

Ballali
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Prod → 1947

REPORT ON THE PROPERTY
OF THE
TORREROCA MINING COMPANY.

SITUATION. The property of the company, consisting of 15 claims and fractions is shown on map No.1. It lies in the Steeplerock mining district, Grant county, New Mexico, about 15 miles over a fair wagon road north-easterly from the town of Duncan, Arizona, a station in the valley of the Gila river, on the Arizona & New Mexico railroad, 38 miles northwesterly from Lordsburg on the main line of the Southern Pacific.

The mine camp (Photo No. 1.), at an altitude of about 4900 feet, is on Carlisle creek, an intermittent stream tributary to the Gila. The collar of the Alabama shaft, half a mile northwesterly, has an altitude of 5185.

GENERAL GEOLOGY. This part of the district is made up of piled up lava flows of basalt, andesite and rhyolite, with probably some intrusive andesite to the north and west. Rhyolite dikes cut these formations.

On the Homestake and Alabama claims the lode strikes nearly north and south and dips 85° to 88° westerly.

CAMP

HOMESTAKE

ALABAMA

No. 2. Looking South along the Alabama Lode.
Alabama and Homestake Shafts and Camp.

To the north it turns northwesterly and south of the property it strikes southeasterly and is easily traced by its prominent croppings of brecciated andesite.

In part the Alabama lode may include rhyolite intrusions, but it appears to be a brecciated, silicified slice of a rhyolite flow, the rhyolite fragments in the lode being part of the drag of the fault that opened the lode fissure.

A rhyolite flow covers the surface to the east, south of the Alabama, and is underlain by andesite. West of the lode the surface is andesite or basalt. The faulting that opened the fissure appears to have had a downthrow on the west of about 300 feet. It is believed that the rhyolite found in the west crosscut on the 300 is the downthrow part of the surface flow.

The lode itself is a silicified fault breccia, composed of fragments of andesite and rhyolite and very hard. It varies from 4 to 12 feet wide and usually both walls are andesite.

ORE OCCURRENCE. Only one ore shoot has been found, that shown in the longitudinal section of the Alabama mine. The ore is exceedingly hard, silicified fault breccia containing sparsely disseminated pyrite and

unevenly distributed gold and silver. Specimen ore will return assays in excess of \$200.00 a ton but as a whole the shoot is both small and low grade. Its average length is 65 feet; its width about 5 to 6 feet. Above the 150 level it is practically exhausted. The lowest level, the 350, has only 40 feet of work and that is not in ore of commercial grade. The showing on the various levels is discussed in detail below.

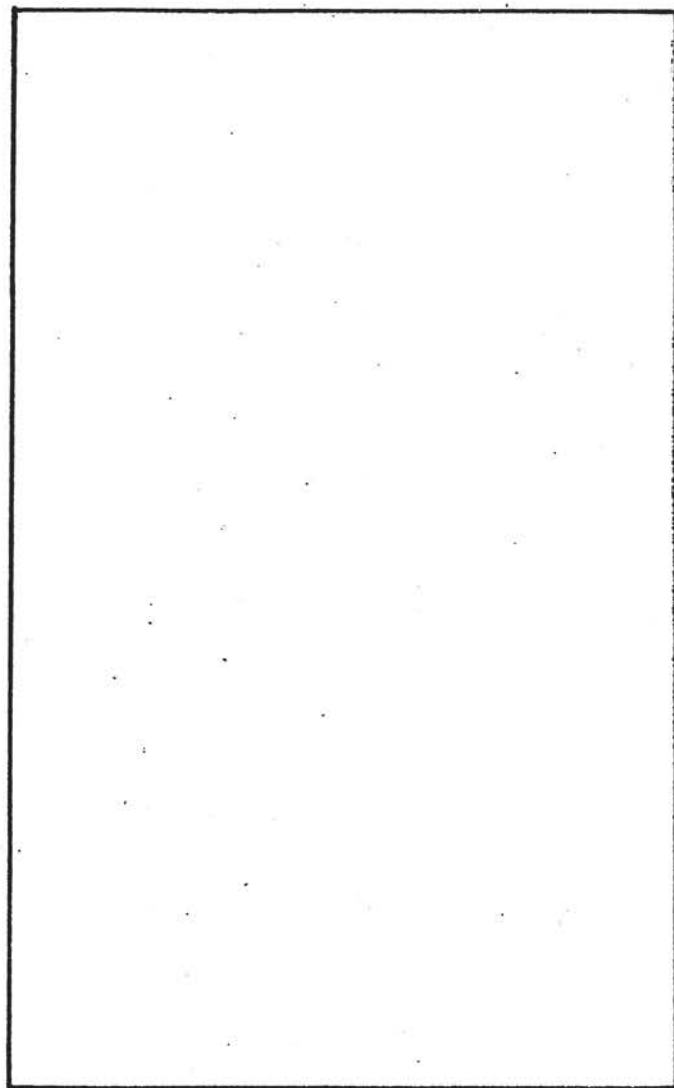
To the north of the Alabama shaft the appearance of the outcrop offers little encouragement. To the south 960 feet is the Homestake shaft 130 feet deep with two levels barely started at 65 and 114 feet. Good looking material appears in both but the assays were almost blank.

Between the Alabama and the Homestake there are two shoots. One outcrops about 50 feet long, the other is more obscure but its length appears to be about 75 feet.

South of the Homestake the outcrop is not of particularly promising appearance. If any ore shoots exist they do not come to the surface.

MINE WORKINGS AND SAMPLING. The Alabama shaft is an incline on the

vein, 85° westerly to vertical, about 6 x 9 feet, 1 1/2 compartments, 370 feet deep. It is timbered only with a footwall plate to support ladders and



No. 3. Looking North at Alabama
Shaft and Lode Croppings.

skids and with occasional stulls. Country rock and vein are very hard and stand well. It makes but little water; not too much to be handled by bailing.

The plan and longitudinal section show the levels which are at 35, 80, 110, 150, 200, 250, 300 and 350 feet below the collar.

To the 35 foot level the vein filling is 2 to 3 feet wide, oxidized and comparatively soft.

That level consists of a short drift north on the vein, a crosscut easterly in barren rhyolite breccia and an old stope opening to the surface and not accessible.

On the 80 foot level the drift south is about 35 feet long with face in crushed barren quartz and breccia. There is a small stope on this level as shown.

A few samples were taken on the 35 and 80 foot levels, as follows;

35 AND 80 LEVELS.

No.	Width Ins.	Gold. Oz.	Val.	Silver. Oz.	Val.	Total.	Description.	
253	36	0.02	\$0.40	0.8	\$0.45	\$0.85	35' level. 15' N of shaft. 20' S of stope.	40
254	24	0.01	\$0.20	0.7	\$0.49	\$0.60	Face 80' level.	70
255	30	0.06	\$1.20	1.8	\$0.95	\$2.15	8' from face 80' level. Stope begins 5' north.	30
256	8 ft.	0.01	\$0.20	0.6	\$0.30	\$0.50	Chips along N wall E crosscut 35' level	60

From 80 to 110 feet the lode is hard, apparently barren rhyolite breccia. The 110 level, a south drift about 85 feet long, presents a similar appearance. A fault dipping steeply south cuts across the face, striking N 65° W. There is a small stope on this level, as sketched, 2 1/2 to 4 feet wide. Beyond it the roof of the drift is open and loosely broken and hardly safe to sample.

On the 150 is the largest stope in the mine, 65 feet long and 4 to 8 feet wide. At its southern end it stops at a cross shearing which has not faulted the vein, but beyond which is no ore, as the sampling shows. About 30 feet further south is the so-called "contact", a cross fault, the same that is exposed in the face of the level above. It has thrown the lode westerly about 70 feet, as shown on the plan.

The southwest crosscut in andesite caught the lode at the point shown and north and south drifts were run on it, with frequent short crosscuts into the east wall.

The north drift follows barren rhyolite breccia to the face with the same rock in its east wall and andesite in its west wall.

The south drift is similar with sometimes andesite sometimes rhyolite breccia in its west wall, and the breccia always in its east. The short crosscuts to the east all pass through the breccia of the lode which is 8 to 12 feet wide into andesite.

The lode in this drift is barren as the assays show. Sampling by Mr McCollom, checked later by Mr. Phillips give an average for this drift of 50¢.

The following list copied from the mine records shows how poor the lode is south of the ore shoot. For position of samples see plan and section.

150 LEVEL - MINE RECORDS.

Gold \$20.00 per oz.
Silver 54¢ per oz.

<u>No.</u>	<u>Oz.</u>	<u>Gold.</u> <u>Val.</u>	<u>Silver.</u> <u>Oz. Val.</u>	<u>Total.</u>	<u>Description.</u>	<u>Date.</u>
4	Tr.	\$ - -	0.5 \$0.27	\$0.27	Vein 150.xc E.	6/21/09
6	Tr.	\$ - -	0.5 \$0.27	\$0.27	Vein 150.xc E.	6/29/09
7	Tr.	\$ - -	0.3 \$0.16	\$0.16	Vein 150. at contact S drift.	7/05/09
8	0.03	\$0.60	0.5 \$0.27	\$0.87	Vein 150. at contact S drift.	7/07/09
9	Tr.	\$ - -	0.6 \$0.32	\$0.32	Vein 150. at contact S drift.	7/08/09
12	Tr.	\$ - -	0.5 \$0.27	\$0.27	Average face No.1 crosscut.	7/30/09

Agg/Am

16

<u>No.</u>	<u>Gold.</u> Oz. Val.	<u>Silver</u> Oz. Val.	<u>Total</u>	<u>Description.</u>	<u>Date.</u>
13	Tr. \$ - -	0.4 \$0.22	\$0.22	Picked sample.	1909. 7/31
14	Tr. \$ - -	0.8 \$0.43	\$0.43	Average face No.1	8/01
15	Tr. \$ - -	0.4 \$0.22	\$0.22	xc. Average face No.1	8/02
16	Tr. \$ - -	0.5 \$0.27	\$0.27	xc. Average face S drft.	8/02
17	Tr. \$ - -	0.4 \$0.22	\$0.22	Same as No. 13	
18	0.01 \$0.20	0.3 \$0.16	\$0.16	Run twice by different assayers.	30
19	0.01 \$0.20	0.3 \$0.16	\$0.16		
30	Tr. \$ - -	0.3 \$0.16	\$0.16	South muck	10/19
31	Tr. \$ - -	0.6 \$0.32	\$0.32	Average face	10/19
36	0.14 \$2.80	6.8 \$3.67	\$6.47	South muck	10/20 48
37	0.08 \$1.60	1.2 \$0.65	\$2.25	South muck	10/23 15
38	Tr. \$ - -	0.5 \$0.27	\$0.27	Average face 3rd.	10/23
40	0.02 \$0.40	0.5 \$0.27	\$0.67	xc. South muck	10/28 25
41	0.04 \$0.80	1.6 \$0.86	\$1.66	South face picked.	10/28 40
46	Tr. \$ - -	0.2 \$0.11	\$0.11	Face xc 4.	11/21
53	Tr. \$ - -	0.7 \$0.38	\$0.38	Muck xc. 4.	11/23
56	0.02 \$0.40	1.4 \$0.76	\$1.16	Seam south.	12/07 70
59	0.08 \$1.60	0.9 \$0.49	\$2.09	Picked south.	12/18 11
60	0.02 \$0.40	0.6 \$0.32	\$0.72	Average face south.	12/19 30
61	0.04 \$0.80	0.8 \$0.43	\$1.23	Specimen south.	12/19 20
90	Tr. \$ - -	1.0 \$0.54	\$0.54	10' S, Sta.5, south drift.	1910. May
91	Tr. \$ - -	0.8 \$0.43	\$0.43	$\frac{1}{2}$ way in xc No.1	May.

<u>No.</u>	<u>Gold.</u> Oz. Val.	<u>Silver.</u> Oz. Val.	<u>Total.</u>	<u>Description.</u>	<u>Date.</u> 1910.
92	0.01 \$0.20	0.9 \$0.49	\$0.69	9' south of xc.1.	May. 90
93	Tr. \$ - -	1.2 \$0.65	\$0.65	½ way in xc. 2.	" .
94	Tr. \$ - -	0.6 \$0.32	\$0.32	9' north of xc 2.	" .
95	- - -	- - -	- -	Same as 93	" .
96	Tr. \$ - -	0.8 \$0.43	\$0.43	6' north of xc 3.	" .
97	Tr. \$ - -	0.7 \$0.38	\$0.37	½ way in xc 3.	" .
98	Tr. \$ - -	0.8 \$0.43	\$0.43	Xc No. 4.	" .
99	Tr. \$ - -	0.8 \$0.43	\$0.43	South Drift.	" .
100	Tr. \$ - -	0.9 \$0.49	\$0.49	Face	" .
101	Tr. \$ - -	1.1 \$0.59	\$0.59	Xc No. 5.	" .
102	Tr. \$ - -	1.3 \$0.70	\$0.70	Near Face.	" .

Average value \$0.73

Four samples were cut in the vein just south of the stope. They averaged \$1.40. In the northeast corner of the shaft is a small bunch of ore (No.251) that assays \$7.20. No. drifting has been done north.

150 LEVEL SAMPLES.

<u>No.</u>	<u>Width:</u> Ins.	<u>Gold.</u> Oz. Val.	<u>Silver.</u> Oz. Val.	<u>Total.</u>	<u>Description.</u>
248	58	0.03 \$0.60	1.9 \$1.05	\$1.65	Across lode at S. end big stope.
249	44	0.03 \$0.60	1.7 \$0.90	\$1.50	Across lode 10'S. of 248.
250	24	0.02 \$0.40	1.1 \$0.60	\$1.00	10'S.249.w½ of lode.
251	24	0.19 \$3.80	6.2 \$3.40	\$7.20	Bunch ore.NE Cor.Shaft
252	28	0.04 \$0.80	1.2 \$0.65	\$1.45	10's.249.e½ of lode.
Average \$2.55					

The 200 level south follows the lode. The breccia is narrower, though its whole width is not exposed, and there are more andesite than rhyolite fragments. In the high grade samples the rhyolite is nearly absent. There is a good shoot of ore near the first crosscut west.

As on the levels above, the vein is faulted a short distance beyond the east and west crosscuts and the last work is southeasterly drift along the fault, in barren sheared andesite.

The 200 north follows 4 to 6 feet of low grade breccia for 40 or 50 feet. Thence to the face the slightly brecciated andesite is of poor appearance.

According to the mine records the average of 7 samples north of the shaft is \$4.30.

The average of two cut samples (245 & 247) is \$4.90.

According to the mine records the average of 16 samples south of the shaft in the ore shoot is \$13.65.

The average of 11 out samples over the same ground is \$13.35.

Each list has one exceptionally good sample, \$44.07 in the former, \$55.40 in the latter. Averaging leaving out these the results are \$11.60 and \$9.15. Averaging both lots, leaving out the two exceptional ones the result

is \$10.60, which is probably a safe figure for 75 feet south from the shaft. These averages are all simple arithmetical means, since the mine records give no widths. The out samples will average about 4 feet.

The two lists of samples follow:

No.	<u>Gold.</u>		<u>Silver.</u>		<u>Total.</u>	<u>Description.</u>	<u>Date.</u>
	Oz.	Val.	Oz.	Val.			
.06 20	0.10	\$ 2.00	1.7	\$ 0.92	\$ 2.92	Seam south.	1909. 8/31
.02 23	0.30	\$ 6.00	15.6	\$ 8.42	\$14.42	Average face S.	9/09
.02 24	0.52	\$10.40	21.3	\$11.50	\$21.90	Average 18" seam south.	10/02
.04 25	0.18	\$ 3.60	3.0	\$ 1.62	\$ 5.22	Bucket grab.	10/02
.03 26	0.22	\$ 4.40	6.5	\$ 3.51	\$ 7.91	Hanging wall N.	10/08
.05 27	0.12	\$ 2.40	2.6	\$ 1.40	\$ 3.80	North.	10/08
.03 28	0.25	\$ 5.00	9.5	\$ 5.13	\$10.13	North face.	10/15
.02 32	0.21	\$ 4.20	10.0	\$ 5.40	\$ 9.60	Grab muck south.	10/19
.03 33	0.26	\$ 5.20	9.0	\$ 4.86	\$10.06	Average 5' S. face	10/19
.01 34	0.19	\$ 3.80	13.4	\$ 7.24	\$11.04	S. Average $\frac{1}{2}$ face	10/20
.02 35	0.14	\$ 2.80	6.8	\$ 3.67	\$ 6.47	N 8" lower wall sulphides.	10/20
.03 39	0.05	\$ 1.00	1.5	\$ 0.81	\$ 1.81	S, wall leached.	10/28
.03 43	1.11	\$22.20	40.5	\$21.87	\$44.07	S. average face.	10/28
.01 44	0.51	\$10.20	38.6	\$20.84	\$31.04	S. average 2'.	11/06
.02 45	0.38	\$ 7.60	18.2	\$ 9.83	\$17.43	S. muck.	11/06
.03 47	0.18	\$ 3.60	6.0	\$ 3.24	\$ 6.84	S. muck.	11/21
.03 48	0.15	\$ 3.00	5.7	\$ 3.08	\$ 6.08	S. muck	11/23

<u>No.</u>	<u>Gold.</u> Oz.	<u>Val.</u>	<u>Silver.</u> oz.	<u>Val.</u>	<u>Total.</u>	<u>Description.</u>	<u>Date.</u>
49	0.60	\$12.00	16.2	\$ 8.75	\$20.75	S. Face.	1909. 11/23
51	0.01	\$ 0.20	0.5	\$ 0.27	\$ 0.47	N. Muck.	11/23
52	0.01	\$ 0.20	1.0	\$ 0.54	\$ 0.74	N. Muck	11/21
54	0.10	\$ 2.00	3.0	\$ 1.62	\$ 3.62	S. Muck	12/07
55	Tr.	\$ - -	1.0	\$ 0.54	\$ 0.54	N. Mineralized porphyry in face	12/06
62	0.16	\$ 3.20	15.5	\$ 8.37	\$11.57	S. 2', lower wall.	12/20

Average north \$4.30, average south \$13.65

200 LEVEL SAMPLING.

<u>No.</u>	<u>Width</u> Ins.	<u>Gold.</u> Oz.	<u>Val.</u>	<u>Silver.</u> Oz.	<u>Val.</u>	<u>Total.</u>	<u>Description.</u>
235	40	0.11	\$ 2.20	3.4	\$ 1.85	\$ 4.05	At E & W xos. begins E side breccia in E xc. and 60' south of shaft.
236	48	0.04	\$ 0.80	1.5	\$ 0.80	\$ 1.60	Across roof 10' N of 235-237.
237	48	0.20	\$ 4.00	9.7	\$ 5.25	\$ 9.25	Cont. 235 across drift.
238	38	0.10	\$ 2.00	3.6	\$ 1.95	\$ 3.95	10' N. of 236 oxidized andesite breccia.
239	54	0.94	\$18.80	24.2	\$13.10	\$31.90	8' N. 238 op. N. wall of xc. W. From E Wall of lode
240	54	0.32	\$ 6.40	8.1	\$ 4.35	\$10.75	Cont. of 239 W into xc to W wall lode.
241	38	1.12	\$22.40	61.1	\$33.00	\$55.40	10' S of 235-7 48' S of shaft. oxid. breccia.
242	48	0.35	\$ 7.00	8.0	\$ 4.30	\$11.30	10' N of 239 27' from shaft.
243	18	0.06	\$ 1.20	2.2	\$ 1.20	\$ 2.40	S side shaft. siliceous breccia.
244	54	0.26	\$ 5.20	9.9	\$ 5.35	\$10.55	9' N of 242, 18' from shaft.
245	52	0.19	\$ 3.80	4.7	\$ 2.55	\$ 6.35	N side of shaft.

200 LEVEL SAMPLING (Con't)

No.	Width. Ins.	<u>Gold.</u>		<u>Silver.</u>		<u>Total.</u>	<u>Description.</u>
		Oz.	Val.	Oz.	Val.		
246	56	0.08	\$ 1.60	3.0	\$ 1.60	\$3.20	9' N of 244 and 9' from shaft.
247	52	0.07	\$ 1.40	3.9	\$ 2.10	\$3.50	N dft. 10' from shaft.

Arithmetical average \$11.80

The 250 level south follows the lode to the bend at the first crosscut, then enters andesite of the west or hanging wall and the rest of the main drift is in barren country. The second crosscut east cuts the lode near its face and the short stub drift south starts in good ore (sample 227) but its face is lower grade (sample 225).

The cross fault appears in the face of the main drift striking N 70° W and dipping northerly 70°. The lode is widest at the first crosscut and is a hard breccia of mixed rhyolite and andesite fragments.

In the 250 north the ore shoot was said to extend 9 feet into the drift, but the samples (220 - 222) do not indicate it. The face is coarsely sheared andesite with seams of calcite.

250 LEVEL SAMPLING

No.	Width ins.	<u>Gold.</u>		<u>Silver.</u>		<u>Total.</u>	<u>Description.</u>
		Oz.	Val.	Oz.	Val.		
220	40	0.01	\$ 0.20	0.7	\$ 0.40	\$ 0.60	N dft. 15' from shaft. neither wall exposed.
221	38	0.02	\$ 0.40	0.8	\$ 0.45	\$ 0.45	N dft. 7' from shaft. neither wall exposed.
222	50	0.07	\$ 1.40	2.9	\$ 1.55	\$ 2.95	N side shaft. Neither wall exposed.
223	33	0.17	\$ 3.40	4.5	\$ 2.40	\$ 5.80	Average \$7.60 S side shaft 10' from 222 somewhat oxidized.
224	33	0.24	\$ 4.80	8.4	\$ 4.55	\$ 9.35	
225	33	0.11	\$ 2.20	4.5	\$ 2.40	\$ 4.60	Face S stub xc 2, andesite breccia.
226	37	0.52	\$10.40	22.5	\$12.15	\$22.55	From E wall lode. A- cross vein in N wall xc 2.
227	38	0.81	\$16.20	28.0	\$15.10	\$31.30	Across E $\frac{1}{2}$ vein. en- trance S stub xc 2.
228	36	0.18	\$ 3.60	5.7	\$ 3.10	\$ 6.70	Cont. of 227 Average \$19.00 for 74 inches.
229	75	0.03	\$ 0.60	1.1	\$ 0.60	\$ 1.20	Cont. 226 along xc wall to W side breccia.
230	42	0.52	\$10.40	18.1	\$ 9.80	\$20.20	15' S of 223, neither wall exposed.
231	40	0.36	\$ 7.20	15.9	\$ 8.60	\$15.80	8' N of 230. Some pyrite.
232	34	0.04	\$ 0.80	1.5	\$ 0.80	\$ 1.60	Along S wall xc 1, poor locking.
233	34	0.12	\$ 2.40	4.9	\$ 2.65	\$ 5.05	Cont. along xc wall of 232.
234	54	0.28	\$ 5.60	12.9	\$ 6.95	\$12.55	Cont. across dft. of 233 very hard.

Arithmetical average \$ 9.55

250 LEVEL MINE RECORDS.

No.	<u>Gold.</u>		<u>Silver.</u>		<u>Total.</u>	<u>Description.</u>
	Oz.	Val.	Oz.	Val.		
65	0.13	\$ 2.60	3.0	\$ 1.60	\$4.20	S face Feb. 5, 1910.
66	0.10	\$ 2.00	2.5	\$ 1.35	\$3.35	N face " " " .
67	0.15	\$ 3.00	6.5	\$ 3.50	\$ 6.50	N Face " 8, " .

250 LEVEL-MINE RECORDS.
(continued)

No.	<u>Gold.</u>		<u>Silver.</u>		<u>Total.</u>	<u>Description.</u>
	Oz.	Val.	Oz.	Val.		
68	0.09	\$ 1.80	2.6	\$ 1.40	\$ 3.20	S face Feb. 8/10
70	0.40	\$ 8.00	18.6	\$ 10.05	\$ 18.05	Bucket grab Mar. 9 to 15, 1910.
73	0.36	\$ 7.20	17.0	\$ 9.20	\$ 16.40	Bucket grab Mar. 15 to 22, 1910.
80	0.14	\$ 2.80	10.0	\$ 5.40	\$ 8.20	Bucket grab, 2nd, xc east May, 3, 1910.
84	6.84	\$136.80	215.2	\$116.20	\$253.00	Specimen. 2nd xc east.

Average (except 84) \$8.55

Excluding one high grade specimen sample the mine records show an average of \$8.55 for 7 samples. The first four were evidently out samples, but the last three were taken under another system of sampling, that of taking a grab sample out of every bucket, quartering down and assaying at the end of each week.

The mine records for the lower part of the shaft, the 300 and 350 levels are compiled this way. On the 200 and 250 the agreement of the recent sampling with the mine records is fair, but on the 300 and 350 there is no agreement at all. The sampling shows waste, while the bucket grab samples show medium grade ore.

Grab samples are proverbially unsatisfactory and unreliable, but the writer has seen one mine where the assay map was compiled from daily assay of grab samples taken by an exceptionally careful man and averaged weekly. The years average of these weekly averages checked very closely with the gross value of that obtained at the mill.

An interval of 10 feet in a vein with such erratic metallization as the sampling proves this to be is rather sketchy. A check on the 300 level by the mine superintendent taking careful cut samples every 3 feet might be advisable.

It is not known in what way the grab sample was protected while it was accumulating.

The cut sampling on the 250 shows a general average of \$9.55, \$1.00 higher than the mine records. Eliminating the samples north of the shaft, and assuming that the shoot continues between 234 and 226, rejecting 229, 232 and 233 as being along side the pay shoot, the average of 7 samples (making 227-8, two parts of one cut, into one sample) is \$14.60. The length is 60 feet, the average width is 4 feet, but where the whole width of the lode can be reached it is as much as 6 feet. This is materially better than the mine records indicate.

In the 300 south the ore shoot was said to end 5 feet from the face, cut off at a slip. The lode on this level is 6 to 7 feet wide. The face of the west crosscut is in rhyolite.

In the 300 north a slip crossing the drift diagonally near the face cuts off the ore shoot. The short crosscut west is in andesite and the face in coarse andesite breccia.

The sampling method and results were commented on above. The mine records show an average value of \$9.30, the sampling of \$3.70 with no good grade ore at all.

300 LEVEL SAMPLING.

No.	Width. Ins.	Gold. Oz.	Gold. Val.	Silver. Oz.	Silver. Val.	Total	Description.	Ag/Au
205	48	0.04	\$0.80	1.5	\$0.80	\$1.60	S face. Hard Breccia.	37.5
206	45	0.09	\$1.80	3.7	\$2.00	\$3.80	10' from face. Mixed And. and Rhy. Breccia.	41.
207	42	0.22	\$4.40	5.2	\$2.80	\$7.20	20' from face. Very hard. And. & Rhy. Breccia.	24
208	45	0.08	\$1.60	2.9	\$1.55	\$3.15	30' from face. Visible sulphides.	36
209	56	0.09	\$1.80	2.1	\$1.15	\$2.95	40' from face. W wall begins 2' in xo ending in center dft.	23
210	56	0.04	\$0.80	0.9	\$0.50	\$1.30	cont. of 209 to E wall dft. 50' from face.	22
211	60	0.07	\$1.40	2.9	\$1.55	\$2.95	10' from center shaft.	41
212	24	0.23	\$4.60	8.7	\$4.70	\$9.30	Samples 212 to 213 average	38
213	24	0.19	\$3.80	8.1	\$4.35	\$8.15	\$8.07 across 72" at S edge	43
214	24	0.18	\$3.60	5.8	\$3.15	\$6.75	of shaft. Some pyrite.	32

300 LEVEL SAMPLING

(Continued)

No.	Width Ins.	Gold. Oz.	Val.	Silver. Oz.	Val.	Total.	Description.
215	27	0.15	\$3.00	3.3	\$1.80	\$4.80	Samples 215 and 216
216	27	0.09	\$1.80	3.1	\$1.65	\$3.45	average \$4.13 N dft. 25' from shaft.
217	27	0.12	\$2.40	5.4	\$2.90	\$5.30	Samples 217 and 218
218	27	0.09	\$1.80	2.8	\$1.50	\$3.30	average. in 2 sections across N edge shaft.
219	48	0.04	\$0.80	1.4	\$0.65	\$1.45	Between 215-16 and 217- 218.

Arithmetical average \$3.70 taking 212-214 as one
also 215-16 and 217-18.

300 LEVEL MINE RECORDS.

No.	Gold. Oz.	Val.	Silver. Oz.	Val.	Total.	Description.
77	0.25	\$5.00	13.3	\$ 7.20	\$12.20	Bucket grab sample N & S dft. in Apr. 1910.
83	0.30	\$6.00	9.5	\$ 5.40	\$11.40	Bucket grab sample N & S dft. in May 3 to 10, 1910.
86	0.10	\$2.00	3.5	\$ 1.90	\$ 3.90	Bucket grab sample N & S dft. May 10-13, 1910.
87	0.29	\$5.80	10.0	\$ 5.40	\$11.20	Bucket grab sample N & S dft. May 10-13, 1910.
88	0.03	\$0.60	4.4	\$ 2.40	\$ 3.00	Bucket grab sample N & S dft. May 10-17, 1910.
104	0.21	\$4.20	7.5	\$ 4.05	\$ 8.25	Bucket grab sample S dft. May 24, 1910.
106	0.34	\$6.80	12.0	\$ 6.50	\$13.30	Bucket grab sample S dft. May 24-31, 1910.
107	0.20	\$4.00	8.0	\$ 4.30	\$ 8.30	Bucket grab sample S dft. June 1-7, 1910.
110	0.33	\$6.60	20.0	\$10.80	\$17.40	Bucket grab sample S dft. June 7-14, 1910.
113	0.10	\$2.00	4.0	\$ 2.15	\$ 4.15	Bucket grab sample S dft. June 14-21, 1910.

Average \$ 9.30

The 350 north and south, each about 20 feet long in brecciated andesite curve into the footwall to reach the lode. The ore in the shaft stopped in the roof of the station. It was stated that the ore had gone into the footwall. The drift faces show the brecciation characteristic of the lode. Here again there is marked difference between the mine records and the sampling. It is more than probable that here the cut samples tell the truth.

350 LEVEL SAMPLING.

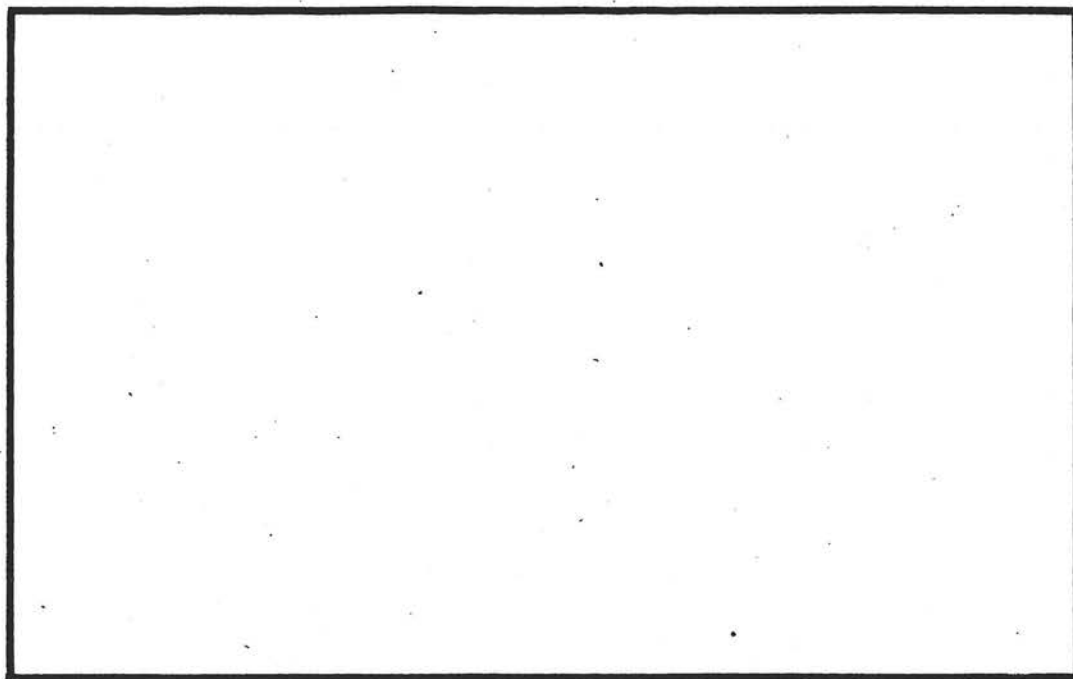
<u>No.</u>	<u>Width.</u> <u>Ins.</u>	<u>Gold.</u> <u>Oz. Val.</u>	<u>Silver.</u> <u>Oz. Val.</u>	<u>Total.</u>	<u>Description.</u>
201	48	0.05 \$1.00	1.3 \$0.70	\$1.70	S face, brecciated andesite.
202	60	0.01 \$0.20	0.6 \$0.30	\$0.50	Roof 10' from face. 10' from shaft.
203	48	0.02 \$0.40	0.7 \$0.35	\$0.75	N face, brecciated andesite.
204	-	0.03 \$0.60	1.3 \$0.70	\$1.30	Down E wall 10' from face.

Average. \$1.05

350 LEVEL MINE RECORDS.

<u>No.</u>	<u>Gold.</u> <u>Oz. Val.</u>	<u>Silver.</u> <u>Oz. Val.</u>	<u>Total.</u>	<u>Description.</u>
111	0.11 \$2.20	6.2 \$3.35	\$ 5.55	Pulp obtained from grab sample every bucket N & S dft. June 7-14, 1910.
112	0.25 \$5.00	9.3 \$5.00	<u>\$10.00</u>	Same, June 14-21, 1910.

Average \$ 7.75

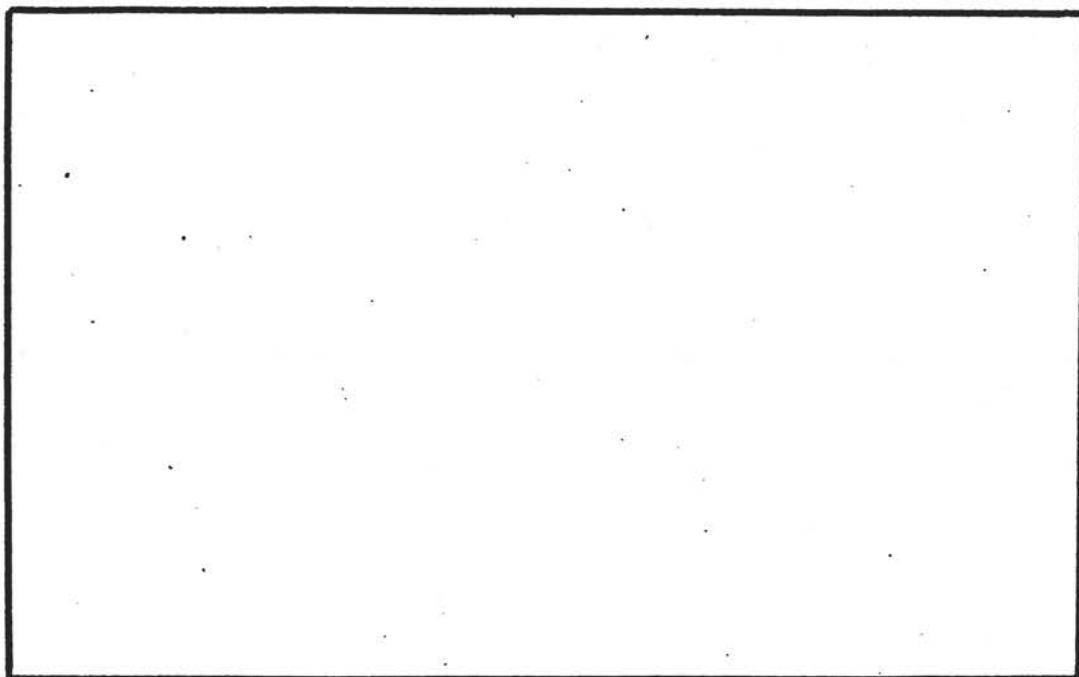


No. 4. Looking South at Homestake Shaft.

No sampling was done in the shaft. The mine records are as follows:

SHAFT ASSAYS-MINE RECORDS.

No.	<u>Gold.</u>		<u>Silver.</u>		<u>Total.</u>	<u>Description.</u>	<u>Date.</u> <u>1909.</u>
	Oz.	Val.	Oz.	Val.			
1	0.13	\$ 2.60	3.0	\$ 1.62	\$ 4.22	On foot wall	6/12
2	0.06	\$ 1.20	2.0	\$ 1.08	\$ 2.28	Small seam.	6/04
3	0.11	\$ 2.20	2.1	\$ 1.13	\$ 3.33	Corner.	6/04
5	0.22	\$ 4.40	6.0	\$ 3.24	\$ 7.64	Small seam.	6/04
10	0.11	\$ 2.20	4.2	\$ 2.27	\$ 4.47	sulphides.	6/28
11	0.37	\$ 7.40	5.1	\$ 2.75	\$ 10.15	Bucket.	7/31
21	0.44	\$ 8.80	15.5	\$ 8.37	\$ 17.17	Bottom.	7/31
22	0.38	\$ 7.60	5.4	\$ 2.92	\$ 10.52	Bottom. Specimen	9/03
50	0.16	\$ 3.20	5.6	\$ 3.02	\$ 6.22	Sulphide seam.	9/07
63	0.30	\$ 6.00	14.00	\$ 7.56	\$ 13.56	Sulphide and oxide seam.	11/17
64	0.11	\$ 2.20	4.7	\$ 2.54	\$ 4.74	Bottom.	12/21
69	0.10	\$ 2.00	3.4	\$ 1.84	\$ 3.84	Bucket grab.	12/21
71	5.36	\$107.20	323.3	\$174.58	\$281.78	Bucket grab.	1910.
72	0.22	\$ 4.40	19.5	\$ 10.93	\$ 14.93	every bucket	3/9-15
74	0.24	\$ 4.80	8.4	\$ 4.54	\$ 9.34	Specimen.	
75	0.22	\$ 4.40	11.0	\$ 5.94	\$ 10.34	Buckets.	3/15-22
76	0.10	\$ 2.00	5.2	\$ 2.81	\$ 4.81	Buckets.	3/22-29
78	0.11	\$ 2.20	5.1	\$ 2.75	\$ 4.95	Buckets.	3/29-4/5
						Buckets. 311 to 4/5-12	
						313	
						Buckets. 313 to 318	



No. 4. Looking South at Homestake Shaft.

SHAFT SAMPLES-MINE RECORDS.
(Continued)

No.	Oz.	<u>Gold.</u> Val.	Oz.	<u>Silver.</u> Val.	<u>Total.</u>	<u>Description.</u>	<u>Date.</u> <u>1910.</u>
79	0.26	\$5.20	9.8	\$5.29	\$10.49	Buckets 318 to 320	4/30
81	0.20	\$4.00	11.0	\$5.94	\$ 9.94	Buckets.	to 5/3
82	0.24	\$4.80	7.8	\$4.21	\$ 9.01	Buckets.	5/3-10.
85	0.15	\$3.00	6.0	\$3.24	\$ 6.24	Buckets.	5/10-13
89	0.11	\$2.20	5.6	\$3.02	\$ 5.22	Buckets.	5/13-17
103	0.24	\$4.80	8.0	\$4.32	\$ 9.12	Buckets.	5/17-24
105	0.12	\$2.40	7.0	\$3.78	\$ 6.18	Buckets.	5/24-31
108	0.44	\$8.80	14.6	\$7.88	\$16.68	Buckets.	6/1-7
109	0.03	\$0.60	1.8	\$0.97	<u>\$ 1.57</u>	Buckets.	6/7-14
Average excluding 71,					\$ 7.95		
Average 50-109					\$ 8.20		

The average value of the grab samples from every bucket is only \$8.20, which under existing economic conditions, with an ore body of this size is not of grade high enough to leave much margin.

The Homestake shaft, sunk vertically in barren rhyolite and andesite to a depth of 130 feet, has two small levels one at 65, the other at 114 feet. The work on each consists of a 10 foot crosscut from the shaft and a south drift 6 to 8 feet long. Each exposes good looking material that in the Alabama would be called high grade ore, but it

is not. See samples 257 and 258. The mine records make no better showing, 8 samples on the 114 averaging 57¢.

HOMESTAKE-MINE RECORDS.

No.	Oz.	<u>Gold.</u> Val.	Oz.	<u>Silver.</u> Val.	<u>Total.</u>	<u>Description.</u>	<u>Date.</u> <u>1909</u>
1	Tr.	\$ - -	0.2	\$0.11	\$0.11	114 level S wall from footwall to ore W edge shaft.	10/5
2	Tr.	\$ - -	0.2	\$0.11	\$0.11	114 S 1 to dft. S on SW xc.	" <i>Ag/Dec</i>
3	Tr.	\$ - -	0.7	\$0.38	\$0.38	114 S east wall 5' wide.	"
4	0.01	\$0.20	0.4	\$0.22	\$0.42	114 S west wall 5' wide	" 40
5	0.02	\$0.40	1.0	\$0.54	\$0.94	N wall xc face back 5'	" 50
6	0.02	\$0.40	0.8	\$0.43	\$0.83	N wall sample 5 to wall of shaft	" 40
29	Tr.	\$ - -	0.6	\$0.32	\$0.32	Bottom	10/15
43	0.06	\$1.20	0.5	\$0.27	\$1.47	Bottom. Muck average 114.	10/30 8

HOMESTAKE SAMPLING.

No.	Oz.	<u>Gold.</u> Val.	Oz.	<u>Silver.</u> Val.	<u>Total.</u>	<u>Description.</u>
257	0.02	\$0.40	0.7	\$0.40	\$0.80	30", 5' face 114 level. 35
258	0.01	\$0.20	0.5	\$0.25	\$0.45	18", 65' station. S side. 60

This low tenor of stuff that ought to be ore is most disappointing and tends to make more dubious the outlook for good ore in the other unexplored shoots.

ORE RESERVES. According to the mine records there is

blocked out below the 150 level about 55 cc tons (taking 12 cu. ft. to the ton.) in an ore shoot averaging so far as developed 65 feet in length and 5 1/4 feet in width. The average value is \$10.00 a ton.

According to the sampling the pay ore seems to come to a point at the 300 and not to attain any length on that level. The reserves then would be, (vein taken as 5 feet wide);

150 to 200 level

Average length of shoot 70 feet.

Average value on 200 \$9.15

1460 tons @ \$9.15

200 to 250 level

Average length of shoot 67.5 feet.

Average value on 200 (10 assays) \$9.15

Average value on 250 (7 assays) \$14.60

Average taken for block \$11.35

1410 tons @ \$11.35

250 to 300 level

Length on 250 60 feet. Length on 300 10 feet.

Average length 35 feet. Average assay \$13.10

730 tons @ \$13.10

Total 3600 tons averaging \$10.80

Results on the 300 and 350 are not absolutely conclusive that there is no ore there or lower; but the mine records show a gradual decrease with depth. The two estimates of ore reserves agree pretty well on gross value but differ on the point of tonnage.

RESUME AND CONCLUSIONS. Exploration has been carried on in a lode that

is an erratically metallized, silicified fault breccia. One shoot only has been explored. It has an average length of about 65 feet, an average width of about 5 and an average gross assay value between \$10.00 and \$11.00 about equally divided between gold and silver. Developments have shown up from 3600 to 5000 tons above the 350 foot level. Sampling on the 300 and 350 indicates ore below profitable grade on these levels, though the mine records show medium grade ore on the 300.

At any rate the shoot is very short. South of it the lode is faulted west 75 feet and where picked up on the 150 level and followed for 200 feet it has an average value of 50 cents.

The two shoots indicated on the surface to the south are no longer than the one developed. The third apparent shoot at the Homestake shaft has proved barren

so far as developments have gone.

Granting 5000 tons of \$10.00 ore and a mill already on the ground, with the high cost of fuel and scarcity of water the maximum profit that could be obtained would be about \$15,000.00, counting nothing for the cost of existing development. The above is based on an estimate allowing for 85% extraction, a mining cost of \$1.50 per ton and a milling and cyaniding cost of \$4.00. In small scale work it is very improbable that these figures could be improved on.

Even if a mill were advisable there is at present no adequate supply of water. To build a mill at the camp site, transport ore by aerial tram and obtain water by damming Carlisle creek would not be feasible because a dam at that point could not impound a large reserve without flooding ground not owned by the company. Also, and more important such a dam would silt up and be useless in probably three or four years.

The existing reserves do not justify a mill, nor will the Alabama orebody alone develop enough ore to justify one.

The choice of two courses may be made.

(1) Suspend operations permanently.

(2) Raise \$6,000.00 to \$10,000.00 to push the 150 level through to the Homestake shaft and find out if the two ore shoots believed to exist are of commercial grade. The

south face of the 150 is 250 feet nearer the objective point than any of the lower levels. It is deep enough to find good ore if it exists.

The 15 h. p. Fairbanks Morse gasoline hoist at the Alabama shaft is adequate for all prospecting purposes. There is no compressor and for a small amount of work it would not pay to install one but for extensive work one would be necessary for the lode is extremely hard and advance by hand labor is slow.

Franklin W. Smith

Mining Engineer.

Bisbee, Arizona.

August, 5, 1910.