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*Iron King*  
*Jerome*  
*Iron King mine*  
*up*

Property: Old slag dump ( Equator Smelter?)  
 Owner: United Verde Copper Co.  
 Location: Four miles SW of Clemenceau in Silver Spring Gulch.  
 Examined: July 12, 1926 By D. F. Reed & D. M. Barringer Jr.  
 Notes: The dump lies exactly four miles from the end of the railroad spur at the salt works at Clemenceau. The road is good, the grades easy and the haul is all down hill. Moores made an estimate of 75¢ per ton for hauling, not including the loading.

A Brunton and tape survey of the dump revealed a content of over 200000 cubic feet, or allowing 16 cubic per ton, a tonnage of more than 12500 tons.

Five samples were taken around the face of the dump, at intervals of approximately 50 feet. Samples numbers were cut 2 & 3/down vertical faces of the dump at points where the creek had cut through it and represent more nearly true cross-sections of the dump than the other samples which were cut down the slope of the top flow of the slag.

Sample No.	Au. oz.	Ag. oz.	Cu. %	
1	.04	.8	.65	
2	.04	.8	.64	
3	.03	.6	.58	
4	.02	.4	.16	
5	.02	.5	.18	
6	.02	.4	.16	Pot Shells.

Conclusions:  
 The most representative samples, ( 2 & 3 ), gave the highest assays but were still too low to be of commercial value. The dump is therefore worthless to this smelter.

D. F. Reed  
 7/16/26

*Su Equator Smelter*

NOTE RE IRON KING NEAR CLEMENCEAU

in Jerome District

- - - - -

Owned by Phelps Dodge Corporation and now operated under lease by A. B. Peach.

Oxidized ore being shipped to Clarkdale Smelter which will only treat a small quantity per day. Value of ore in gold and silver varies from \$10.00 to \$20.00, average about \$12.00 per ton.

Ore carries 1.5 to 2% zinc and 2% Pb. with a little copper; also 2 to 6%  $Al_2O_3$ .

There is a large body of this ore and 1000 tons could be mined and shipped per month.

The sulphide ore body seems to be limited to about 30,000 tons with lower gold and silver values but higher zinc and copper. None of this is being mined at present.

There is a similar body of sulphide ore in the Copper Chief adjoining the Iron King.

G.M. Colvocoresses  
1/5/39

C  
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*copied m.s.*

# Iron King Mine

*near Jerome, Ariz*

## REPORT ON THE IRON KING MINE

(With special reference to proposed lease of Oxide Ore).

### Faulting

In connection with an examination of the property of the Equator Mining Company, all accessible mineral showings in the Iron King Mine were carefully sampled and a special study was made of the faulting in that vicinity. Two winzes were pumped out which had not been unwatered since the mine was operated and evidence secured which indicates with reasonable certainty the displacement due to the faulting under the old Iron King stopes. It is probable that the ore-bearing portions of the Iron King sulphide mass do not extend down to the fault. If they do, according to the data secured on the faulting, the portions below the fault should be found on the west side of the compromise line and belong to the Copper Chief Mining Co. Thus the possibility of the ore being faulted does not justify any further exploratory work in the Iron King Mine.

### Sulphide Material

During the operation of the Iron King Mine all available sulphide ore was mined. A considerable portion of the whole sulphide body was removed. Sixteen or seventeen thousand tons is an approximate possible maximum for the low grade sulphide material remaining. This material probably averages about 1.3% copper, 2.2 ozs silver, 0.06 ozs gold, and 3.6% zinc. Out of this, 6,000 or 7,000 tons might be selected which would carry 2.3% copper, 2.9 ozs silver, 0.07 ozs gold, and 4.5% zinc.

*Assay = 3.00  
Cu = 40 = 450  
7.50*

The mass of sulphide found from the bottom of the winze, one hundred feet below the main tunnel level, is the only occurrence below the fault. It is especially low grade, averaging about 0.9% copper, 1.1 ozs silver, 0.06 ozs gold, and 2.1% zinc. The horizontal cross-section of the 100-foot sub-level is approximately 600 square feet, so far as the development work shows. The estimated maximum quantity of sulphide material is based on the assumption that it does not extend very far below the 100-foot sub-level. The work from the lower tunnel is not sufficient to prove this and some further work might be worth while.

### Oxide Material

Some good values were obtained from the oxide material near the portal of the main Iron King tunnel and this should be opened up more completely. However, the possibilities are not very good for more than a small tonnage.

There is a mass of silicious oxide overlying the east sulphide stope and extending to the east side of the west stopes which is partly blocked out by work now accessible. The samples from this area show an average of between \$9.00 and \$10.00 recoverable values in gold and silver. The recoverable value is computed on the basis of a 50% recovery of the silver and a 90% recovery of the gold, which is a very conservative figure in the light of results which have been achieved. The copper in this ore averages 0.26% and the lead 2.06%. This block is credited with 5,000 tons probable ore.

*4.5*

A study of the old assay maps indicates that there is probably at least 3,000 tons of material closely associated with the oxide stopes which can be mined and treated at a profit. Matson's estimated limit of profitable treatment is a recoverable value of \$6.50. This may be lowered somewhat, though conditions in the Iron King ground do not offer much opportunity for improvement in mining costs.

There is a limited area east of the southern part of the west stopes which might show some ore of cyaniding grade if explored more thoroughly.

*Louis E. Reber, Jr.  
1921 Report.*

APPROXIMATE TOTAL  
SULPHIDE ORE REMAINING IN IRON KING MINE

	Tons	Cu	Ag	Au	Zn
W of E Stopes and E of W Stopes	4,000	2.3	2.8	0.07	4.9
E of E stopes	2,000	2.3	2.8	0.08	3.9
NE of E Stopes	2,000	0.9	2.2	0.04	4.9
E of E Stope	2,000	0.9	2.2	0.04	3.9
E of 2nd Floor, E Stope	250	2.8	4.4	0.07	6.1
N of E Stope	2,600	0.5	1.5	0.05	2.2
50' Sub below Tunnel	200	0.6	5.5	0.07	0.22
100' Sub below Tunnel	1,000	0.9	1.1	0.06	2.1
Below 100' Sub below Tunnel	<u>1,000</u>	<u>0.9</u>	<u>1.1</u>	<u>0.06</u>	<u>2.1</u>
Approximate Total Sulphide Material Remaining in Iron King	15,600	1.3	2.2	0.06	3.6

Pay on. 6250 t. @ Cu + Ag = 3.00  
 Cu @ 2.5 =  $\frac{4.80}{7.80}$  (40% @ 12%)

Zn @ 4.5% =  $\frac{2.20}{10.00}$   
 90% @ 4%

Pay by  
 by 3.00  
 Fine 2.50  
 Fuel .50  
 Fuel 2.50  
8.50

Prof 1.50

IRON KING MINE  
near Jerome, Arizona  
(With special reference to proposed lease of Oxide Ore)

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