

BRALORNE RESOURCES LIMITEDBRALORNE RESERVESGeneral

During the active life of Bralorne, production came largely from the following veins:-

King	59
51	73
77	75
53	79
55	

Several other veins provided minor production, the most important of which, from a geological point of view, being the 52 vein.

The King is located in the western part of the host intrusive about a mile from the other vein structures. It was mined separately; the only connection being on the 800 level. Stoping on this vein extended from the 6 level to the 10 level with some development to the 14 level. This vein was serviced from the surface and through the King shaft.

The bulk of mine production came from the 51, 77, 53 and 55 veins. The 51 and 77 were major shear structures which were cut by a major fault, the faulted segments being named the 53 and 55 veins. The 59, 73, 75 and 79 veins are tension fractures or crossovers from the two major structures.

The 52 vein was investigated and partially stoped from 20 and 26 levels. It had the appearance and strike of a major structure but did not materialize as a major producer. This vein is mentioned insofar as it remains a significant exploration target should production resume.

Physical ConditionMine:

Entry to the underground workings can only be made through the 800 Crown portal and the 300 Empire portal. The hoists have been removed from the King and Queen shafts. The

power has been disconnected from all the mine workings. Most of the pumps have been removed and the main airline to the Crown shaft on 800 level has also been removed. For all practical purposes, the mining machinery would have to be replaced.

Access through the workings would be reasonably good to the 14 level but would gradually deteriorate from there down because of ground pressures and subsequent spills and caves. The cross-cuts would remain in good shape because any shift in ground would be taken up in the veins.

#### Townsite and Shops:

The townsite and related services are largely unchanged. Some rehabilitation would be required on the hydro line.

Equipment has been removed from all the shops. In particular, the powerhouse would require renovation and the present air compressors would probably be inadequate. The buildings are in useable condition.

#### Mill:

The primary and secondary crusher, together with screen, have been sold. This entire unit might have to be replaced. The main belt to the fine ore bin has been removed.

In the mill proper, the majority of the electrics have been stripped, in addition to the ball mill, classifiers, jigs and barren tank. Also missing are sundry pumps and secondary equipment.

#### Rehabilitation Cost

Mill Crusher Shops	-	\$ 400,000
Mine Installation	-	200,000
Mining Equipment	-	150,000
Underground preparatory work	-	<u>600,000</u>
		<u>\$1,350,000</u>

These amounts are quite preliminary and are for discussion purposes. They may be increased or decreased, depending on the equipment on hand.

### Operating Costs

Assuming a production rate of 12,000 to 15,000 tons per month, the following costs per ton can be expected:-

Mining to the 8 level	-	\$15/ton
26 level	-	\$20/ton
44 level	-	\$25/ton

After allowing 20% for dilution and 96% for recovery, I have calculated the following 'break-even' grades for gold prices of \$60, \$80, and \$100 per ounce respectively:-

<u>Cost per Ton</u>	<u>Break-Even</u>		
	<u>\$60.00</u>	<u>\$80.00</u>	<u>\$100.00</u>
\$15.00	0.31	0.24	0.19
\$20.00	0.42	0.31	0.25
\$25.00	0.52	0.39	0.31

### Reserves

The present known reserves above the 44 level total 669,000 tons at a grade of 0.27 oz. per ton. In addition, there are 531 feet of ore at the bottom of the 77 vein averaging 1.08 oz. per ton across a width of 6.17 feet. This is very high grade as gold mines go, however the further development of this ore would require an expenditure in the order of \$1,000,000.

A close examination of the geological data failed to disclose any ore in the King mine despite the miners' rumour to the contrary. Similarly, the ore left above the 800 adit of the main mine amounted to only 27,000 tons at a grade of 0.34 oz. per ton.

For practical purposes the tonnage can be classified as 432,000 tons above 26 level and 237,000 tons below 26 level, both coincidentally at a grade of 0.27 oz. per ton.

I have chosen cut-off grades to correspond with the projected costs and price of gold. The tonnage available above these grades is shown in the attached table. This table indicates four to five years reserves at a gold price in excess of \$100.00 per ounce.



If a cut-off grade of 0.25 oz. per ton is used, the reserve drops to 319,000 tons at a grade of 0.34 oz. per ton. This reserve would suffice for two to two and a half years' operation at a gold price of \$100.00 per ounce. At higher cut-off grades, the reserve drops to a point where mining operations would not be viable.

### Conclusion

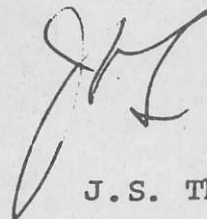
The existing reserves at Bralorne do not warrant the expense necessary to rehabilitate the property at a gold price below \$100.00 per ounce.

If the price of gold does reach \$100.00 per ounce in the reasonably near future, the projected costs of \$20.00 per ton can be met, and a viable operation maintained, providing an aggressive mine exploration program is successful in adding to the existing reserves.

The ore potential at Bralorne should be reviewed with emphasis on the King mine and the area above 26 level. An exploration program should be developed on the basis of this review. A program would be set in motion immediately a decision is made to rehabilitate the old operation. Such a decision should only be made, however, if sufficiently attractive targets can be located.

If there is a possibility of a further substantial increase in the price of gold, then the present hoisting installations, other than the electrics, should not be moved.

This report covers the Bralorne operation only. Consideration should also be given to Pioneer, and perhaps to the P.E. group.



J.S. Thomson

July 28, 1972

301

+0.25

x 30  
x 25

BRALORNE RESERVES AT CUT-OFF GRADES

<u>Vein</u>	<u>Tons</u>	<u>Tons</u>		
		<u>+ 0.25</u>	<u>+ 0.30</u>	<u>+ 0.35</u>
Upper 51	27,000	27,000	27,000	19,000
Lower 51	95,000	53,000	37,000	19,000
55	89,000	37,000	25,000	21,000
59	8,000	6,000	6,000	5,000
73	48,000	15,000	10,000	5,000
75	27,000	13,000	9,000	9,000
Upper 77	107,000	72,000	51,000	25,000
Upper 79	31,000	17,000	15,000	10,000
Lower 77	168,000	65,000	36,000	29,000
Lower 79	69,000	14,000	12,000	11,000
Total	669,000	319,000	228,000	153,000
Upper	432,000	240,000	180,000	110,000
Lower	237,000	79,000	48,000	43,000

51 VEIN - ABOVE 800

451 F.W.            171 + 50 - 50' @ 2.0' @ 0.30

177 + 50 - 200' @ 4.0' @ 0.40

Stope maps not available - possible 50' above and  
200' below.

Access from Empire shaft should be ok.

Potential - 19,500 @ 0.38

751 east of shaft

8,830 @ 0.23

Total            19,500 @ 0.38 }  
                  8,830 @ 0.23 }

27,300 @ 0.34

<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
27,300	@ 0.34	= 9,250



51 AND 53 (8 - 20)

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
10	2,180	0.44	960
11	3,570	0.22	785
	1,455	0.44	640
	590	0.21	124
	1,160	0.35	405
12	1,400	0.17	238
13	3,550	0.24	853
	1,330	0.24	318
14	2,100	0.28	588
	2,500	0.39	975
	3,275	0.21	685
	620	0.29	180
	1,330	0.24	318
	960	0.23	220
	420	0.21	88
	2,800	0.32	895
	375	0.38	142
	1,030	0.36	370
	2,775	0.20	555
	5,900	0.31	1,830
	2,800	0.23	645
15	500	0.39	195
	2,475	0.24	592
	430	0.16	69
	450	0.22	99
16	720	0.39	280
	1,850	0.38	704
	1,380	0.21	291
	800	0.33	264
	2,475	0.24	590
	430	0.16	69
	650	0.52	338
	450	0.22	99
17	650	0.52	337
	2,800	0.23	645
	450	0.44	197
18	1,230	0.36	442
	7,000	0.26	1,820
	2,590	0.24	620
	2,660	0.24	639

Continued.....

51 and 53 (8 - 20) -- Continued

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
19	1,500	0.34	508
	2,600	0.30	780
	1,230	0.36	440
	3,350	0.26	872
	1,500	0.28	420
20	2,600	0.30	780
	2,630	0.23	605
	3,140	0.42	1,315
	745	0.34	253
	600	0.30	180
	1,500	0.34	520
	275	0.21	58
	<u>1,000</u>	<u>0.17</u>	<u>170</u>
Total	94,960	0.285	27,005
+ 0.25	52,735	0.33	17,366
+ 0.30	37,420	0.37	13,750
+ 0.35	19,120	0.40	7,740



55 VEIN

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
10	1,200	0.42	504
	1,400	0.20	280
	4,000	0.22	880
11	5,300	0.23	1,220
	600	0.16	96
	780	0.27	210
12	1,300	0.53	690
	1,300	0.28	363
	5,000	0.39	1,950
	4,000	0.37	1,480
	1,600	0.24	384
	3,900	0.32	1,050
	3,250	0.27	1,200
13	1,250	0.25	312
	1,900	0.16	303
	2,800	0.19	531
	1,600	0.24	383
	3,400	0.24	815
	1,300	0.19	247
	3,250	0.27	880
14	3,900	0.36	1,400
	1,500	0.36	540
	4,400	0.19	835
	1,900	0.16	304
	1,770	0.20	354
	2,600	0.22	573
	3,400	0.24	815
	1,850	0.21	388
	1,300	0.19	247
15	980	0.23	225
	4,400	0.19	835
	2,550	0.54	1,370
	1,950	0.21	410
17	980	0.23	235
	2,200	0.25	550
	1,850	0.16	296
	1,850	0.35	647
Total	88,510	0.269	23,802
+ 0.25	37,030	0.35	12,946
+ 0.30	25,200	0.38	9,631
+ 0.35	21,300	0.40	8,581

59 VEIN

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
10	2,240	0.33	738
	710	0.39	277
	975	0.88	857
	1,020	0.24	245
11	484	0.39	188
	396	0.37	146
	690	0.35	241
	1,020	0.24	245
	250	0.31	77
Total	7,785	0.387	3,014
+ 0.25	5,745	0.33	2,524
+ 0.30	5,745	0.33	2,524
+ 0.35	5,495	0.45	2,447

73 VEIN

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>	
10	8,000	0.19	1,520	(51B)
12	2,000	0.18	360	
	1,730	0.18	311	
13	2,000	0.18	360	
14	3,100	0.20	620	
	1,600	0.16	256	
15	1,500	0.16	250	
	700	0.15	105	
	1,600	0.38	607	
16	2,500	0.32	800	
	1,800	0.38	685	
	440	0.39	171	
	1,350	0.19	256	
	900	0.40	360	
	800	0.22	176	
	1,000	0.18	180	
17	440	0.39	172	
	1,350	0.19	256	
	1,000	0.18	180	
19	900	0.21	189	
	1,300	0.33	430	
	2,550	0.21	535	
20	4,500	0.25	1,120	
	900	0.21	189	
	1,300	0.33	430	
	2,550	0.21	535	
Total	47,810	0.24	11,053	
+ 0.25	14,780	0.32	4,775	
+ 0.30	10,280	0.36	3,655	
+ 0.35	5,180	0.39	1,995	



75 VEIN

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
14	1,000	0.18	180
	1,500	0.36	464
16	1,920	0.26	500
	4,400	0.22	970
17	500	0.16	80
	4,550	0.22	1,000
	500	0.16	80
	1,500	0.22	329
18	2,100	0.28	587
	500	0.24	120
	1,450	0.24	348
	1,200	0.41	482
	1,000	0.36	360
20	675	0.79	532
	2,100	0.44	925
	<u>2,175</u>	<u>0.39</u>	<u>847</u>
Total	27,070	0.288	7,804
+ 0.25	12,670	0.37	4,697
+ 0.30	8,650	0.42	3,610
+ 0.35	8,650	0.42	3,610

77 VEIN (14 - 26)

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
14	11,500	0.32	3,680
18	1,200	0.22	264
	2,700	0.31	838
	1,800	0.19	343
	2,430	0.18	437
19	1,800	0.19	342
	2,430	0.18	437
	500	0.18	90
20	1,000	0.16	160
	2,400	0.25	600
	2,500	0.28	700
21	4,000	0.40	1,600
	7,000	0.26	1,820
	4,300	0.35	1,510
	1,400	0.24	336
	1,900	0.23	436
	2,000	0.25	500
22	1,400	0.24	335
	4,320	0.32	1,380
	8,000	0.35	2,800
	2,430	0.25	607
23	5,122	0.33	1,690
	3,745	0.36	1,345
24	2,100	0.35	735
	2,400	0.39	935
25	2,835	0.26	735
	1,656	0.32	530
	3,400	0.17	578
26	1,980	0.22	435
	2,691	0.20	538
	4,644	0.18	833
	6,210	0.19	1,180
	2,250	0.19	428
	700	0.40	280
	550	0.34	186
Total	107,295	0.278	29,643
+ 0.25	71,508	0.31	22,471
+ 0.30	51,093	0.34	17,509
+ 0.35	25,245	0.38	9,625

79 VEIN - ABOVE 26

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
22	1,275	0.39	497
	1,275	0.38	485
24	1,170	0.39	456
	900	0.27	243
	2,450	0.30	735
	530	0.48	254
	900	0.49	441
	360	0.42	151
25	1,170	0.39	456
	900	0.27	243
	2,380	0.30	714
	3,763	0.17	640
26	3,863	0.17	656
	310	0.49	152
	1,760	0.43	755
	720	0.25	180
	1,170	0.19	222
	3,240	0.21	680
	1,170	0.40	466
	1,488	0.23	342
Total	30,794	0.285	8,768
+ 0.25	17,270	0.36	6,228.
+ 0.30	14,750	0.38	5,562
+ 0.35	9,920	0.42	4,113



77 VEIN - BELOW 26

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
27	6,210	0.19	1,160
	1,593	0.16	254
	2,250	0.19	426
	702	0.40	281
	1,344	0.19	255
	558	0.34	190
28	2,688	0.15	405
	1,593	0.16	254
	3,402	0.19	645
	3,442	0.16	550
29	2,688	0.15	405
	3,402	0.19	648
	3,942	0.16	631
	5,016	0.21	1,050
	3,077	0.17	523
30	5,016	0.21	1,050
31	4,140	0.23	950
	1,548	0.19	294
	3,102	0.17	527
32	1,248	0.19	234
	1,767	0.18	318
33	1,245	0.19	237
	3,948	0.23	750
	939	0.24	225
	1,201	0.18	216
	900	0.24	215
	2,616	0.19	496
34	6,348	0.32	2,030
	2,632	0.22	580
	2,616	0.19	497
35	2,622	0.22	575
	1,242	0.24	298
	664	0.19	126
36	3,420	0.20	684
	864	0.19	164
	768	0.38	292
	990	0.26	257
	630	0.21	132

Continued.....

77 Vein - Below 26 -- Continued.

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
37	3,420	0.20	684
	3,999	0.24	956
	3,312	0.25	826
	768	0.38	292
	990	0.26	257
	630	0.21	132
38	3,999	0.24	956
	3,312	0.25	826
	8,778	0.20	1,756
	3,330	0.37	1,230
	720	0.44	317
Total	125,631	0.215	27,056
+ 0.25	21,798	0.31	6,798
+ 0.30	13,194	0.35	4,632
+ 0.35	6,288	0.39	2,412

77 VEIN (39 - 44)

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
39	8,850	0.26	2,300
	7,500	0.27	2,030
	4,500	0.25	1,120
	5,600	0.40	2,240
43-45	<u>17,000</u>	<u>0.60</u>	<u>10,200</u>
Total	43,450	0.41	17,890
+0.25	43,450	0.41	17,890
+0.30	22,600	0.55	12,440
+0.35	22,600	0.55	12,440



79 VEIN - BELOW 26

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
27	526	0.49	258
	1,800	0.43	774
	720	0.25	180
	360	0.88	317
	1,170	0.22	257
	3,240	0.21	680
	1,100	0.19	207
	1,170	0.40	467
	1,488	0.23	341
28	720	0.23	165
	1,980	0.15	297
	360	0.88	317
	1,170	0.20	234
	810	0.40	324
29	720	0.24	165
	1,980	0.15	297
	360	0.74	266
	810	0.40	324
	930	0.29	269
30	930	0.29	269
	630	0.65	410
31	3,627	0.20	725
	1,980	0.16	317
32	2,520	0.23	580
	1,980	0.23	454
	3,840	0.21	806
	3,627	0.20	725
	1,980	0.16	317
33	2,520	0.23	579
	810	0.32	259
	3,840	0.21	806
	1,080	0.68	732
	785	0.62	486
	710	0.43	305
	810	0.65	526
	2,100	0.16	336
34	810	0.32	259
	2,600	0.16	415

Continued.....

79 Vein - Below 26 -- Continued.

<u>Level</u>	<u>Tons</u>	<u>Assay</u>	<u>Ounces</u>
35	1,056	0.18	190
	1,920	0.20	384
36	1,920	0.20	384
37	1,800	0.24	431
38	1,800	0.24	431
	1,935	0.20	386
Total	69,024	0.255	17,651
+ 0.25	14,411	0.42	6,742
+ 0.30	11,831	0.51	6,024
+ 0.35	11,021	0.53	5,765

OREBODY AT BOTTOM OF 77 VEIN

The following lengths of ore are continuous from 130 feet at the east end of the decline to 41 feet at the west end of the decline. The vein is open at the east end, though low grade, and closed by a fault at the west end:-

<u>Length</u>	<u>Width</u>	<u>Assay</u>
130	7.5	0.795
123	7.4	1.39
80	6.5	1.25
98	4.6	1.17
59	6.5	0.83
<u>41</u>	<u>3.2</u>	<u>1.01</u>
531	6.17	1.08