ALCOR MINERALS LTD.

GEOCHEMICAL SURVEY
OF
MIKE AND GOOF CLAIMS
FLATHEAD AREA, FORT STEELE MINING DIVISION

Geographic Coordinates
49° 22' N
114° 34' W
NTS Sheet 82G/7E

by

L. B. HALFERDAHL, Ph.D., P. Eng.

Field Work Conducted October 18 to 24, 1971

L. B. Halferdahl & Associates Ltd.
401 - 10049 Jasper Avenue
Edmonton 15, Alberta

3161

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3161 MAP

by

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INTRODUCTION

The 70 Mike and Goof Mineral Claims lie near the North Kootenay Pass at the northern end of the Clark Range east of the Flathead River in southeastern British Columbia along the Alberta border. This report presents the results of a geochemical survey which was conducted from October 18 to 24, 1970.

SUMMARY AND RECOMMENDATIONS

A total of 40 samples of stream and spring waters were collected and analyzed for copper, lead, and zinc. No significant anomalous concentrations were obtained in the copper and lead analyses. Fourteen anomalous or slightly anomalous concentrations were obtained for zinc. Although the survey was not extensive enough to indicate clearly the reason for the higher zinc concentrations, their pattern with respect to some of the Late Precambrian Purcell Formations is interesting enough to warrant further investigation.

It is recommended that some of the claims with the higher zinc concentrations be retained.

FIELD PROCEDURE

Samples were collected in wide mouth 10 oz. or 16 oz. polyethylene bottles with bakelite caps, lined with cardboard and waterproof paper. Before use, each bottle and cap was thoroughly rinsed with the water to be sampled; then the sample was collected; the bottle tightly closed, numbered, and notes made. The notes consisted of recording the temperature of the water, estimating or measuring the breadth of water surface and maximum depth of the stream. The pH was measured by means of alkacid test paper and found to be between $5\frac{1}{2}$ and 6 in all samples. At the field camp most turbid samples were filtered, and then all samples were acidified with concentrated HCl, about 12N at approximately 5 cc of acid per 300 ml of sample.

LABORATORY PROCEDURE

Samples were shipped to Loring Laboratories Ltd., Calgary, for analysis. There 200 ml of sample was evaporated to dryness in carefully cleaned glassware, the residue taken up with 25 ml of HCl and analyzed by standard atomic absorption techniques. In samples with appreciable concentrations of copper, lead, or zinc, a portion of the sample as received was checked against the concentrated sample. This precaution ensured that any serious contamination of samples occurring in the laboratory was detected, but not contamination during collection or acidification. The detection limits for samples treated as above for copper, lead, and zinc are 2, 9, and 2 ppb respectively, so that zeros in the data mean concentrations below these limits. In spite of this, concentrations as low as 5 ppb for lead have been reported.

RESULTS

The results of the geochemical survey are shown in Figures 3, 4, and 5, and tabulated in the Appendix. Evaluation of the geochemical survey is based on the concentrations below. These concentrations were obtained by statistical analysis of a much larger number of samples collected from adjoining or almost adjoining properties in the Clark Range of Alberta.

	BACKGROUND	SLIGHTLY ANOMALOUS	ANOMALOUS
		Parts per Billion	
Copper	Less than 18	18 to 27	More than 27
Lead	Less than 60	60 to 90	More than 90
Zinc	Less than 65	65 to 120	More than 120

All copper and lead concentrations are background. Although one zinc concentration is anomalous and 13 are slightly anomalous, the character of the frequency distribution of the zinc analyses is such that a somewhat greater percentage of zinc analyses are considered anomalous or slightly anomalous than analyses for copper and lead. In spite of this, the pattern of the anomalous zinc concentrations with respect to various formations of the Late Precambrian Purcell Series may be significant.

The geochemical mobility of zinc is apparently much higher than copper or lead.

CONCLUSIONS

The geochemical survey has shown a number of anomalous or slightly anomalous concentrations of zinc. No anomalous concentrations of copper or lead were found. Although the survey was not extensive enough to draw definite conclusions, the pattern of the higher zinc concentrations with respect to various formations of the Late Precambrian Purcell Series is interesting enough to warrant further exploration of some of the

Mike and Goof Mineral Claims.

Respectfully submitted,

L. B. Halferdahl

Edmonton, Alberta
June 1, 1971

L. B. HALFERDAHL, Ph.D., P. Eng.

PROFESSIONAL
PROVINCE
OF
L. B. HALFERDAHL
BRITISH
COLUMBIA
ENGINEER

Expiry Date: August 5, 1970

CERTIFICATE

I, Laurence B. Halferdahl, with business and residence addresses in Edmonton, Alberta, do hereby certify that

1. I have been a consulting geological and mineralogical engineer since June, 1969.
2. I am a licensed Professional Geologist in the Province of Alberta and a licensed Professional Engineer in the Province of British Columbia.
3. I am a graduate of Queen's University, Kingston, Ontario, (B.Sc. in 1952 and M.Sc. in 1954 in Geological Sciences in the Faculty of Applied Science) and of the Johns Hopkins University, Baltimore, Maryland (Ph.D. in 1959 in the Department of Geology).
4. From 1957 to 1969 I was on the staff of the Research Council of Alberta as a mineralogist and geologist where I was in charge of the mineralogy laboratory and conducted various field and laboratory investigations.
5. Prior to 1957 I obtained experience in mineral exploration and mining geology with a number of mining companies.
6. The data in this report were obtained from a field program under my direction during October, 1970. I personally supervised the field work on October 18 and 24.

Respectfully submitted,

L.B. Halferdahl

Edmonton, Alberta
June 1, 1971

L. B. Halferdahl, Ph.D., P. Eng.

PROFESSIONAL PROVINCE OF L. B. HALFERDAHL BRITISH COLUMBIA ENGINEER

Expiry Date: August 5, 1972

APPENDIX A: FIELD AND ANALYTICAL DATA ON WATER ANALYSES *

SAMPLE	ELEV.	TEMP.	SIZE	CU	PB	ZN	TYPE
# 1156	5475	1.5	4x 1.0	5	11	76	1
1157	5150	2.0	15x 1.0	5	5	69	1
1158	5100	1.0	2x 5	6	11	87	2
1159	5050	1.0	1x 5	3	11	19	2
1160	4950	2.0	20x 2.0	4	18	57	1
1161	5125	1.5	3x 5	6	11	80	2
1162	5300	1.5	7x 1.0	5	11	59	1
1163	5900	1.0	4x 1.0	4	11	16	1
1164	5800	1.0	5x 5	5	5	76	1
1165	5800	1.5	6x 1.0	4	5	69	1
1166	5400	1.5	10x 1.5	6	11	106	1
1167	5150	1.5	8x 1.0	5	11	107	1
1168	6350	1.0	3x 5	8	5	66	1
1169	6400	1.0	10x 1.0	5	5	23	1
1170	6100	1.0	5x 1.0	7	11	11	1
1171	6200	1.0	5x 5	7	5	31	1
1172	6200	1.0	6x 1.0	5	5	21	1
1173	6200	1.0	2x 5	4	N	28	1
1174	5550	1.0	15x 1.0	5	5	79	1
1175	5525	1.5	3x 5	4	5	23	2
1176	5125	1.5	4x 5	4	5	35	2
1177	5510	1.0	6x 2.0	7	5	53	1
4094	5250	2.0	6x 1.0	9	18	122	1
4095	5250	2.0	4x 5	4	11	57	1
4096	5050	2.0	24x 1.0	5	18	85	1
4097	5000	4.0	N	5	18	56	1
4098	5090	3.0	24x 1.0	4	5	27	1
4099	5300	3.0	24x 1.5	5	5	25	1
4100	5550	3.0	12x 5	7	5	69	1
4102	5590	3.0	2x 1.0	3	5	36	2

SAMPLE	ELEV.	TEMP.	SIZE	CU	PB	ZN	TYPE
# 4103	5500	3.0	12x 1.0	7	11	51	1
4104	5100	3.0	12x 1.0	5	18	79	1
4105	5150	2.0	6x 1.0	4	11	38	1
4106	5990	2.0	6x 5	4	18	20	1
4107	5900	2.0	12x 5	7	11	42	1
4108	5550	2.0	6x 5	4	11	25	1
4109	5290	2.0	12x 5	3	11	38	1
4110	5150	2.0	12x 5	3	11	35	1
4111	5050	2.0	12x 1.0	4	5	51	1
4112	4950	2.0	12x 2.0	3	11	25	1

* Explanation of Column Headings

ELEV. — Elevations were obtained from topographic maps with scale 1:50,000 and contour intervals of 100 feet, and by means of pocket altimeters. Figures are in feet above mean sea level.

TEMP. — Temperatures are in degrees Centigrade.

SIZE — This refers to the size of the stream as estimated or measured by the samplers. All figures are in inches, but only two figures are significant. The first figure is the breadth of the water surface, and the second is the maximum depth.

CU, PB, ZN — These refer to the concentrations in parts per billion of copper, lead, and zinc in the waters sampled.

TYPE — This refers to the type of water sampled and is coded as follows: 1 - stream, 2 - spring or well.

An N in the table means that the data so designated were not obtained.

APPENDIX B: MEN AND COSTS

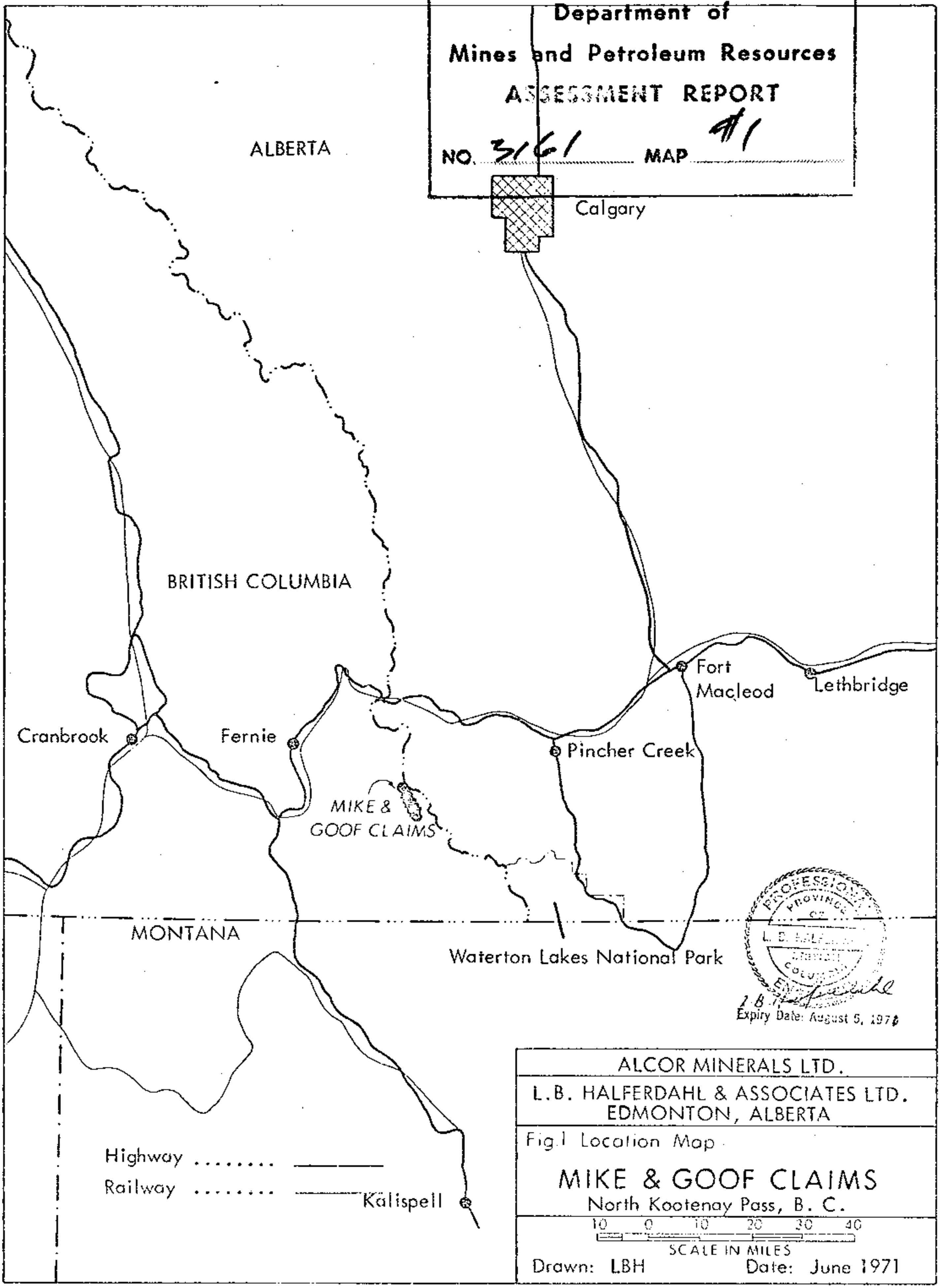
Gordon Russell	Oct. 18 to 24, 1970	$ 575/month	$ 144.00
Thomas Judd	Oct. 18 to 24, 1970	$ 500/month	125.00
L. B. Halferdahl	Oct. 18, 24, 1970	$ 150/day	300.00
Fringes on wages - 8%			46.00
Food - $4.00 per day per man			56.00
Equipment and Supplies			250.00
Transportation and Shipping			243.00
Analyses - 40 @ $3.50			140.00
			$1304.00

I declare that the above costs were incurred during the geochemical survey of the Mike and Goof Claims in October, 1970.

L. B. Halferdahl

L. B. Halferdahl, Ph.D., P. Eng.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3161 MAP #1



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EDMONTON, ALBERTA

Fig.1 Location Map

MIKE & GOOF CLAIMS
North Kootenay Pass, B. C.

Drawn: LBH Date: June 1971

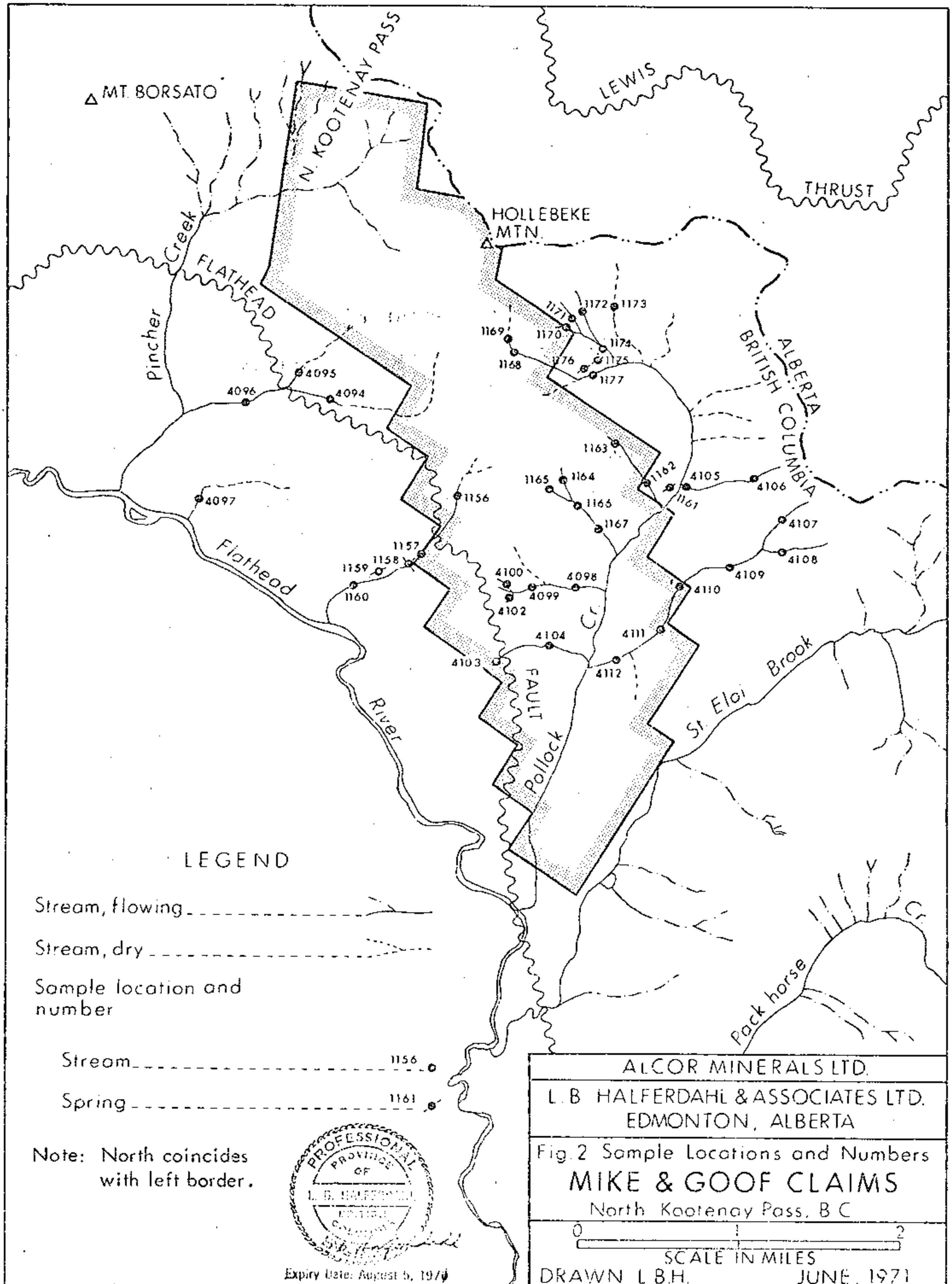

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Fig. 2 Sample Locations and Numbers

MIKE & GOOF CLAIMS

North Kootenay Pass, B.C.

0 1 2
SCALE IN MILES

DRAWN L.B.H. JUNE, 1971

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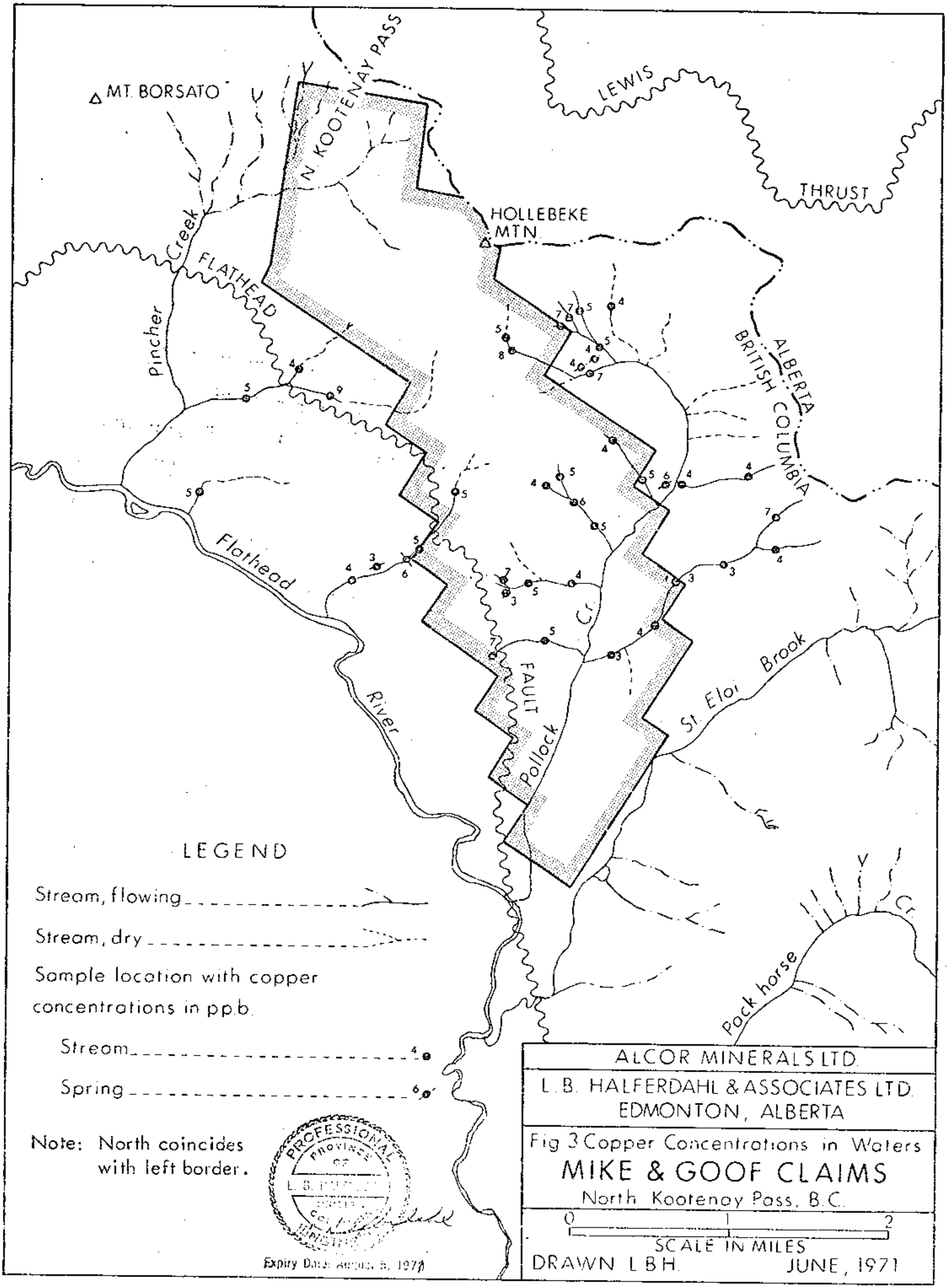
MT. BORSATO
N. KOOTENAY PASS
LEWIS
THRUST
HOLLEBEKE
MTN.
Creek
FLATHEAD
Pincher
ALBERTA
BRITISH COLUMBIA
Flathead
River
FAULT
Pollock
Cr.
St. Eloi
Brook
Pack horse
Cr.
LEGEND
Stream, flowing
Stream, dry
Sample location with copper concentrations in ppb.
Stream
Spring
Note: North coincides with left border.
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EDMONTON, ALBERTA
Fig 3 Copper Concentrations in Waters
MIKE & GOOF CLAIMS
North Kootenay Pass, B.C.
0
1
2
SCALE IN MILES
DRAWN L.B.H.
JUNE, 1971

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3161 MAP #3

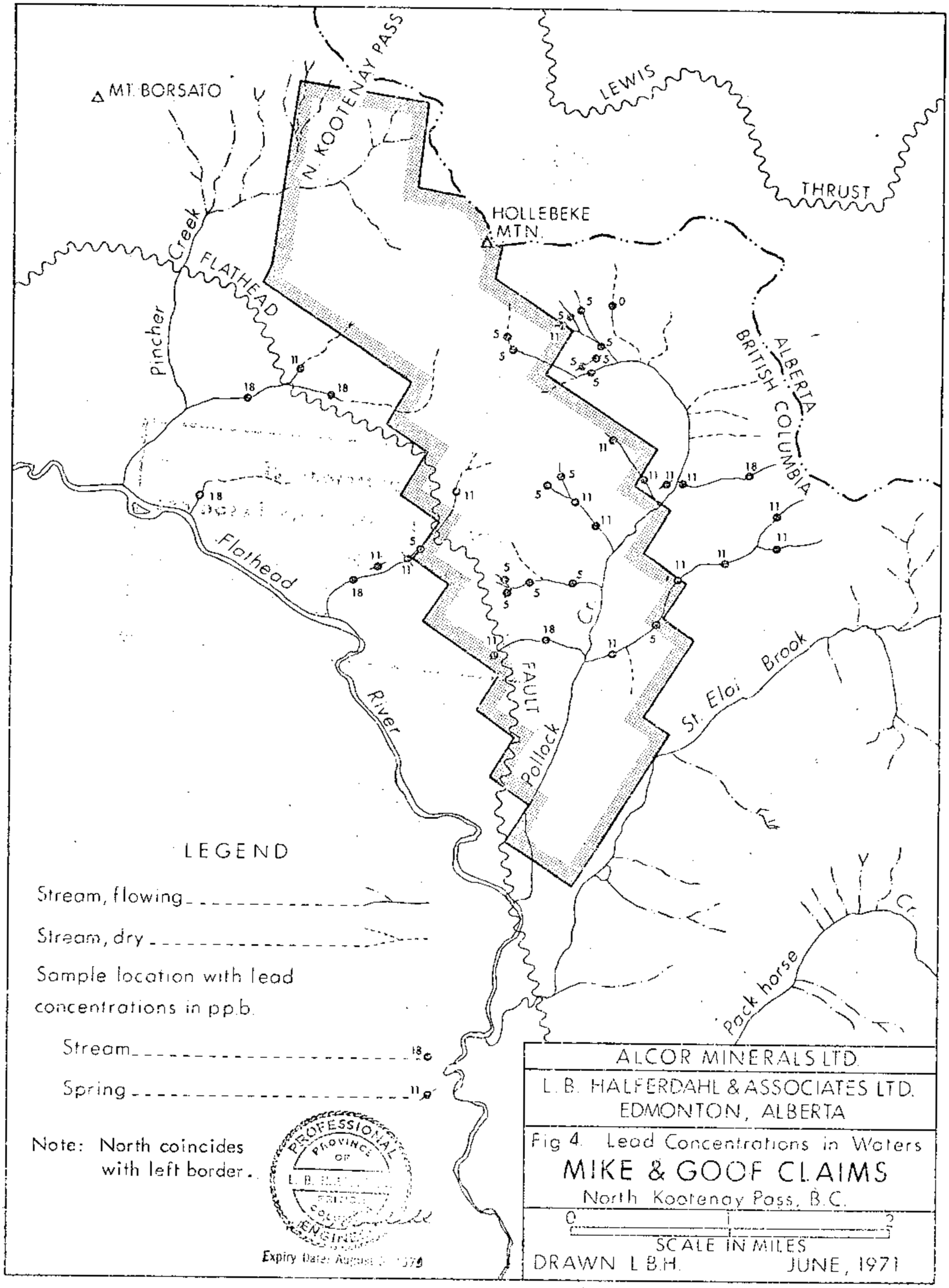
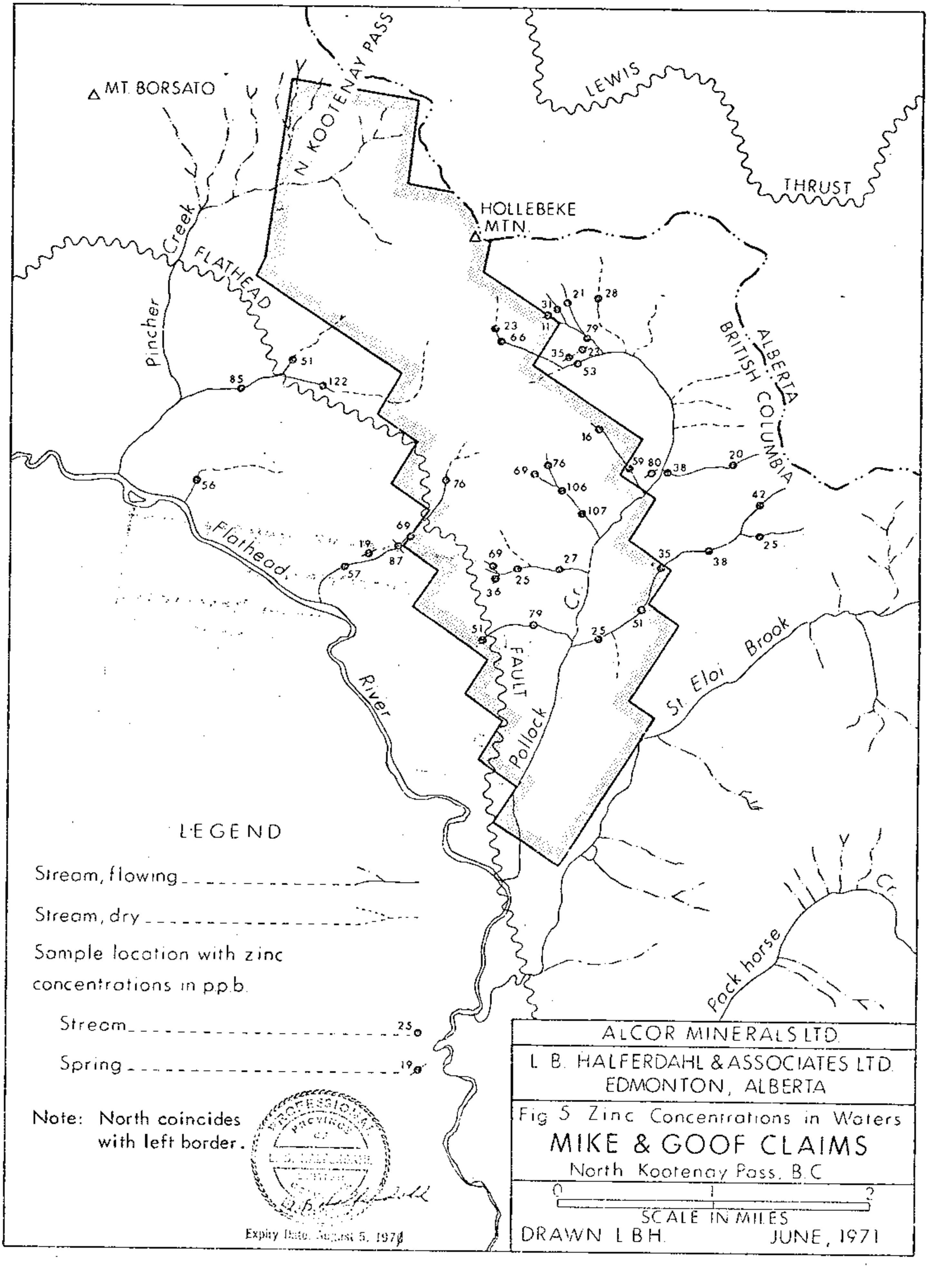


Fig 4. Lead Concentrations in Waters



MT. BORSATO
N. KOOTENAY PASS
LEWIS
THRUST
HOLLEBEKE
MTN.
Creek
Pincher
FLATHEAD
ALBERTA
BRITISH COLUMBIA
FAULT
Flathead
River
Pollock
Cr.
St. Eloi Brook
Pack horse
Cr.
LEGEND
Stream, flowing
Stream, dry
Sample location with zinc concentrations in p.p.b.
Stream 25
Spring 19
Note: North coincides with left border.
Expiry Date: August 5, 1974
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Fig 5 Zinc Concentrations in Waters
MIKE & GOOF CLAIMS
North Kootenay Pass, B.C.
0 1 2
SCALE IN MILES
DRAWN L.B.H.
JUNE, 1971