UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOX. L. SHAPLEY, SECRETARY
MINERAL RESOURCES ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
SECTION IX -

Bi-61. King Jay (Escalante) Mine
Esmeralda County, Nevada

Allen E. Griggs, Geologist
U. S. Geological Survey

May 25, 1951
BLUE JAY (JAYBIRD) MINE
JACKSON COUNTY, OREGON

DOCKET NO. 32

COMMODITY-Antimony

By Allan B. Griggs, U. S. Geological Survey

Recommendations: It is recommended that the application for a loan of $180,000 be denied as the feasibility of the method of recovery is questionable and the reserves of ore inadequate.

The strong appearance of the shear within the workings, 400 feet laterally and 180 feet vertically, the surface pitting that shows it continues an additional 600 feet along the strike, plus the favorable amount of mineralization within the shear are good evidence that from 5 to 10 times as much similar vein material (10% Pb, 5%) as estimated could be found by further exploration. If the Bureau of Mines believes material of this grade could be mined and concentrated economically, it is recommended that further exploration be encouraged.

APPLICANT—R. Mead Cooley and W. H. Holloway, a partnership.

Location—The mine is in Jackson County, Oregon, and may be reached from Medford, Oregon, the nearest railpoint, by 24 miles of paved road up the Applegate River valley to Keyes Bridge and six miles of one-way road, the first 1.2 miles of which are macadam and the remainder bulldozed mountain road. The roads can be traveled upon the year round. The three mining claims lie in the NW 1/4, NE 1/4, sec. 14, T. 40 S., R. 4 W. The nearest power line is at Ruch, 16 miles away.

Ownership—The claims are owned by E. F. Merrick of Medford, Oregon, and are under bond and lease to R. Mead Cooley and W. H. Holloway. Payment on the lease is on a royalty arrangement of 10 percent of net profits.
History and Production—The claims were located in 1939. The first shipment of ore was made in March 1942. That and all other shipments are tabulated below:

Production of the Blue Jay (Jaybird) mine

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount (short ton)</th>
<th>Grade</th>
<th>Pd</th>
<th>As</th>
<th>Buyer</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/13/42</td>
<td>35</td>
<td>49.24</td>
<td>0.44</td>
<td></td>
<td>Marshaw Chemical Company</td>
</tr>
<tr>
<td>6/18/42</td>
<td>50</td>
<td>44.47</td>
<td>0.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4/26/43</td>
<td>25.48</td>
<td>49.39</td>
<td></td>
<td></td>
<td>Metals Reserve Depot, Grants Pass</td>
</tr>
<tr>
<td>8/13/43</td>
<td>10.65</td>
<td>52.39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/21/44</td>
<td>12.32</td>
<td>41.17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/26/44</td>
<td>12.5</td>
<td>51.19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total tons: 123.69  Av. grade: 47.8

Date: 1949  40  49 To Tacoma smelter and rejected because of low grade.

Messrs. Eagle and Jones leased the property from E. P. Merrick in 1949 and shipped a carload of ore which was rejected because of its low grade. No further development or production has been made since Eagle and Jones dropped their lease in 1949. A review of the history of the property indicates that the operation has always been marginal in character.

Description of proposal—The applicants have put in for a loan of $150,000 to purchase mining and reduction equipment, to install equipment and to use as working capital.

Description of deposit—The deposit lies within slightly metamorphosed argillite about half a mile north of a small diorite stock. It is a replacement vein within a strong, persistent shear zone which strikes from N. 80° W. to W. and dips from 75° to the south to vertical. On the No. 5 level of the workings the vein is exposed at two places. At the west end it has been drifted upon for 165 feet where it has averaged 35 inches in width; on the east it was drifted upon for only 20 feet, where it varied from 8 to 12 inches in width. From description of the upper two levels it would seem that the vein did not average as great a thickness in them as below.

Sheared and shattered argillite, partly chloritized, makes up a large part of the vein. This has been partly replaced by quartz, stibnite, pyrite and later calcite. Stibnite occurred concentrated in discontinuous lentils, probably mostly in a coarse-grained form.
where mined in the upper two levels. These varied in width up to 20 inches but averaged less than 10 inches. However, the calcite observed at the No. 3 level occurs in small calcite crystals coating framework and is an exceedingly fine disseminated from selvagery throughout the sheared zone of concentrated within calcified strips along the vein. It is apparent from the mining on the upper levels that the outcrop contact ranges from along the vein. The mining and mapping indicates that the richest secondary calcite-bearing zones occur within the discontinuous deposits, but not enough sampling or comprehension has been done to determine these new zones. In the No. 3 level, only the western 100 feet of the drift and grade mineral material containing appreciable amounts of calcite. It should be noted that the ore are" estimates on the map copied from the United States Department of Interior and Mining, as indicated that no shipping grade ore (9.00 percent Cu) is present.

Calculation of the stibnite had been only partial even at the grade rate, but it extends downward from the surface for from 50 to 100 feet. The coarse-grained stibnite concentrated in locules remaining unaltered in the next part, whereas the His-coarse-grained material was oxidized. The secondary secondary minerals are several of the yellow arsenides and the red oxide, ferric iron. Most of the ore contained came from the oxidized zone.

Mine workings—The mine has been developed on three levels by 600 feet of drifts and adits and, and 300 feet of raises (see map). The vertical distance between the 1st and No. 1 levels is approximately 100 feet, with a maximum of additional feet of drift above the No. 1 level. The No. 1 level is open at the portal, the No. 3 level 100 feet in from the portal, and the No. 5 level is open to the face.

Reserves—The property has not been developed or sampled enough to make an estimate of any measured reserves. Furthermore, it is difficult whether a valid estimate of shipping grade ore could be made based upon past production as no high-grade material was observed in the No. 3 level, although some of the vein material in the west end of the tunnel below the short arsines might be related to a plus 30 percent Cu grade. Precedently 100 ore were mined and hand-sorted to produce a ton of shipping ore averaging a little over 20 percent Cu. The fine-grained ore, in the inner tunnel would be more difficult to hand sort and would result in a lower grade product. If enough ore reserves could be developed, concentration by the usual methods would seem feasible.
One resource, including rejects in stopes and in tenure, are estimated at 5,650 short tons averaging 0.19 percent Cu. Approximately 3,000 tons of this resource is oxidized material above the No. 3 level. The remainder lies between the eastern 150 feet of the No. 3 level and the No. 2 level, and between No. 1 and No. 3 level west of the stope.

Underground development has shown the vein to persist for 400 feet laterally and tend pitting on the surface indicates that it continues to the west an additional 500 feet. This, plus the fact that on the No. 5 level the vein is strong, indicates that the deposit has not been fully explored laterally or at depth.

Mining and reduction methods—The applicants have done no mining at the property. They believe they can mine and reduce the ore at a cost of 10 cents per pound of metal at a rate of 8,000 lbs. of matte per day. They propose to reduce the vein material with sulfuric acid and recover the metal electrolytically. Rather than put in a transmission line, they would install a diesel unit to generate electricity and use an arc welding machine to transform to a low voltage direct current. Matte assaying 28.5 percent Cu has been produced experimentally by the applicants. The feasibility of this method in the simple forms they propose is questioned, both as to its success and cost.

Equipment—The amount of facilities at the mine are small and consist of: a portable air compressor, make-CE, capacity 360 cu. ft. per minute; 2 drills, electric main motor; a small blacksmith shop; 2 1/2 yard mine cars; 800 ft., of 18 lb. rail; 500 ft. of pipe, size 1 in. to 5 in.; and one bumper capacity—60 tons plus or minus.

Operators—E. Wood Cooley is the owner of a small grocery store in Medford, Oregon, and has had no experience in mining. W. H. Holloway has worked around mining operations the greater part of his life. He has had no formal education as a mining engineer, and should be classified as a "practical" miner and promoter. It is planned that W. H. Holloway will operate property.
Vein: sheared replacement zone of porphyry country rock (argillite). Rock appears to be partly replaced by quartz, stilbite, pyrite, and feldspar.

Blue Jay #3 level
1" = 20'
Sheet Z
Brunton-tape survey
A.B. Griggs 4-23-51
Longitudinal Projection

No. 1 Level

No. 2 Level

Raise surface in ballasted trench

Shaped

Shaped in bed of well

No. 3 Level
Mr. A. E. Weissenborn  
S. 157 Howard Street  
Spokane, Washington  

Dear Al:  

In reply to your inquiry about the Blue Jay antimony mine, Jackson County, Oregon, Francis G. Wells furnishes the following:

Blue Jay Antimony Mine in the N. W. 1/4, N. W. 1/4, Sec. 14, T. 40 S., R. 4 W., Jackson County, Oregon, Grants Pass Quadrangle

This property, which had not been opened up when the areal mapping of this area was done in 1938, was visited by me in the summer of 1942 and a plane table map of the property was made at that time by Fred Gros. A Brief Strategic Minerals report was submitted (copy of report attached). Last summer when I was reconnoitering the back roads, truck trails, and logging trails to see if any critical geology had been exposed since the mapping of the Grants Pass quadrangle, I drove to the property, but not having a mine light, did not enter the workings. Judging from the dumps, several hundred feet of underground work had been done since the mapping was done in 1942. Mr. Merrick told me last summer that he had leased the property and the lessor had shipped a carload of minerals to Tacoma during the preceding year (ante summer, 1950). The mineral did not meet specifications and, therefore, was discarded. The P. T. sheet (1942) is among the D. M. (displaced material). I believe that the Oregon Department of Geology and Mineral Industries has made a map more recently.

Sincerely yours,

Olaf N. Roe, Chief  
Mineral Deposits Branch
JAYBIRD ANTIMONY MINE

Located in Secs. 14 and 15, T. 40 S., R. 4 W., Grants Pass Quadrangle, Applegate Mining District, Rogue River National Forest, Jackson County, Oregon.

The owners and operators are R. P. and S. J. Herrick of Medford, Oregon. The operations are listed under the Herrick partnership.

Three claims called No. 1, No. 2, and No. 3 are located and adjoin one another.

The mine is located on the steep north side of Kinney Creek, a tributary to the Upper Applegate at a point about 2800 feet above sea level.

Water has to be hauled about 500' vertically up from the creek but could be brought around the hillside in a flume if Kinney Creek were tapped upstream slightly above the level of the mine.

Medford, Oregon, 25 miles away on the main line of the Southern Pacific Railway, is a moderately easy truck haul.

From Bush, 13 miles west of Medford, a good county-maintained dirt road continues up the Applegate Valley eight miles to Applegate Orange from which a one-way unimproved mine road continues 4 miles westward to the property.

The property was purchased in 1939 from C. W. and Louis Culy who had done only the scantiest assessment work. The Herricks began working in June of 1941 and shipped their first ore in February of this year. To date, 60 tons have been shipped. Two adits and six pits have been dug at intervals along the strike of the mineralized fissure.

The ore occurs discontinuously for 250' along a fissure striking almost due E-W but with 5 degrees of variance to S or N. Dip varies from vertical to 75 degrees S. The stilbite, as scattered white bladed crystals, is most prevalent in an iron oxide-stained fracture rich in white milky quartz gangue. The hanging and footwall contacts are abrupt with the country rock metasediment. The latter designation is based on relic banding observed in a piece of float on the mine dump. Macroscopically it could just as well qualify as a metavolcanic with buff tan color and amphibite texture.

Horizons of quartz and metasediment inclusions recur at intervals along the fissure about which the ore may pinch out completely for a matter of a few inches or ten feet. The ore zone averages 10" in thickness, 250' in length, and has been stoped up to a height of 26' from the higher drift.

A prominent joint system strikes parallel to the fissure and is especially well shown two feet out in the footwall at the portal of the upper adit.
The Merricks are at the present time cutting a drift along the zone about fifty feet vertically below their original adit and will stop up on the ore zone.

Assuming a 100' vertical stop from the bottom of the lower adit to the top of the 36' stop in the upper drift, a length of 250', and an average width of 18", we reach a figure of 37500 cubic feet of material in the zone, of which approximately 4500 cubic feet have already been mined out.

There was no assay data.

Francis C. Wells
August 1942