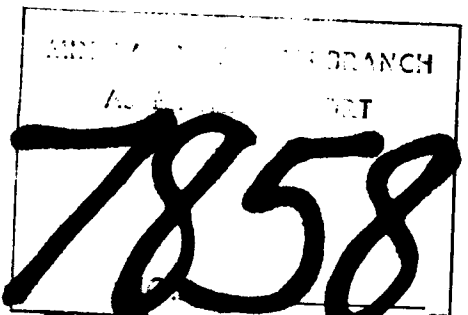


GEOLOGICAL REPORT ON
THE LEO 10 MINERAL CLAIM

Greenwood Mining Division
NTS 82E/15~~4~~E

Claims : LEO 10
Location : Latitude 49°48', Longitude 118°⁵⁷45'
Owner : Kelvin Energy Ltd.
Operator : Kelvin Energy Ltd.



Part 2
of 2

By: Louis Bell
Kelvin Energy Ltd.
March, 1980

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INTRODUCTION

General Statement

The LEO 10 mineral claim was geologically mapped and prospected by Kelvin Energy Ltd. personnel during the 1979 field season as part of a much larger evaluation of Kelvin Energy Ltd.'s claim holdings in the Kettle River - Granby River area of southern British Columbia. The LEO 10 claim was evaluated primarily for its uranium potential, but the base and precious metal potential was also considered during the claim evaluation.

The results of the exploration work pertaining specifically to the LEO 10 claim are presented and discussed in this report.

Location and Access

The claims are situated (Figure 1) approximately 50 kilometers east-southeast of Kelowna, British Columbia. The approximate co-ordinates of the centre of the claim group are: latitude 49°46' and longitude 118°45'. Access to the property is afforded by the Kettle River Valley Forestry Access Road which crosses the southeast corner of the property.

Topography

The LEO 10 claim covers the top and eastern slope of a large north-northeast trending ridge that has a maximum relief of nearly 600 meters. The area is heavily forested and contains less than 20% outcrop.

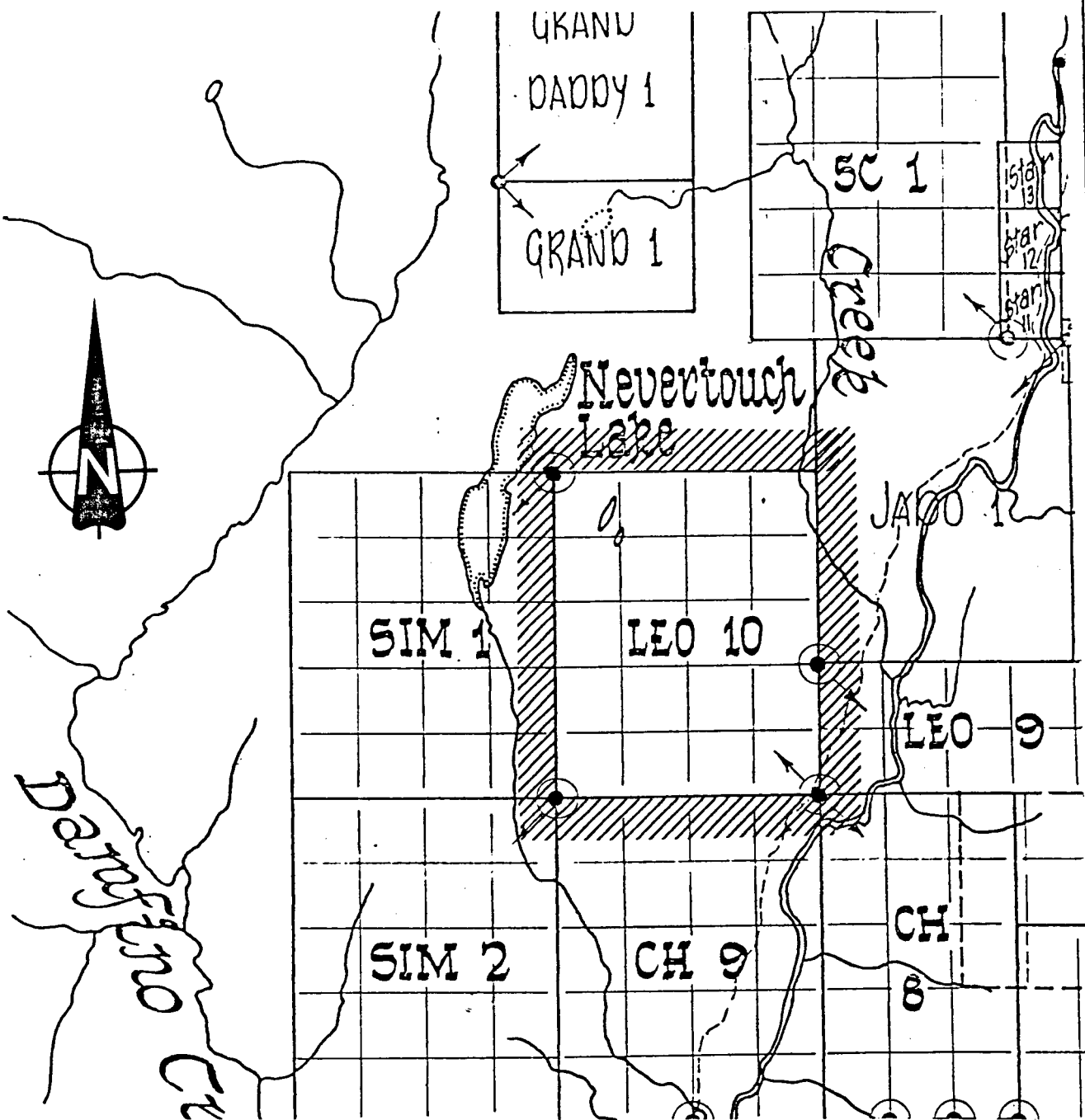
Claims

The 20 unit LEO 10 claim was recorded on February 13, 1978 and the record number of the claim is 972. The claim is owned by Kelvin Energy Ltd. of 434 - 550, 6th Avenue S.W, Calgary, Alberta T2P 0S2.

GEOLOGY AND PROSPECTING RESULTS

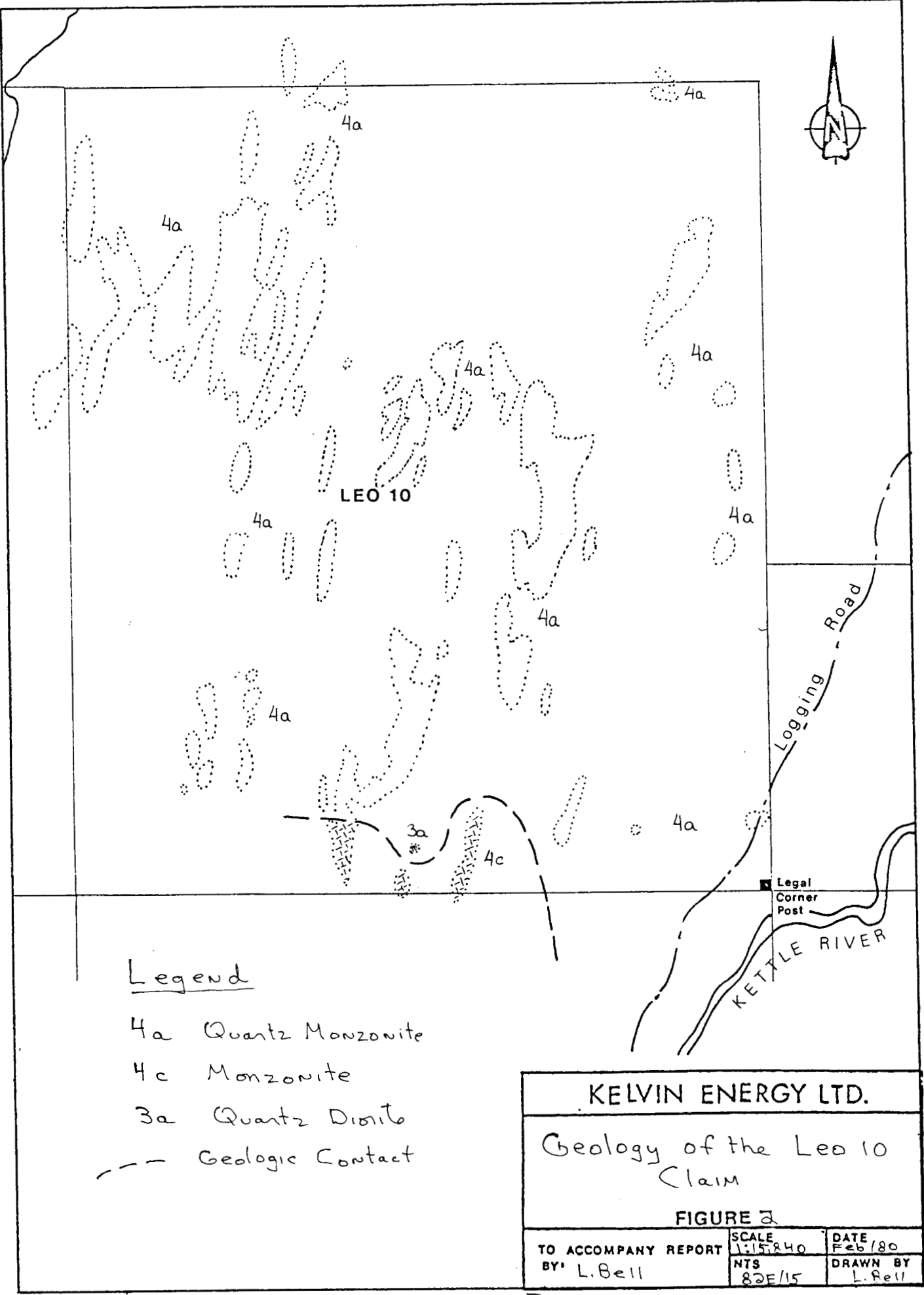
Scope of Claim Evaluation

Geologic observations were plotted in the field on polyester drafting film overlays attached to British Columbia Government 1:15,840 air photos, and subsequently transferred to a base map of the same scale as the photos (Figure 2). The base map was produced by enlarging 1:50,000 scale topographic map 82E/15. All outcrop areas that are apparent on the photos were examined and prospected.



TO
KELOWNA
50 km.

KELVIN ENERGY LTD.		
Location Map for LEO 10 Claim		
FIGURE 1		
TO ACCOMPANY REPORT BY: L. BELL	SCALE 1:50000	DATE FEB 1980
	NTS 82E/15	DRAWN BY E. SWAN



Legend

- 4a Quartz Monzonite
- 4c Monzonite
- 3a Quartz Diorite
- Geologic Contact

KELVIN ENERGY LTD.		
Geology of the Leo 10 Claim		
FIGURE 2		
TO ACCOMPANY REPORT	SCALE 1:15,240	DATE Feb/80
BY: L. Bell	NTS 82E/15	DRAWN BY L. Bell

Each crew member who was involved in the work carried an Urtec UG-130 scintillometer at all times.

Several rock chip, soil, and sediment samples were collected on the claim and analyzed for uranium, copper, molybdenum, lead, zinc, and silver by Barringer Magenta Ltd. of Calgary, Alberta.

Results of Geologic Mapping and Prospecting

With the exception of an isolated outcrop of quartz diorite of the Nelson Intrusions, the property is underlain by Cretaceous Valhalla intrusions of quartz monzonite and monzonite (Figure 2).

The isolated outcrop of quartz diorite probably represents a roof pendant of Nelson intrusive material in the Valhalla intrusions. The rock is light grey weathering, medium grained, equigranular, and consists of 20% quartz, 50% plagioclase, 10% K-feldspar, 10% hornblende, and 10% biotite.

The Valhalla quartz monzonite is light grey to white weathering and has a white fresh surface. The rock is massive, medium grained, equigranular to inequigranular, and has an estimated modal composition of 15% quartz, 35% plagioclase, 35% K-feldspar, and 15% biotite, with minor amounts of sphene, magnetite and epidote.

The quartz monzonite appears to be intruded by a younger phase of the Valhalla intrusions along the southern boundary of the LEO 10 claim. The monzonite is a light grey to white weathering rock with a grey fresh surface. The rock is usually massive, equigranular, although locally it can be porphyritic with up to 30% combined plagioclase and K-feldspar phenocrysts.

No radioactive hot spots or uranium occurrences were found during the geologic mapping and prospecting phases of the property examination. No indications of base metal mineralization were observed during prospecting or mapping of the claim.

Results of Geochemical Sampling

The locations of the four geochemical samples from the LEO 10 claim are shown on Figure 3, while the uranium, copper, molybdenum, lead, zinc, and silver values are plotted on Figures 4 - 9 respectively.



● HC 10 S

○ MA 19 D

△ MA 18 R

LEO 10

△ ON 18 R

Logging Road

Legal Corner Post

KETTLE RIVER

Legend

△ ON 18 R Rock Chip Location and Sample Number

○ MA 19 D Soil Sample Location and Sample Number

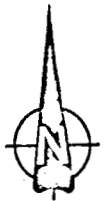
● HC 10 S Stream Sediment Location and Number

KELVIN ENERGY LTD.

Geochemical Sample Location Map

FIGURE 3

TO ACCOMPANY REPORT BY: L. Bell	SCALE 1:15,840	DATE Feb/80
	NTS 82E/15	DRAWN BY L.B.



92.

06.2

Δ
17.6

LEO 10

Δ
200.

Logging
Road

Legal
Corner
Post

KETTLE RIVER

Uranium analyses in P.P.M. U

KELVIN ENERGY LTD.

Uranium Geochemistry

FIGURE 4

TO ACCOMPANY REPORT
BY: L. Bell

SCALE
1:15,840
NTS
22E/15

DATE
Feb 180
DRAWN BY
L.B.



8

O10
Δ 4

LEO 10

Δ 2

Logging Road

Legal
Corner
Post

KETTLE RIVER

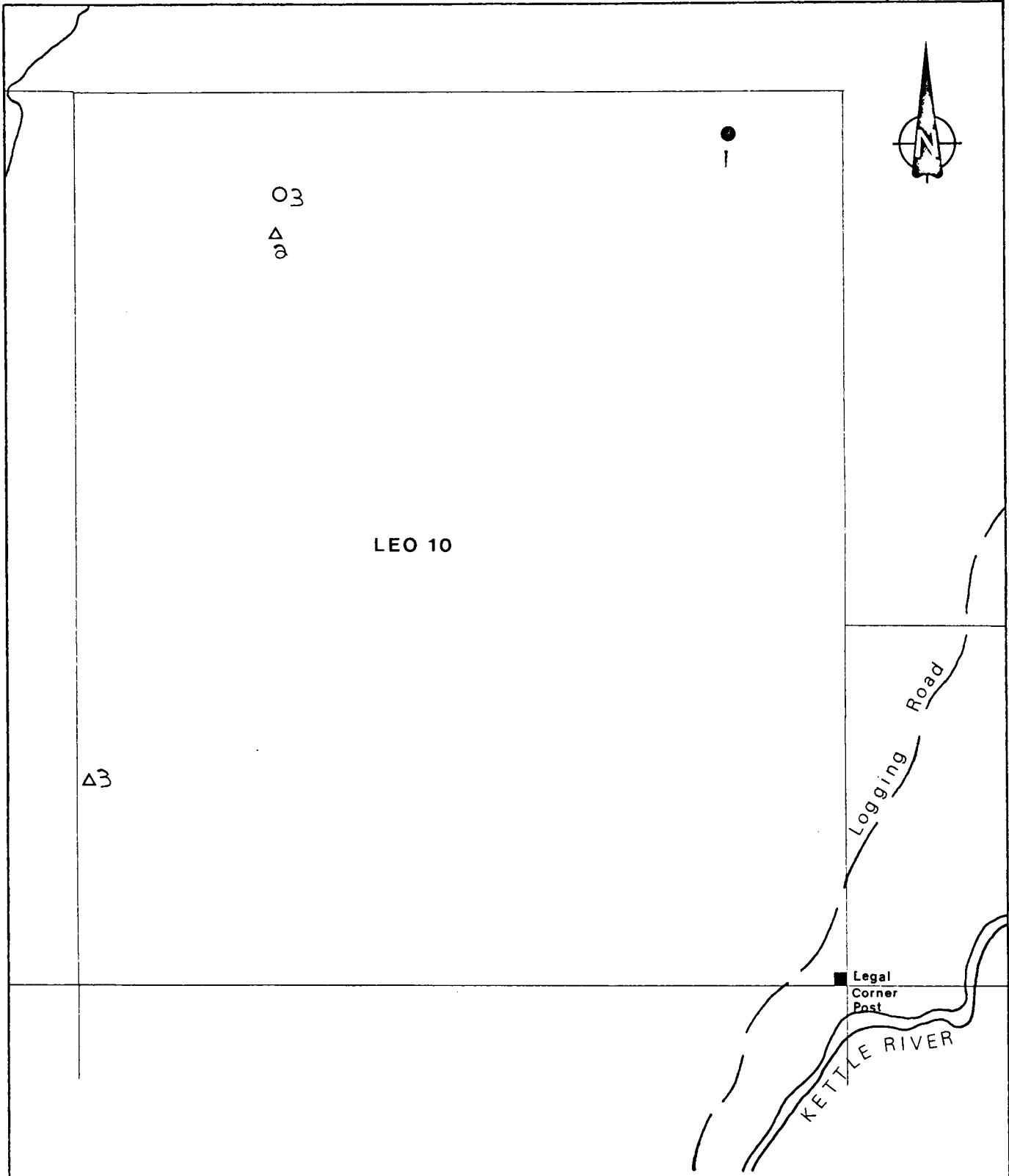
Copper Analyses in ppm Cu

KELVIN ENERGY LTD.

Copper Geochemistry

FIGURE 5

TO ACCOMPANY REPORT BY: L. Bell	SCALE 1:15,840	DATE Feb-180
	NTS 82E/15	DRAWN BY L.S



Molybdenum Analyses in P.P.M. Mo

KELVIN ENERGY LTD.

Molybdenum Geochemistry

FIGURE 6

TO ACCOMPANY REPORT BY: L. Bell	SCALE 1:15,840	DATE Feb-180
	NTS 82E15	DRAWN BY L.B.



o
15.

o 15.
Δ 11.

LEO 10

Δ
10.

Logging Road

Legal
Corner
Post

KETTLE RIVER

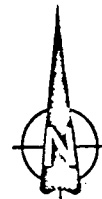
Lead Analyses in P.P.M. Pb

KELVIN ENERGY LTD.

Lead Geochemistry

FIGURE 7

TO ACCOMPANY REPORT BY: L. Bell	SCALE 1:15,840	DATE Feb-180
	NTS 82E15	DRAWN BY L. B



25

041

Δ
61

LEO 10

Δ18

Logging Road

Legal
Corner
Post

KETTLE RIVER

Zinc Analyses in ppm. Zn

KELVIN ENERGY LTD.

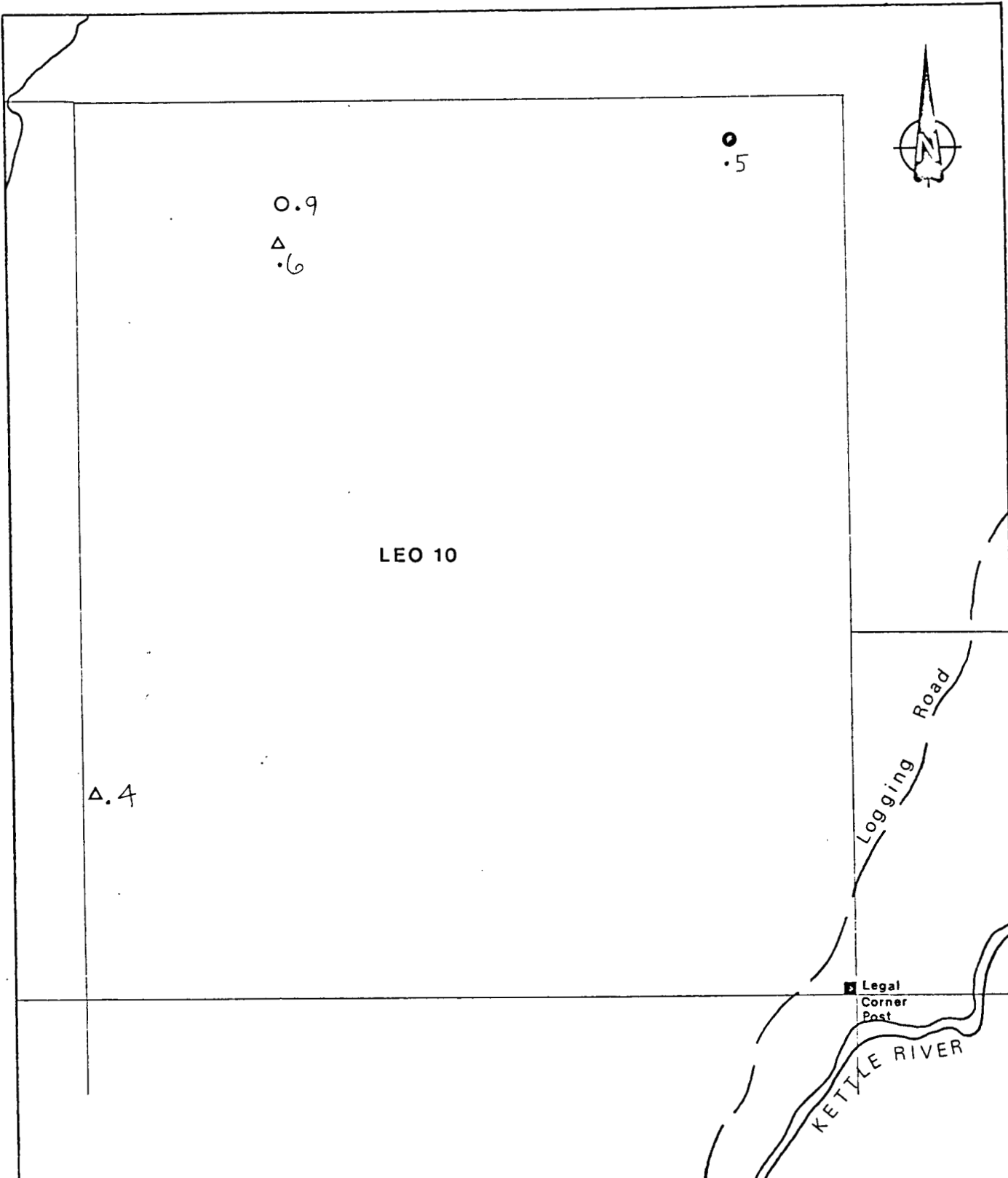
Zinc Geochemistry

FIGURE 8

TO ACCOMPANY REPORT
BY: L. Bell

SCALE
1:15,840
NTS
82E'15

DATE
Feb 180
DRAWN BY
L. Bell



Silver Analyses in PPM. Ag.

KELVIN ENERGY LTD.

Silver Geochemistry

FIGURE 9

TO ACCOMPANY REPORT BY: L. Bell	SCALE 1:15,340	DATE Feb-80
	NTS 82E/15	DRAWN BY L.B.

The geochemical data are tabulated below:

<u>Sample</u>	<u>U</u>	<u>Cu</u>	<u>Mo</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>
MA18R	17.6	4	2	11	61	0.6
19D	6.2	10	3	15	41	0.9
HC10S	92	8	1	15	25	0.5
ON18R	200	2	3	10	18	0.4

The geochemical sample density is much too sparse to be of any use in evaluating the mineral potential of the property; however, the rock sample values of 17.6 and 200 ppm uranium are very significant in that they may indicate that the quartz monzonite could serve as a source rock for epigenetic uranium mineralization.

DISCUSSION OF RESULTS

The absence of a flat-lying Tertiary basalt capping on the property precludes the possibility of discovering a Blizzard type paleochannel deposit. Because of the absence of roof pendants of graphitic or sulphide-bearing meta-sediments, the LEO 10 claim is considered to have a very low potential for hosting Midnite type uranium mineralization.

CONCLUSIONS

The LEO 10 mineral claim has a very low potential for hosting uranium, copper, molybdenum, lead, zinc, or silver mineralization.

RECOMMENDATIONS

No further work is recommended for the LEO 10 claim, but assessment work should be applied to the claims in the event that future discoveries on nearby claims may indicate a herto unrecognized mineral potential.

STATEMENT OF EXPENDITURES FOR THE

LEO 10 MINERAL CLAIM

<u>A. Personnel</u>	<u>Days</u>	<u>Rate</u>	<u>Charge</u>
Project Geologist			
Office	2	\$100	\$200.00
Field	3	125	375.00
Senior Assistant	1	80	80.00
Junior Assistant	5	60	300.00
			<u>955.00</u>
B. <u>Personal Subsistence</u> 9 man days @ \$20/day/man			180.00
C. <u>Scintillometer Rental</u> 9 unit days @ \$8/unit/day			72.00
D. <u>Geochemical Analysis</u> 4 x 7.50			30.00
E. <u>Truck Rental</u> 5 days @ \$50/day			250.00
F. <u>Air Photos, Maps</u>			50.00
G. <u>Drafting, Reproduction, Typing</u>			<u>100.00</u>
			\$1,637.00

APPENDIX I
CERTIFICATE OF QUALIFICATIONS

CERTIFICATE OF QUALIFICATIONS

I, Louis A. Bell, hereby certify that:

- 1) I am a geologist employed by Kelvin Energy Ltd. of 434 - 550, 6th Avenue S.W, Calgary, Alberta T2P OS2.
- 2) I graduated from the University of Manitoba with a B.Sc(hons) in Geology in 1969. I have practised my profession continuously since 1969.
- 3) I personally examined the LEO 10 claim on June 2, 16 and 17, 1979.

Louis Bell

L. BELL
KELVIN ENERGY LTD.

APPENDIX II

PERSONNEL

PERSONNEL EMPLOYED ON THE
LEO 10 MINERAL CLAIM EVALUATION

<u>PERSONNEL</u>	<u>STATUS</u>	<u>QUALIFICATIONS</u>	<u>DUTIES</u>	<u>DATES ON PROPERTY</u>
L. Bell	Party Chief	B.Sc(hons)	Mapping Prospecting	June 2,16,17
H. Christmann	Sr. Assist.	Geol.Student	Mapping Prospecting	June 3
L. Hemmingson	Jr. Assist.	Geol.Student	Prospecting	June 3,16,17
M. Archambault	Jr. Assist.	Geol.Student	Prospecting	May 31
C. Niles	Jr. Assist.	Geol.Student	Prospecting	May 31

APPENDIX III
ANALYTICAL PROCEDURES

ANALYTICAL PROCEDURES

Stream sediment and soil samples were analyzed at the Barringer Magenta Ltd. laboratory in Calgary, Alberta. The samples were first oven dried at a temperature of 45°C and 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, molybdenum, lead, zinc, and silver 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 metric acid was added. The samples were then 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 dish was then compared with fresh standards using a Jarrell-Ash Fluormeter.

The limits of detections for copper, lead, zinc, silver, molybdenum, and uranium are 1, 1, 1, .2, 1 and .2 ppm 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 analyze the stream sediment samples.

APPENDIX IV
ANALYTICAL RESULTS

RECEIVED 12 1 1979

BARRINGER MAGENTA LIMITED

Geochemical Laboratory Report

3750 - 19th STREET N.E.
SUITE 105
CALGARY, ALBERTA,
CANADA T2E 6V2
PHONE: (403) 276-9701
TELEX: 03-827584

DATE November 2nd, 1979

Kelvin Energy Ltd.
434 - 550 - 6th Ave. S.W.
Calgary, Alberta

Project No. Kettle River

REPORT NUMBER 79-581C

Authority: L. Bell

SAMPLE NUMBER	U ppm	Cu ppm	Pb ppm	Zn ppm	Mo Ag ppm	Ag ppm				
HC 10S	92.0	8	15	25	.5	1				
ON 18R	200.	2	10	18	.4	3				
MA 18R	17.6	4	11	61	.6	2				
MA 19D	6.2	10	15	41	.9	3				