thorough examination.

CONCLUSIONS

My inspection trip was not one of valuation, so I, therefore, have no data with which to estimate the value of the mine at this time. If an investor is interested in this type

of silver property, which is claimed to have quick assets in tails and dumps, and with the geological possibilities described above, I believe that this property justifies making a thorough examination, including sampling and geological survey.

Respectfully submitted,

San Francisco,

June 17, 1920.