82M/5 W File Copy

GEOLOGICAL AND GEOCHEMICAL REPORT

810754

on the

CATHY 1 CLAIM BLOCK - 1287 (7)

Kamloops Mining Division

N.T.S. 83 M - 5W

Latitude: 52^{o} 19' N

Longitude: 119^{o} 53' W

by:

B. V. HALL

November 20, 1978.

FILE

BARRIERE LAKE.
HALL CLAIMS
PROJECT 80.

BETH-CANADA MINING COMPANY

GEOLOGICAL AND GEOCHEMICAL REPORT ON THE CATHY-1 CLAIM BLOCK - 1287 (7)

KAMLOOPS MINING DISTRICT

NTS MAPSHEET 82M/5W
LAT. 52° 19' LONG. 119° 53'

AT THE WESTERN END OF NORTH BARRIERE LAKE

Brian Hall
November 20, 1978

TABLE OF CONTENTS

LIST OF FIGURES

1. SUMMARY

Prospecting, geological mapping, stream sediment sampling and soil sampling were conducted over the Cathy-1 claim block to determine its base metal potential. During the course of the investigation two zones of interest were defined. One consisted of massive pyritic mineralization located at the top of a chloritic schist (andesite). The second consisted of a large ($\stackrel{>}{<}$500 m by 250 m) soil anomaly for Cu, Pb, Zn and Ag. Further work is recommended on this claim block, and especially the two zones defined thus far. ?

2. LOCATION AND ACCESS

The Cathy-1 claim block is located at the mouth of Harper Creek on the western end of North Barriere Lake (N.T.S. Mapsheet 82M/5W, Lat. 52° 19', Long. 119° 53'). Access to the northwestern portion of the claim block is via the North Barriere Lake logging road, which originates in Barriere 33 km. away. The remainder of the claim block can be reached by canoe across North Barriere Lake, or a rough logging road atop the Barriere Ridge.

3. PHYSIOGRAPHY

The claim block covers a portion of the northern slope of the Barriere Ridge, and the valley bottoms of the Barriere River and Harper Creek. Topographic elevations range from 610 m. (2000 ft.) at North Barriere Lake to 1220 m. (4000 ft.) at the crest of the Barriere Ridge.

Outcrop exposure is sparse and is restricted for the most part to stream valleys draining the Barriere Ridge. Fortunately the bedding is oriented perpendicular to the stream valleys affording a good view of the stratigraphic sequence.

Logging operations 20 years ago have caused the growth of a dense tangle of immature fir, poplar, cedar, and devil's club which now occupies the bulk of the claim block. Other portions of the claim block are covered by a more mature but equally dense growth of the above.

4. PROPERTY HISTORY

Base metal occurrences have been known to the Barriere Lakes area since before the turn of the century. During the early 1900's several adits were driven by local prospectors on a property immediately north of North Barriere Lake. Since that time approximately fifty mining companies have at one time or another expressed an interest in the Barriere Lakes area.

The southeastern portion of the Cathy-1 claim block was originally staked in the early 1900's. In 1963 the area was restaked as the Joe claim group by J. MacDonald, an independant prospector. The area was restaked in the winter of 1969/70 by L. Bloomfield and G. Bloomfield as the C & G claim group. Ducanex Resources Ltd. optioned this claim group from the Bloomfields in 1971 and contracted out line cutting and soil sampling to J.R. Woodcock Consultants Ltd. of Vancouver (Price, 1971). On July 15, 1978 B. Hall and B. Shultz of Beth-Canada Mining Company restaked a portion of the old C & G claim group and an area to the west as the Cathy-1 claim block. This claim block is currently owned by John J. Drury, 25 Norbert Cr., Etobicoke, Ontario.

5. REGIONAL GEOLOGY

Underlying the bulk of the Barriere Lakes area is a mixed assemblage of meta-volcanics and meta-sediments which is commonly referred to as the Eagle Bay formation. This formation extend for approximately 250 km. in a north westerly direction and is the host for a large number of stratiform volcanogenic massive sulphide deposits. Its northern most extremity lies just north of the town of Clearwater, and the southern margin lies just north of Sicamous. The Eagle Bay formation is considered to be pre-Permain by Campbell (1963) and may be a member of the Cache Creek Group. According to Jones (1959) the Eagle Bay formation attains a thickness in excess of 10,000 m. within the Vernon mapsheet to the south.

More specifically the Eagle Bay formation consists of chloritic and sericitic schists, quantzites, argillites, limestone, dolomite, and minor conglomerate. The chloritic and sericitic schists most likely represent waterlain andesitic and rhyolitic pyroclastics, which commonly occur interbanded with cherty sediments. The relative proportions of volcanics and sediments tend to vary both stratigraphically and laterally. Where the volcanic material becomes abundant, sericitic schists predominate, suggesting the possibility of a felsic volcanic center. Characteristically most of the units are thinly bedded and pinch out along strike. However a band of carbonates situated near the stratigraphic middle of the Eagle Bay formation attains a thickness of 1000 m. in the vicinity of Shuswap Lake on the Vernon Mapsheet (Jones, 1959). This unit is known as the Tshinakin Limestone and it commonly overlies the volcanics which host the massive sulphide deposits of the Eagle Bay formation.

Overlying the Eagle Bay formation to the west is the Fennell formation, which consists of volcanic flows, pillow lavas, kykes and sills of andesitic to basaltic composition along with minor amounts of chert, argillite, limestone and conglomerate. To the east and north the Eagle Bay formation grades into the Shuswap metamorphic complex. Immediately to the north of North Barriere Lake is the Baldy Batholith (Late Jurassic to Late Cretaceous) which intrudes the Eagle Bay formation (Campbell and Tipper, 1971). Surrounding this intrusive is a narrow contact metamorphic aureole (less than 200 m. wide) and a zone of high grade quartzo-feldspathic gneisses and amphibolites (less than 3 km. wide), both of which appear to be directly related to the intrusion of the Baldy Batholith.

Within the Eagle Bay formation the grade of metamorphism along with the intensity of deformation increases toward the north and east. Lower greenschist facies metamorphism predominates in the western portion of the Barriere Lake area with grade approaching amphibolite facies in the east.

Four phases of deformation have affected the Eagle Bay formation. The F_1 folds are upright, open folds of minor significance. Folds of the second generation (F_2) are isoclinal recumbant and are considered to be contemporancous with the strong schistosity developed throughout most of the Eagle Bay formation. The third phase of deformation (F_3) resulted in the development of large, open style, north-south trending folds. F_4 folds trend northeast-southwest and are slightly overturned.

6. LOCAL GEOLOGY

The Cathy-1 claim block for the most part is underlain by a metamorphosed volcanic to sedimentary sequence (Figure 2). The volcanics now represented by sericitic and chloritic schists stratigraphically underlie a thick sequence of graphitic and calcareous argillites. Occurring within the transition zone between the volcanics and sediments are the sulphide bodies which make the Cathy-1 claim block economically interesting.

6.1 LITHOLOGY

Geological mapping has defined 7 rock units within the claim block. For the most part the rock types are thinly bedded, the exception being the graphitic and calcareous argillites of the southern portion of the claim block which attain a considerable thickness. Both these units are fine grained, thinly banded and black. The distinguishing feature between the two is the abundance of carbonaceous bands which typify the calcareous argillite. In addition to carbonate, minor amounts of chert, quartzite and sericite schist occur interbanded within both units. Underlying the argillites is thin unit of chert (approximately 5 m. thick) which is the host for the sulphide bodies. This chert is finely laminated containing minor bands of sulphides, sediments or tuffaceous material. Volcanics now represented by sericitic and chloritic schists underlie the chert. Although clasts or shards have not been observed the thinly bedded nature of these rock types and the presence of tuffaceous material along strike suggest they too may be tuffaceous in origin. Sericitic schists of the Cathy-1 claim block occur in close association with sulphide bodies situated to the north and west of the claim block. In the northern and southern portion of the claim block quartzite has been observed. This rock type is a well-sorted, medium grained sandstone which is composed almost entirely of quartz grains. Regional metamorphism has resulted in a significant increase in the degree of induration for this rock. The youngest rock type in the claim block is a felsic dyke which is slightly porphyritic and similar in appearance to dykes found to the east of the claim block.

Overlying the graphitic orgillites approximately 1 km. south west of the claim block is a relatively thick mass of limestone (approximately 100 m. thick, Campbell 1963) which may represent the Tshinakin Limestone. The presence of carbonate coatings in the stream beds of the western portion of the claim block suggest that this limestone may underlie a portion of the claim block.

6.2 STRUCTURE

As stated previously four phases of deformation have affected the Barriere Lakes area, however only phases F_2 and F_4 are evident within the Cathy-1 claim block. The F_2 deformation event manifests itself in the development of some small scale isoclinal recumbant folds. Although no large scale folds related to this event have been observed within the claim block, the isoclinal style typlifying this event would make recognition of these folds nearly impossible. Folds of this nature could cause repetition of units and a thickening of some units in the vicinity of fold hinges. The fourth deformation event (F_4) is also present in the claim block has produced a fold couplet which strikes N 70 E through the centre of the claim block. These folds are large scale and defined on the basis of bedding and F_2 foliation orientations. Bedding orientations for the bulk of the claim block strike northwest to northeast and dip at relatively shallow angles. Two faults have been defined on the basis of offset units. Both strike N 30 W and appear to be of normal displacement.

6.3 MINERALIZATION

Sulphide mineralization within the Cathy-1 claim block consists of two types 1) massive and 2) disseminated. The massive mineralization ($\ngtr$50% sulphides) is located in the eastern portion of the claim block near the shore of North Barriere Lake. It consists of a small lens (0.7 m. thick) of massive pyrite which is hosted in the chert unit that overlies the chlorite schist. It is predominately composed of large porphyroblastic grains of pyrite which are set in a fine grained matrix of pyrite and quartz.

In some cases the pyrite grains are arranged in a banded texture which suggest it has formed through some sort of sedimentary process. In other cases the pyrite grains occur in a stockwork texture indicating replacement.

The disseminated mineralization is prolific throughout the bulk of the claim block. It occurs as fine veinlets, small bands parallel to bedding or random disseminations. Sulphide abundances range 0 to 5%, with pyrite being present in all cases and chalcopyrite only within the quartzite situated in the southern portion of the claim block.

7. GEOCHEMISTRY

127 soil and silt samples were collected over the Cathy-1 claim block. The silt samples (16) were taken at 200 m. intervals over most of the streams (Figures 3), whereas the soil samples (111) were taken from a grid located in the northwestern portion of the claim block (Figure 11). All samples were analyzed for Cu, Pb, Zn, and Ag, with some Mo, U, and F in addition. The results are presented in Appendix C, and plotted on Figures 4-10 and 12-15.

7.1 PROCEDURE

The silt samples were collected from the active portions of the streams and consisted of silt to coarse sand size material. For the most part the sample material was representative of the rock types found within the claim block. Organic material within the stream bed was minimal and avoided where possible.

The soil samples were all taken from the B horizon and consisted of a brown to orange sand. A grub hoe was used to obtain the samples, with the sample depth varying between 5 and 25 cm.

Both the soil and silt samples were placed in Kraft high-strength paper envelopes and field dried for two weeks before being sent for analysis to Bondar-Clegg and Company Ltd. of North Vancouver. Atomic absorption using the following procedure was used for the analyses of Cu, Pb, Zn and Ag. After sieving, the minus 80 mesh fraction of the sample was weighted, digested in a concentrated hot Le Font aqua regia attack, bulked to volume and homogenized. Finally, the sample was analyzed by atomic absorption in constant comparison with both synthetic and matrix standards. Mo was analyzed by basically the same procedure except an enhancing agent was added. U was analyzed by a fluorimetric method using a concentrated hot HNO_3 acid attack for extraction. F was analyzed by specificion electrodes and basic fusion was used for extraction.

7.2 RESULTS

The soil samples revealed the presence of a large elongate anomaly for Cu, Pb, Zn and Ag (Figures 12-15). This anomaly trends north-south and crosses all the grid lines around station 4E. It is approximately 250 m. wide and although open at both ends it extends for at least 500 m. The western margin of the anomaly is rather diffuse with the high values falling off gradually to the slightly anomalous range. The eastern margin is sharp and well defined with the high values falling off abruptly to background levels.

Copper (Figure 12) was a reasonably good indicator of the anomaly, although the high values are considerably lower than prospects adjacent to this claim block. Fortunately the background values surrounding the anomaly were quite low so that there was a fair degree of contrast between the anomalous and background values. High values ranged up to 107 p.p.m. with anything over 60 p.p.m. considered anomalous. Background values for the samples east of the anomaly average about 15 p.p.m.

Lead (Figure 13) was a good indicator of the anomaly as the highest value (360 p.p.m.) was 30 times greater than background. Background values for the samples east of the anomaly average about 12 p.p.m. with anything over 60 p.p.m. considered anomalous.

Zinc (Figure 14) was the most sensitive indicator of the anomaly, with values ranging up to 1370 p.p.m.

(26 times background), values over 300 p.p.m. are considered anomalous with background values for the samples east of the anomaly averaging 50 p.p.m.

Silver (Figure 15) was not as diagnostic a pathfinder element as the others. However, the high silver values did coincide with the approximate position of the anomalous values for the other elements, although the bulk of the high values were offset about 100 m. to the east. The highest silver value was 1.1 p.p.m. with anything over 0.5 p.p.m. being considered anomalous. Background is 0.2 p.p.m. for both sides of the anomaly.

In addition to outlining a zone of possible mineralization the soil samples also suggest something about the form, content or depth of overburden for this zone. The elongate shape of the anomaly plus the general parallel alignment to bedding suggests that the mineralization may be stratiform. If the classic shape of a volcanogenic massive sulphide deposit is envisaged, then a zone of disseminated mineralization should underlie the massive mineralization. The diffuse western margin of the soil anomaly may reflect such a zone of disseminated mineralization which suggests that the zone of interest may dip to the east. In addition the rather low copper values in comparison to lead and zinc suggest that the mineralization is composed primarily of sphalerite and galena, or that it is covered by thick overburden. The latter is favoured as lead and zinc generally exhibit larger dispersion halos than copper and the overburden of the soil sample locations is assumed to be thick.

The silt samples revealed the presence of one rather subtle anomaly situated in the eastern portion of the claim block. When plotted this anomaly coincides with the massive mineralization encountered during the geological mapping (Figure 2). Values for all elements are substantially higher than the mean for the claim block. Lead, copper, silver and fluorine were the most significant indicators of mineralization, with values up to twice as high as background.

9. CONCLUSIONS

The cathy-1 claim block meets all the conditions necessary for significant massive sulphide mineralization. The geological environment of waning volcanic activity suceeded by sedimentation is considered classic and almost inherent to the development of massive sulphide mineralization. The chert unit which encloses the massive mineralization may be interpeted as representing a period of quiescence within the stratigraphic section and possibly fumarolic activity. Integration of the geology and geochemistry indicates that the mineralization occurs at two distinct locations within the claim block and at roughly the same stratigraphic level. This suggests that the mineralization may be stratiform and likely to extend for the length of the claim block.

Both the soil and silt samples were successful in outlining zones of possible economic interest. The soil samples outline a hidden zone of possible mineralization whereas the silt samples outlined a zone of confirmed mineralization. In addition the soil samples suggested that the possible mineralization may be stratiform, and either covered by thick overburden or composed of spal-erite and galena.

Another feature which enhances the attractiveness of the Cathy-1 claim block is the relative lack of previous work, especially for the western portion. In other words the soil anomaly located in the western portion of the claim block can be considered to be a new find for the Barriere Lakes area. Consequently on that basis it deserves a thorough examination.

10. RECOMMENDATIONS

Recommendations for further work next year should include: 1) line cutting, b) soil sampling, c) a magnetometer survey, d) an E.M. survey, e) more detailed geological mapping,

f) possible drilling, and g) staking of additional claims to the east.

The linecutting should cover both the soil sample anomaly and the mineralized zone which extends along the shore of North Barriere Lake. Two base lines should be cut with cross lines spaced every 100 m. (Figure 16). Stations should be placed every 50 m. on both the bases line and the cross lines. The base line which would cover the soil sample anomaly should originate at ID post 4N/1E of the Cathy-1 claim block and run due south to the Barriere River (approximate total length 1100 m.).

Cross Lines should extend for 500 m. either side of this base line. The remainder of the grid would be controlled by a second base line running west to east. This base line would originate at station BL/11 + 005 of the north-south base line. Cross lines would extend north to the shore of North Barriere Lake and south for 250 m. until station 15 + 00E. is reached, then only the north crosslines should be placed. In all about 3.3 km. (2.0 miles) of baseline and 21.0 km. (13.1 miles) of crossline should be cut.

Soil samples should be taken at 50 m. intervals over the entire grid to chemically outline any further zones of interest. The sampling should also include that portion of the claim block that was sampled last year. In this way the soil sample results could be tied into the geophysical surveys.

A magnetometer survey should be conducted over the entire grid. This would help define geological contacts and zones of possible mineralization. Readings should be taken at 25 m. intervals, with special emphasis placed on the two zones of interest thus far defined.

An E.M. survey, preferably Max-Min. should be conducted over the entire grid. This would test for possible conductors and help define some geological contacts, specifically the graphitic argillite/volcanic contact. Test lines should be run over the central portions of the soil anomaly prior to the commencement of the survey. This should determine the optiman operating conditions such as coil separation and reading spacing for the remainder of the claim block.

Geological mapping should be conducted over the entire claim block. This should be at a scale of 1:5000 and supplement the geological map of this report.

A series of short holes (50 m.) should be planned if the results of the previous surveys continue to be favorable. The two zones of interest thus far defined should be examined, and any new zones of interest.

Additional claims should be staked to the east of the Cathy-1 claim block. This ground is considered favorable as it is a continuation of the mineralized horizon present on the Cathy-1 claim block and the B & B claim block to the east.

BIBLIOGRAPHY

Campbell, R.B., 1963. Adams Lake, British Colubia, Geol. Surv. Can., Map 48-1963

Campbell, R.B. and Tipper, H.W., 1971. Geology of Bonaparte Lake Map-Area, British Columbia, Geol. Surv. Can., Mem. 363

Jones, A.G., 1959. Vernon Map-Area, British Columbia Geol. Surv. Can., Mem. 296

Price, B.J., 1971. Geochemistry at Bloomfield Option and adjacent claims, North Barriere Lake, B.C., Assessment Report 3350 B.C. Dept. of Mines.

APPENDIX A

STATEMENT OF QUALIFICATIONS

I, Brian V. Hall of Kitchener Ontario do hereby certify that:

1) I am a geologist residing at 71 Bingeman Street, Kitchener, Ontario and employed by Beth-Canada Mining Company of Suite 702, 40 University Avenue, Toronto, Ontario

2) I am a graduate of the University of British Columbia, Vancouver, B.C. with a B.Sc. (Geology) (1975) and of the University of Waterloo, Waterloo, Ontario with a M.Sc. (Geology) (1978).

3) I have practised my profession for six summers.

4) I have no beneficial interest in the property discussed in this report, nor do I expect to receive any in the future.

Brian V Hall

Brian V. Hall M.Sc.

APPENDIX B

COST STATEMENT

	Cost
Geochem. Sampling and Geological Mapping	
B. Hall - July 22, 23, 27, 28 August 8, 9, 13, 14; 8 days at $50.00/day	$ 400.00
B. Shultz - July 22, 23, 27, 28 August 8, 9, 13, 14; 8 days at $33.00/day	264.00
115 soil and silt samples - analysed for Cu, Pb, Zn and Ag at $3.90/sample	448.50
12 silt samples - analysed for Cu, Pb, Zn, Ag, Mo, U, and F at $10.75/sample	129.00
	$1,241.50
General	
Truck rental - 8 days at $21.50/day	$ 172.00
Food and accommodation 16 man days at $20.00/day	320.00
Boat rental 4 days at $10.00/day	40.00
	$ 532.00
Report Preparation	
B. Hall - October 23, 24, 25, 26, 27; 5 days at $50.00/day	$ 250.00
Drafting supplies	38.00
Reproduction	17.00
	$ 305.00
Total Cost	$2,078.50

APPENDIX C

GEOCHEM VALUES

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mo ppm	U ppm	F ppm
395	62	57	126	0.2			
396	43	54	160	0.2			
397	27	40	184	0.2			
398	22	37	86	0.2			
399	49	56	185	0.2			
400	29	71	214	0.2			
401	29	51	134	0.2			
402	49	67	235	0.2			
403	34	68	425	0.2			
404	20	42	325	0.2			
405	13	12	120	0.2			
406	12	12	143	0.2			
407	9	9	67	0.2			
408	9	11	77	0.2			
409	22	11	51	0.2			
410	7	9	44	0.2			
411	8	6	49	0.2			
412	3	7	33	0.2			
413	7	13	43	0.2			
414	6	8	25	0.2			
415	9	11	53	0.2			

300 [illegible]
500 [illegible]
salaries
vehicles

APPENDIX C

GEOCHEM VALUES

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mo ppm	U ppm	F ppm
416	10	9	58	0.2			
417	15	23	182	0.2			
418	33	43	378	0.5			
419	56	50	282	0.4			
420	67	71	272	0.2			
421	85	93	445	1.1			
422	95	100	1370	0.5			
423	47	49	398	0.2			
424	53	61	178	0.2			
425	37	41	152	0.2			
426	37	71	222	0.2			
427	18	54	210	0.2			
428	37	59	134	0.2			
429	21	40	108	0.2			
430	55	66	140	0.2			
431	44	57	168	0.2			
432	42	50	110	0.2			
433	22	49	118	0.2			
434	24	43	115	0.2			
435	25	45	156	0.2			
436	23	43	108	0.2			

275 mile

APPENDIX C

GEOCHEM VALUES

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mo ppm	U ppm	F ppm
437	26	39	122	0.7			
438	42	55	146	0.2			
439	25	61	416	0.2			
440	42	62	750	0.2			
441	41	54	430	0.2			
442	32	48	366	1.0			
443	29	36	271	0.9			
444	9	20	74	0.6			
445	18	38	251	0.2			
446	24	31	258	0.2			
447	24	25	159	0.2			
448	20	21	118	0.2			
449	8	11	33	0.2			
450	10	16	85	0.2			
451	65	51	103	0.2			
452	37	45	137	0.2			
453	26	31	128	0.2			
454	65	55	275	0.2			
455	42	56	210	0.2			
456	38	39	157	0.2			
457	59	75	410	0.2			
458	36	73	196	0.2			

APPENDIX C

GEOCHEM VALUES

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mo ppm	U ppm	F ppm
459	31	53	174	0.2			
460	63	136	530	9.2			
461	52	87	342	0.2			
462	57	70	1280	0.5			
463	19	29	481	0.2			
464	15	12	131	0.7			
465	17	12	66	0.2			
466	12	10	89	0.2			
467	6	9	43	0.2			
468	8	9	51	0.2			
469	14	11	57	0.2			
470	15	12	270	0.2			
471	8	10	62	0.2			
487	29	22	66	0.2	3	1	250
488	31	23	61	0.2	5	0.6	205
489	39	25	79	0.2	3	0.4	230
490	48	22	103	0.2	3	0.4	305
491	15	8	173	0.2	4	0.6	185
492	54	52	147	0.5	2	0.4	430
493	61	66	142	1.3	3	0.4	340
494	67	64	98	0.5	3	0.6	430

APPENDIX C

GEOCHEM VALUES

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mo ppm	U ppm	F ppm
495	96	87	172	0.7	4	0.8	490
496	100	100	181	0.9	6	0.8	570
497	96	102	186	0.9	5	0.8	420
499	14	2	14	0.2	4	<0.2	190
551	68	97	188	0.4			
552	63	108	193	0.6			
553	65	82	203	0.5			
554	62	37	123	0.2			
709	48	53	196	0.6			
710	55	50	194	0.3			
711	17	20	131	0.4			
712	32	38	122	0.4			
713	79	200	790	0.5			
714	53	60	199	0.2			
715	29	76	710	0.4			
716	44	140	900	0.7			
717	107	360	850	0.6			
718	69	72	660	0.4			
719	9	12	94	0.3			
720	18	18	86	0.4			
721	16	15	74	0.6			

APPENDIX C

GEOCHEM VALUES

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Mo ppm	U ppm	F ppm
722	12	10	50	0.2			
723	11	14	79	0.3			
724	12	12	56	0.2			
725	11	14	56	0.2			
726	11	14	75	0.2			
727	13	14	91	0.2			
728	8	10	88	0.2			
733	54	21	69	0.2			
734	84	60	154	0.3			
735	55	48	265	0.8			
736	74	64	203	0.6			
737	37	41	128	0.2			
738	29	26	170	0.8			
739	31	41	91	0.5			
740	45	66	194	0.5			
741	57	44	179	0.2			
742	27	50	156	0.3			
743	37	62	157	0.2			
744	60	63	173	0.3			
745	55	58	137	0.5			
746	46	48	342	0.3			

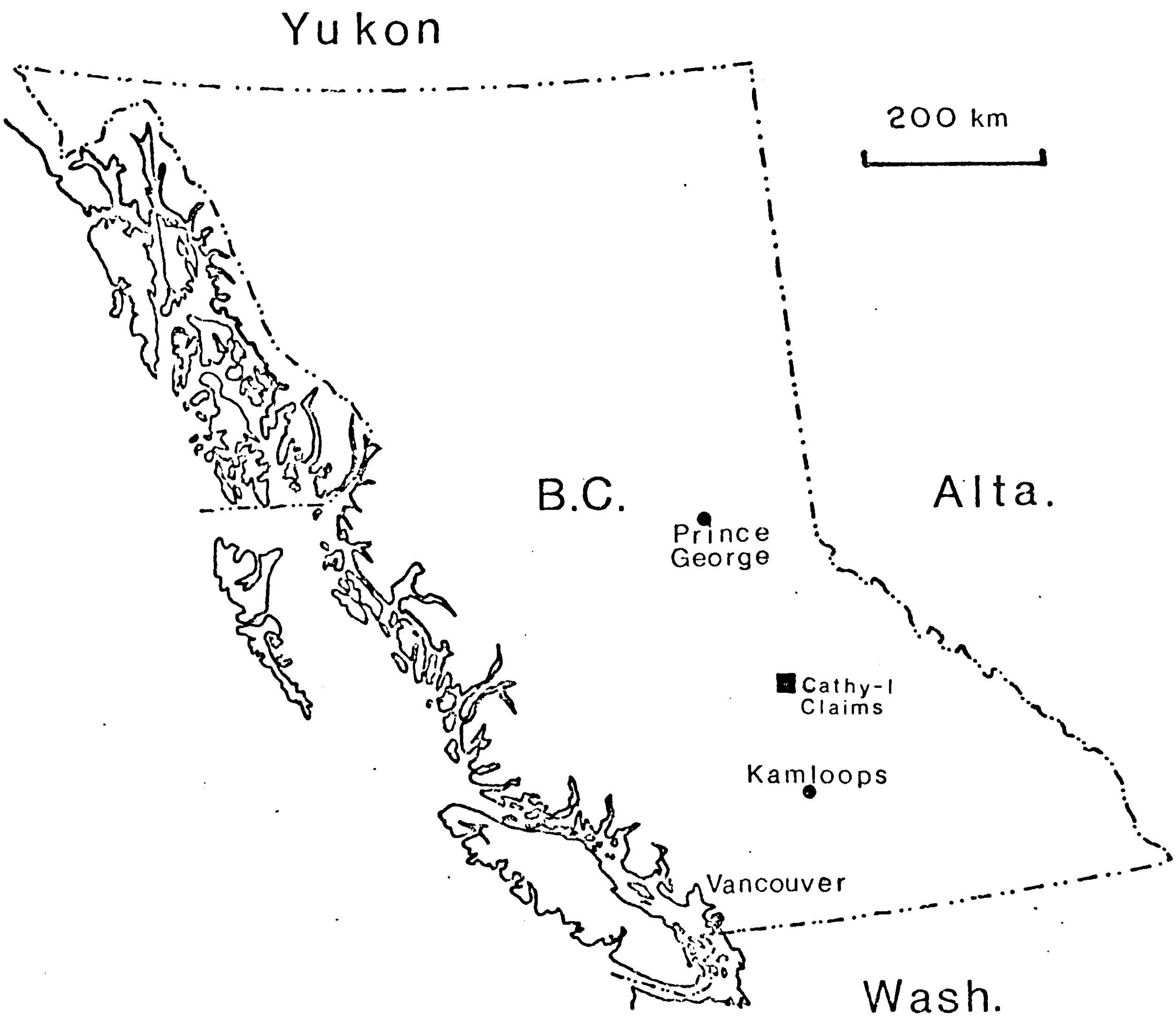


FIGURE 1: LOCATION MAP

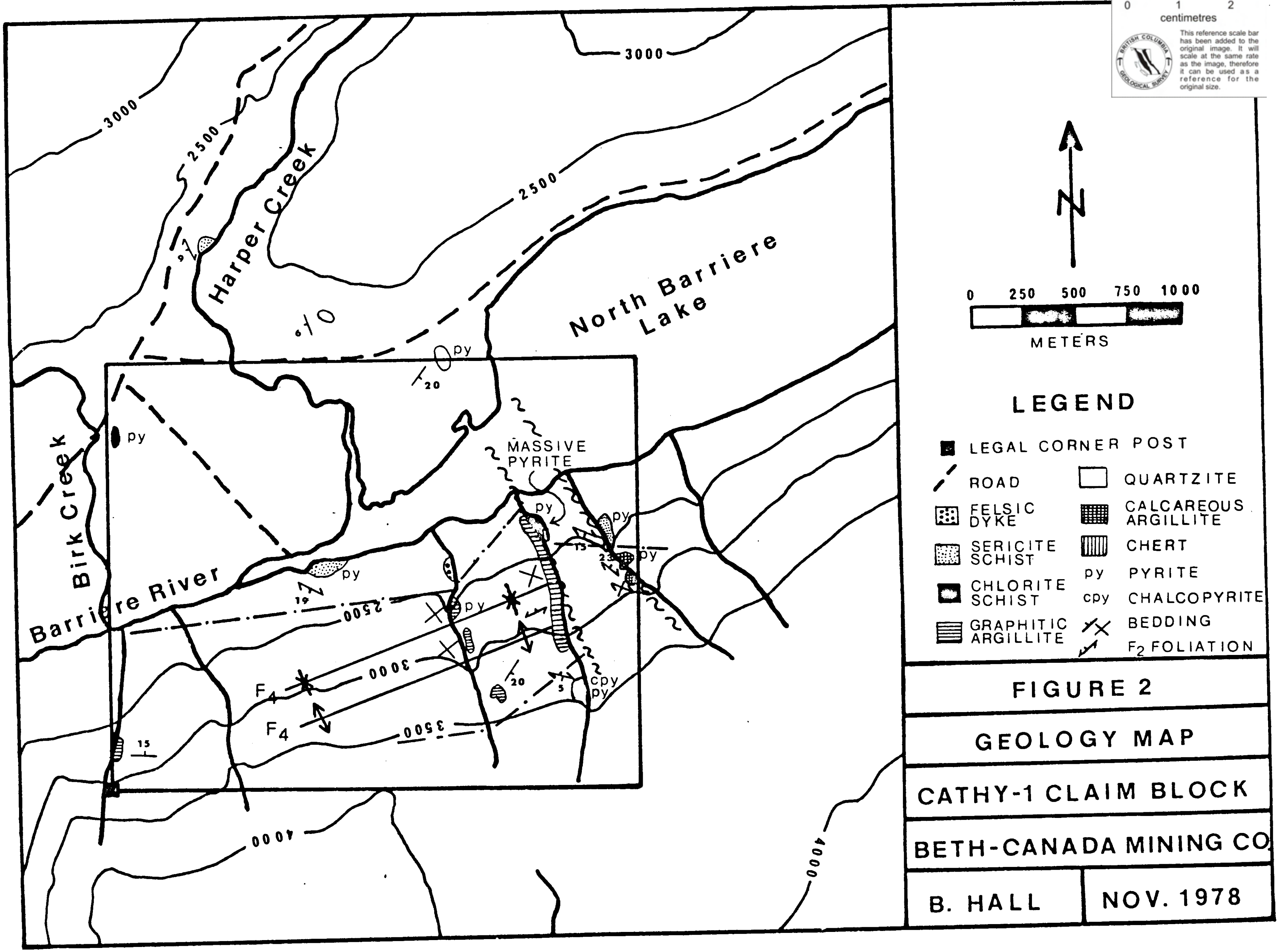


FIGURE 2

GEOLOGY MAP

CATHY-1 CLAIM BLOCK

BETH-CANADA MINING CO

B. HALL | NOV. 1978

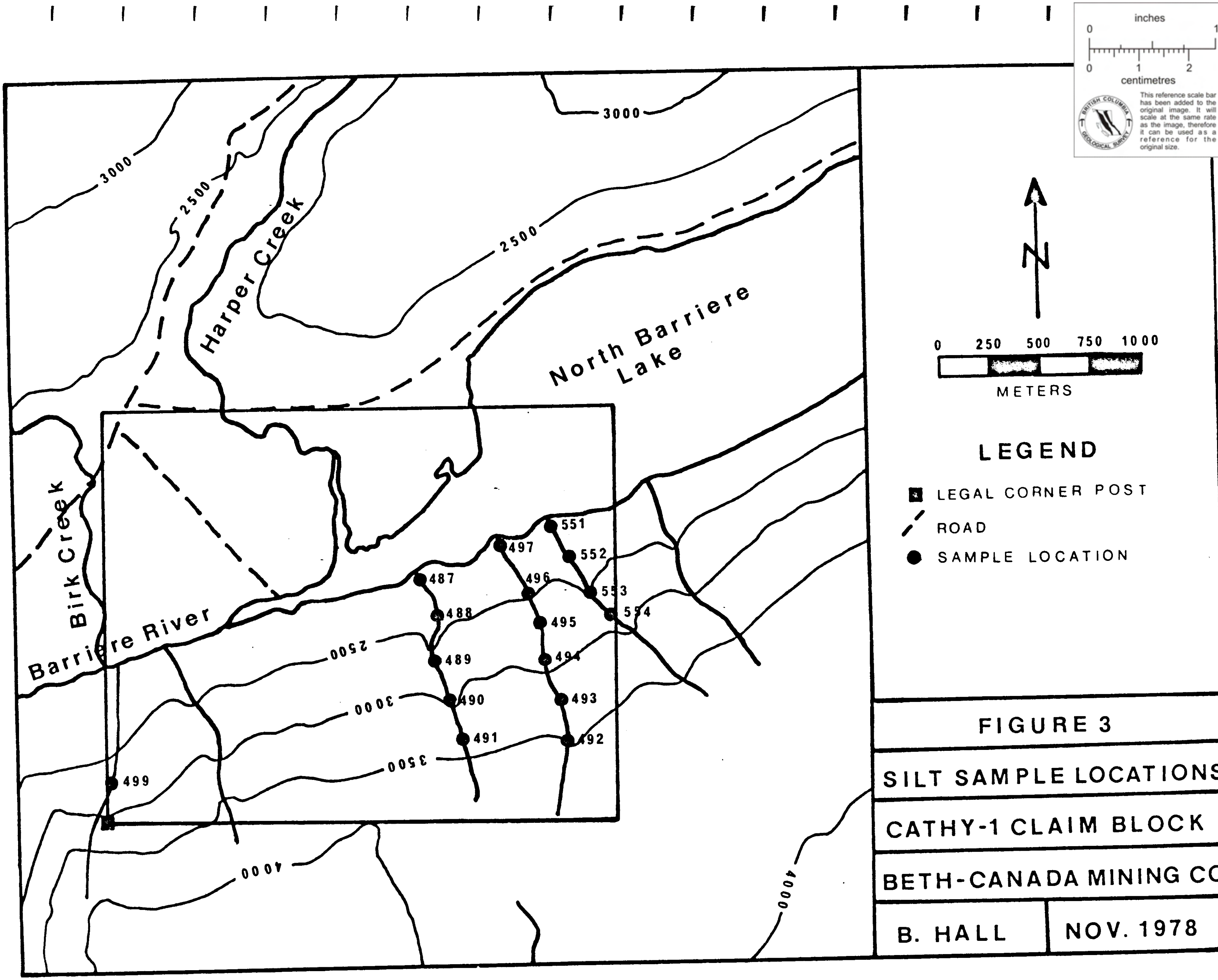


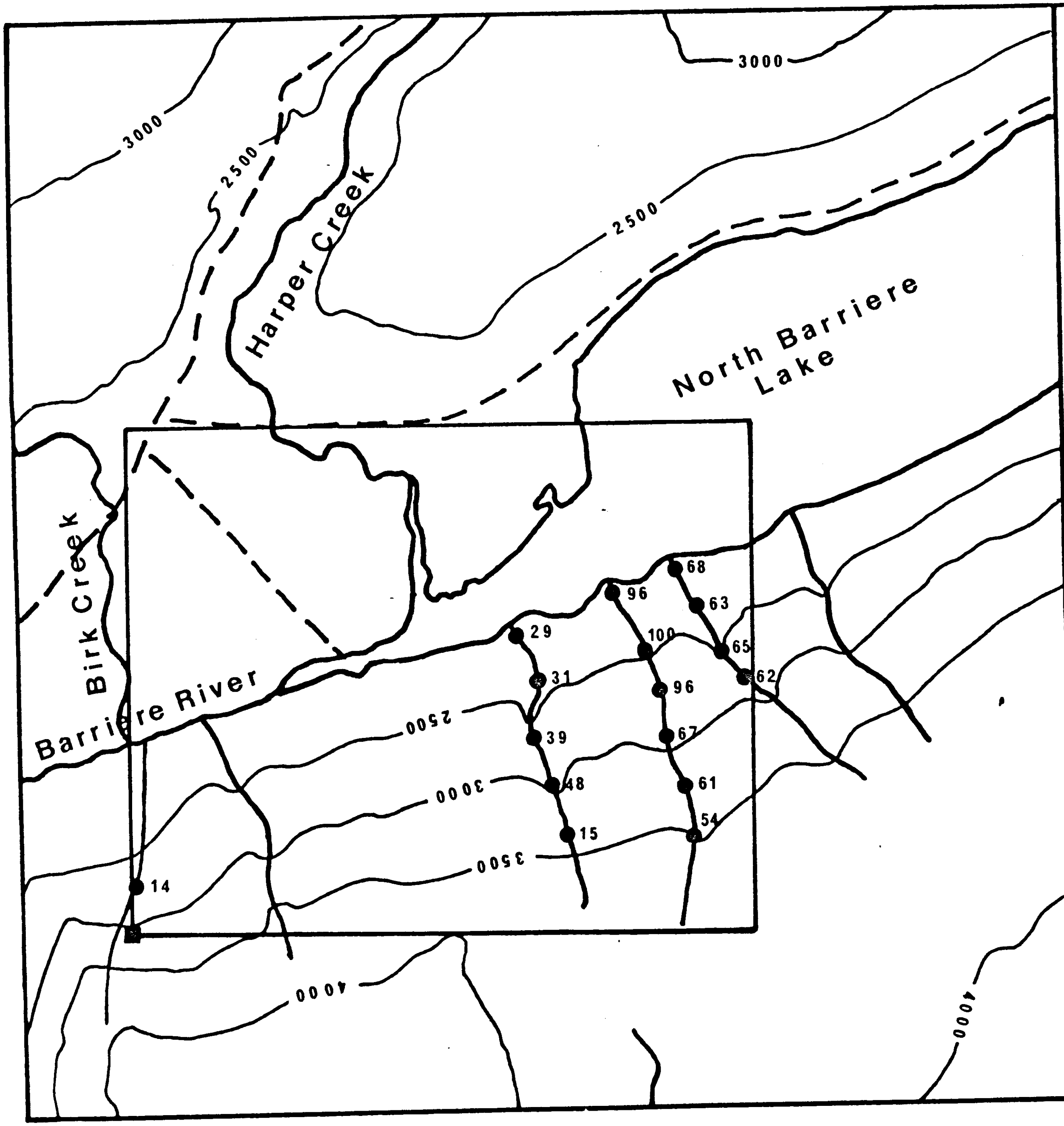
FIGURE 3

SILT SAMPLE LOCATIONS

CATHY-1 CLAIM BLOCK

BETH-CANADA MINING CO.

B. HALL | NOV. 1978



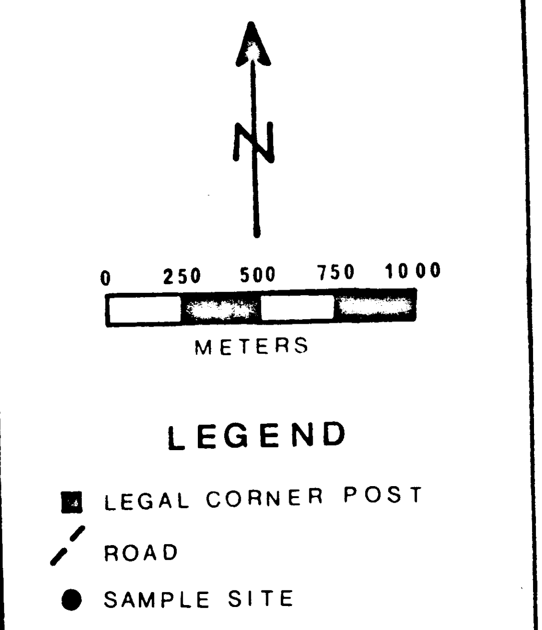


FIGURE 4

COPPER (p.p.m.)

CATHY-1 CLAIM BLOCK

BETH-CANADA MINING CO.

B. HALL | NOV. 1978

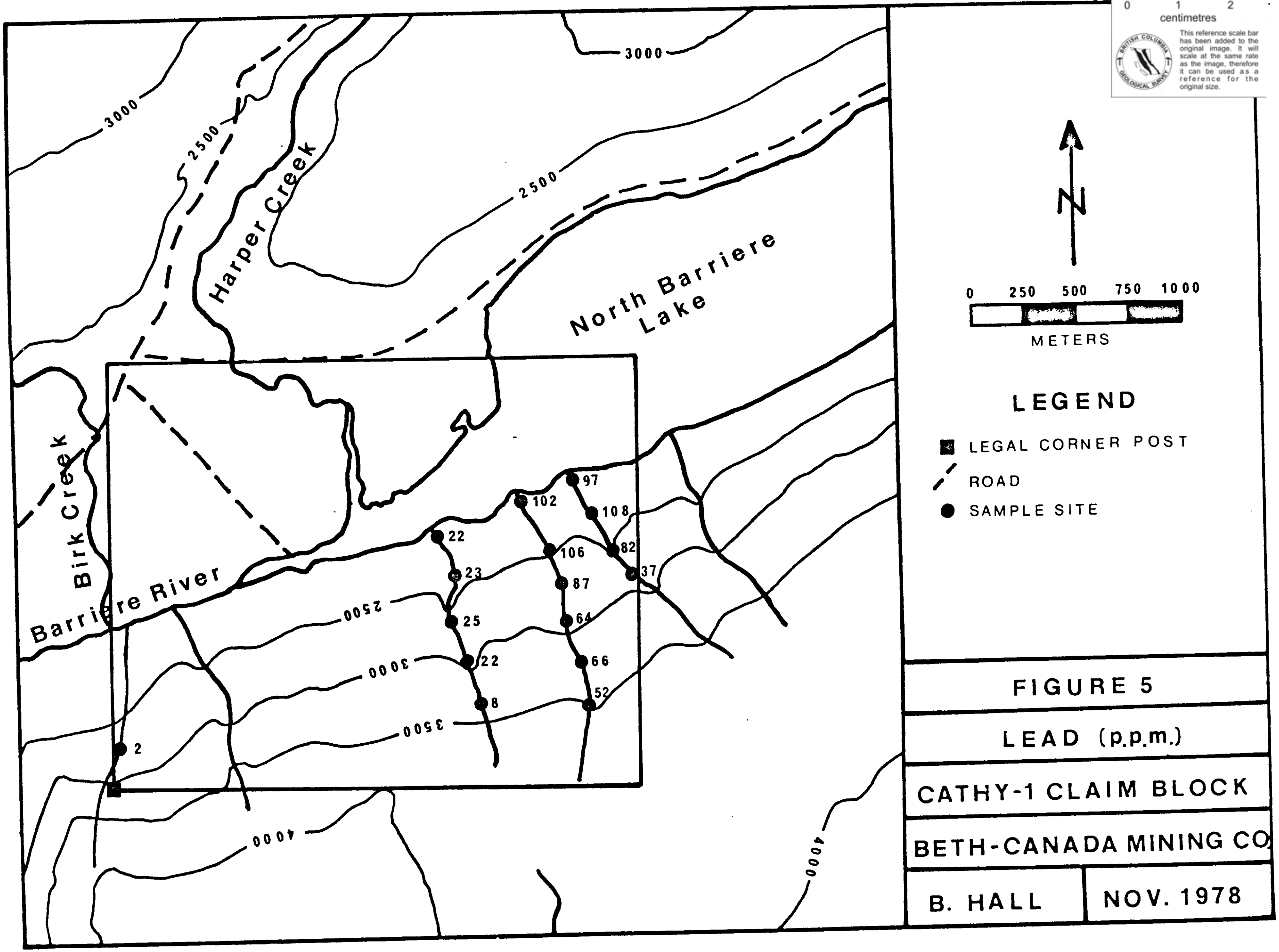


FIGURE 5

LEAD (p.p.m.)

CATHY-1 CLAIM BLOCK

BETH-CANADA MINING CO

B. HALL

NOV. 1978

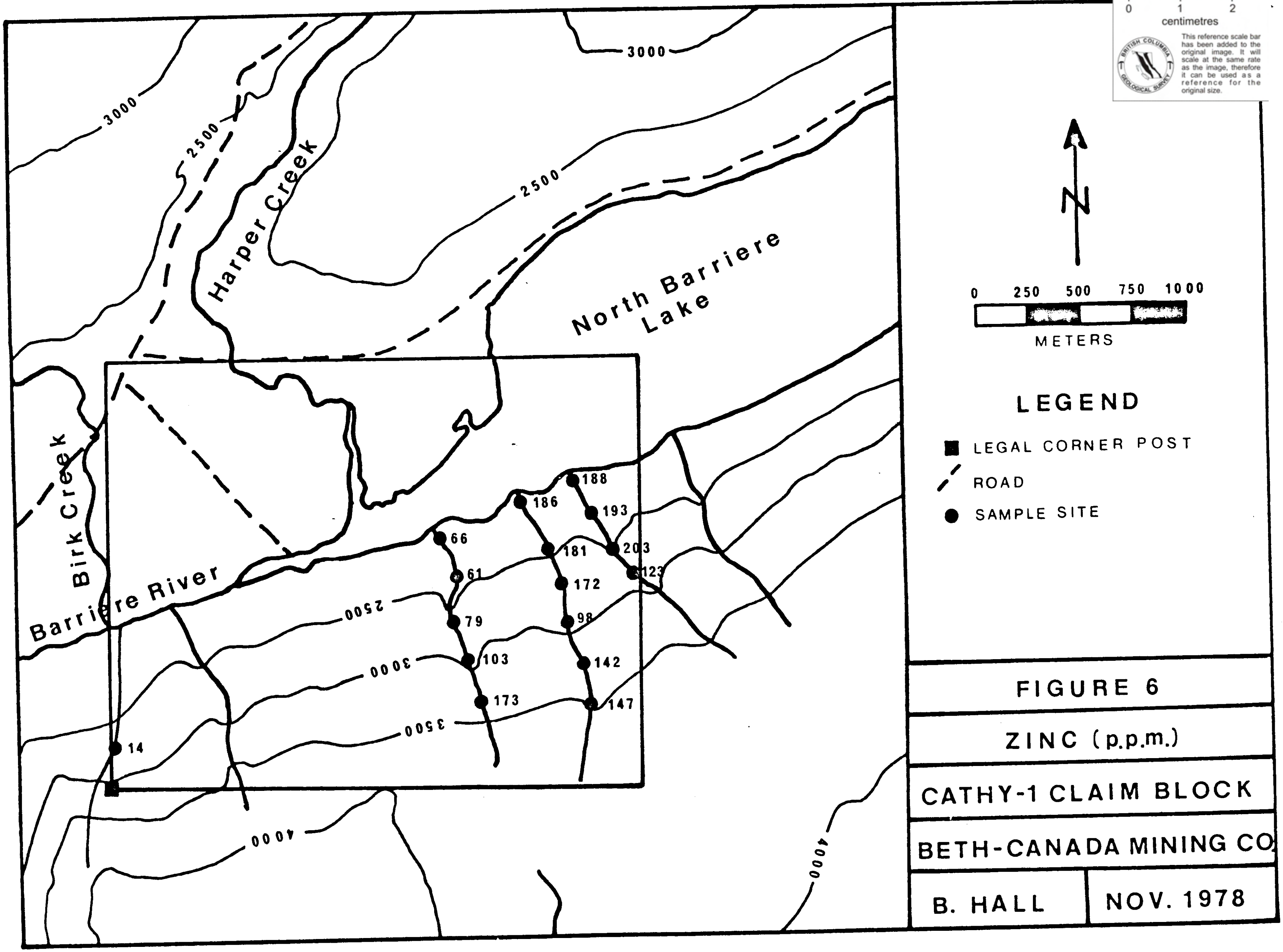


FIGURE 6

ZINC (p.p.m.)

CATHY-1 CLAIM BLOCK

BETH-CANADA MINING CO.

B. HALL | NOV. 1978

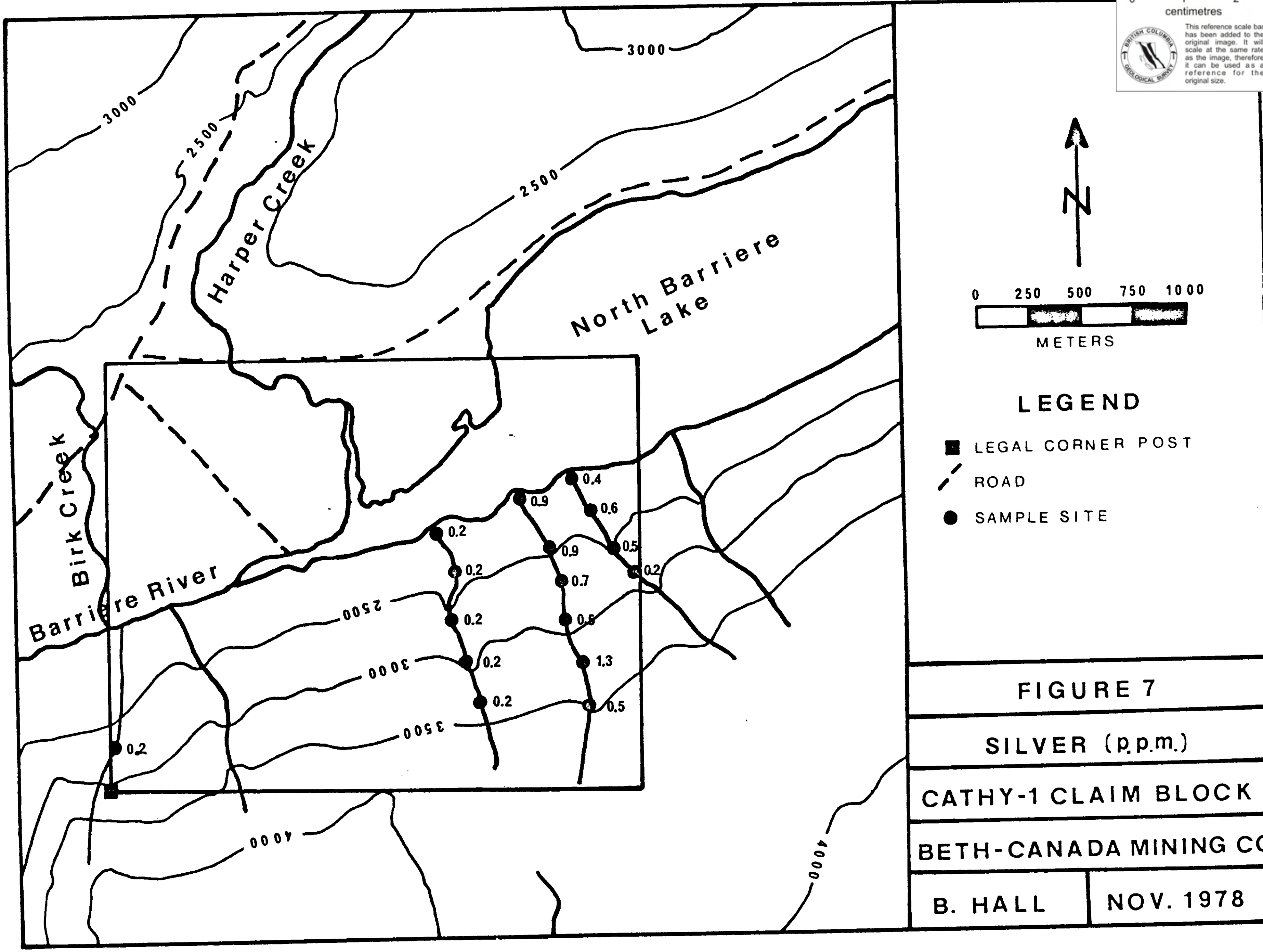


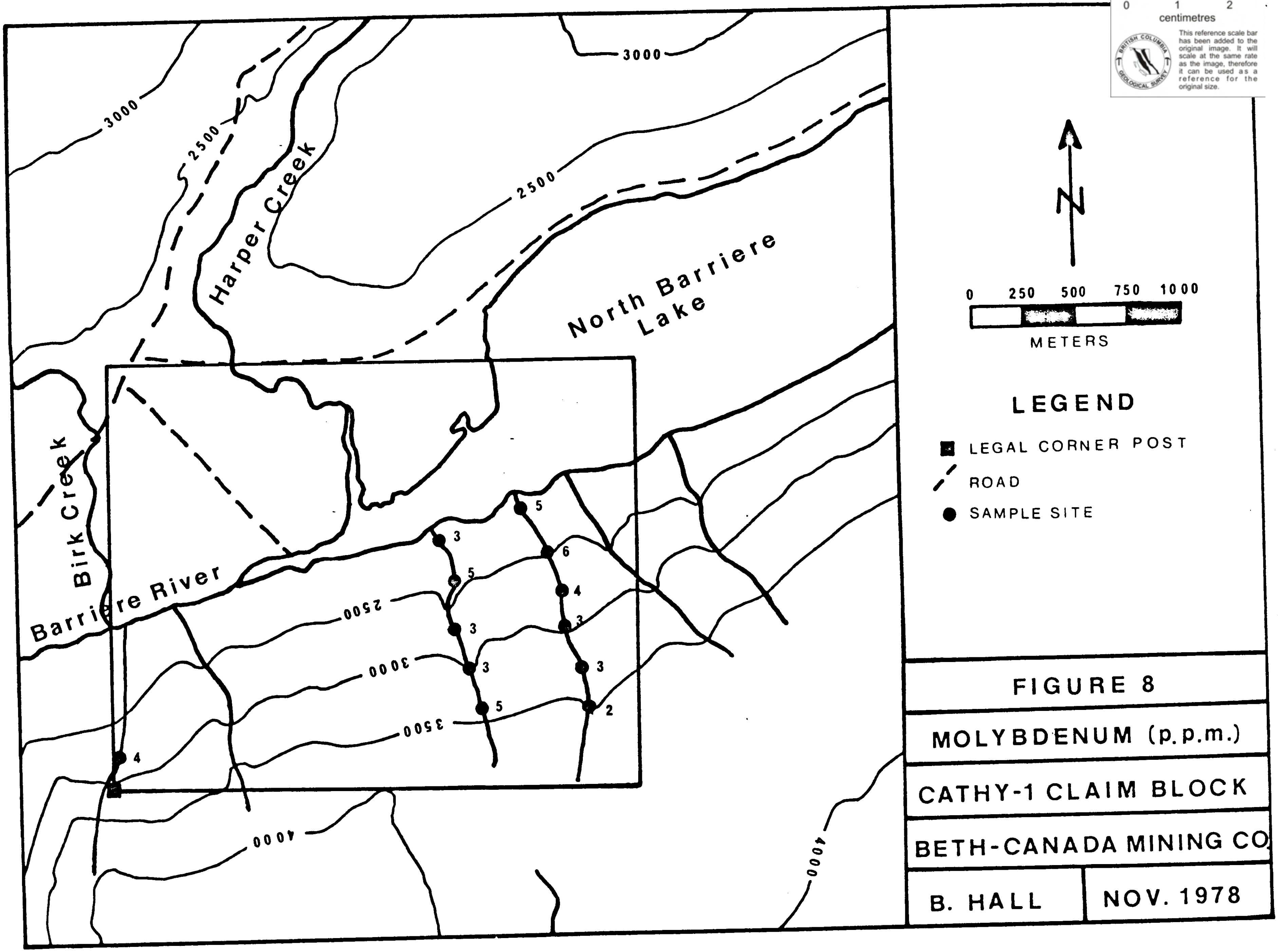
FIGURE 7

SILVER (p.p.m.)

CATHY-1 CLAIM BLOCK

BETH-CANADA MINING CO.

B. HALL | NOV. 1978


Harper Creek
Birk Creek
North Barriere Lake
Barriere River
3000
2500
3500
4000
0 250 500 750 1000
METERS
LEGEND
LEGAL CORNER POST
ROAD
SAMPLE SITE
FIGURE 8
MOLYBDENUM (p.p.m.)
CATHY-1 CLAIM BLOCK
BETH-CANADA MINING CO
B. HALL
NOV. 1978

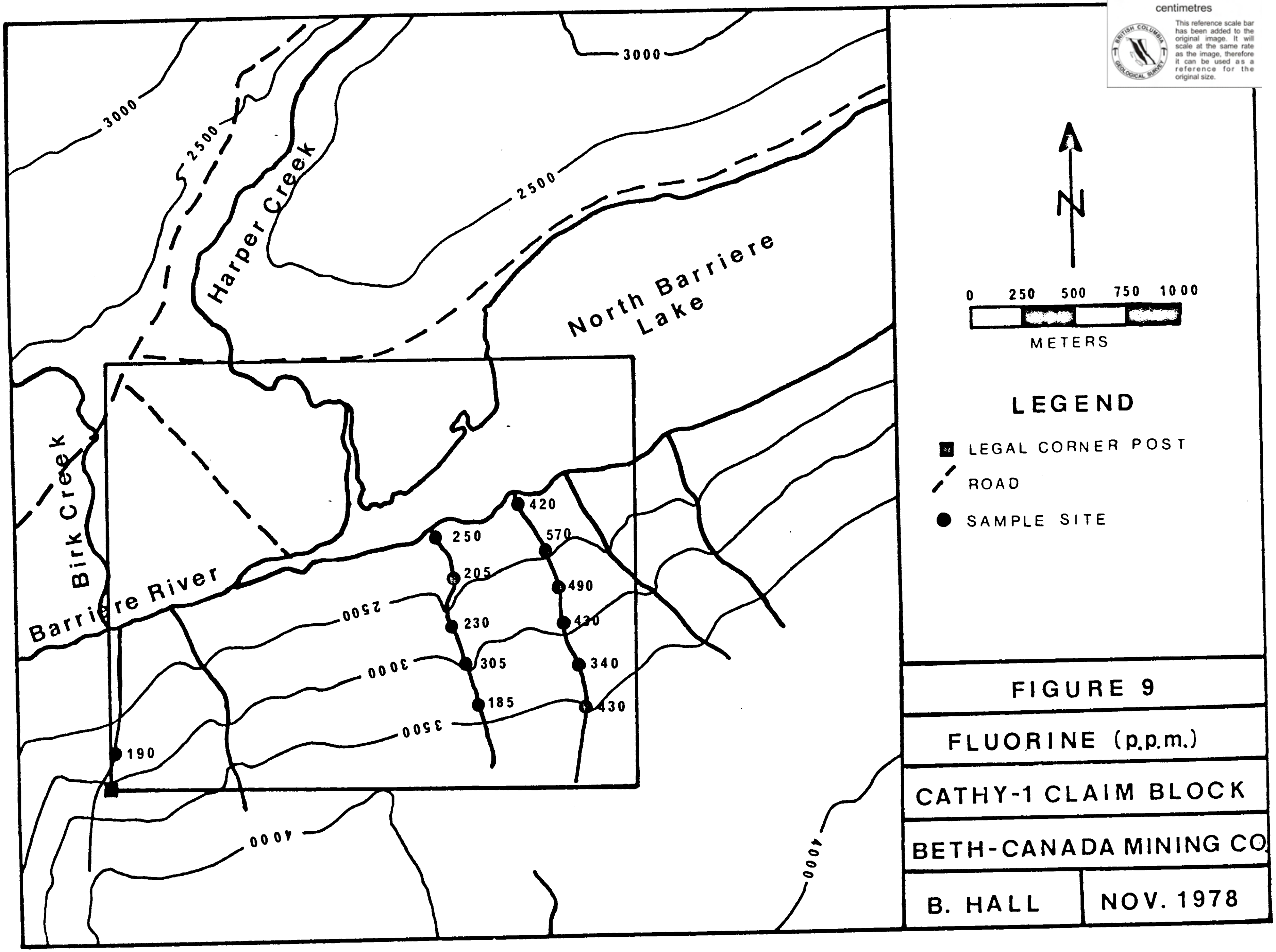


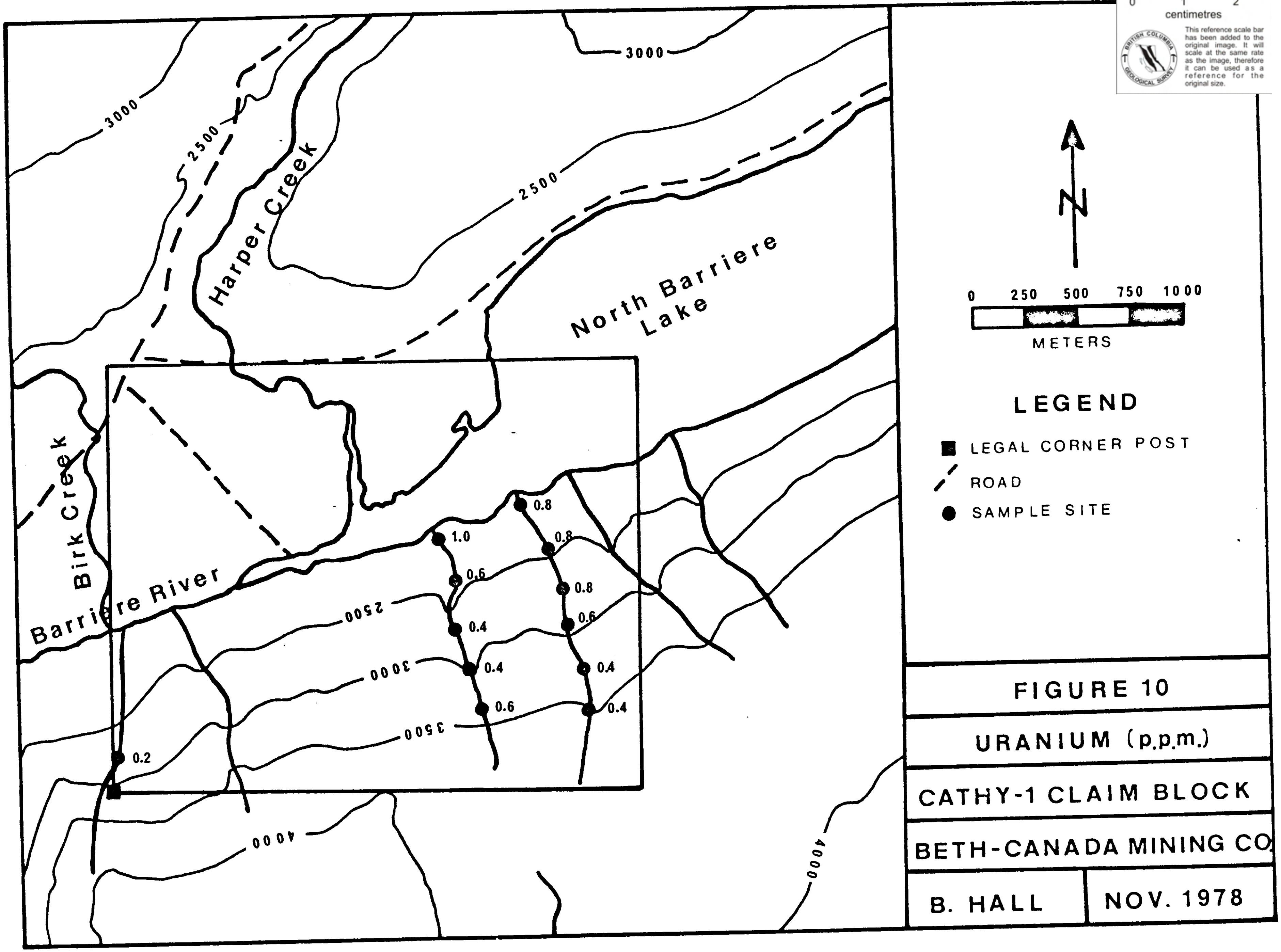
FIGURE 9

FLUORINE (p.p.m.)

CATHY-1 CLAIM BLOCK

BETH-CANADA MINING CO.

B. HALL | NOV. 1978


3000
2500
Harper Creek
North Barriere Lake
Birk Creek
Barriere River
3500
4000
1.0
0.8
0.6
0.4
0.2
N
0 250 500 750 1000
METERS
LEGEND
LEGAL CORNER POST
ROAD
SAMPLE SITE
FIGURE 10
URANIUM (p.p.m.)
CATHY-1 CLAIM BLOCK
BETH-CANADA MINING CO.
B. HALL
NOV. 1978

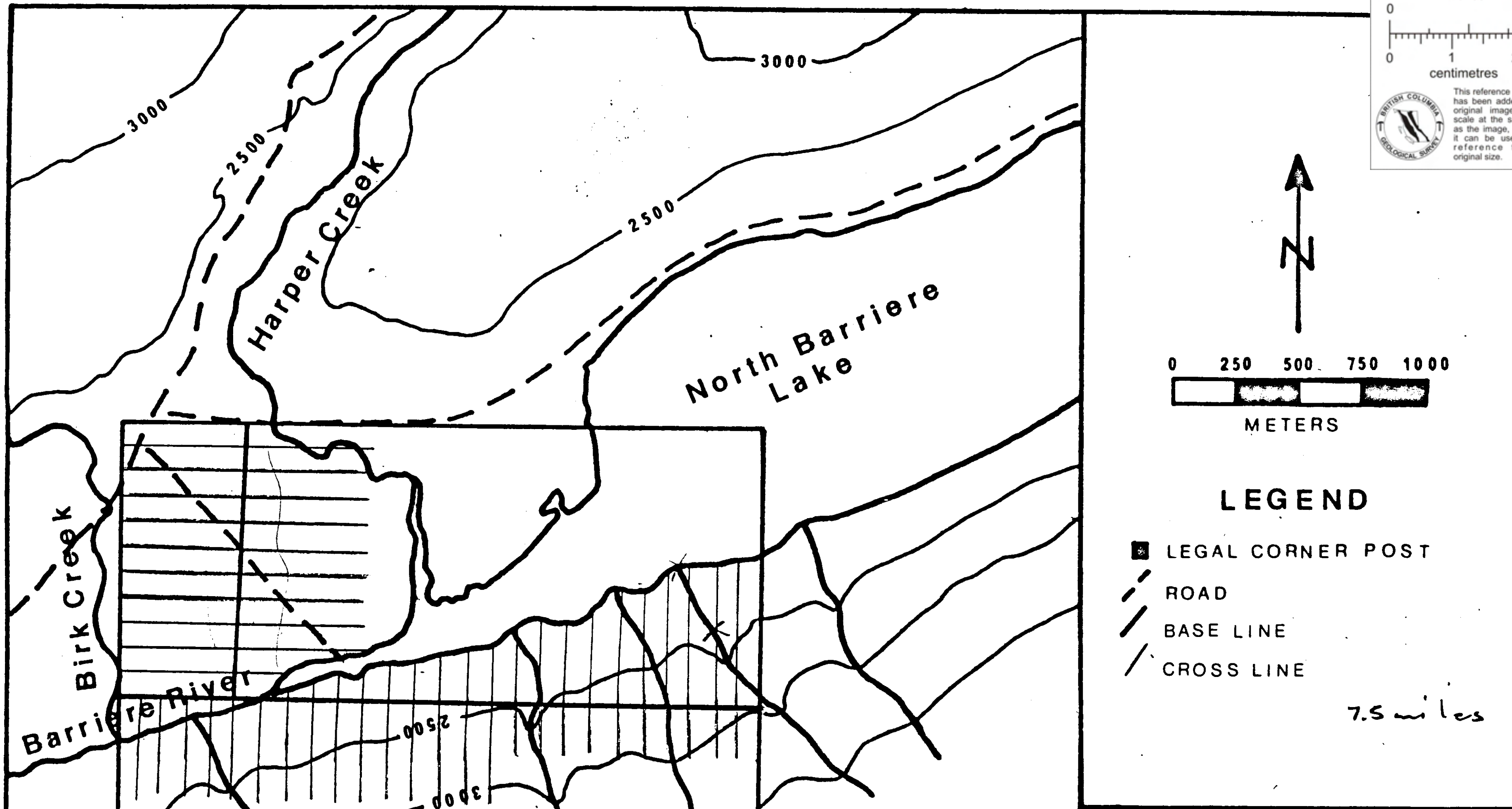


FIGURE 16

PROPOSED LINE CUTTING

CATHY-1 CLAIM BLOCK

BETH-CANADA MINING CO

B. HALL | NOV. 1978