

DENVER SILVER INC.

A Geological Report on the Martin, Flint,
and Liberty Claim Groups

Slocan MD., B.C.
NTS Map 82F-14E
49°⁵⁵~~60~~' N.Lat., 117°06' W. Long.

Specific Claims and Ownership:

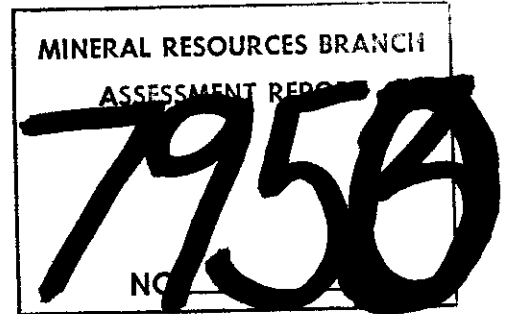
Carlyle 1 (1406) 9 units	Denver Silver
Granite King (1549)	Denver Silver
Spruce 1-4 (1438-41)	K. Anderson under agreement to Denver Silver
Martin (6726), Martin 1 (6745)	L.H. McPherson under agreement to Denver Silver
Liberty	" "
Sixteen to One	" "
Stars & Stripes	" "
Grey Eagle (18033)	" "
Flint 2 and 3 (610 & 611)	" "
Flint 4 - 7 (1399 - 1402)	" "

Operator
Denver Silver Inc.

Consultant
Nevin Sadlier-Brown Goodbrand Ltd.

Report Prepared By
T. L. Sadlier-Brown

October 22, 1979



GEOLOGISTS AND ENGINEERS

SPECIALISTS IN MINERAL AND GEOTHERMAL RESOURCE EXPLORATION

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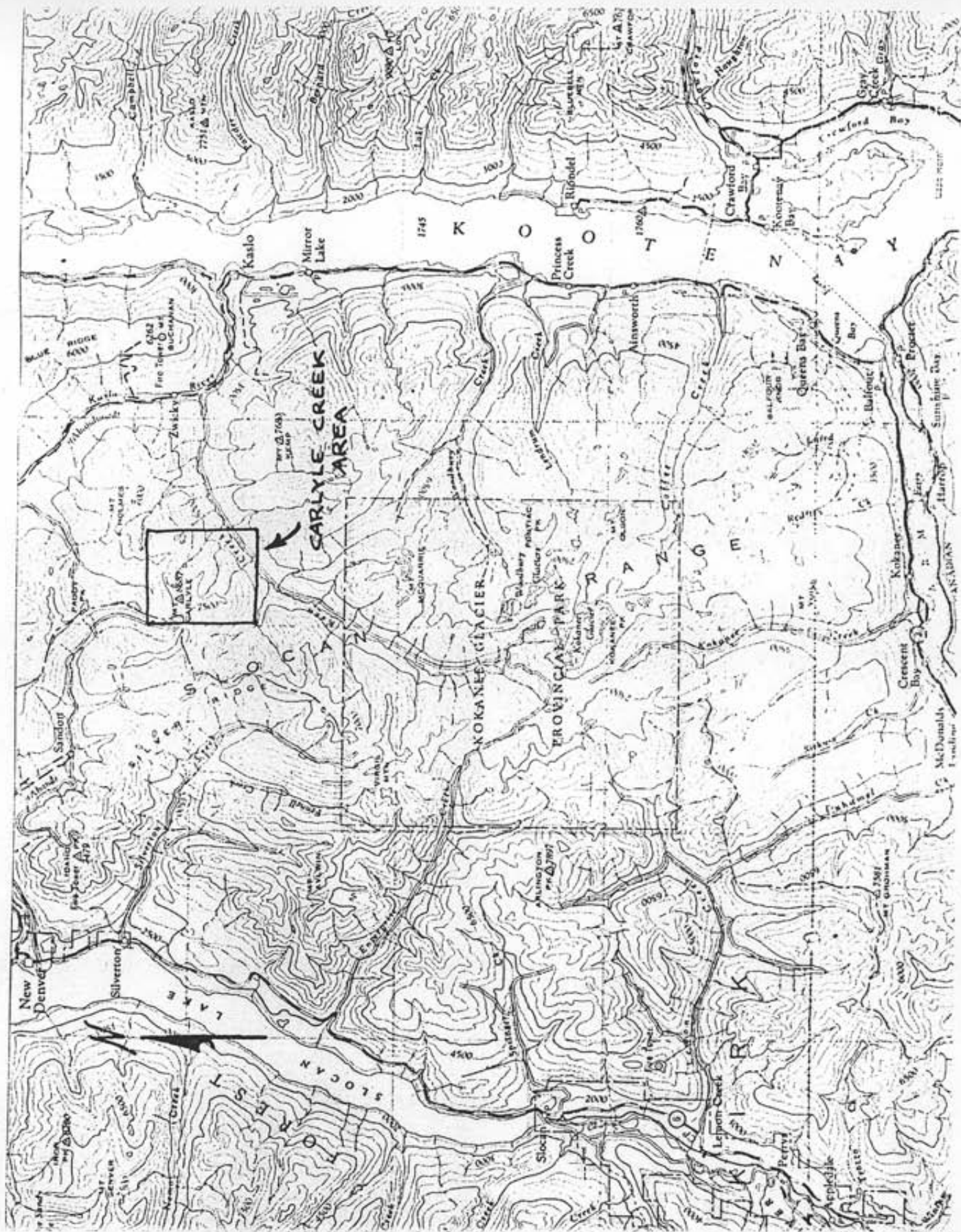
SUMMARY

Denver Silver Inc. is the beneficial owner of 17 mineral claims and one MGS claim comprising 9 units located at Carlyle Creek in the Slocan Mining Division, Kootenay area of Southern British Columbia.

Silver has been known to occur in the area since the late 1800's and the discoveries of the three most important prospects known on the property date to that time. The three are known as the Martin, Granite King, and Flint veins. Small scale production was achieved at both the Martin and Flint. Shipments totalling 59 tons were made from the Martin and 339 tons from the Flint. The veins cut granitic rocks of the Nelson Batholith and contain galena, pyrite, siderite and sphalerite in quartz carbonate gangue material. Assays of material from the Martin, Granite King and Flint veins produced values grading from about 4 to 28 ounces of silver to the ton and 1.6 to 17% lead over narrow but potentially mineable widths. An exploration program to test the viability of mining one or more of these veins is considered warranted.

Fine disseminated scheelite has been observed in samples of both vein and wall rock material. Assays taken for the preparation of this report are low but provision for detailed exploration for tungsten is recommended.

An estimate of the expenditures necessary to carry out the recommended exploration work is to the order of \$58,300.



Part of NTS Map 82F

INDEX MAP: CARLYLE CREEK AREA, B.C.

Nov. 1979

1.0 INTRODUCTION

1.1 Claims and Ownership

Denver Silver Inc. has acquired through the terms of a sales agreement and by staking a total of 18 claims and units at Carlyle Creek in the Slocan Mining Division. A summary of the company's claim holdings in the area is as follows:

<u>Claim</u>	<u>Ownership</u>
Carlyle 1 (1406) 9 units	Denver Silver
Granite King (1549)	Denver Silver
Spruce 1-4 (1438-41)	K. Anderson under agreement to Denver Silver
Stars & Stripes	L.H. McPherson under agreement to Denver Silver
Liberty	" "
Sixteen to One	" "
Martin No. 1 (6745)	" "
Martin (6726)	" "
Grey Eagle (18033)	" "
Flint 2 and 3 (610 & 611)	" "
Flint 4 - 7 (1399 - 1402)	" "

Work was carried out on all of the claims listed above.

1.2 Location and Access

The claims lie on NTS map sheet 82F14E in the Slocan Mining Division and on the south and east slopes of Mount Carlyle some 15 km west of the town of Kaslo, B.C. The area under discussion varies from densely wooded lower slopes of the mountain to the open alpine meadow land above 2000 metres A.S.L. It is drained by Carlyle Creek (also referred to as Dago Creek) a tributary of Keen Creek. The property is accessible from Kaslo via the Kaslo-New Denver highway for about 6 km to the Keen Creek logging road then westerly about 8 km to a bulldozer road suitable only for 4-wheel drive vehicles which leads up the valley of Carlyle Creek to workings at the Martin and Flint Veins. The Granite King vein may be reached on foot using a trail from the cabin at the Flint workings.

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1.3 History

Mineralization has been known in the Mount Carlyle area since the late 1890's. The Flint vein was staked in 1898; the Martin prospect was located in 1902 and the Granite King is probably contemporaneous with them.

The Flint Mine was operated discontinuously between 1905 and 1953 by several individuals. A total of 339 tons of ore is reported to have been produced. This contained 11,450 ounces of silver, 149, 279 lbs. lead, and 11,672 lbs. zinc.

The Martin Mine operated between 1915 and 1924 and produced 59 tons containing 3268 ounces of silver, 62,582 lbs. lead, and 4368 lbs. zinc. No record of production from the Granite King Vein is available.

In recent years moderate amounts of work including road building and some mining have been carried out. No shipments appear to have been made, however, and little or no development or maintenance has been done, so caving has rendered some of the workings inaccessible.

1.4 Terms of Reference

This report is based upon data obtained during an examination of the prospects under discussion and on earlier information provided both by directors and employees of Denver Silver and in government publications. It has been prepared at the request of Monte Lloyd, Vice-President of Denver Silver Inc. who accompanied the writer to the property on September 17, 1979. The report is intended as a description of the mineral occurrences, the writers opinion with respect to their economic potentials, and a set of recommendations for additional exploration work. In spite of the fact that production has been won from at least two of the veins all should, and for purposes of this report, are considered as prospects. Additional and more detailed study will be required before a conclusive statement on economic viability can be made.

The work performed for the preparation of this report includes 1/ geological examination, sampling, reconnaissance mapping of all accessible showings and workings, 2/ assaying of samples and 3/ economic evaluation and preparation of recommendations for additional field work.

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2.0 GEOLOGY

2.1 General Setting

Country rock in the claim area is massive hornblende granite or granodiorite porphyry which comprises the Nelson Batholith in the area. Phenocrysts are coarse euhedral crystals of pink to pale buff coloured orthoclase occasionally forming pegmatitic clusters. The mineral occurrences under discussion are situated in what is probably the upper part of the intrusive and from two to three kilometers from its contact with the sedimentary rocks of the Slocan Group. Silver, lead, and zinc mineralization occupies steeply dipping fissure veins within the granite.

2.2 The Granite King

The Granite King vein cuts Nelson granite on the east slope of Mount Carlyle and is exposed in workings between elevations of about 2000 and 2100 metres (6600 and 6900 feet A.S.L.) At the site of the Granite King adit, the vein is about .6 m (2 ft) wide, strikes at 058° , dips NW at 68° and consists of gouge and consolidated vein material including quartz siderite, pyrite, galena, and sphalerite. The vein was sampled at three localities described as follows:

	Width	oz/ton Ag	% Pb	% Zn	% W03	Ag/Pb
Face of Granite King adit; Primarily gouge with some sulphides	.6 m	28.83	4.16	1.34	0.05	6.93
Grab sample of galena bearing quartz vein material from pit 32 m NW from portal above	n/a	5.80	17.2	11.5	- 0.1	0.34
Grab sample from dump at portal of	n/a	9.18	3.49	8.91	- .01	2.63

The adit follows the vein for about 36 metres from portal to face. The vein appears to coincide with a shallow depression or gully which extends northeasterly down the mountainside for several hundred metres to the vicinity of the old Grey Eagle Claim and perhaps beyond to where it has been postulated to intersect the Flint Vein.

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2.3 The Martin Vein

The Martin prospect is located about 2 km up the valley of Carlyle Creek at an elevation of about 1800 metres and on the southwest side of the basin. It consists of three converging fissures cutting Nelson granitic rocks and mineralized with argentiferous galena, sphalerite, chalcopyrite and pyrite in a quartz carbonate gangue. It is reported to have produced 59 tons of ore which averaged 55 ounces of silver and 53% lead (Cairnes 1935). The veins were mined from two adits both of which are now caved at or near their portals rendering the workings presently inaccessible. No samples were obtained from this prospect.

2.4 The Flint Vein

The Flint Vein strikes 010° and dips westerly into the slope at 61° . It is intersected by four crosscutting adits from which drifts have been driven on different levels. A total of 339 tons of ore is reported to have been mined and shipped from these workings. Additional ore remains on the dumps and several drums filled with concentrates were also observed on the property near the site of a small portable mill.

The vein has been intersected by four crosscutting adits driven westerly at different elevations along the slope. They are presently referred to as levels 1, 2, 3, and 4 but are numbered differently by Cairnes (1935; p. 217). As nearly as the writer can ascertain Cairnes refers to level No. 1 as adit 3, to level 2 as adit 2, and to level 4 as adit No. 1. Level 3 is not described and apparently post dates his visit.

Level 1 is at an elevation of 1945 m (6380 feet) above sea level. It is described by Cairnes as consisting of a crosscut which intersects the vein at 220 feet (67 m) and continues an additional 235 feet (72 m) to about 50 feet (15 m) from the projected intersection with the Granite King Vein. A drift from this crosscut extends south 600 feet (183 m) along the vein. A raise to surface has been driven from a point near the face.

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Level 2 consists of an adit at 1976 metres (6480 feet) A.S.L. driven westerly to intersect the Flint Vein at 50 feet (15 m). A south trending drift extends 280 feet (85 m) from the intersection. The adit is caved at the portal and presently inaccessible.

Level 3 is at an elevation of 1984 metres (6506 feet) and consists of a crosscutting adit about 15 metres long with drifting both south and a short distance north. Vein material consists of well banded galena, pyrite, sphalerite and siderite in quartz mylonite gangue. Sulphides vary in width from about 5 to 10 cm. The structure is up to about 0.6 m wide and is locally comprised largely of gouge material.

Level 4 is a crosscutting adit intersecting the vein about 30 metres from the portal. Drifting along the vein extends about 45 metres south of the intersection with stoping continuing above and south of the face. The vein is about 18 to 20 cm wide and mineralized with 5 to 8 cm galena, sphalerite, pyrite, pyrrhotite, and siderite in a quartz mylonite gangue. A sample taken at the face below the stope ran 13.72 oz/ton Ag, 8.29% Pb and 7.81% Zn. A sample of vein material from what appears to be a parallel vein 2 metres west of the drift was sampled over a width of 18 cm near the face of the adit. It gave values of 15.36 oz/ton Ag, 4.53% Pb, and 1.63% Zn, and 0.01% W03. An earlier sample taken from this locality by M. Lloyd ran 16.8 oz/ton Ag and 6.16% W03.

The source of the discrepancy between the two W03 analyses could be analytical or the result of erratic distribution. Scheelite has been observed in small amounts in both vein material and tentatively in a specimen of granitic wall rock.

2.5 Liberty Group

The Liberty Group adjoins the claims described in the foregoing to the south. It comprises the Liberty, Sixteen to One, and Stars and Stripes claims located north of Keen Creek, east of Carlyle Creek and in the vicinity of a contact between Nelson granitic rocks and Slocan Group sedimentary and metasedimentary rocks. There are several workings on the group and some good quality ore is said to have been shipped. None was seen during the course of the present visit and two samples (9 & 10 in Appendix C) of marginal looking material were

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found to be sub-economic. The geological setting of the prospect is nevertheless interesting and it is situated adjacent a property which is presently being mined, the Last Change Claim.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Three sets of workings in three different vein structures were examined in the Carlyle Creek area. All are old silver prospects and production has been obtained from at least two of them. While silver is of primary importance lead and zinc are also present in potentially commercial quantities. Samples were also tested for copper, gold and tungstate. Copper and gold values were in general too low to be of any commercial interest. The tungsten sample taken by the writer was found to be sub-economic but an earlier sample taken by Monte Lloyd of Denver Silver Inc. reported 6.16% WO₃. Small amounts of scheelite have been observed using ultraviolet light in samples obtained from the Flint Mine area.

Exploration work is considered justified on all three of the Carlyle Creek prospects. The nature of the prospects, narrow to moderate sulphide bearing fissure veins is such that the programs outlined should provide sufficient information to permit a decision respecting production from one or more of the veins. These recommendations do not include provisions for readying the prospects for production; questions respecting mining methods, milling versus direct shipping, road construction and so on are thus deferred.

Of the three vein systems examined one, the Martin, was not sampled. The access to the underground workings is prohibited by caving and no accessible surface exposures are known. Nevertheless early descriptions of the prospect which was a former producer suggests that a strong sulphide bearing vein structure cuts the granitic rocks on the claims. At prevailing prices of the material shipped from the Martin would have a gross value of \$C 1749 per ton.¹ On the basis of this data it is the opinion of the writer that a program of detailed exploration and development on the Martin Vein is justified.

¹ Ag at \$C 19.09/oz
Pb at \$C 0.66/lb.
Zn at \$C 0.40/lb.

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Work should consist of re-entering the old adits, mapping and sampling the veins underground and carrying out detailed geological mapping on the surface.

No production has been recorded from the Granite King prospects, but sampling indicates that there are good silver values over narrow to moderate widths in the vein. As much of the known portion of the vein system lies in gently sloping reasonably accessible country. It might effectively be explored by surface mapping. This is considered particularly important in the vicinity of the probable intersection with the Flint Vein. Underground exploration would best be carried out from the face of the Level No. 1 Flint Crosscut which is said to be about 50 feet short of the Granite King. Work should include drilling from the face with a provision for extending the existing crosscut and, if the vein is intersected, drifting.

The Flint Lode is the most highly developed of the three prospects in the upper Carlyle Creek valley. It is accessed by four cross-cutting adits, a considerable amount of drifting and at least one surface trench. A total of 339 tons of ore were shipped from the Flint Mine during the 1930's. This ore produces 11,450 oz/ of silver, 149,279 lbs. of lead and 11,672 lbs. of zinc which convert to 33.8 oz/ton silver, 22.0% lead and 1.7% zinc. At prevailing prices this gives a gross value of \$C950 ton.

The recent assays obtained of vein material give results averaging 14.54 oz/ton Ag, 6.4% Pb and 4.7% Zn for a gross value of \$C403. Both figures hold sufficient promise of profitability to justify a program of detailed exploration work.

The workings on the Flint Vein are extensive and comprehensive data on widths and grades appear to be lacking. For this reason it is recommended that a two-phase work program be initiated. The first phase should include re-entry of the two lower levels and any presently inaccessible levels that could be accessed from the other portals; detailed mapping and sampling of the vein system in all of the drifts and stopes should then be carried out. If this work provides sufficient encouragement a contingent program of exploration drifting should be carried out on one or more levels.

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The substantial amount of vein material observed on the various dumps could constitute milling ore. A program of bulk sampling is recommended to establish whether or not this is the case.

The 6.16% W03 value reported from the No. 4 adit was not duplicated by the more recent sampling. Nevertheless sparse disseminated scheelite has been observed both in samples of vein material and wall rock. Prospecting of both veins and in the adjacent granitic terrain using ultraviolet lamps is strongly recommended.

Provision should also be made for a limited program of prospecting and sampling in the Liberty Group area.

4.0 ESTIMATE OF COSTS

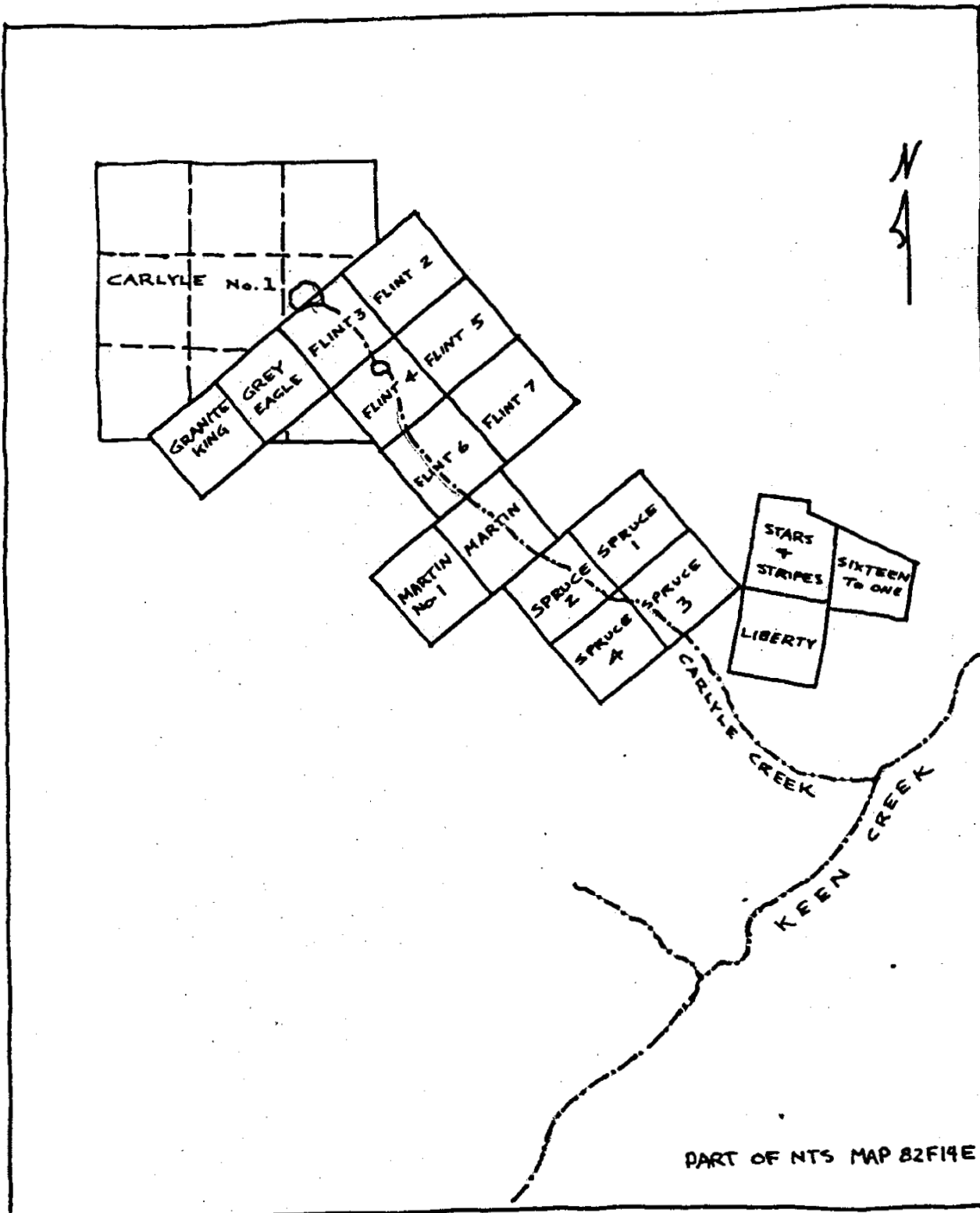
A summary of the foregoing recommendations and an estimate of the expenditures necessary to carry them out is as follows:

1.	Martin Claims		
	Rehabilitation of Old Workings	\$ 6,000	
	Underground Sampling and Mapping	3,200	
	Surface Geology	1,100	
	Assays	<u>350</u>	
			\$ 10,650
2.	Granite King (Phase I)		
	Surface Mapping	\$ 1,800	
	Underground drilling	4,500	
	Assays	<u>200</u>	
			\$ 6,500
3.	Flint (Phase I)		
	Re-access of Old Workings	\$10,000	
	Underground Mapping and Sampling	3,600	
	Bulk sampling of dump material	2,000	
	Assays	<u>450</u>	
			\$ 16,050
4.	Liberty Group		
	Prospecting and Sampling		\$ 1,200
5.	Tungsten Prospecting		\$ 1,000
6.	Flint & Granite King (Phase II)		
	Exploration Crosscut	\$ 7,000	
	Allowance for limited underground expl.	<u>20,000</u>	
			\$ 27,000
7.	Engineering and Reporting		\$ 8,000
8.	Contingency (allow 10%)		\$ 7,000
	TOTAL		\$ 77,400

Respectfully submitted

T.L. Sadlier-Brown
T.L. Sadlier-Brown





LOCATION MAP: CARLYLE CREEK CLAIMS

NOV. 1979

APPENDIX 1

Itemized Costs

Consulting Fees:

Re: Field work, report preparation (see Invoice 9-36)	\$1704.00
10% burden on disbursements	32.49
Meals Accomodation	83.90
Vehicle Rental and Mileage	165.80
Assays	238.00
Communications (telephone bill)	<u>3.02</u>

Total Costs \$2227.21

Suite 401 - 134 Abbott St., Vancouver, B.C. Canada V6B 2K4 (604) 683-8271

To Denver Silver Inc. 270-885 Dunsmuir Street Vancouver, B.C.	Date Nov. 8, 1979	Number #9-36
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Professional Services

RE: GEOLOGICAL EXAMINATION AND REPORT PREPARATION
KASLO-CARLYLE CREEK

FEES

T.L. Sadlier-Brown, Time sheet, Sept. 16-30	\$ 752.00
T.L. Sadlier-Brown, Time sheet, Oct. 22-Nov. 2	869.50
H. MacDonald, Time sheet, Oct. 30-31 (Clerical)	<u>82.50</u>
TOTAL FEES	1,704.00

DISBURSEMENTS

T.L. Sadlier-Brown, Expense sheet, Sept. 16-30	83.90
B.C. Tel, Oct. 11 bill	3.02
Chemex Labs, #33248	<u>238.00</u>
Sub-total	324.92
10% burden	<u>32.49</u>
TOTAL DISBURSEMENTS	357.41

EQUIPMENT RENTAL

T.L. Sadlier-Brown, Expense sheet, Sept. 16-30 (Personal vehicle)	165.80
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Paid by cheque # 103

Total
\$ 2,227.21

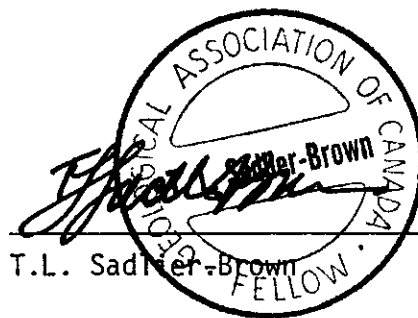
Terms: Net 15th following. 1½% per month (18% per annum) charged on overdue accounts.

APPENDIX 2

STATEMENT OF QUALIFICATIONS





I, Timothy L. Sadlier-Brown hereby certify that:

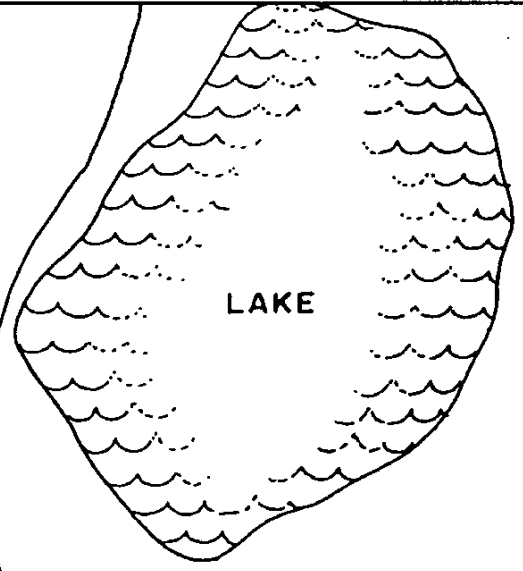
1. I am a consulting geologist and partner in the firm of Nevin Sadlier-Brown Goodbrand Ltd. with offices at 401 - 134 Abbott Street, Vancouver, B.C. V6B 2K4
2. I was educated at Carleton University in Ottawa, Ontario and am a Fellow of the Geological Association of Canada
3. Since 1965 I have acted in the field of exploration geology in positions of responsibility and have been a principal in the firm of Nevin Sadlier-Brown Goodbrand Ltd. since 1972
4. I personally carried out the geological examination and sampling on the Martin Flint and Liberty claims as described in this report
5. I hold no interest in the property described herein nor in the securities of Denver Silver Inc. nor do I expect to receive such interest.



T.L. Sadlier-Brown

7950
LEGEND

-  NELSON BATHOLITH
-  QUARTZ CARBONATE VEIN
DEFINED, ASSUMED
-  ADIT
-  SAMPLE LOCALITY
(REFERRED TO IN TEXT)



LAKE

■ CABIN

FLINT #1 LEVEL
el. 6380 ft.
#2 - 6480 ft.

#3 6506 ft.

#4 6563 ft.

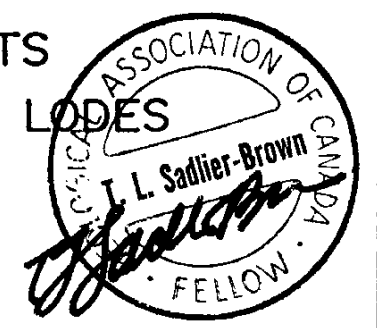
GREY EAGLE

GRANITE KING



LOCATION OF ADITS
FLINT & GRANITE KING LODES

PLAN VIEW



SCALE 1:2500

100 FT CONTOURS

MAP - M. LLOYD FROM BRUNTON SURVEY, SEPTEMBER 14, 1979
BY D. McINTYRE, P.ENG.

49 200 M