611

LETTER

ON

W A L K E R M I N E

BY

V. A. HART

Salt Lake City, Utah.
Sept. 19, 1915.

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International Smelting Company
Tooele Plant

WM. WRAITH
GENERAL MANAGER

SALT LAKE CITY, UTAH, Sept. 19, 1915.

Mr. Wm. Wraith, General Manager,
International Smelting Company,
Salt Lake City, Utah.

Dear Sir:-

This letter states my impression and opinion at this time of the Walker Mine, located in Plumas County, California.

The reports on this property by Messrs Cowan and Hansen go into detail on claims, location, timber, wood and water, all of which is apparently as stated, although as yet I have made no investigation of claims, titles,&c. They also state the results on two flotation tests on the ore. This, also, has not been investigated.

The points on which I desire to lay special stress, and on which I may differ some from the statements in the above mentioned reports are relative to climatic conditions, ore, its deposition and tonnage, cost of mining and development, and cost of haul and freight.

CLIMATIC CONDITIONS: The mine is situated at an altitude of about 6700 feet or approximately 2000 feet above Portola, the shipping point. Portola has been known to have fourteen feet of snow on the ground at one time, and the intervening country and the mine can be safely estimated at from 6 to 15 feet of snow on the ground at one time per winter. If the roads can be kept open, this will materially help in the hauling although it will leave the roads across the numerous flats impassable for some months in the spring.

The attached memorandum shows my hauling estimate from which I have my hauling charge of at leust $6.50 per ton of concentrates.

WORKINGS, ORE, DEPOSITION, etc: The plan and sectional sketches which accompany this letter show the extent of the main workings. From these it will be seen that the ore has been developed for a length of about 110 feet on the 65 foot level and 13 feet on the 125 foot level.

This ore is a heavy primary sulphide (chalcopyrite with much pyrite)which occurs in two pronounced forms, first, as an impregnation of the diorite, so-called (a very hard dense black felsitic rock inclined to be very blocky), and, second, as a filling or cementing material accompanied by much quartz which has filled the interstices of the brecciated diorite along the fault. The first form shows only on the 65 foot level. The north end of this level has softened considerably, and the partially disintegrated diorite has been enriched by some secondary boronite. A small oxidized slip showing on the foot wall side.

A small half inch seam, without gouge matter, marks the hung wall side or east limit of the ore. This shows a pronounced strike of about N 10° to 22° W and a dip of about 75° to the east. This checks the location of the ore on the 125 foot level.

The amount of brecciation has been very small. Instead of much fine crushing near the slip, the tendency has been toward blocking and this is clearly shown by the vertical walls of the crosscuts, so

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termed, on the two levels. These crosscuts really run with the formation and are, in my opinion, along cross breaks at approximate right angles to the main break. Sampling at these points is apt to give one an erroneous idea as to the width of mineable ore, hence, the only safe way to prove or disprove this contention is to perform the work as outlined by broken lines on the plan sketch.

This tendency towards large blocking and the exceeding hardness of this formation, together with no defined footwall are points that mitigate very much against the property.

Miners state that the quartz is "bunchy", a condition expected in a deposition of this sort. Ore is difficult to follow. (See sketch map showing where ore was evidently lost and they hunted for it.) "Two runners with butterfly valc type drills made from 5 to 7 buckets of muck (35 to 49 cu. ft. 1½ to 2½ tons) per shift on drifting on 65 foot level," - Foreman. It took two good miners three shifts to put in one round of holes (14 holes 3½ to 4 ft. deep) on the 125 ft. level. Holes were loaded within 6" of collar with 50% powder in order to break well. This was at a point near where sample No. 96 was taken. It required from 15 to 28 mails to cut some of the harder samples and then they were very shallow trenches. Shaft was contracted for $30.00 per foot - power and hoisting muck furnished. Contractor worked three shifts and quit.

The above will show a condition which means high mining and development costs. Water is an unsolved problem. At present it is very easily handled. What it will do in depth is problematical.

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From a tonnage standpoint, I at present would not feel safe in estimating over five to six feet in thickness of workable ore, and this would be Probably Ore only. I consider a primary ore such as this is to be good for great depths if the interstices or voids were present in which it could form. The chances are that the harder or non-disintegrated material at depth will not be impregnated and only ore of the second form mentioned above, will be found.

The attached memorandum shows probable and possible tonnage together with estimated costs and net profits per ton under different copper markets, based on Mr. Cowan's expressed willingness to contract work at the figures used.

As to the possible length of this ore shoot, I can only state this: The shaft is located on a likely gossin cropping. To the south is a flat which shows nothing. To the north the gossin shows up the hill for a total length of sixty to eighty feet. Above this or further to the north is a heavy iron capping of limonite and hematite. No gossin to be seen. This iron shows a width of from 60 to 150 feet and is easily traceable for at least 1500 feet and probably much more. The present ore shoot now extends slightly further north then the surface gossin. Whether it will continue on under the iron for a long distance, I cannot say, but I do not think that it will. If this iron cropping should be underlain by ore, the property would be an immense one.

The conditions under which you are investigating this property are, I believe, as follows:-

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For $65,000 you get 65,000 shares of preferred stock together with 65,000 shares of common stock as bonus. Total preferred stock issued 100,000 shares. This preferred stock is to be taken up from the first $100,000.00 net proceeds obtained from the ore.

For an additional $40,000 you are to obtain a further 250,000 shares of common stock, making you a total of 315,000 shares. This together with an equal amount held by other parties in a voting trust, giving you practical control of the property. This means a net expenditure of $40,000 (after the $65,000 for preferred stock has been returned) less smelting profits for 315,000 shares of stock or over one-fourth of the property - capitalisation being 1,250,000 shares.

These conditions are such as to well merit the expenditure of about $830.00 on the development now under way. An excellent gamble at the very worst.

Should this property prove up 12 feet of ore of average grade as sampled, I would not hesitate a moment on closing with the above conditions and optioning all other stock possible on nine months' and upward time without cash payments. If at a figure of 50¢ or less, I would feel that a 10¢ per share payment would be justified.

If the new work proves up 12 feet of ore, of grade used in memorandum, I would say that under better than a 14¢ copper market, you would have the required tonnage of very probable ore - over 20,000 tons - practically in sight.

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Should, however, this thickness fall to six feet, it means that the present development must be extended for another hundred feet in depth, and an additional eighty feet in length or a total block of ore one hundred eighty-nine feet in length by two hundred feet in depth must be developed in order to expect $100,000.00 net proceeds on a 14¢ copper market, proportionately less if market is higher.

This condition makes this proposition a gamble pure and simple, and one would hardly be justified in taking it unless a large percentage of stock could be optioned at a very nominal figure. A speculative value on the entire property, under this condition, of anything over $250,000.00 to $300,000.00 would be considered excessive and then it would be considered only a fair gamble.

Respectfully submitted,

VAH:H

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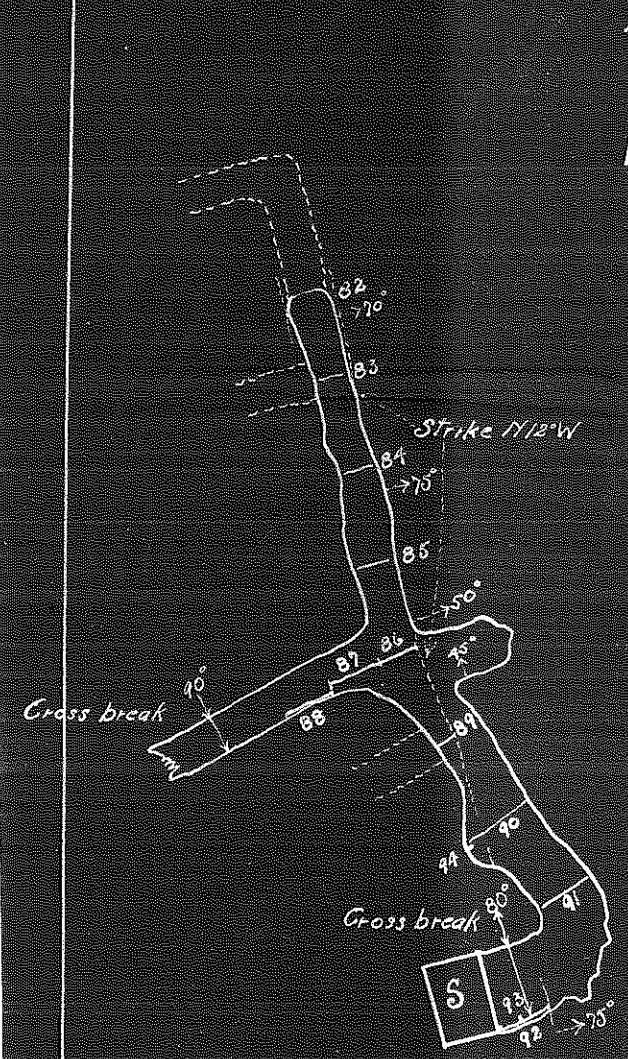
PLAN OF WALKER MINE

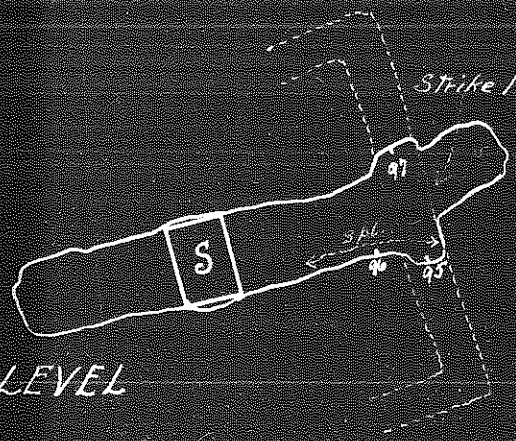
1" = 20'

—SAMPLES—

No.	Ft. Width	oz. Au.	oz. Ag.	% Cu.
82	5'	.08	5.4	10.75
83	3½	.06	3.0	7.10
84	3½	.04	2.5	4.70
85	4½	.04	3.4	5.55
86	4½	.05	4.25	7.45
87	6½	.10	7.5	10.80
88	5½	.04	2.0	7.10
89	3½	.02	0.9	2.45
90	8½	.01	0.4	1.05
91	7½	tr	0.2	0.40
92	5½	.06	3.1	4.20
93 V	6½	.04	3.6	5.55
94 V	4½	.05	4.35	8.10
95 V	5½	.07	3.3	6.70
96 V	5½	.035	2.2	3.10
97 V	5½	.04	3.5	6.20
Spl	15½	.03	2.0	3.10 (Wraith)



PLAN 65' LEVEL



PLAN 125' LEVEL

9-19-75 H.

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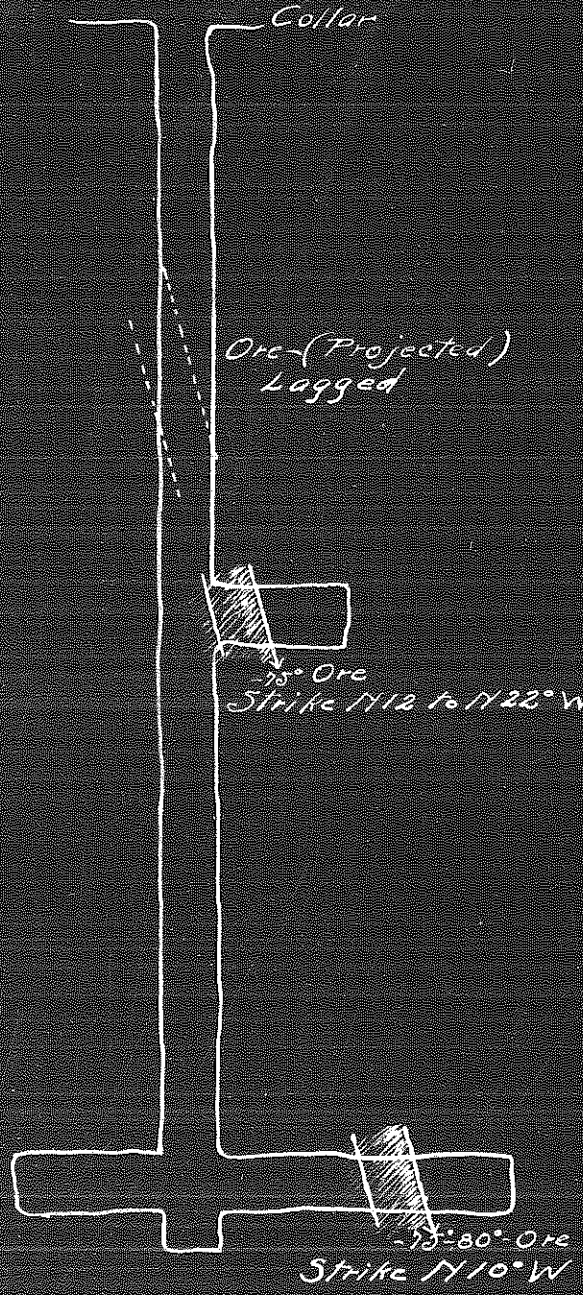

WALKER MINE

SECTION THROUGH SHAFT

ON

EAST-WEST PLANE

1" = 20'

9-19-35-H

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WALKER MINE

Memorandum
Sept. 15, 1915.

Average Ore 5 - 6 ft. width (less two high samples)

Cu 6.57% Ag 3.74 oz. Au .05 oz.

Conc. 3½ to 1 on 90% extraction

Cu 20.7% Ag 11.79 oz. Au .20 oz.

Smelter value: Cu - 20# - 2½¢

Ag 95% @ 50¢

Au @ $19.00

	Cu @ 14¢		Cu @ 15¢		Cu @ 16¢	
Ton Conc.	$54.71		$58.65		$62.59	
Deduction - Freight $6.40						
Treatment 3.00	9.40		9.40		9.40	
Net smelter return	$45.31		$49.25		$53.19	
Haul	6.50		6.50		6.50	
Net at Mill Ton Conc.	$38.81		$42.75		$46.69	
Net at Mill Ton Ore	11.09		12.21		$13.34	
Mining, Milling, development, tramming costs, on 12 ft. vein, minimum cost	5.00		5.00		5.00	
Net value per ton -		$6.09		$7.21		$8.34
Maximum cost	6.00		6.00		6.00	
Net value per ton		$5.09		$6.21		$8.34

On 6 ft. vein, minimum cost	$6.50	$6.00	$6.00
Net value per ton	$5.09	$6.21	$7.34
Maximum cost	$6.50	$6.50	$6.50
Net value per ton	$4.59	$5.71	$6.84
Average net value per ton 12' vein...	14% Cu $5.59	15% Cu $6.71	16% Cu $7.84
Average net value per ton 6' vein...	$4.84	$5.96	$7.09
Tons required for $100,000.00 preferred stock.....	20,660	16,780	14,100
This means a block 12' thick 100' deep, and	139 ft. long	154 ft. long	129 ft. long
This means a block 6 ft. thick and 200' deep and	139 ft. long	154 ft. long	129 ft. long

Block now partially developed -

Approximately 100' long

Opened at one point 125' deep (100' depth of ore)

and with 5 to 6 feet plus of thickness.

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Mining, Development, Trunning, Milling.

Mining on basis of an ore shoot 12 ft. wide and 300 ft. long. Present shaft 125' deep, with 65 and 125' levels.

Development:

Shaft 100 ft. @ $40.00	$4000.00
Drift on 65 ft. level 320 ft. @ $10.00 =	3200.00
" " 125 " " 300 " @ $10.00 =	3000.00
" " 225 " " 300 " @ $10.00 =	3000.00
Crosscut to ore on 225 ft. level 40 ft. @ $10.00 =	400.00
Crosscuts on all levels 100 ft. @ $10.00 =	1000.00

Raises:

125 to surface	
225 to 125 (Two) 350 ft. @ $6.00 =	2100.00
Chutes and Timbering 20 @ $40.00	800.00
	$16500.00

Block developed 300' long - 200' deep - 12' thick

Allowing 1/4 barren ground - approximately 50,000 tons ore.

Development cost approximately 33¢ per ton.

On six foot vein - same condition - cost 66¢ per ton.

Development -	.33	.66
Mining -	$3.50 to $4.50 per ton (12 to 6 ft. vein).	
Trunning	.15	.15
Milling	1.00	1.00
	$4.98	$6.31
Estimated	$5.00 to $6.50	

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Hauling - 8 up - 5 tons per trip.

Cost:

8 horses @ $1.00 (feed & shoes)	$8.00
Driver	4.00
Driver's feed and wagon upkeep	1.50
Man unloading 1/3 time (3 outfits running)	1.00
Profit on outfit	2.00
Cost to Company per day	$16.50
Trips 3 to 4 days, depending on weather & roads.	
Total	$49.50 - $66.00
Cost per ton Cone.	$9.90 - $13.25

3 outfits, capacity 24 - 30 tons per day - practically no back freight. No rest days allowed. A man must be feeding a bunch of extra stock in order to keep a team constantly on the road.

Matlamto used $6.00 to $8.00 per ton.

Average about $6.50 with lots of good sledging per year.

Concentrates @ $6.50 per ton or $1.08 per ton ore.

Ratio of concentrates 3½ to 1.

Freight:

From Portola on ore, the net smelter returns on which do not exceed a valuation of - $40.00 $50.00 $60.00 $70.00 $80.00

Freight $5.30 $6.00 $6.45 $6.75 $7.00

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