3955

92H/9W,10E,15E,16W

GEOLOGICAL AND GEOCHEMICAL

REPORT

on the

NELLIE MINERAL CLAIMS

MISSEZULA LAKE AREA

SIMILKAMEEN MINING DIVISION

for

BELCARRA EXPLORATIONS LTD. (N.P.L.)

Claim Name	Record Number
Nellie 1 to 18 incl.	30142 to 30159
Nellie 19 to 31 incl.	32518 to 32530
Warm 1 to 8 incl.	34089 to 34096

By: G. C. Gutrath, P. Eng.,
Atled Exploration Management Ltd.

August 10, 1972

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MAPS

NELLIE CLAIM GROUP

SIMILKAMEEN MINING DIVISION,

BELCARRA EXPLORATIONS LTD. (N.P.L.)

INTRODUCTION

At the request of Mr. M. Rahal, President of Belcarra Explorations Ltd. (N.P.L.) an exploration programme of line cutting, grid surveying, geochemical soil sampling, claim surveying, prospecting and geological mapping was started on the Nellie Claim Group on July 7, 1972 under the direction of Atled Exploration Management Ltd.

SUMMARY

The Nellie Claim Group of 39 claims is located 25 miles north of Princeton, B.C. in the Similkameen Mining Division.

The claims are underlain by Nicola volcanics that have been cut by strong north-south and northwesterly trending fault zones.

Two copper mineralized zones have been located on the property. The first zone is a well known occurrence on the Nellie # 8 claim and has been explored by a number of companies. The mineralization consists of chalcocite and minor chalcopyrite, in sheared and fractured Nicola volcanics. Three chip samples, taken across a true width of 15 feet, gave a weighted assay of 2.40% copper, representative of a 120 foot strike length. There are other occurrences along the strike of this zone that have not been investigated.

The second copper occurrence was located on the Nellie # 28 claim and is coincident with a northeasterly trending copper geochemical soil anomaly. The mineralization consists of malachite and chalcopyrite in highly fractured and oxidized Nicola volcanics. The zone is very poorly exposed in small outcrops on a steep, creek-canyon wall. A representative sample of two large angular float boulders on the edge of the creek assayed 1.24% copper and a grab sample from a small outcrop assayed 0.42% copper. There is no indication of any previous work having been done on this zone.

The geochemical soil sampling on the west side of the Summers Creek Valley has outlined a copper anomalous zone 3000 feet long and from 300 to 500 feet wide. The anomalous area has not been prospected.

CONCLUSION

The geochemical soil survey has been very successful in locating two completely new copper anomalous zones on the property that warrant detailed exploration. Additional sampling is required in the area of the original chalcocite mineralized zone on the Nellie # 8 claim to determine the extent of this mineralization and possible grade over greater widths.

It is concluded that the property has good exploration potential and a continued programme to evaluate the copper anomalous areas is highly recommended.

RECOMMENDATIONS

The following exploration programme is recommended:

1. Bulldozer trench the copper anomalous zones and the extensions of the chalcocite zone on the Nellie # 8 claim.

2. Map the geology and sample the trenched areas.

3. Induced Polarization Survey and Magnetometer Survey on lines 12 N E and W, 8 N E, 4 N E and W, 4 S E and 12 S E.

4. It is estimated that a minimum of 2000 feet of core drilling will be required to test the most favourable mineralized areas as determined by the above work.

ESTIMATED COSTS

1.	Supervision, geological mapping and sampling - 1 geologist	$2,000.00
2.	Assistant, surveyor, core splitter 1 technician	$1,500.00
3.	Trenching - 1 D 7 E Caterpillar or equivalent 150 hours at $30/hour	$4,500.00
4.	Geophysics	
	1. Induced Polarization Survey 4 line miles at $400/line mile	$1,600.00
	2. Magnetometer Survey 10 line miles at $80/line mile	$ 800.00
5.	Core drilling - 2000 feet N Q at $10/foot	20,000.00
6.	Assaying	
	Trench samples	400.00
	Core assays	600.00
7.	Transportation 14 x 4 2000 miles at 20¢ per mile and $10/per day for 30 days	700.00
8.	Living expenses 200 man days at $10/per day	2,000.00
9.	Consulting, reports	1,500.00
		$35,600.00
	Contingencies and overhead at 20%	7,120.00
	TOTAL	$42,720.00

GEOGRAPHY

LOCATION:

The property is located at the south end of Missezula Lake 25 miles north of Princeton.

Coordinates of the property are latitude 49° 45' north and 120° 30' west.

ACCESS:

The property can be reached from the Princeton-Merritt Highway by eighteen miles of gravel road that follows the Summers Creek valley to the south end of Missezula Lake. There are numerous old logging roads in the area of the claim group but the majority of them are not passable because of small slides or fallen trees. These roads could be opened up with a minimum of bulldozer time.

TOPOGRAPHY:

The Summers Creek valley is from 1500 feet to 2000 feet wide in the area of the claim group. The valley walls rise very steeply from the floor of the valley at an elevation of 3,200 feet, to an elevation of 3,700 feet and then in a series of benches to an elevation of 4,000 feet.

VEGETATION:

The valley floor has been cleared to form an almost continuous hay-field from the south end of Missezula Lake to one mile south of the Shropshire farm located near the centre of the claim group. The valley walls are covered by thick pine, fir and spruce forest with some open grassland. There is very little underbrush except in the creek bottoms.

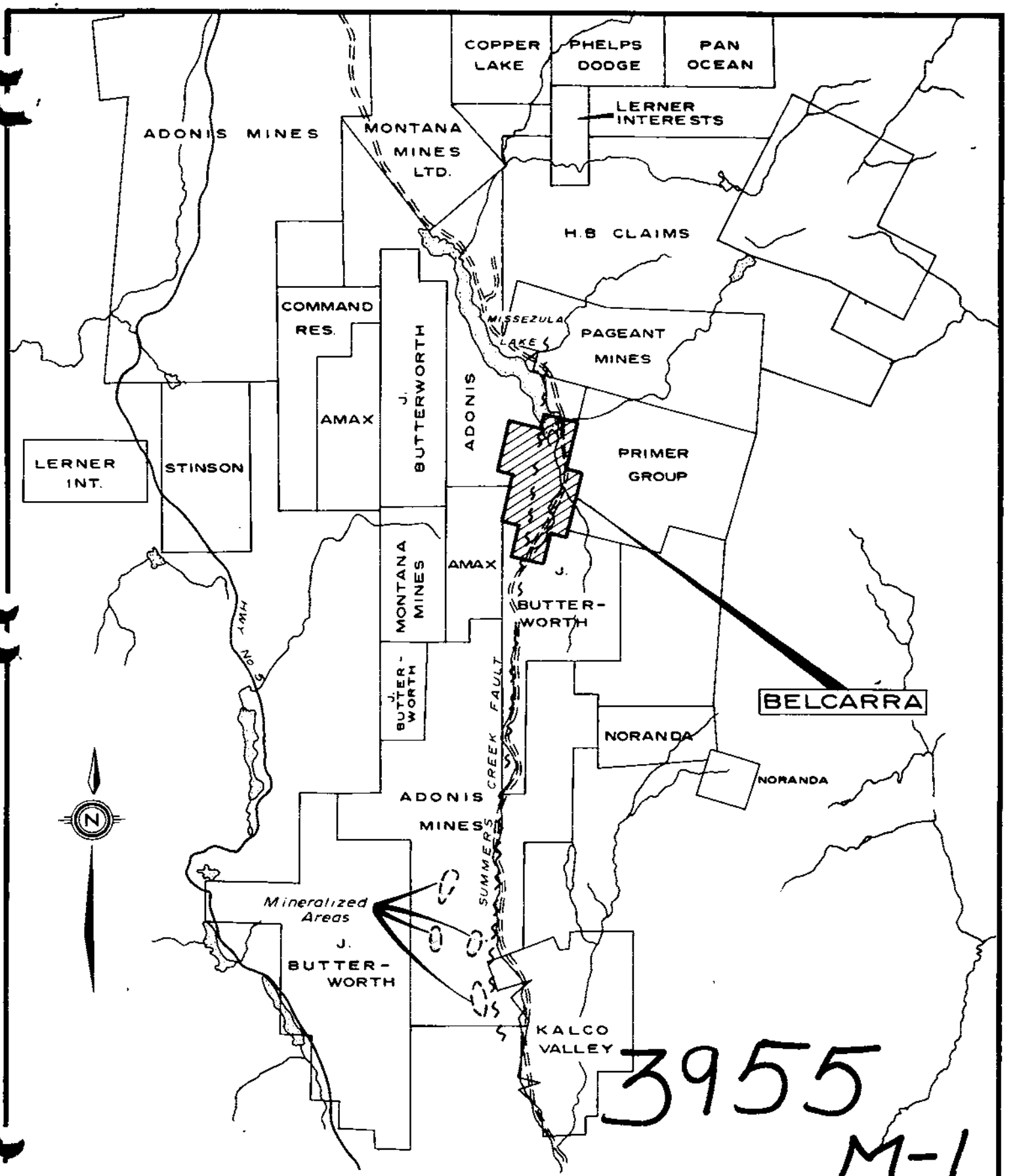
WATER:

There is ample water for diamond drilling almost anywhere on the property.

CLAIMS

The Nellie No. 1 to No. 31 inclusive were staked by Mr. W. Shropshire as agent for Mr. A. Broomfield of Princeton, B.C. The claims are held under option by Belcarra Explorations Ltd (NPL)

Name	Record No.	Expiry Date
Nellie 1 to 18 incl.	30142 to 30159	February 15, 1973
Nellie 19 to 31 incl.	32518 to 32530	April 13, 1973
Warm 1 to 8 incl.	34089 to 34096	August 16, 1973



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BELCARRA EXPLORATIONS LTD. (N.P.L.)

PROPERTY MAP

WORK COMPLETED

LINE CUTTING:

A baseline was surveyed from the Shropshire farm 4,500 feet at North 10° East. Crosslines were cut at 400 foot intervals normal to the baseline with stations every 100 feet. A total of 55,500 feet of line was cut and surveyed.

GEOCHEMICAL SAMPLING:

Soil samples were taken at 100 foot intervals on all the crosslines. The samples were collected from the top of the "B" soil horizon. A total of 533 samples were analyzed for total copper by hot extraction methods.

GEOLOGICAL MAPPING AND PROSPECTING:

The copper anomalous area on Line 8N - 15E to 19E has been prospected as well as the area of the old workings on the west side of the valley.

The geology has been mapped in the area of the old workings on the Nellie # 6 claim. Chip samples were taken across the original mineralized zone and a bulldozer trench cut by Belcarra in the fall of 1971 was sampled.

CLAIM SURVEY:

The Nellie claim posts were surveyed into the grid system and adjoining claim groups.

GEOLOGY

GENERAL:

The Princeton-Missezula Lake-Aspen Grove area is underlain by Triassic Nicola Group volcanics composed of flow breccias, fragmentals, tuffs and related sediments. The Pennask batholith and Pike Mountain batholith of Jurassic age intrudes the Nicola Group to the east and west of Summers Creek. Major north-south trending faults form the valleys of Summers Creek and Allison Creek.

There are numerous copper occurrences, including the Ingerbelle-Copper Mountain deposits and the Adonis' Summers Creek property associated with the intensive faulting and alteration of the Nicola Group volcanics near the contact with dikes and stocks of Jurassic age.

PROPERTY:

The claim group is underlain by Nicola Group bedded tuffs, tuffaceous fragmental, flow breccias.

The volcanics are primarily andesites and vary in colour from dark green through purple to red. The predominant variety is a bedded tuffaceous fragmental that has a regional north-south trend and dips 20 to 50 to the west.

The volcanics are cut by fine-grained diorite dikes in the area of the old trenches on the Nellie # 8 claim. A medium-grained granitic intrusive occurs on the Nellie # 28 claim in the northeast corner of the claim group.

The most prominent structural feature is the major fault zone that forms the Summers Creek valley and crosses the west side of the Nellie Group. Major shear zones trending in a northwesterly direction cut the volcanics in the old trenches on the Nellie # 8 claim.

MINERALIZATION:

The old copper occurrence on the Nellie # 8 claim consists of chalcocite, disseminated and as massive veins, and minor chalcopyrite and pyrite in a sheared and fractured reddish, bedded tuffaceous fragmental. The mineralized zone varies from 10 to 20 feet wide and can be traced for 120 feet before it is obscured by overburden. The zone trends N 15^{o} E and dips 40 to 60^{o} to the west. The zone may be terminated or offset by a strong fault zone 120 feet to the south of the main trenched area. The mineralization weakens to the north and cannot be traced but a similar zone occurs 1000 feet to the

north along the same strike and may be related to the original zone on the Nellie # 8 claim.

A bulldozer trench put in late in 1971, 450 feet to the southwest of the original mineralized zone and 100 feet to the southwest of the main fault zone cut minor disseminated chalcocite in tuffaceous fragmentals over a distance of 200 feet. This mineralization may be related to a diorite dike that cuts the volcanics near the centre of the trench.

The prospecting and geochemical survey located a new copper occurrence on the Nellie # 28 claim on the east side of the Summers Creek valley on line 8 N - 17 + 50E. The mineralization consists of disseminated chalcopyrite and pyrite in a highly altered, fractured contact zone between an acidic intrusive and massive green Nicola Group volcanics. The contact zone has an apparent width of 200 feet, strikes N25W and dips steeply to 70 E.

SAMPLING:

Three chip samples were taken from the mineralized shear zone on the Nellie # 8 claim.

No.	Location	Width	Cu %
2577	Trench 1	14'	1.24
2578	Trench 2	15'	2.20
2579	Trench 3	16'	3.65

Weighted average of 2.40% copper over a width of 15'

Composite sample of 2577, 2578 and 2579 assayed 0.14 oz/t silver and 0.003oz/t gold.

A series of grab samples were taken from the trench located 480 feet from Trench 3.

No.	Location	Length	Cu %
57754C	Trench 4	200'	0.23

Two grab samples were taken from the copper occurrence on Line 8N-17+50E

No.	Description	Cu %
2581	Representative sample from large angular talus boulder at base of slope.	1.24
2580	Grab sample from small outcrop-cream coloured highly altered, minor disseminated chalcopyrite and secondary malachite.	0.42

GEOCHEMICAL SURVEY

The southwestern portion of the claim group had been grid surveyed and soil sampled by Delkirk Mining Ltd in 1969. Their samples were analyzed for copper and the results plotted and contoured on a 1 inch = 400 foot scale map. The 50 ppm copper value was considered as background and was the lowest value contoured. This contour outlined the area of the original showings and an anomalous area to the north and along the same strike as the original mineralized shear zone. Anomalous zones of over 100 ppm copper are limited in size in this area but are often directly related to copper mineralization.

The soil sampling completed in July of 1972 covers both sides of the Summers Creek valley for a distance of 4500 feet north of the original sample area. The samples were taken from the top of the "B" soil horizon and collected in kraft paper bags. The samples were analyzed by Vancouver Geochemical Laboratories Ltd and by Chemex Labs Ltd. The most northerly line of the Delkirk sampling was re-sampled to see if it correlated closely enough to be contoured with the new sampling. It was found that the samples were within $\pm$ 10 ppm, an acceptable variable for 100 ppm contours.

The background value for the new soil sampling is considered to be 80 ppm, threshold anomalous 100 ppm and over 150 ppm as very anomalous.

RESULTS:

The survey has outlined two copper anomalous zones to the north of the original surveyed area.

The first anomalous zone is on the east side of Summers Creek and is centered on line 8 N station 17+50E. The zone trends in a northeasterly direction and can be traced from the valley floor at 4S on the baseline 2600 feet to line 12N station 20+00E. The anomaly is 200 to 300 feet wide although to the east on line 8N it may be obscured by deep glacial overburden. The anomaly high of 1960 ppm copper at stations 17+50 on line 8N is coincident with chalcopyrite mineralization in a highly altered contact zone.

The second anomalous area is located on the west side of Summers Creek valley and is centered on line 8N at stations 14+00 west. The anomalous zone can be traced in a northwesterly direction for 3000 feet and over a width of 300 to 500 feet. The core of the anomalous zone is over 400 ppm copper with a high of 1060 ppm copper and is 1500 feet long. The cause of this anomaly has not been determined.

HISTORY

The first record of any work having been done to the property is in 1928 when five tons of ore averaging 5.78% copper was shipped from

the chalcocite zone on what is now the Nellie # 8 claim.

Since that time a number of companies have had the property under option and in 1963 three holes were drilled in the chalcocite zone. Apparently these holes did not reach their objective.

A geochemical soil sampling programme was completed on the southwest side of the claim group but there appears to have been very little work carried out on the rest of the property.

Respectfully submitted,

Gordon Gutrath, P.Eng.,
Consulting Geologist

August 10, 1972

ATLED EXPLORATION MANAGEMENT LTD.

420—475 HOWE STREET • VANCOUVER 1, B.C.
TELEPHONE 688-0471

December 4, 1972

Department of Mines and Petroleum Resources,
Parliament Buildings,
Victoria, B. C.

Attention: E. J. Bowles,
Chief Gold Commissioner

Dear Sir:

Re: Nellie, Warm Mineral Claims
Geological-Geochemical Report
File #166-Similkameen

Enclosed are the 2 coloured 1" = 50' geological maps.

Regarding Item (2) of your letter the old chalcocite showing is located on the common boundary between Nellie #6 and #8.

The grid point on the map is a 1969 Delkirk line that we were trying to survey into the present 1972 grid. I have now identified this line on the map.

Thank you for your assistance and I am sorry for the inconvenience in not properly identifying these items.

Yours very truly,
ATLED EXPLORATION MANAGEMENT LTD.

G. C. Gutrath

GCG/sb

encl.

MISSEZULA LAKE

MOSS TOURIST LODGE

DILLARD CREEK

SUMMERS CREEK

TO PRIMER GROUP MINERALS

SHOPSHIRE FARM

POND

BASE LINE

LINE 0

TO PRINCETON-MERRITT HIGHWAY - 1.6 MILES

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BELCARRA EXPLORATIONS LTD. (N.P.L.)

KAMLOOPS, B.C.

NELLIE MINERAL CLAIMS

GEOCHEMICAL SURVEY - COPPER

VALUES MAP

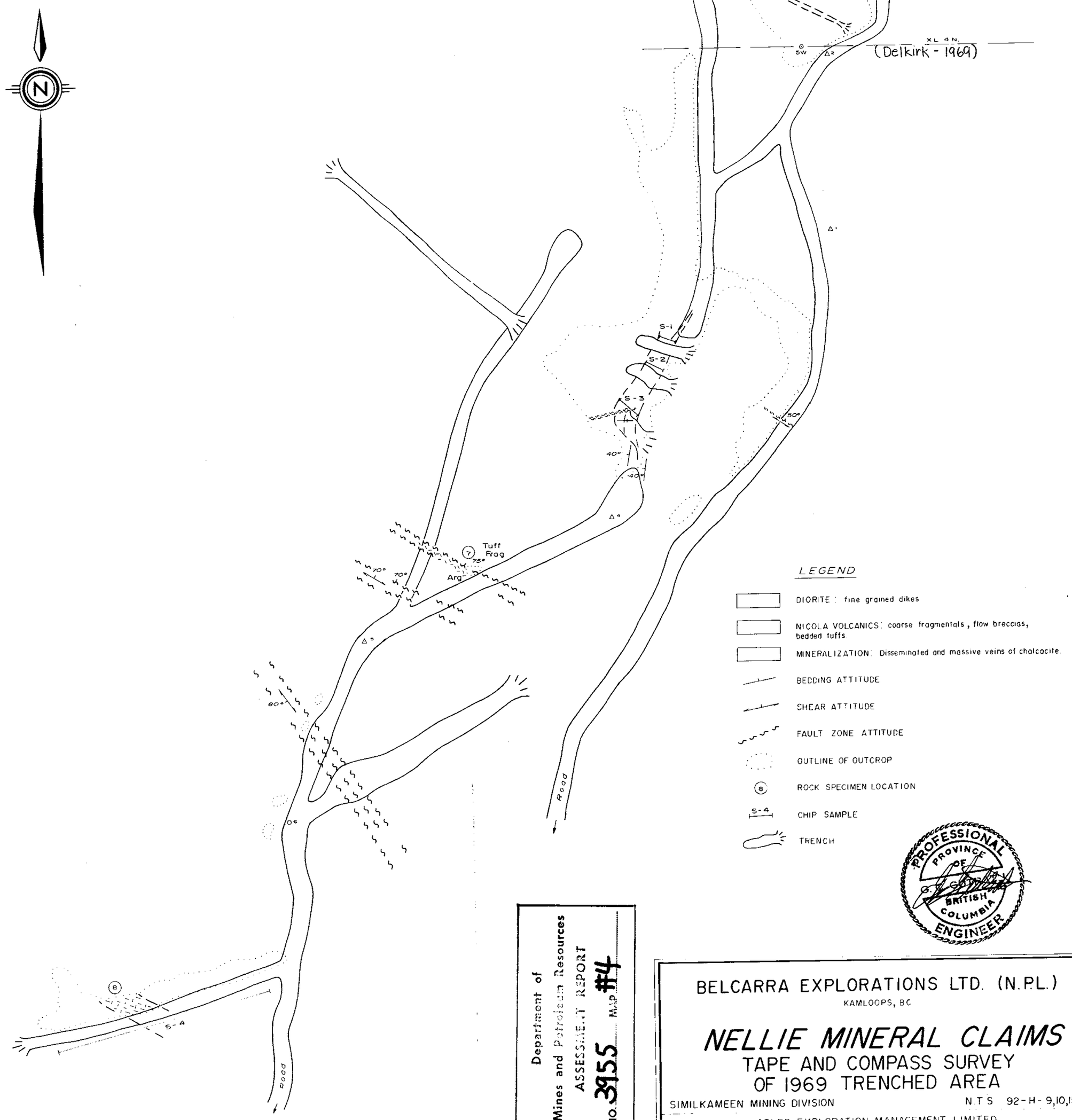
SIMILKAMEEN MINING DIVISION — N.T.S. 92 - H - 9, 10, 15, 16

ATLED EXPLORATION MANAGEMENT LIMITED

DATE: JULY, 1972 — DRAWN: J.R.L.

400 0 400 800

Scale in feet



BELCARRA EXPLORATIONS LTD. (N.P.L.)
KAMLOOPS, BC

NELLIE MINERAL CLAIMS
TAPE AND COMPASS SURVEY OF 1969 TRENCHED AREA

SIMILKAMEEN MINING DIVISION N.T.S 92-H-9,10,15,16

ATLED EXPLORATION MANAGEMENT LIMITED

DATE: AUGUST 1, 1972 DRAWN: G.C.G.

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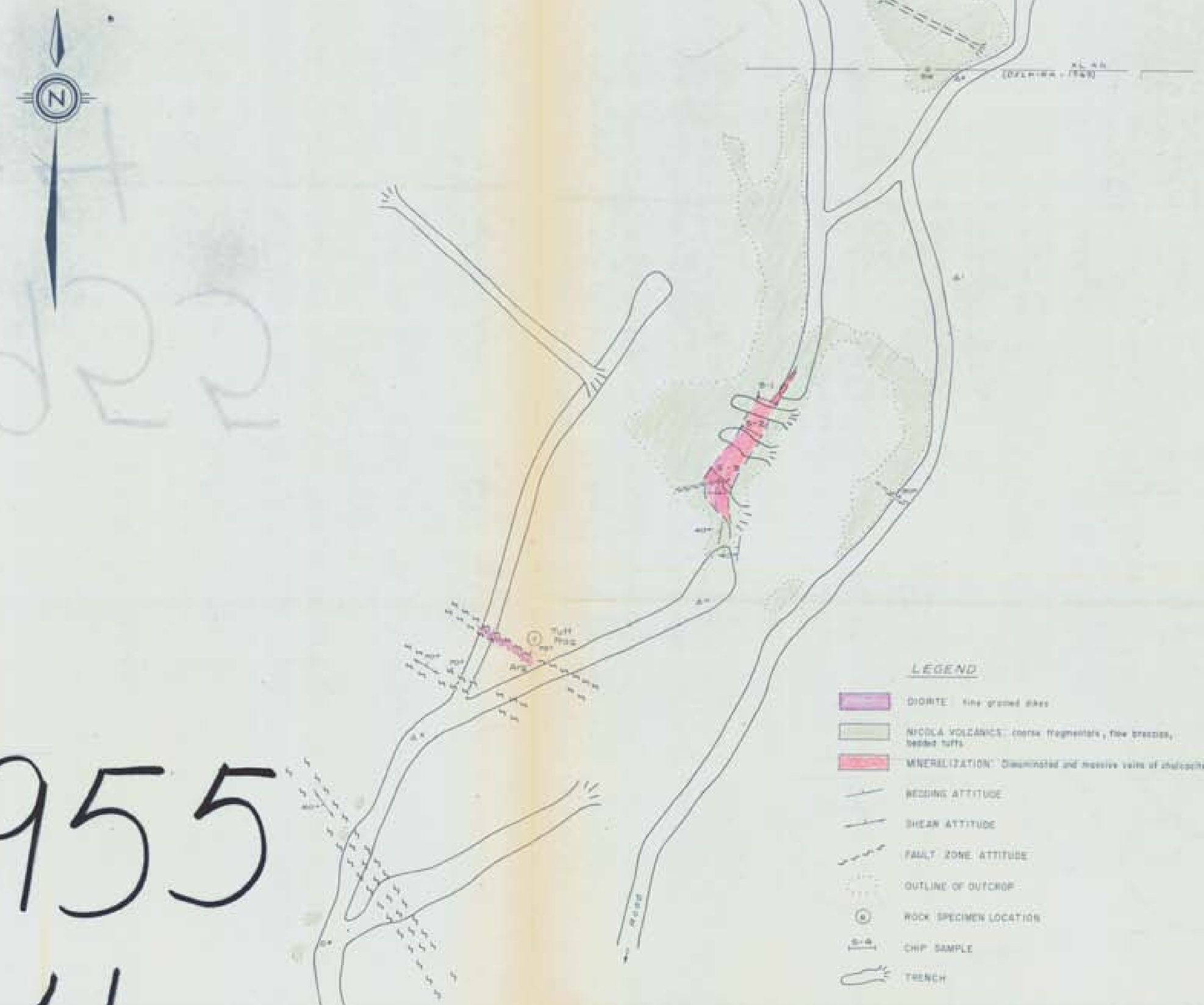
SCALE IN FEET



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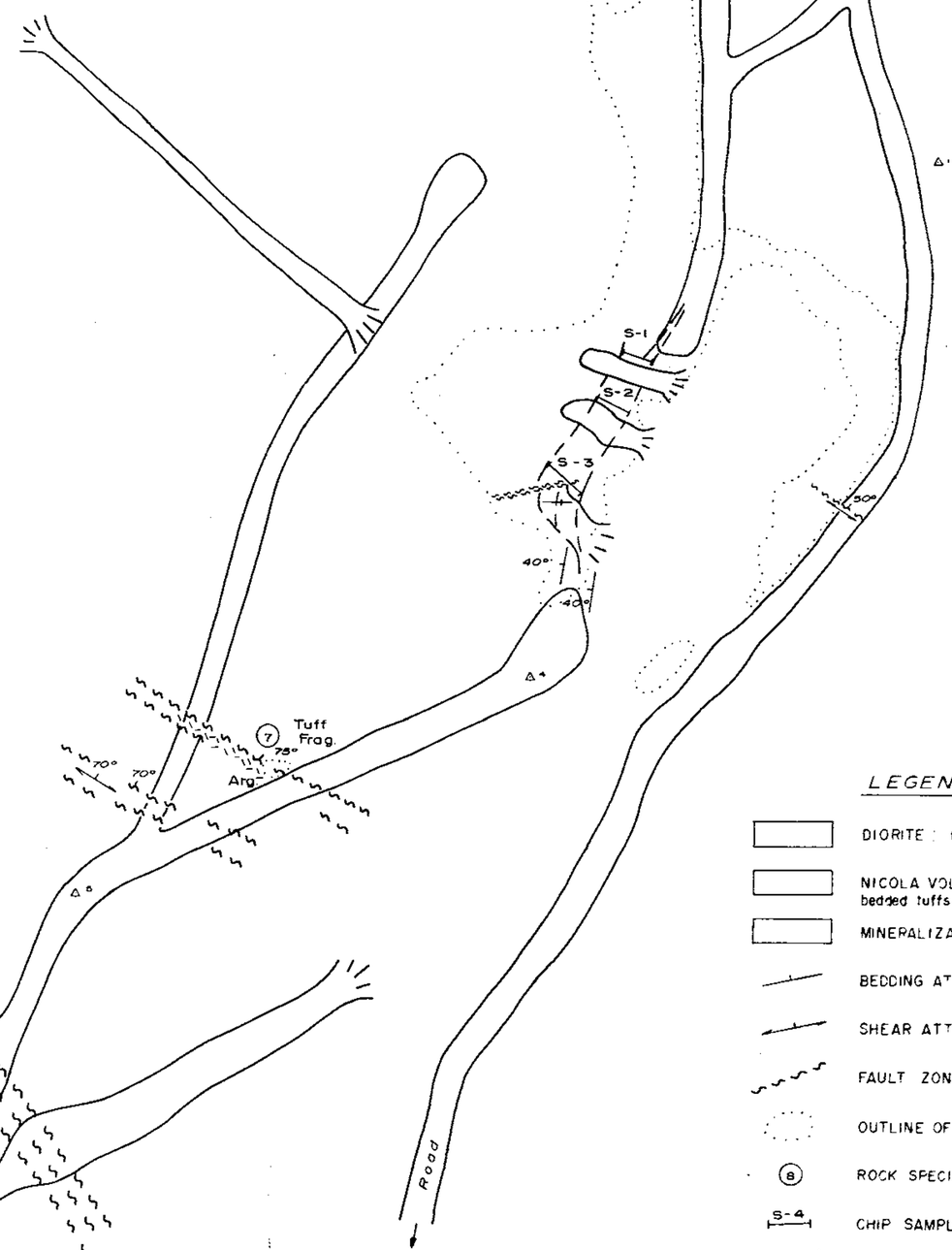
BELCARRA EXPLORATIONS LTD. (N.P.L.)
KAMLOOPS, B.C.

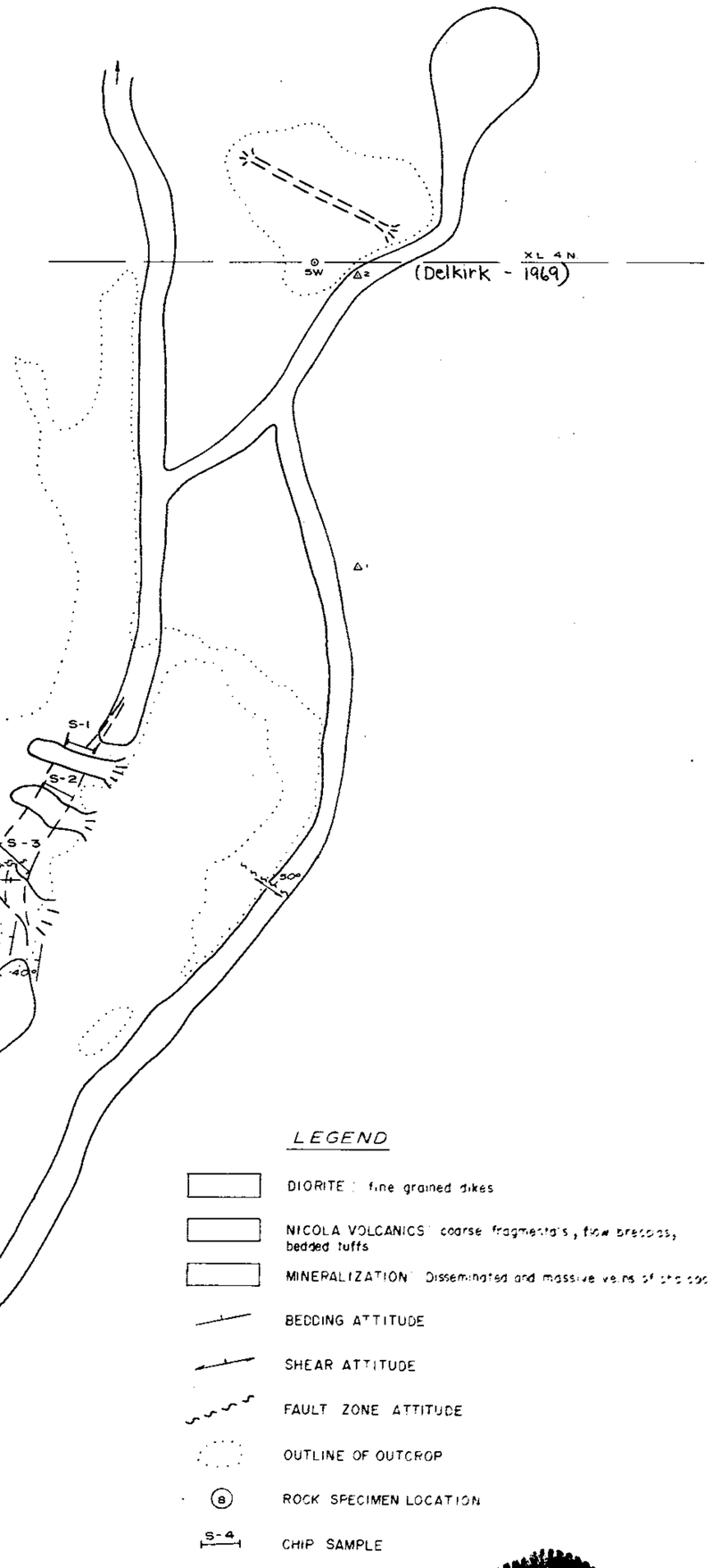
NELLIE MINERAL CLAIMS
TAPE AND COMPASS SURVEY OF 1969 TRENCHED AREA

SIMILKAMEEN MINING DIVISION N.T.S. 92-H-9,10,15,16

ATLED EXPLORATION MANAGEMENT LIMITED

DATE: AUGUST 1, 1972 DRAWN: G.C.G.





LEGEND

- DIORITE : fine grained dikes
- NICOLA VOLCANICS : coarse fragmentals, flow breccias, bedded tuffs
- MINERALIZATION : Disseminated and massive veins of sphalerite
- BEDDING ATTITUDE
- SHEAR ATTITUDE
- FAULT ZONE ATTITUDE
- OUTLINE OF OUTCROP
- (8) ROCK SPECIMEN LOCATION
- S-4 CHIP SAMPLE
- TRENCH

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. G. GUTRATH

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3955 MAP #4

BELCARRA EXPLORATIONS LTD. (N.P.L.)
KAMLOOPS, BC

NELLIE MINERAL CLAIMS
TAPE AND COMPASS SURVEY OF 1969 TRENCHED AREA

SIMILKAMEEN MINING DIVISION — N.T.S. 92-H-9,10,15,16

ATLED EXPLORATION MANAGEMENT LIMITED

DATE: AUGUST 1, 1972 — DRAWN G.G.G.

50 0 50 100 150
SCALE IN FEET