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REPORT

on the

ALI CLAIM
GOLDSTREAM RIVER AREA
REVELSTOKE MINING DIVISION, B.C.

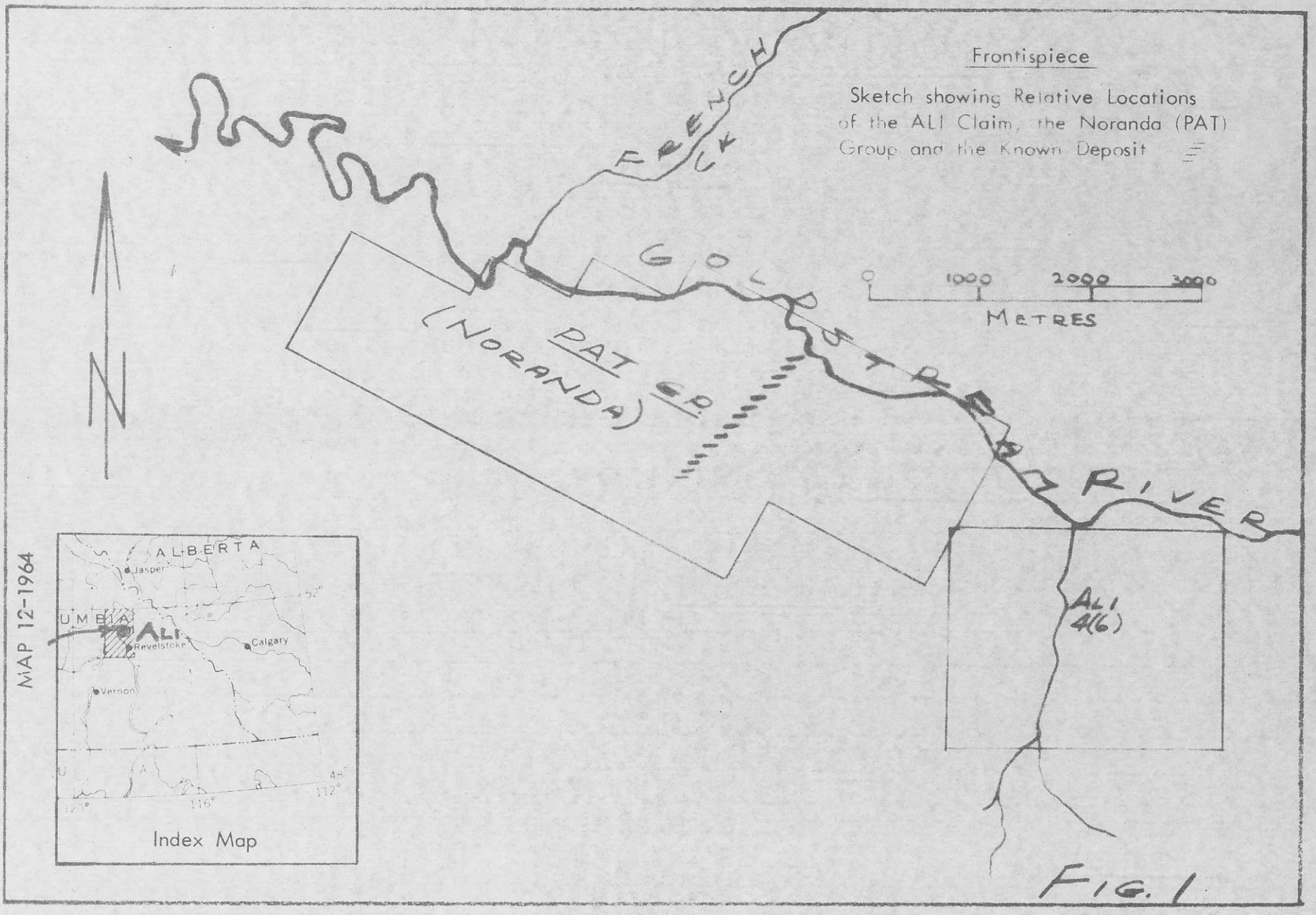
for

DELHI PACIFIC MINES LIMITED

by

W R. BACON, Ph.D, P.Eng.

Vancouver, B.C. August 30, 1976



Frontispiece

Sketch showing Relative Locations of the ALI Claim, the Noranda (PAT) Group and the Known Deposit

MAP 12-1964

FIG. 1

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ILLUSTRATIONS

INTRODUCTION

The ALI claim consists of 20 units (5 east-west by 4 north-south), i.e. 5 sq. kilometres. It is in the Revelstoke Mining Division, on the south bank of the Goldstream River, a turbulent westward flowing tributary of the Columbia River that enters the Columbia 50 miles north of Revelstoke.

The ALI claim is accessible by 11 miles of good dirt road up the south side of Goldstream River.

The ALI claim, or more exactly its northwestern corner, touches the southeastern side of Noranda Mines Ltd's PAT group which contains an economically interesting massive sulphide deposit on which the Noranda company is now conducting an extensive underground exploration program.

Surface work on the ALI claim was initiated by the writer in June, 1976. A contract for 32 kilometres of N-S line with 120 metre spacing was awarded Amex Exploration Services Ltd. of Kamloops, B.C. The original contract was subsequently reduced to $17\frac{1}{2}$ km.

The N-S lines are spaced at 120 metres. A soil sampling survey was done at 50 metre intervals on these lines, and a reconnaissance magnetometer survey undertaken. This work was done by Fox Geological Consultants Ltd. (Dr. P.E. Fox knows the Goldstream area as well as any geologist, particularly because of his study of the area carried out for the Geological Survey of Canada in 1962.)* Dr. Fox supervised the work on the ALI claim.

* Ref. (Introduction) Big Bend Map-Area, British Columbia, G.S.C. Paper 64-32

PHYSICAL FEATURES

The Big Bend country, of which the Goldstream River is an integral part, is a rugged mountainous terrain similar physically to the Coast Range of British Columbia. Steep slopes are covered by an evergreen rain forest featuring large cedar trees and the most noteworthy feature of the thick, matted undergrowth is the omnipresent devil's club.

Slopes on the northern half of the ALI claim are in the 25°-34° range. Southward they are steeper to precipitous.

Although the overburden is generally continuous on the northern half of the ALI claim, it does not appear to be deep. A tumultuous, north flowing creek on the western part of the claim provides excellent exposures of bedrock but its steep banks must be traversed with caution. (See Fig. 2)

Elevations on the ALI claim range from 2500 feet to 5000 feet above sea level.

GEOLOGY
(See Fig. 2)

Map 12-1964, published by the Geological Survey of Canada, indicates that the south bank of the Goldstream River is underlain by Unit 5A of the Lardeau Group of Lower Cambrian (and later) age which, southward, is intruded by a granite mass about 8 miles long (E-W) by 3 miles in maximum width (N-S).

Unit 5A is described in the legend simply as "crystalline schist and gneiss" but, actually, a considerable variety of metamorphic, thinly layered rocks is present in the limited areas examined by the writer - quartzites, micaceous quartzites, phyllites, schists, slates (graphitic and non-graphitic), etc.

The prevailing attitude of these sedimentary rocks is probably of the order of N65°W with a flattish (35°±) northerly dip but examination of the aforementioned creek (on the western part of the ALI claim) indicates considerable change in attitude (i.e. folding) over a short distance. The following attitudes were observed at intervals in a 500 metre stretch of the lower part of this creek:

Lowermost	Strike	=	N20°W = N20°E	Dip	= 40°NE = 70°E
Highest		=	E-W		= 70°S

No granitic outcropping was observed by the writer in his 2 claim unit traverse up the creek - but some rather fine-grained biotite granite was found in talus at the south end of the traverse.

MINERALIZATION

Approximately one and one-half miles west of the northwest corner of the ALI claim, Noranda Mines Ltd. is putting in an adit to explore further a bedded cupriferous sulphide deposit of excellent grade (announced as 4.49% copper, 3.24% zinc, 0.68 oz. silver per ton).

The sulphides in the Noranda deposit are pyrite, pyrrhotite, chalcopyrite and sphalerite. Some malachite and azurite occur at the surface of the ore zone.

Minor pyrite and pyrrhatite have been observed in quartzite on the ALI claim.

MAGNETOMETER SURVEY

Results of the magnetometer survey are shown in Figure 5. The magnetic relief over the grid area is low as would be expected from bedrock consisting predominantly of metasediments. The magnetic relief in the northeast corner of the grid is 200 gammas but elsewhere it is less than 100 gammas.

GEOCHEMICAL SURVEY

Results of the geochemistry program are given in Figures 3 and 4. Figure 3 gives analyses for copper and zinc, and Figure 4 gives results for lead and silver.

Copper content ranges from 2 to 140 ppm, but 99% of the samples contain less than 55 ppm copper. Based on results from the adjoining PAT group, copper contents of 75 ppm or more copper are considered to be anomalous. Only 1 sample (240W 150S) from the ALI grid is thus considered to be anomalous for copper.

With regard to lead and zinc geochemical results, there appear to be no truly anomalous samples. Lead ranges from 5 to 116 ppm and zinc from 18 to 125 ppm.

CONCLUSIONS

The conclusions with regard to the ALI claim are influenced by the writer's knowledge of the Noranda deposit on the PAT group. The information provided the writer by Noranda was rather limited, reflecting the competitive nature of the mining exploration business and the relatively early stage of the development of the Noranda deposit.

The lack of detailed information on the Noranda deposit is offset, to some extent, by the writer's extensive knowledge of many of the major bedded sulphide deposits in Canada, Australia and elsewhere. Such deposits generally do not occur in isolation. They may, in fact, be found at various locations in the same general sequence of rocks.

The magnetometer and soil sampling surveys are routine surveys carried out for assessment purposes on a majority of British Columbia prospects. The results of the soil sampling and magnetometer surveys on the ALI claim do not justify follow-up exploration for copper-zinc mineralization. Moreover, the writer found no evidence of this type of mineralization on the ALI claim, but rock exposures are confined to the steep walls of a violent, turbulent stream.

The writer has done no stratigraphic work on the PAT group or on the ALI claim. He has examined intermittent outcrops of apparently similar meta-sedimentary rocks on the south side of the Goldstream River for a matter of 10 miles - from the Columbia River on the west to the ALI claim on the east. Whether the Noranda ore-bearing horizon occurs on the adjacent ALI claim is unknown and, thus, the ALI claim remains an interesting "location bet" pending further exploratory work which, in the opinion of the writer, is fully justified.

RECOMMENDATIONS

In the opinion of the writer, the most suitable method of exploring the ALI claim for a bedded sulphide deposit is an electrical geophysical method. Both electromagnetic and induced polarization systems should be considered seriously, with the writer giving initial preference to the former.

There are graphitic bands in the metasedimentary sequence which will emerge as conductive anomalies, whatever electrical method is used. In other words, whether an EM anomaly is caused by graphite, or barren sulphides, or cupriferous sulphides will be a problem - as it is (only much more so) with every electromagnetic survey done in the Canadian PreCambrian.

Provision must be made for subsequent drilling of anomalies. Geological and prospecting work should run concurrently with the geophysical and drilling programs.

COST ESTIMATE

1.	Electromagnetic survey, 32 km (Crone JEM, employing "shootback" technique)	$5,440
2.	Geological and prospecting work	6,000
3.	3000 ft. AQ diamond drilling program at $19/ft. (includes mobilization, demobilization, D-6 tractor rental, etc.)	57,000
		$68,440
	Contingencies, say 10%	6,844
		$75,284

Respectfully submitted,

BACON & CROWHURST LTD.

W.R. Bacon, Ph.D, P.Eng.

CERTIFICATE

I, William R. Bacon, with business address at 1720 - 1055 West Hastings Street, Vancouver, British Columbia, DO HEREBY CERTIFY THAT

1. I am a consulting geological engineer.

2. I am a graduate of the University of British Columbia with B.A.Sc. (1939) and M.A.Sc. (1942) degrees in Geological Engineering.

3. I am a graduate of the University of Toronto with a Ph.D (1952) degree in Economic Geology.

4. I have practised my profession for thirty-five years, mainly in North America, South America and Australia. During the past twenty-five years, the majority of my time has been spent in western North America; it includes seven years (1949-56) as a geologist with the B.C. Department of Mines.

5. In 1968, with a number of other senior geologists and engineers, I was requested by the Association of Professional Engineers of the Province of British Columbia to assist in preparing "Guide-Lines for Preparation of Mining and Geological Reports". This was an effort to help younger members of the profession and, in general, to up-grade the calibre of reports and appraisals of mining properties. (See page following)

6. On June 24-25th, 1976, for Delhi Pacific Mines Limited, I personally examined the ALI claim in the Goldstream River area (Revelstoke Mining Division) of British Columbia.

7. I have no interest, direct or indirect, in the ALI claim or the securities of the above company, nor do I expect to acquire any such interest.

W.R. Bacon, Ph.D, P.Eng.

Vancouver, Canada,
Aug. 30, 1976

Approved by Council for publication

Guide-Lines for Preparation of Mining and Geological Reports

PREFACE

This document, "Guidelines for Preparation of Mining and Geological Reports", was prepared at the request of Council by a committee composed of Messrs. W. R. Bacon, D. M. Cannon, E. P. Chapman, Jr., K. C. Fahrni and H. Sargent, with J. H. Bennett as secretary.

The committee benefited by comments or suggestions made by several engineers, including written submissions from Dr. H. C. Gunning and Professor L. G. R. Crouch.

(I) INTRODUCTORY NOTE

Reports may differ widely in purpose and in content. They may range from those intended to present essentially all that is known on a property or project, or at the other extreme to a report on some limited phase of a project.

Reports may be preliminary, interim or final.

A report on a phase of a continuing project made to a client conversant with the basic background and able to comprehend the material to be presented, may be very different in form and content from a report to a client who does not have the essential background information on the property or project and is neither versed in mineral engineering himself nor regularly in receipt of advice from an engineer or engineers. The range in clients includes the company with its own engineers, and the individual who is not technically trained and has no continuing source of engineering guidance.

The range in purpose and content of reports may be indicated by reports dealing with:

a) geology and mineralization observed on a property, reported as background information for another engineer or engineering department.

b) a proposal for exploration, that it is hoped would lead to discovery of mineral deposits in an area, or areas, which might then be acquired by the client.

c) an outline of a program of exploration, development or preparation for production, or increased production.

d) an evaluation of a mining property to guide the client in reaching a decision as to whether to buy the property or to become a part owner, or whether or not to participate in a program of exploration, development, etc., on the property.

e) an evaluation, etc., to provide the owner of a property with material that may be used in inviting others to participate in exploration, development or production.

In his studies and examination and in preparing a report, the engineer must have in mind the needs of his client, and whether or not the competence of the client or the advice available to the client are such that the client can readily become aware of and comprehend the factual content of the report, the bases for conclusions and recommendations, and their implications.

The engineer must also consider the use to which his report may be put. If it is at all likely that the report will be published in whole or in part or otherwise used in the raising of money or other support, the engineer has a responsibility:

a) to phrase his report in such a way as to minimize the possibility of being imperfectly understood or interpreted, and

b) in some instances to restrict the use to which his report may be put by stating clearly that the report may not be quoted in part, in soliciting subscriptions, or may not be used at all for such purposes.

The requirements for all reports are not the same. The engineer must decide what shall be the content and form of his report. His responsibility includes ascertaining and stating the facts, both favourable and unfavonrable, pertinent to the subject on which he reports.

Failure to deal adequately with essential material may properly be considered as great a breach of ethics as misstatements, or conclusions at variance with the available data.

(II) ESSENTIALS FOR A COMPLETE REPORT

1) Title
2) Table of Contents — including list of illustration and other supporting material.
3) Introduction — including scope, terms or reference, and definitions.
4) Summary
5) Conclusions and Recommendations, and estimated costs of performing work recommended.
6) Name of property or area
7) Ownership
8) Location and access (both local and more general)
9) History, including production history
10) Nature of examination or other studies made by or for the engineer and the time, both duration and date, devoted to this work, both for the engineer and for others if other personnel employed on the work.
11) Other sources of information, including published reports, maps and air-photos.
12) The basic facts of the case, which may include:
    a) geology of the property (or area) and relation to a larger area.
    b) work that has been done, condition of workings, existing records.
    c) nature, size or extent and grade of mineral deposits or occurrences.
    d) assays and plans or other supporting illistrations.
    e) the geological setting of the deposits or occurrences.
    f) factors bearing on the physical problems in working the deposit.
    g) metallurgy - factors bearing on the problems of producing a saleable product or products, possibly recording experience in beneficiating material from the deposit, or factors indicating beneficiating procedures that may be required, or the need for metallurgical testing.
    h) reserves, probabilities and possibilities. If the term "ore" is used, the definition of each category of ore used must be clearly set forth.
    i) costs of mining, treatment, transportation, power, etc. — established, reasonably inferred

from available data, or the need for studies and testing to establish such costs.

j) taxes and other charges.

13) Profitability based on factors enumerated, and possibly on additional factors. Profitability is a most important consideration for almost all reports even those proposing exploration in an area on which relatively little is known.

14) Conclusions and Commants.

15) References.

16) Certification by the writer — signature, date and seal.

(III) FURTHER COMMENTS

Any report must be adequately supported by maps and/or other illustrations.

The sense in which any term is used should be clearly stated, if there can be more than one reasonable interpretation, or if the term is not readily found in a good dictionary.

The manner in which the nature, size and grade of a mineral deposit have been determined and reserves, if any, have been calculated must be stated as must be the procedure in sampling, who took the samples and when, and when they were assayed and by whom.

If the term "gross value" is used or if analyses are quoted, the engineer should also state the net value or state the factors that should be considered in arriving at the net value.

Care should be taken in the use of the word "ore", which refers only to material that can be mined and treated at a profit. Where this qualification does not apply, terms such as "mineralization", "mineralized bodies" or "concentrations", should be used.

The price or prices used in arriving at values for metals, concentrates, or other products, and allowances for, or need to allow for smelter or other losses and or deductions, and for costs of shipping, treatment and marketing, are essential parts of any calculation or statement of value or profitability.

No matter what computational device or computer specialist may be employed for the calculation of ore reserves, the engineer who signs the report remains completely responsible for the statement of ore reserves which the report contains.

Inference, interpretation, reasoned judgment (conclusions), and speculation, have or may have places in reports; however, the engineer must be careful to differentiate between them and observed or measured data or otherwise-established facts.

If data, maps, or other material, that are not original and prepared for the present report are used, the source must be acknowledged, and any change from the original must be made clearly apparent.

(Reprinted from "The B.C. Professional Engineer", December, 1968.)