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Arizona Department of Mines and Mineral Resources Mining Collection

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01/02/97

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: ARIZONA SILVER QUEEN MNG. CO.

ALTERNATE NAMES:
HAVELENA GROUP
LONE JESSIE

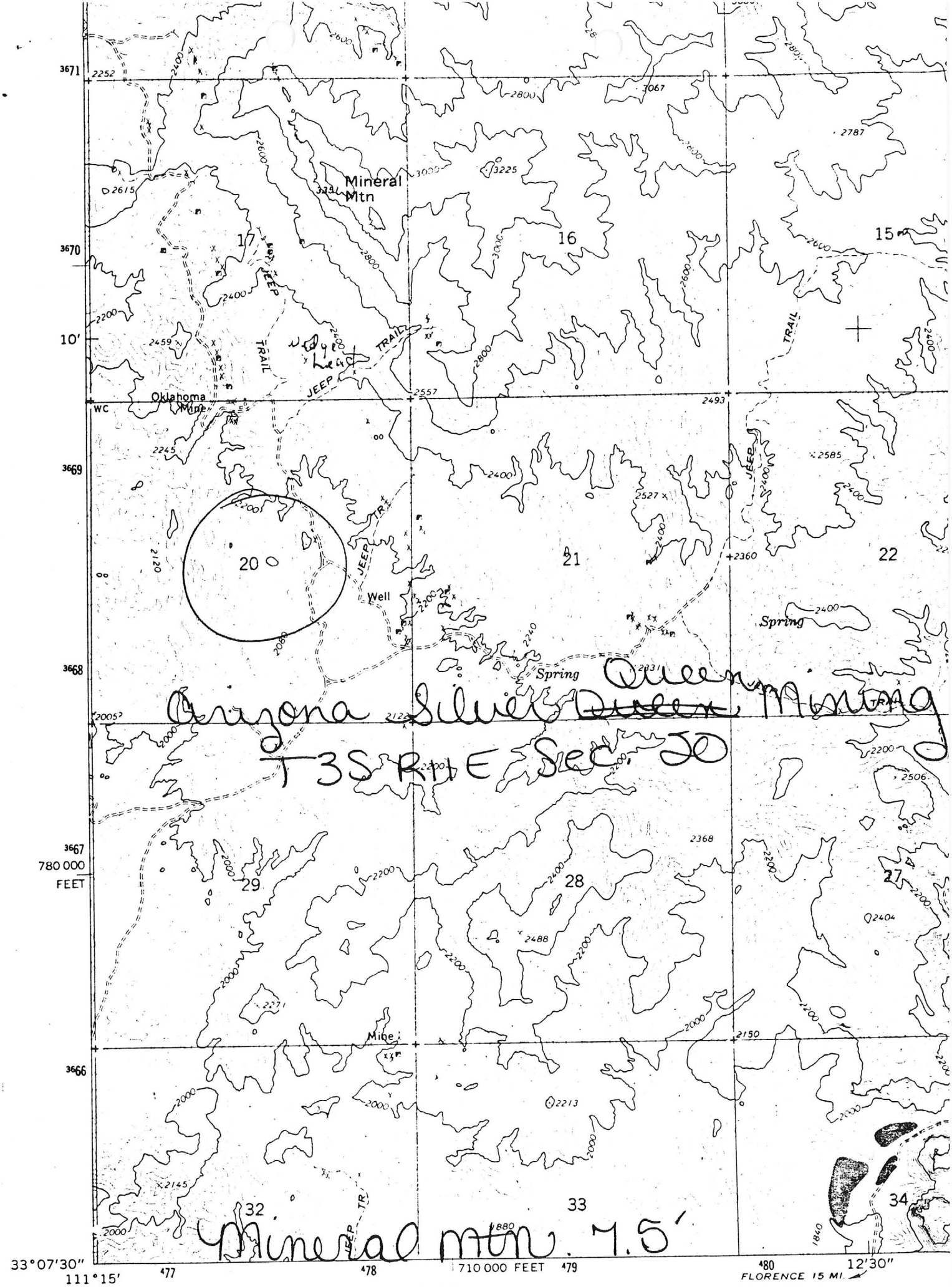
PINAL COUNTY MILS NUMBER: 212E

LOCATION: TOWNSHIP 3 S RANGE 11 E SECTION 20 QUARTER C
LATITUDE: N 33DEG 09MIN 22SEC LONGITUDE: W 111DEG 14MIN 28SEC
TOPO MAP NAME: MINERAL MTN - 7.5 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:
GOLD
SILVER
COPPER
LEAD

BIBLIOGRAPHY:
ADMMR ARIZONA SILVER QUEEN MINING CO. FILE
ADMMR FILES - ADOT HIWAY MAP - PINAL CO. 1949
P. 3
SEE: ADMMR OKLAHOMA GROUP FILE (SILVER BAR
MINE REPORT, P. 11)



Mapped, edited, and published by the Geological Survey

REPORT ON THE.

ARIZONA SILVER QUEEN MINING COMPANY'S PROPERTY.

LOCALLY KNOWN AS THE HAVELENA GROUP OF MINING CLAIMS.

LOCATED IN.

MINERAL HILL MINING DISTRICT, PINAL, CO. ARIZONA.

This property ie one of the greatest and most enormous ledges of mineral known to the mining World. The zones of folding in strata, lies along certain lines of weakness of the crust. The relief of pressure caused by the giving way of the strata in the folded region has caused a migration of the suppressed molten rock beneath the crust to this zone. Eruptions and intrusions accompanied by futher disturbances, follow, and thus large fissures are formed by the influence of igneous rocks, and the latter themselves contain disseminated minerals which they supply to the circulating waters, and various kinds of ore deposits result. There are many fissure veins, which are auriferous, and some of them cutt others to right angles. They go from ten to thirty dollars in silver and lead and from three to ten per-cent in copper, and the veins are from 18 inches to seven feet wide. The work consists of three one hundred foot shafts, and others fifty feet deep. There is s fine spring near the house and plenty of wood.

Ther is plenty of ore on all the claims. Several carloads have been shipped from this mine. The large fissures and thoroughly seamed rock which I find on this property are very favorable to ore, because the solutions are checked and held in such a way that seems fitted for the working of the re actionw which lead to the precipitation of ores. of which I find plenty all over this property. There is some pyrite of iron, which contains some gold. I would call this an iron-bearing formation, which is associated with a series of conglomerates, quartzites and porphyritic structure. In such a formation as I find on this property may be cassiterite; however I find plenty of silver, lead. copper and some gold.

This property is four miles north of the Gila River. It is in the same mineral belt as Ray and Superior. There are many mines near this property, all working.

However when we consider the Worl's great mining regions, we observe that it is indeed the older strata which carry the ores. The older rocks have had more time than the younger ones, and more opportunity to become the seat of ore deposition. They have also been in most cases deeply buried by the younger strata and so brought under such physical conditions of heat and pressure as are conductive to ore concentration. Under these conditions they have been pierced by intrusive rocks and subjectedt to all the accompanying processes of alteration and concentration.

Metalliferous veins seem to have been formed at every period of the world's history. They are the result of concentration by agencies which have been active since the earliest ages down to the prezent day. The age of veins as actuallt proven varies considerably, ranging from the Archean through the Palsozoric. Mesozoic and Tertiary.

I see this property is all very easy to work. Wood and water are convenient. The veins are close together, and are many, and have not been destyo royed by erosion. In such a formation I find a considerable percentage of iron. This combines with sulphur contained in organic matter to form sulphide of iron-pyrite. Pyrite has been shown by experiment to be active in causing other minerals, especially Gold to precipitate.

The property consists of eleven mining claims,Havelena Nos.1,2, 3,4,and five.
Lone Jessie Nos.1,2,3,4,5,and 6.

The first claim visited was Havelena No.2.,comprised of two 100 ft. shafts where twomlargeveins about 6 ft wide,the Southeasterly and North Westerly vein cutting the northeasterly and southWesterly vein.

The second claim visited was Havelena No.1,consisting of a 150ft. tunnel and 50 ft. shaft workings,being on the southeast-Northwesterly,the that of which a 100 ft.shaft is sunk on Havelena No.2.

The third place visited wasHavelena No.3,a ten foot hole that exhibited some high grade copper on the contact,Strike of vein is north and south with a variation of about 21 degrees of north,disclosing a vein of about four to six feet in width.

The fourth place visited consisted of a shaft of about 100 ft.depth This shaft was also sunk on the S.W.and N.E.vein from about 900 ft.north from shaft 100 ft deep sunk on Havelena Claim No.2.first visited told vein 22 inches in width on the south extension of the Oklahoma Group.Thi this claim disclosed an open cut with about fifteen foot face.Norns free gold,and is said to average about $7.00 per ton.600 ft. north on the same vein on the Oklahoma Group.gold and copper and silver and lead ores have been shipped that averaged$19.00 in gold,14 ones.in silver and 30% copper.

I find much granodiorite all over this property.The series has been folded,producing anticlines which are highly compressed and occasionally faulted.To this faulting and fissuring the rocks owe their ore.These vei veins run into each other.The veins lie in general in the anticlines.the evidence suggests that the ores have been deposited by uprising waters. There is no impervious stratum which has arrested the upward passage of the solution and brought about precipitation.

Strong veins and fractures permitted the gases and water to penetrate far from the diorite so that the mdneralization is extensive.Such a distinction is important,for the reason that in the case the ore will invariably follow its regular bed,and the formation consists of many kinds of igneous rocks.This rock contains Quartz,feldspar,hornblend. pyroxene and diabasic porphyry.Deformation has left these anticlined ranges easy to work by tunnel.

The commoner metals occur in igneous rocks in the same form that they do in the ore deposits, in the form of sulphides and oxides. This has been proven in the case of iron pyrite. The magnetic sulphide of iron (pyrrhotite), the magnetic oxide of iron (magnetite) the magnetic oxide of iron with titanium ilmenite or titanic iron, the oxide of iron and chrimium (chromite), etc.

In the diabasic rocks of this property there are small grains of pyrite, pyrrhotite, and ilmenite in great abundance, which occur within the augite and feldspar of the rocks in such a way as to prove that the metallic minerals are of primary origin, that is they have been crystallized out of the cooling molten rock, and have not been introduced subsequent to its consolidation, and indeed were the first of the rock forming minerals to solidify. The basic rock itself has been split up by segregation of its essential minerals so that some portions ~~contain large~~ are almost entirely of feldspar, while other portions contain large amounts of pyroxene, making a gabbro. It is plain that the magnetite which forms the ores has been segregated like the feldspar and pyroxene, while the rock was in a partially molten state, and it is possible that the high specific gravity of the iron may have been influential in bringing about this result.

Chromite is frequently found in tiny crystals in igneous rocks, and may be so abundant in certain parts that it forms more. It may even form solid masses, crowding out the other rock-forming minerals. Many of the known chrome ore-veins have been held to belong to this class.

The residual silicious solutions instead of forming definite veins, has penetrated the rock with which the cooling igneous mass is in contact and there has deposited their solid portions, usually by replacement of the original rock. When the resulting rock contains ores, it is called a contact metamorphic vein or dyke. Such a formation I find on this property.

I frequently find rare minerals such as pyro-metrical, the mineral phosphate of lead, occuring in bright green and brown hexagonal crystal and masses. The name alludes to the crystalline form which the globule assumes in cooling.

This property is very important. There is plenty of mineral; wood an and water are convenient. The property is five miles from the Alto Switchon the Santa Fe Railroad, in the mineral hill district. I see much organic material, and it contains sulphur and by decomposition this sulphur becomes sulphuretted hydrogen. When this sulphuretted hydrogen comes into contact with soluble salts of the metals, it combines with them and precipitates the salts as sulphides. For example, a solution carrying copper and ironchlorides would be precipitated by sulphuretted hydrogen as chalcopyrite, a mineral vontaining 34.5 per cent of metallic copper. Where a number of metals are attacked by surface water, the results of their differences in solubility is the formation of rough mineral belts. These follow the surface in general and each is characterized by a preponderance of certain metals or minerals. For example, in deposits containing lead and silver, the effect of descending waters may be to separate the metals into zones, the lead silver being above, copper and gold below this is mahy times the case in this kind of a formation. The ore will be better at a depth on this mine, the fact that these veins are fissure veins, and ascending water ore-depositd change in depth.

This property has a safe index of ascending currents, the case is emphasized in folded strata for the upward tending solutions will be confinedch chiefly to the tops of the anticlines, and there have taken place the action of organic matter, which is very important, and which is plentiful on this property, the fact that the ore body has formed in the roof. The auriferous quartz was deposited by ascending [illegible] this proves that the [illegible] all be much [illegible] a depth.

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Lead and silver are closely associated, most silver is obtained from argentiferous galena. and most galena contains a greater or smaller amount of silver, which is the case here. Tin and litharge are also liable to be found here on this property. Litharge appears in the form of soft flakes or semi-transparent shining plates, However the principles alof geology may be practically applied to economic advantage in finding and exploiting of ore-bodies, but is neccessary first of all to have some ideas of what ore bodies are and how they have been formed. The study of the process of ore deposition has long been in a state of slow growth. Within the past twenty years however, it has been more rapid and steady, and the writer feels justified in laying down certain principles of the most helpful nature in regard to this report. It has been my aim in this report now offered to my fellow citizens to ascertain the the true principles and knowlege which is neccessary to the understanding and proper exploitation of ore-deposits, and in preparing this report two points have been kept in view. First, to make statements as clear as possible considering the technical nature of the subject, and second, to present the scientific facts as accurately and as fully as is absolutely necessary.

Respectfully Submitted.

SIGNED. Z. S. YOUNG.

Geologist @ Mineralogist.

Phoenix, Arizona.

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