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AZ

Proven / Probable = 55,000

Recoverable = 60% ?

\$2,000,000 = 60% ?

Review

File

of the

Bighorn Mine Reserve

Maricopa County
Arizona

metallurgy ?

for

RODDY RESOURCES INC.

by

Kevin T. James, B.Sc. FGAC

PIKA GEOLOGIC INC.
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April 16, 1990

Table of Contents

SUMMARY and CONCLUSIONS	1
INTRODUCTION	3
Location and Access	3
Topography and Climate	3
Background	3
GEOLOGY	4
MINERALIZATION	4
RESERVES	5
Reserve Review	6
Pre-Belmoral Studies	6
Belmoral Studies	6
Current Reserve Picture	7
POTENTIAL	8
RECOMMENDATIONS	9
REFERENCES	11
CERTIFICATE	12
APPENDIX	13

SUMMARY and CONCLUSIONS

Roddy Resources Inc. operates the Bighorn Heap Leach Gold Mine approximately 30 miles southwest of Wickenburg, Arizona. The mine property consists of 10 patented claims at the minesite and 357 unpatented, contiguous claims encompassing roughly 7,000 acres.

The mine exploits a structurally controlled epithermal deposit. Mineralized zones, up to 130 feet wide, are identified as epithermal en-echelon vein systems hosted within a siliceous, bleached lithologic unit. At least four zones have been found over a total strike length of some 3,200 feet.

Past management and production problems have forced the closure of mine operations. Nevertheless, reworking and leaching existing pads provides some revenue, and enables Roddy to keep their processing circuit in a workable state. To-date, the mine has produced +8,500 ounces gold.

Roddy management has asked the author to review previous reserve studies to determine an appropriate reserve base for the mine. No attempt was made to calculate new reserves. The reviewed studies consisted of a Pincock, Allen & Holt study, a Watts, Griffis & McOuat study, and several studies completed by Belmoral Mines Ltd. All reserves were adjusted to reflect the pit status as of October 1989 when active mining ceased.

Given the management problems during 1988 and 1989, all coincident reserve studies completed by Belmoral Mines Ltd. are classified as "indicated" by the author. Only the Watts, Griffis, & McOuat proven reserves were accepted as the proven reserve. In order to establish an acceptable mix of proven and indicated reserves from the preceeding studies, the following method was adopted:

Belmoral's Gross Indicated Reserves
minus
WGM's Proven Reserve
equals
Indicated Reserve

This produced the following reserve mix:

Proven Reserves

Lower Shaft Zone	489,027 tons @ 0.058 opt Au =	28,364 oz.	Au
Upper Shaft Zone	16,900 tons @ 0.079 opt Au =	1,335 oz.	Au
Total	505,927 tons @ 0.059 opt Au =	29,699 oz.	Au

Indicated Reserves

Lower Shaft Zone	330,389 tons @ 0.038 opt Au = 12,627 oz.	Au
Upper Shaft Zone	170,525 tons @ 0.075 opt Au = 12,851 oz.	Au
Total	500,914 tons @ 0.051 opt Au = 25,478 oz.	Au

In order to re-classify the above indicated reserves to the proven category, a re-assessment of available information, coupled with additional verification work, should be undertaken. This would entail a complete geologic study of the present pit areas. A preliminary cost estimate for such work totals about \$50,000.

INTRODUCTION

Roddy Resources Inc., whose Arizona address is Suite 7, 990 Whipple Street, P.O. Box 2406, Wickenburg, Arizona 85358, has retained the author to review the reserve status of the company's Bighorn Mine. The gold mine is an open pit heap leach operation located in Maricopa County in west-central Arizona. The mine exploits a structurally controlled epithermal gold deposit.

The site was visited by the author during December 18-20, 1989. The geology, mineralization, and reserves of the Bighorn orebody were examined during the visit. Moreover, Roddy provided copies of maps and reports completed during several previous reviews of the property by Professional Engineers.

Location and Access

The Bighorn Mine is situated in the Bighorn Mountains of Maricopa County, Arizona, at latitude 33 43'N and longitude 113 02'W (see attached location map). Wickenburg, located 35 miles northeast, is the nearest town of any size. Access from the town is via a combination of 43 miles of paved and secondary gravel roads. All secondary gravel roads are well maintained.

Topography and Climate

The minesite straddles a north - south trending ridge which rises above 2,500 feet in elevation. Current mine dumps are well situated along the slopes of the ridge system.

The area has a desert climate. Summers are very hot, with temperatures exceeding 110 degrees Fahrenheit. Winters are moderate, with daily highs in the 70 degree Fahrenheit range. Nighttime lows get below freezing.

Background

Roddy Resources Inc. acquired the Bighorn mine properties in 1984, and subsequently carried out exploration which consisted of soil and rock sampling, mapping, reverse circulation drilling (17,540 feet in 67 holes), and underground mapping and sampling. Probable reserves were calculated at 1,097,000 tons ore at 0.064 opt gold. Given this reserve picture, Roddy formulated plans to bring the project into production. Pincock, Allen, and Holt were commissioned to design an open pit plan for the mine. Furthermore, Watts, Griffis, and McQuat reviewed the ore reserves and operation, and Wrights Engineers provided an operations cost estimate.

After arranging financing, Roddy initiated production in December 1986. Unfortunately, start-up problems coupled with a

Land Area 113,510 sq. mi.
 Population 3,327,000 (1960)
 Dimensions N-S 390 miles; E-W 325 miles
 Highest Point: Humphreys Peak 12,633 ft., G-7
 Capital: Phoenix, E-6
 Largest City: Phoenix, E-6
 Inset map 194

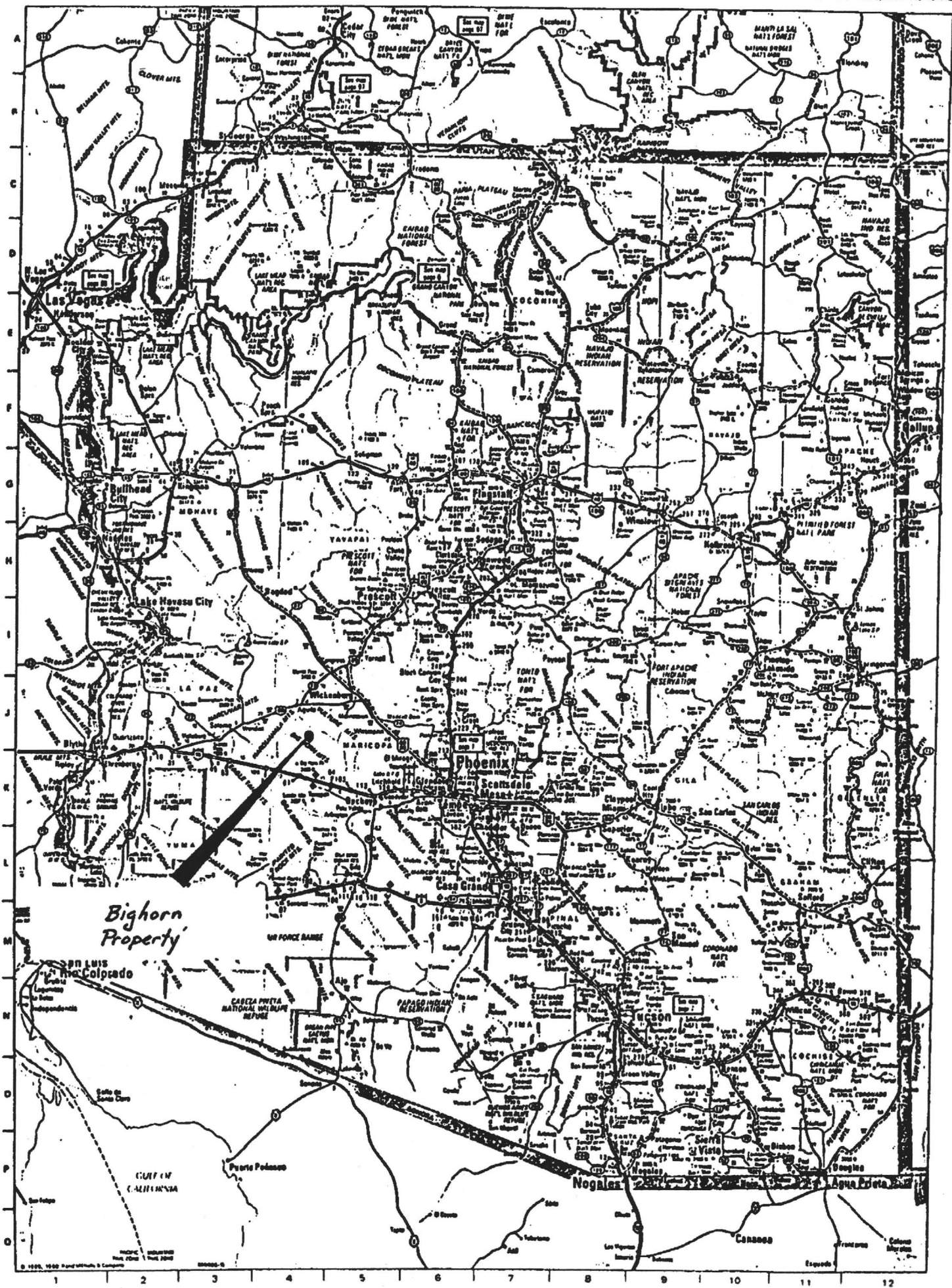


CA 9-10
 MEX 9-11
 Grand Canyon National Park, E-8
 Lake Powell (Glen Canyon Nat'l Res. Area), C-8
 Oak Creek Canyon, G-7
 Petrified Forest National Park, H-11
 Saguaro National Monument, H-9

Scale 1:1,000,000
 Mileage in red between road
 intersections; in black between
 intersections. Some interchange
 numbers indicate mileage

Phoenix	376 347 107	81 188 216 138	01 253 97 308
Phoenix	458 164	92 136 217 164 383	00 117 104 176
Phoenix	417 160 168	21 120 102 237 90	312 148 217
Phoenix	473 208	87 253 323 300	64 127 212
Phoenix	524 103	177 308 347 220 308	178 217 237 308

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Bighorn Property

San Luis

Colgado

CARTEA PINEA NATIONAL WILDLIFE REFUGE

PAPAGO INDIAN RESERVATION

PUERTO PADRON

GULF OF CALIFORNIA

San Felipe

San Luis

San Felipe

San Luis

weak financial situation forced the closure of the mine in November 1987. Left with a substantial debt, Roddy arranged a financial deal with Belmoral Mines of Toronto in December 1987. For US\$4.5 million, Belmoral relieved Roddy's debt and provided the management for the operation.

By June 1988, mine operations were resumed. Over the course of the following year, it became apparent that the mine was experiencing management and financial problems. Costs were extremely high and ore production was significantly lower than expected. Clearly, no mine plan was followed. Instead, the ore zones had been robbed to provide the necessary mill feed on an as need basis. It got to the point where ore availability was virtually nil because of the lack of scheduled waste removal. Furthermore, the mine equipment was allowed to deteriorate to an inoperable state. As a result of the poor management, substantial debts were run up against Roddy accounts. In May 1989, Belmoral was removed as operator of the mine.

Since May 1989, Roddy has re-furbished mine equipment and removed some 500,000 tons of material to restore the pit to a minable state. No ore has been mined. Revenues have been generated from leaching and re-working existing heaps. To-date, the mine has managed to produce roughly +8,500 ounces gold.

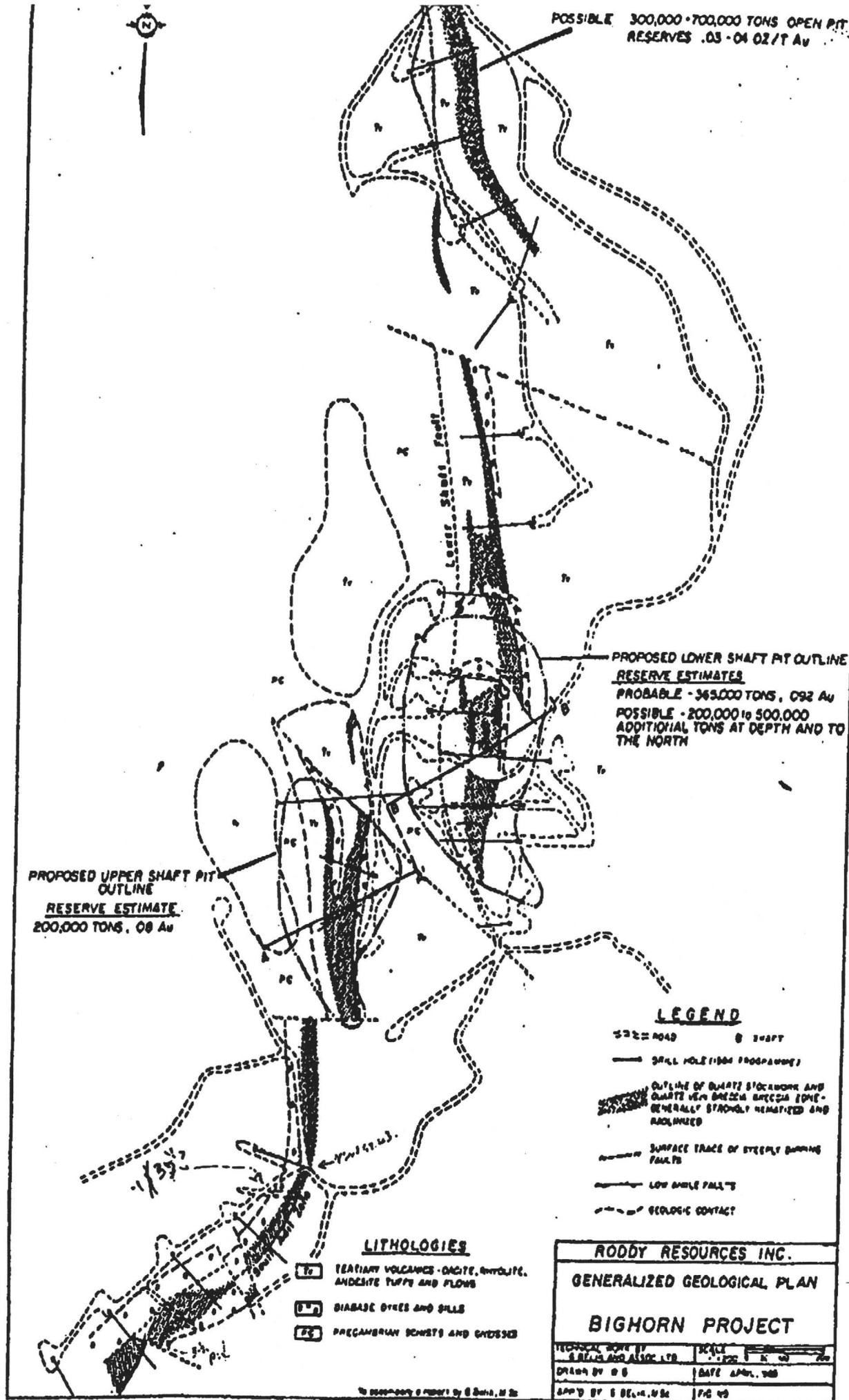
GEOLOGY

The Bighorn property straddles a major north-trending fault system which brings a Tertiary volcanic sequence to the east into contact with Precambrian schists and gneisses to the west. The mineralized zones, which are up to 130 feet wide, are identified as an epithermal en-echelon vein system generally hosted within a siliceous, bleached unit which resembles a rhyolitic quartz porphyry tuff. To illustrate the geometry and size of this epithermal system, a geologic plan view and cross-section are attached.

Tertiary volcanic flows on the property range in composition from andesitic to rhyolitic, but are predominantly dacitic. In the mineralized zone these are brecciated, veined, variably bleached (pyritized), and silicified. Adjacent to the south of the leach pads, the andesite shows hematitic (purple) propylitic alteration, with kaolinization on some of the further epithermal vein systems at depth. Similar zones have been noted to the south and north of the present pit areas, primarily from the propylitic alteration patterns, and the manganese flooding of the wall rocks.

MINERALIZATION

Gold mineralization has been found in at least four separate zones over a total strike length of more than 3,200 feet. These zones are well defined by soil geochemical surveys. Two of these



zones, the Upper and the Lower Shaft zones have recently been mined by open pit methods. The other two zones, the "North Adit" and the "South Adit" zones have been less well explored, but are very significant epithermal vein systems.

Mineralization is essentially hosted by a complex quartz vein system which shows an intense stockwork of quartz veins and veinlets up to 130 feet wide, containing localized silicified vein/breccias. Quartz within the stockwork is generally banded with abundant drusy cavities. Locally, the quartz contains jasperoid fragments and bands.

Fine grained native gold, occasionally assaying over 1.0 opt, occurs within both the stockwork and vein/breccia zones. Copper, as secondary oxides, carbonates, and silicates, is locally abundant within the vein/breccia zones. The overall average copper content is reported to be between 0.15% and 0.30%. Silver is present in amounts 3 to 10 times the gold content.

RESERVES

Several reserve studies have been completed on the Bighorn Mine. A comparison of reported proven open pit reserves (undiluted) are as follows:

Pincock, Allen & Holt (January 1987) (1)

Lower Shaft Zone	508,500 tons @ 0.069 opt Au = 35,086 oz. Au
Upper Shaft Zone	27,200 tons @ 0.067 opt Au = 1,822 oz. Au
Total	535,700 tons @ 0.068 opt Au = 36,908 oz. Au

Watts, Griffis & McQuat (January 1987) (2)

Lower Shaft Zone	489,027 tons @ 0.058 opt Au = 28,364 oz. Au
Upper Shaft Zone	16,900 tons @ 0.079 opt Au = 1,335 oz. Au
Total	505,927 tons @ 0.059 opt Au = 29,699 oz. Au

Belmoral (V. Popov) (3)

Upper and Lower Shaft Zones	571,679 tons @ 0.068 opt Au = 38,628 oz. Au
Total	571,679 tons @ 0.068 opt Au = 38,628 oz. Au

Belmoral (Geiber and Fulton) (4)
revised by author February 1990.

Lower Shaft Zone	819,416 tons @ 0.050 opt Au = 40,991 oz. Au
Upper Shaft Zone	187,425 tons @ 0.076 opt Au = 14,186 oz. Au
Total	1,006,841 tons @ 0.055 opt Au = 55,177 oz. Au

Note: Lower grade cutoffs were used as follows:

1. 0.022 opt Au.
2. 0.015 opt Au
3. 0.022 opt Au.
4. 0.012 opt Au.

All above reserves are adjusted to present bench elevations as of October 1989.

Reserve Review

All the above reserve studies were reviewed to determine the most accurate reserve base for the Bighorn Mine. In the course of the review, the reserve studies could be divided into two main groups: the Pre-Belmoral Studies and the Belmoral Studies.

Pre-Belmoral Studies

The Pre-Belmoral Reserve Studies are essentially comprised of two studies: the Pincock Allen & Holt (PAH) Study, and the Watts, Griffis and McQuat (WGM) Study. Both studies were completed by Professional Engineers and are accepted as accurate reserve studies of the Bighorn Mine. Moreover, subsequent drilling completed after these reserve studies justifies their continued use as an acceptable reserve base. As both studies could not be used to establish the reserve base, I opted to follow a conservative approach by accepting the smaller of the two reserves. For this reason, WGM's reserve was used as the proven reserve.

Belmoral Studies

The Belmoral reserve calculations consist of two main reserve studies: the Victor Popov Study and the Geiber and Fulton Study.

The Victor Popov study utilized a cross-sectional reserve calculation which quantified reserves by section only. No attempt was made to construct bench plans for mine planning. The sections are very roughly constructed, and have not been formalized into a detailed report. These reserves should not be considered as proven reserves because of the lack of details to back them up.

In the case of the Geiber and Fulton reserve study, the reserves were quantified on a bench by bench basis. Again, the

details of the reserve study were not formalized into a detailed report. Hence the reserves should not be regarded as proven. However, one interesting aspect of this reserve study is its similarity in ore tonnage in the upper benches with previous studies completed by PAH and WGM. The major disparity between this study and previous studies occurs in the lower pit benches. Here, the Geiber and Fulton reserves are greater than those reported by PAH and WGM.

Although the Belmoral reserve studies lack the proper formalization, they should not be ignored when assessing the Bighorn Mine. Both of the studies were based upon sufficient data to classify the reserves as proven. In fact, during the period Belmoral operated the mine, over 16 drillholes were drilled within the mine which totalled over 4,000 feet. Ten holes helped further define the Upper Shaft Pit while 6 holes provided some fill-in on the Lower Shaft Pit. This drilling, coupled with previous drilling, provides a good technical database for a reserve study. Consequently, although the Belmoral reserves should not be accepted as proven, the ore intersection details of the drill data suggests that they should be considered as indicated or probable.

The Geiber and Fulton reserves are accepted by the author as the most reasonable assessment of indicated reserves.

Current Reserve Picture

In order to provide a reasonable estimate of the reserves for the Bighorn Mine, I have balanced the Watts, Griffis, & McOuat proven reserves with the Belmoral (Geiber and Fulton) indicated reserves to provide a mix of proven and indicated reserves for the immediate pit areas. The following method was adopted to estimate the current reserve picture:

Belmoral's Gross Indicated Reserve
minus
WGM's Proven Reserve
equals
Indicated Reserve

The current reserves (undiluted), as adjusted above, for the Upper and Lower Shaft Zones are as follows:

Proven Reserves

Lower Shaft Zone	489,027 tons @ 0.058 opt Au = 28,364 oz. Au
Upper Shaft Zone	16,900 tons @ 0.079 opt Au = 1,335 oz. Au
Total	505,927 tons @ 0.059 opt Au = 29,699 oz. Au

Indicated Reserves

Lower Shaft Zone	330,389 tons @ 0.038 opt Au = 12,627 oz. Au
Upper Shaft Zone	170,525 tons @ 0.075 opt Au = 12,851 oz. Au
Total	500,914 tons @ 0.051 opt Au = 25,478 oz. Au

* definitions of proven and indicated reserves are in Appendix.

POTENTIAL

These reported reserves encompass the Upper and Lower Shaft Pits only. However, excellent open pit potential exists to the south and north of the immediate mine area. To the north, geochemical surveys have outlined an anomalous zone roughly equal in size to the Lower Shaft Pit. This area, known as the North Adit Zone, has had some drilling completed to-date. Excellent continuity of ore in the North Adit Zone, based upon 5 drillholes, permitted a reasonable tonnage estimate by Watts Griffis & McQuat of 450,000 tons ore at 0.032 opt gold. Further drilling is definitely warranted to firm up a minable reserve. Other reserve definition to the north may also exist at the site of the old Contact Mine. Although this area did not respond favourably to soil geochemistry, Roddy management report the presence of gold in some drillholes. Unfortunately, no past records for the Contact Mine are available.

To the south and adjacent to the present pit areas, some potential exists in the area known as the South Adit Zone. Drilling and sampling of this zone has indicated discontinuous mineralization. Essentially, this area remains an exploration target. Open pit reserves would likely be small and higher grade - about 25,000 tons @ 0.09 opt.

In addition to the open pit reserve potential, the Bighorn Mine has excellent underground potential. High grade gold bearing vein shoots within the present pit areas show good continuity. None of the vein systems show characteristic massive sulphides which indicate the bottoming of gold mineralization in an epithermal system. Furthermore, drill data indicate the progressive enrichment of the gold with depth. Hence, higher

grade gold values (0.5 to 1.0 opt) are expected from the main zone of gold deposition. Drilling to-date has intersected high grade shoots assaying 0.851 opt over 10 feet (~ 8 feet horizontal). So far, the underground potential below the planned pits remains untested. Given the evidence of high grade shoots of minable width, together with the 3,200 foot strike length of the epithermal system, an underground reserve of +250,000 tons is reasonable exploration target.

RECOMMENDATIONS

In the author's opinion, the current reserves as quantified by Belmoral require further verification in order to classify the reserve as proven. In order to re-classify the reserve, the following should be undertaken:

1. Compile all drill and trench data into a formalized database.
2. Geologically map and sample the exposed ore zones in the pit.
3. Verify old drill holes by resampling where possible. Send samples to a Canadian laboratory for assaying.
4. Drill 1,000 feet of verification drilling to establish ore zone continuity and to double check previous work.
5. Re-survey drillhole locations where possible.
6. Re-interpret the geology. Produce geologic cross-sections and associated bench plans.
7. Calculate reserves.
8. Formalize all the above into a detailed report for mine planning purposes.

Generally, related costs for the above work are as follows:

Reverse Circulation Drilling (1,000 feet @ \$10/foot)	\$10,000
Geologists (28 days)	
Geologist (\$300/day)	\$8,400
Geologic Assistant (\$150/day)	\$4,200
Accommodation and Meals (28 days at \$150/day)	\$4,200
Assays (500 samples @ \$15 per sample)	\$7,500
Shipping	\$300

Surveying (7 days @ \$600/day)	\$4,200
Report and Reserve Calculation	\$5,000
Contingency @ ~10%	\$4,500
Total	\$48,300

REFERENCES


- Belik, G., 1986; Preliminary Reserve Estimates, Bighorn Project, Maricopa County, Arizona, USA.
- Dasler, P.G. and Smith, F.M., 1987; Report on the Bighorn Property Arizona, for Roddy Resources Inc, by Searchlight Resources Inc.
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- Watts, Griffis, & McOuat Limited, 1987; Review of Ore Reserves and Operation of the Bighorn Mine, Arizona, for Roddy Resources Inc.
- Zimmer, G.S., 1987; Minalbe Reserves and Production Schedules for the Bighorn Project, Wickenburg, Arizona, for J. Devins Resources Group Inc., by Pincock, Allen & Holt, Inc.

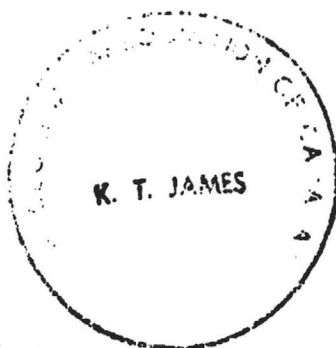
CERTIFICATE

I, Kevin T. James, of 51 - 8400 Forest Grove Drive, Burnaby, B.C., do hereby certify that:

1. I am a graduate (1981) of the University of British Columbia, with a Bachelor of Science degree in geology.
2. I have practised as an exploration and mine geologist for 9 years of which 6 years were spent with Denison Mines Limited.
3. I am a Fellow of the Geological Association of Canada.
4. This report is based upon knowledge gained from observations in the field, and from studies of published reports.
5. I do not have any direct or indirect interest in the securities of Roddy Resources Inc. nor do I expect any.

Burnaby, B.C.
March 31, 1990


Kevin T. James BSc.
Geologist



APPENDIX

DEFINITIONS

For the purpose of this reserve estimate and this report, we have used the terms "ore" and "proven and probable ore" as defined in the guidelines set by the Canadian Provincial Securities Administrators and outlined in National Policy 2-A.

Ore is a natural aggregate of one or more minerals which, at a specified time and place, may be mined at a profit or from which some part may be profitably separated.

Proven or measured ore means that material for which tonnage is computed from dimensions revealed in outcrops or trenches or underground workings or drill holes and for which the grade is computed from the results of adequate sampling, and for which the sites for inspection, sampling and measurement are so spaced and the geological character so well defined that the size, shape and mineral content are established, and for which the computed tonnage and grade are judged to be accurate within limits which shall be stated and for which it shall be stated whether the tonnage and grade of proven or measured ore are "in situ" or extractable, with dilution factors shown, and reasons for the use of these dilution factors clearly explained.

Probable or indicated ore means that material for which tonnage and grade are computed partly from specific measurements, samples or production data, and partly from projection for a reasonable distance on geological evidence, and for which the sites available for inspection, measurement and sampling are too widely or otherwise inappropriately spaced to outline the material completely or to establish its grade throughout.

These definitions are substantially the same as those applied by the United States Securities and Exchange Commission which are based on definitions developed by the United States Bureau of Mines and the United States Geological Survey.

Table 3-1

J. Devins Resource Group Inc.
Bighorn Project

MINABLE RESERVES
UPPER SHAFT ZONE

BENCH			ORE (+0.022)		Waste Tons	W:O Ratio	Total Tons	TPD ore	waste
Crest	Mid	Toe	Tons	oz/ton					
2637.5	2625	2612.5	0	0.000	3100		3100	—	
2612.5	2600	2587.5	0	0.000	17800		17800		
2587.5	2575	2562.5	5600	0.046	33700	6.02	39300		
2562.5	2550	2537.5	17600	0.081	31800	1.81	49400		
2537.5	2525	2512.5	24900	0.085	30100	1.21	55000	570	3410
2512.5	2500	2487.5	20900	0.065	39800	1.9	60700	770	3230
2487.5	2475	2462.5	17800	0.070	38500	2.16	56300	710	3270
2462.5	2450	2437.5	9400	0.054	2300	0.24	11700	930	370
			96200	0.072	197100	2.05	293300		

Overall avg grade = 0.064
" waste:ore 4.3:1

4.35:1

J. Devins Resource Group Inc.
Bighorn Project

11

MINABLE RESERVES
LOWER SHAFT ZONE

BENCH			ORE (+0.022)		Waste Tons	W:O Ratio	Total Tons	TPD Ore	100% Cu
Crest	Mid	Toe	Tons	oz/ton					
2612.5	2600	2587.5	25900	0.030	27400	1.06	53300	1670	2330
2587.5	2575	2562.5	36900	0.041	130300	3.53	167200	1220	2750
2562.5	2550	2537.5	51300	0.056	242400	4.73	293700	840	3110
2537.5	2525	2512.5	56700	0.051	348900	6.15	405600	980	3020
2512.5	2500	2487.5	65300	0.054	400600	6.13	465900	930	3070
2487.5	2475	2462.5	62200	0.071	446100	7.17	508300	700	3200
2462.5	2450	2437.5	86000	0.064	437900	5.09	523900	750	3250
2437.5	2425	2412.5	70600	0.070	418400	5.93	489000	710	3240
2412.5	2400	2387.5	79500	0.055	348500	4.38	428000	910	3090
2387.5	2375	2362.5	33400	0.052	321300	9.62	354700	960	3240
2362.5	2350	2337.5	66100	0.050	222900	3.37	289000	1020	3250
2337.5	2325	2312.5	54300	0.049	169800	3.13	224100	1020	2950
2312.5	2300	2287.5	53400	0.093	110400	2.07	163800	540	3150
2287.5	2275	2262.5	35400	0.103	68900	1.95	104300	420	3210
2262.5	2250	2237.5	24500	0.119	33300	1.36	57800	420	3250
2237.5	2225	2212.5	5400	0.189	300	0.06	5700	260	2740
			806900	0.063	3727400	4.62	4534300		

Free assay x 0.6 = recoverable Au
Min 200 oz/ton
Including cap. cost

Wells G. 20's &
McQuat

TABLE 2
RESERVES - BIGHORN MINE
(as at January 20, 1987; cut-off grade 0.015 oz Au/ton)

	TONS <u>1000's</u>	GRADE <u>AS A. TON</u>	CONTAINED <u>OUNCES</u>
PROVEN ORE (Existing Pits as Planned)			
Lower Pit	776	.058	45,260
Upper Pit	<u>60</u>	<u>.079</u>	<u>4,740</u>
Total before dilution	836	.060	50,000
Dilution 12%	<u>100</u>	<u>.005</u>	<u>500</u>
TOTAL PROVEN ORE <i>un. J. L. J. 1st min. 2nd pit for new pit ...</i>	<u>936</u>	<u>.054</u>	<u>50,500</u>
PROBABLE ORE			
Expanded Upper Pit <i>902,300 tons @ 0.060 20/100</i>	66	.071	4,690
Dilution 12%	<u>8</u>	<u>.005</u>	<u>40</u>
Sub-Total - Expanded Upper Pit	74	.064	4,730
Underground Upper Zone	30	.290	8,700
Dilution 15%	<u>5</u>	<u>.005</u>	<u>30</u>
Sub-Total - Underground Upper Zone	28	.250	7,000
Underground Lower Zone	13	.072	940
Dilution 15%	<u>2</u>	<u>.005</u>	<u>10</u>
Sub-Total - Underground Lower Zone	<u>12</u>	<u>.063</u>	<u>760</u>
TOTAL PROBABLE ORE	<u>114</u>	<u>.110</u>	<u>12,490</u>
ADDITIONAL RESERVE (IN SITU)			
North Adit Zone	465	.032	14,880
South Adit Zone	<u>26</u>	<u>.098</u>	<u>2,550</u>
TOTAL ADDITIONAL RESERVE	<u>491</u>	<u>.035</u>	<u>17,430</u>
STOCKPILE	4	.06	240
LEACH PADS	50	.06	3,000
LESS PRODUCTION			(200)
GRAND TOTAL	<u>1,595</u>	<u>.052</u>	<u>83,460</u>

① @ 80% extraction

RODDY RESOURCES

March 22nd, 89

ORE RESERVES AS OF JANUARY 1989

LOWER SHAFT ZONE:

425,874 tons AT .0559 oz./TON An

ANTICIPATED DILUTION -20%

EXPECTED RECOVERY 511,000 tons AT .0466

UPPER SHAFT ZONE:

Vic VS Dave F
June Tons 43200 / 445185 ounces 20187 / 18931
grade .0466 / .0425

670857

244,983 TONS AT .0828 oz./TON

ANTICIPATED DILUTION -20% 48,916 TONS

EXPECTED RECOVERY 294,000 tons AT .0690 oz./TON

TOTAL

805,000 @ .05478

NORTH ADIT ZONE:

200,000 TONS AT .0444 oz./TON

ANTICIPATED DILUTION: 20% 40,000 tons

EXPECTED RECOVERY 240,000 TONS AT .037 oz./TON

PROBABLE

RODDY TOTAL 1,045,000 TONS AT 0.05069 oz./TON

52,970 ounces

The above tonnages are situated within the limits of the present open-pit layouts. The ore structure is however open to depth and another 140,000 tons, averaging .093 ounces of gold per ton before dilution is indicated with

160 feet of the projected pit bottom. If the regular 2% dilution is added to this tonnage, it will amount to 168,000 tons with

RODDY RESOURCES BIGHORN MINE
LOWER SHAFT PIT RESERVE
John Geiber - October 14, 1989

Bench	Ore Area	Ore Tons	Ore Grade	Ounces Gold	Dilution Density Factor		10% tons/cu.yd	
					Waste Tons	Diluted Ore	Adjusted Waste	Strip Ratio
2475					40000		40000	
2460					160000		160000	
2445					215000		215000	
2430	5587	62854	0.052	3268	248221	69139	241936	3.50
2415	6105	68681	0.053	3640	193563	75549	186695	2.47
2400	6495	73069	0.053	3873	191938	80376	184631	2.30
2385	5900	66375	0.045	2987	174817	73013	168180	2.30
2370	5860	65925	0.045	2967	174983	72518	168391	2.32
2355	5770	64913	0.041	2661	140958	71404	134467	1.88
2340	5545	62381	0.042	2620	141896	68619	135658	1.98
2325	5550	62438	0.048	2997	119175	68681	112931	1.64
2310	5450	61313	0.055	3372	119592	67444	113461	1.68
2295	5425	61031	0.052	3174	79146	67134	73043	1.09
2280	5150	57938	0.056	3245	80292	63731	74498	1.17
2265	5200	58500	0.055	3218	57708	64350	51858	0.81
2250	4800	54000	0.055	2970	59375	59400	53975	0.91
TOTAL		819416	0.050	40991	2196664	901358	2114722	2.35

RODDY RESOURCES BIGHORN MINE
UPPER SHAFT PIT RESERVE
John Geiber - April 24, 1989

Bench	Ore Area	Ore Tons	Ore Grade	Ounces Gold	Dilution Density Factor		10% tons/cu.yd	
					Waste Tons	Diluted Ore	Adjusted Waste	Strip Ratio
2510								
2495	1139	12814	0.08	1025	100528	14095	99247	7.04
2480	1363	15334	0.077	1181	133481	16867	131948	7.82
2465	1506	16943	0.074	1254	156787	18637	155093	8.32
2450	1517	17066	0.075	1280	166075	18773	164368	8.76
2435	1489	16751	0.072	1206	156728	18426	155053	8.41
2420	1550	17438	0.071	1238	149596	19181	147852	7.71
2405	1461	16436	0.072	1183	118699	18080	117055	6.47
2390	1406	15818	0.07	1107	102794	17399	101212	5.82
2375	961	10811	0.075	811	91559	11892	90478	7.61
2360	911	10249	0.074	758	75350	11274	74325	6.59
2345	867	9754	0.081	790	60982	10729	60007	5.59
2330	861	9686	0.084	814	46757	10655	45788	4.30
2315	833	9371	0.083	778	22923	10308	21986	2.13
2300	796	8955	0.085	761	13334	9851	12439	1.26
TOTAL		187425	0.076	14186	1395593	206168	1376851	6.68
GRAND TOTAL		1006841	0.055	55177	3592257	1107525	3491573	3.15

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Robby

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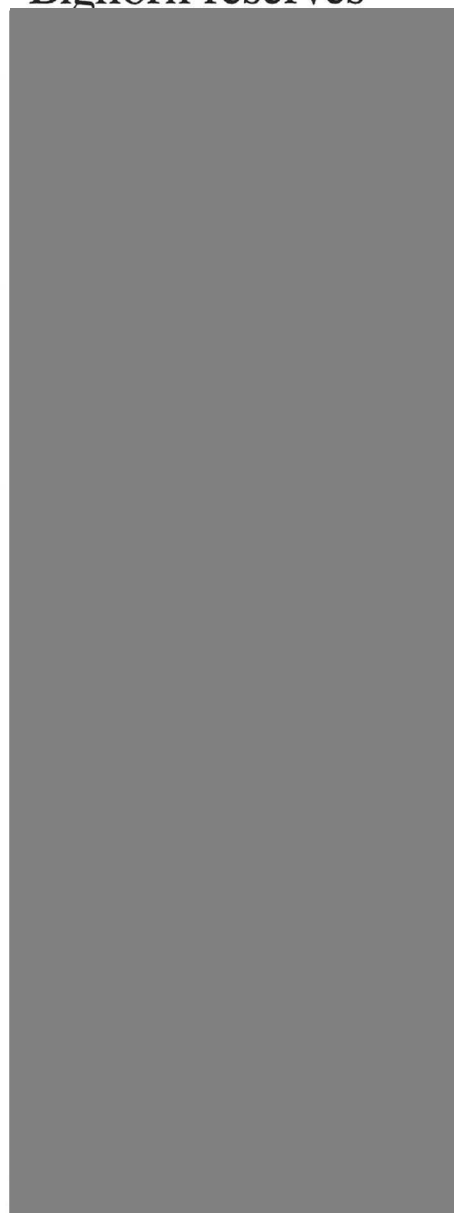
Roddy Res. getting Bighorn into shape



Northern Miner, Oct. 17, 1988



Roddy hopeful of increasing Bighorn reserves



Northern Miner, July 11, 1988

5-14-90 No. MINER

Belmoral agrees to sell stake
in Roddy, won't divulge buye



10-29-90 N. MINER
Belmoral shareholders approve Aur deal

