

1652

Geological-Geochemical Report  
Cahilty Group of Claims  
50° 119° NW - 10 miles N 30° W  
of Adams Lake Village  
By James F. V. Millar, P. Eng.,  
For: Kamad Silver Company Ltd.  
August 15-31; Sept. 29-Oct. 1/67

822/3

MAY 31, 1968

JAMES MILLAR & ASSOCIATES LTD.



J. F. V. Millar, P. Eng., Alta & B.C.

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## INTRODUCTION

This report is prepared on behalf of Kamad Silver Company Ltd. (N.P.L.) and covers an exploration program carried out on the Cahilty Group of claims by James Millar and Associates Ltd.

Exploration consisted of geological mapping and prospecting and geochemical prospecting and sampling during the periods August 15 - 31st inclusive and September 29th to October 1st, 1967.

## PROPERTY

The Cahilty Group of claims consists of 24 claims held by the right of location: Cahilty - Record No. 50964 and Cahilty Nos. 2 - 24 inclusive, Record Nos. 56764 to 56786 inclusive.

## LOCATION

The claims are located at the headwaters of Huihill Creek and extend north into the valley of Bush Creek which flows easterly into Adams Lake. The property is reached by secondary road from the village of Adams Lake, a distance of ten miles. The village of Adams Lake is located ten miles north of Little Shuswap Lake on the Trans-Canada Highway, 40 miles east of Kamloops, British Columbia.

## GEOLOGY

Two types of deposits are exposed on this property, a mineralized contorted limestone and a number of mineralized quartz veins cutting both a gneissic granite and adjoining schist. Most of the area is obscured by varying amounts of overburden and prospecting has only been possible along the network of logging roads crossing the property and bulldozer cuts made during the exploration program.

The area is underlain by a complex of highly metamorphosed Precambrian and Palaeozoic sediments and volcanics. The assemblage as a whole has

been subjected to a great deal of faulting, both on a large and small scale. The evidence indicates that following this period of faulting the older rocks were intruded by a series of stock-like granite bodies, sometimes approaching Batholith in size.

The claim group is located along the south and east border of one such granite stock. Everywhere in the region examined the sedimentary rocks are found to be highly metamorphosed, well fractured and having evidence of broad folding.

#### Main South Showing

This deposit consists of mainly galena with minor chalcopyrite and sphalerite replacing a silicified zone in an area of folding of a blue and white crystalline limestone showing some metamorphosis. Where exposed by exploration cuts, the limestone has a width of greater than 25 feet. A series of flexures were noted along the road with an indication of a broader folding superimposed on the rather open smaller ones. The attitude throughout the area appears to be roughly N 35° E, with the bedding in the mineralized zone striking N 80° E. The dip appears to be maintained throughout at about 40° northwesterly.

#### North Showing

About a mile north of this showing, extending across the granite schist contact, are a number of very spargely mineralized quartz veins. The granite contains very fine dissemination of pyrite. The quartz veins are sub-parallel with a strike of N 80° E and a dip of 70° S. Several of those exposed carry minor galena content and appear to be in the neighbourhood of two feet wide. A granite in the same area was noted to have a minute chalcopyrite content in tiny fractures.

#### EXPLORATION PROGRAM

The purpose of the program was to conduct surface exploration using

geological and geochemical methods to allow an assessment of the potential of the property.

The known showings were of limited extent and were of value only as their exposure and geological environment contributed to the knowledge of the property. Previous exploration work had been concentrated on these deposits. The program was therefore designed to attempt to outline any major structural possibilities that might exist. It was felt that delineation of such major mineralized structure might be accomplished by extrapolation from the geology of the area around the known showings and the geochemical prospecting of the favourable belt.

The showings were examined in detail and mapped. Control picket lines were laid out to adequately cross the more important areas of the property. Elsewhere, control was maintained by pace and compass survey following the mentioned logging roads which cross nearly every section of the property.

Geochemical sampling was preceded by bulldozer test pitting in order to reach a constant sample horizon. Geological mapping was hampered by the extensive glacial drift and consequent paucity of outcrop.

#### GEOCHEMICAL SURVEY

Two methods were used in the geochemical sample collection. Over the primary zone of interest, consisting of the main showings and the intervening area, a 100 foot grid was laid out and bulldozer pits dug at regular points. Samples were taken at or within one foot of bedrock where possible. Elsewhere on the property a reconnaissance type program consisted of collecting samples in road cuts and creek cuts.

Samples were assayed for trace elements by the dithizone method for heavy metal content. During the primary stages of the program the samples

were collected by a field crew consisting of three samplers. Samples were taken with a plastic spade, placed in a plastic sample bag and tagged for record. Determinations were made in a laboratory set up in base camp. Later in the program, to allow close field control of the bulldozer operation, a portable kit was taken into the field.

In the survey four single anomalous readings were obtained. Of these, 4S 3W and 4N 4W on the south zone were found to be isolated anomalous readings that could not be confirmed by subsequent testing.

At location 4S 7E on the north zone, a good anomalous reading was reconfirmed by check assay and a number of bulldozer cuts put in to test for extent of anomaly and possible bedrock source of metal content. Although further geochemical testing of the original pit did confirm the original anomaly, all subsequent test pits were barren.

At location 6N 4E on the south zone a low anomalous reading was further explored by bulldozer trenching. The underlying bedrock proved to be limestone and a very minor amount of galena was noted along a fracture zone. The content was so small that assaying would be valueless. The limestone was banded white and blue and structurally appeared to be the upper of two limestone bands at the main showing.

No anomalous values were found in any of the reconnaissance work.

#### GEOLOGICAL SURVEY

The geological program was also hampered by the extensive glacial drift cover which practically everywhere obscured the bedrock geology. Bulldozer trenching and road cuts provided the best exposures. Some natural outcrop is exposed on the upper part of the claims on the Cahilty 7, 8, 19, 20 and 22.

The property covers a complex of limestone schist, gneiss and greenstone. The general attitude of the sedimentary complex is N 30 degrees E with a dip to the northwest of 30 to 45 degrees. The limestone members in the vicinity of the south zone were traced to the east into the Cahilty 18 mineral claim. Toward the west these favourable beds are obscured by deep glacial drift. The drift cover between the ends of sample lines 4 and 6E and the main bush road was too great to allow effective soil sampling.

There are two separate limestone bands with minor variations in width and occasional narrow lenses of limestone lying in the adjoining schist.

The schist characteristics vary considerably both stratigraphically and on strike. However, the sequence below and to the south of the mineralized limestone band appears to be about as follows:

- 20 - 35 feet graphitic schist cut by narrow mineralized quartz veins often carrying minor pyrite and/or galena
- 30 - 50 feet sericitic schist - pale brown
- 40 - 50 feet, siliceous sericite schist - pale brown
- 10 feet graphitic schist
- 60 feet - soft brown phyllite cut by numerous very small quartz veins carrying a little pyrite - weathers brown underlain by brown weathering ferruginous siliceous schist.

Overlying the main limestone of the south zone the schist sequence is more regular.

- 0 - 20 feet medium-heavy graphitic schist - highly contorted and lying parallel to the hanging wall of the limestone band.
- 20 - 25 feet limestone band outcrop and minor float up under overburden.

Hanging wall of limestone obscured  
30 feet minimum brown sericitic schist

Along the main access road to the east of the north zone, a medium grained greenstone outcrops along a broad ridge, one of the few areas of good exposure on the claim group.

In the region of the north zone, the schist complex is intruded by a granite gneiss stock with small dykes and sills peripheral to the main mass. The schist in this area is phyllitic in texture, quite contorted along the contacts and heavily sheared. Numerous quartz veins cut the schist and carry sericite mica, occasionally a speck of pyrite and infrequently some finely disseminated galena. These quartz veins are found cutting both the schist and the gneiss. The veins are sinuous and discontinuous, abruptly terminating on a small fracture or merely lensing out. In places the quartz veins take on a character very much like the gneiss itself and in almost all the outcrops of gneiss in the contact zone these quartz veins or lenses are common.

The gneiss contact has been traced but a few hundred feet, mostly in the former bulldozer cuts. To the west the outcrop is very sparse. To the east the schist extends throughout the remainder of the claim group. One additional gneiss outcrop was mapped on the Cahilty No. 22 mineral claim, where it is in contact with a brown ferruginous schist.

#### SCHIST SAMPLING

A number of low but significant silver assays have been received from samples taken from the schist adjoining the gneiss contact near the north zone. The area represented by these uncontrolled small samples was unknown. In order to evaluate the possibility of a very low grade but possibly large silver (plus minor sulfide) deposit, the north zone was sampled by cutting continuous channel samples along all of the exposed schist and gneiss outcrops and cuts.



A total of 68 samples were taken, including 2 samples taken to test minor siliceous zones carrying minor sulfides. These were cut by prospector's pick and moil after first shovelling down to fresh rock surface. All samples were marked on the ground for future reference by plastic flags carrying the sample number.

The results showed a consistent very small silver content. Only two samples returned one half ounce per ton or over. These were cut on the lowest trench which exposes a series of quartz veins cutting the granite gneiss. Very minor amounts of galena were noted in the quartz veins. The sample results indicate no potentially economic sized zone of silver mineralization in the area.

#### CONCLUSIONS

From an analysis of the results of the program it is not possible to outline any structures having any potentially important mineralized areas.

The north showing area, in the gneiss schist contact area, has been tested by a number of isolated samples from stained schist carrying tiny zones of silicification and returned assays carrying silver values. Possible significance of the assays was checked by a regular sampling program designed to test a substantial area of the schist. This sampling program indicated that the silver content in the area is much too low for further consideration.

Respectfully Submitted,

JAMES MILLAR & ASSOCIATES LTD.



James F. V. Millar, P. Eng. (Alta. & B.C.)

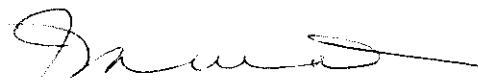
JFVM/gs

CERTIFICATE OF QUALIFICATION

I, JAMES F. V. MILLAR, of the City of Calgary in the Province of Alberta, Canada, HEREBY CERTIFY:

1. That I am a Mining Engineer and reside in the City of Calgary, Canada.
2. That I am a graduate of the University of British Columbia (1950), in Mining Engineering, and have been practising my profession for the past 18 years, and that I am a member of the Association of Professional Engineers in Alberta and British Columbia.
3. That I have no direct or indirect interest in the property of Kamad Silver Company Ltd., in the Cahilty Group of claims near Adams Lake in the Kamloops Mining Division of British Columbia, and which property is the subject of my reports dated March 23, 1967; November 10, 1967 and the enclosed summary report dated May 31, 1968; nor do I expect to receive any interest, either directly or indirectly in the property, or in the securities of the Company holding the property.
4. That the accompanying report dated May 31, 1968, is based on a personal knowledge of the property based on examinations during August and September 1966 and the exploration work conducted during August 15-31st, 1967 - Sept. 29th to Oct. 1/67.

JAMES MILLAR



P. Eng., Alberta and British Columbia

1954 - 12th St. S.W.,  
Calgary, Alberta, Canada.

May 31, 1968

APPENDIX I

PERSONNEL

James F. V. Millar, P. Eng. (Alberta and B.C.)

Eric W. James, Geologist

James R. Good, Geochemist and Jr. Geologist

Georgian C. Short, Lab Assistant

Michael A. Millar, Field Assistant

Michael H. Bodden, Helper

Gerald J. Pearse, Helper

Harold Wilson, Helper

APPENDIX II

MAPS

- (1) Sketch Map of Claim Group and Showings
- (2) Sketch Plan Showing Previous Drilling, Geology and Main Showing
- (3) Sketch Map of Schist Sampling Programme
- (4) Map of Soil Sampling and Geology



I, GEORGEAN C. SHORT, 102, 512 Cedar Crescent S.W., Calgary,  
Alberta,

make oath and say:-

That the following is a Statement of Fees and Labour costs incurred on the Cahilty Group of Claims during the period August 15th to 31st and September 29th to October 1st, 1967.

James F. V. Millar, P. Eng., Aug. 31, Sept. 29th-

Oct. 1/67; 4 days @ \$35/day \$ 140.00

James R. Good, Geochemist and Jr. Geologist,

Aug. 15-31/67; 16 days @ \$30/day 480.00

Eric W. James, Geologist, Sept. 29 - Oct. 1/67;

3 days @ \$30/day 90.00

Georgan C. Short, Lab Ass't., Aug. 15-31/67

16 days @ \$20/day 320.00

Michael A. Millar, Field Ass't., Aug. 15-31/67

16 days @ \$15/day 240.00

Gerald J. Pearse, Helper, Aug. 15 - 24/67

10 days @ \$15/day 150.00

Michael H. Bodden, Helper, Aug. 15-24/67

10 days @ \$15/day 150.00

Harold Wilson, Helper, Sept. 29-30/67

2 days @ \$15/day 30.00

*Georgan C. Short*

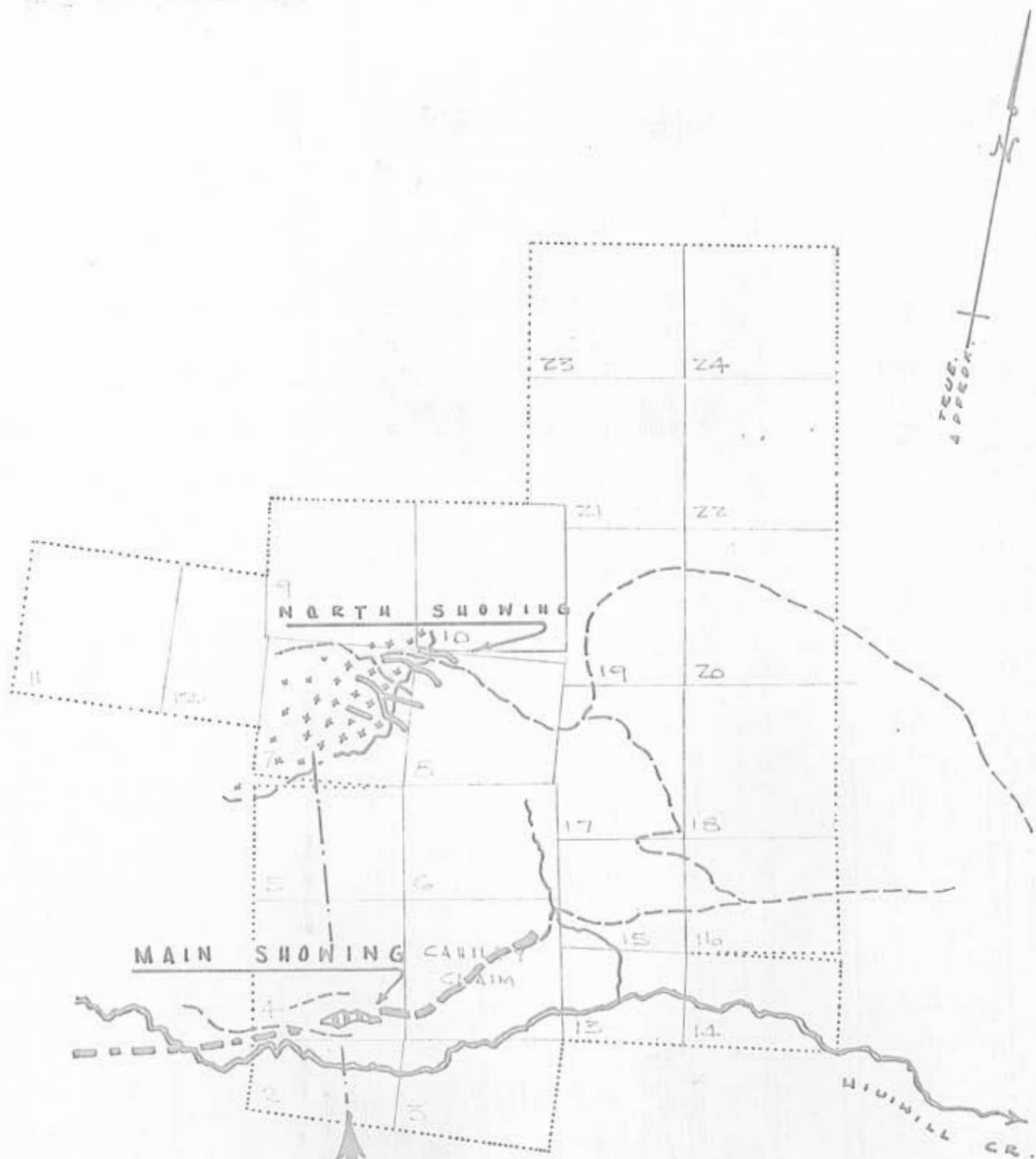
\$1,600.00

SWORN and subscribed to at Red Deer, Alberta

this 29 day of Aug 1968, before me-

*[Signature]*

A Commissioner of Oaths in and for the Province of Alberta



BASELINE DIRECTION  
FOR  
GEOCHEMICAL AND  
GEO PHYSICAL SURVEYS

SKETCH MAP OF CLAIM  
GROUP & SHOWINGS ON

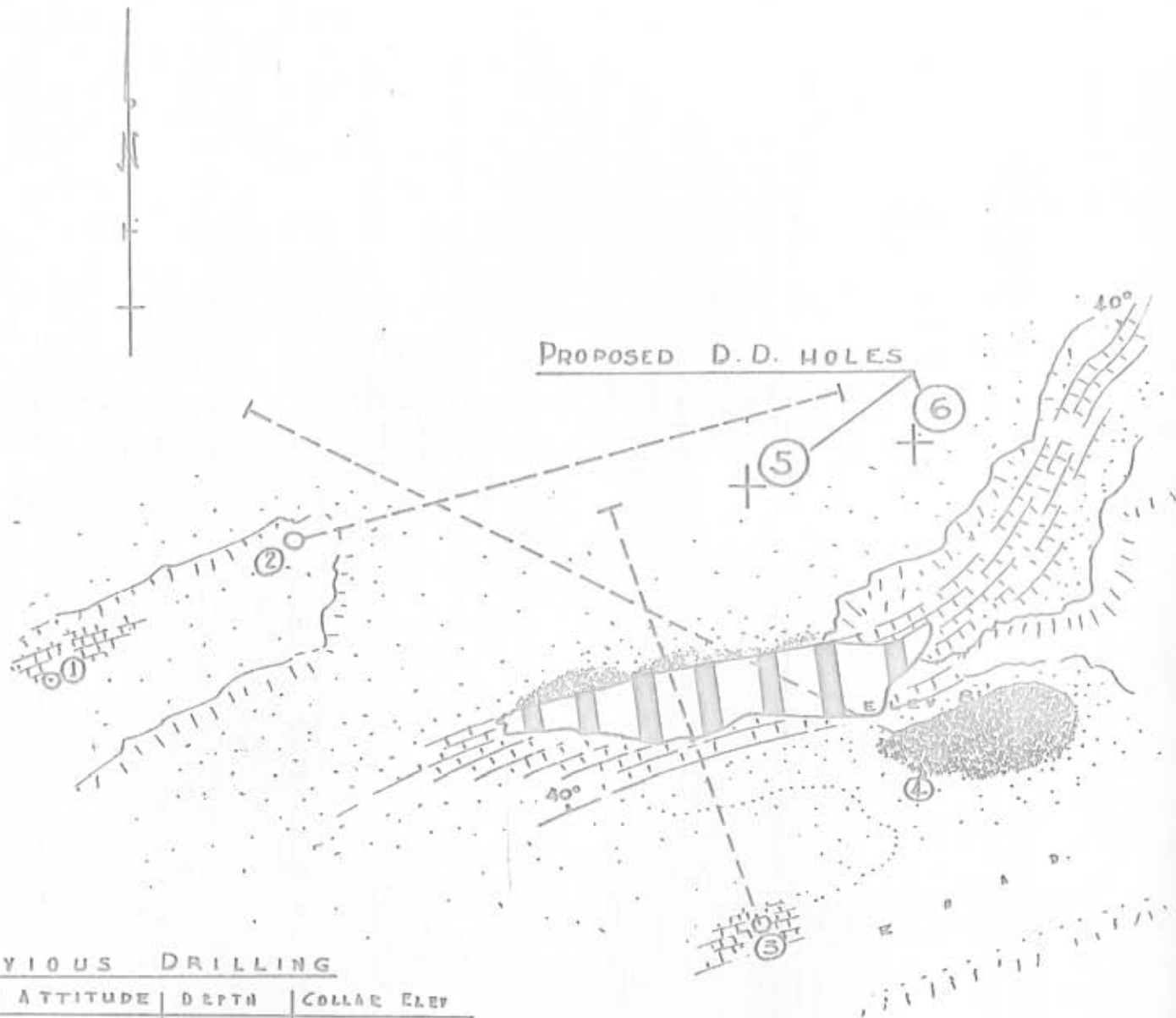
CAHILTY GRP.

K A M A D SILVER MINES  
LTD.



GRANITE  
Pb Zn Cu SHOWING  
APPROX. TRACE OF  
FAVOURABLE LIMESTONE  
OUTLINE OF CLAIM GRP.

*P. Log (B.C. & Alta)*



PREVIOUS DRILLING

Nº	ATTITUDE	DEPTH	COLLAR ELEV.
1	-45°	111'	+32'
2	-45°	101'	+37'
3	-45°	78'	+0-
4	-5°	97'	+5'

PROPOSED D. D. HOLES ARE VERTICAL AND 140 FT. DEEP.

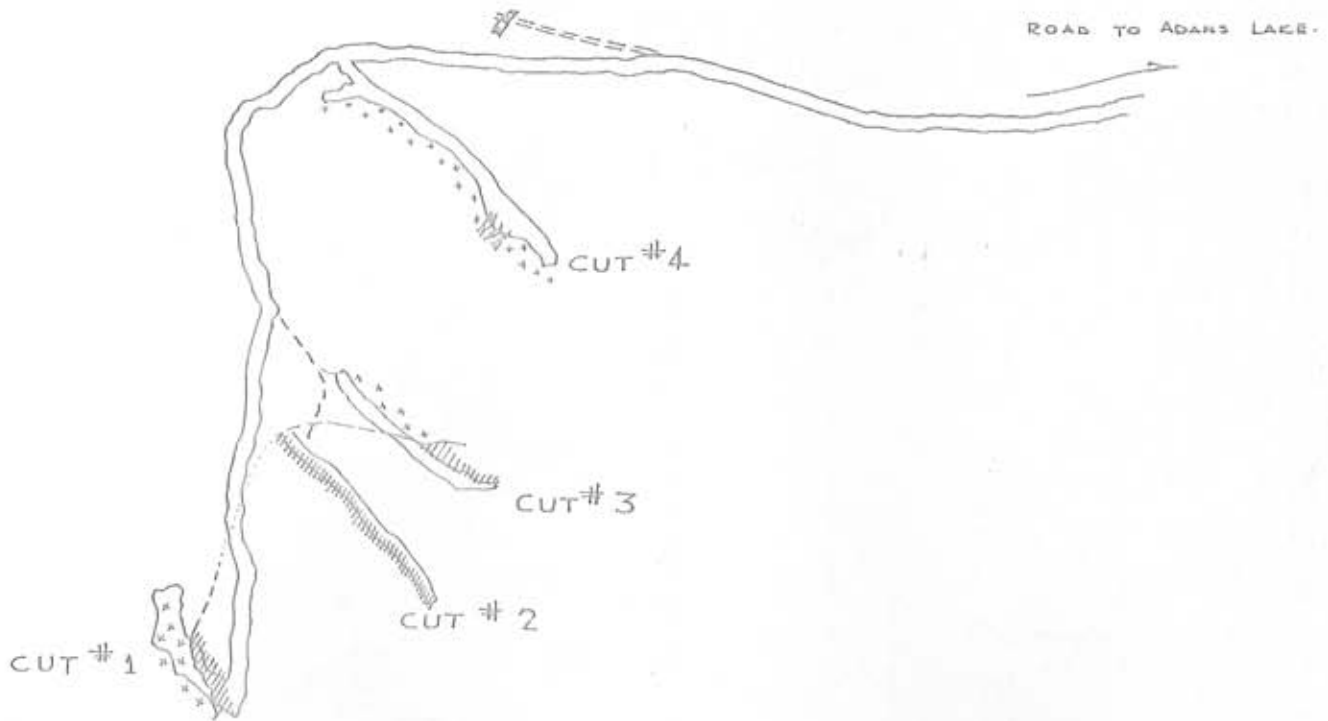
SKETCH PLAN SHOWING DRILLING, GEOLOGY AND SHOWING.

CAHILTY PROPERTY  
MAIN SHOWING



LEAD-ZINC-COPPER SHNG  
LIMESTONE  
SCHIST

*Handwritten signature*



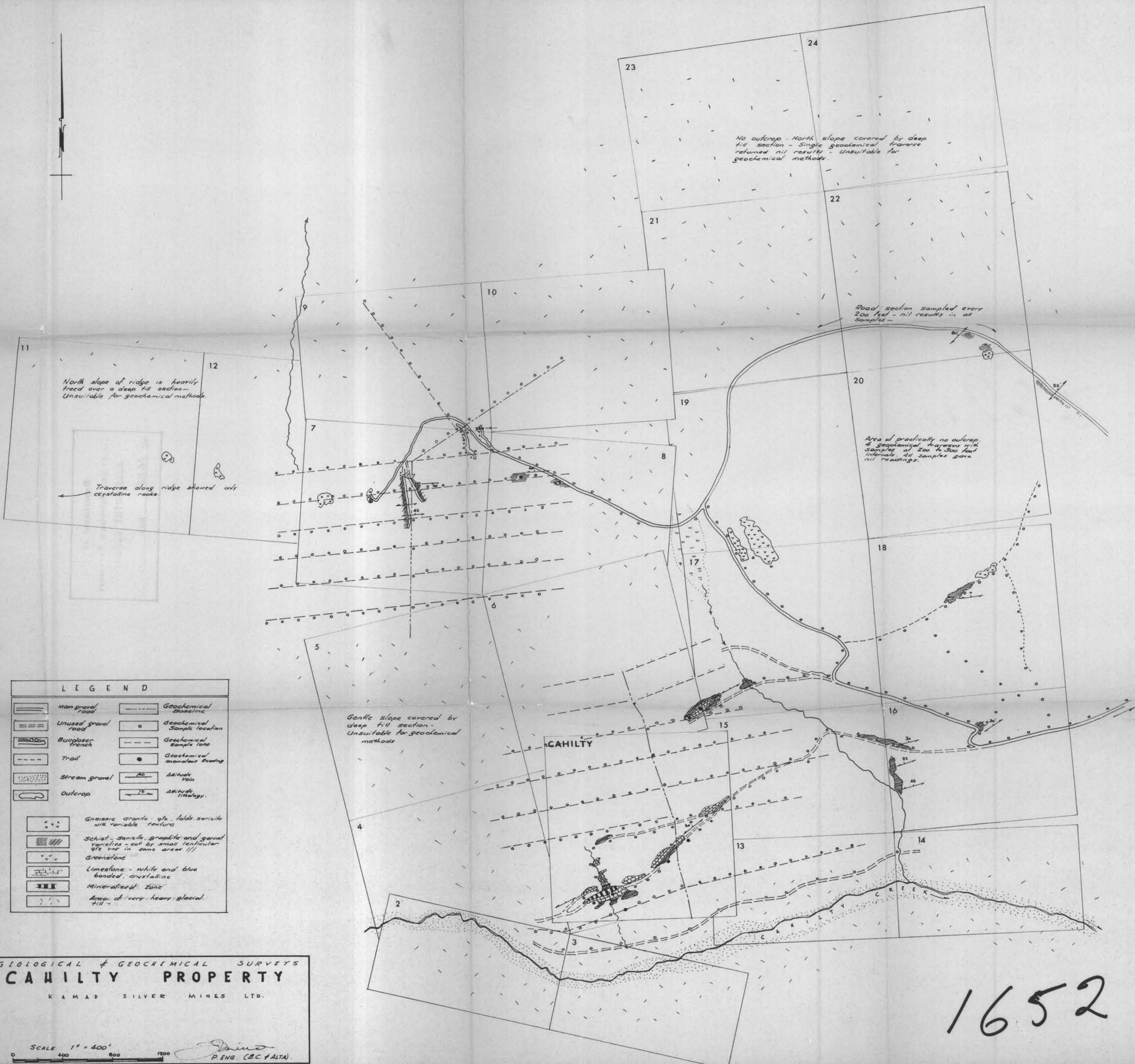
SKETCH MAP OF SCHIST  
 SAMPLING PROGRAMME ON  
 CAHILTY GROUP  
 KAMAD SILVER MINES LTD.

••• GRANITE  
 //// SCHIST

SCALE 1" = 150'

*Handwritten signature and initials*  
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LEGEND			
	Man gravel road		Geochemical Baseline
	Unused gravel road		Geochemical Sample location
	Bulldozer trench		Geochemical Sample lane
	Trail		Geochemical anomalous Reading
	Stream gravel		Altitude Vein
	Outcrop		Altitude Contour
	Gneissic granite, qtz, felds, sericite with variable texture		
	Schist - Sericite, graphite and garnet varieties - cut by small lenticular qtz vein in some areas		
	Greenstone		
	Limestone - white and blue banded, crystalline		
	Mineralized Zone		
	Area of very heavy glacial fill		

GEOLOGICAL & GEOCHEMICAL SURVEYS  
**CABILTY PROPERTY**  
 KAMAD SILVER MINES LTD.

SCALE 1" = 400'

*David*  
 P. ENG. (B.C. & ALTA.)

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