

4299

GEOLOGICAL AND GEOCHEMICAL REPORT

by

J.M. Newell, P. Eng.

on surveys completed June-July 1972

on the

FAITH MINERAL CLAIMS

situated at Hewer Creek

in the

Liard Mining Division

57°N 123°NW

(NTS 94G/2W)

and owned by

ECSTALL MINING LIMITED

May 1973

Vancouver, B.C.

Department of	
Mines and Petroleum Resources	
ASSESSMENT REPORT	
NO. 4299	MAP

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GEOLOGICAL AND GEOCHEMICAL REPORT
FAITH GROUP OF MINERAL CLAIMS
LIARD MINING DIVISION, B.C.

Introduction

The Faith claims are underlain by a sequence of Palaeozoic sediments, ranging in age from Silurian to Upper Devonian. Interest in the property derived from the discovery of an occurrence of lead-zinc mineralization, associated with barite, in Middle Devonian carbonate rocks, in the course of regional reconnaissance completed in 1971.

The claims were staked in May 1972 and subsequently investigated by reconnaissance geological mapping and a minimal amount of geochemical sampling. The following report is based on the results of this programme.

Location, Access and Ownership

The Faith Claim Group comprises 28 mineral claims (Faith 1-28 inclusive) staked on May 16th 1972 and recorded, in the name of Ecstall Mining Limited, on June 7th and 9th, 1972.

The property is located in the headwaters of Hewan Creek, a tributary of the Prophet River, at approximately latitude 57°36'North, longitude 123°58'West. The claims lie entirely above timberline, at elevations ranging from 4800 to 8000 feet. Topography is rugged and frequently precipitous. Best access is by helicopter from Fort Nelson, 90 miles to the northeast, or other points on the Alaska Highway (Trutch, Sikanni Chief or Pink Mountain) which lie closer to the property.

Regional Geology

The sedimentary rocks underlying the claim group range in age from Silurian to Upper Devonian, and form the easternmost ranges of the northern Rocky Mountains. Individual stratigraphic units occurring on the property, are briefly described below:-

Upper Devonian

Besa River Formation

The Besa River Formation is comprised of dark brown to black, fine-grained, highly fissile shales. Local pyritic zones result in rusty weathering exposures. Outcrop is generally found in stream courses or actively eroding mountain slopes.

Middle Devonian

Dunedin Formation

The Dunedin Formation is comprised of generally medium to dark grey, fine-grained, massive limestone. The rocks are usually thickly bedded, but sometimes become platy and fissile. Minor dolomite and sandstone lenses are found near the base of the formation, while cherty nodules are common near the top.

Stone Formation

The Stone Formation is typified by light to medium grey, massive, thickly bedded dolomite, forming prominent mountain ridges.

Middle to Lower Devonian

Wokkpash Formation

The Wokkpash Formation is a light yellow-brown, medium-grained sandstone to dolomitic sandstone.

Muncho-McConnell Formation

The Muncho-McConnell Formation is generally comprised of well-bedded, medium to dark grey, crystalline dolomite.

Silurian

Nonda Formation

The Nonda Formation is comprised of well-bedded, dark grey, siliceous dolomite. Silicified fossil remains, generally corals, are abundant. Sandstone lenses and interbeds occur throughout the sequence.

Property Geology

Three quarters of the property is covered by a thrust sheet of Pre-Devonian rocks (Nonda Formation and older). The Dunedin and Stone Formations are exposed on the lower slopes and valley floors in the northern part of the claim group. Besa River shales are exposed east of the property boundary.

The Middle Devonian rocks form the gently dipping western limb of a local synclinal structure. Easterly dips in the order of 10-20° are typical, but east of the property boundary, the rocks dip to the west.

The thrust, which truncates the Middle Devonian sequence, has a gently rolling, westerly dip.

Minor galena mineralization is present in the northwestern part of the claim group, at the 5300 foot elevation, above Hewer Creek. In an outcrop area measuring 10x20 feet, a number of galena cubes, up to 1" in size, were found imbedded in sandy dolomite of the lower Stone Formation. In addition, several larger galena cubes were found in nearby talus. A number of outcrops of sandy dolomite protrude through talus in the vicinity of this occurrence.

The original showing, reported by reconnaissance crews the previous summer, could not be relocated with certainty.

Geochemistry

Sampling and Analytical Methods

Six samples of talus fines were collected on the steep north-facing slopes, above Hewer Creek, in the vicinity of the mineral occurrence. These samples were analysed for copper, lead and zinc, by the Bondar Clegg and Co. Ltd. laboratory in North Vancouver. The analytical technique is briefly described as follows:-

The samples are first dried and seived, to obtain the -80 mesh fraction. Combined metal is extracted from a weighed sample of this fraction with Le Fort aqua regia. The resulting solutions are bulked to a 20% acid concentration and analysed by atomic absorption spectrophotometry, in constant comparison with both synthetic and matrix standards. Results are expressed in parts per million contained metal.

Discussion of Results

A large number of stream silt, soil and talus fines samples were collected from this, and other properties in the same geologic setting, in the course of the exploration programme completed by Ecstall Mining Limited in the northern Rocky Mountains in 1972. Statistical evaluation of the results (see Appendix A) indicates that background, threshold and anomalous values are as follows:-

	<u>Soils and Talus Fines</u>	
	<u>Pb</u>	<u>Zn</u>
Background:	0-65 ppm	0-90 ppm
Threshold of interest:	66-75 ppm	91-150 ppm
Anomalous: greater than	75 ppm	150 ppm

	<u>Stream Silts</u>	
Background:	0-65 ppm	0-90 ppm
Threshold of interest (possibly second back- ground population):	66-75 ppm	90-150 ppm
Anomalous: greater than	75 ppm	150 ppm

All samples from the Faith Group are anomalous in zinc, with values in the 198-620 ppm range. Lead values ranged from 57-270 ppm, the highest values coinciding with the highest zinc values. Copper values are uniformly low throughout the area and being of little significance, are not separately presented.

Conclusions

Though no economic mineralization has been found in outcrop, the fairly high geochemical values over a broad area underlain by rocks

of the Stone Formation, suggests the possible presence of more widespread mineralization obscured by talus and possibly extending beneath the overthrust older rocks.

A handwritten signature in black ink, appearing to read "J.M. Newell". The signature is written in a cursive style with a period at the end.

J.M. Newell, P. Eng.

JMN/js

APPENDIX A

Alaska Highway Project

Soil and Stream Sediment Samples - Statistics

APPENDIX A: Alaska Highway Project (Dodo, CTV, Hope, CBC and Faith Properties) Soil and Stream Sediment Samples - Statistics

Statistics

Zinc

Analytical results for all soil and stream sediment samples from these claim groups are plotted on the accompanying bar graph. As it was apparent from this graph that they did not have a normal distribution, the accompanying plots (ppm Zn v. cumulative % of samples) were made on probability log paper for soils and stream sediment separately, and for both combined. The soils present a fairly simple picture, with background samples containing 0-90 ppm, threshold samples 91 to 150 ppm, and anomalous samples greater than 150 ppm. The stream sediments are much more complex. They appear to consist of at least two populations statistically, as well as an anomalous "tail" of high Zn samples. One population occupies the range 0-90 ppm (approximately); the second the range 90-150 ppm (approximately). As it is uncertain whether the second population is a normal population for part of the area or is regionally anomalous, this population has been considered to represent "threshold" values. Although this is an unusual procedure statistically, it is believed to be valid for purposes of geological evaluation of the analytical results.

Lead

Analytical results for lead are plotted on the accompanying bar and cumulative percentage graphs. By either measure, over 90% of the samples are not anomalous and there is only a narrow threshold range. Values picked from the cumulative percentage graph are background 0-65 ppm, threshold 66-75 ppm, anomalous greater than 75 ppm.

APPENDIX B

Statement of Qualifications

STATEMENT OF QUALIFICATIONS

Dr. G. W. Mannard obtained his Ph.D. degree from McGill University in 1963 and is a registered Professional Engineer in the Province of Ontario. He has been Canadian Regional Manager of Exploration for Texasgulf since 1969.

Dr. J. F. Macdougall obtained his Ph.D. degree from McGill University in 1957 and is a registered Professional Geologist in the Province of Alberta. He has been on Texasgulf's exploration staff since 1958 and is currently District Geologist - Calgary.

Mr. V. N. Kelly obtained an Honours B.A. degree in Geology from Trinity College, Dublin in 1959. He is a registered Professional Engineer in the Province of Ontario and has been a Staff Geologist with Texasgulf since November 1964.

Messrs. Esau and McVeigh are students, hired as field assistants and are thoroughly competent in all the tasks assigned in the course of this project.



J.M. Newell, P. Eng.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA:
To Wit:

In the Matter of Assessment work carried out on the Faith Group of Mineral Claims, situate at Hewan Creek, in the Liard Mining Division.

I, John M. Newell

of 701-1281 West Georgia Street, Vancouver 5

in the Province of British Columbia, do solemnly declare that during the period June 24th-July 29th 1972, I caused assessment work to be done on the Faith Mineral Claims, to the value of \$5,507.20. The expenses were incurred as follows:-

Salaries

V.N.Kelly	5 days @ \$85	\$ 425.00
D.A.Jewett	4 days @ \$65	260.00
D.Esau	1 day @ \$25	25.00
J.McVeigh	1 day @ \$25	25.00
G.W.Mannard	1 day @ \$120	120.00
J.F.MacDougall	1 day @ \$100	100.00
J.M.Newell	1 day @ \$95	95.00

Geochemical Analysis

6 samples	@ \$2.20	13.20
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Room and Board

14 man-days	@ \$20	280.00
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Transportation

18.4 hours Allouette II helicopter	@ \$210	3,864.00
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Compilation, Report etc.

300.00

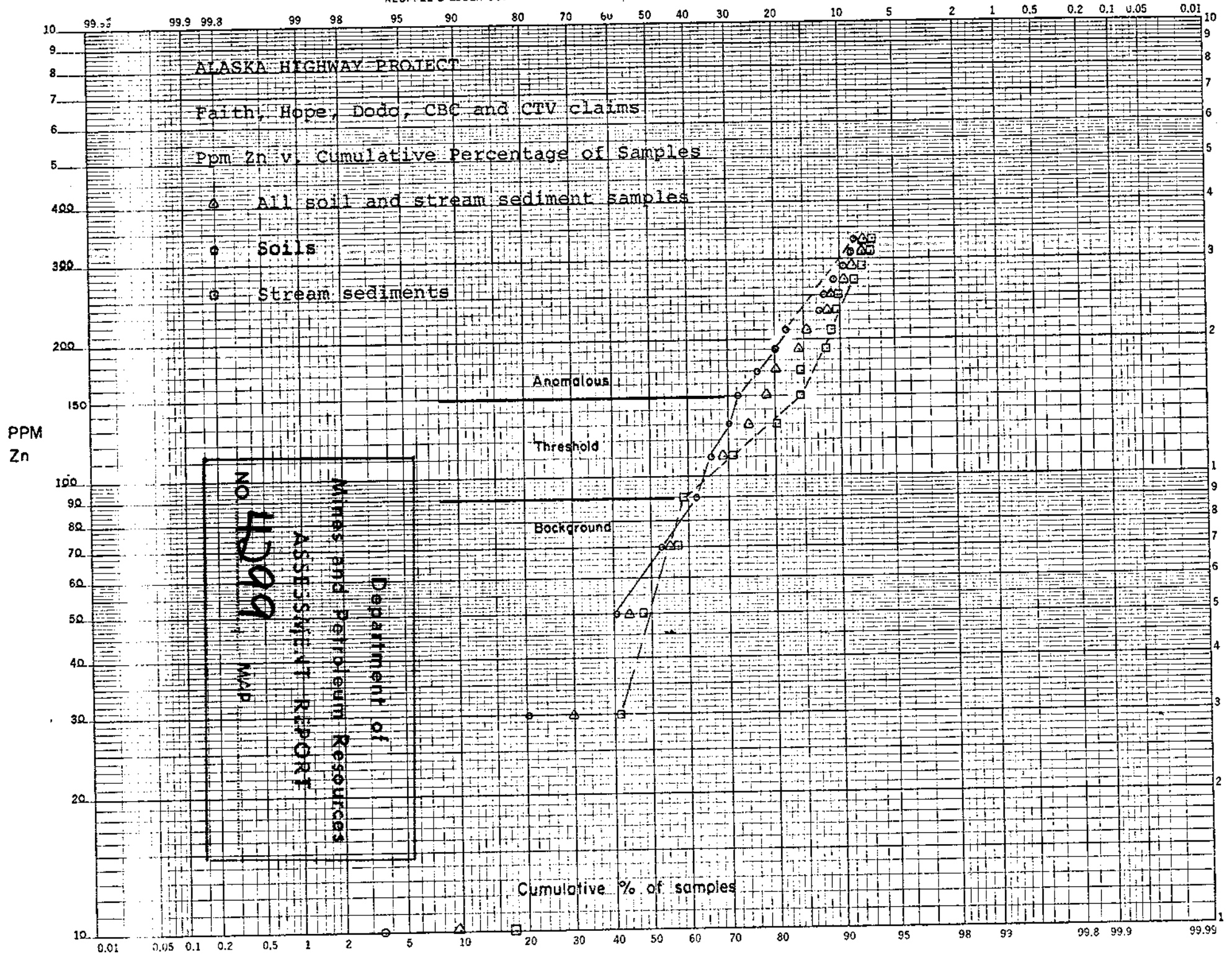
Total \$ 5,507.20

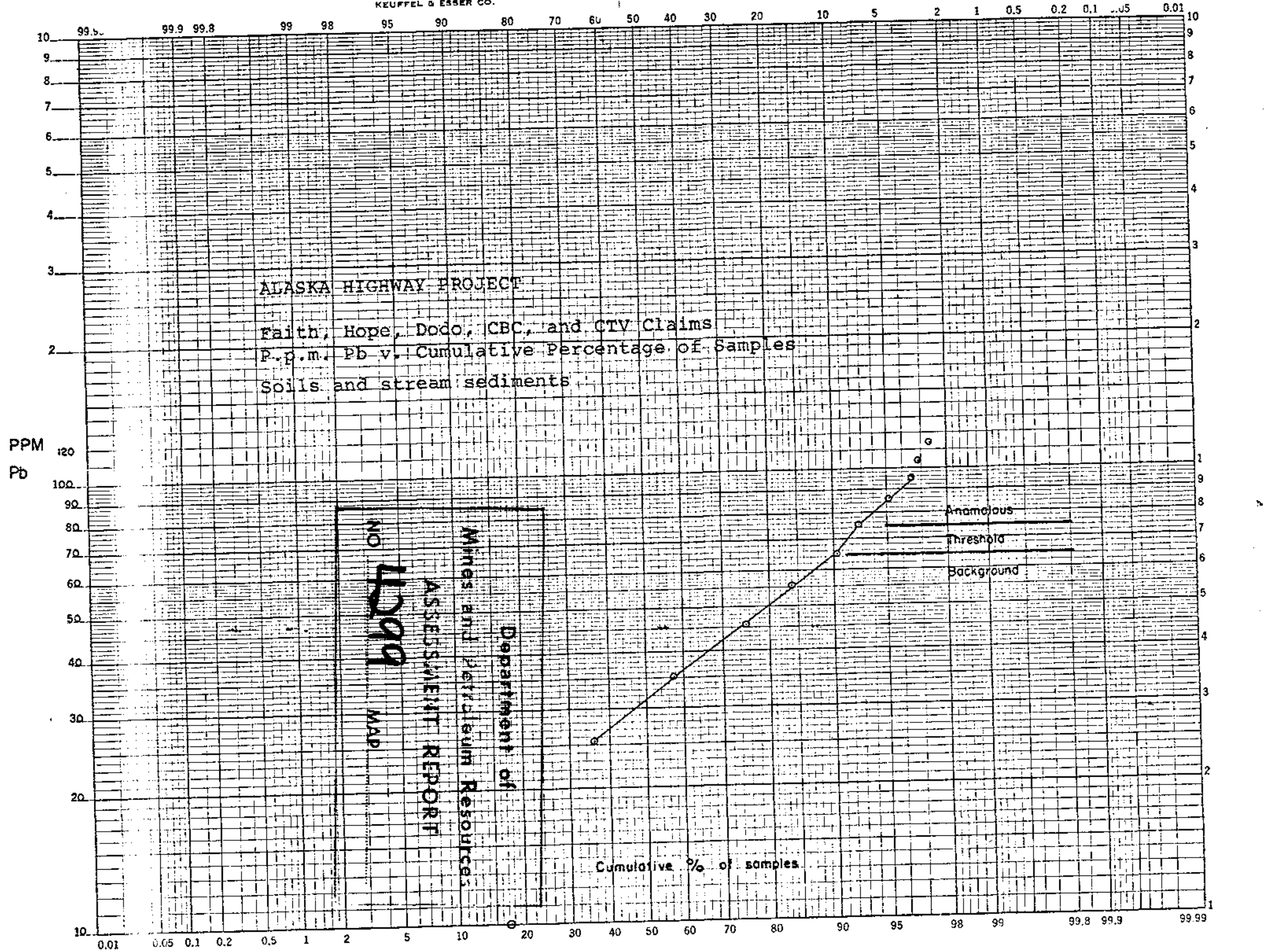
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City
of Vancouver, in the
Province of British Columbia, this 30
day of April 1972, A.D.



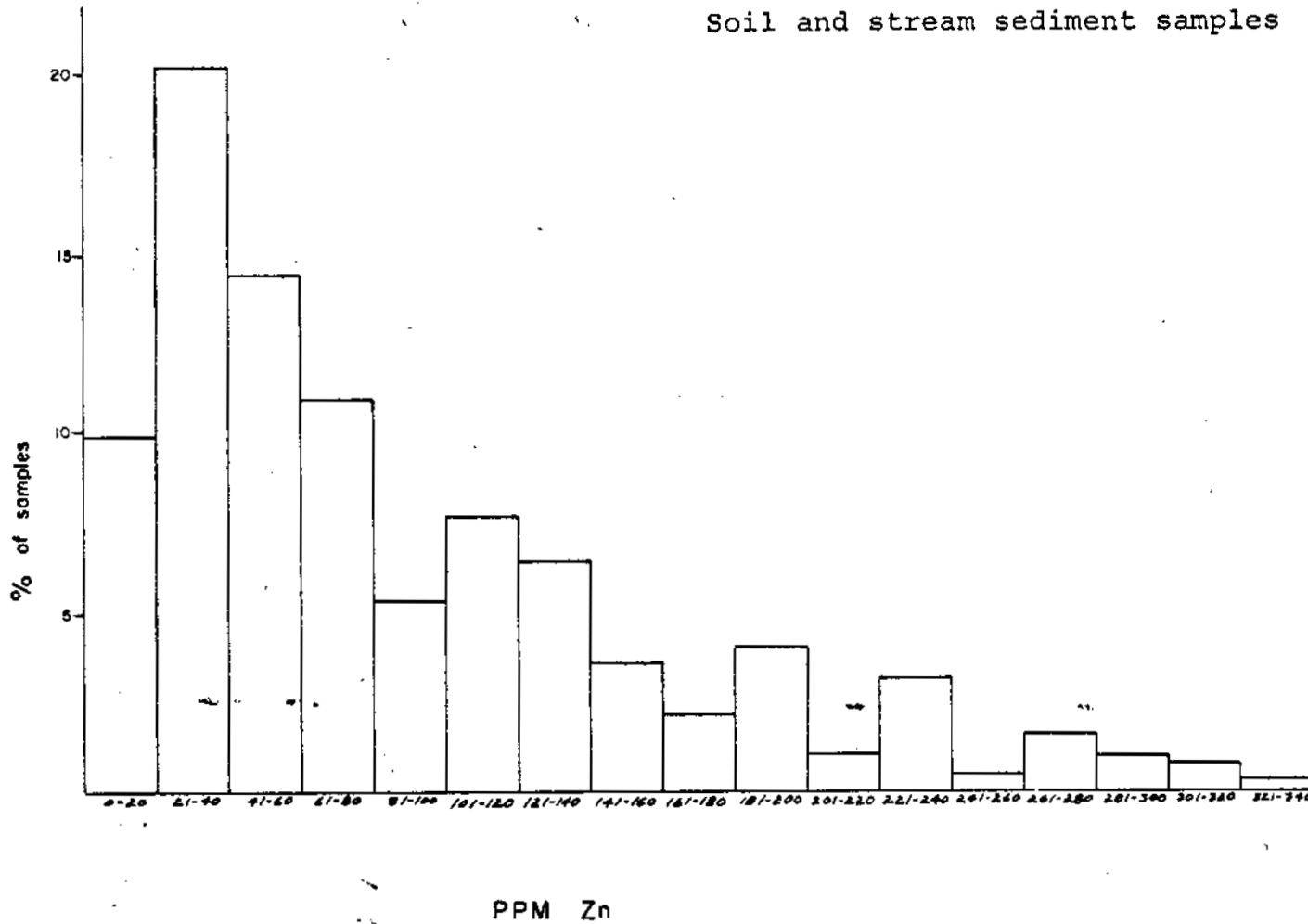
[Signature]
A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.





ALASKA HIGHWAY PROJECT

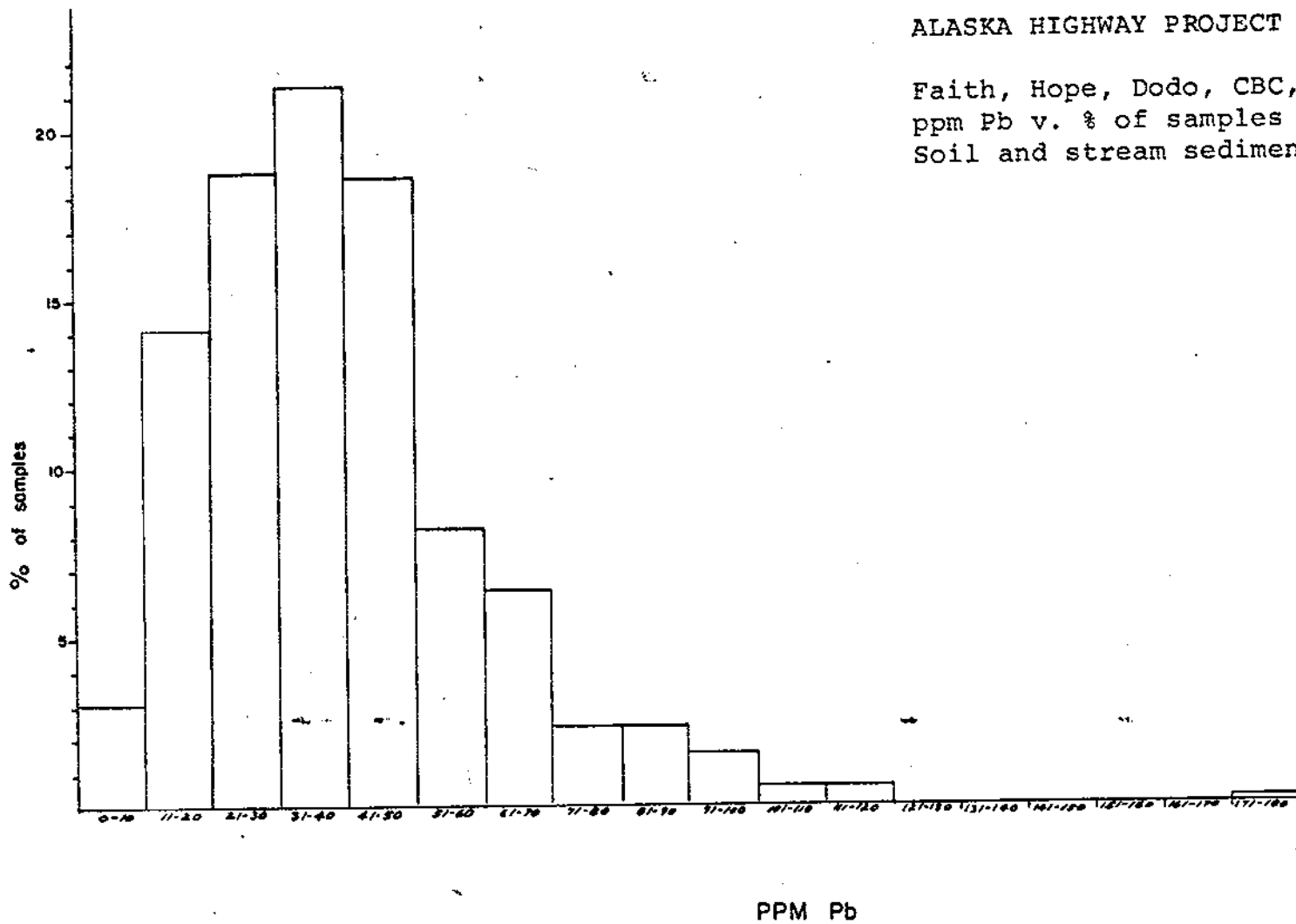
Faith, Hope, Dodo, CBC and CTV claims
P.p.m. Zn v. % of Samples
in
Soil and stream sediment samples



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MAP

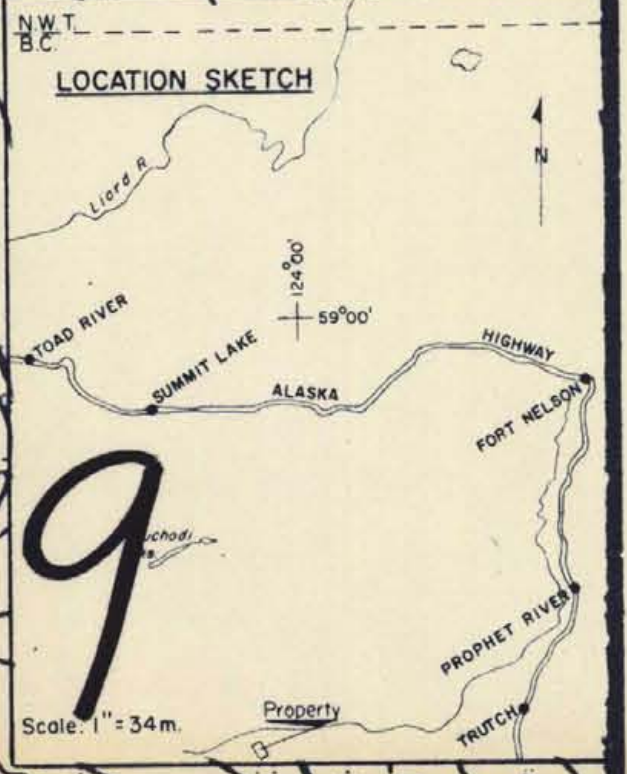
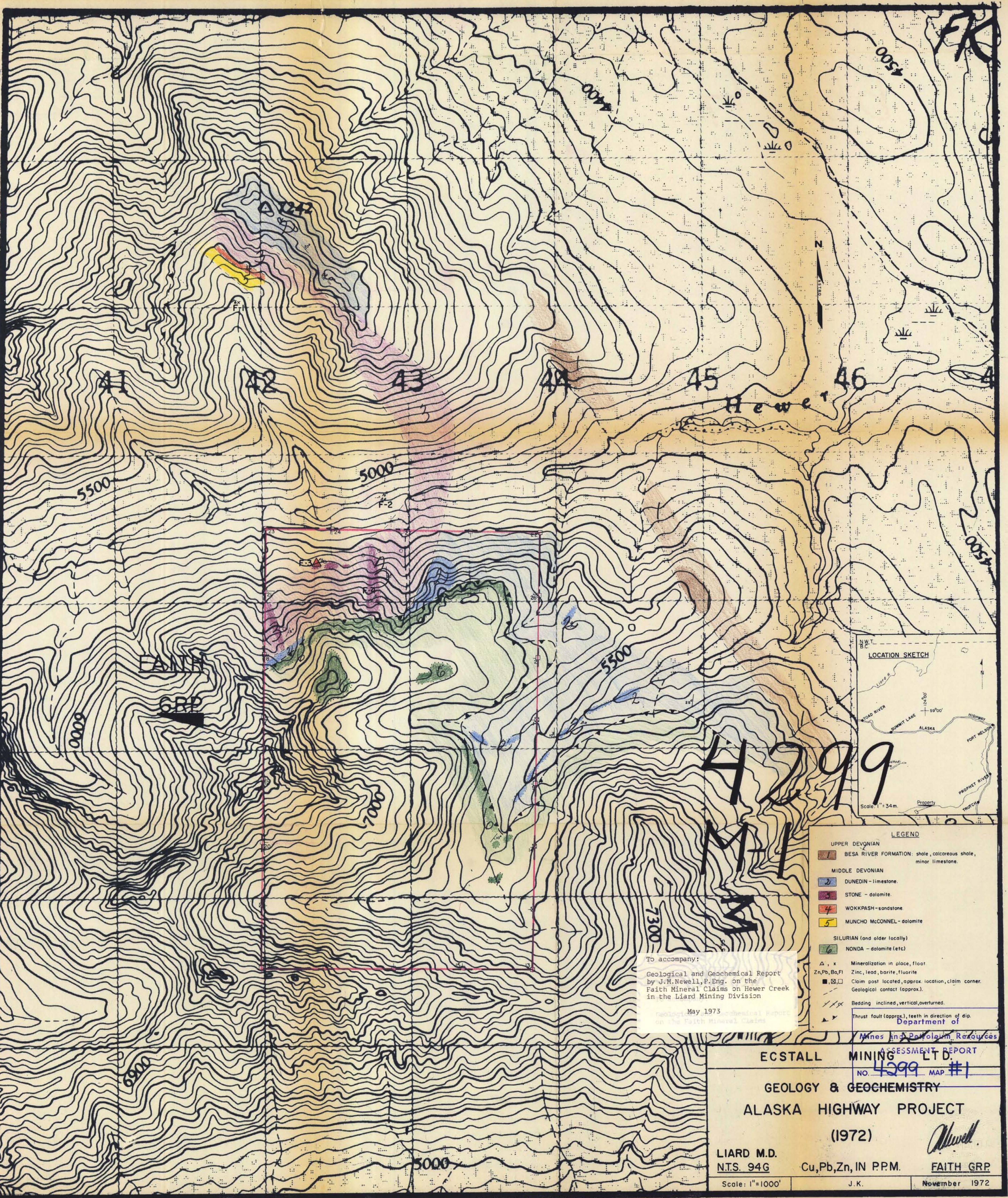
ALASKA HIGHWAY PROJECT

Faith, Hope, Dodo, CBC, CTV Claims
ppm Pb v. % of samples
Soil and stream sediment samples



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ASSESSMENT REPORT

NO. ~~113299~~ 113299
MAP



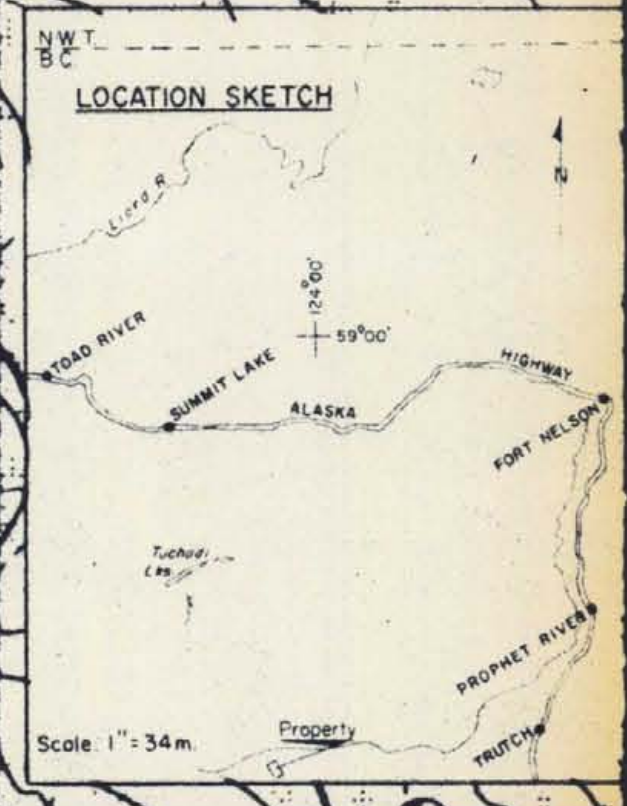
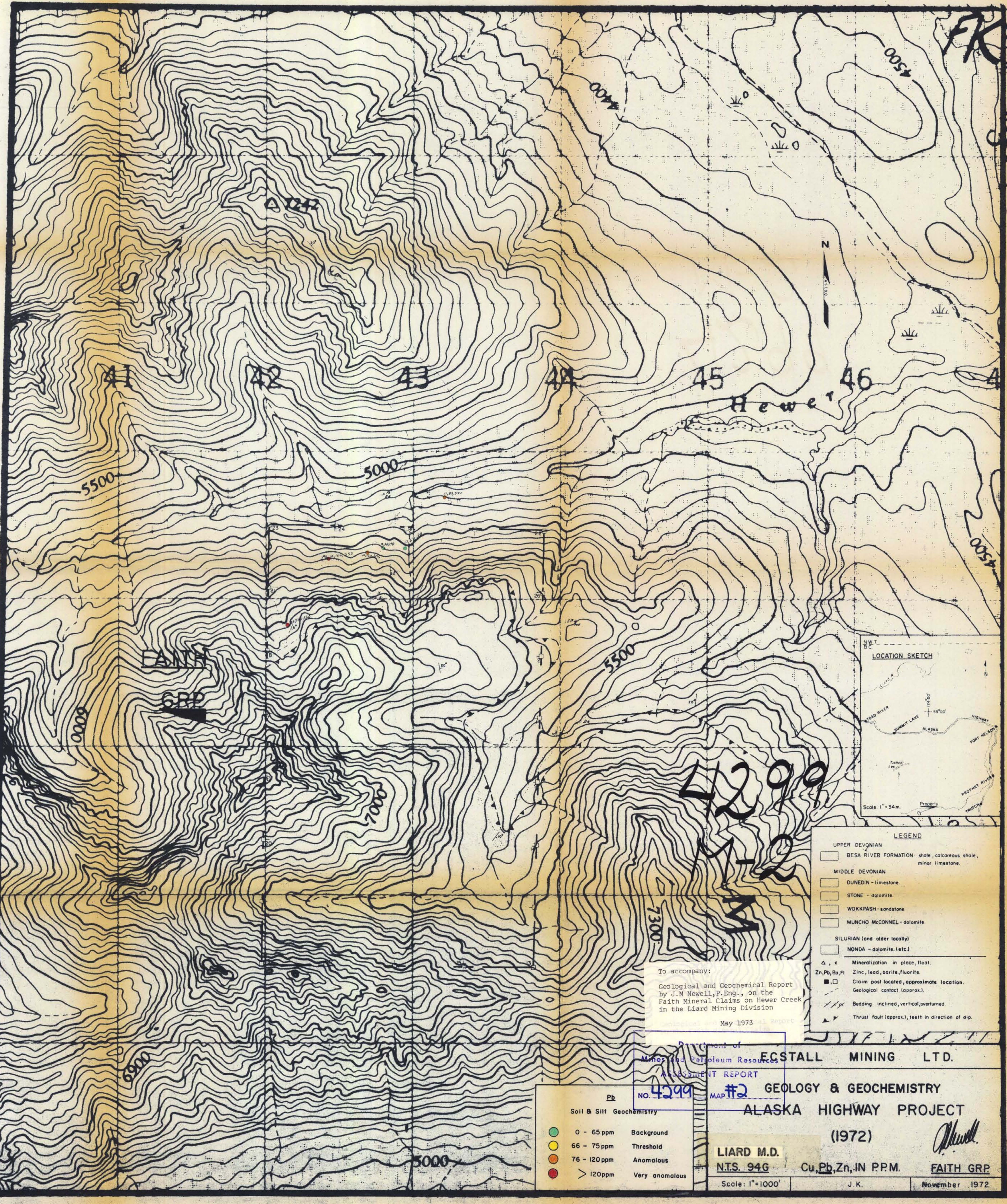
LEGEND

UPPER DEVONIAN	
1	BESA RIVER FORMATION: shale, calcareous shale, minor limestone.
MIDDLE DEVONIAN	
2	DUNEDIN - limestone.
3	STONE - dolomite.
4	WOKKASH - sandstone.
5	MUNCHO MCCONNELL - dolomite.
SILURIAN (and older locally)	
6	NONDA - dolomite (etc)
Δ, x	Mineralization in place, float
Zn, Pb, Ba, Fl	Zinc, lead, barite, fluorite
■, □, ○	Claim post located, approx location, claim corner.
—	Geological contact (approx).
///	Bedding inclined, vertical, overturned.
▲	Thrust fault (approx), teeth in direction of dip.

To accompany:
 Geological and Geochemical Report
 by J.M. Newell, P. Eng. on the
 Faith Mineral Claims on Hewer Creek
 in the Liard Mining Division
 May 1973

4299
M-1

ECSTALL MINING ASSESSMENT REPORT LTD.
 NO. 4299 MAP #1
 GEOLOGY & GEOCHEMISTRY
 ALASKA HIGHWAY PROJECT
 (1972)
 LIARD M.D. N.T.S. 94G Cu, Pb, Zn, IN P.P.M. FAITH GRP
 Scale: 1"=1000' J.K. November 1972



LEGEND

UPPER DEVONIAN	
[Symbol]	BESA RIVER FORMATION - shale, calcareous shale, minor limestone.
MIDDLE DEVONIAN	
[Symbol]	DUNEDIN - limestone.
[Symbol]	STONE - dolomite.
[Symbol]	WOKKPASH - sandstone.
[Symbol]	MUNCHO McCONNEL - dolomite.
SILURIAN (and older locally)	
[Symbol]	NONDA - dolomite (etc.)
[Symbol]	Mineralization in place, float.
[Symbol]	Zn, Pb, Ba, Fl Zinc, lead, barite, fluorite.
[Symbol]	Claim post located, approximate location.
[Symbol]	Geological contact (approx.).
[Symbol]	Bedding inclined, vertical, overturned.
[Symbol]	Thrust fault (approx.), teeth in direction of dip.

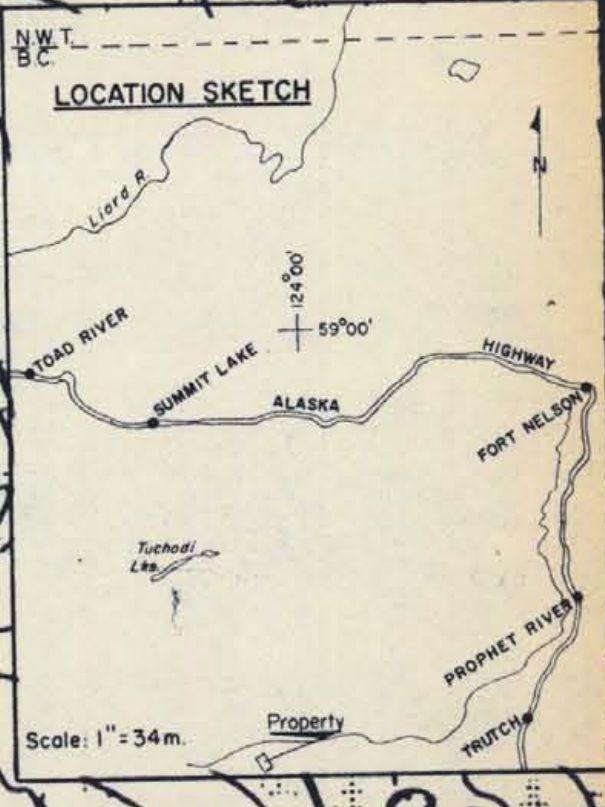
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LIARD M.D.
N.T.S. 94G Cu, Pb, Zn, IN P.P.M. **FAITH GRP**
 Scale: 1"=1000' J.K. November 1972

Soil & Silt Geochemistry

[Green Circle]	0 - 65 ppm	Background
[Yellow Circle]	66 - 75 ppm	Threshold
[Orange Circle]	76 - 120 ppm	Anomalous
[Red Circle]	> 120 ppm	Very anomalous

Pb NO. 4299 MAP #2



LEGEND

UPPER DEVONIAN	
[Symbol]	BESA RIVER FORMATION - shale, calcareous shale, minor limestone.
MIDDLE DEVONIAN	
[Symbol]	DUNEDIN - limestone.
[Symbol]	STONE - dolomite.
[Symbol]	WOKKPASH - sandstone.
[Symbol]	MUNCHO McCONNEL - dolomite.
SILURIAN (and older locally)	
[Symbol]	NONDA - dolomite. (etc.)
Δ, x	Mineralization in place, float.
Zn, Pb, Ba, Fl	Zinc, lead, barite, fluorite.
[Symbol]	Claim post located, approximate location.
[Symbol]	Geological contact (approx.).
[Symbol]	Bedding inclined, vertical, overturned.
[Symbol]	Thrust fault (approx.), teeth in direction of dip.

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ALASKA GEOLOGY & GEOCHEMISTRY
HIGHWAY PROJECT
 (1972)
 LIARD M.D.
 N.T.S. 94G Cu, Pb, Zn, IN P.P.M.
 Scale: 1" = 1000' J.K. November 1972

Zn

Soil & Silt Geochemistry

●	0 - 90ppm	background
●	91 - 150ppm	threshold
●	151 - 400ppm	anomalous
●	> 400ppm	very anomalous

Zn