

81-#143 # 8963

1980 Diamond Drilling Assessment Report

TITLE Regal Silver Property

CLAIMS Kool 1-3 incl., Mars and crown granted mineral claims: Joy, Alice, Helena, Bee, May, Cora, Emily, Annie, Nestoria, Francis, Hilda, Big Ledge #2, Snowflake A, Snowflake B, Snowflake C, and Sunset A

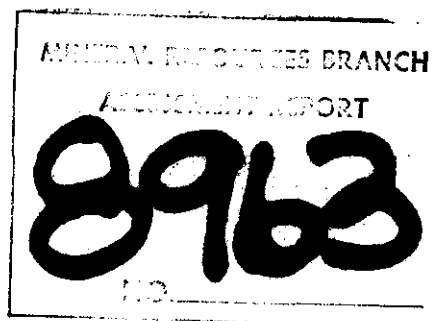
COMMODITY Ag

LOCATION 30 km east of Revelstoke  
Latitude 51°12'N Longitude 117°54'W  
Revelstoke Mining Division 82N/4W

BY B.E. Goad

FOR AMAX OF CANADA LIMITED

WORK PERIOD September 01 - September 27, 1980



AMAX VANCOUVER OFFICE

## TABLE OF CONTENTS

SUMMARY-----	1
INTRODUCTION	
Location, Access, Topography-----	2
Claims-----	2
GEOLOGY	
Regional Geology-----	4
Property Geology-----	4
History of Property Exploration-----	5
DIAMOND DRILLING	
General Statement-----	7
RS-80-1-----	7
RS-80-2-----	8

## APPENDICES

APPENDIX I	- Statement of Costs
II	- Drill Logs
III	- Statement of Qualifications

## ILLUSTRATIONS

Figure 1 - Location Map-----	1:250,000-----	After Page 2
2 - Claim Map-----	1:50,000-----	After Page 2
3 - Drill Hole Location		
RS-80-1 and RS-80-2----	1:5,000-----	After Page 7
4 - Section Along Diamond Drill		
Hole RS-80-1-----	1:2,000-----	After Page 7
5 - Section Along, Diamond Drill		
Hole RS-80-2-----	1:2,000-----	After Page 8

SUMMARY

This assessment report presents results of two diamond drill holes drilled by AMAX of Canada Limited on the Regal Silver property between September 1 and September 27, 1980.

The property is located approximately 30 km east of Revelstoke in southeastern British Columbia. The property consists of 16 crown granted mineral claims and Kool 1,2,3 and Mars MGS claims. The property was acquired over the period 1979 to 1980 and is wholly owned by AMAX.

The diamond drill holes, both located on the Mars claims, were driven to a combined depth of 554 metres. Both encountered black graphitic slates, minor calc-silicate and numerous quartz veins containing trace to minor sphalerite, galena, chalcopyrite and scheelite.

From a total drilling cost of \$58,488.00, \$24,000.00 was applied as assessment to the following claims:

Three years - Kool 1, 2 and 3

Three years - Mars

The remaining \$34,488.00 was applied to the portable assessment credit account registered to AMAX of Canada Limited.

## INTRODUCTION

### Location, Access, Topography

The Regal Silver property is located near the headwaters of Clabon Creek, 30 km northeast of Revelstoke, B.C. at 51°12'N latitude, 117°54'W longitude (Figure 1). The property is reached via a 10 km logging access road which branches north from the Trans Canada Highway immediately east of the bridge crossing Woolsey Creek. All roads into the property are in good condition when dry.

Elevations on the property range from 1,250 to 2,400 metres. The main area of interest on the claims covers a steep easterly facing slope between 1,250 and 1,900 m in elevation west of Clabon Creek. Treeline is at 1,900 m and vegetation below 1,600 m consists of mature stands of cedar and fir. Avalanche chutes are covered with alders and buck brush. Bedrock is continuous only at higher elevations.

The property lies within a heavy snowbelt with an estimated annual snowfall of 650 cm. Heavy snowfall and precipitous slopes makes for abundant avalanche chutes on the property.

The property is located within a 15 km wide corridor between two national parks, Mt. Revelstoke National Park to the west and Glacier National Park to the east.

### Claims

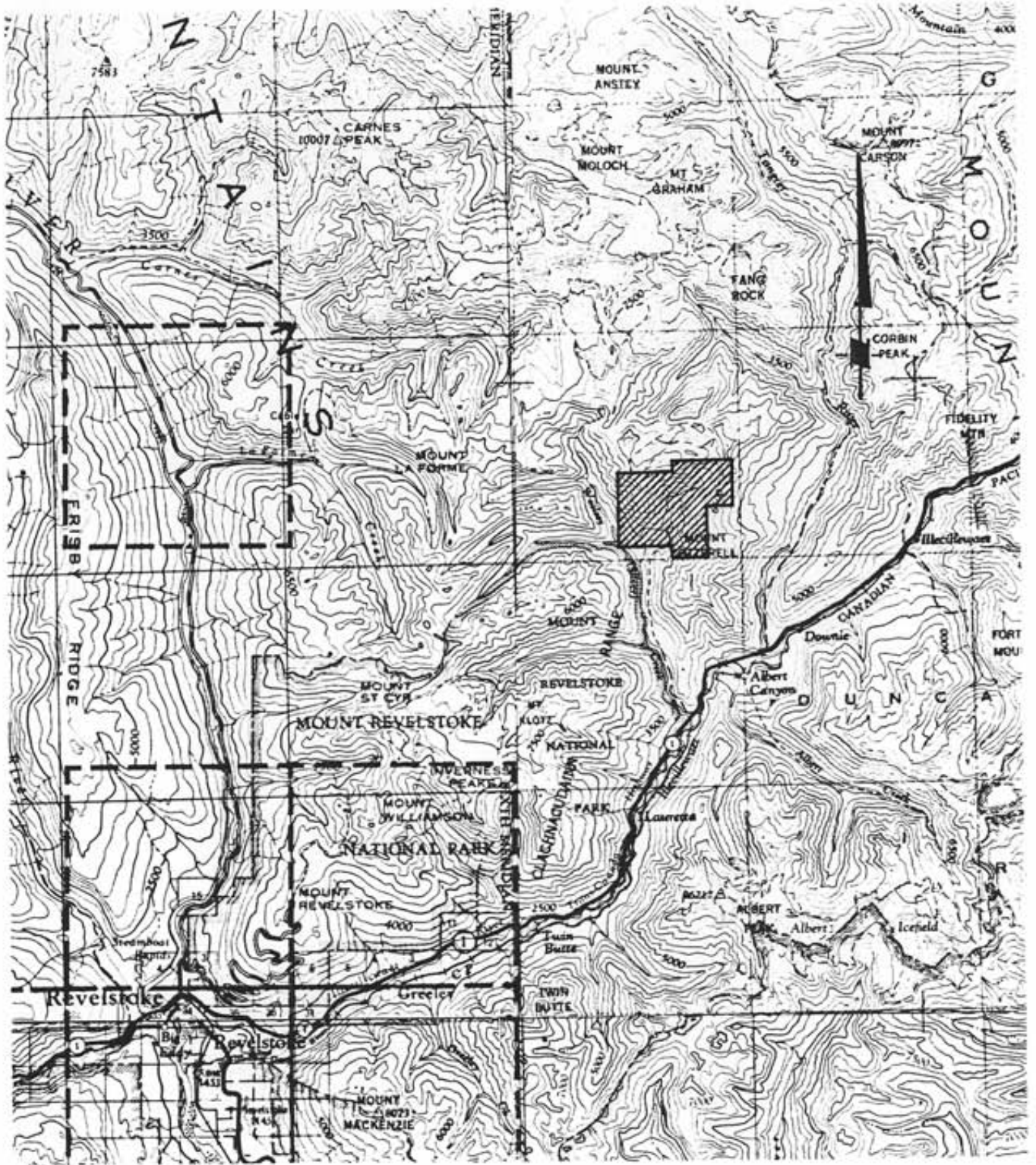
The property consists of Kool 1,2 and 3 MGS claims staked on behalf of AMAX of Canada Limited, the Mars MGS claim staked by Mr. A.C. Endersby, 12 crown-granted claims (Lots 14182-14193 inclusive) which constitute the former Regal Silver Property (optioned by AMAX from Marikan Enterprises Limited), and 4 crown-granted claims (Lots 8571-8573, 8576) which constitute the former Snowflake Property (optioned by AMAX from Messrs. Wilkinson and Cameron of Vancouver).

All claims are located within the Revelstoke Mining Division. Pertinent data are tabulated below.

CLAIM	UNITS	LOT/ RECORD NUMBER	RECORD DATE	EXPIRY DATE
Kool 1	15	668	June 27, 1979	June 27, 1984*
Kool 2	15	669	June 27, 1979	June 27, 1984*
Kool 3	20	941	May 16, 1980	May 16, 1984*
Mars	12	502	June 20, 1978	June 20, 1984*
Joy	1	L14182	July 2, 1981	-
Alice	1	L14183	July 2, 1981	-
Helena	1	L14184	July 2, 1981	-
Bee	1	L14185	July 2, 1981	-
May	1	L14186	July 2, 1981	-
Cora	1	L14187	July 2, 1981	-
Emily	1	L14188	July 2, 1981	-
Annie	1	L14189	July 2, 1981	-
Nestoria	1	L14190	July 2, 1981	-
Francis	1	L14191	July 2, 1981	-
Hilda	1	L14192	July 2, 1981	-
Big Ledge #2	1	L14193	July 2, 1981	-
Snowflake A	1	L 8571	July 2, 1981	-
Snowflake B	1	L 8572	July 2, 1981	-
Snowflake C	1	L 8573	July 2, 1981	-
Sunset A	1	L 8576	July 2, 1981	-

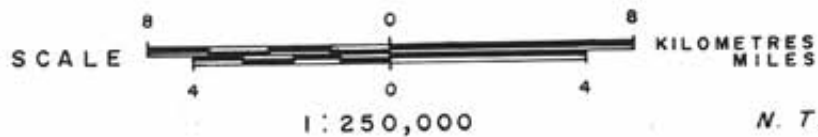
\* After application of 1980 Diamond Drilling Assessment costs covered by this report

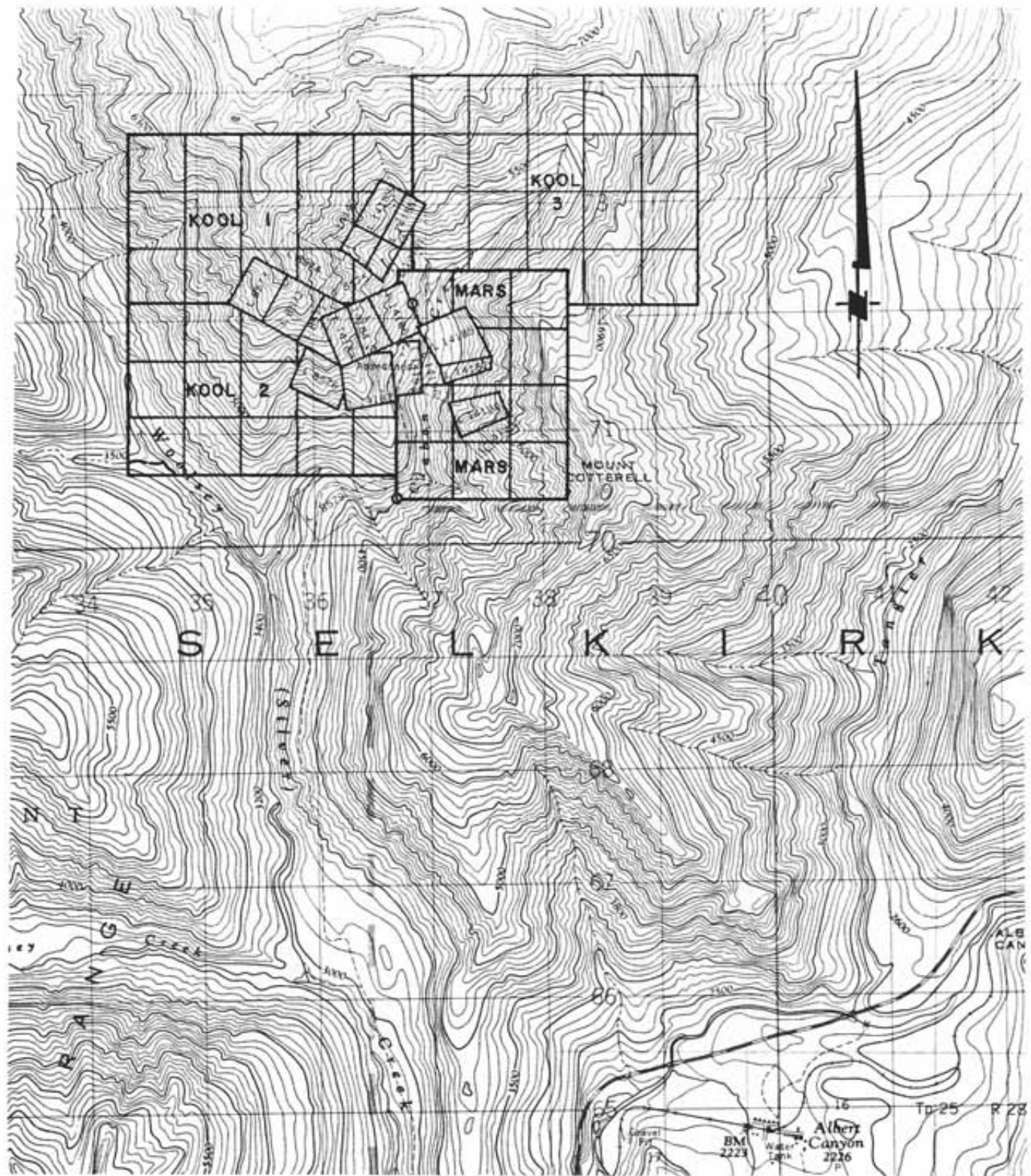
-----



AMAX OF CANADA LIMITED  
**REGAL SILVER PROPERTY**  
 REVELSTOKE M.D. - B.C.

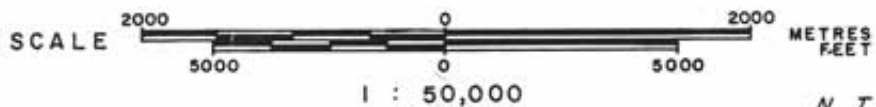
**LOCATION MAP**





AMAX OF CANADA LIMITED  
**REGAL SILVER PROPERTY**  
 REVELSTOKE M. D. — B. C.

# CLAIM MAP



## GEOLOGY

### Regional Geology

The property lies within and towards the northern extremity of the Kootenay Arc, a 30 km wide arcuate belt of Lower Paleozoic strata which extends 300 km northward from the United States border to the vicinity of Big Bend on the Columbia River. Strata in the Arc are platformal carbonates and quartzites of Lower Cambrian age, and somewhat deeper water black and green argillites and phyllites of Cambrian to Devonian age. Metamorphic grade is green schist, in sharp contrast with amphibolite and granulite facies metamorphism in the westerly adjacent Shuswap Metamorphic Complex. Older, late Proterozoic clastic strata of the Windermere Group border the Kootenay Arc to the east.

The Kootenay Arc is well known for its rich and remarkably diverse mineral deposits: stratabound Pb-Zn deposits near Salmo; discordant Pb-Zn deposits at the Bluebell Mine at Riondel; lode gold deposits at Sheep Creek; lode silver and gold deposits in the Lardeau camp; Noranda's Goldstream stratabound Cu-Zn deposit 60 km northwest of Regal Silver; and Newmont-Imperial's Trout Lake molybdenum deposit 75 km south of the Regal Silver property.

### Property Geology

The property is underlain by three mappable units, all members of the Lardeau Group of Cambrian to Devonian(?) age (G.S.C. Paper 62-32). Strata strike consistently to the northwest dipping steeply to moderately to the northeast. Dips generally flatten at lower elevation exposures, from  $-60^{\circ}$  on the ridgetops to  $-30^{\circ}$  in Clabon Creek valley. A well developed slaty cleavage parallel to bedding is universally present.



The central part of the property covering the area of economic interest is underlain entirely by black, fissile, graphitic slates, in which local minor variations in carbonate and silica content were noted. Andalusite is abundant in beds of favourable composition in the drill core, but was not noted in outcrop. Pyrite occurs locally as disseminated cubes in the argillite, nowhere exceeding 5 per cent.

Near the southern boundary of the property at the former Bell Point campsite, dark grey argillaceous limestone and limy argillite forms a second mappable unit which is exposed along the access road for about a kilometer.

Near the northern margin of the property at the headwaters of Clabon Creek a greenish-grey blocky weathering phyllite unit is exposed.

A fourth unit, found only in drill core, is a light green calc-silicate unit composed of quartz, calcite, brown biotite and minor actinolite and garnet.

Economic interest focusses on a number of sub-parallel quartz veins up to 5 m wide which contain argentiferous galena and sphalerite. The vein swarm, occurring over an area of 3.5 by 1.0 km, has been subjected to exploration and underground development at several periods between 1915 and the present. At least five "ore" shoots have been established by previous work, and limited production was achieved during World War II and the Korean War.

#### History of Property Exploration

Fourteen underground levels have been developed on six subparallel mineralized quartz veins located centrally on the property. Exploration history of the property is as follows:

- 1915-1920 The four Snowflake claims were staked and subsequently acquired by David Woolsey. He began underground development on levels 3 and 5 and conducted minor hand-cobbed production.
- 1925-1930 Development on the 5 and 10 levels was undertaken by Bernier Metals Corporation and later work was done on the 3,5,8,9 and 10 levels by Regal Silver Mines. Stannite was discovered on the Snowflake ground in 1929.
- 1939-1944 A 25 ton/day underground tungsten plant was assembled in 1939, removed in 1940 and replaced by a small 75-100 ton/day pilot mill. In 1942 the Federal government drilled eight holes totalling 1,062 feet in an attempt to investigate the down-dip extension of the upper stannite shoot. Mill testing by the Federal government in 1943 was followed by metallurgical testing by Selkirk Tungs-Tin Mines Ltd. in 1944.
- 1949-1954 Minor underground development on levels 5 and 8. A small shipment of W-Ag-Pb-Zn ore was sent to Trail, B.C. by Stannite Mines Ltd. in 1950. Columbia Metals Corporation built a 50 ton/day concentrator in 1952 and in 1953 milled 2,800 tons of tungsten ore and 2,400 tons of Ag-Pb-Zn ore.
- 1967-1970 The property was acquired by Stannex Minerals who did 2,450 m of underground development and carried out a feasibility study.

1970<sup>?</sup> cr. 11/09/69

Altogether, over the period 1915 to 1980, some 5534 metres of drifts and cross-cuts and 1271 metres of raises were developed on 14 levels. 44.1% of this work was on the number 5 vein, 12.9% on the number 6 vein, 8.4% on the number 4 vein and 11.3% on the 5A vein.

No work was done on the property between 1970 and the present AMAX investigation.

## DIAMOND DRILLING

### General Statement

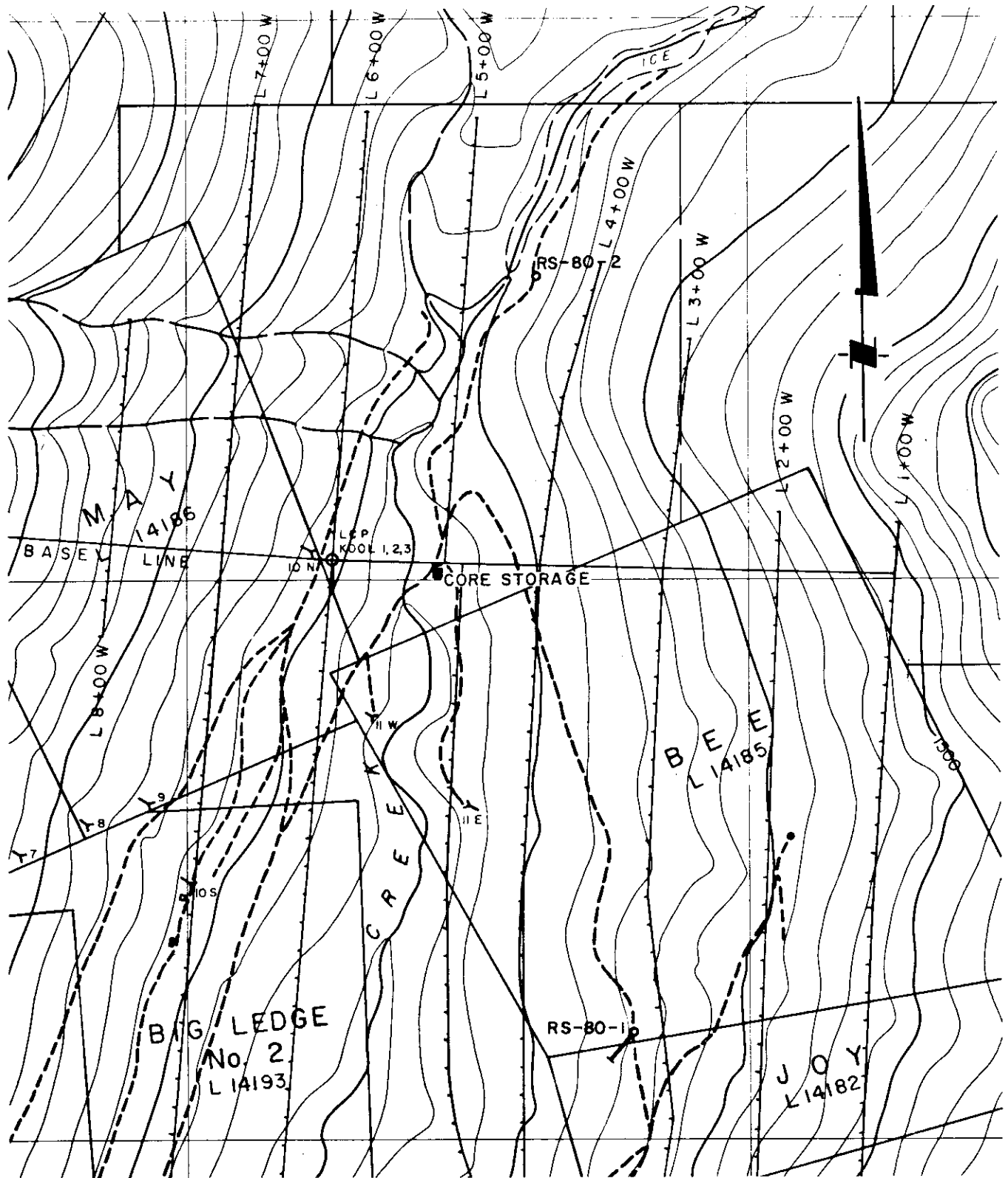
Two NQ/BQ drill holes totalling 554 m were drilled during the period September 1, 1980 to September 27, 1980. Core recovery was 99%. The core was logged and a 10 cm section was split approximately every three metres or where quartz veins were intersected. All major mineralized quartz veins and slate samples taken from the core were analyzed for Ag, Pb, Zn, W, Sn, Cu, Mo+Au by Rossbacher Laboratory, Burnaby, British Columbia.

Contractor for the drill job was Phil's Drilling of Lac La Hache, B.C. using a Longyear 38 wireline drill. All the core is stored on the property.

### RS-80-1

RS-80-1 was collared on the east side of the valley at an elevation of 1,342 m, approximately 160 m north of the 8E portal (Figure 3). It was set at an inclination of  $-75^{\circ}$  on a bearing of  $220^{\circ}$  azimuth and extended to a depth of 124 m. The purpose of this hole was to test for a northerly extension of the 8E ore shoot.

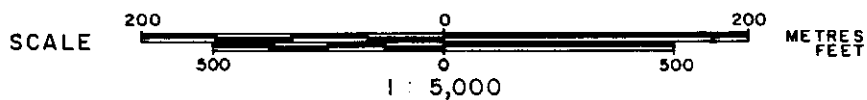
The hole failed to intersect the mineralized number 5 vein which was projected to be intersected at a depth of 70-80 m. Although overburden is relatively deep at 26 m, it is very unlikely that the hole "over-shot" the vein. A case could be made for a fault off-set of the vein, since minor faults were noted in the core and also a calc-silicate unit present in the upper 68 m of the hole does not occur on surface above the vein. However, a more likely explanation is that the number 5 vein pinches out between the 8E adit and the drill site.



AMAX OF CANADA LIMITED

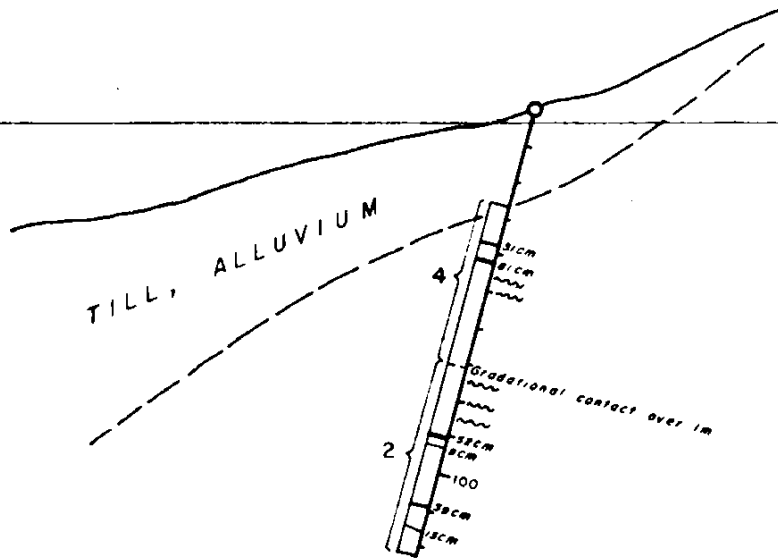
REGAL SILVER PROPERTY  
 REVELSTOKE M. D. — B. C.

DRILL HOLE LOCATION  
 RS-80-1 AND RS-80-2



Looking NW

Elev. 1,300 m



### L E G E N D

#### MESOZOIC (?)

Quartz vein

#### LOWER PALEOZOIC

4 Green calc-silicate

2 Black graphitic slate

### S Y M B O L S

Quartz vein (width in centimetres)

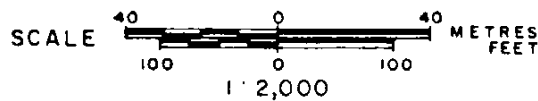
Fault zone

AMAX OF CANADA LIMITED

## REGAL SILVER PROPERTY

REVELSTOKE M. D. — B. C.

### SECTION ALONG DIAMOND DRILL HOLE RS-80-1



Vancouver —

N.P.

N. T. S. Ref 82 N 4

FIG. 4

RS-80-2

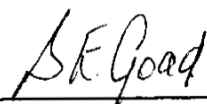
RS-80-2 was collared in the valley bottom at an elevation of 1,312 metres on the east side of Clabon Creek (Figure 3). The hole was oriented vertically and extended to a depth of 430 m. The purpose of this hole was to intersect all the significantly mineralized veins.

Black graphitic slates were encountered to 391 m below which the same green calc-silicate unit of RS-80-1 extended to the bottom of the hole at 430 m.

Minor quartz veins occur throughout the core; however, only the wide ones near the top of the hole could be correlated with any degree of certainty. Vein number 1, intersected at 41.96 m is 2.34 m wide and contains minor galena, sphalerite, chalcopyrite and pyrite (Sample Number 80-LGT-235). Vein number 2 at 121.7 m is 1.10 m wide and contains no sulphides. Two additional reasonably wide barren quartz veins between the number 1 and 2 veins may be eastern extensions of veins exposed at 1,600 m elevation on the Helena crown granted claim. A sphalerite-bearing 0.3 m wide vein not correlatable with any vein exposed on surface was intersected at 63.1 m and assayed 18% Zn.

The occurrence of large quartz veins decreases below 140 m with the last major vein intersection at 250 m. Narrow veins below this depth could represent the numbers 4, 5 and 6 veins that have significantly reduced their sulphide content and pinched down. However, confirmatory correlation was not possible. Pyrite is a common trace component of most of the quartz veins. Pyrrhotite and trace chalcopyrite become slightly more abundant at depths greater than 250 m. Trace sphalerite occurs sporadically in veins throughout the hole.

Complete drill logs are entered in Appendix II.



---

B.E. Goad



APPENDIX I - STATEMENT OF COSTS

<u>Summary of Work</u>	Diamond Drilling - Two NQ/BQ drill holes totalling 554 metres
<u>Period of Work</u>	September 1 - 27, 1980

Drilling

Phil's Diamond Drilling, R.R. #1 Emerald Crescent,  
Lac La Hache, B.C.  
Inv. # 4 & 5

\$58,488.00  
=====

This work is to be applied as follows:

3 years - Kool 1, 2 and 3  
3 years - Mars



APPENDIX II

DRILL LOGS

DIAMOND DRILL RECORD - REGAL SILVER

Hole Number	<u>RS-80-1</u>	Co-ordinates	<u>4+20S</u>	Bearing at Collar	<u>220° Azimuth</u>
			<u>3+30W</u>	Dip at Collar	<u>-75°</u>
		Collar Elevation	<u>1342 m</u>	Commenced Drilling	<u>September 1, 1980</u>
		Total Depth	<u>124 m</u>	Completed Drilling	<u>September 8, 1980</u>
		Depth Casing	<u>26.5 m</u>	Section	<u></u>
		Depth Overburden	<u>26.5 m</u>	Logged By	<u>B.E. Goad</u>
		Core Size	<u>BQ</u>	Drilling Contractor	<u>Phil's Drilling</u>

<u>SURVEY SUMMARY</u>				<u>PERTINENT ASSAY DATA</u>				<u>PERTINENT GEOLOGY</u>	
<u>Depth</u>	<u>Dip</u>	<u>Bearing</u>	<u>Method</u>	<u>Interval</u>	<u>Ag oz/ton</u>	<u>Pb%</u>	<u>Zn%</u>	<u>Interval</u>	<u>Rock Type or Structure</u>
124	-75°	N/A	etch test	no assay samples taken				0-26.5	casing
								26.5-72	calc-silicate
								72-124	slate
								minor barren quartz veins at:	
								36.75-37.08 m	
								40.45-41.26 m	
								55.80-56.02 m	
								90.94-91.44 m	
								109.27-109.56 m	

The drill site is located on the access road to 8E adit, east of Clabon Creek, 160 m north of the adit.



Metres	Graphic Log	Vein Width (m)	Assay Data (ppm)							Sample No.	REMARKS
			Ag	Pb	Zn	W	Sn	Cu	Mo		
36	*	.31									36.75-37.06 - Quartz vein - minor pyrite, green muscovite
		.06									38.0 - Calc-silicate bedding dips at 75° to core axis
38	*	.08									40.45-41.26 - Barren quartz vein - green muscovite (±pyrite)
											42.0 - Calc-silicate bedding dips at 70° to core axis
40	*	.81									42.42-42.53 - Quartz vein with trace pyrite
											43.15-43.35 - Fracture area healed by quartz vein
42	*	.11									45.60-45.79 - Quartz vein - Barren
		.20									46.36-46.42 - Fault zone
44	*	.05									48.05-49.30 - Fault zone
		.04									54.0 - Calc-silicate beds dip 65° to core axis
46	*	.15									55.80-56.02 - Quartz vein with pyrite and green muscovite
											56.34-56.44 - Minor slate with gradational contacts into calc-silicate
48	*										57.68-57.80 - Quartz vein containing trace pyrite and green muscovite
											71.4-72.4 - Gradational contact of calc-silicate to slate
50	*										
52	*										
54	*										
		.22									
56	*	.06									
		.12									
58	*	.05									
60	*										
62	*										
64	*										
66	*										
68	*										
70	*										
	*										





DIAMOND DRILL RECORD - REGAL SILVER

Hole Number RS-80-2 Co-ordinates 2+70N Bearing at Collar N/A  
4+60W Dip at Collar -90°  
 Collar Elevation 1312 m Commenced Drilling September 9th, 1980  
 Total Depth 430 m Completed Drilling September 27th, 1980  
 Depth Casing 3.6 m Section \_\_\_\_\_  
 Depth Overburden 3.6 m Logged By B.E. Goad  
 Core Size NQ to 106 - BQ to 430 Drilling Contractor Phil's Drilling

<u>SURVEY SUMMARY</u>				<u>PERTINENT ASSAY DATA</u>				<u>PERTINENT GEOLOGY</u>	
<u>Depth</u>	<u>Dip</u>	<u>Bearing</u>	<u>Method</u>	<u>Interval</u>	<u>Ag oz/ton</u>	<u>Pb%</u>	<u>Zn%</u>	<u>Interval</u>	<u>Rock Type or Structure</u>
No dip tests taken				42-43.14	4.6 ppm	.1	.3	0-3.6	casing
				63.1-63.4	4.8 ppm	-	18.0	3.6-391.0	slate
				265.8-266.1	7.4 ppm	.6	.24	391.0-430	calc-silicate
								major quartz veins intersected at:	
								63.1-63.4 m	
								79.3-80.1 m	
								83.8-85.3 m	
								121.7-122.8 m	
				395.6-395.65	WO <sub>3</sub> %		Cu%		
					0.52		0.11		

The drill site is east of Clabon Creek on an access road approximately 320 metres north of the bridge crossing Clabon Creek.





Metres	Graphic Log	Vein Width (m)	Assay Data (ppm)							Sample No.	REMARKS
			Ag	Pb	Zn	W	Sn	Cu	Mo		
36											
38	2		0.2	6	274	15	0	38	32	80-LGT-0249	
40		.05									40.0-40.1 - Geochem slate sample 80-LGT-0249
42	2	.10									41.96-44.80 - Quartz vein no. 1 (width = 2.34 m) contains galena, sphalerite, chalcopyrite & pyrite Sample number 80-LGT-0235
42	1	1.14	4.6	980	3120	0	0	82	15	80-LGT-0235	
44	1	1.20									44.40-47.30 - Fault zone along foot wall of #1 vein 21° to core axis and parallel to bedding of slates
46											50.00-50.60 - slate bedding dips 47° to core axis
48	2										54.00-54.15 - Trace sphalerite in quartz vein
50	1	.10									60.00-60.10 - Slate bedding dips 25° to core axis
50	1	.20									60.10-60.25 - Minor pyrite in quartz vein
52	1	.20									60.00-60.10 - Slate bedding dips 25° to core axis
54	2										61.5-63.1 - Slates contain minor andalusite crystals
56	1	.05									63.10-63.40 - Quartz vein .30 m wide (80-LGT-0236) contains ~20% sphalerite with minor pyrite
58	2										70.0-70.1 - Geochem slate sample 80-LGT-0280
60	1	.15									70.6-70.9 - Slates quite siliceous
62	2	.10									
62	2	.30	4.8	38	180	28	0	600	2	80-LGT-0236	
64											
66											
68	2										
70			0.2	14	60	0	0	28	12	80-LGT-0280	

Metres	Graphic Log	Vein Width (m)	Assay Data (ppm)							Sample No.	REMARKS
			Ag	Pb	Zn	W	Sn	Cu	Mo		
72	2	.18									73.09-73.29 - Quartz vein carries mariposite and pyrite
74											74.2-75.7 - Siliceous slates containing several small quartz veins
76	2	.05									75.7-76.5 - Slate bedding dips 25° to core axis
78											77.10-77.15 - Quartz vein in sheared slate
80	2	.11									79.0-79.3 - Sheared slate with several minor quartz veins
82											79.30-80.10 - Vein .80 m wide (80-LGT-0237) contains trace chalcopyrite, sphalerite and pyrite with some green muscovite (mariposite)
84	2	.80	1.8	322	140	5	0	760	1	80-LGT-0237	82.1-82.22 - Quartz vein carrying mariposite and pyrite
86											
88	2	1.50									86.4-86.8 - Brecciated slate infilled with quartz
90											
92	2	0.2	20	740	10	0	14	1	80-LGT-0238		88.7-89.1 - Abundant tiny quartz veins in slates
94											
96	2										91.0-91.1 - Quartz vein has minor pyrite and pyrrhotite and trace chalcopyrite mineralization
98											
100	2	.10									92.00-93.4 - Three quartz veins carry trace sphalerite and minor mariposite and pyrite
102											
104	2	.06									94.3-95.0 - Slate hosts several tiny quartz veins carrying pyrite and mariposite and trace sphalerite
106											
108	2	.08	0.2	22	172	0	0	36	3	80-LGT-0239	95.12-95.35 - Slate bedding dips 22° to core axis
110											
112	2	.12									105.8 - Reduced from NQ to BQ
114											
116	2	.20									
118											
120	2	.15									
122											
124	2										
126											
128	2										
130											
132	2										
134											
136	2										
138											
140	2										
142											
144	2										
146											
148	2										
150											
152	2										
154											
156	2										
158											
160	2										
162											
164	2										
166											
168	2										
170											
172	2										
174											
176	2										
178											
180	2										
182											
184	2										
186											
188	2										
190											
192	2										
194											
196	2										
198											
200	2										
202											
204	2										
206											
208	2										
210											
212	2										
214											
216	2										
218											
220	2										
222											
224	2										
226											
228	2										
230											
232	2										
234											
236	2										
238											
240	2										
242											
244	2										
246											
248	2										
250											
252	2										
254											
256	2										
258											
260	2										
262											
264	2										
266											
268	2										
270											
272	2										
274											
276	2										
278											
280	2										
282											
284	2										
286											
288	2										
290											
292	2										
294											
296	2										
298											
300	2										
302											
304	2										
306											
308	2										
310											
312	2										
314											
316	2										
318											
320	2										
322											
324	2										
326											
328	2										
330											
332	2										
334											
336	2										
338											
340	2										
342											
344	2										
346											
348	2										
350											
352	2										
354											
356	2										
358											
360	2										
362											
364	2										
366											
368	2										
370											
372	2										
374											
376	2										
378											
380	2										
382											
384	2										
386											























APPENDIX III

STATEMENT OF QUALIFICATIONS

NAME	B.E. Goad
EDUCATION	BSc(Hon) - 1976 - Geology University of Western Ontario, London, Ontario
EXPERIENCE	Geologist - Centre for Precambrian Studies University of Manitoba 1976-1979  Geologist - Dupont of Canada Ltd. - 1979  Geologist - AMAX of Canada Limited 1980 - Present