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REPORT ON THE STREAM SEDIMENT
AND SOIL FOLLOW-UP SURVEY
ANOMALY 1A (NORTH) KETTLE RIVER AREA
BRITISH COLUMBIA
FOR KELVIN ENERGY LTD.
CALGARY, ALBERTA

PART 2 OF 9

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REPORT ON THE STREAM SEDIMENT AND SOIL FOLLOW-UP SURVEY ANOMALY 1A (NORTH) KETTLE RIVER AREA BRITISH COLUMBIA FOR KELVIN ENERGY LTD. CALGARY, ALBERTA

Claims: Jim 7, Jim 8, Jim 9 and Sim 3

Location: Located on Map 82E/15E and bounded by longitudes 118° 41' 30", 118° 42' 00" and latitudes 49° 45' 45", 49° 47' 30" in the Greenwood Mining District

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DECEMBER, 1978

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ANOMALY 1A - NORTH

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SUMMARY

In August 1978, Barringer Magenta conducted follow-up stream sediment and soil surveys at the northern part of Anomaly 1A discovered during a previous semi-detailed reconnaissance stream sediment program (Lahti, 1978). The follow-up work was done on Jim 7, Jim 8 and Sim 3 claims staked by Kelvin Energy Limited in June 1978 and located between the Kettle River and Rendell Creek.

Thirty-three (33), 340 and 11 stream sediment, soil and rock chip samples, respectively, were collected and analysed for uranium (fluorimetric), copper, lead, zinc, silver and nickel (atomic absorption). Due to the remoteness of the area, helicopter support was used during all phases of work.

To aid in interpretation, threshold values and anomalous levels were selected empirically from frequency histograms of the individual elements. Significant geochemical features were classified according to size, continuity, amplitude, geological and physiographic settings.

The stream sediment follow-up survey did not indicate any significant uranium anomalies. Several single point uranium anomalies were identified on the soil grid but they have been downgraded because of their association with high organic carbon content in the soil. None of the base metal features are thought to be related to any significant mineralization. Although no first class anomalies were discovered, several of the more significant features, particularly 1B, 2C and 5C warrant additional work. Further work on these anomalies is considered much less important than follow-up of others within the total survey area.

1. INTRODUCTION

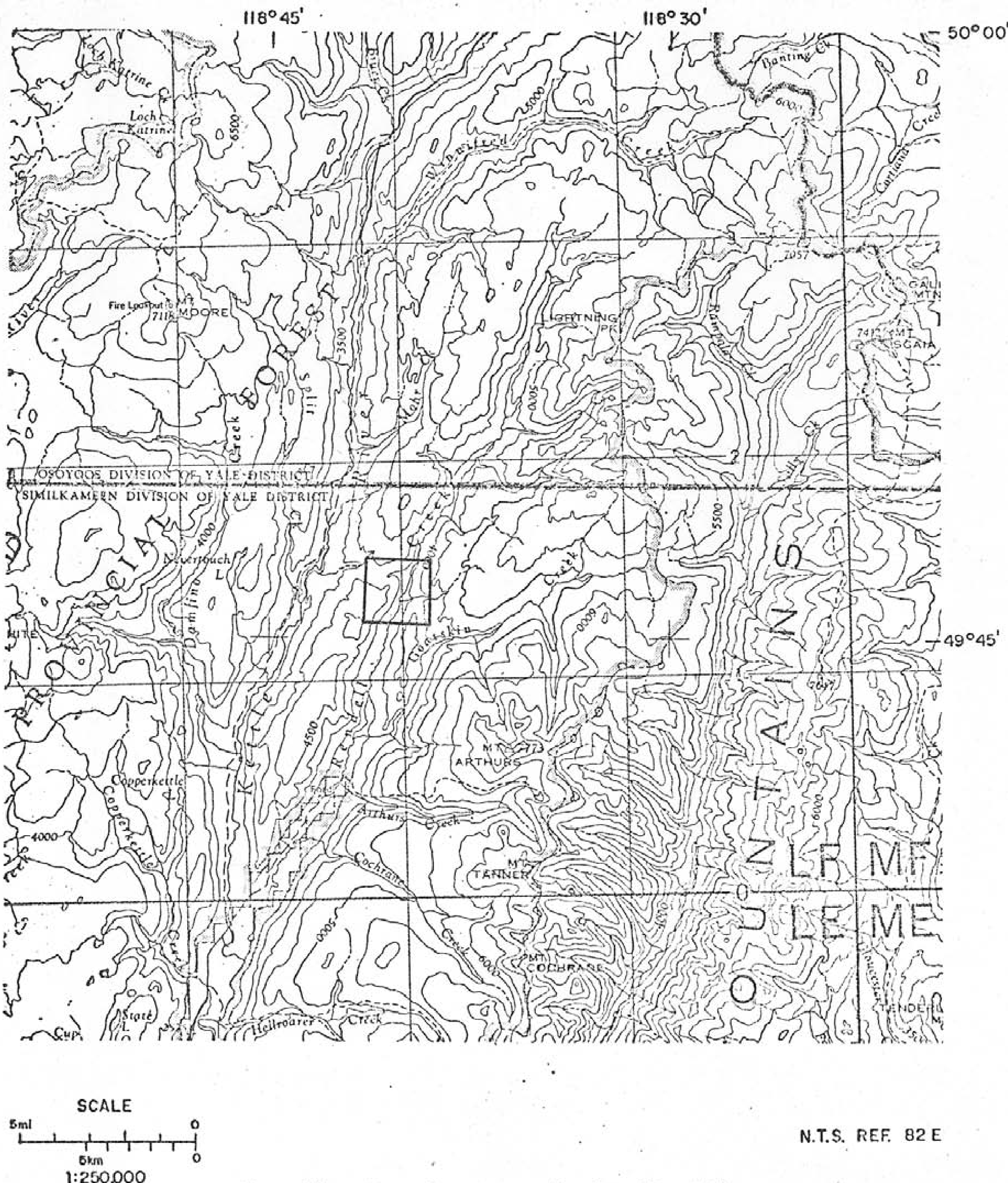
1.1 GENERAL STATEMENT

The mineral claims referred to in this report (Dwg. 208-42-401, see back of report) were staked or optioned by Kelvin Energy Ltd. during 1978. The claim statistics are given in Table 1.

TABLE 1

CLAIM STATISTICS

Claim Name	Units	Tag No.	Date of Record	Record Number	Mining Division
Jim 7	16	31836	Staked but not yet recorded June 9/78	1128	Greenwood
Jim 8	20	31837	As above	1129	Greenwood
Jim 9	4	31838	As above	1130	Greenwood
Sim 3	20	31841	June 9/78	1108	Greenwood



Location Map for Anomaly 1A (North)

Fig. 1

A detailed stream sediment and soil survey was completed in August, 1978 by Barringer Magenta. The object was to further delimit the second order uranium anomalies (referred to as anomaly "1A North" in the reconnaissance report, Lahti, 1978) which appeared to originate from the north end of a Tertiary plateau basalt. A total of 33, 340 and 11 stream sediment, soil and rock chip samples, respectively, were collected and analysed for uranium, copper, lead, zinc, silver and nickel. Gamma radiation was monitored using scintillometers (Exploranium Model GR-101A) during the collection of samples.

1.2 LOCATION AND ACCESS

The survey area is located about 18 km. up Rendell Creek from its junction with the Kettle River (see Fig. 1). A gravel road terminates about 10 km. up the Rendell Creek at a ranch. The Christian Valley gravel road comes to within 4 km. of the survey area on the west side of the Kettle River. The easiest method of reaching this area is by helicopter, which can be rented in Penticton or Vernon.

TABLE 2

ROCK CHIP DATA FOR ANOMALY 1A NORTH

Sample Number (NLFR)	Location	U	Cu	Pb	Zn	Ag	Ni	Rock Description
1	NLFS-185 Line 6	.7	125	165	1500	1.2	25	Basalt or mafic dyke
2	NLFS-244 Line 4	---	N.D.		---			Granite Gneiss
110	NLFS-1062 Line 7	1.1	20	17	55	.3	59	Granite Gneiss with hornblende and biotite (moderate weathering)
111	NLFS-1073 Line 7	.5	19	20	66	.3	55	Granite with hornblende and biotite (moderate alteration)
112	About NLFS-1089 Line 7	.2	23	27	150	.8	34	Granite with hornblende and biotite (moderate alteration)
116	NLFS-1163 Line 5	1.0	19	14	88	1.0	18	Sheared Granite
117	NLFS-1191 Line 5	.8	10	16	71	.6	14	Sheared Granite
118	NLFS-1206 Line 5	3.0	5	9	65	.2	6	Diorite
119	NLFS-1216 Line 3	1.2	6	5	78	.2	6	Hornblende - biotite granite gneiss
120	NLFS-1239 Line 3	.8	2	8	36	<.2	1	Granite gneiss
121	NLFS-1263 Line 3	2.2	10	11	72	.2	3	Biotite Granite gneiss

2. GEOLOGY

The principal rocks underlying the survey area are paragneiss and minor crystalline limestone and pegmatites of the Monashee and Grand Forks Groups (Little, 1957). The only rock type encountered along the soil grid were paragneisses and possibly mafic dykes. The foliation of the gneissic rocks is parallel to strong north-south striking faults and shear zones.

Eleven (11) rock chip samples were collected to examine uranium and base metal variation in the bedrock (Table 2). The uranium content averages (arithmetic) 1.05 ppm which is within the normal range for gneissic rocks. One rock sample NLFR-118 which contains 3.0 ppm uranium is considered to be a high background sample. The higher copper, zinc and nickel values are from the more mafic rich parts of the paragneiss. Sample NLFR-1 which has values of 125, 165 and 1500 for copper, lead and zinc, respectively, contained no visible sulphides and is believed to be a basalt or altered mafic dyke.

Occurring about one kilometre to the south of the survey grid is a large northeast-southwest trending Tertiary basaltic cap. The ranking of the uranium second order anomaly in a stream draining north and east from this basaltic cap, was upgraded to a first order anomaly because of the known close association of uranium deposits to the sediments underlying the plateau basalt in the Beaverdell area.

3. TOPOGRAPHY, CLIMATE, DRAINAGE, VEGETATION, SOIL

3.1 TOPOGRAPHY

The survey area is found in a saddle between two northeast-southwest trending mountains. The edges of the saddle exceeds 1,303 m. while the bottom of the saddle is at an elevation of 1,090 m.

The micro-topography is severe with numerous steep walled north-south striking gulleys. The east side of the saddle drops off steeply to Rendell Creek.

3.2 CLIMATE

The climate is, for the most part, wet and cool although not as severe as the coastal areas of British Columbia. Summers are cool, 10-20°C, with frost occurring in late June and again in August. During short periods in July and August temperatures can exceed 30°C.

3.3 DRAINAGE

The Kettle River and Rendell Creek form the western and eastern boundaries respectively of the survey area. Within the soil grid there are only two streams of any importance and they are identified by numbers 1 and 2. Stream 1 (Dwg. 208-42-401) is located in the northwestern part of the soil grid and due to time constraints was not sampled in detail. Stream 2 originates at the north edge of the plateau basalt and drains into the saddle area where it turns east and exits into the Rendell Creek. Both streams have intermittent flow during July and August. All other minor tributaries flow during the spring thaw, after occasional summer thunder storms and after fall rains.

3.4 VEGETATION

The Rendell Creek valley has a well developed mature forest of cedars, western larch, fir and hemlock with occasional specimens reaching 60 m. in height. Where forest fires have burnt the original forest, usually only the larch survive. The new growth consists of an incredible tangle of fir, cedars and alders. The well drained flanks of the saddle have a new growth of pines. Devils club grows to a height of 1.5 m. along the major streams.

3.5 SOIL

Two pinciple types of soils have developed depending on the topography. On the well drained flanks of the hills, soil profiles show discrete L, H, A, B and C horizons. In places where the soil is thin, the above mentioned horizons may be much reduced in thickness or absent. The soils with a loam texture have B horizons that are generally dark reddish brown but occasionally can be bright yellow.

Soils in the bottom of the saddle have a much thicker (5-15 cm.) L and H horizon with the A horizon sometimes absent. The B horizon tends to be much darker (due to the elluviation of organic matter from the H horizon), much richer in clay and in many cases, water saturated.

4. GEOCHEMISTRY

4.1 GENERAL STATEMENT

Stream sediment and soil sampling was conducted during the same period. The purpose of the follow-up soil and stream sediment survey was to delimit a second order uranium anomaly in stream 2 that was discovered during the general semi-detailed stream sediment survey completed earlier in the summer (Lahti, 1978) and labelled "Anomaly 1A" in that report.

Due to time constraints, only stream 2 could be sampled in detail. This stream was sampled in preference over stream 1 because its source is located near the contact with a Tertiary plateau basaltic cap. The soil grid was run at 115^{o} approximately perpendicular to the regional structure. (Line 1 could not be sampled due to time constraints.)

Details on field methods and analytical techniques are given in Appendix III.

4.2 RESULTS

The stream sediment uranium, copper, lead, zinc, silver and nickel results are listed in Appendix IV and are plotted on two maps, a uranium raw data map (Dwg. 208-42-402) and a copper, lead, zinc, silver and nickel raw data map (Dwg. 208-42-403). The soil data is also listed in Appendix IV and a uranium plus interpretation map (Dwg. 208-42-404) was prepared along with a copper, lead, zinc map (Dwg. 208-42-405) and a silver-nickel map (Dwg. 208-42-406). It was deemed unnecessary to prepare a base metal interpretation map. All of the above maps including a separate map with sample number, location, claim name and boundaries (Dwg. 208-42-401) are presented at a scale of 1:10,000. The base maps were prepared from enlargements of NTS topographical map 82E/15E at a scale of 1:50,000. The rock chip results are tabulated in Table 2, section 2, and plotted on the appropriate maps.

4.3 INTERPRETATION

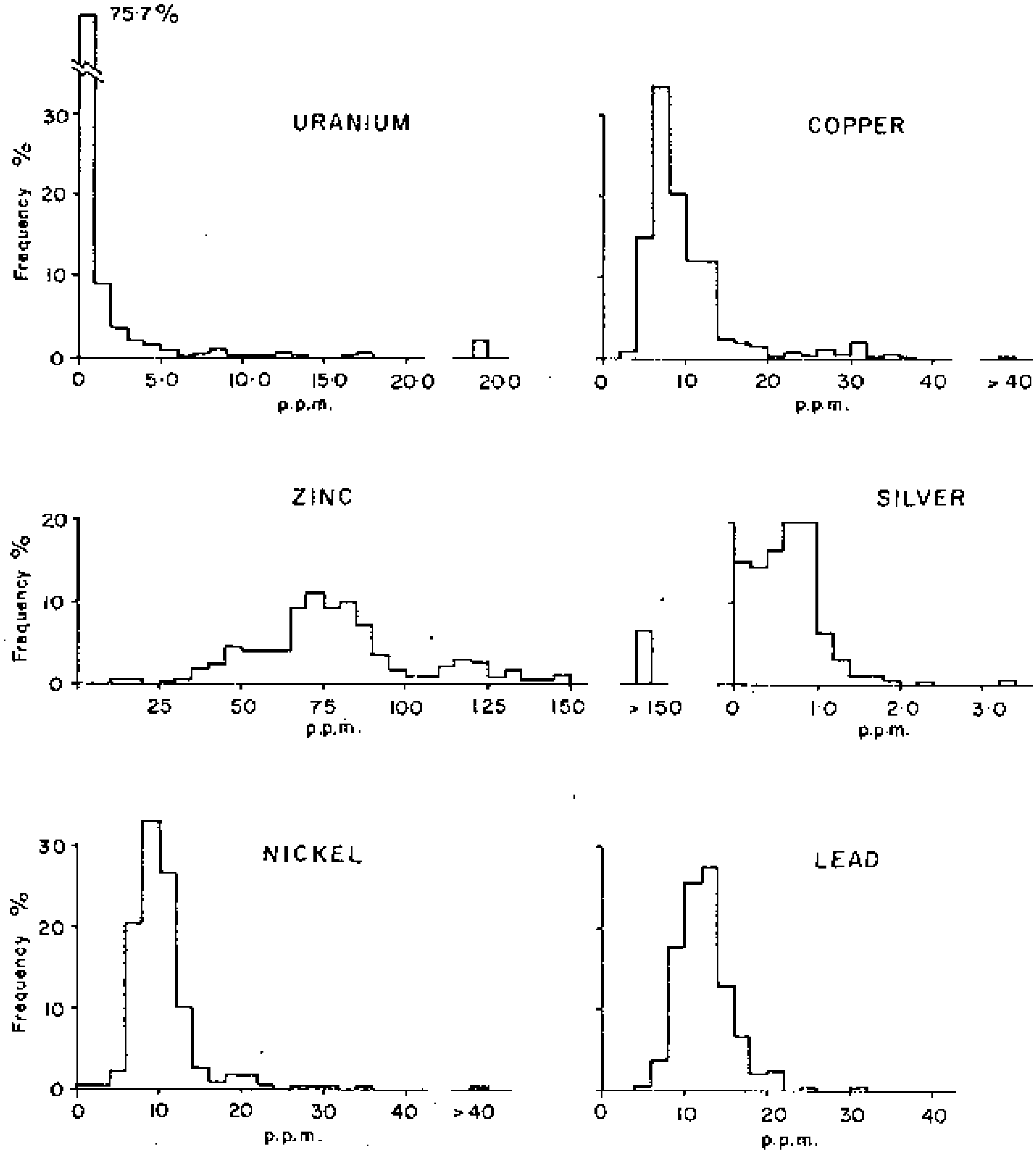
4.3.1 General Statement

To effect the interpretation of the soil data, frequency histograms (Fig. 2) of each element were constructed. From these, the threshold and different anomalous levels were empirically determined and listed in Table 3.

TABLE 3

THRESHOLD AND ANOMALOUS LEVELS FOR U, Cu, Pb, Zn, Ag and Ni

Element	Threshold ppm	Third Order Anomalous (ppm)	Second Order Anomalous (ppm)	First Order Anomalous (ppm)
U	5.0	5.1 - 10	10.1 - 20	> 20
Cu	20	---	21 - 40	> 40
Pb	18	19 - 30	31 - 40	--
Zn	99	100 - 150	151 - 200	> 200
Ag	1.0	1.1 - 2.0	2.1 - 3.0	> 3.0
Ni	16	17 - 32	33 - 48	> 48



FREQUENCY DISTRIBUTION OF URANIUM, COPPER, ZINC, SILVER, NICKEL AND LEAD IN SOILS

ANOMALY 1A - NORTH

FIG. 2

Since the number of stream sediment samples was too small to construct reliable histograms, threshold and anomalous levels for each element, derived from the regional stream sediment survey (Lahti, 1978), were used (see Table 4).

TABLE 4

REGIONAL
THRESHOLDS AND ANOMALOUS VALUES FOR
Cu, Pb, Zn, Ag, Mo and U
(After Lahti, 1978)

Element	Thresholds	Third Order Anomalous (ppm)	Second Order Anomalous (ppm)	First Order Anomalous (ppm)
Cu	20	21 - 24	25 - 40	> 40
Pb	28	---	29 - 40	> 40
Zn	65	66 - 85	86 - 100	> 100
Ag	2.2	---	2.3 - 3	> 3
Mo	4	---	5 - 9	> 9
U	8.0	8.1 - 13.0	13.1 - 20.0	> 20.0

Following selection of anomalous levels, the raw data maps were examined and the distribution of each anomalous level noted. During interpretation of the sediment data, it is important to note that samples NLF-1045 to NLF-1056 are from a dry gully and are not true stream sediment samples. The data are too sparse to warrant a separate interpretation map. Following evaluation of the soil data for each element, a uranium interpretation map was prepared.

The anomalies were identified on the soil interpretation map by a number and letter. These identification labels also give the classification and priority of the anomaly. The number gives the order of priority for further work while the letter classifies the anomaly as to its size, amplitude, coherence and geological setting. Thus, anomaly 1A warrants follow-up first and is interpreted as an important feature. Anomaly 6C only warrants follow-up after the higher numbered anomalies, if at all, and is interpreted to have low significance. Weak, small base metal geochemical features have been described in this report but it was thought a separate interpretation map was not warranted.

4.3.2 Uranium

The general distribution of uranium values in stream 2 shows a sharp contrast in concentration between the gully samples (NLF-1045 to 1056) and the stream sediment samples, (NLF-1024 to 1044, Dwg. 208-42-402). The gully samples have a generally low uranium content with values ranging from 0.2 to 14.4 ppm while the stream sediment values have 11.0 to 24 ppm. The uranium does not appear to have formed a dispersion train in stream 2 but the near uniform concentration of uranium along the stream suggests a higher background uranium source that may or may not be influenced by the greater organic carbon content in the stream. Stream 2 has a very gentle gradient allowing for a build up of organic carbon and clay minerals, both possible scavengers of uranium.

Stream 1 to the northwest has three third order uranium values (Dwg. 208-42-402). These values are very weak and judged to have no economic significance. These uniform uranium values do not reach first order anomalous (24.0 ppm) defined during the semi-detailed reconnaissance program (Lahti, 1978).

The uranium in soils (Dwg. 208-42-404) have a very erratic distribution of anomalous values that do not readily form any coherent patterns. For example, Line 5 has three discrete single point anomalies with uranium values of 62, 40 and 56 ppm. Similarily, Line 6 has two single point first order anomalous values of 32 and 28 ppm. The latter sample has two proximal moderately high background values of 1.4 and 5.2 ppm, respectively. This first order sample is tentatively joined with the highest anomalous values on Line 5 and together form anomaly 1B. High uranium content extends along the traverse Line 5 for 120 m. to the southwest with one, third order anomalus value and several high background values. It is emphasized that due to the 500 m. separation between traverses the extrapolation of the uranium anomaly between the two lines is highly speculative. This anomaly has been downgraded to a B class anomaly due to the narrowness of the anomaly and high organic carbon content of the samples.

Field notes show one first order anomalous samples to be collected in a swamp and the other to be black with an estimated 90% organic carbon. More fill-in lines will have to be sampled to confidently delimit the uranium anomaly along strike. Also, the controls on groundwater movement and the distribution of organic carbon matter in the soil should be studied to determine the location and strength of the uranium source.

Anomaly 2C has the highest uranium values found on the soil grid but is downgraded because it occurs on the edge of a swamp and consists of only one anomalous value. It has a multi-element association of high copper, nickel and silver that is not considered important at this time. The single sample forming anomaly 3C (Dwg. 208-42-404) was collected in swampy ground and is also not considered important at this time.

Anomaly 4C is a single point anomaly that has a very high organic carbon content. It has coincident second order copper and third order silver values. Until the sample site is examined in detail and until proven otherwise, it is judged that the high uranium, copper and silver values are probably due to scavenging by organic carbon and is not considered significant at this time.

Anomaly 5C on Line 2 is a single point first order uranium anomaly with coincident second order copper-nickel and third order silver values. This anomaly is downgraded because it lacks adjacent anomalous values. However, field observations did not indicate any unusual concentration of organic matter or swampy ground, thus suggesting that the metal concentration may not be due to concentration by scavenging agents. A small follow-up soil grid should be laid out to test the amplitude and extent of this anomaly and the area should be carefully mapped looking particularly for a basalt cap. The elevation, 1,303 m., is similar to the elevation of significant uranium mineralization found in the nearby Beaverdell region.

Geochemical feature 6C is composed of a second and third order anomaly occurring at the base of a 250 m. mountain and adjacent to stream 2. This area is swampy with organic rich soils providing an excellent environment to concentrate uranium. This uranium anomaly is not considered important at this time and no further work is recommended.

4.3.3 Copper, Lead, Zinc, Silver and Nickel

The overall copper distribution is similar to that of uranium; the gully samples are generally much lower than the true stream sediment samples (Dwg. 208-42-403). Most of the third and second order anomalous values occur in the lower part of stream 2 close to Rendell Creek. Possibly copper is being concentrated downstream by an environmental factor and is not related to significant mineralization.

The highest copper value in the gully section is found at NLF-1052 coincident with high uranium, silver and nickel and to a lesser degree, lead. This appears to be a local feature and is not considered important at this time.

Lead, zinc, silver and nickel all show a slight to moderate increase in concentration in the lower part of stream 2. The low order anomalous values are spread along a good portion of the stream suggesting that these elements do not originate from any significant mineralization. However, if additional geological and/or geophysical information becomes available then the data should be re-evaluated.

The overall distribution of copper, zinc and silver values in soils show scattered first order anomalies while nickel has only several second and third order anomalies. There are no significant lead anomalies.

As mentioned in the previous section, uranium anomaly 2C has coincident high copper, nickel and silver. However, it is strongly suspected that the single sample anomaly is due to concentrations of metals by the scavenging ability of the organic carbon. Copper, zinc and to a lesser degree, nickel and silver, are concentrated on the southeast slope and base of the large mountain ridge (Dwg. 208-42-405 and 406). No significance is attached to these geochemical features at this time. It is also thought most of the modest base metal anomalies can be explained by environmental factors or rock type changes (such as noted in rock sample 1, Table 2) and are not related to any significant mineralization. However, more detailed soil sampling and detailed geological mapping would have to be done to verify this.

5. CONCLUSIONS

1. Almost the entire length of stream 2 has a uniform uranium concentration that is not considered, at this time, related to economically important mineralization. The most probable cause of this anomaly is high uranium background acid igneous rocks. The gully samples which occur in the extension of stream 2 have a significantly lower uranium concentration.
2. Copper and zinc are concentrated in the central and lower sections of stream 2.
3. Gully sample (NLF-1052) is anomalous in copper, uranium and slightly enriched in silver and lead. It is thought that this multi-element anomaly represents a local change in environment and is not related to any significant mineralization.
4. No "A class" uranium or base metal anomalies were discovered in soils.
5. All first order uranium anomalous values, in soils, except for the sample located at 5C, have associated high organic carbon in the sample.
6. It is thought that most of the anomalous metal features are due to local environmental factors, and are accumulations from elevated concentrations of uranium in the rock forming minerals in bedrock and are not due to significant mineralization. However, more detailed soil sampling would have to be undertaken to conclusively prove this point.

6. RECOMMENDATIONS

Although no "class A" anomalies were discovered, several of the more significant features, particularly anomalies 1B, 2C and 5C should be examined by limited soil sampling and pitting to determine the amplitude and extent of these geochemical features. It is also suggested that uranium, copper, zinc and nickel should be analysed and the organic carbon content of each sample visually estimated. Concurrent with the detailed soil sampling, the geology should be examined in detail, particularly for signs of a basalt cap. Further work on these anomalies is considered much less important than follow-up of others within the whole survey area.

REFERENCES

1. Lahti, H.R. (1978): Private report on the Semi-Detailed Reconnaissance Stream Sediment Survey, Kettle River, British Columbia for Kelvin Energy Limited, Calgary, Alberta.

2. Little, H.W. (1957): Geology of Kettle River (East Half). Geological Survey of Canada, map 6-1957.

APPENDIX I

STATEMENT OF QUALIFICATIONS

I, Howard Reino Lahti of Toronto, do certify that:

1. I graduated from the University of New Brunswick, Fredericton, New Brunswick in May, 1978 with a Doctor of Philosophy in Geology (Applied Geochemistry).

2. I graduated from the University of New Brunswick with a B.Sc. in Geology in 1968 and M.Sc. in Geology (Applied Geochemistry) 1971.

3. I have worked with Barringer Magenta Limited of Toronto, Ontario since June 1975 as a geologist/geochemist.

4. I have worked as a geologist, geochemist or attended university since 1964.

5. I am a Member of the Association of Exploration Geochemists.

Howard Lahti

H.R. Lahti, Ph.D.
Geologist-Geochemist
Barringer Magenta Limited

APPENDIX II

ASSESSMENT REPORT

Statement of Cost

a) Days Worked

Supervisor: H. Lahti, August	7 days
Geochemical Technician:	
G. White, August	6 days
Senior Sampling Assistant:	
C. Shearer, August	1 day
Junior Sampling Assistant:	
K. Wisser, August	2 days
Junior Sampling Assistant:	
R. Balford, August	6 days
Junior Sampling Assistant:	
D. Pyke, August	2 days
Camp Guard: D. Moroko, August	1 day
Crew	25 days
Consultants: I. Thomson	3 days
P. Bradshaw	1 day

b) Cost of Wages

Supervisor, 7 days @ $220/day =	$ 1,540.00
Geochemical Technician, 6 days @ $119/day =	$ 714.00
Senior Sampling Assistant, 1 day @ $108/day =	$ 108.00
Junior Sampling Assistants (3), 10 days @ $96/day =	$ 960.00
Camp Guard, 1 day @ $25/day =	$ 25.00
Consultants (2) 4 days @ $300/day =	$ 1,200.00
	$ 4,547.00

c) Food and Accomodation

i) Field Camp

$ 7.00 per day per person for food
$13.00 per day per person for rentals, etc.
$20.00

No. of crew days 25 x $20 =	$	500.00
ii) Accomodation and Food, Vernon Lodge		
2 days @ $43/day =	$	86.00
	$	586.00

d) Instrument Rental

i) 2 Exploranium Model GR-101A	$	101.61
ii) Spectrometer GAD-6 =	$	394.70
iii) Radio Telephone =	$	142.25
	$	638.56

e) Geochemical Analysis

i) Rock Chip Samples, $8.90/sample for U, Cu, Pb, Zn, Ag, Mo or Ni		
11 x $8.90 =	$	97.90
ii) Stream Sediment Samples, $7.30/sample for U, Cu, Pb, Zn, Ag, Mo or Ni		
33 x $7.30 =	$	240.90
iii) Soil Samples, $7.30/sample for U, Cu, Pb, Zn, Ag, Mo or Ni		
340 x $7.30 =	$	2,482.00
	$	2,820.80

f) Transportation

i)	Truck Rental =	$ 357.00
ii)	3/4 Ton Pick-up Truck	$ 44.71
iii)	Helicopter Support	
	5.9 hours x $399.30/hour =	$ 2,355.87
		$ 2,755.58

g) Cost of Report Preparation

i)	Drafting and Compilation	
	Data Graphics: M. Herz	$ 300.00
	Compilation:	$ 362.08
	Drafting: R. Marcroft	$ 362.08
ii)	Material	$ 45.26
iii)	Report Writing: H. Lahti	$ 2,182.51
		$ 3,351.93

h) Miscellaneous Costs

Telephone, telex, shipping, etc.	$ 1,212.77
TOTAL COST INCURRED FOR ANOMALY 1A (NORTH)	$15,812.64

APPENDIX III

1.1 Stream Sediment Sampling

All follow-up stream sediment samples were collected by hand from several locations (within 20 metres) to make a composite sample.

About 500 grams of material per sample was placed in high wet-strength Kraft sample packets (6 cm. x 9 cm.). To mark the location of the sample site, a water proof pen was used to print the sample number on a one metre length of fluorescent orange flagging tape. Samples were collected every 100 metres with the distance estimated by pacing. Airphotos and topographic maps at a scale of 1:50,000 were used to assist in locating sample sites.

1.2 Soil Sampling

The soil sample was collected by using a grub-hoe. The soil sample was collected from the "B" horizon generally from a depth of ± 20 cm. Approximately 250-500 grams were placed in high wet-strength Kraft paper bags (6 cm. x 9 cm.). The sample traverses were placed 500 metres apart approximately perpendicular to the drainage and samples were taken every 40 metres. The traverses were surveyed by pace and compass using airphotos or topography maps at a scale of 1:50,000. The sample site was marked by a metre length of fluorescent orange flagging tape with the distance and/or sample number marked on with waterproof marking pen. The whole length of the traverse was blazed using orange flagging tape.

1.3 Rock Chip Sampling

In conjunction with the soil sampling, rock chip samples were occasionally taken along the soil traverses. The rock chip sample consists of 3 to 5 rock chips collected from an area of approximately 50 to 100 m^2. Approximately 250 grams of material was placed in high wet-strength Kraft paper packets (6 cm. x 9 cm.).

2. LABORATORY TECHNIQUES

Stream sediment analyses were done at the Barringer Magenta Limited laboratory, Rexdale, Ontario. The samples were first oven dried at a temperature of 45°C. The samples were then sieved through a 80 mesh nylon screen. A .500 gram portion of this was placed in a glass test tube and perchloric acid was added. The test tube was then placed in an aluminum heating jacket and heated for 4 hours. After cooling and diluting to the final volume, the solution then was directly aspirated into a Varian Techtron atomic absorption spectrophotometer and the concentrations of copper, lead, zinc, silver and molybdenum were read directly in ppm.

The uranium was determined fluorimetrically by using the following procedure. A .250 gram sample was weighed into a glass test tube and 5 ml. of nitric acid was added. The samples were digested on a sand bath for 2-1/2 hours. After cooling and diluting to the final volume an aliquot of solution was pipetted onto a platinum dish and evaporated to dryness. Flux was added to the dish and fused with the sample. After cooling, the disc was then compared with fresh standards using a Jarrell-Ash Fluorometer.

The limit of detection for copper, lead, zinc, silver, molybdenum and uranium are 1, 1, 1, .2, 1 and .2, respectively.

Rock chip samples were first put through a jaw crusher, pulverizer, and a -200 mesh nylon sieve. A .500 gram portion of the sample was then subjected to the same procedure used to analyse the stream sediment samples.

APPENDIX IV

ANALYTICAL DATA

Geochemical Laboratory Report

Sample Number	U ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm				
NLF 1024	16.0	17	27	63	15	1.4				
1025	11.0	13	22	54	12	1.1				
1026	18.4	18	26	64	15	1.5				
1027	17.2	19	28	69	17	1.4				
1028	13.6	17	24	61	15	1.4				
1029	18.4	20	26	66	18	1.5				
1030	12.4	26	26	62	16	1.4				
1031	20.0	18	29	65	16	1.6				
1032	24.0	17	26	65	15	1.3				
1033	14.0	17	25	62	14	1.6				
1034	12.8	16	25	63	15	1.4				
1035	18.8	17	24	60	14	1.2				
1036	19.4	19	26	60	14	1.4				
1037	16.0	36	28	62	18	.8				
1038	17.0	21	24	60	17	1.3				
1039	18.6	24	26	69	19	1.4				
1040	18.8	30	28	75	20	1.8				
1041	13.8	25	26	65	17	1.4				
1042	17.6	35	20	76	22	1.8				
1043	12.4	23	24	65	17	1.3				
1044	12.6	26	28	75	20	1.4				
1045	2.4	9	22	51	11	.8				
1046	.7	9	19	57	9	.7				
1047	9.0	16	22	69	13	.8				
1048	9.0	9	19	67	9	.6				
1049	.7	5	16	38	8	.5				
1050	.5	7	18	53	11	.7				

Geochemical Laboratory Report /

Sample Number	U ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm
NLF 1051	1.1	7	19	61	8	.8
1052	14.4	25	24	61	17	1.3
1053	1.2	7	17	38	8	.7
1054	3.2	16	21	54	10	.9
1055	.8	9	19	63	8	.7
~~1056 Split~~	~~2.8~~	~~7~~	~~16~~	~~80~~	~~8~~	~~1.0~~
1056	.2	9	19	62	9	.6

Geochemical Laboratory Report /

Sample Number	U ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm				
NLFS 152	1.3	12	16	39	9	1.0				
153	1.5	10	17	56	9	.8				
154	.3	8	15	47	8	.7				
155	.2	9	14	48	10	.6				
156	.4	6	15	55	11	.6				
157	.4	7	16	57	9	.6				
158	2.6	6	14	28	10	.3				
159	.3	7	14	67	7	.5				
160	32.0	30	21	81	19	1.8				
161	2.8	17	17	54	9	.9				
162	1.9	8	21	70	10	.8				
163	.2	7	16	49	10	.9				
164	1.0	9	17	77	9	1.0				
165	4.6	8	16	50	9	.7				
166	.4	5	15	67	7	.4				
167	.7	8	15	97	9	.8				
168	.2	12	18	125	11	.7				
169	.2	6	14	77	8	.6				
170	1.3	8	17	120	9	.7				
171	.8	7	14	80	9	.8				
172	28.0	16	20	61	12	1.2				
173	1.4	5	13	49	7	.5				
174	5.2	9	16	43	9	.7				
175	.2	6	16	87	10	.5				

Geochemical Laboratory Report

Sample Number	U ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm				
NLFS 176	.2	5	14	31	6	.3				
177	.7	6	18	95	7	.3				
178	.9	6	14	39	8	.7				
179	.3	6	15	47	7	.4				
180	.3	8	15	79	9	1.0				
181	.4	5	15	72	7	.3				
182	.2	5	14	48	7	.4				
183	.2	3	14	33	5	.5				
184	.2	5	13	56	8	.8				
185	.5	7	13	54	10	.7				
186	.5	7	14	42	8	.5				
187	.2	6	14	52	7	.4				
188	.2	6	13	41	8	.6				
189	.6	7	15	49	9	.6				
190	.2	5	14	48	9	.6				
191	3.8	8	17	72	11	.7				
192	16.4	19	22	59	20	1.5				
193	.5	5	14	54	8	.6				
194	.2	8	14	83	11	.9				
195	.2	7	14	74	13	.7				
196	1.1	12	17	98	13	1.0				
197	.2	15	20	125	12	.9				
198	.2	5	12	145	8	.4				
199	.2	26	16	65	35	.7				
200	.5	8	14	84	14	.8				
201	.2	7	13	79	11	.5				
202	.2	9	14	130	10	.9				

Geochemical Laboratory Report

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
NLFS-241	10	14	80	1.0	10	9.0				
242	7	12	70	.8	10	0.4				
243	10	13	115	1.0	11	0.6				
244	9	14	165	1.0	9	1.6				
245	10	14	85	.6	11	0.6				
246	9	13	220	.4	8	0.4				
247	10	12	81	.8	9	0.4				
248	8	12	85	.4	9	0.4				
249	13	15	82	1.2	11	0.4				
250	8	12	72	.8	10	0.4				
251	7	12	65	.8	8	0.2				
252	7	10	58	.6	8	0.4				
253	8	11	80	1.0	9	1.0				
254	9	11	83	.6	11	0.8				
255	8	9	68	.4	10	0.4				
256	12	8	75	1.0	10	0.8				
257	8	10	88	.6	10	0.2				
258	9	11	83	.4	11	0.4				
259	6	5	40	.4	7	0.4				
260	12	11	81	.6	12	1.4				
261	8	9	67	.8	10	1.4				
262	15	14	125	.8	16	1.2				
263	8	13	125	1.0	12	0.2				
264	8	8	60	.4	8	0.6				
265	13	13	160	.8	13	0.2				
266	13	11	150	1.0	11	2.6				
267	12	13	150	1.0	10	0.6				
[illegible]	12	13	92	.6	13	0.4				

Geochemical Laboratory Report

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
NLFS 269	6	9	68	.2	7	1.0				
270	11	12	150	.8	13	0.6				
271	8	12	77	1.0	9	0.2				
272	10	12	83	.8	10	0.6				
273	10	14	115	.8	13	0.2				
274	11	14	84	1.0	14	1.0				
275	12	13	120	.8	11	0.8				
276	10	14	80	.8	11	0.4				
277	11	14	70	1.0	12	1.6				
278	9	11	71	.6	9	1.0				
279	11	13	83	.8	11	4.2				
280	10	11	71	.8	9	4.4				
281	10	14	82	1.0	10	0.6				
283	31	17	82	2.0	19	32.0				
284	8	13	87	1.0	8	0.6				
285	17	14	140	1.2	8	2.8				
286	10	11	82	.6	9	0.4				
287	32	16	125	1.6	16	4.2				
288	18	12	80	1.0	11	2.8				
289	8	14	135	.8	6	0.2				
290	8	13	90	1.2	7	0.4				
291	10	12	120	1.4	12	0.4				
292	7	11	68	1.0	9	0.2				
293	11	14	88	1.2	13	0.4				
294	9	14	60	.6	8	0.2				
295	10	17	115	1.0	7	0.4				
296	14	14	67	1.0	10	1.6				

Geochemical Laboratory Report /

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
NLFS-297	11	14	79	1.0	10	0.2				
298	28	16	57	3.4	11	13.2				
299	11	10	120	.2	8	0.4				
300	25	12	190	1.0	15	0.2				
301	35	13	170	1.4	19	0.2				
302	22	11	80	.8	12	0.2				
303	13	10	92	1.2	8	0.4				
304	14	11	73	1.0	10	0.4				
305	15	9	53	.8	9	1.4				
306	11	13	67	.2	11	0.8				
307	11	15	91	.6	14	2.0				
308	7	13	87	.4	10	0.4				
309	27	22	92	1.2	22	12.2				
310	8	13	62	.4	10	0.8				
311	7	11	70	.2	11	0.6				
312	8	13	66	<.2	10	0.6				
313	9	13	79	.4	10	0.6				
314	6	12	79	.2	12	1.2				
315	7	12	72	.2	9	1.2				
316	8	7	18	.2	2	1.4				
317	6	12	51	<.2	8	0.6				
318	8	12	54	1.0	10	0.6				
319	11	11	75	1.0	11	0.8				
320	7	11	62	1.0	11	0.6				
321	8	9	76	1.0	8	1.0				
322	6	12	41	0.8	8	0.8				
323	23	19	77	1.2	21	10.4				

Geochemical Laboratory Report

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
NLFS-324	13	10	72	0.8	8	1.0				
325	5	11	51	0.6	7	0.4				
326	9	12	115	0.8	8	1.0				
327	8	11	59	0.2	12	5.6				
328	9	12	75	0.6	11	1.0				
329	7	14	78	0.4	11	1.2				
330	12	14	53	0.6	12	7.6				
331	10	11	61	0.8	10	0.2				
332	8	11	82	0.8	11	0.8				
333	34	22	73	1.8	23	38.0				
334	8	15	73	0.2	7	1.2				
335	10	14	120	0.4	12	1.0				
336	8	12	54	0.4	11	0.8				
337	8	11	61	0.4	9	1.0				
338	7	10	70	0.4	7	0.6				
339	12	13	82	0.6	12	1.4				
340	7	11	90	0.4	11	0.8				
341	7	10	57	0.2	10	0.2				
342	7	10	50	0.2	9	0.4				
343	23	9	37	<.2	6	0.6				
344	7	12	48	0.2	11	0.4				
345	6	8	52	0.4	9	0.8				
346	4	11	56	0.4	9	0.2				
347	5	9	49	<0.2	8	0.2				
348	6	10	49	0.4	8	0.8				
349	6	9	61	0.2	9	0.2				
350	7	11	80	0.2	9	0.6				

Geochemical Laboratory Report

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
LFS 351	13	12	190	0.2	8	0.4				
352	10	11	160	0.4	12	0.8				
353	14	14	140	0.6	11	0.4				
354	7	10	50	<.2	11	0.4				
355	11	12	84	0.4	12	0.2				
356	9	12	79	0.2	13	0.4				
357	8	10	40	0.2	8	0.2				
358	8	11	63	0.2	15	0.2				
359	10	14	81	0.6	14	1.0				
360	10	13	75	0.4	11	0.8				
361	17	15	56	0.6	14	8.8				
362	10	12	89	0.6	11	0.6				
363	10	12	75	0.4	12	0.2				
364	10	12	70	0.4	13	0.6				
365	24	14	120	1.0	18	0.4				
366	8	13	75	0.4	10	0.6				
367	8	9	67	0.2	12	0.2				
368	11	12	62	0.4	12	0.2				
369	12	10	74	0.4	13	0.2				
370	8	10	73	0.4	11	0.2				
371	9	9	72	0.6	10	0.2				

Geochemical Laboratory Report

Sample Number	U ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm				
NLFS 1062	.2	8	16	51	10	.9				
1063	.5	10	17	68	11	1.1				
1064	.2	4	13	14	6	.4				
1065	.3	9	15	56	10	.7				
1066	.9	20	25	160	21	1.5				
1067	.7	10	17	110	15	.9				
1068	.5	10	16	135	13	1.0				
1069	.8	11	14	84	12	.8				
1070	1.0	10	17	110	13	.9				
1071	.4	8	16	70	9	.8				
1072	.2	9	16	86	9	.9				
1073	.6	9	21	120	11	.7				
1074	.9	8	17	90	9	.8				
1075	.6	8	15	92	8	.7				
1076	.7	9	14	125	6	.6				
1077	.3	7	15	52	8	.8				
1078	.2	7	14	68	7	.6				
1079	17.4	17	31	67	11	1.2				
1080	1.7	10	17	81	8	.9				
1081	1.1	8	17	79	8	.9				
1082	.2	8	14	59	9	1.0				
1083	.2	8	15	76	7	.8				
1084	1.4	8	15	39	7	.9				
1085	--	--	--	--	--	--				
1086	.2	5	12	83	6	.6				
1087	.2	7	13	72	9	.8				

Geochemical laboratory Report /

Sample Number	U ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	Ag ppm					
NLFS 1088	.2	5	13	71	7	.7					
1089	.3	16	16	97	10	1.3					
1090	.2	19	20	125	44	1.2					
1091	.2	13	18	155	28	.9					
1092	.4	8	18	135	10	.7					
1093	.2	6	17	135	9	.6					
1094	.2	7	16	78	9	.7					
1095	.2	6	14	81	10	.6					
1096	1.1	7	15	130	9	.8					
1097	1.3	9	15	98	15	1.0					
1098	.7	8	19	165	9	1.1					
1099	.5	8	17	89	9	1.2					
1100	.2	14	18	81	12	1.1					

Geochemical Laboratory Report

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
NLFS-1151	11	9	75	.8	10	1.2				
1152	55	19	92	3.4	29	62.0				
1153	10	11	61	1.2	8	1.0				
1154	10	10	43	.8	10	4.2				
1155	12	12	57	1.0	21	3.0				
1156	13	10	87	1.4	15	0.8				
1157	11	11	82	1.0	13	3.6				
1158	9	10	71	1.0	9	0.6				
1159	10	12	70	1.4	13	0.6				
1160	7	9	70	1.0	9	0.6				
1161	9	10	86	1.0	12	0.6				
1162	8	9	75	.8	10	0.6				
1163	27	14	150	1.2	11	1.0				
1164	11	13	87	1.0	10	0.6				
1165	17	15	110	1.2	14	1.6				

Geochemical Laboratory Report

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
NLFS-1166	13	13	65	1.0	7	1.2				
1167	6	8	44	.6	7	0.6				
1168	10	11	93	1.0	12	0.8				
1169	38	18	88	1.8	23	40.0				
1170	10	13	69	1.0	12	0.8				
1171	11	13	76	1.4	9	0.6				
1172	7	8	70	.8	9	0.6				
1173	7	9	78	.8	9	0.6				
1174	9	10	160	1.0	10	0.6				
1175	30	19	90	2.4	22	56.0				
1176	15	13	120	1.2	14	5.0				
1177	7	11	145	.8	8	3.2				
1178	19	15	75	1.4	16	8.0				
1179	7	11	67	1.0	9	1.0				
1180	8	10	65	.8	10	1.0				
1181	9	12	90	1.4	8	1.0				
1182	6	8	65	.8	8	1.2				
1183	7	8	78	.8	8	3.2				
1184	6	8	83	1.0	8	0.8				
1185	6	9	73	.8	8	0.4				
1186	5	9	90	1.0	8	0.6				
1187	8	8	50	.8	8	2.8				
1188	7	9	68	1.0	8	4.0				
1189	5	7	59	.6	7	0.4				
1190	7	10	75	1.0	11	0.6				
1191	15	15	160	1.0	10	2.2				
1192	12	11	82	1.0	14	3.2				

Geochemical Laboratory Report

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
NLFS-1193	9	22	83	1.4	8	8.8				
1194	5	10	53	.6	3	0.6				
1195	9	15	75	1.2	10	1.0				
1196	8	13	89	1.0	9	0.4				
1197	10	11	91	1.0	7	2.8				
1198	10	11	110	1.4	10	0.6				
1199	12	17	125	1.6	13	12.6				
1200	12	11	100	1.2	11	1.4				
1201	14	12	92	1.2	20	1.8				
1202	12	12	85	.8	12	0.4				
1203	10	11	105	1.0	10	2.6				
1204	9	13	100	.6	9	3.0				
1205	11	16	180	1.0	12	6.8				
1206	20	15	115	1.0	32	5.8				
1207	8	9	79	.6	11	0.6				
1208	7	12	76	.8	13	0.6				
1209	8	11	105	.6	11	0.8				
1210	11	13	170	.8	11	2.2				
1211	27	16	100	1.8	18	17.8				
1212	35	16	105	2.0	19	11.2				
1213	17	15	215	1.4	13	3.2				
1214	7	12	210	.6	12	0.2				
1215	7	13	87	.6	11	0.6				
1216	7	13	170	.6	11	0.2				
1217	7	11	67	.6	14	0.2				
1218	10	13	80	.6	11	0.2				
1219	8	12	190	.6	9	0.4				

Geochemical Laboratory Report

Sample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
1220	6	10	180	.4	10	0.2				
1221	7	10	62	.4	12	0.2				
1222	5	10	68	.4	12	0.2				
1223	7	13	120	.4	11	0.2				
1224	5	10	72	.4	10	0.2				
1225	7	10	75	.6	12	0.2				
1226	5	8	78	.6	12	0.2				
1227	5	8	67	.8	12	0.2				
1228	7	11	77	.4	12	0.4				
1229	10	13	54	.2	12	1.0				
1230	7	10	50	<.2	12	0.4				
1231	10	13	73	<.2	14	0.4				
1232	9	12	70	.2	11	0.2				
1233	10	11	115	.2	15	0.6				
1234	8	10	58	<.2	11	0.2				
1235	10	11	73	<.2	13	0.2				
1236	12	13	83	<.2	17	0.8				
1237	7	12	72	.6	11	0.6				
1238	11	14	78	.6	13	0.8				
1239	21	22	150	1.2	22	1.2				
1240	9	10	74	.2	12	0.8				
1241	15	17	195	.4	14	0.6				
1242	7	14	130	.2	11	0.2				
1243	9	11	115	<.2	9	0.4				
1244	8	9	48	<.2	7	2.8				
1245	7	9	68	<.2	9	0.4				
1246	9	12	83	.4	12	1.0				

Geochemical Laboratory Report

ample Number	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	U ppm				
LPS-1247	10	12	125	1.0	11	0.2				
1248	7	11	89	.8	10	0.2				
1249	8	11	135	.6	7	0.2				
1250	9	11	49	.6	10	0.4				
1251	12	16	225	.4	12	0.6				
1252	9	12	72	.2	9	0.4				
1253	8	10	91	.4	10	0.4				
1254	7	11	66	.4	10	1.0				
1255	7	12	72	<.2	11	0.4				
1256	5	10	43	<.2	8	0.2				
1257	5	10	54	<.2	11	0.2				
1258	5	9	48	<.2	9	0.6				
1259	11	11	73	0.2	13	3.2				
1260	6	10	65	<.2	12	0.8				
1261	5	10	62	<.2	10	0.4				
1262	6	9	45	<.2	8	0.4				
1263	11	14	82	<.2	14	0.2				
1264	7	10	76	.2	10	0.2				
1265	7	11	71	.2	10	0.2				
1266	11	14	90	.4	13	0.2				
1267	10	13	65	<.2	11	0.8				
1268	6	10	81	.2	10	1.0				
1269	10	11	88	<.2	14	0.8				

Geochemical Laboratory Report /

Sample Number	U ppm	Cu ppm	Pb ppm	Zn ppm	Mo ppm	Ag ppm
NLR 47	12.0	14	17	49	1	1.5
48	6.4	15	19	61	1	2.1
49	2.8	11	18	56	1	1.9
52	8.0	14	18	59	1	1.9
708	14.8	29	24	69	2	2.5
709	14.4	22	22	68	2	2.4
710	10.4	21	20	60	2	2.1
711	11.8	19	24	67	4	2.4
712	4.8	17	22	63	3	2.5
713	9.0	34	25	82	4	2.7

N

A

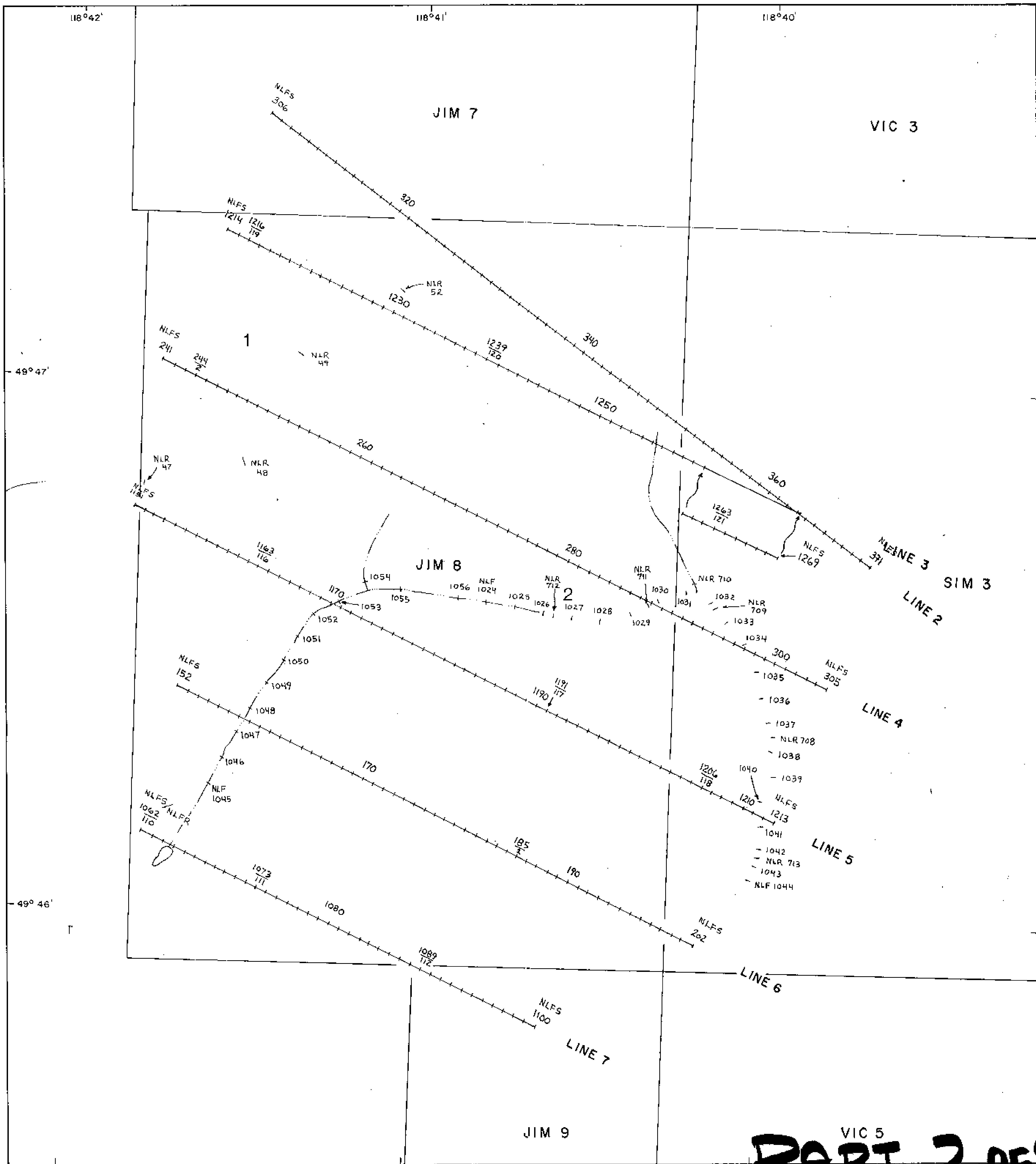
Surveyed and compiled by
BARRINGER MAGENTA LTD.
Toronto, Canada

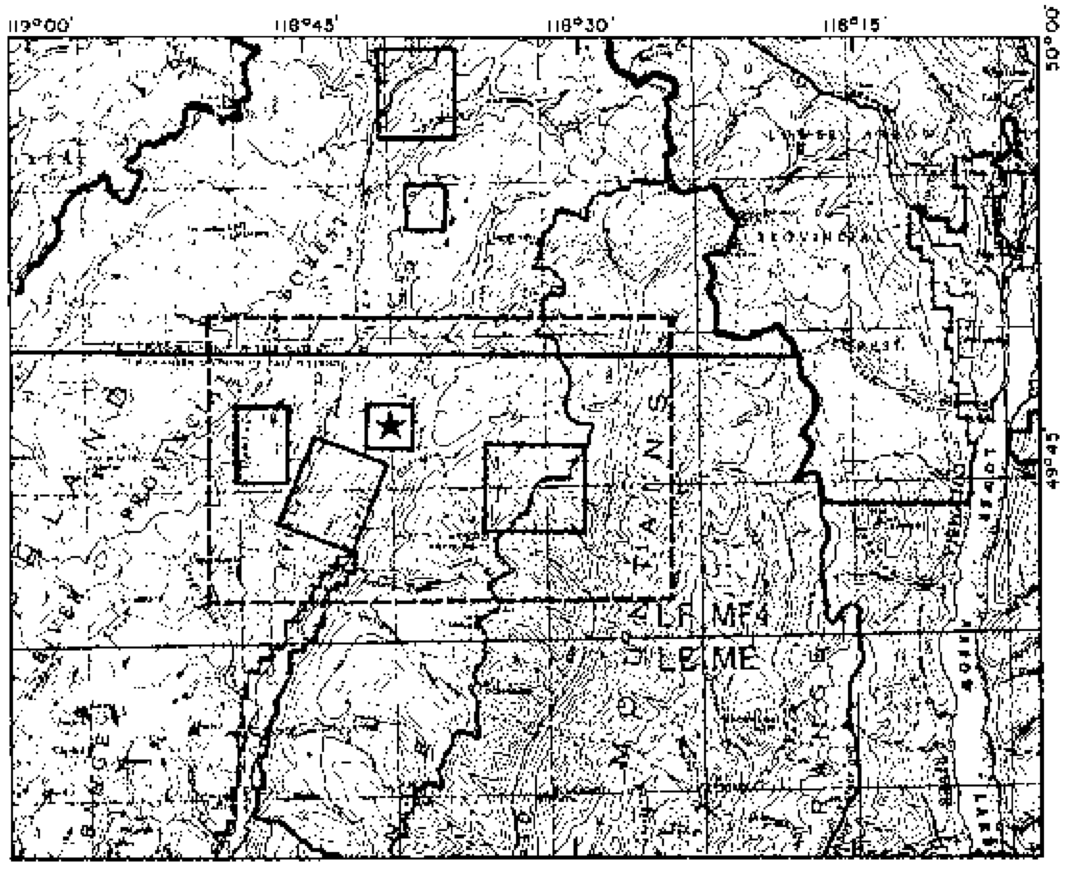
LEGEND

SOIL—25/42 ROCK ← Line or sampled stream with Sample number

SOIL—12/25 ROCK ← element value in p.p.m.

JIM 8 — Claim boundary with name and number





LOCATION MAP 1:500,000

PART 2 OF 9

7160

KELVIN ENERGY LIMITED
KETTLE RIVER AREA, B.C.

GEOCHEMICAL SURVEY
ANOMALY 1A NORTH
SOIL TRAVERSE FOLLOW-UP

SAMPLE LOCATION AND NUMBER
(STREAM AND SOIL)

SCALE 1: 10,000

FEET 0 1000 2000 3000

METRES 0 250 500 750 1000

AUGUST-SEPTEMBER 1978

N.T.S. REF. 82-E15

N

A

Surveyed and compiled by
BARRINGER MAGENTA LTD.
Toronto, Canada

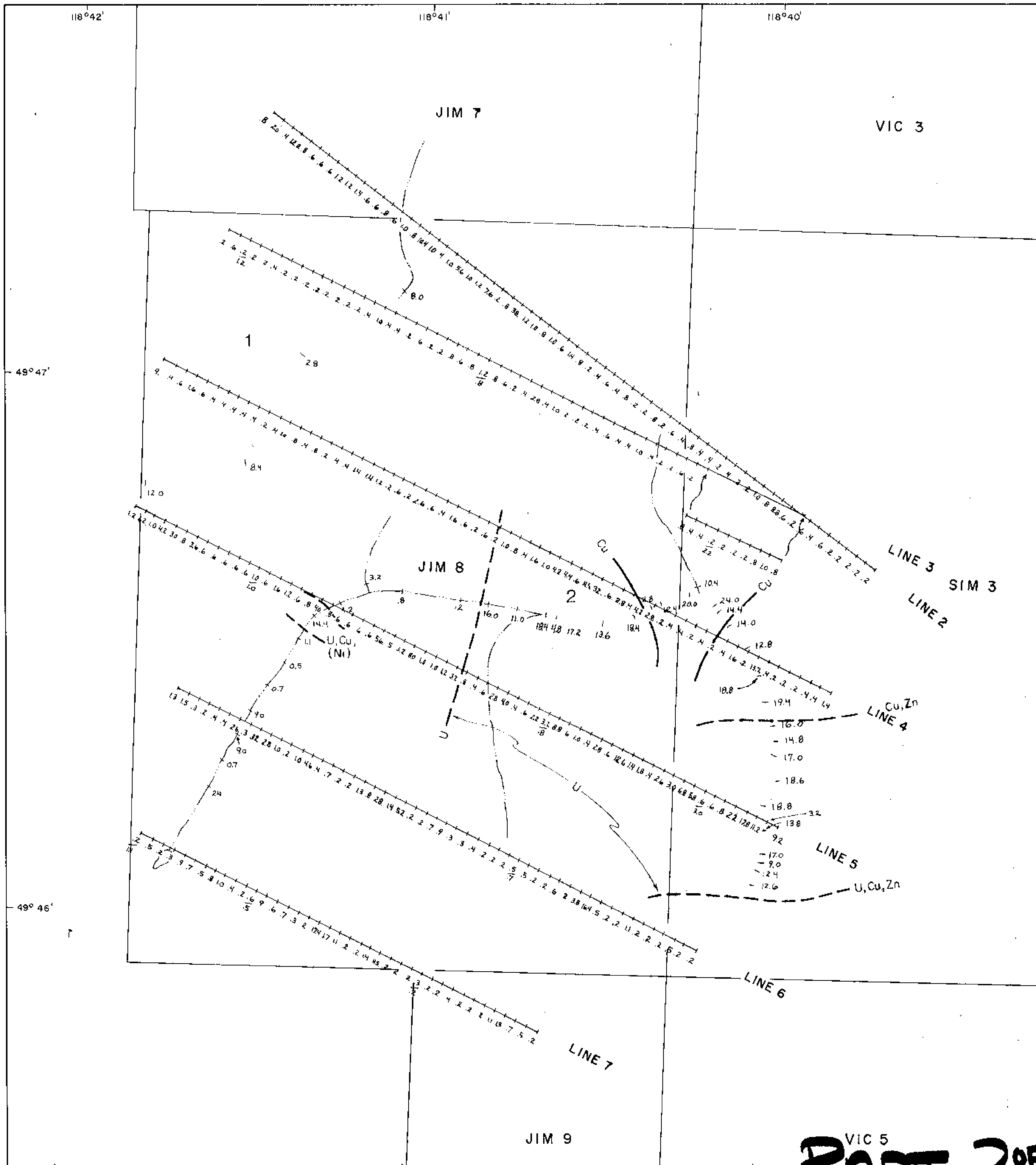
LEGEND

SOIL—25/42 ROCK — Line or sampled stream with Sample number
SOIL—12/25 ROCK — element value in p.p.m.

JIM 8 — Claim boundary with name and number

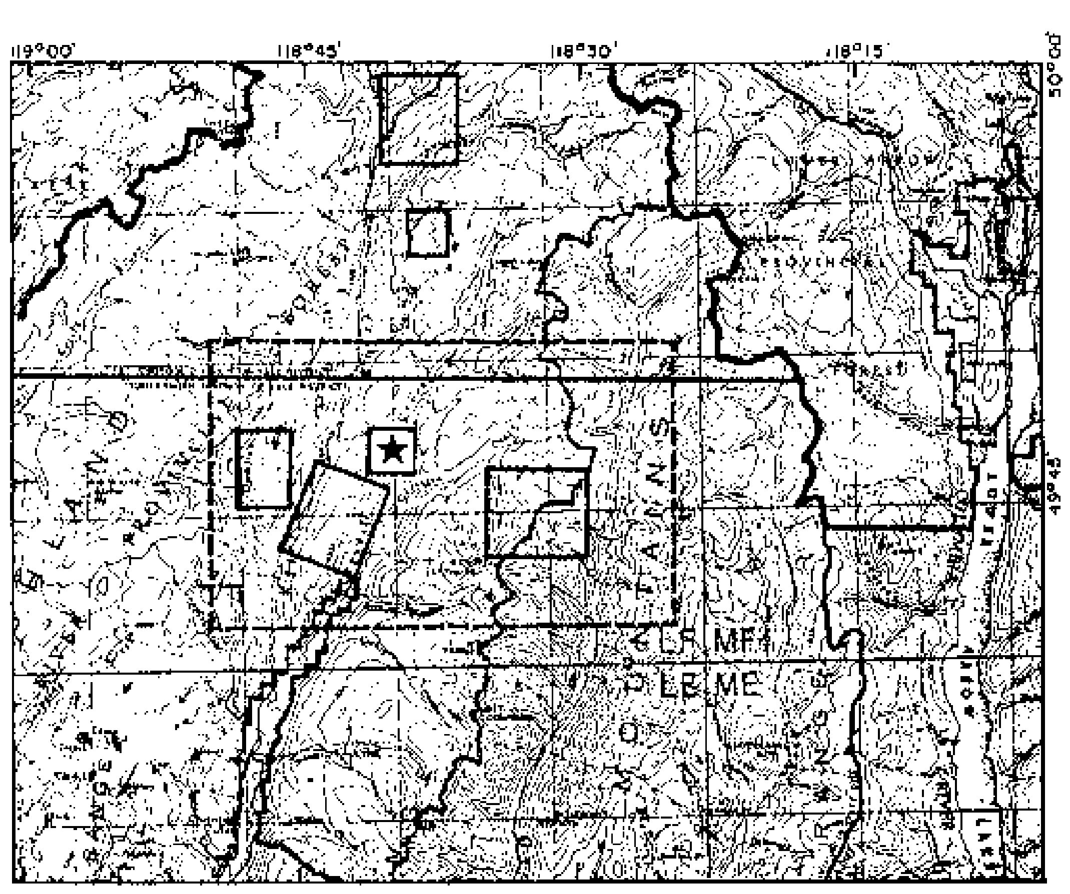
U(Ag) — Strong anomaly with major and minor component

U(Ag) - - - Weak anomaly with major and minor component



PART 2 OF 9

MINERAL RESOURCES BRANCH ASSESSMENT REPORT
7160



LOCATION MAP 1:500,000

KELVIN ENERGY LIMITED
KETTLE RIVER AREA, B.C.

GEOCHEMICAL SURVEY
ANOMALY 1A NORTH
SOIL TRAVERSE FOLLOW-UP

URANIUM DATA & STREAM INTERPRETATION

SCALE 1:10,000

FEET 0 1000 2000 3000
METRES 0 250 500 750 1000

AUGUST-SEPTEMBER 1978
N.T.S. REF. 82-E15

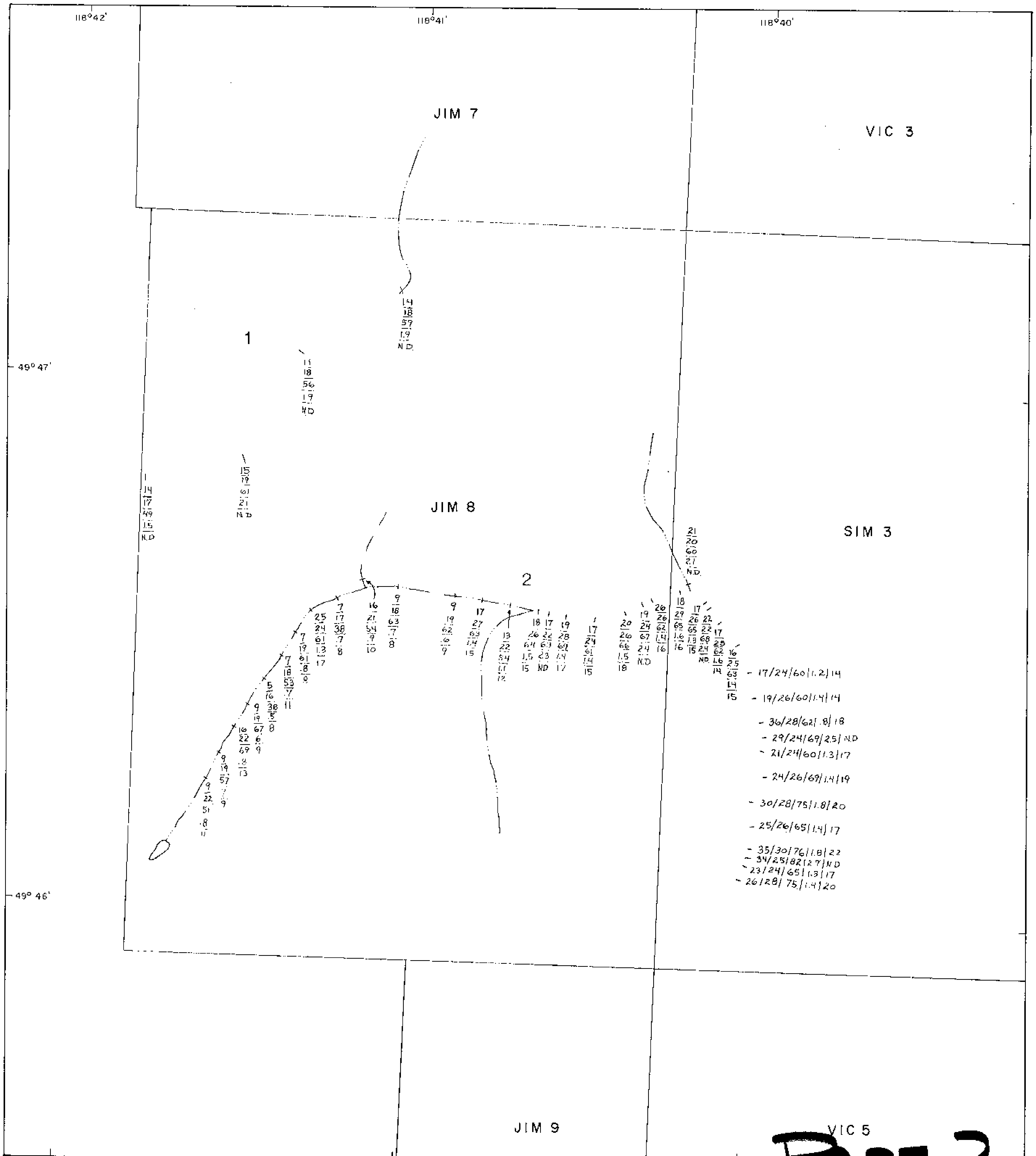
N

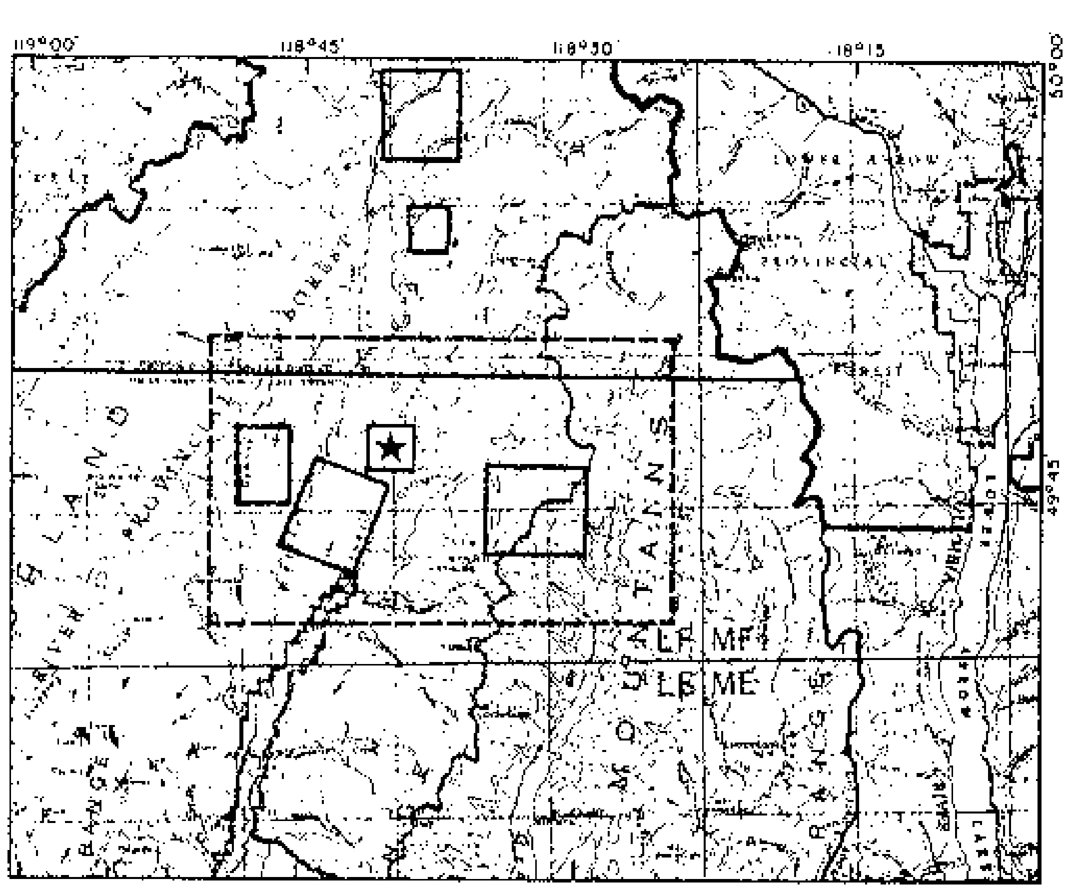
A

Surveyed and compiled by
BARRINGER MAGENTA LTD.
Toronto, Canada

LEGEND

Line or sampled stream with
12 — Sample number
9/19/64/.7/25 — element value in p.p.m. Cu/Pb/Zn/Ag/Ni
JIM 8 — Claim boundary with name and number





LOCATION MAP 1:500,000

PART 2 OF 9

7160

KELVIN ENERGY LIMITED
KETTLE RIVER AREA, B.C.

GEOCHEMICAL SURVEY
ANOMALY 1A NORTH
STREAM SEDIMENT FOLLOW-UP

COPPER/LEAD/ZINC/SILVER/NICKEL

SCALE 1:10,000

FEET 0 1000 2000 3000
METRES 0 250 500 750 1000

AUGUST-SEPTEMBER 1978
N.T.S. REF. 82-E15

N

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Toronto, Canada

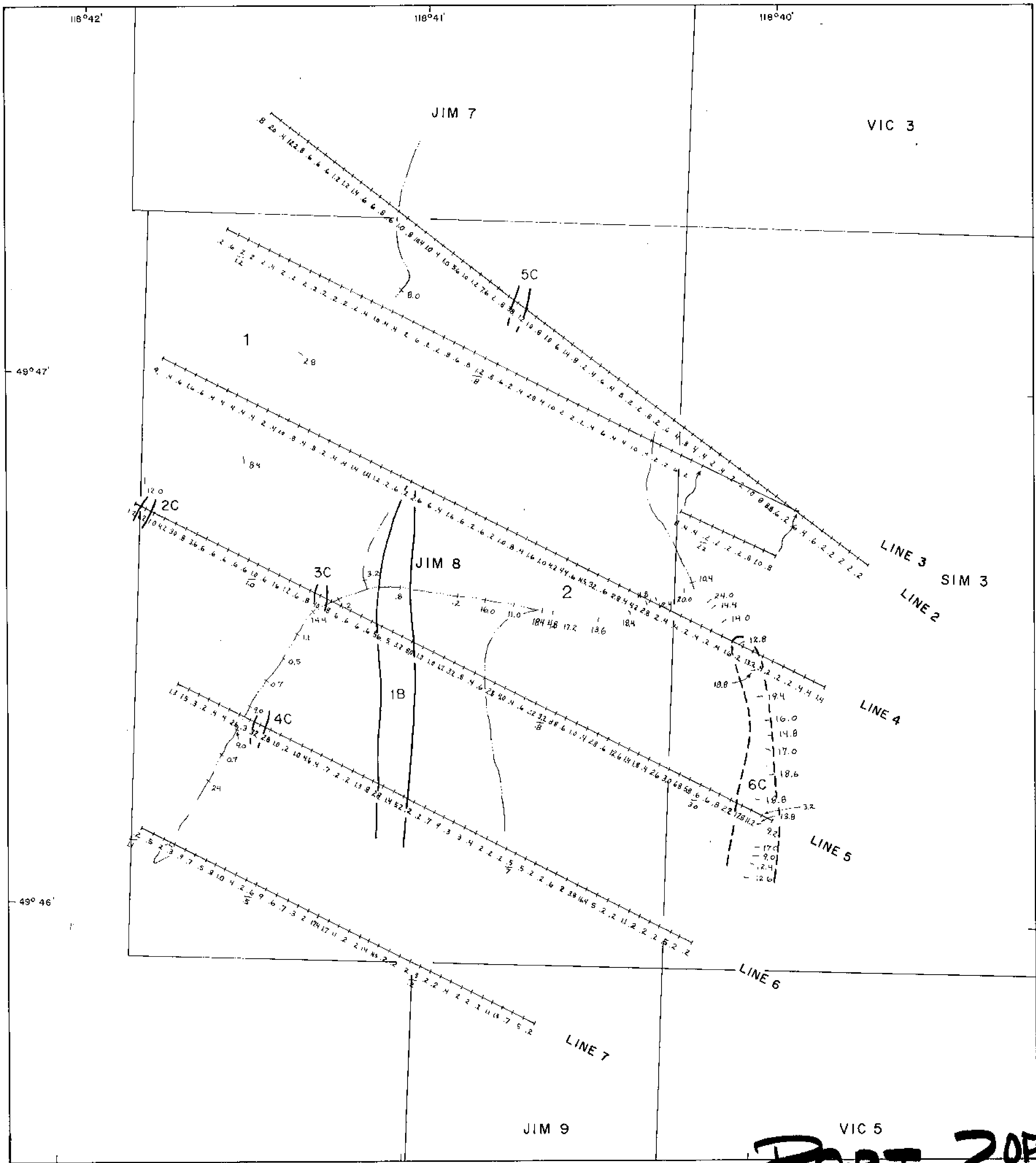
LEGEND

SOIL-25/ROCK-12 — Line or sampled stream with Sample number
SOIL-12/ROCK-25 — element value in p.p.m.

JIM 8 — Claim boundary with name and number

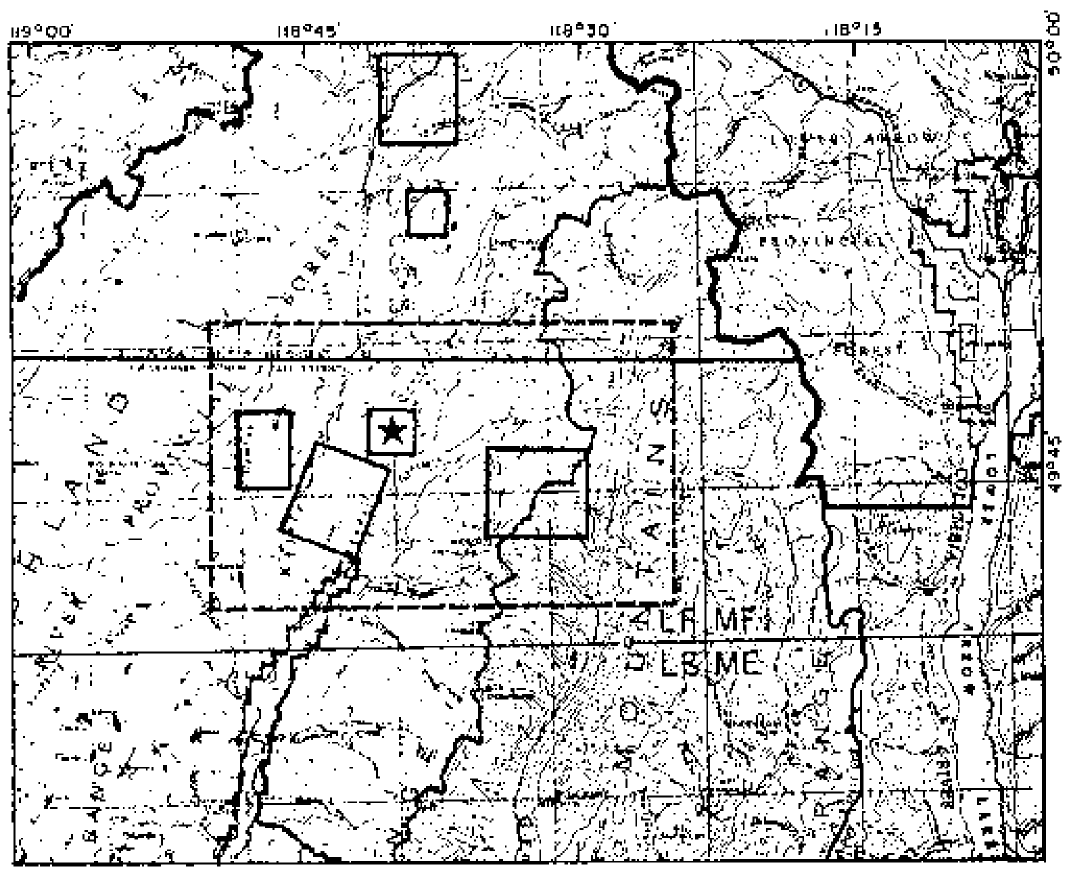
3C — Strong anomaly with designation

3C — Weak anomaly with designation



PART 2 OF 9

7160



LOCATION MAP 1:500,000

KELVIN ENERGY LIMITED
KETTLE RIVER AREA, B.C.

GEOCHEMICAL SURVEY
ANOMALY 1A NORTH
SOIL TRAVERSE FOLLOW-UP

URANIUM DATA & SOIL INTERPRETATION

SCALE 1:10,000

FEET 0 1000 2000 3000

METRES 0 250 500 750 1000

AUGUST-SEPTEMBER 1978

N.T.S. REF. 82-E15

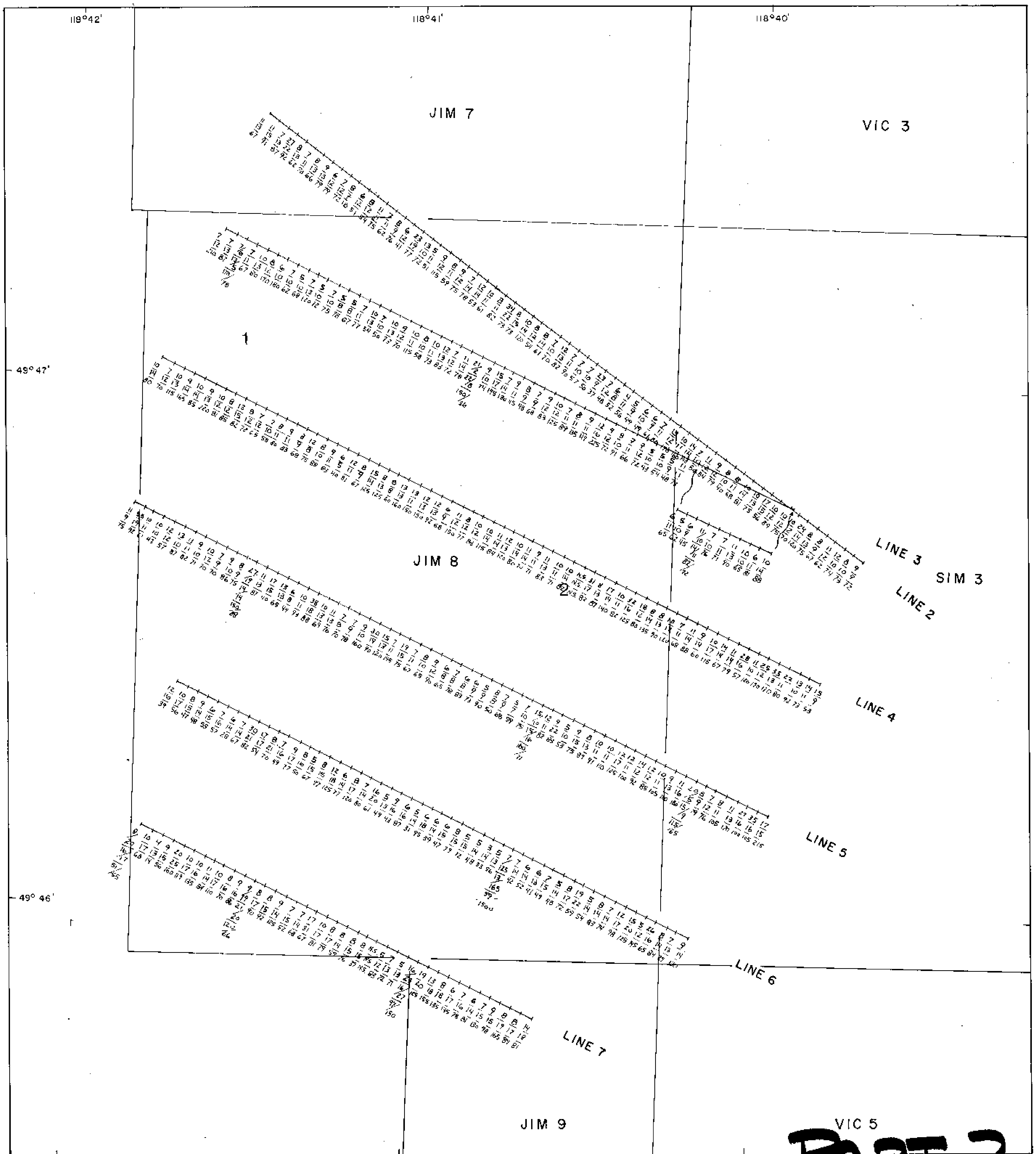
Surveyed and compiled by
BARRINGER MAGENTA LTD.
Toronto , Canada

LEGEND

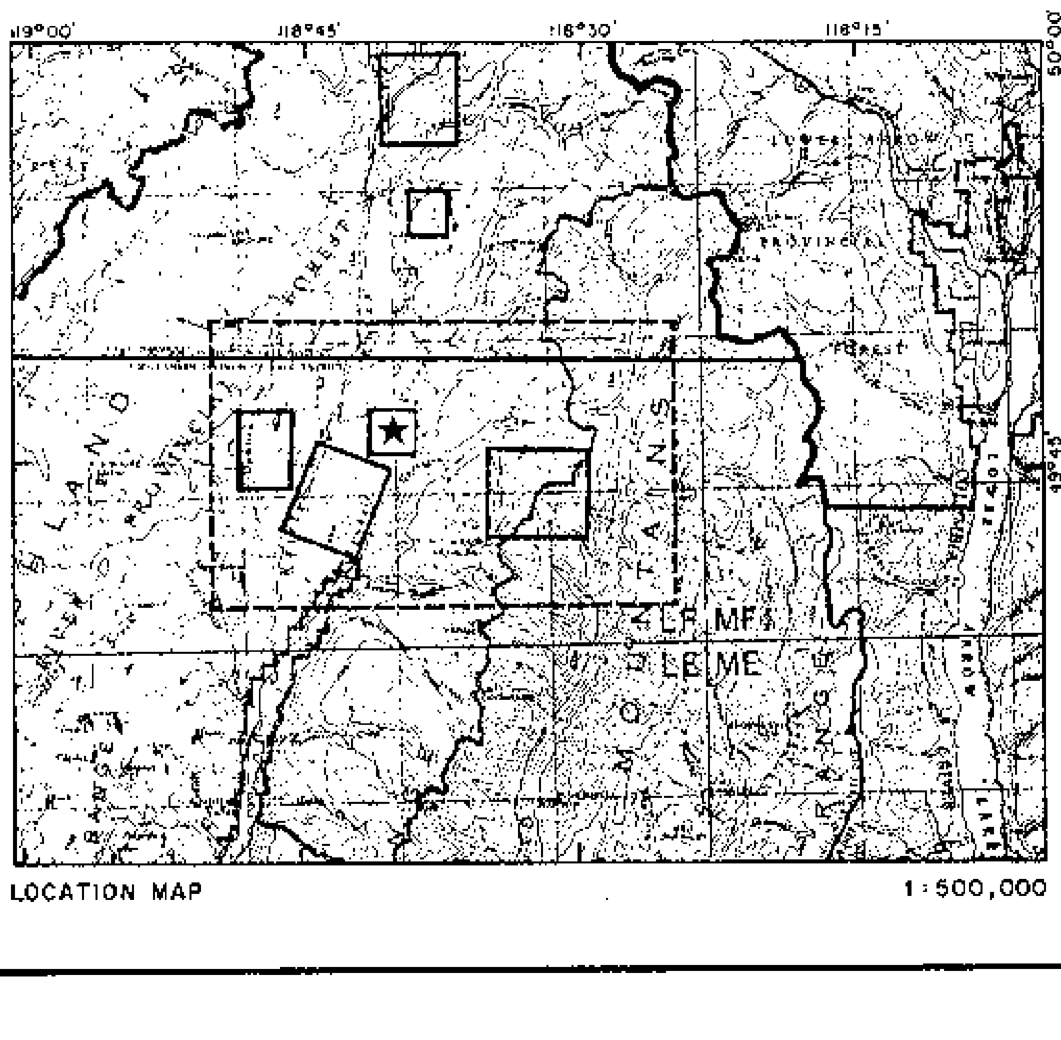
SOIL-25/12 ROCK — Line or sampled stream with Sample number

SOIL-12/25 ROCK — element value in p.p.m. (Cu / Pb / Zn)

JIM 8 — Claim boundary with name and number



PART 2 OF 9
7160



LOCATION MAP 1:500,000

KELVIN ENERGY LIMITED
KETTLE RIVER AREA, B.C.

GEOCHEMICAL SURVEY
ANOMALY 1A NORTH
SOIL TRAVERSE FOLLOW-UP

COPPER/LEAD/ZINC IN SOILS

SCALE 1: 10,000

FEET 0 1000 2000 3000
METRES 0 250 500 750 1000

AUGUST-SEPTEMBER 1978
N.T.S. REF. 82- E 15

N

A

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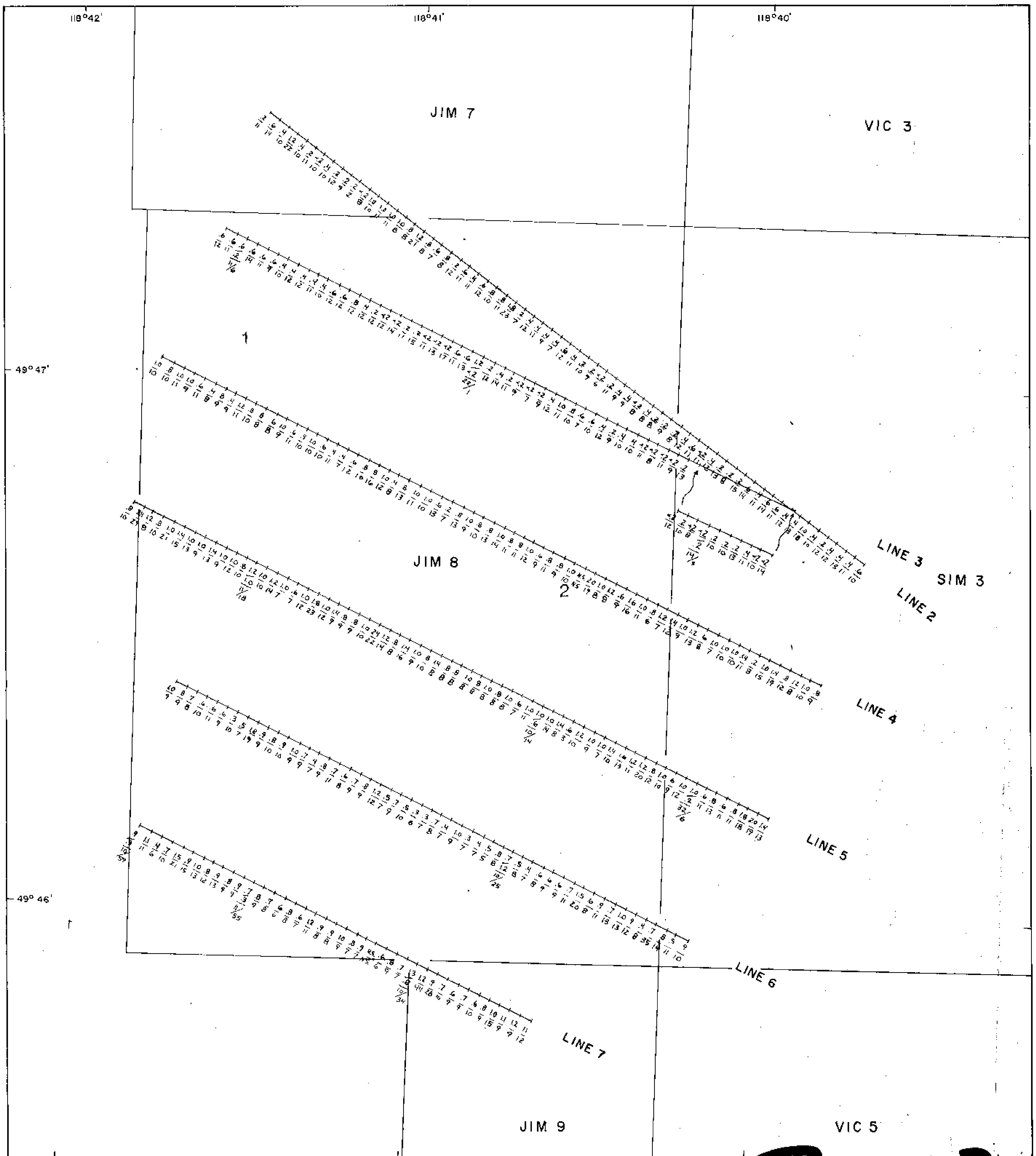
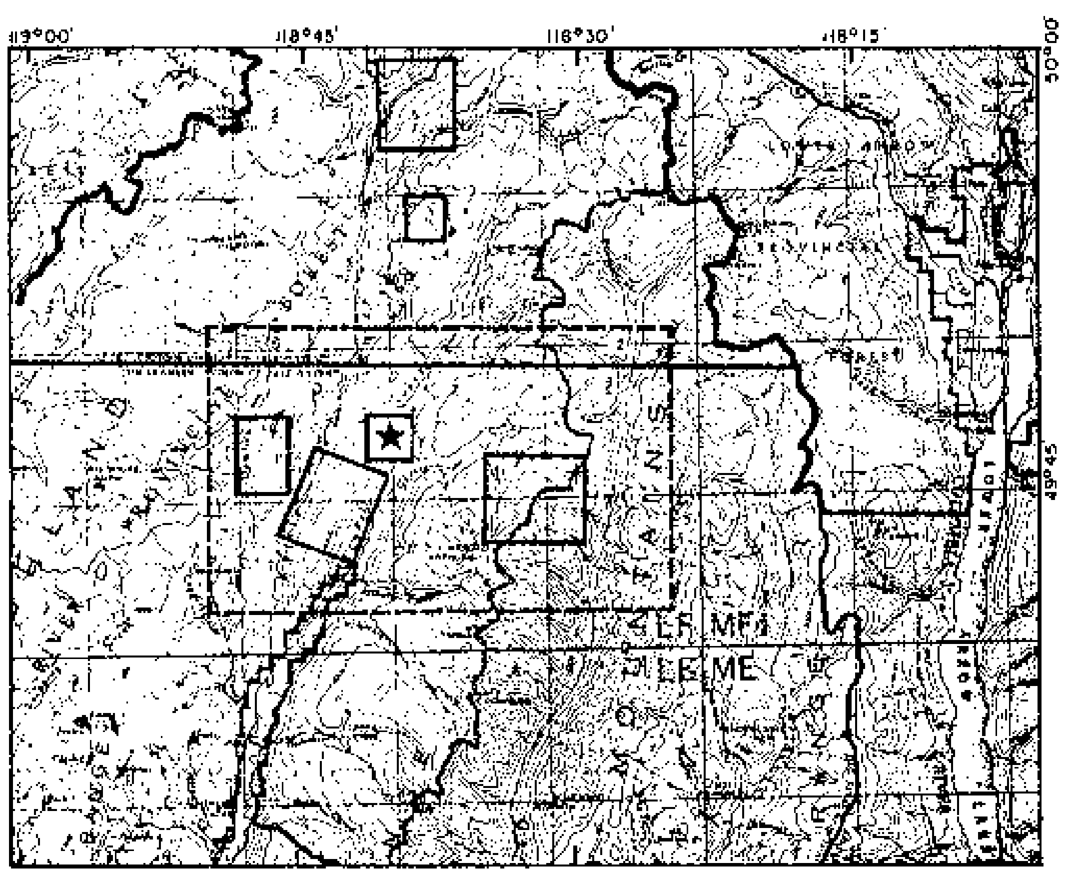
Toronto, Canada

LEGEND

SOIL-26/12, ROCK	Line or sampled stream with Sample number
SOIL-12/23, ROCK	element value in p.p.m. {Ag/Ni}
JIM 8	Claim boundary with name and number





LOCATION MAP 1:500,000

KELVIN ENERGY LIMITED
KETTLE RIVER AREA, B.C.

GEOCHEMICAL SURVEY
ANOMALY 1A NORTH
SOIL TRAVERSE FOLLOW-UP

SILVER/NICKEL IN SOILS

SCALE 1:10,000

FEET 0 1000 2000 3000

METRES 0 250 500 750 1000

AUGUST-SEPTEMBER 1978

N.T.S. REF. 82-E15