

REPORT ON

THE HOMESTAKE MINE

held jointly by

KAMAD SILVER COMPANY LTD. (N.P.L.)

and

CANADIAN RESERVE OIL AND GAS LTD.

Prepared by

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June 20, 1974

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THE HOMESTAKE MINE

ABSTRACT - This short report gives the location, history geology and many of the other salient features of the mine. Reserve Reports and feasibility studies by Angus G. MacKenzie, P. Eng. and F.P. Hodgson, P. Eng., plus other data is available for more detailed study. There is a possible indicated net profit, before taxes and royalties in excess of \$90 million dollars.

1. LOCATION

The Homestake Mine is located 54 miles northeast of Kamloops, B.C. and 3 miles from Squaam Bay on Adams Lake. The property can be reached by automobile, by traveling thirty miles north from Kamloops, B.C. on Hwy. No. 5 (Yellowhead) to Louis Creek, B.C. From Louis Creek you take the Agate Bay road (gravel) eighteen miles east toward Adams Lake.

The old workings and ore body are on the side of a steep hill, adjacent to Homestake Creek, about 700 feet above the valley floor. It is usually possible to drive to the upper portal most of the year. Numerous small creeks tumble down the sides of the "U" shaped valley, which forms the channel for Sinmax Creek. Timber is available if necessary on the claims held by the companies.

2. HISTORY

The Homestake Mine has been operated intermittently since before the turn of the century. Until 1929, the operations consisted of the recovery of high grade silver ore, which was shipped directly to the smelter. During 1935, a fifty ton mill was operated through which was passed roughly 3,000 tons of ore. The grade of this ore is not known. Mention is made of the property in numerous editions of the Yearly Minister of Mines Reports for the Province of British Columbia.

3. GENERAL GEOLOGY

The rocks in the area are members of the Adams Lake Series of the Shuswap Terrain. In the vicinity of the mine the main member is a quartz sericite talc schist. Bands of argillites overlay the sericites at higher elevations. Chloritic beds are present in the general vicinity. The general dip is northwest, varying from 15° to 40° , but more generally about 28° .

Three main zones of mineralization occur as "veins" conforming to the dip of the beds. These are named from the old write-ups as the 300, 400 and 500 veins. All of the veins contain barite, silver, chalcopyrite, tetrahedrite, galena and sphalerite with minor gold values.

4. PROPERTY

Kamad Silver Company Ltd. (N.P.L.) and Canadian Reserve Oil and Gas Ltd. hold five Crown grant claims surrounded by 106 located claims. Following is a list of the Crown Grants and claims:

Maple Leaf Group

Record No. Record No. н #26 85806 Troublesome L 829 Maple Leaf L 828 н #27 85807 H # 2 85782 н #28 85808 Н # З 85809 85783 н #29 85810 H # 4 85784 H #30 H # 5 85785 H #31 85811 H # 6 85812 85786 н #32 H # 7 Dell #1 85777 85787 H # 8 Dell #2 85778 85788 H # 9 Dell #3 85779 85789 85780 H #10 85790 Dell #4 Fred Fraction 84734 H #21 85801 84735 H #22 85802 Fred #1 Fred #2 84736 H #23 85803 84737 H #24 85804 Ray Fraction H #25 85805

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Homestake Group

	Record No.		Record No.
Homestake	L 827	Joe #72	55680
Silver Star No. 1 Frac.	L4566	Joe #75	55683
Joe # 30	55646	Joe #78	55686
Joe #47	55663	Kam # 3	76654
Joe #48	55664	Kam # 5	76656
Joe #49	55665	Kam #13	76664
Joe #50	55666	Kam #15	76666
Joe #51	55667	Kam #17	76668
Joe #52	55668	Max #12	76896
Joe #53	55669	Max #13	76897
Joe #54	55670	Max #14	76898
Joe #55	55671	Max #15	76899
Joe #56	55672	Max #24	76908
Joe #57	55673	Max #25	76909
Joe #58	55674	Max #26	76910
Joe #59	556 7 5	Max #27	76911
Joe #60	55676	Max # 3	76921
Joe #61	55677	Max #39	76922
Joe #62	55678	Max #40	76923
		Max #41	76924
		H #1 Fract	tion 85781

Argentum Group

	Record No.	• •	Record No.
Argentum	L 830	Kam #12	76663
H #11	85791	Kam #14	76665
н #12	85792	Kam #16	76667
н #13	85793	Kam #18	76669
н #14	85794	Kam #20	76671
н #15	85795	Kam #21	76672
H #16	85796	Kam #22	76673
н #17	85797	Kam #23	76674
н #18	85798	Kam #24	76675
н #19	85799	Joe #23	55639
н #20	85800	Joe #24	55640
Kam # 1	76652	Joe #25	55641
Kam # 2	7 6653	Joe #26	55642
Kam # 4	76655	Joe #27	55643
Kam # 6	76657	Joe #28	55644
Kam # 7	76658	Joe #29	55645
Kam # 8	76659	Joe #71	55679
Kam # 9	76660	Joe #74	55682
Kam #10	76661	Joe #77	55685
Kam #11	76662		

5. SERVICES

Some labor is available in the surrounding district, but the skilled mining and milling trades will have to be hired from other centers. It is planned that living accommodations, possibly a trailer camp can be set up within 3 or 4 miles of the mine.

B.C. Hydro have stated they will install the necessary power facilities from Louis Creek, B.C. The telephone company stated they could upgrade the present facilities when necessary. A water well has been drilled and completed on the farm adjacent to the mine and the tests indicated adequate water for the mill.

The Canadian National Railway passes through Louis Creek, B.C. and the Canadian Pacific Railway goes through Squalax, B.C., both of these railroads are about 18 miles from the mine.

In the vicinity of the mine, in the "U" shaped valley, local ranchers raise hay and cattle.

6. RECENT WORK

The present end of the 1750 adit is at 1910' from the portal. This should be driven another 220 ft. to intercept the 500 vein that was cut in the ore pass raise at 220'-260' up the raise. If the ore is the same thickness at this intersection another 60 ft. will have to be driven to reach the Hanging Wall side of the vein. This 280 feet of 10' x 10' adit will cost approximately \$150.00 per foot or \$42,000.

The planimetered area measured on the section amounts to 16,525 sq. ft. If the vein is projected 300 feet in both directions this would add 1,043,684 tons to the reserves. The average of the samples taken in the raise are as follows:

Gold oz/Ton	Silver oz/Ton	Barite	Lead	Zinc	Copper %
0.035	8.96	70.21	1.69	2.69	0.28

The reserve report of Angus MacKenzie used metal prices from The Northern Miner dated March 8, 1973. As these prices have changed, the following table gives the figures and prices as shown in The MacKenzie report and using the same tonnages but the prices from the Northern Miner dated June 13, 1974. The following table is a comparison of these changes.

Northern Miner Prices March 8, 1973	Northern Miner Prices June 13, 1974									
Gold - \$82.50 per oz.	\$157.00 per oz.									
Silver - 2.42 per oz.	5.10 per oz.									
Lead - 0.15 per lb.	0.215 per 1b.									
Zinc - 0.195 per 1b.	0.34 per lb.									
Copper - 0.60 per lb.	0.825 per 1b.									
Barite - \$50.00 per ton	35.00 per ton (F.O.B. Mine)									

MacKenzie's Reserves

Vein	Proven Ore		Gross Value
300	369,116 tons @ \$55.55/ton	=	\$20,504,948
400 East	123,090 tons @ \$37.10/ton	E	4,567,253
400 West	78,683 tons @ \$49.89/ton	=	3,925,500
500	306,845 tons @ \$42.20/ton	=	12,950,875
Gross Total	877,734 tons @ \$47.79/ton		\$41,948,576
	Probable Ore		
300	19,000 tons @ \$55.55/ton	=	\$ 1,055,450
400 West	25,000 tons @ \$49.89/ton	=	1,247,250
500	38,000 tons @ \$42.20/ton	==	1,603,300
Gross Total	82,000 tons @ \$47.63/ton	=	\$ 3,906,000
Total Proven & Probable	n		
Ore	959,734 tons @ \$47.77/ton	=	\$45,854,576
	Possible Ore		
300	8,000 tons @ \$35.25/ton	=	\$ 282,880
400	13,000 tons @ \$35.36/ton	=	459,680
500	28,000 tons @ \$35.36/ton	=	990,080
Gross Total	49,000 tons @ \$35.34/ton	=	\$ 1,732,640

1,008,734 tons @ \$47.17/ton

Grand Total

= \$47,587,216

MacKenzie's Reserves (Adjusted for price changes)

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Vein	Proven Ore	Gross Value
300	369,116 tons @ \$89.01/ton	= \$32,855,015
400 East	123,090 tons @ \$53.63/ton	= 6,601,316
400 West	78,683 tons @ \$86.77/ton	= 6,827,323
500	306,845 tons @ \$55.62/ton	= 17,066,718
Gross Total	877,734 tons @ \$72.17/ton	= \$63,350,372
	Probable Ore	
300	19,000 tons @ \$89.01/ton	= \$ 1,691,190
400 West	25,000 tons @ \$86.77/ton	= 2,169,250
500	38,000 tons @ \$55.62/ton	= 2,113,560
Gross Total	82,000	\$ 5,974,000
Proven & Probable	959,734 tons @ \$72.23/ton	= \$69,324,372
	Possible Ore	
300	8,000 tons @ \$53.01/ton	= \$ 424,080
400	13,000 tons @ \$53.01/ton	= 689,130
500	28,000 tons @ \$53.01/ton	= 1,484,280
Gross Total	49,000 tons @ \$53.01/ton	= \$ 2,597,490
Grand Total I	1,008,734 tons @ \$71.30/ton	= \$71,921,862

Recovery

Gold (Au)	0.035	ō oz.	X	.9	<u>_</u>	0.031	ozs.@\$1	.57.00)/oz	Ē	\$ 4.86
Silver (Ag)	8.96	oz.	x	.9	=	8.06	ozs.@\$	5.10)/oz	=	41.10
Barite(BaSO ₄)	1404.2	lbs.	x	.9	=1	263.8	lbs.@\$0.	0175/	'lb.	=	22.11
Lead (Pb)	33.8	lbs.	x	.9	=	30.4	lbs.@\$0	.215/	lb.	=	6.53
Zinc (Zn)	53.8	lbs.	x	.9	=	48.4	lbs.@ \$0	.34 /	lb.	=	16.45
Copper (Cu)	5.6	lbs.	x	.9	=	5.04	lbs.@\$0.	825 /	lb.	=	4.15

Gross Value Per Ton \$95.20

Recapitulation

1. Fr (7	com A. MacKenzie's Report Adjusted to prices of June 13, 1974)		
	1,008,734 tons @ \$71.30/ton =	= :	\$ 71,921,862
2. Pi Ir	rojected Value of new ore ntersected in Raise		
	1,043,684 tons @ \$95.20/ton =	= :	\$ 99,358,716
	Grand Total - Gross Value	:	\$171,280,578
Less:	Operating Costs: 2,052,418 tons @ \$27.00/ton	•	55,415,286
	Gross Value Less Operating Expenses		\$115,865,292
Less:	Capital Expenditures (\$2,037,200) and Sales Price (\$20,000,000)		22,037,200
	Net Profit (No taxes or royalties calculated)		\$ 93,828,092
	COOL STATE JOINT 200 JOINT NOT WORK		

Note: 600 tons per day, 320 days per year or 192,000 tons per year

Life of present reserves - 10.69 years

7. OTHER PROPERTIES

Kamad and Canadian Reserve have several other properties in the Kamloops Mining District as follows:

A. Windpass Property

This property was originally discovered in 1915. From this date until 1932, it was subsequently prospected, developed, and worked to produce several carloads of hand-cobbed ore. By 1932 a mill had been constructed near Dunn Lake and an aerial tramway from the workings 81,206 tons of ore with 0.407 oz/ton of to the mill. gold was mined from 1932 until 1941 when the affairs of the mining company ended. Since 1969, Kamad and Dalton Resources have done some bulldozer stripping and other work on the property. The property consists of 30 crown grants which have been grouped into seven mineral leases. The property is located on the west slope of Baldy Mountain about 5.2 miles N75E of Little Fort, B.C. which itself is about 60 miles north of Kamloops, B.C.8

B. Pritchard Property

This property, which has copper mineralization showings is located approximately three miles from Pritchard, B.C. on the north side of the South Thompson River. This group has 40 mineral claims, there has been bulldozer work, geochemical soil sampling, an airborne geophysical survey and a ground magnetometer survey done on the property.

C. Cahilty Property

The Cahilty mineral claims are located at 50°51'N latitude and 119°48' W longitude, or approximately 11 miles northwest of Chase, B.C. Access is by paved road to Adams Lake, then approximately eleven miles of good graveled logging roads to the property. An alternate route is down from Squaam Bay to Holding Lumber, then down the above-mentioned roads, or in dry weather the road past McGillvary Lake is passable. Cat trenching, drilling, airborne magnetometer and surface E.M. work has been conducted on these claims. The main showing consists of galena with chalcopyrite and sphalerite along fractures in an area of gently folding blue and white limestone. Assays of picked samples of high grade material range up to 324 ozs. of silver per ton. This group consists of 29 mineral claims.

AWG/sj

Arthur W. Goring

Û Lake 71,52 ROVINCIAI T Ar Donuch I IR 9 MOUNTAIN 1326 FOREST Å ÷ 15 Blomte 8 -550d South Barrière L 200 29 A D 7 /MIATNIG እ ⁻p 25 15 Whi BKit HOMESTAKE Tshinakin PISIMA Rt NE MTN 0 Cotlonwoo NISKO LITE SHUSWA F ROVINCIAL Rointi MOUNTO 25 aam Bay N.m0000995 b ADEAR \geq provinci FOREST ADAMS °O 4 4500 TFA 1 636 p 23 話! °n 30 120 R45' R 15 R 14300000m.E. R 12 2 R 11 3 R 10 1 Compiled, 1963, by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF MINES AND TECHNICAL SURVEYS. Printed 1965. DIAGRAM - CROQUIS D'EXACTITUDE Some names on this map are Corrections or additions are Surveys and Mapping Branct PORTION OF Magnetic declination 1965 varies from 22°41' easterly at centre of west edge to 23°26' easterly at centre of east edge. Mean annual change is 3.3' westerly. SEYMOUR ARM MAP 82 M Scale 1:250,000 FIGURE 1 Road Route hard surface, all weather..pavée, toute saison..... ess than 2 lan 2 lanes or m loose surface, all weather..de gravier, toute saison .. == Miles 5 wagon, cart track..chemin de terre.. ___ _trail or portage.. sentier ou portage. ; maps, photogrammetric 1961-1963 pog, Railway, normal gauge...... Chemin de fer, écartement normal. multiple track inches ande échelle (photogrammétrie 1961-1963) 23.1 (abandonne) YON multiple Depression contours.....Courbes de cuvette... C-2000 \cdots Spot Elevation in feet...... Repère de nivellement en pieds...... .. 2550. 0 Power transmission line......Ligne de transport d'énergie..... centimetres



TABLE 1

600 T/Day - 192,000 T/Year

Calculations of tax (5%)

11,448,960 x .05

\$ 572,448

0

Super-Royalty

- 1. Lead (Base price 0.19 x 120% = 22.8¢/lb.)
 payment 16.5¢/lb by smelter no tax 0
- 2. Zinc (Base price 0.22 x 120% = 26.4¢/lb.)
 payment 22.5¢/lb by smelter no tax
- 3. Silver(Base price \$3.00/oz x 120% = 3.60/oz.
 payment 5.03-3.60 = 1.43/oz.x50% = 0.72/oz. tax
 \$0.72 x 82.30 oz/ton x 192,000 t/yr =
 \$11,376,000
 \$11,376,000 = \$1,034,181
 1,034,181
 (ratio of concentration)
- 4. Gold (Base price 82.50 x 120% = 99.00
 payment 154.00-99.00=55.00 ÷ 2 = 27.50/oz.
 0.227 oz/ton x 27.50 = \$6.24
 \$6.24 x 17,455 (concentrate tonnage) 108,919
- 5. Copper (Base price 0.58/lb x 120% = 69.6¢/lb)
 payment 0.715-0.696 = 0.019¢/lb.
 25.2 lbs. x 0.019 = 0.48¢
 0.48 x 17,455 (concentrate tonnage) 8,378

Per Year B.C. Total Tax \$1,723,926

Note: For 300 T/Day or 96,000 T/Year the B.C. tax is 1/2 of the above or \$ 861,963

TABLE 2

ECONOMIC ANALYSIS OF FUTURE PROVED & PROBABLE RESERVES

JUNE 20, 1974

HOMESTAKE PROPERTY - B.C.

KAMAD SILVER CO. LTD.

CASE 1

			Gross (2)	B.C. (3)	Operating	Cash	Capital	Cash Flow After Capital	Cash Flow After Capital		Discounted	Cash Flow	
Year	Prod	uction	Operating	Tax	Cost (4)	Flow	Investment	Investment	Investment	@10%/Annum	@15%/Annum	@20%/Annum	@30%/Annum
	Tons/Year	Curulative	Income \$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1975	96,000	96,000	5,724,480	861,963	1,920,000	2,942,517	1,812,000	1,130,517	1,130,517	1,077,948	1,054,320	1,032,049	991,576
1976	96,000	192,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	4,073,034	2,550,574	2,386,381	2,238,667	1,985,610
1977	96,000	288,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	7,015,551	2,318,703	2,075,357	1,865,556	1,527,461
1978	96,000	384,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	9,958,068	2,108,019	1,804,940	1,554,826	1,174,947
1979	96,000	480,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	12,900,585	1,916,167	1,569,833	1,295,590	903,941
1980	96,000	576,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	15,843,102	1,741,970	1,365,034	1,079,609	695,317
1981	96,000	672,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	18,785,619	1,583,663	1,187,30 6	899,822	534 ,9 50
1982	96,000	768,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	21,728,136	1,439,774	1,032,529	749,753	411,658
1983	96,000	864,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	24,670,653	1,308,832	897,762	624,991	316,615
1984	96,000	960,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	27,613,170	1,189,954	780,944	520,826	243,640
1985	96,000	1,056,000	5,724,480	861,963	1,920,000	2,942,517		2,942,517	30,555,687	1,081,669	679,133	434,021	187,438
Totals	1,056,000		62,969,280	9,481,593	21,120,000	32,367,687	1,812,000	30,555,687		18,317,273	14,833,539	12,295,710	8,973,153

Notes: (1) 300 tons/day - 320 days per year

(2) Sulphides - \$48.78/ton

Barite - 10.85/ton

\$59.63/ton

(3) B.C. Tax - 5% of Gross Income plus 50% of metal prices @ 120% over base price. Base prices used are as follows:

Copper	-	\$ 0.58/1b.	х	120%	=	\$ 0.696/1b.
Gold	-	82.50/oz.	х	120%	=	99.00 /oz.
Silver	-	3.00/oz.	х	120%	=	3.60 /oz.
Lead	-	0.19/1b.(est.)	х	120%	=	0.228/lb.
Zinc	-	0.22/1b.(est.)	x	120%	=	0.264/1b.

- (4) Operating Cost \$20.00 per ton
- (5) Prices of Minerals (From Northern Miner) June 13, 1974

Copper - \$ 0.825/lb. Gold - 157.00 /oz. Silver - 5.10 /oz. Lead - 0.215/lb. Zinc - 0.34 /lb. Barite - 35.00 /ton - F.O.B. Mine

TABLE 3

ECONOMIC ANALYSIS OF FUTURE PROVED & PROBABLE RESERVES

JUNE 20, 1974

HOMESTAKE PROPERTY - B.C.

KAMAD SILVER CO. LTD.

CASE 2

								0	Cumulative				
								After	After				
			Gross (2)	B.C. (3)	Operating	Cash	Capital	Capital	Capital		Discounted	Cash Flow	
Year	Prod	uction	Operating	Tax	Cost (4)	Flow	Investmen	t Investment	Investment	@10%/Annum	@15%/Annum	@20%/Annum	@30%/Annum
	Tons/Year	Cumulative	Income \$	Ş	Ş	ş	ş.	Ş	Ş	Ş	Ş	Ş	Ş
1975	192,000	192,000	11,448,960	1,723,926	2,880,000	6,845,034	2,087,000	4,758,034	4,758,034	4,536,785	4,437,343	4,343,609	4,173,272
1976	192,000	384,000	11,448,960	1,723,926	2,880,000	6,845,034		6,845,034	11,603,068	5,933,275	5,551,323	5,207,702	4,619,029
1977	192,000	576,000	11,448,960	1,723,926	2,880,000	6,845,034		6,845,034	18,448,102	5,393,887	4,827,802	4,339,752	3,553,257
1978	192,000	768,000	11,448,960	1,723,926	2,880,000	6,845,034		6,845,034	25,293,136	4,903,782	4,198,744	3,616,916	2 ,7 33 , 222
1979	192,000	960,000	11,448,960	1,723,926	2,880,000	6,845,034		6,845,034	32,138,170	4,457,486	3,651,826	3,013,868	2,102,794
1980	96,000	1,056,000	5,724,480	861,963	1,440,000	3,422,517		3,422,517	35,560,687	2,026,130	1,587,706	1,255,721	808,741
								·			<u></u>		<u> </u>
Totals	1,056,000		62,969,280	9,481,593	15,840,000	37,647,687	2,087,000	35,560,687		27,251,345	24,254,744	21,777,568	17,990,315

Notes: (1) 600 tons/day - 320 days per year

(2) Sulphides - \$48.78/ton

Barite - 10.85/ton

\$59.63/ton

(3) B.C. Tax - 5% of Gross Income plus 50% of metal prices @ 120% over base price. Base prices used are as follows:

Copper	-	\$ 0.58/1b.	х	120%	=	\$ 0.696/1b.
Gold	-	82.50/oz.	х	120%	=	99.00 /oz.
Silver		3.00/oz.	х	120%	=	3.60 /oz.
Lead	-	0.19/1b.(est.)	х	120%	=	0.228/1b.
Zinc	-	0.22/1b.(est.)	х	120%	=	0.264/1b.

(4) Operating Cost - \$15.00/ton

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(5) Prices of Minerals (From Northern Miner) - June 13, 1974

Copper - \$ 0.825/lb. Gold - 157.00 /oz. Silver - 5.10 /oz. Lead - 0.215/lb. Zinc - 0.34 /lb. Barite - 35.00 /ton - F.O.B. Mine