

EXPLORATIONWESTERN DISTRICTPROPERTY EXAMINATION REPORT

LISA GROUP

1. INTRODUCTION

After Colby Mines began selling stock from door-to-door in Cranbrook and advertising in local newspapers, conversation with the locator of the Lisa claims indicated that diamond drilling was carried out in 1967 but no one had been on the property during the 1968 season. It was decided to visit the property as part of a project aimed toward the recommendation of prospecting targets in the region.

2. SUMMARY AND CONCLUSIONS

- (a) The showings occur in interbedded dolomites, quartzites and slates of the lower(?) Mt. Nelson formation.
- (b) Galena, sphalerite and tetrahedrite occur in quartz, quartz-siderite, barite and sulphide veins. Almost no replacement mineralization occurs.
- (c) Veins are almost invariably mineralized and are common on the property but the overall grade is apparently low.
- (d) The showings occur in a structural culmination adjacent to the major Mineral King fault.
- (e) Slates in the vicinity of the showings may play an important role in localizing vein formation.
- (f) Drilling by Colby Mines tested the best veins seen down dip and for short distances along strike. They will give little information about tonnage potentials and overall grades. The planned 1500' adit of Colby Mines seems premature.
- (g) If it could be arranged, a week or ten-day mapping program by a Cominco geologist would enable one to determine whether an attempt should be made to share in developing the property.

3. PROPERTY

The original claims, Lisa 1-10 were staked in June of 1966 by L. Hemmelgarn, Windermere, B.C. In August of 1967 he optioned the property to Colby Mines Ltd., 645 Hornby St., Vancouver 1, B.C. Claims A 1 to A 16 were staked by Hemmelgarn as agent for T.A. McKenzie and recorded October 19, 1967 and A 17 to A 20 were recorded August 7, 1967. Promoters for the property are J.A. Farrell and T.A. McKenzie.

During the visit, we found the initial post for claims D 1 and D 2 a few hundred feet from what we interpreted to be Colby diamond drill holes (DDH 1, 2, 3 of Plate 2). Apparently D 1 and D 2 overlie the Colby showings. To add to the confusion, D 1 and D 2 are grouped as part of the Tatler 2 group which was optioned by Hemmelgarn to Walter Hunchuk (I believe they are working on the Tatler Group under the name Jumbo Mines). The agreement with Hunchuk is valid until Sept. 1, 1971.

This apparent overlapping would have to be clarified before any action is taken.

4. LOCATION

The property is reached by all-weather road from Invermere, B.C., along Toby Creek and up Jumbo Creek for three miles. A few hundred feet beyond several old cabins a four-wheel drive road can be driven to elevation 5100'. Beyond this point the road is impassible but it continues for a mile to elevation 5950'. A trail of sorts along the east side of the creek leads up to the showings which are between elevation 7500 and 8000'.

5. HISTORY

The property was optioned and drilled by Colby Mines in 1967 under the guidance of Theodore Swanson, consulting engineer. Colby plan to drive a 1500' adit from elevation 6500 and carry out 8000' of underground diamond drilling from it. Promoters for the property are J.A. Farrell and T.A. McKenzie. Despite these plans, the property has not been worked on this summer. A few hand dug pits were excavated during the early 1900's by unknown parties.

6. GEOLOGY

Where they are recognizable, the basal Mt. Nelson quartzite is a clean, white quartzite and the lower Mt. Nelson dolomite consists primarily of buff weathering dolomite. Clean white quartzite crops out at elevation 6500' below the Lisa showings east of the Mineral King fault while buff dolomites form the bluffs above and east of the showings. The showings are interbedded slates, dolomites and quartzites underlying black limestone. Presumably, these rocks represent the gradational contact between the basal quartzite and the lower dolomite.

7. MINERALIZATION

Economic minerals occur in quartz and barite veins in dolomite, dolomite breccia and quartzite. The host rocks have been folded and also brecciated by movement on the Mineral King fault. Appreciable numbers of veins occur only where relatively brittle layers occur within Mt. Nelson slates. At first, it is surprising that veins are not most prominent in the massive quartzites and dolomites exposed along the Mineral King fault. Possibly the explanation is that the massive rocks fractured on a small scale, too small to maintain spaces for influx of veins. Quartzite and dolomite layers in the slates on the other hand would fracture during deformation while the slates flowed in response to the applied forces. The result would be a type of brittle boudinage with separation of the fragments producing openings for vein-forming fluids (Plate 5). Exposure was not good enough to test this hypothesis.

Essentially no replacement ore was seen during the Lisa visit. Galena predominates among the sulphides, followed by tetrahedrite and sphalerite. Chabopyrite is rarely seen. In most instances, ore minerals occur as pods and crystals in quartz quartz-siderite, or barite veins. Occasionally, however, sulphides with no gangue occur as stockworks in dolomite breccia or even as massive pods. The largest pod is 18" long, 18" across and consists of galena. Diamond drilling adjacent to this pod is discussed elsewhere.

Showings occur between 7500 and 7800' east of the Mineral King fault. Sporadic mineralization occurs along the ridge immediately east of the fault and in a dolomite pod at elevation 7800', 700' east of the fault. The frequency of mineralized veins between these two zones could not be determined during the visit.

Along the ridge east of the fault, scattered Pb, Pb-Zn, Pb-Cu, or Pb-Zn-Cu vein mineralization occurs sporadically for a strike length of approximately 2000'. Possibly mineralization occurs in a series of en-echelon veins formed during movement on the Mineral King fault. Detailed mapping and trenching or drilling would be necessary to determine the grade and continuity of mineralization. The number of veins which are at least weakly mineralized is, however, impressive.

Samples from the property were all chip or grab samples. Assay results across 23' from the area of a pod of galena are illustrated in Plate 4. A grab sample of laminated grey dolomite assayed .28% Zn and was the only sample with any disseminated mineralization. Samples taken by Lancaster from the adit assayed: Ag .25 oz., Cu .22%, Pb .02%, Zn .02% across 30'.

Two other Lancaster (1966) samples, each across 30' assayed: Ag .90 oz., Cu 2.1%, Pb .48%, Zn .63% and Ag .15 oz., Cu .80%, Pb .77%, Zn .50%.

8. STRUCTURAL SETTING

One visit was insufficient to determine the detailed structural setting of the Lisa veins. However, from our observations and based on published maps by Fyles (1959) and Walker (1926), the gross setting of the deposit can be deduced (Plate 3). The Toby conglomerate crops out south, north-east and west of the property and outlines major fold structures. To the south, it defines a tight south-plunging syncline. On Black Diamond ridge the same fold is north-plunging. Folds in the limestone adjacent to mineralized dolomites on the property are similarly north-plunging. The Mineral King fault truncates the northeast limb of the anticline contiguous to the doubly plunging syncline. Thus the Lisa veins occur in a structural culmination or dome near the crestal zone of a doubly plunging anticline which is truncated by a major fault. With the information available, this interpretation can only be called a hypothesis--detailed mapping would be necessary to prove it.

9. DIAMOND DRILLING

During the examination, five or possibly six diamond drill hole collars were found. As indicated in Plate 4, the holes are positioned on the best grade showing seen by us and are positioned to test extensions of the veins down dip and along strike for a short distance. No core was found and the length of the holes is not known. The total number of holes and gross footage of drilling is not known but if those we found are typical, grades reported by the drilling would not indicate the true grades one might encounter in a mining operation. They would, however, indicate the down dip and along-strike variations in grade and possibly widths of the best grade veins on the showing.

10. COMMENTS AND CONCLUSIONS

Mineralization on the Lisa property occurs in quartz, quartz-siderite, barite or sulphide veins and stockworks in brittle layers with a sequence of interbedded quartzites, dolomites and slates. The sequence is apparently gradational to basal Mt. Nelson quartzite below and lower Mt. Nelson dolomite above. Ore minerals are galena, tetrahedrite and sphalerite.

The showings are situated in a favourable geologic setting. They occupy an elliptical structural high or dome which is cut through by the large Mineral King fault. Veins may fill en-echelon fractures formed during fault movement and tension cracks formed during folding. Localization of the vein system may be controlled by lithology since substantial veins apparently occur only where brittle dolomites and quartzites are enclosed by ductile slates.

Colby Mines feel that the property has been investigated enough to advance it beyond the prospect stage. Accordingly, they intend to drive a 1500' adit from elevation 6500' and plan 8000' of underground diamond drilling from it. These conclusions seem premature from our observations.

Several questions raised by the visit might be answered by checking in Vancouver. These are:

- (a) How many holes were drilled, their footage, locations and results?
- (b) How thoroughly have Colby personnel mapped and prospected the claims?
- (c) What are Colby estimates of grade continuity and tonnage potential for the property?

Although assay results from our samples are not impressive, two taken by Lancaster have interesting copper values and the number of veins with common occurrence of mineralization indicate that the property warrants further investigation. I suggest that Cominco attempt to arrange with Colby Mines to allow a Cominco geologist to spend about a week or ten days mapping the property to determine whether a work agreement should be entered to help develop it.

11. AREA POSSIBILITIES

Wherever the upper contact of the basal Mt. Nelson quartzite or lower dolomite member or the basal contact of the upper Mt. Nelson contact approaches the Mineral King fault, the area should be carefully prospected. The Red Ledge property was recommended in response to this favourable geologic setting.

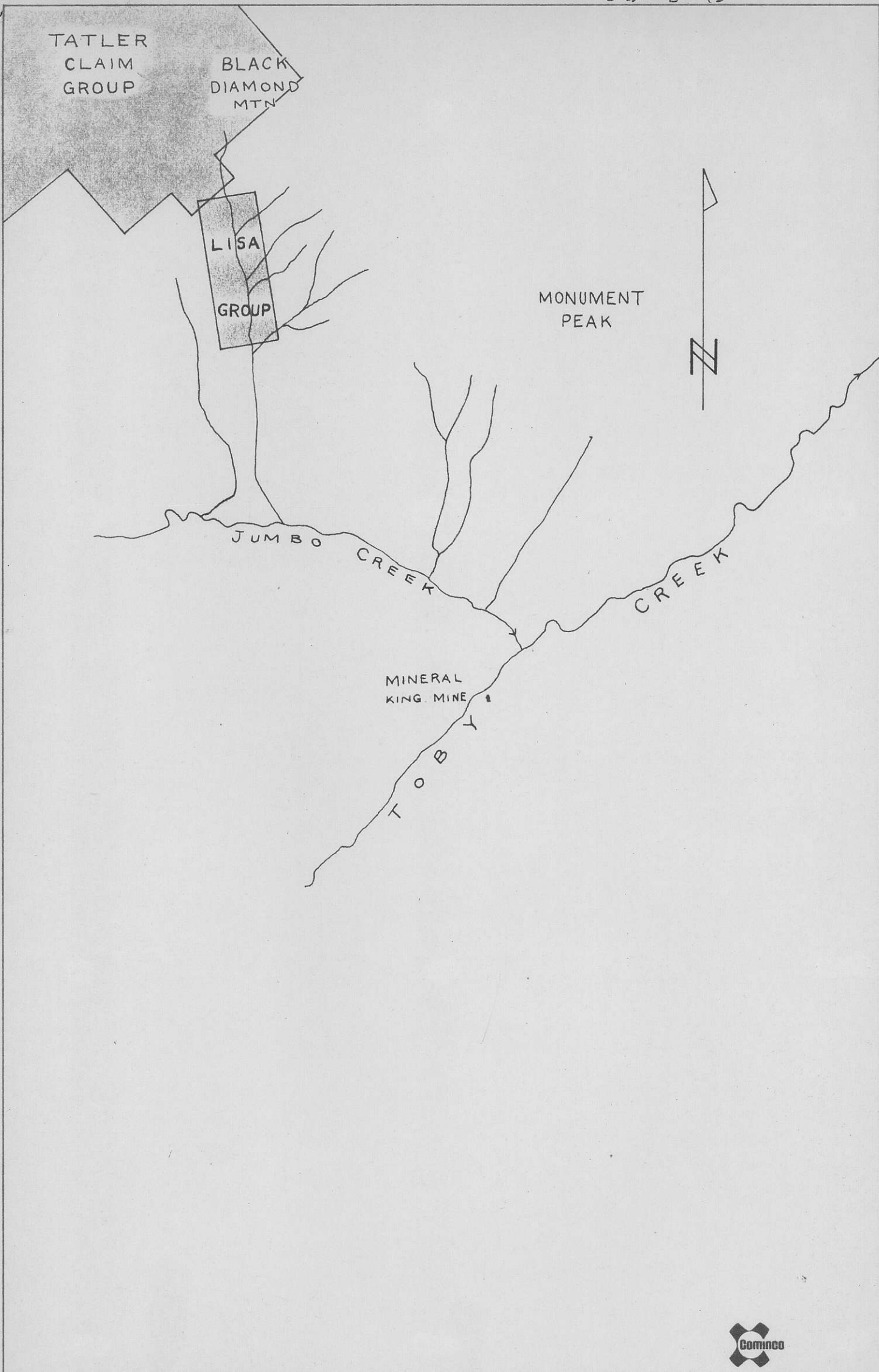
REFERENCES:

1. Fyles, J.T. 1959: Report of the Minister of Mines, pp. 74-89.
2. George Cross Newsletter; March 8, 1966, pp 2 and 4.
3. Lancaster, D.H.; Kimberley Month End Report, October 1966.
4. Walker, J.F. 1926; Map No. 2070, Windermere, B.C. (1:125,000).

Report By _____
W.J. McMillan

Endorsed By _____
J. Richardson

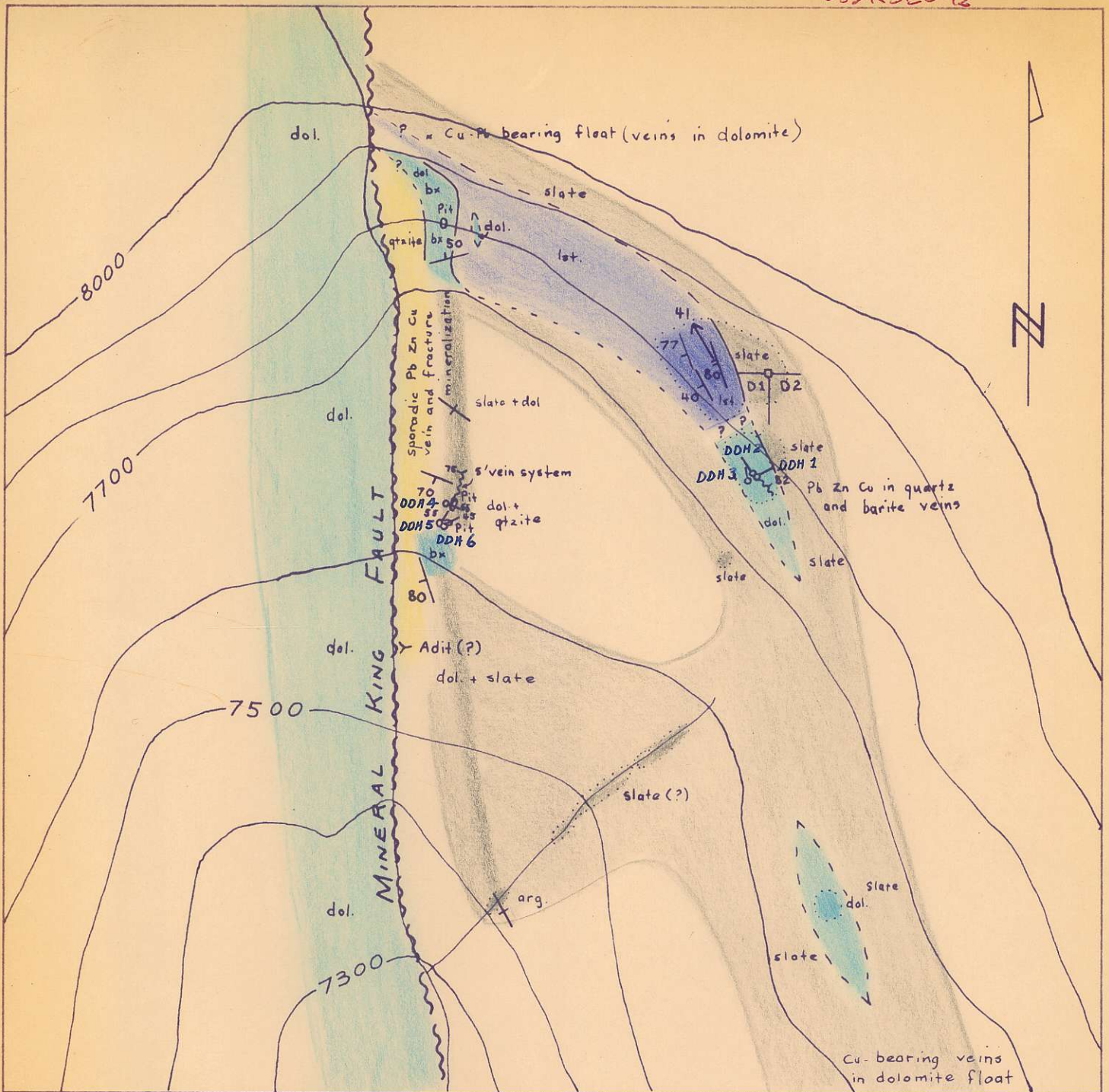
WJMcM:mk
Encls.
Typed September 6/68
Distributions
Montreal 1
Vancouver 1
Author 1 ✓



Drawn by:		Traced by: W J M	
Revised by	Date	Revised by	Date

CLAIM LOCATION MAP - LISA PROPERTY
82 K-8W

Scale: 1" = 1 mile Date: Aug. 26, 1968 Plate: 1



LEGEND

Mt. NELSON FORMATION
(stratigraphic order uncertain)

- black slate with argillite and dolomite layers
- black massive to slaty limestone with dolomite pods
- buff dolomite
- interbedded dolomite and quartzite

SYMBOLS

- bedding
- fold axis
- axial plane of fold
- fault
- vein
- diamond drill hole
- claim post
- dol. dolomite
- qtzite quartzite
- arg. argillite
- lst. limestone
- bx dolomite breccia



Drawn by: WJM	Traced by:		
Revised by	Date	Revised by	Date

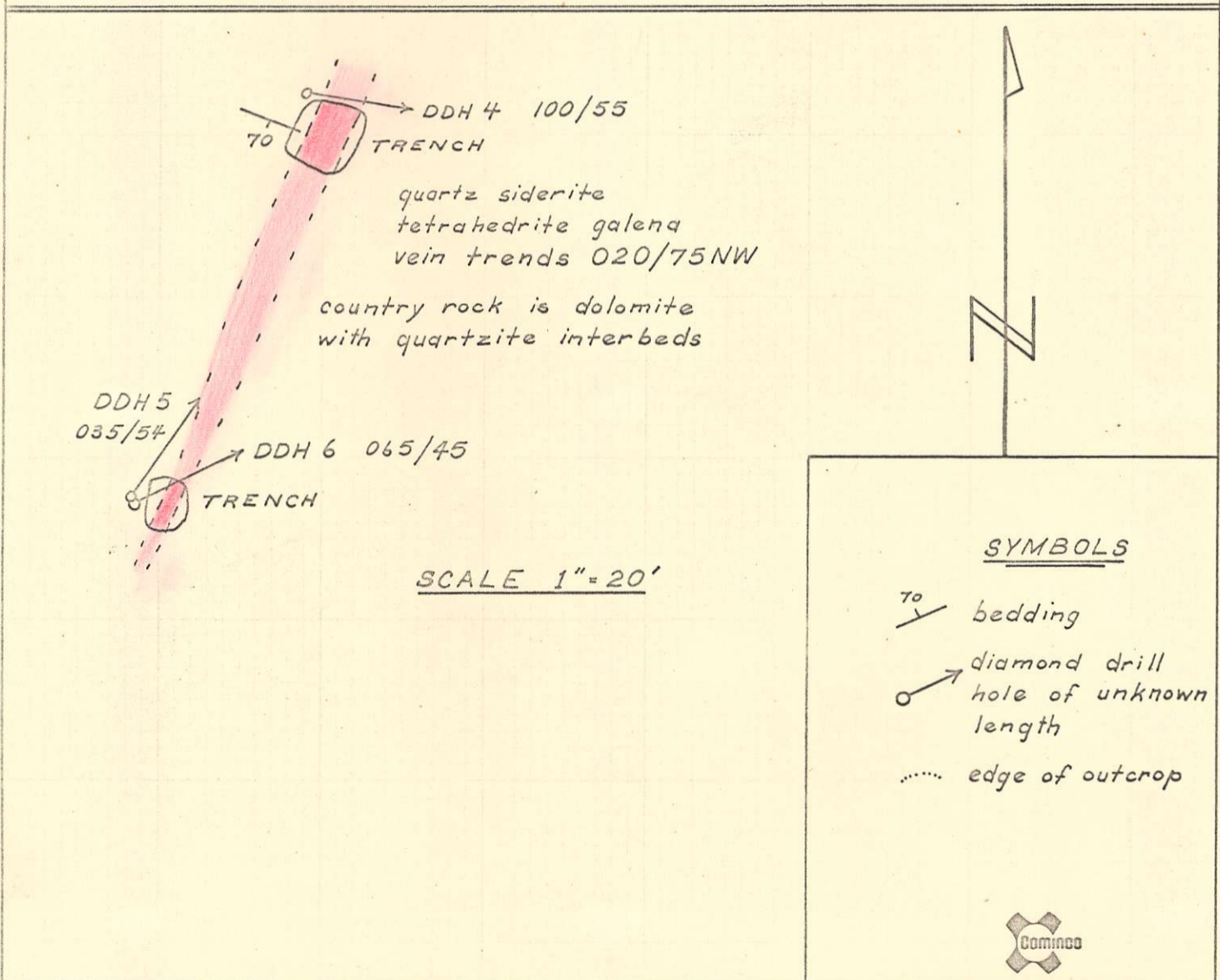
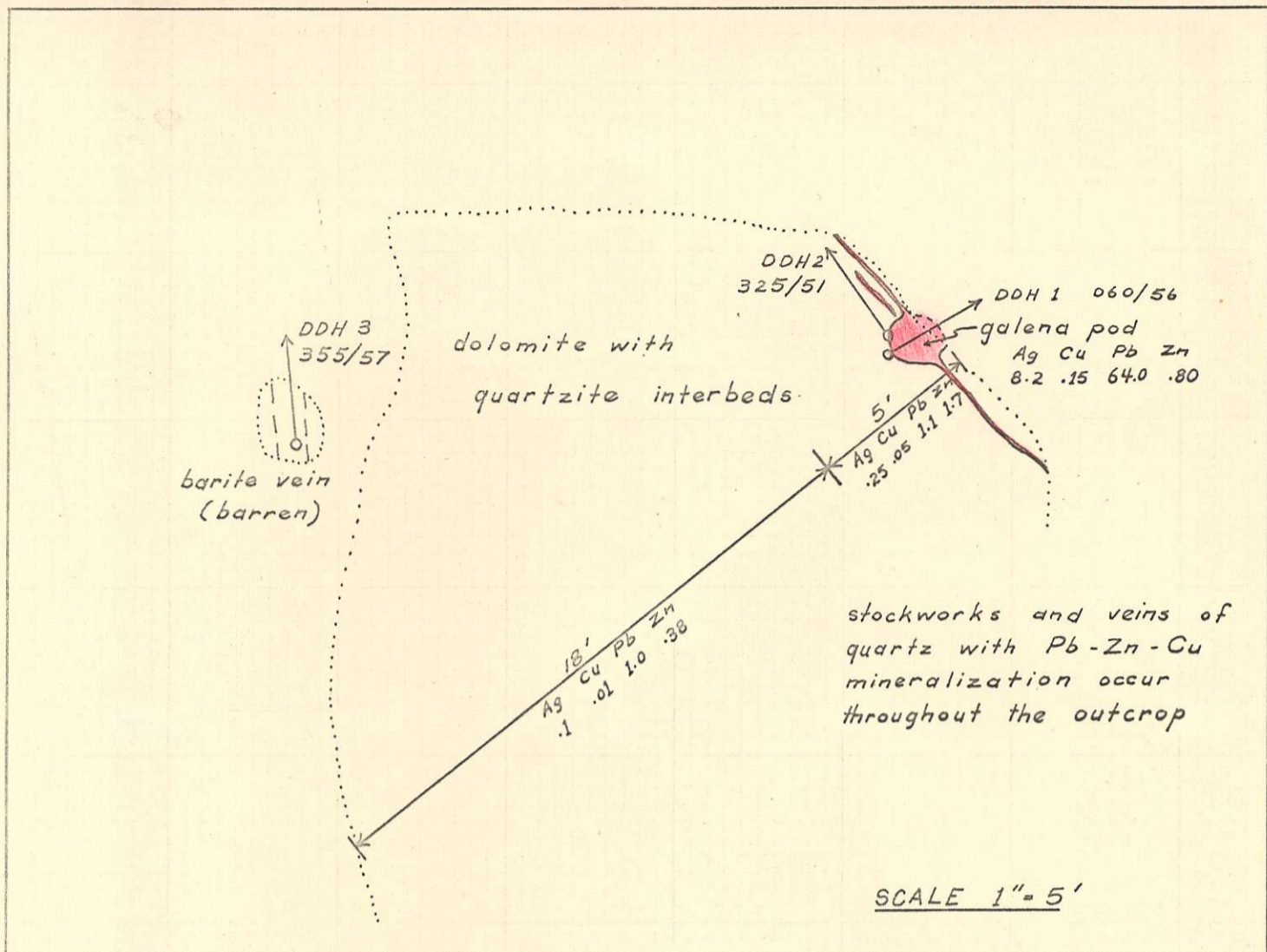
LISA PROPERTY

82K-8W

Scale: 1" = 500'

Date: Aug. 23, 1968

Plate: 2



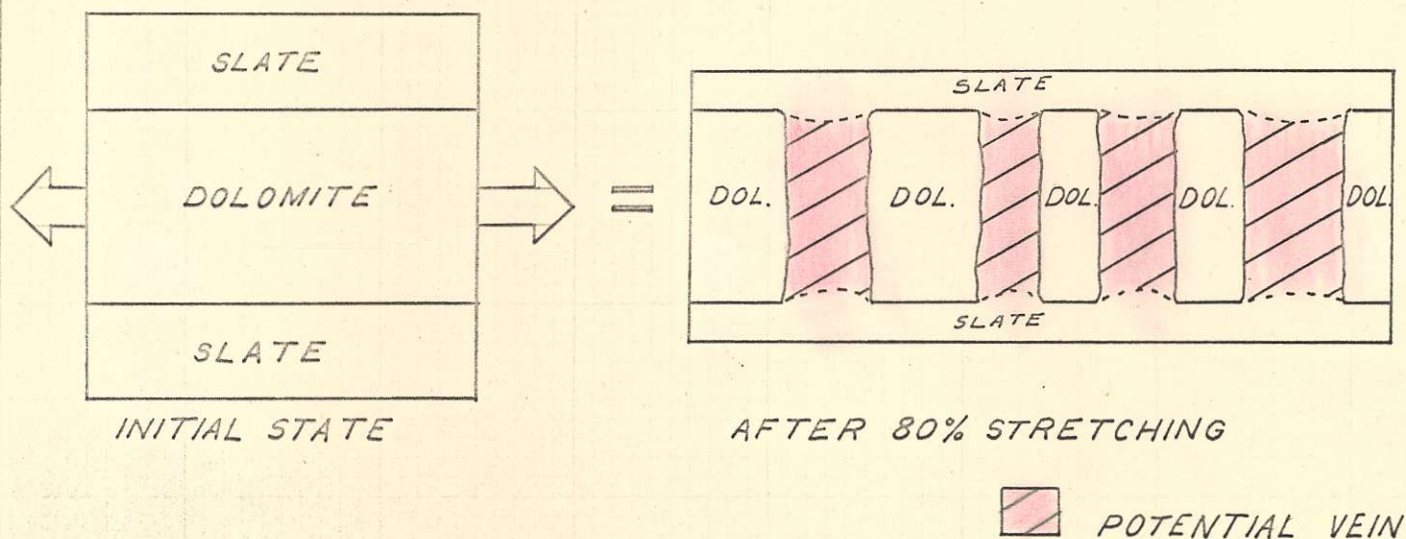
Drawn by: WJM		Traced by:	
Revised by	Date	Revised by	Date

DIAMOND DRILLING
LISA PROPERTY

82 K 8 W

Scale: variable Date: Sept. 1, 1968 Plate: 4

THEORETICAL FORMATION OF VEINS ON THE LISA PROPERTY



During deformation the dolomite fractures but the slates flow. As a result, the dolomite fragments become separated. If water pressure is high enough to maintain the voids, veins would form.



Drawn by: <i>WJM</i>		Traced by:	
Revised by	Date	Revised by	Date

LISA PROPERTY

82 K 8 W

Scale: *NONE* Date: *SEPT 1, 1968* Plate: *5*