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ITEM 32

PRELIMINARY REPORT ON THE

JUNIATA GROUP

AURORA, NEVADA

SUMMARY

The Juniata property consists of two patented claims, the Juniata and the Martinez, covering a prominent quartz outcrop, which can be traced for about 800 feet. Half of this group belongs to the Cain Consolidated Company; the other half to R. C. Sprague of Carson, and interests represented by him. On this other half an option was obtained Nov. 12, 1910, for the sum of $17,500., the first payment being due July 1, 1911. This option was subsequently extended to Aug. 1, 1911, and again to Sept. 1, 1911. After making the examination and studying the conditions, I came to the conclusion that the property at present was not worth that figure, and after consultation with Mr. Whiteman, notified Mr. Cain to advise Mr. Sprague that the option would not be exercised.

The Juniata veins are fairly wide, and dip south, about 70°. The outcropping vein on which the claims are located has been called by us the No. 2 vein. It is developed in the Upper and the Middle tunnels. In the Middle and Lower tunnels a vein has been developed to the northwest of this called the No. 1 vein, and appears to be the better vein of the two, so far as developed. Our examination makes it appear that this vein apexes on the Glady's claim belonging to T. C. Sharpe of Fletcher (near Aurora). Therefore, this vein is not included in the estimate of Juniata ore-reserves.

Vein No. 2, on the Middle Tunnel (Tunnel No. 2) is not pay ore; therefore no probable ore is figured below.

The exposed stretch of No. 2 vein on the Upper Tunnel Level averages $6.06; on the Middle Tunnel Level, $2.98.

The veins are affected by strong transverse faults; and there is some evidence that near the northeast end of the stretch figured, the vein is cut by a strong fault, and perhaps thrown clear out of the claim. On the southwest, the developments underground and on the surface suggest a weakening of the vein at about the end of the workings. For these reasons, it is not allowable to figure any probable ore on either end of the blocks calculated, which extend from the Middle tunnel level up to the surface.

Some ore has been stoped out of these veins which ran around $20. a ton, and other similar bodies may be developed in the future. At present, however, there is very little of this ore in sight.

The average total cost for the Juniata veins has been assumed to be $5.00--$2.00 in excess of the estimate on the Humboldt, on account of the narrow stoping width at the Juniata. Deducting this from the Total Recovery Value, only one of the blocks figured on vein No. 2 can be calculated as pay-ore.

	Tons	Assay Val.	Recov. Val.	Cost	Profit per T.	Total
Block 3	2254	$7.66	$7.13	$5.00	$2.13	$4801.02
" 4	3142	3.95				
" 5	1537	5.04	4.61	5.00		

In the stopes of No. 2 vein, is old fill to the extent of 1635 tons, as follows:

Tons	Assay Val.	Recov. Val.*	Est. Cost	Est. Profit per Ton	Total Profit
1635	$5.97	$5.57	$2.00	$3.57	$5837.

The dumps contain ore as follows:

4490	$6.70	$6.19	2.00	$4.19	18813.

Total net profits in sight:

Vein No. 2 Block 3	$4801.
Old fill in stopes	5837.
Dump Ores	18813.
Total net profits in sight, Juniata mine	$29451.

This profit would be possible only if a large mill at the Humboldt were running. Taken by itself, the Juniata is of little value. Conditions are such it is not safe to assume any probable ore, to increase the above estimate.

Milling tests, by simple fine grinding and cyaniding (conducted under the direction of Mr. A. R. Parsons) show a recovery of 97.7% gold and 65.6% to 74.8% silver. Further tests, consisting simply of amalgamation, yielded 88.5% of the gold.

At present, therefore, the half interest in the Juniata is not worth the $17,500. called for in the option.

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* The recovery values, all through these reports are based on a 95% extraction of the gold and a 60% extraction of the silver, as estimated by Mr. Parsons to form a conservative base; although the actual tests indicate a probable higher extraction, in some cases at least.

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APPENDIX

DESCRIPTION AND EXTENT OF PROPERTY

This property consists of two patented claims, the Juniata, 1260 by 400 feet, and the Martinez No. 2, 1500 by 200; these claims are placed end to end, giving a length of 2760 feet. They cover a prominent quartz cropping which can be traced for about 800 feet from a point about 150 - 200 feet southwest of a shaft on the Martinez claim to about the middle tunnel of the Juniata. On either side of these two points the vein is not known. On the Martinez end there has been no exploration to determine the question. On the Juniata end there are indications that the vein is cut off by transverse faults, and perhaps thrown laterally clear out of the property.

Half of this group belongs to the Cain Consolidated Company; while an undivided half interest belongs to R. C. Sprague of Carson, and others. At my request, previous to the examination, an option on the half belonging to the Sprague group was obtained, Nov. 12, 1910, for the sum of $17,500., the first payment being due July 1, 1911. This option also included an undivided half interest in the south 500 feet of the Esmeralda (Old Esmeralda) claim.

GENERAL GEOLOGY

The general geological conditions are described in the preliminary report on the Cain Syndicate.

The veins are fairly wide, and in the outcrop give the

appearance of very strong veins. The pay-shoots, however, occupy only a portion of the vein, usually occuring next to one wall, and this pay-shoot is usually 3 or 4 feet wide, the rest of the vein being barren. The stoping width, therefore is not great.

The veins dip to the south at angles of around 70°.

The outcropping vein on which the claims have been located is called in our report the No. 2 vein. It is opened up by two tunnels—the Upper tunnel and the Middle tunnel. In the Lower Tunnel this has not been developed. In the Middle tunnel another vein has been developed, to the north of the No. 2. This is called the No. 1 vein, and contains ore of some value. Our examination makes it appear probable that this vein, for the entire length of the known ore-shoot, apexes out of the Juniata ground, on the Glady's claim belonging to T. C. Sharpe of Fletcher, (near Aurora). This vein is also developed in the No. 3 (Lower) tunnel.

As I was in Mexico on July 1, I arranged with Mr. J. S. Cain to have this option extended till Aug. 1st; and after my return, and after coming to a conclusion regarding the property, I arranged for another extension, to Sept. 1, 1911, in order to be able to confer with Mr. Whiteman before notifying the givers of the option.

For this reason, this vein is not included in the estimate of Juniata ore-reserves.

The assays on vein No. 1 show Au: Ag = 1 : 7.6 by weight; on vein No. 2, Au: Ag = 1 : 2.6 by weight.

The exposed extent of vein No. 2, has, on the Upper Tunnel (Tunnel No. 1) a total average value of $6.06; on Tunnel No. 2, an average of $2.98. Vein No. 1 has an average value of $6.73 on Tunnel No. 2, and of $11.00 on Tunnel No. 3. Therefore the No. 2 vein, on Tunnel No. 2, is not "pay-ore"; while the No. 1 vein increases in values going down.

These veins are affected by strong transverse faulting, especially at the northeastern end; and as above stated, there is some evidence that the veins are cut off by a transverse fault at about the mouth of the Middle tunnel; and that from here to the northeast end of the Juniata, the Juniata vein does not lie within the claim. Therefore the calculable ore-reserves are limited at this point on the northeast; on the southwest, developments underground have ceased, probably on account of certain indications of the weakening of the veins not far from the point where the outcrop at the surface disappears beneath the wash. Prior to further development work therefore, it is not thought safe to extend the estimates of probable ore past the breasts of the respective tunnels. On account of the fact that vein No. 2 is not pay-ore on the No. 2 tunnel level, also, it is not allowable to calculate any probable ore below this level.

Some ore has been stoped out of these veins which ran probably around $20. a ton, and it is possible that future development work would show up other similar bodies. At present, however, there is very little of this ore in sight.

ASSAY VALUES

Following is a list of Juniata assays. For the sake of convenience, the assays on vein No. 1 are also included.

Assays from the Juniata Workings

Sample No.	Length in Meters	Location and Description	Grams Gold per T	Grams Silver per T	Value Gold	Value Silver	Total Val. Value per T.
1	0.55	Face of 3rd sub drift-2nd tunnel -White Quartz	3.75	18	2.49	0.31	2.80
2	1.00	Face of 2nd sub drift-2nd tunnel -white quartz- 45.5 m from Raise No. 1	7.50	20	4.98	0.34	5.32
3	0.85	2nd sub drift Gray Qtz. 45.5 m from Raise #1	6.37	19	4.24	0.32	4.56
4	0.45	2nd sub drift - Decomposed andesite 39.5 from Raise #1	0.75	6	0.50	0.10	0.60
5	0.65	2nd Sub drift- White Qtz 33.5 m fr. R.#1 -2nd sub drift	8.25	24	5.49	0.41	5.90
6	1.00	Drift Grayish Qtz 6 M.E. R.#1 3rd Tunnel	6.25	17	4.16	0.29	4.45
7	2.50	Gray&Milky qtz 1 M. W. of R.#1	15.87	83	10.55	1.41	11.96
8	2.80	3rd Tunnel Gray & Milky Qtz. Face of 3rd tunnel	7.00	38	4.65	0.65	5.30
9	0.85	White Qtz. West face of stope	9.75	44	6.48	0.75	7.23
10	1.05	3rd Tunnel.White Qtz E. face of stope 3rd tunnel	13.75	91	9.14	1.55	10.69
11	1.20	White Qtz. 18 m in R. Xcut 3rd tunnel	9.50	68	6.32	1.16	7.48
12	1.00	Qtz. & wall rock with stringers 19 m in R.Xcut 3rd tunnel	2.25	9	1.50	0.15	1.65

SPURR & COMPANY

Sample No.	Length in Meters	Location and Description	Grams Gold per T	Grams Silver per T	Value Gold	Value Silver	Total Value per T
13	1.00	White Qtz & gouge 20 m. in R. Xcut-3rd tunnel	5.50	11	3.65	0.19	3.84
14	1.00	White Qtz & gouge 21 m. in R. Xcut-3rd tunnel	6.12	12	4.07	0.20	4.27
15	1.00	White Qtz & gouge 38 m. in R. Xcut-3rd tunnel	12.00	33	7.98	0.56	8.54
16	1.55	Flinty Qtz 39.5 M. in R.Xcut. 3rd tunnel	2.00	10	1.33	0.17	1.50
17	0.70	Gouge	0.75	8	0.50	0.14	0.64
		Second Tunnel					
18	0.95	16 m.E. Winze #1-2nd tunnel White Qtz	5.00	30	3.32	0.51	3.83
19	0.70	10 m. E.Winze#1 2nd tunnel-White Qtz	15.25	64	10.14	1.09	11.23
20	-	Lower Dump Juniata	1.87	18	1.25	0.31	1.56
21	-	" " "	13.50	67	8.98	1.14	10.12
22	1.30	6 m. Up R.#1-3 Lev	7.00	50	4.65	0.85	5.50
23	1.25	12 m " " " " "	4.75	34	3.16	0.58	3.74
24	1.60	18 m. " " " " "	13.00	81	8.64	1.38	10.02
25	1.30	24 m. " " " " "	17.00	70	11.30	1.19	12.49
26	-	Middle Dump Juniata	38.12	52	25.35	0.88	26.23
27	-	" " "	9.50	53	6.31	0.90	7.21
28	-	" " "	4.62	26	3.08	0.44	3.52
29	1.20	30 m. Up R.#1 3 Lev	19.62	141	13.05	2.40	15.45
30	1.10	38 m " " " " "	9.75	77	6.48	1.31	7.79
31	-	Middle Dump Juniata	6.25	40	4.16	0.68	4.84
32	-	" " "	8.75	17	5.82	0.29	6.11
33	-	" " "	12.37	30	8.22	0.51	8.73
34	-	Top " "	17.75	46	11.80	0.78	12.58
35	-	" " "	6.25	20	4.16	0.34	4.50
36	-	" " "	4.25	20	2.83	0.34	3.17
37	1.10	4 m.Up R.#1-1st Lev.	1.25	14	0.83	0.24	1.07
40	1.65	5 m. E. Winze#1 2nd tun.White Qtz	2.75	9	1.83	0.15	1.98
41	1.15	4 m. W. Winze #1 2nd tun.White Qtz	5.25	37	3.49	0.63	4.12
42	0.95	4 m. W. Winze #1 2nd tun. Rotten Andesite with Qtz	tr	15	-	0.25	0.25
43	1.20	10 W. Winze#1 - 2nd tun.White Qtz.	2.25	26	1.50	0.44	1.94
44	1.65	16 m. W. Winze#1 2nd tunnel	10.37	72	6.90	1.22	8.12

SPURR & COMPANY

Sample No.	Length in Meters	Location and Description	Grams Gold per T	Grams Silver per T	Value Gold	Value Silver	Total Value per T
45	1.50	22 m. W. Winze #1-2nd tun.	9.87	48	6.57	0.82	7.39
46	0.65	22 m. W. Winze #1-2nd tun.	28.37	147	18.87	2.50	21.37
47	1.60	28 m. W. Winze #1-2nd tun.	12.38	79	8.23	1.34	9.57
48	1.30	34 m. W. Winze #1-2nd tun.	3.87	26	2.58	0.44	3.02
49	0.25	40 m. W. Winze #1-2nd tun.	13.87	107	9.23	1.82	11.05
50	0.95	40 m. W. Winze #1-2nd tun.	1.00	29	0.66	0.49	1.15
51	0.25	46 m. W. Winze #1-2nd tun.	3.12	34	2.08	0.58	2.66
52	0.60	46 M. W. Winze #1-2nd tun.	1.00	22	0.66	0.37	1.03
53	0.25	52 M. W. Winze #1-2nd tun.	2.62	33	1.75	0.56	2.31
54	0.90	52 M.W. Winze #1-2nd tun.	1.75	24	1.16	0.41	1.57
55	1.00	Face of right drift-2nd tun.	1.25	28	0.83	0.48	1.31
56	0.80	In 2nd R. X-cut from right drift	1.00	23	0.66	0.39	1.05
57	0.20	6 M. Up in Raise of right drift	6.00	127	3.99	2.16	6.15
58	1.30	" M. Up in Raise of right drift	0.50	15	0.33	0.25	0.58
59	0.20	12 M. Up in Raise of right drift	0.75	23	0.50	0.39	0.89
80	1.25	12 M. Up in Raise of right drift	2.25	31	1.50	0.53	2.03
81	0.60	2nd tunnel " last Qtz. lead	2.75	10	1.83	0.17	2.00
82	0.90	2nd tunnel drift " Qtz. lead	0.50	6	0.33	0.10	0.43
83	1.00	" " drift 1st " "	1.00	5	0.66	0.08	0.74
84	1.25	2nd tunnel " 1st Qtz. lead	0.25	4	0.17	0.07	0.24
85	0.85	Left drift 4 M to R. drift	tr	5	-	0.08	0.08
86	1.10	Entrance to right drift	5.00	12	3.32	0.20	3.52
87	1.60	Left drift 26 M from 86	3.87	8	2.58	0.14	2.72
88	1.15	" drift 32 M from 86	4.87	7	3.24	0.12	3.36

SPURR & COMPANY

Sample No.	Length in Meters	Location and Description	Grams Gold per T	Grams Silver per T	Value Gold	Value Silver	Total Value per T
89	1.90	Left drift 38 M. from 86	3.62	12	2.41	0.20	2.61
90	1.00	Ft. wall drift 47. M.from 86	1.00	5	0.66	0.08	0.74
91	1.25	Hanging Wall Left drift 47 M. from 86	2.25	12	1.50	0.20	1.70
92	0.55	Left drift 47 M. from 86	0.25	6	0.17	0.10	0.27
93	0.55	" " " " " "	1.00	7	0.66	0.12	0.78
94	0.75	Left Drift 5M to 1st Junction X-cut	4.50	11	2.99	0.19	3.18
95	1.35	1st Junc. Xcut Ft. wall main lead	1.50	6	1.00	0.10	1.10
96	1.00	1st Junc. Xcut Main lead	5.87	12	3.91	0.20	4.11
97	1.00	" " " " "	tr	4	-	0.07	0.07
98	0.40	1st Junc. Xcut Hanging wall	5.25	17	3.49	0.29	3.78
99	0.65	Entrance to 1st sub drift	3.62	10	2.41	0.17	2.58
100	1.00	6 M. in 1st sub drift	1.50	6	1.00	0.10	1.10
101	1.65	12 M. " " " "	2.00	10	1.33	0.17	1.50
102	1.30	Face of " " " Ft. wall	1.50	8	1.00	0.14	1.14
103	0.50	Entrance to 2nd junc. Xcut	6.12	17	4.07	0.29	4.36
104	1.00	" " " "	tr	6	0.00	0.10	0.10
105	1.30	" " " "	3.25	17	2.16	0.29	2.45
106	1.20	Entrance to 2nd sub drift	8.50	22	5.65	0.37	6.02
107	0.95	2nd Sub Drift. 2.5 m E. of Raise No. 1	6.62	14	4.41	0.24	4.65
108	1.40	2nd sub drift 3.5 m W. of R.#1	6.50	14	4.32	0.24	4.56
109	0.85	2nd sub drift 10.5 m.W.of R.#1	1.25	11	0.83	0.19	1.02
110	0.50	2nd sub drift 10.5 m W.of R.#1	6.00	15	3.99	0.26	4.25
111	0.70	2nd sub drift 13.5 m W.of R.#1	2.12	9	1.40	0.15	1.55
112	1.30	2nd sub drift 21. m W.of R.#1	4.87	38	3.24	0.65	3.89

Sample No.	Length in Meters	Location and Description	Grams Gold per T	Grams Silver per T	Value Gold	Value Silver	Total Value per T
113	0.80	2nd sub drift 21. m W. of R.#1	6.00	15	3.99	0.26	4.25
114	0.90	2nd sub drift, 28 m.W. of R.#1	2.87	12	1.91	0.20	2.11
115	1.60	1st R.Xcut-Ft. Wall	5.50	39	3.66	0.66	4.32
116	0.80	" " "Entrance	2.25	36	1.50	0.61	2.11
117	0.50	" " "near face	1.37	11	0.91	0.19	1.10
118	1.55	6 m Up Raise#1	3.12	10	2.07	0.17	2.24
119	0.85	12 m " " "	0.75	4	0.50	0.07	0.57
120	0.30	"" " " "	tr	7	0.00	0.12	0.12
121	0.15	17 " " " "	1.25	5	0.83	0.09	0.92
122	0.70	24 " " " "	10.12	24	6.73	0.41	7.14
123	1.25	in small stope Raise #1-30 M up	49.75	75	33.07	1.28	34.35
124	0.50	" #2 6 " "	4.00	12	2.66	0.20	2.86
125	0.55	" #2-12 " "	5.00	9	3.33	0.15	3.48
126	0.85	" #2-18 " "	49.37	75	32.83	1.28	34.11
127	0.95	" #2-24 " "	72.75	87	48.38	1.48	49.86
128	0.90	" #2-30 " "	48.50	60	32.25	1.02	33.27
129	0.65	1st tunnel-26 M. E. Winze #1	6.00	19	3.99	0.32	4.31
130	0.30	" " " "#1-26 M	1.37	12	0.91	0.20	1.11
131	0.50	" " " " "-20 M	5.00	17	3.32	0.28	3.60
132	0.35	" " " " "-20 "	0.25	8	0.17	0.14	0.31
133	0.70	" " " " "-14 "	5.00	17	3.32	0.28	3.60
134	0.60	" " " "over	10.00	29	6.65	0.49	7.14
135	0.40	" " " "#1-6 m W.	2.00	11	1.33	0.19	1.52
136	0.70	" " " " "-12" "	10.62	57	7.07	0.97	8.04
137	0.40	" " " " "-30" "	0.50	7	0.33	0.11	0.44
138	0.80	" " " " "-30""	14.12	37	9.39	0.63	10.02
139	1.30	1st tunnel-over Winze #2	57.50	92	38.24	1.56	39.80
140	Grab	sample-Near face of 1st tunnel	9.75	35	6.48	0.60	7.08
141	1.30	1st tunnel Level 1st R. Xcut	6.87	75	4.57	1.38	5.95
142	1.60	" " " " " " "	8.37	36	5.57	0.61	6.18
143	0.30	" " " " " " " sub drift	4.37	25	2.91	0.42	3.33
144	0.40	" "" " "" " "	tr	9	0.00	0.15	0.15
145	1.05	" "" " "" " "	0.50	13	0.33	0.22	0.55
146	1.10	" "" " "" " "	1.00	3	0.67	0.05	0.72
147	1.65	1st tunnel Level R. Drift 2nd R. X-cut	tr	4	0.00	0.07	0.07
148	0.85	1st Level-R.drift	0.25	6	0.17	0.10	0.27
149	1.10	" " " "	0.50	7	0.33	0.12	0.45
150	1.65	" Inter-level-face	1.75	17	1.16	0.29	1.45

Sample No.	Length in Meters	Location	Grams Gold per T	Grams Silver per T	Value Gold	Value Silver	Total Value per T
151	0.70	1st Inter-Lev.6 m. from face	2.75	13	1.83	0.22	2.05
152	0.85	" " " " "12 m.	2.50	19	1.66	0.32	1.98
153	1.25	" " " " "18 m.	10.75	35	7.15	0.60	7.75
154	1.00	" " "W.face	3.25	24	2.16	0.41	2.57
155	Grab	Sample of fill Blk. H.	2.62	16	1.75	0.27	2.02
156	"	" " " G. "	5.50	25	3.66	0.43	4.09
157	"	" " " F "	7.37	31	4.90	0.53	5.43
158	"	" " " A "	8.25	38	5.49	0.65	6.14
159	"	" " " B "	44.00	62	29.26	1.65	30.91
160	"	" " " C "	5.37	17	3.57	0.29	3.86
161	"	" " " D "	11.61	34	7.72	0.58	8.30
162	"	" " " A "	5.00	19	3.33	0.32	3.65
163	1.10	2nd Inter-Lev.E face	5.00	24	3.33	0.41	3.74
164	1.15	" " " -9 m. from E. Face	3.62	22	2.41	0.37	2.78
165	0.65	" " "-18 m " E. face	2.25	11	1.50	0.19	1.69
166	0.75	" " " "-18 m."	0.75	7	0.50	0.12	0.62
167	0.45	" " " "-27 m "	10.00	28	6.65	0.48	7.13
168	0.60	" " " "-39 m "	12.00	43	7.98	0.73	8.71
169	0.50	" " " "-45 m "	1.62	6	1.08	0.10	1.18
170	1.45	Shaft No.1-2m from Bot.	17.87	77	11.93	1.31	13.24
171	0.45	L.Drift of Shaft #1	8.25	34	5.49	0.58	6.07
623	1.00	3rd Lev.-1st L.Xcut	1.75	16	1.16	0.27	1.43
624	1.00	" " " " "	10.50	52	6.98	0.88	7.86
625	1.00	" " " " "	0.50	5	0.33	0.09	0.42
626	1.50	" " " " "	3.00	8	1.99	0.14	2.13
627	1.00	" " " " "	5.75	14	3.82	0.24	4.06
628	1.20	" " " " "	2.87	9	1.91	0.15	2.06
629	0.50	" " " " "	0.25	4	0.17	0.07	0.24
630	1.20	" " -stope	6.25	34	4.16	0.58	4.74
631	1.60	" " - "	6.25	20	4.16	0.34	4.50
632	0.80	" " - "	4.00	34	2.66	0.58	3.24
633	1.20	" " -drift	28.25	129	18.79	2.19	20.98
634	1.00	" " - "	3.25	16	2.16	0.27	2.43
635	1.00	" " - "	1.25	5	0.83	0.08	0.91
636	1.10	" " -Raise 9 m.Up	9.50	58	6.32	0.99	7.31
637	1.40	" " " 14 " "	5.12	19	3.41	0.32	3.73
638	1.10	" " " 21 " "	6.37	38	4.24	0.65	4.89
639	1.50	" " " 27 " "	31.00	72	20.62	1.22	21.64
640	0.85	" " " L. Stope	12.12	50	8.06	0.85	8.91
641	1.10	" " " " "	4.37	17	2.91	0.29	3.20
642	1.60	" " " R. "	8.50	47	5.65	0.80	6.45
643	1.00	2nd Level - Drift	1.25	15	0.83	0.26	1.09
644	1.00	" " "	0.50	5	0.33	0.09	0.42
645	1.00	" " "	0.50	4	0.33	0.07	0.40
646	1.00	" " "	1.50	4	1.00	0.07	1.07

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Sample No.	Length in Meters	Location	Grams Gold per T	Grams Silver per T.	Value Gold	Value Silver	Total Value per T.
647	1.00	2nd Level-drift	0.50	6	0.33	0.10	0.43
648	1.80	" " "	0.75	4	0.50	0.07	0.57
649	2.80	" "-Main "	0.25	4	0.17	0.07	0.24
650	1.30	" "-Right"	13.12	91	8.63	1.55	10.18
651	1.05	" "- " "	tr	4	0.00	0.07	0.07
652	1.25	" "- " " stope	3.00	35	2.00	0.60	2.60
653	1.25	" "- " " "	9.75	89	6.48	1.51	7.99
654	0.90	" "- " " "	5.00	78	3.32	1.33	4.65
655	0.80	" "- " " "	5.87	78	3.91	1.33	5.24
656	1.00	" "- " " -	2.00	22	1.33	0.37	1.70
657	0.85	" "- " "	14.12	112	9.39	1.90	11.29
658	1.90	" "- " "	0.50	8	0.33	0.14	0.47
659	0.85	" "- " " stope	18.87	77	12.55	1.31	13.86
660	0.70	" "- " " "	9.75	27	6.48	0.46	6.94
661	1.00	" "- " " "	8.12	54	5.40	0.94	6.34
662	1.00	" "-L. Xcut	1.00	9	0.67	0.15	0.82
663	1.00	" "-" "	1.25	7	0.83	0.12	0.95
664	1.00	" "-" "	0.75	10	0.50	0.17	0.67
665	1.00	" "-" "	1.37	13	0.91	0.22	1.13
666	1.00	" "-" "	0.75	16	0.50	0.27	0.77
667	1.00	" "-" "	0.50	8	0.33	0.14	0.47
668	1.30	" "-Right drift	10.12	53	6.73	0.90	7.63
669	1.55	" "-" "	1.00	29	0.66	0.49	1.15
670	1.10	" "-" "stope	5.87	79	3.91	1.34	5.25
671	1.40	" "-" " "	0.50	9	0.33	0.15	0.48
672	1.00	" "-" drift	2.00	45	1.33	0.77	2.10
673	1.00	" "-" "	1.75	38	1.16	0.65	1.81
674	1.30	" "-" "	0.75	15	0.50	0.26	0.76
675	1.15	" "-L. Xcut	1.25	7	0.83	0.12	0.95
676	1.10	" "-L. drift	7.37	32	4.90	0.54	5.44
677	1.50	" "-" "	0.50	4	0.33	0.07	0.40
678	1.25	" "-" "	2.25	9	1.50	0.15	1.65
679	1.50	" "-" "	3.75	8	2.49	0.14	2.63
680	1.40	" "-" "	1.00	4	0.66	0.07	0.73
681	0.40	" "-" "stope	5.25	22	3.50	0.37	3.87
682	0.30	" "-" " "	8.75	26	5.82	0.44	6.26
683	0.30	" "-" " "	14.12	54	9.39	0.92	10.31
684	0.45	" "-" " "	2.87	17	1.91	0.29	2.21
685	0.70	" "-Left drift	1.75	4	1.21	0.07	1.28
686	0.75	" "-Junction X-cut	0.50	4	0.33	0.07	0.40
687	1.65	" "- " " "	tr	1	0.00	0.02	0.02
688	1.75	" "- " " "	0.25	4	0.17	0.07	0.24
689	0.85	" "-" " "	4.75	12	3.16	0.20	3.36
690	0.70	" "-Sub-drift	1.25	5	0.83	0.09	0.92
691	1.45	" "- " "	0.75	4	0.50	0.07	0.57
692	1.30	" "-Junction X-cut	0.50	3	0.33	0.05	0.38

Sample No.	Length in Meters	Location	Grams Gold per T	Grams Silver per T	Value Gold	Value Silver	Total Value per T.
693	0.50	2nd Lev.-sub-drift	4.87	15	3.24	0.26	3.50
694	0.55	" " " " stope	9.12	39	6.07	0.66	6.73
695	1.30	" " " " "	4.25	28	2.83	0.48	3.31
696	0.60	" " " " "	5.75	36	3.82	0.61	4.43
697	1.50	" " -Junction X cut	16.25	29	10.81	0.49	11.30
698	0.70	" "2nd sub-drift	3.00	7	2.00	0.12	2.12
699	1.60	" " " " "	2.50	20	1.66	0.34	2.00
700	1.30	" " " " "	3.12	15	2.08	0.26	2.34
701	0.75	" " " " "	3.50	11	2.33	0.19	2.52
702	1.00	" " " " "	5.12	12	3.40	0.20	3.60
703	1.10	" " " " "	6.75	16	4.49	0.27	4.76
704	0.60	" " " " "	6.87	14	4.57	0.24	4.81
705	0.85	" " " " "	9.12	21	6.07	0.36	6.43
706	1.50	" " Middle Raise	3.50	10	2.33	0.17	2.50
707	1.50	" " " "	6.37	18	4.24	0.31	4.55
708	1.60	" " " "	6.37	16	4.24	0.27	4.51
709	1.10	" " Raise No. 1	11.12	22	7.39	0.37	7.76
710	1.00	" " " " "	5.25	17	3.49	0.29	3.78
711	0.70	" " " " " stope	4.00	36	2.66	0.61	3.27
712	0.50	" " " "" "	20.37	85	13.55	1.45	15.00
713	0.50	" " " No.#1	tr	3	0.00	0.05	0.05
714	1.10	" " " " "	6.25	15	4.16	0.26	4.42
715	0.60	" " " " "	4.50	15	2.99	0.26	3.25
716	1.00	" " " " "	7.87	18	5.23	0.31	5.54
717	0.85	" " " " #2	1.87	6	1.24	0.10	1.34
718	0.85	" " " " "	17.87	42	11.88	0.71	12.59
719	0.85	" " " " "	11.12	19	7.39	0.32	7.71
720	0.65	" " " " "	14.37	29	9.56	0.49	10.05
721	0.65	" " " " "	6.25	13	4.16	0.22	4.38
722	1.20	" " " " "	6.25	15	4.16	0.26	4.42
723	1.10	" " " " "	78.00	99	51.87	1.68	53.55
724	0.50	" " " stope	26.87	72	17.87	1.22	19.09
725	0.85	1st " -Main drift	7.62	21	5.06	0.36	5.42
726	0.40	" " " "	9.00	28	5.98	0.48	6.46
727	0.45	" " " "	2.25	14	1.50	0.24	1.74
728	0.80	" " " "	3.25	17	2.16	0.29	2.45
729	0.90	" " " "	7.50	32	4.98	0.54	5.52
730	1.00	" " " "	14.62	73	9.72	1.24	10.96
731	1.00	" " " "	9.50	49	6.31	0.83	7.14
732	0.40	" " " "	6.00	19	3.99	0.32	4.31
733	0.60	" " " "	3.25	9	2.16	0.15	2.31
734	0.70	" " " "	3.62	20	2.40	0.34	2.74
735	Grab	Fill Block E	6.37	31	4.24	0.53	4.77
736	"	" " E	7.75	35	5.15	0.59	5.74
737	"	" " A	8.62	46	5.73	0.78	6.51
738	"	" " B	15.50	36	10.30	0.61	10.91
739	"	" " C	18.87	40	12.55	0.68	13.23
740	"	" " D	12.12	31	8.06	0.53	8.59

Sample No.	Length in Meters	Location	Grams Gold per T	Grams Silver per T.	Value Gold	Value Silver	Total Value per T.
741	Grab	Fill Block A	1.75	15	1.16	0.25	1.41
742	"	" " B	2.62	12	1.74	0.20	1.94
743	"	" " C	5.25	22	3.49	0.37	3.86
744	"	" " D	5.25	15	3.49	0.25	3.74
745	1.05	1st Lev.-R. drift	1.00	18	0.66	0.31	0.97
746	1.05	" " " "	0.75	8	0.50	0.14	0.64
747	0.95	" " " "	tr	15	0.00	0.25	0.25
748	1.10	" Inter-Level	2.12	11	1.41	0.19	1.60
749	1.20	" " "	5.37	45	3.57	0.76	4.33
750	1.30	" " "	2.75	14	1.83	0.24	2.07
751	0.85	Raise above 748	0.37	7	0.25	0.12	0.37
752	1.55	2nd Inter-Level	3.00	15	1.99	0.25	2.24
753	0.85	" " "	2.25	10	1.50	0.17	1.67
754	0.90	" " "	0.50	10	0.33	0.17	0.50
755	0.65	" " "	10.62	31	7.06	0.53	7.59
756	0.60	" " "	9.50	29	6.31	0.49	6.80
757	0.85	Shaft No. 1	18.87	66	12.55	1.12	13.67
758	1.15	" " "	21.25	90	14.33	1.53	15.86
759	1.10	Surface Prospect	0.25	6	0.17	0.10	0.27
760	0.85	Tunnel X-cut	3.12	20	2.07	0.34	2.41
761	0.30	" "	3.50	8	2.31	0.14	2.45
762	1.10	" "	0.75	13	0.50	0.22	0.72
763	1.00	" "	3.62	4	2.40	0.07	2.47
764	0.65	" "	2.25	6	1.50	0.10	1.60
834	1.20	Juniata Surface cut	6.62	44	4.40	0.75	5.15
835	0.90	" " "	16.50	57	10.97	0.97	11.94

ORE RESERVES

After calculating the average values of the different blocks of ore, and from this the recovery value, a total cost charge of $5.00 a ton has been deducted. This is $2. higher than the assumed costs on Humboldt ore, the increased figure being made necessary by the relatively narrow stoping width and small tonnage at the Juniata.

Thus figured, only one of the blocks on the No. 2 vein (Block 3) turns out to be ore.

Vein No. 2

Block 3

Assays Tunnel No. 1

Sample No.	Au Gr	Ag Gr	Width Cut Meters	Au. Meter Grams	Ag. Meter Grams
134	10.00	29	0.60	6.00	17.4
733	3.25	10	0.60	1.95	6.0
135	2.00	11	0.40	.80	8.8
734	3.62	23	0.70	2.534	16.1
136	10.62	57	0.70	7.434	39.9
138	14.12	37	0.80	11.296	29.6
139	57.50	92	1.30	74.75	119.6
		7)	5.10	)104.764	237.4
			0.73	20.542	46.6

Assumed Av. width vein 0.9 m

Tunnel No. 2

108	6.50	14	1.40	9.10	19.6
678	2.25	9	0.70	1.575	6.3
110	6.00	15	0.50	3.000	7.5
699	2.50	21	1.60	4.00	33.6
111	2.12	9	0.70	1.484	6.3
700	3.12	14	1.30	4.056	18.2
112)	5.43	26	2.1	11.403	54.6
113)					
701	3.50	11	0.75	2.625	8.25
114	2.87	12	0.90	2.583	10.80
702	5.12	12	1.00	5.12	12.00
6	6.25	17	1.00	6.25	17.00
703	6.75	16	1.10	7.425	17.60
		12)	13.05	)58.521	211.75
			1.09	4.492	16.2

av. width

	Av. width	Au	Ag	Au Meter grams	Ag Meter grams
Tunnel No. 1	0.9 m	20.542	46.6	18.488	41.94
" " 2	1.09	4.492	16.2	4.896	17.658
	2) 1.99			) 23.384	59.598
	0.99			11.75	29.95

1.00 meter Av. thickness.

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Vein No. 2

Assays Raise No. 1

Sample No.	Au Gr	Ag Gr	Width Cut Meters	Au Meter Grams	Ag Meter Grams
709	11.12	23	1.10	12.232	25.3
118	3.12	10	1.55	4.836	15.5
710	5.25	18	1.00	5.25	18.0
119	0.75	4	0.85	.637	3.4
713	tr	3	0.50	.000	1.5
121	1.25	5	0.15	.187	.75
714	6.25	15	1.10	6.875	16.50
122	10.12	24	0.30	3.036	7.20
715	4.50	15	0.60	2.700	9.00
123	49.75	75	1.25	62.187	93.75
716	7.87	18	1.00	7.87	18.
			11) 9.40	)105.810	198.90
			0.85	11.256	21.2

Raise No. 2

717	1.87	6	0.85	1.589	5.10
124	4.00	12	0.50	2.000	6.00
718	17.87	44	0.85	15.189	37.40
125	5.00	9	0.55	2.75	4.95
719	11.12	21	0.85	9.452	17.85
126	49.37	75	0.85	41.964	63.75
720	14.37	30	0.65	9.34	19.50
127	72.75	87	0.95	69.112	82.65
723	78.00	98	1.10	85.8	107.8
128	48.50	60	0.90	43.65	54.0
			10)8.05	)280.846	399.00
			0.80	34.888	49.6

	Width	Au Gr. Av.	Ag. Gr.Av.	Au Meter Grams	Ag Meter Grams
Raise No. 1	0.85 m	11.256	21.2	9.567	18.02
" " 2	0.80	34.888	49.6	27.91	39.68
	1.65 m			) 37.477	57.70
				22.71 Au Av.	35.

Raise No. 2

Samples excluding high assays in stope.

Sample No.	Au Gr	Ag Gr	Width Cut	Av. Meter Grams	Ag Meter Grams
717	1.87	6	0.85	1.589	5.10
124	4.00	12	0.50	2.000	6.00
718	17.87	44	0.85	15.189	37.40
125	5.00	9	0.55	2.75	4.95
719	11.12	21	0.85	9.452	17.85
			5)3.60	)30.980	71.30
			0.72 m	8.610	19.8

Av. width

	Width	Au.Gr Av.	Ag.Gr. Av.	Au Meter Grams	Ag Meter Grams
Raise No. 1	0.85	11.256	21.2	9.567	18.02
" " 2	0.72	8.610	19.8	6.127	14.25
2)	1.57			)15.694	32.27
Av. Width	.79			10.0	20.5 av.

	Width	Au Gr.	Ag Gr.
Av. Levels	1.00	11.75	29.95
Av. Raises	.79	10.00	20.5
2)	1.79	21.75	50.45
	.90 m.	10.87 Gr.Au.	25.2 Gr.Ag.

Av. Block 3

Tonnage:

	Length		height		Width		
	36 m	x	28.5	x	.9	=	923.4 cu. m.
Deduct							
R & drift	16	x	1.5	x	.9	=	21.6 " "

Sp.Gr

901.8 x 2.5 = 2254.5 metric tons

	Est. Recov. Value		
10.87 Gr.Au =	$7.23 x 95%	=	$6.87
25.2 " Ag =	0.43 x 60%	=	0.26
	$7.66		7.13 Est. total Recov. Value
			5.00 " cost
			$2.13 " net profit per ton

2254 tons x 2.13 = $4801.02

Vein No. 2

Block 4

Assays Tunnel No. 2

Sample No.	Au Gr	Ag Gr	Width Cut Meters	Au Meter Grams	Ag Meter Grams
87	3.87	8	1.60	6.192	12.80
678	2.25	9	1.25	2.812	11.25
88	4.87	7	1.15	5.600	8.05
679)	3.75	8	1.50	5.625	12:00
89)	3.62	12	1.90	6.878	
680	1.00	4	1.40	1.400	22.8
90	1.00	5	1.00	1.000	5.0
94	4.50	11	0.70	3.150	7.7
685	1.75	4	0.70	1.225	2.8
98	5.25	17	0.40	2.100	6.8
689	4.75	12	0.85	4.037	10.2
697	16.25	29	1.50	24.375	43.5
106	8.50	22	1.20	10.200	26.4
107	6.62	14	0.95	6.289	13.3
		14)	16.10)	80.883	182.65
			1.15 m Av.	5.02	11.3 Av.

Length block on tunnel No. 2 = 62 m.

62 x 1.15 m - 71.30 sq. m

Assays Tunnel No. 1

Sample No.	Au Gr	Ag Gr	Width Cut Meters	Au Meter Grams	Ag Meter Grams
129	6.00	19	0.65	3.90	12.35
725	7.62	22	0.85	6.477	18.70
131	5.00	17	0.50	2.500	8.50
726	9.00	29	0.40	3.600	11.60
133	5.00	17	0.70	3.500	11.90
727	2.25	14	0.45	1.012	6.30
728	3.25	17	0.80	2.600	13.60
729	7.50	32	0.90	6.750	28.80
730	14.62	72	1.00	14.620	72.00
731	9.50	47	1.00	9.500	47.00
732	6.00	21	0.40	2.400	8.40
134	10.00	29	0.60	6.000	17.40
		12)	8.25	62.859	256.55
			0.69 m Av.	7.62	31.1 av.

Length ore tunnel No. 1 - 27 m.
27 m x 0.69 = 18.63 sq. m.

	sq. m.	Av.Au.	Av.Ag.	Au sq.m Gr.	Ag sq. m Gr.
Level No. 1	18.63	7.62	31.1	141.96	579.39
" " 2	71.30	5.02	11.3	357.92	805.69
89)	89.93			499.88	1385.08
	1.01 m. Av. width			5.56 Au	15.4 Ag.
2)	89.93				Av. assay
	44.96 Sq. m. x 28.5 = 1281.36 cu. m.				Block 4
	Deduct stopes			24.	
				1257 x 2.5 sp.gr = 3142.5 metric tons in block 4	

5.56 Gr. Au = $3.586
15.4 " Ag = 0.26
Total Value $3.95

Not Available.

Vein No. 2

Block 5

Between Level No. 1 & Surface

Data only on one side - bottom.

Samples Level No. 1

Sample No.	Au Gr	Ag Gr	Width Cut Meters	Au Meter Grams	Ag Meter Grams
129	6.00	19	0.65	3.90	12.35
725	7.62	22	0.85	6.477	18.70
131	5.00	17	0.50	2.500	8.50
726	9.00	29	0.40	3.600	11.60
133	5.00	17	0.70	3.500	11.90
727	2.25	14	0.45	1.012	6.30
728	3.25	17	0.80	2.600	13.60
729	7.50	32	0.90	6.750	28.80
730	14.62	72	1.00	14.620	72.00
731	9.50	47	1.00	9.500	47.00
732	6.00	21	0.40	2.400	8.40
134	10.00	29	0.60	6.000	17.40
733	3.25	10	0.60	1.950	6.00
135	2.00	11	0.40	0.80	8.80
734	3.62	23	0.70	2.534	16.10
136	10.62	57	0.70	7.434	39.90
163	5.00	24	1.70	8.500	40.8
		17)	12.35	) 84.077	368.15

0.73 m 6.81 Gr 29.8 Av. Gr. Ag.
Av. width Au.

Est.
Recov.

6.81 gr. Au = $4.53 x 95.% = $4.30
29.8 " Ag = 0.51 x 60 % = .31
Total Value $5.04 $4.61 Total Est. Recov. Value

Tonnage:

Length Height Width
40. m x 22.m x 0.73 m = 642.4 cu. m
Deduct stope, etc. = 27. cu. m sp. gr.
615. cu. m. x 2.5 = 1537
metric tons

Total Estimated recovery Value $4.61
Estimated Costs 5.00

Not Available.

Old Fill in Stopes

Vein No. 2

Fill A

		Au Gr	Ag Gr
Gen'l	158	8.25	38
Bottom	737	8.25	43
Top	741	2.00	14
	2)	10.25	57
		5.12	27 Av.
		8.25	38
	2)	13.37	65
		6.68	32 Accepted
Value		$4.44	$.54

Fill B

		Au Gr	Ag Gr
Gen'l	159	5.00	19
Bottom	738	19.75	37
Top	742	2.50	11
	2)	27.25	48
		13.62	24
		5.00	19
	2)	18.62	43
		9.31	22 Accepted
Value		$6.19	$.37

Fill C

		Au	Ag
Gen'l	160	5.5	17
Bottom	739	18.75	41
Top	743	5.50	20
	2)	24.25	61
		12.12	30
		5.5	17
	2)	17.62	47
		8.81	23 Accepted
Value		$5.87	$.39

Fill D

		Au	Ag
Gen'l	161	11.75	34
Bottom	740	12.25	31
Tip	744	5.00	13
	2)	17.25	44
		8.62	22
		11.75	34
	2)	20.37	56
		10.18	28 Accepted
Value		$6.76	$.48

Fill E

	735	6.50	28
	736	9.50	35
	2)	16.00	63
		8.00	31 Accepted
Value		$5.32	$.53

	Tons		Av. Val. per T.		Gross Val.
A =	365	x	4.98	=	1817.70
B =	345	x	6.56	=	2263.20
C =	305	x	6.26	=	1909.30
D =	265	x	7.24	=	1918.60
E =	200	x	5.85	=	1170.00
F =	55	x	5.36	=	294.80
G =	100	x	3.87	=	387.00
	1635 tons			)	9760.60
					$5.97 Av. Value fill.

$5.97 x 93.3%* = $5.57 Av. recov. Value
2.00 Est. Total costs
$3.57 " Net Profit per ton**

1635 x $3.57 = $5836.95 Est. total Net Profit

** See following page for note

Dumps

Sample No.	Location	Tons Repre.	Value Au.	Value Ag	Total Value
20	Lower Dump Juniata	70	1.25	0.31	1.56
21	" " "	90	8.98	1.14	10.12
26	Middle " "	15	25.35	0.88	26.23
27	" " "	125	6.31	0.90	7.21
31	" " "	1100	4.16	0.68	4.84
33	" " "	2000	8.22	0.51	8.73
34	Upper " "	190	11.80	0.78	12.58
36	" " "	900	2.83	0.34	3.17
	Total Tons	4490			

Tons		Au Value		
70	x	$1.25	=	$ 87.50
90	x	8.98	=	808.20
15	x	25.35	=	380.25
125	x	6.31	=	788.75
1100	x	4.16	=	4576.00
2000	x	8.22	=	16440.00
190	x	11.80	=	2242.00
900	x	2.83	=	2547.00
4490			)	27869.70

6.21 Average Assay Value Au.

70	x	0.31	=	21.70
90	x	1.14	=	102.60
15	x	.88	=	13.20
125	x	.90	=	112.50
1100	x	.68	=	748.00
2000	x	.51	=	1020.00
190	x	.78	=	148.20
900	x	.34	=	30.60
4490			)	2196.80

$.489 Av. Assay Value Ag.

Est. Recov.

$6.21 x 95.% = $5.90 Est. Recov. Value Au
.489x 60% = .29 " " " Ag
$6.699 Total 6.19 Total Av. Est. Recovery Value
Av. Assay Val. 2.00. Estimated Total Costs
$4.19 " Net Profit per ton
$4.19 x 4490 = $18,813.10 Estimated Total Net Profit.

* Estimated Av. Recovery Total of Vein No. 2

** All profits in this report are based on the assumption of a 350 - 500 ton mill, which would only be possible if the Humboldt mine should prove sufficiently large.

SPURR & COMPANY

MILLING TEST

TEST ON SAMPLE NO. 2, FROM MIDDLE TUNNEL DUMP JUNIATA

AURORA, NEVADA.

Made at Desert Power and Mill Company's Mill,

June 13 to June 15, 1911.

TEST NO. 1, PRELIMINARY.

	Ozs.Au.	Ozs.Ag
Heads Assay	0.443	0.99

Ground to pass 200 mesh

Agitated in small Percolator at Specific Gravity of 1.22, or 2.3 parts of solution to 1 part of ore.

Strength of original solution 1.6 lbs. per ton, or 0.08% KCN per ton.

DETAILS OF SAMPLES TAKEN DURING TEST.

SAMPLE	STRENGTH OF SOLUTION POUNDS PER TON	ALKALINITY LBS. CaO PER TON	ASSAY OF PULP Ozs.Au.	Ozs.Ag.	EXTRACTION %Au.	%Ag.
Heads	1.6	0.3	0.443	0.99		
12 Hrs. Agit.	0.3	0.3	0.02	0.40	95.5	59.6
KCN added	1.6					
24 Hrs. Agit.	0.9	0.5	0.01	0.40	97.7	60.6
36 Hrs. Agit	0.2	0.3	0.025	0.39	94.4	60.6

Cyanide consumption 2.99 lbs. for 12 hours agitation, per ton of ore. For 24 hours agitation, 3.6 lbs. consumption per ton of ore.

Extraction end of 24 hours agitation, 97.7% gold, and 60.0% silver.

REMARKS: Owing to the nature of the ore, it will be necessary to carry a higher alkalinity to coagulate the slime. At this alkalinity above, it is impossible to filter, but with the addition of more lime the solution is clarified. There seems to be two classes of material in the ore, one very easily slimed and forming colloidals, and the other very dense and heavy, so much so that on letting a sample stand for five minutes there is a cake formed that cannot be removed with finger nail.

SAMPLE NO. 2

TEST NO. 2, - PRELIMINARY

	Ozs.Au.	Ozs.Ag.
Heads Assay	0.443	0.99

Ground to pass 200 mesh

Agitated in small Percolator at Specific Gravity of 1.22, or 2.3 parts of solution to 1 part of ore.

Strength of original solution 2.7 lbs., or 0.135% KCN per ton.

Alkalinity held at 0.3 lbs. per ton throughout test.

SAMPLE	STRENGTH OF SOLUTION POUNDS PER TON	ALKALINITY LBS. CaO PER TON	ASSAY OF PULP Ozs.Au.	Ozs.Ag.	EXTRACTION %Au.	%Ag.
Heads	2.7	0.3	0.443	0.99		
12 Hrs. Agit	1.1	0.3	.02	.36	95.5	63.6
KCN added	2.4					
24 Hrs. Agit.	1.3	0.4	.01	.25	97.7	74.8

Cyanide consumption 3.68 lbs. per ton of ore for 12 hours.

Extraction end of 24 hours agitation, 97.7% gold, and 74.8% silver.

SAMPLE NO. 2

TEST NO. 4

	Ozs. Au.	Ozs. Ag.
Heads Assay	0.443	0.99

Ground to pass 200 mesh in pebble mill, crushing in water.

Agitated in small Pachuca Agitator at Specific Gravity of 1.23, or 2.2 parts of solution to 1 part of ore.

Strength of original solution 1.9 lbs., or 0.095% KCN per ton.

DETAILS OF SAMPLES TAKEN DURING TESTS

SAMPLE	STRENGTH OF SOLUTION POUNDS PER TON	ALKALINITY LBS. CaO PER TON	ASSAY OF PULP Ozs.Au.	Ozs.Ag.	EXTRACTION %Au.	%Ag.
Heads	1.9	0.9	0.443	0.99		
12 Hrs. Agit.	1.7	0.5	.01	.34	97.7	65.6

CaO consumption .90 lbs.

Cyanide consumption 0.44 lbs., per ton of ore.

Extraction end of 12 hours agitation, 97.7% gold, and 65.6% silver.

AMALGAMATION TEST

ON SAMPLE NO. 2

Made at Desert Power and Mill Company's Mill

August 16, 1911.

100 gms. ore agitated with about 5 gms. mercury and water in flask for 1½ hours.

100 gms. of ore contained	1.52 mlgs. gold.
Tails contained	0.16 " "
Amalgam contained	1.33 " "

Extraction, calculated from heads and tails, 89.5%.

Extraction, calculated from gold in amalgam and heads, 87.5%.

Average 88.5% extraction.

CONCLUSION

The following total net profits have been estimated in the Juniata mine:

Vein No. 2 Block 3	$ 4,801.02
Old fill in stopes	5,836.95
Dump ores	18,813.10
Total	$29,451.07

Beyond this ore as figured, conditions are such that it is not safe to assume any ore as probable, though some is possible. The driving of a cross-cut on No. 3 Tunnel Level to cut and explore vein No. 2 would be the best development to help in deciding this point.

Even the above profits would be possible only if a large mill--say 350 or 500 tons daily capacity--were available. Taken by itself, therefore, the Juniata cannot be considered of value; taken as an adjunct to the Humboldt, should this prove to be a mine sufficient to warrant building a large mill, it would probably have the minimum value above figured, with opportunities for development work.

At present, therefore, the half interest in this Juniata-Martinez property is not worth the $17,500. called for in the option; and it is recommended that this option be dropped.

SPURR & COMPANY

by ORIGINAL SIGNED
J. E. SPURR

August 1911

APPENDIX

APPENDIX

JUNIATA, VEIN NO. 1*

Block 1

Tunnel No. 2 Level.

Sample No.	Au Ag	Ag Gr	Width Cut Meters	Au Meter Grams	Ag Meter Grams
18	5.00	30	0.95	4.75	28.5
650	13.00	91	1.30	16.9	118.30
19	15.25	64	0.70	10.675	44.80
651	trace	4	1.05	0.000	4.20
40	2.75	9	1.65	4.537	14.85
652	3.00	35	1.25	3.75	43.75
653	9.75	89	1.25	12.187	111.25
654	5.00	78	0.90	4.50	70.20
41	5.25	37	1.15	6.037	42.55
656	2.00	22	1.00	2.00	22.00
43	2.25	26	1.20	2.70	31.20
657	14.12	112	0.85	12.002	95.20
44	10.37	72	1.65	17.110	118.80
659	18.87	77	0.85	16.039	65.45
660	9.75	27	0.70	6.825	18.90
45) 46)	19.12	97	2.25	4.302	218.25
668	10.12	53	1.30	13.156	68.90
47	12.37	79	1.60	19.792	126.40
669	1.00	29	1.55	1.55	44.95
48	3.87	26	1.30	5.031	33.80
670	5.75	79	1.10	6.325	86.90
49	13.87	107	0.25	3.467	26.75
		22)	25.80)	173.635	1435.90
			1.17	6.73	56
			Av. Width		

Length block on No. 2 level = 55 m.

1.17 Av. cut = Av. width vein also
1.17 m x 55 m = 64.35 sq. m.

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* As before stated, vein No. 1 is believed to Apex in the Gladys claim, therefore does not belong to the Juniata. The figures are given here as a matter of convenience.

Raise No. 1

Sample No.	Au Gr	Ag Gr	Width Cut Meters	Au Meter Grams	Ag Meter Grams
30	9.75	77	1.10	10.725	84.70
641	4.37	17	1.10	4.807	18.7
640	12.12	50	0.85	10.302	42.50
29	19.62	141	1.20	23.544	169.20
639	31.00	72	1.50	46.50	108.00
25	17.00	70	1.30	22.10	91.00
638	6.37	38	1.10	7.007	41.8
24	13.00	81	1.60	20.80	129.6
637	5.12	19	1.40	7.168	26.6
23	4.75	34	1.25	5.937	42.5
636	9.50	58	1.10	10.45	63.8
22	7.00	50	1.30	9.10	65.0
			12)14.80	) 178.440	883.40
			1.23	12.06	60 Average
			Av. Width		

Tunnel No. 3

7	15.87	83	2.50	39.675	207.5
8	7.00	38	2.80	19.60	106.4
633) 634)	15.75	72	2.20	34.65	158.4
631	6.25	20	1.60	10.00	32.0
10	13.75	91	1.05	14.437	95.55
630	6.25	34	1.20	7.500	40.80
9	9.75	44	0.85	8.287	37.40
			7)12.20	) 134.149	678.05
			1.74 m	11.00	56.
			Av. cut		

Length Block 1 on No. 3 Level = 20.5 m.

1.74 av. cut = Av. width vein
1.74 m x 20.5 m = 35.67 sq. m.

	sq. m.	Av.Au	
Tunnel No. 2	64.35	x 6.73	= 433.075
" " 3	35.67	x 11.00	= 392.37
	2)100.02		) 825.445
	50.01 Au. Av.		8.25 Gr. Av. Au Block 1
	x 38.5 m. height		56. gr. Av. Ag. " "
	1925.38 cu m		
	232.23		
	1693.15 cu. m. in Block 1		

Deduct R. No. 1 = 38.5 m x 1.23 m x 1.5 m = 71.03 cu. m
Stope on T. No.3 = 8 x 10 x 1.25 = 100. " "
"below T. No.2 = 6 x 8.5 x 1.20 = 61.2 " "
Total Deductions 232.23

1693.15 x 2.5 Sp.Gr. = 4233. metric tons

8.25 gr. Au. = $5.49
56. " Ag. = 0.95
$6.44 Total Av. value per ton.

Vein No. 1

Block No.2

Between Tunnel No. 2 and Surface

Exposed on one side only - Tunnel No. 2

Tunnel No. 2

	Sq. m. vein	Au.Gr.Av.	Ag.Gr.Av.
Height	64.35 x 31. m	6.73	56

= 1995. cu. m

Deduct stopes 42 sq. m. x 1.20 = 50.

1995
50
1945. cu. m. Block 2 x
2.5 Sp.Gr. = 4862. metric tons

Au 6.73 gr. = $4.47
Ag 56. " = 0.95
$5.42 Total value

	Tons	Au	Ag	Au ton Dollars
Block 1	4233	$5.49	$0.95	23239.
" 2	4862	4.47	0.95	21733.
	9095			44972.

$4.94 Av. Au Blocks 1 & 2
.95 Ag.
$5.89 total av. value per ton

Ore in sight 9095 tons, total av. value $5.89

Block 2-B

Allow probable ore below Level No. 3 volume = ½ block

1. Same Values

	Tons	Au.Val.	Ag.Val	Total Val.
Probable Ore	2116	$5.49	0.95	$6.44

Summary of Ore-Reserves

Ore in Sight

		Est. Recov. Value	
Au.Av.	$4.94 x 95.%	= 4.69	
Ag.Av.	.95 x 60 %	= 0.57	
		$5.26	Total Recovery Value
		5.00	Est. costs
		$0.26	Profit per ton

$0.26 x 9095 tons = $2364.70

Probable Ore

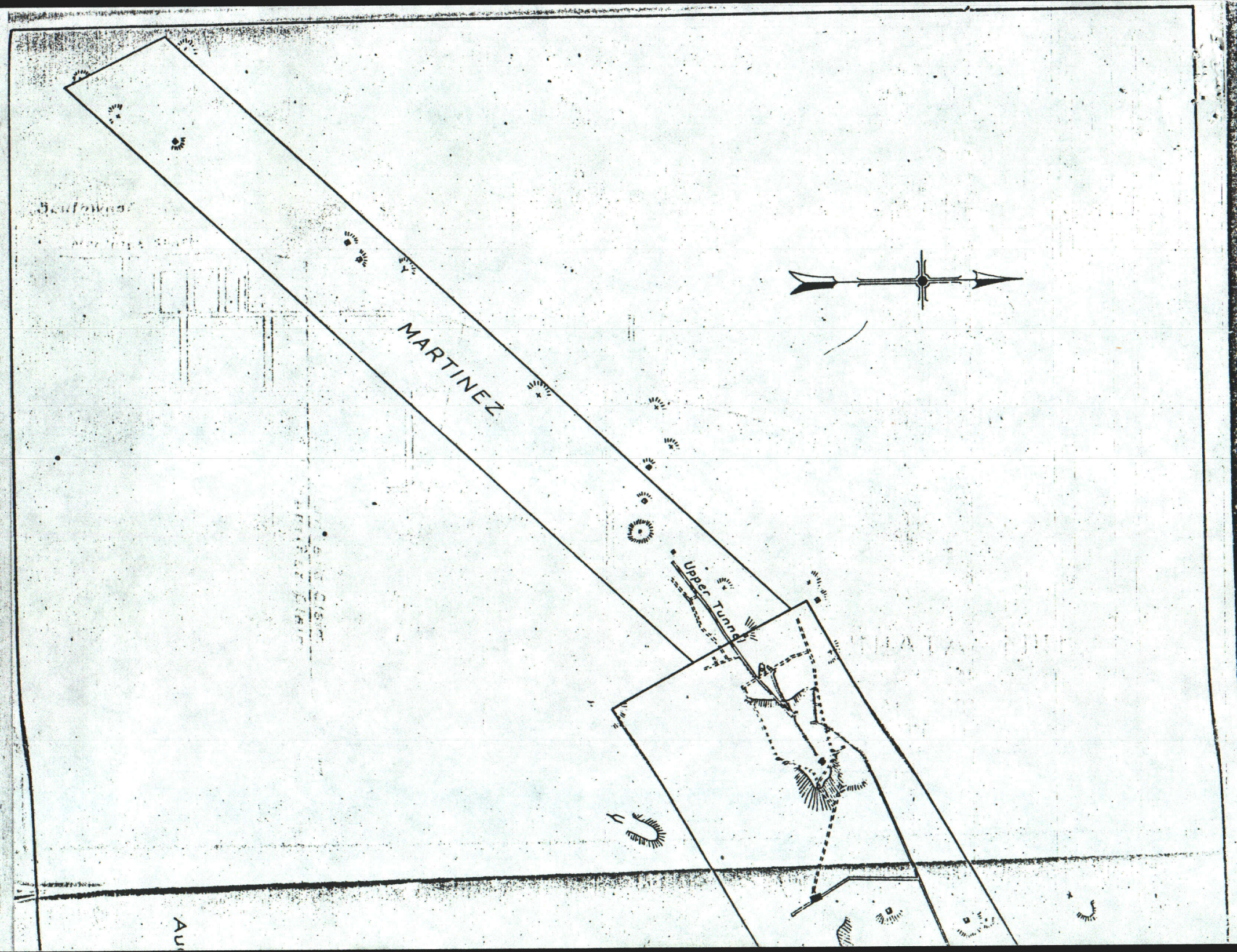
		Est. Recov. Value	
Au.Av.	$6.44 x 95.%	= $6.12	
Ag.Av.	.95 x 60 %	= .57	
		6.69	Total Recov. Value
		5.00	Est. Costs
		$ 1.69	profit per ton.

2116 x $1.69 = $3576. Total Est. Profit Probable Ore
2364. " " " Ore in sight
$5940. Total Estimated Profit Vein No. 1

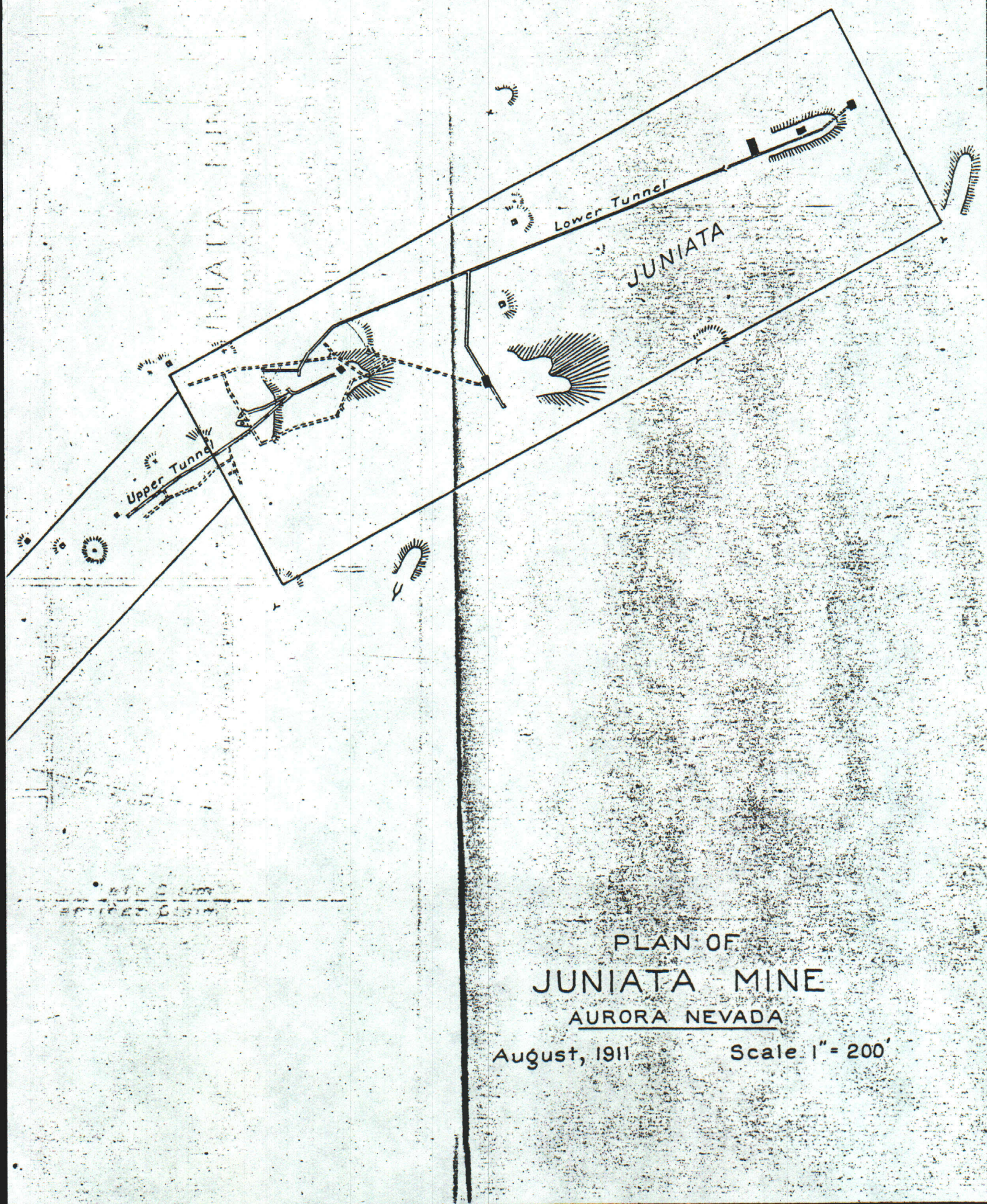
SPURR & COMPANY

by ORIGINAL SIGNED
J. E. SPURR

August 1911


MARTINEZ
Upper Tunnel

Sheet Nº 1

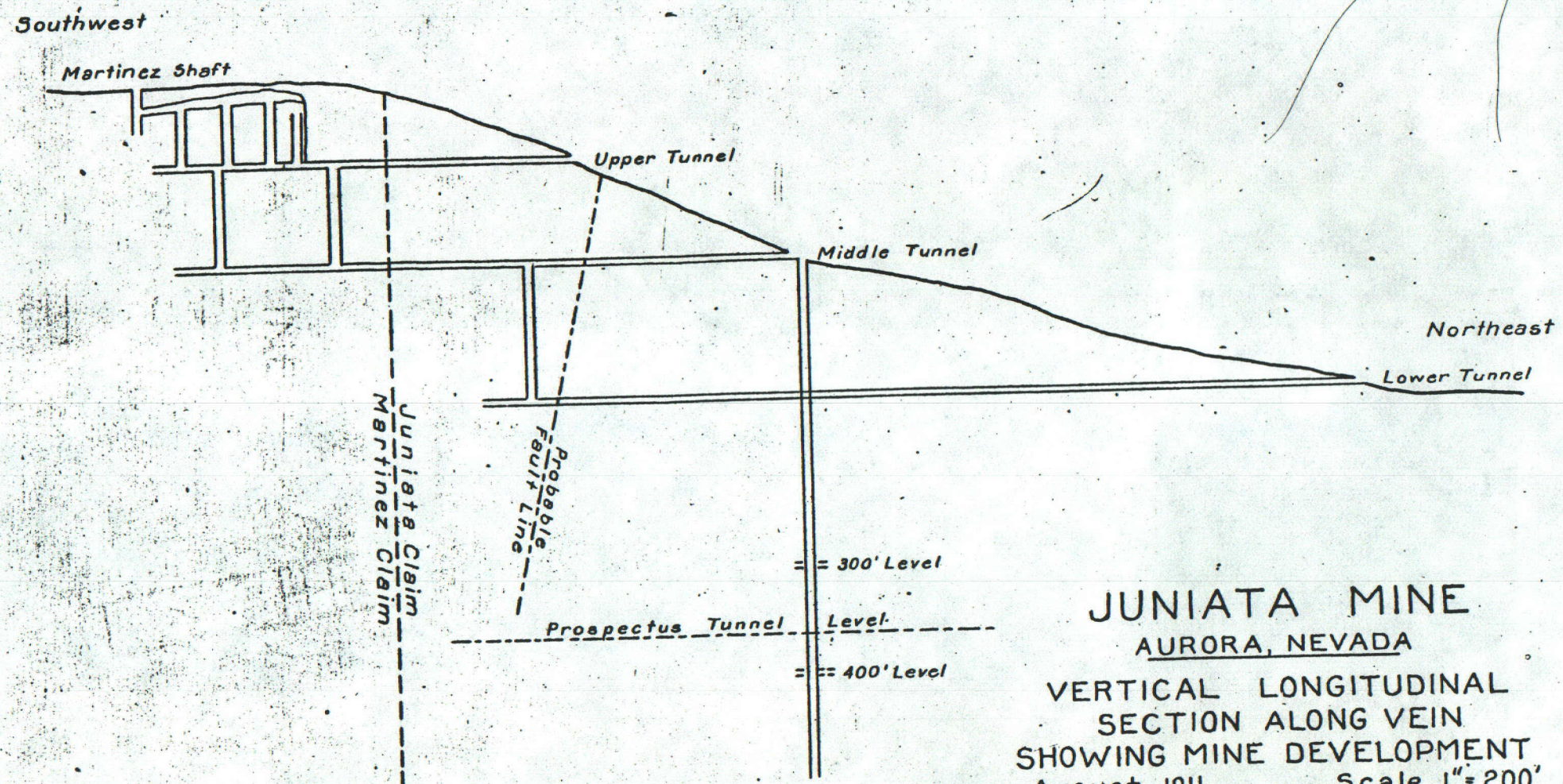


PLAN OF

JUNIATA MINE

AURORA NEVADA

August, 1911 Scale 1" = 200'



JUNIATA MINE

AURORA, NEVADA

VERTICAL LONGITUDINAL SECTION ALONG VEIN SHOWING MINE DEVELOPMENT

August, 1911 Scale 1" = 200'

Sheet No 2