115 G

Kluane Exploration Syndicate

Exploration Proposal

006615 Dec 11 1972

REFERENCE MEMORANDUM

DATE Jan 3 19 73

THE ATTACHED PAPERS ARE REFERRED

TO GMH

BY MK

PLEASE REPLY DIRECT	☐	PLEASE HANDLE	☐
PLEASE SEE ME RE THIS	☐	YOUR COMMENTS	☐
FOR YOUR INFORMATION	☐	FOR APPROVAL	☐
PLEASE RETAIN	☐	PLEASE RETURN	☐

I agree with your negative recommendation.

MK

HONEY PRINTING SERVICE 1444

DEC 14 1972

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

J.H.S. ✓
P.M.K. ✓
G.M.H. ✓
R.D.S.
B.C.B.
I.D.B.
M.D.R.
J.H.F.
E.C.J.

To G. M. Hogg **From** W. M. Sirola

Subject KLUANE SYNDICATE EXPLORATION PROPOSAL 1973 **Date** December 11, 1972

Robby Wolfe who is a partner in Montgomery, Wolfe and Associates has submitted a proposal for exploration in the Kluane Range, Yukon Territories.

The proposal has as its base the fact that massive sulphide boulders were found on Telluride Creek (north east corner of Sheet 115B). Telluride Creek is a tributary of the Jervis River which has its headwaters in the Kaskawulsh Glacier. Prospectors have attempted to trace this float for many years but none have been successful thus far.

There are numerous gypsum deposits in Paleozoic sediments which overlie massive greenstone and for this reason (together with the presence of the massive float mineralization) Montgomery feels that the origin of the float may be in "Kuroko type" deposits which are frequently underlain or overlain by gypsum. This is an interesting concept and may indeed have some validity. There appears, however, to be some serious omission in an effort to relate the geology of that part of the Yukon with the geology of the typical Kuroko deposit in Japan.

The problems as I view them are :

1. The typical Kuroko deposit is found in acid pyroclastic rocks. These are missing in the area referred to in the proposal.

2. The gypsum deposits in the proposed area appear to be related to thrust faults in the Paleozoic rocks. In the Kuroko deposits, gypsum deposits occur intercalated with pyroclastic sediments and seemingly bear no relationship to faulting. This may or may not have any real significance in mineral deposition, but I mentioned it because of the emphasis placed by Montgomery and Wolfe on the gypsum deposits in the Yukon.

3. The Japanese Kuroko deposits are very high in silver (20 oz to 200 oz) but Montgomery and Wolfe make no mention of silver in the massive sulphide float they had examined.

Typically the Kuroko deposits occur as regular chimneys or sometimes veins of massive sulphide, but these deposits individually are small (200 to 300 feet long) and contain perhaps 2 million to 4 million tons. With such limited tonnages a very high grade deposit would be required to make for profitable mining in the Yukon Territories. Recent evidence of this is the closure of the Hudson Bay Mining Wellgreen property in that same vicinity. The grade at Wellgreen is 2.05% nickel and 1.42% copper. This deposit is plagued by highly irregular ore shapes overlain by a very heavy peridotite hanging wall.

I think that Montgomery and Wolfe have an interesting proposal, but it suffers in my view from any direct evidence of connection between the float material found and the gypsum deposits, quite apart from the economic problems just discussed.

KERR ADDISON MINES LIMITED

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To.....**From**.....

Subject.....KLUANE SYNDICATE EXPLORATION PROPOSAL 1973.....**Date**.....December 11, 1972.....

I would be interested in your comments before advising Montgomery and Wolfe. Their proposal calls for an expenditure of $90,000. to be divided amongst two or three companies who will share a 90% interest.

WMS/ah

W. M. Sirola

The copper with the Japanese Kerr Addison interest is tenuous at best. The Montgomery & Wolfe are actually proposing a float-boring program for $90,000.00, the power of the float being of unknown economic potential. This has of course been attempted previously, but probably not as thoroughly as planned. Insofar as our budgetary limitations are not too liberal for this basic type of program, and the Nabesna project is a superior one, I feel participation should be refused.

Dec 31/72

I agree with negative recommendation.

Jan 3/73

KLUANE SYNDICATE

EXPLORATION PROPOSAL

1973

INTRODUCTION

The following is a proposal to conduct an exploration program for massive sulfide deposits in the Kluane Range, Yukon Territory during the 1973 field season. The idea is based upon the known presence of large float boulders in the area containing pyrite, galena, sphalerite and chalcopyrite and their relationship to the geology of the Kluane Range.

GEOLOGICAL BACKGROUND

The discovery of large float boulders of massive sulfides on Telluride Creek, a tributary of Jervis River has intrigued prospectors, geologists and mining companies for many years. Attempts to trace the source of the float have to date been unsuccessful.

Personal studies of the area have resulted in the following information:

1. A glacial study has shown that the float lies in moraines deposited along the southwestern margin of the northwesterly moving "Shakwak" glacier during the fourth and final Pleistocene glacial period. Because of this and the fact that a feeder glacier was advancing through Jervis River valley, it is concluded that the float source is north of Jervis River and south of the float's present position in Telluride Creek.

2. Examination of polished thin sections has shown the float to be composed of banded pyrite, chalcopyrite, galena, sphalerite and interstitial gypsum.

3. A deposit of gypsum of unknown age outcrops within the area deduced to contain the source of the float. As well, about twenty other gypsum deposits are known to exist within a narrow northwest-trending belt about 60 miles long.

4. A study of the literature on "Kuroko type" massive sulfide deposits has indicated many similarities between the Kuroko deposits and the massive sulfide float. Some of these are: Volcanogenic terrain, mineralogy, banded structure and perhaps most important the fact that all "Kuroko type" massive sulfide deposits are associated closely with gypsum deposits.

"Gypsum deposits, important members of normal Kuroko deposits, are always associated with and widely distributed in the mineralized area."

From Volcanism and Ore Genesis, p. 174, T. Matsukuma and E. Horikoshi, University of Tokyo Press.

Some typical sections of Kuroko type deposits are shown appended to this proposal.

In view of the above, it is felt that there is an excellent chance that a massive sulfide deposit exists near Telluride Creek and that possibilities exist for additional such deposits along the "gypsum belt" to the northwest.

EXPLORATION PROPOSAL

It is proposed that a program of exploration be conducted over a group of four claims (FLU 1-4) in the Telluride Creek area presently owned by Montgomery (additional claims to be staked) and that preliminary examinations be made of a selected number of gypsum deposits to the northwest.

It is suggested that the estimated cost of the program ($90,000.00) be shared by two or three companies. An option or purchase agreement on the presently owned property can be negotiated and, on any additional properties staked, the "prospectors" will retain a 10% interest.

The program will be conducted by Montgomery, Wolfe and Associates, Ltd. at cost. Details of the program and estimated costs follow.

EXPLORATION PROGRAM

Each selected gypsum deposit is to be staked as early as weather will permit. Preliminary exploration of each area will consist of soil and silt sampling, Crone E.M. Surveys and Geological mapping (STAGE I). The field party will be moved primarily by helicopter every 7 to 10 days. A base camp in radio communication with the field party will be located in the vicinity of Kluane Lake, from where the program can be coordinated and supervised. Anomalous areas will be followed up with detailed geochemistry, E.M. and geology (STAGE II). Those areas showing favourable results after completion of Stage II will be written up with proposals for the next stage and submitted to the management committee for review.

COST ESTIMATE

Personnel

1 Field Geologist	6 mos. @	$1,200/month	$7,200
2 Field Assistants	6 mos. @	$ 800/month each	9,600
		Payroll benefits	3,200

Planning, Organization, Supervision etc.

Montgomery	60 days @	$ 100/day	6,000
Wolfe	150 days @	$ 100/day	15,000

Transportation

Truck	4,000
Helicopters	10,000
Airfares	1,000

Accommodation

Motels, Meals, food etc.	8,000
Camping gear	1,000

Claims

Staking and recording approx. 100 claims including helicopter transportation	4,000

Geochemistry

Sample analysis for Cu, Zn, Pb, Ag,	1000 samples @ $4.00	4,000

Miscellaneous

Radios	2,000
Crone E.M. Rental	3,000
Air photos - and other equipment	1,000
Accounting	1,000
Bulldozer trenching on first property	3,000
Contingencies approx.	7,000
TOTAL	$90,000

Respectfully submitted

J.H. Montgomery, Ph.D. P.Eng.

R. Wolfe, P.Eng.

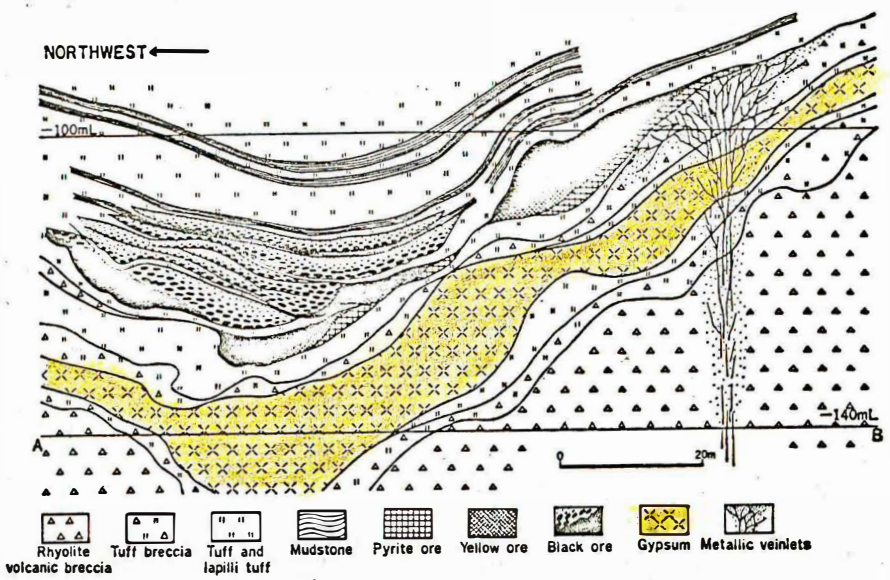


Fig. 3. Geologic profile of No. 1 ore deposit (along A–B line in Fig. 2).

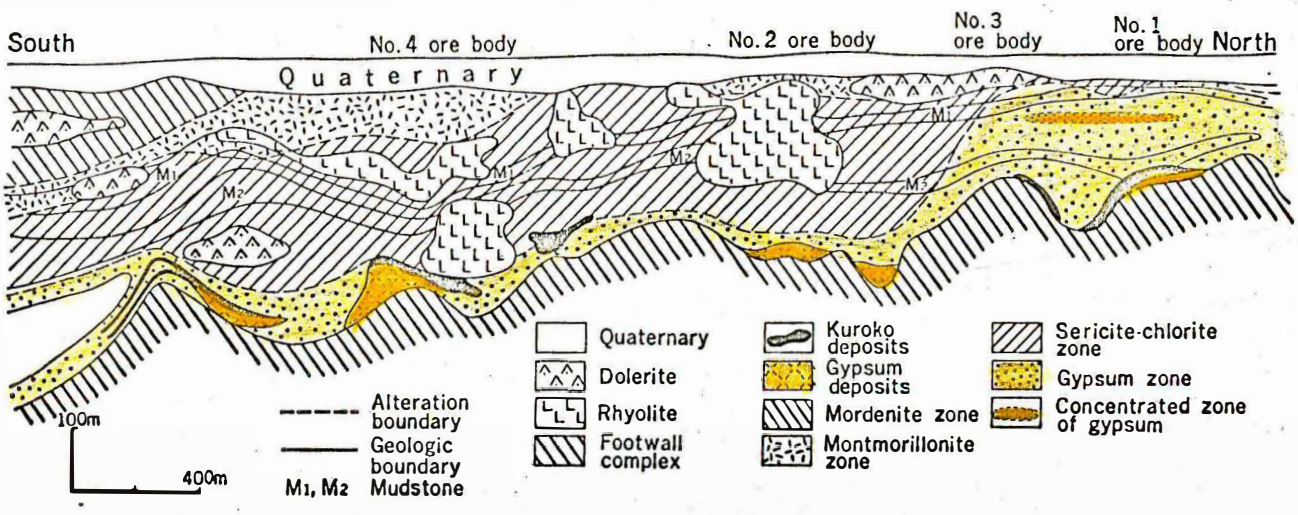


Fig. 2. Geologic section of the Shakanai mine showing zonal arrangement of alteration (After Shakanai mine, 1967).

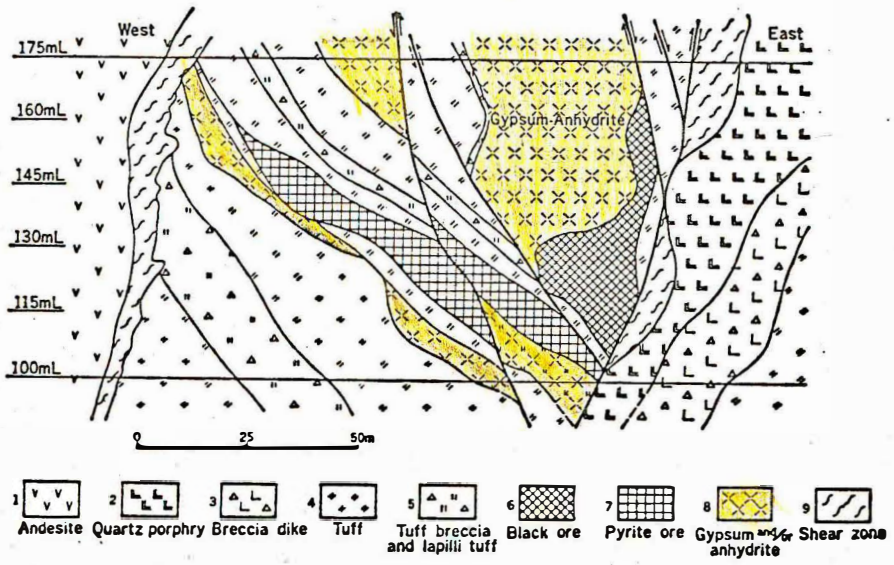


Fig. 1. Geologic profile of the Motoyama ore deposit.

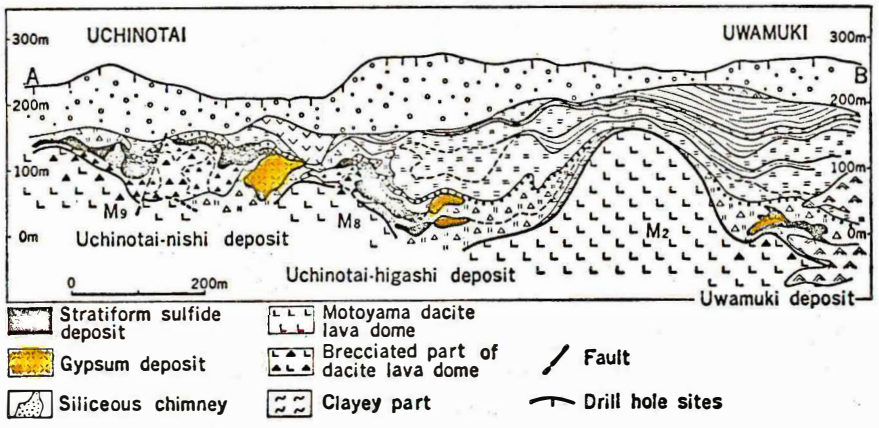
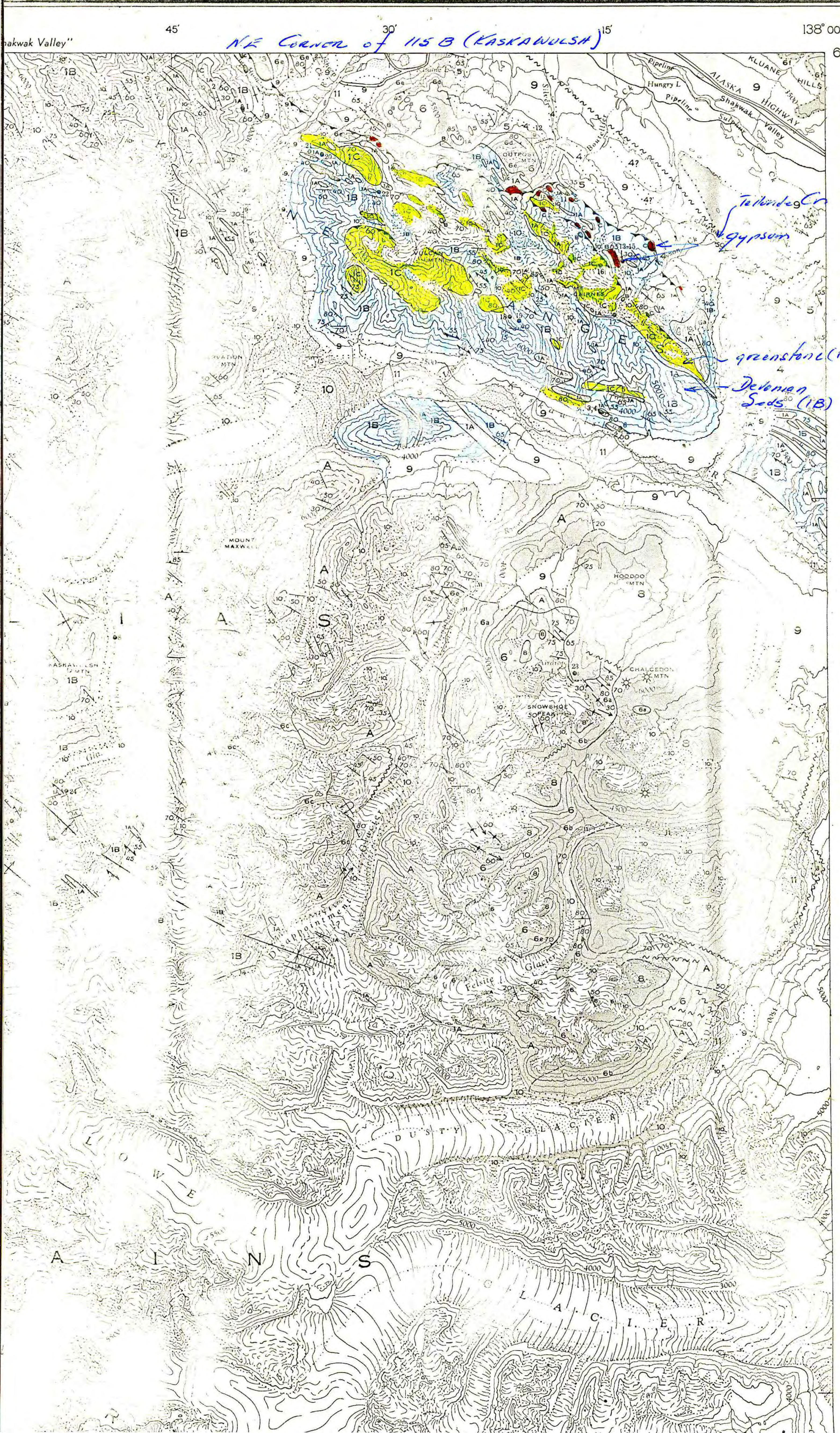


Fig. 3. Geologic section along line A–B in Figure 1. Symbols are the same as used in Figure 1.



NE Corner of 115 B (KASKAWULSH)
hakwak Valley"
45'
30'
15'
138° 00'
61° 00'
45'
15'
KLUANE
HILLS
ALASKA HIGHWAY
Shakwak Valley
Hungry L
Pipeline
Telluride Cr
gypsum
greenstone (1C)
Devonian Seds (1B)
VULCAN
CAIRNES
OUTPOST MTN
MOUNT MAXWELL
HOODOO MTN
CHALCEDONY MTN
SNOWSHOE PEAK
KASKAWULSH MTN
Felsite
Glacier
DUSTY GLACIER
LOWELL GLACIER
Adjoins Map 1019A, "Dezadeash"