



52C16SW8253 2.2081 BENNETT LAKE

010

APR 12 1976

INTRODUCTION:

PROJECTS UNIT

This report describes the results of an electromagnetic survey conducted by The Hanna Mining Co. on claim K-416612 held by R. W. Pitkanen, Port Frances, Ontario. The survey was conducted as part of the survey conducted on the surrounding claims held by The Hanna Mining Co. The survey on this property was conducted in the period between July 27, 1975 and August 27, 1975.

LOCATION & ACCESS:

The property is located approximately 9 miles east of Mine Centre and 1/2 mile south of the Little Turtle River. It can be reached by travelling approximately 9 miles east on Hwy. 11 from Mine Centre. Drive north from the highway on Bowes Rd. for approximately 1/2 mile. Where the CNR tracks cross the road, traverse due north for approximately 3,300 feet to reach the southeast corner of property.

FORMER WORK:

As far as it is known, there has been no previous geophysical survey conducted on this property. The Alice-A gold mine was situated on the property and worked by the American and Canadian Gold Mining Co. from 1897-1899. A main shaft 95 feet deep with a 35-foot crosscut at the 60-foot level and other smaller test pits were sunk. The mine never went into full production and was shut down in 1899.

GEOLOGY:

The property is underlain by felsic volcanics which are interbedded with minor bands of intermediate volcanics. The northern boundary is underlain by a narrow band of basic lava. The general strike of the rocks is east-west with steep to vertical dips. They are highly altered and foliated.

PERSONNEL:

The survey was conducted by Rod Tanaka and John Muhic using a Crone CEM instrument. The Horizontal Shootback EM method was employed.

TECHNICAL DETAILS:

North-south picket lines were established at 400-foot intervals as part of the grid covering surrounding claims. Three picket lines for a total footage of 3490 feet cross the property. The survey was conducted with a coil spacing of 300 feet. Readings were taken at 100-foot intervals with 50 foot interval readings in anomalous zones. The basic coverage was conducted using a frequency of 1830 Hz. Where anomalous zones were encountered both 390 Hz and 1830 Hz were used. The method employed was the Horizontal Shootback EM method. With this method both operators traverse along the same picket line and both in turn transmit and receive measuring the dip angle of the field. The two angles are then added together and equal "0" if no conductors are present. The result is plotted at the mid-point between the two coils.

The instrument used is the Crone CEM. The operating range of the coils is up to 200 meters. Measurements are made by visual null on the field strength meter and audio null through crystal earphones. The inclinometer has a range of 200° and an accuracy of  $\pm 0.5$  degrees.

A total of 43 medium frequency (1830 Hz) readings and 11 low frequency (390 Hz) readings were taken.

**RESULTS:**

There is one very weak anomaly on line 816E. It does not extend to the adjacent picket lines, nor does it have a magnetic anomaly associated with it. The conductor, which is interpreted as being at 23+50N, is very narrow and less than 75 feet deep. Its position on the northern edge of the outcrop indicates that the anomaly is possibly due to edge effects of the overburden in contact with the rock.

Dec.12, 1975

  
.....  
John F. Muhl, Geologist  
The Hanna Mining Company

# Legend

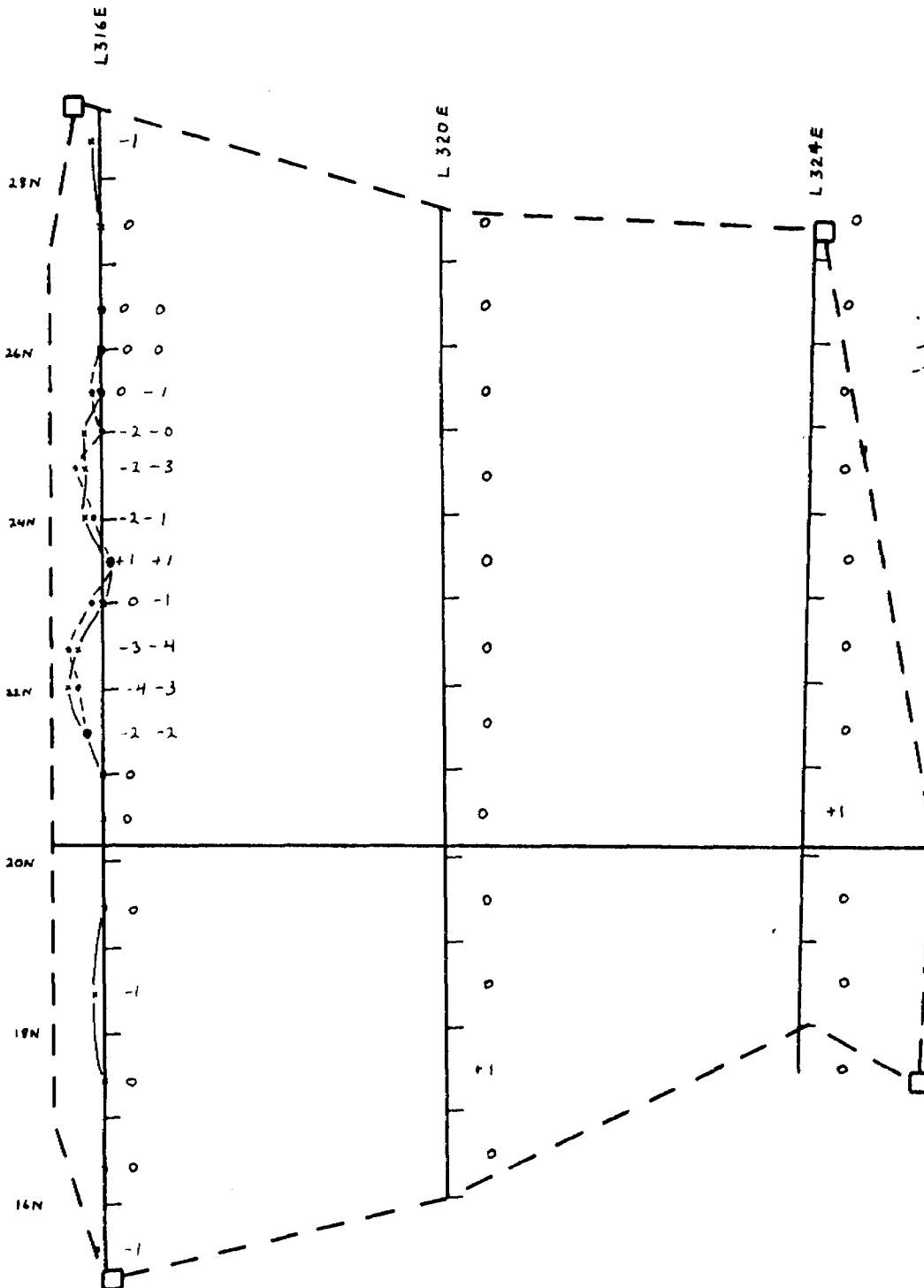
Medium Low  
Frequency

+1 +1

INSTRUMENT

CRONE CEM

Medium Frequency 1830 Hz  
Low Frequency 390 Hz  
Coil Spacing 300 Ft.



Decl. 4° 30' E

**R. PITKANEN CLAIM No. 416612**  
KENORA MINING DIVISION, ONTARIO

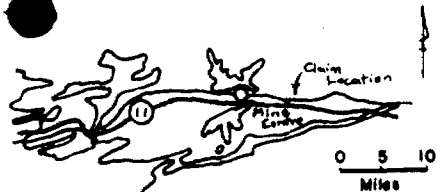
**ELECTROMAGNETIC MAP**  
by THE HANNA MINING CO.

Scale 1" = 200'



Work by J.F. Muhic N.T.S. No. 52 C 10  
Date: August 27, 1975

*Jfm*



PROPERTY LOCATION MAP



52C16SW8253 2.2081 BENNETT LAKE

020

MAGNETOMETER SURVEY - CLAIM K-416612

RECEIVED

APR 12 1976

INTRODUCTION:

The report describes the results of a magnetometer survey conducted by The Hanna Mining Co. on claim #k-416612 held by R.W. Pitkanen, Fort Frances, Ontario. The survey was conducted as part of the survey conducted on the surrounding claims held by The Hanna Mining Co. The survey on this property was conducted in the period between July 27, 1975 and August 2, 1975. PROJECTS UNIT

LOCATION & ACCESS:

The property is located approximately 9 miles east of Mine Centre and 1/2-mile south of the Little Turtle River. It can be reached by travelling approximately 9 miles east on Hwy.11 from Mine Centre. Drive north from the highway on Bowes Rd. for approx. 1/2 mile. Where the CNR tracks cross the road, traverse due north for approx. 3,300 feet to reach the southeast corner of property.

FORMER WORK:

As far as it is known, there has been no previous geophysical survey conducted on this property. The Alice-A gold mine was situated on the property and worked by the American and Canadian Gold Mining Co. from 1897-1899. A main shaft 95 feet deep with a 35-foot crosscut at the 60-foot level and other smaller test pits were sunk. The mine never went into full production and was shut down in 1899.

GEOLOGY:

The property is underlain by felsic volcanics which are interbedded with minor bands of intermediate volcanics. The northern boundary is underlain by a narrow band of basic lava. The general strike of the rocks is east-west with steep to vertical dips. They are highly altered and foliated.

PERSONNEL:

The survey was conducted by Joseph Spiteri who was employed by The Hanna Mining Co. The interpretation was done by the writer.

TECHNICAL DETAILS:

The survey was conducted using a Scintrex MF-2 Fluxgate magnetometer. Its sensitivity is 20 gammas per scale division on the most sensitive scale.

North-south picket lines were established at 400-foot intervals as part of the grid covering surrounding claims. Three picket lines for a total footage of 3,490 feet and an east-west tie line of 1040 feet cross the property. The readings were taken at 50-foot intervals along the picket lines except at an anomaly, where 25 foot readings were taken. Along the tie line the readings are at 100-foot intervals and were established as base stations.

Base stations were established along the base line and tie lines of the grid at 100-foot intervals. This was done by reading the base stations a few at a time, checking back constantly to an already established base station and then carrying the survey ahead. The picket line grid was then run in closed loops, checking in at base stations on the tie lines or base line at regular intervals. The readings were then corrected by distributing the error evenly along the loop.

On this property a total of 74 picket line readings and 10 base line readings were taken.




RESULTS:

The contour pattern of the readings shows a strong east-west trend. Geological units can be successfully traced under overburden. Thus, the magnetometer readings were useful in the geological interpretation of the property. There is a magnetic anomaly on L324E 100 feet north of the tie line. It is a one station anomaly and does not extend to the adjacent picket lines. The anomaly is probably due to a narrow magnetite band similar to those observed in the vicinity of the property. It is interesting to note that the basic lavas on the northern boundary of the property have lower magnetic properties than the acid rocks. The magnetic survey confirms the observation that the basic rocks have very low or no magnetite content.

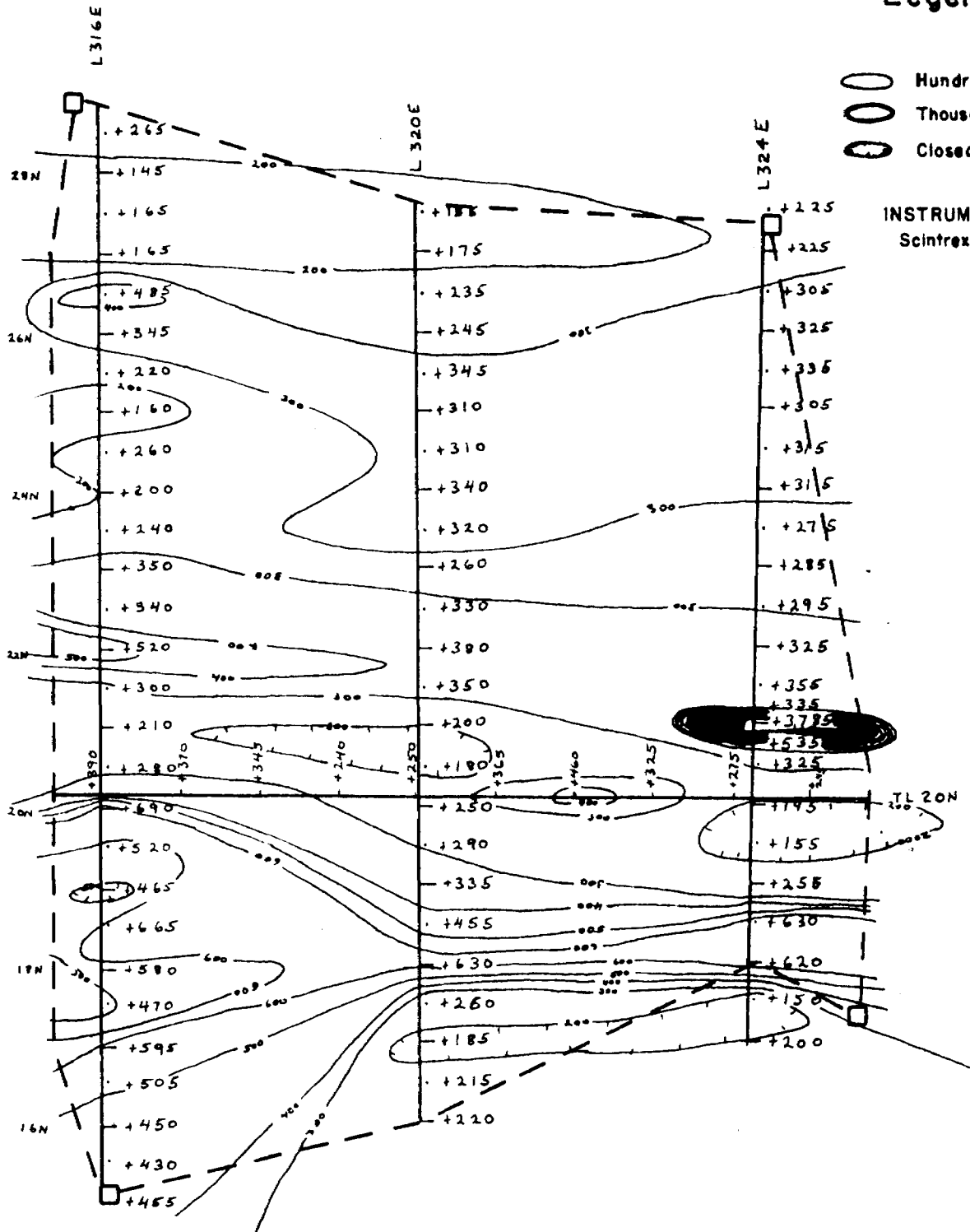
December 12, 1975

.....*John F. Muhic*.....  
John F. Muhic, Geologist  
The Hanna Mining Company

# Legend

-  Hundred gamma contour
-  Thousand gamma contour
-  Closed magnetic low

**INSTRUMENT**  
 Scintrex MF2 Fluxgate  
 Magnetometer



North Ast.  
 Decl. 4° 30' E

**R. PITKANEN CLAIM No. 416612**  
 KENORA MINING DIVISION, ONTARIO

## MAGNETIC MAP

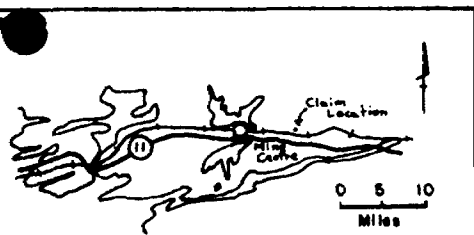
by THE HANNA MINING CO.

Scale 1" = 200'



Work by J Spiteri N.T.S. No. 52C 10  
 Date: August 27, 1975

JFW



PROPERTY LOCATION MAP





S2C16SW8253 2.2081 BENNETT LAKE

030

GEOLOGICAL REPORT CLAIM K-416612

APR 12 1976

INTRODUCTION:

PROJECTS UNIT

The property was staked by R. W. Pitkanen, R.R.#1, Fort Frances, Ontario, on March 30, 1975. Subsequently, the Hanna Mining Company acquired claims surrounding this claim. Geology and geophysics surveys were done with R. Pitkanen's permission as part of the overall survey conducted by The Hanna Mining Company in the area.

LOCATION & ACCESS:

The property consists of claim #K-416612 located approximately 9 miles east of Mine Centre and 1/2-mile south of Little Turtle River. It can be reached by travelling approximately 9 miles east on Hwy. 11 from Mine Centre. Drive north from the highway on Bowes Rd. for approx. 1/2 mile. Where the CNR tracks cross the road, traverse due north for approx. 3,300 feet to reach the southeast corner of property.

FORMER WORK:

The property was worked from 1897 to 1899 by the American and Canadian Gold Mining Co. of West Superior, Wisconsin and was known as the Alice-A Mine. Two exploration shafts approximately 300 ft. apart and a number of small test pits were sunk. The main shaft was approximately 95 feet deep with a 5 X 7 crosscut at the 60-foot level driven north for 35 feet. A mill run of 10 tons from the shaft and pits in February 1898 gave a value of \$11.38 per ton. The ore consisted of many banded, irregular quartz veins in felsite schist. Some quartz contained pyrite, chalcopyrite, galena, and gold. The workings were closed in October, 1899.

References: Ont. Bureau of Mines, Vol.VII,p.129; vol VIII, p.46, 81; Vol.IV, p.75, 150; Vol.X, p.84.

LINECUTTING:

Picket lines were cut at 400-foot intervals as part of the grid covering the surrounding claims. The cutting was contracted to the Red Lake Exploration Co., Red Lake, Ontario and done under the supervision of Mr. Scott Waldie. On this claim, 3490 feet of picket line and 1040 feet of tie line were cut. The picket lines and the tie lines were chained at 100-foot intervals.

GEOLOGICAL MAPPING:

The geological mapping was conducted by the writer and assisted by Rod Tanaka between the dates of Aug.7, 1975 and Aug.12, 1975.

GENERAL GEOLOGY:

The claim is located in a felsic volcanic band near the west end of a long narrow belt of Archean volcanics and sediments which strikes east-west for 130 miles. The felsic volcanic band extends from approximately 2 miles east of Mine Centre and 1 mile south of Hwy.11 to Glenorchy, a distance of 6 miles. The felsic volcanics are interbedded with inter-

mediate volcanics and some local basic lavas. They are intruded by gabbro west of Bad Vermillion Lake. To the south are the sediments of the Seine River series. To the north, the volcanics are bounded by the Quetico Fault that follows the course of the Little Turtle River.

References: Davies, J.C. and Pryslak, A.P., 1967:

Kenora-Fort Frances Sheet. O.D.M. Map #2115, Geol.Comp.Series, scale 1" = 4 mi. Geol. compilation 1963-1965.

Sage, R.P., et al, 1974: Operation Ignace-Armstrong, Mine Centre-Entwine Lake Sheet. ODM Prel.Map P.965 Geol.Ser., scale 1" = 2 miles Geology, 1973.

Tanton, T.L., 1936: Mine Centre Area, Rainy River District, Ont.; G.S.C. Map 334-A, scale 1" = 1/2 mi. Geology 1934.

Young, W.L., 1960: Geology of the Bennett-Tanner Area; O.D.M., Vol.69, pt.4, p.1-17.

LOCAL GEOLOGY:

The predominant rock type on the property is felsic volcanics which underlie 90% of the claim. They are interbedded with minor bands of intermediate tuffs and basic flows. The general strike is east-west with a steep to vertical dip. The acid volcanics are highly sericitized and carbonatized with most containing blue quartz eyes. Only one outcrop of acid rock, found near the eastern boundary of the claim, does not contain quartz eyes.

The intermediate volcanics consist of fine grained tuffs with a "knobby" texture on the weathered surface. They are altered to chlorite and carbonate.

The basic lavas occupy a narrow band on the northern boundary of the property. They are medium grained and flow brecciated with fragments up to 4" X 12". They grade northward into a sheared basic rock with narrow bands of acid volcanics. This can be interpreted as a thick basic flow with tops to the north. The rocks are chloritized and carbonatized and are characterized by a conspicuous lack of magnetite.

The results of the magnetometer survey were used in the geological interpretation.

The outcrop on the east-central portion of the property contains the main shaft and two trenches of the old Alice-A Mine. The trench on the northern edge of the outcrop cuts a 5 to 6 foot wide zone of numerous small quartz carbonate veinlets ranging from 1/4" to 3" in width. The quartz veins conform with the foliation of the surrounding acid volcanics. They strike east-west and have a vertical dip. Pyrite was the only mineralization observed in the veins, although chalcopryrite, galena and gold are also reported.

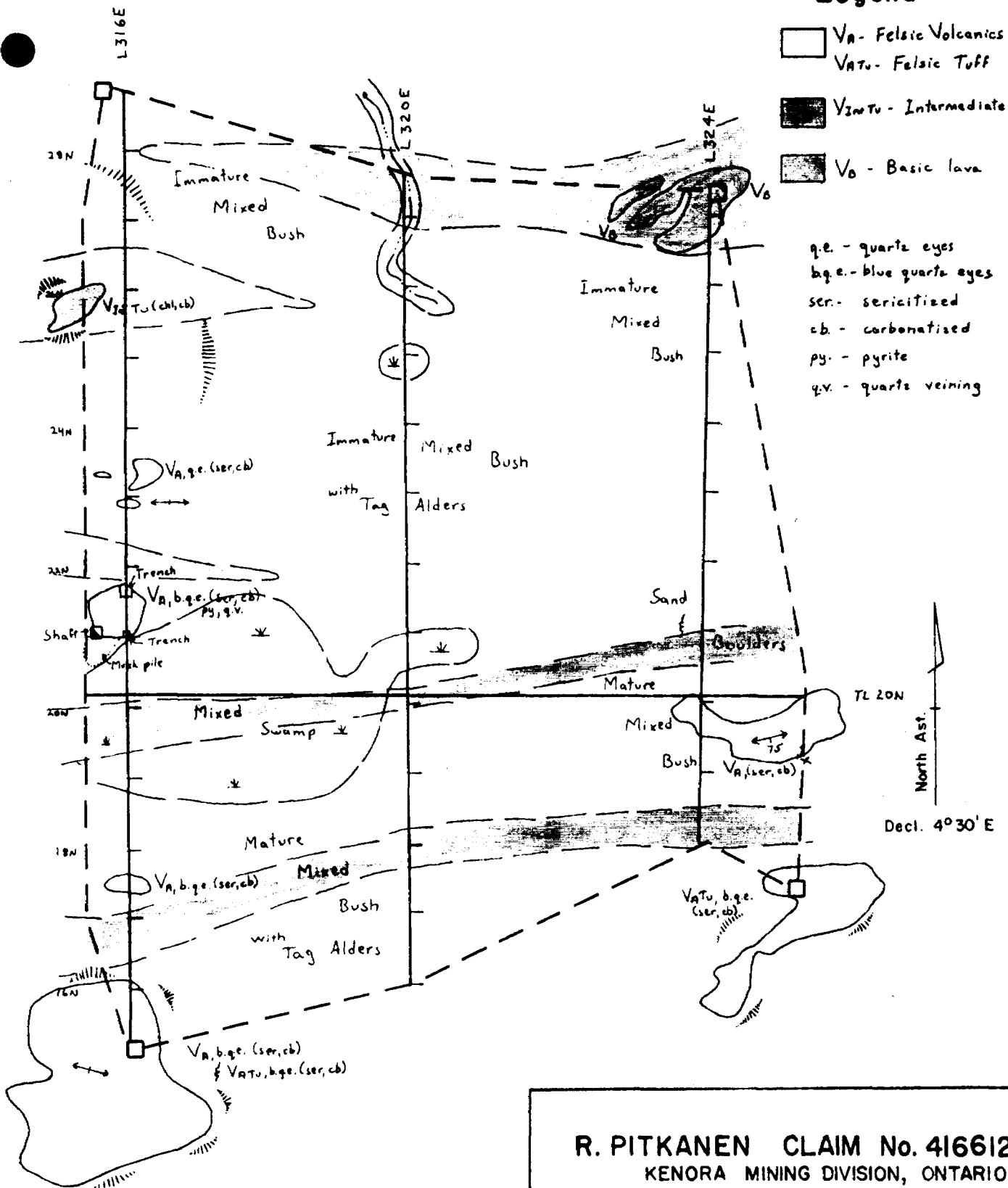
.....  
John F. Mhic, Geologist  
The Hanna Mining Company

December 12, 1975

# Legend

- V<sub>A</sub> - Felsic Volcanics
- V<sub>A</sub>T<sub>u</sub> - Felsic Tuff
- V<sub>Int</sub>T<sub>u</sub> - Intermediate Tuff
- V<sub>o</sub> - Basic lava

- q.e. - quartz eyes
- b.q.e. - blue quartz eyes
- ser. - sericitized
- cb - carbonatised
- py. - pyrite
- q.v. - quartz veining



**R. PITKANEN CLAIM No. 416612**  
 KENORA MINING DIVISION, ONTARIO

## GEOLOGIC MAP

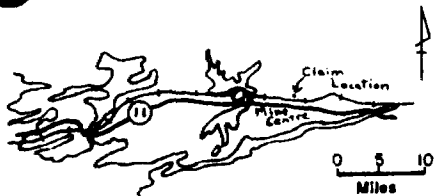
by THE HANNA MINING CO.

Scale 1" = 200'



Work by J.F. Muhic N.T.S. No. 52 C 10  
 Date: August 27, 1975

*JFM*



PROPERTY LOCATION MAP

GEOPHYSICAL - GEOLOGICAL  
TECHNICAL DATA STATEMENT



52C16SW8253 2.2081 BENNETT LAKE

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TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT  
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT  
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

APR 12 1976

PROJECTS UNIT

Type of Survey Ground Electromagnetic, Ground Magnetometer, Geology  
Township or Area AREA OF REED LAKE  
Claim holder(s) R.W. Pitkanen

MINING CLAIMS TRAVERSED  
List numerically

K-416612  
(prefix) (number)

\* Author of Report J. Mubic  
Address 69 Yonge St., Rm 805, Toronto  
Covering Dates of Survey July 27 - Aug 27 / 1975  
(linecutting to office)  
Total Miles of Line cut 1.05

SPECIAL PROVISIONS CREDITS REQUESTED	DAYS per claim
ENTER 40 days (includes line cutting) for first survey.	Geophysical
	-Electromagnetic <u>40</u>
	-Magnetometer <u>20</u>
ENTER 20 days for each additional survey using same grid.	-Radiometric _____
	-Other _____
	Geological <u>20</u>
Geochemical _____	

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer \_\_\_\_\_ Electromagnetic \_\_\_\_\_ Radiometric \_\_\_\_\_  
(enter days per claim)

DATE: Mar. 23/76 SIGNATURE: R.W. Pitkanen  
Author of Report or Agent

PROJECTS SECTION  
Res. Geol. \_\_\_\_\_ New  
\* Qualifications on this file  
Previous Surveys L.D. 63.3367 not for  
Assessment Credits  
Checked by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

GEOLOGICAL BRANCH \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_

TOTAL CLAIMS 1

OFFICE USE ONLY

If space insufficient, attach list

Show instrument technical data in each space for type of survey submitted or indicate "not applicable"

### GEOPHYSICAL TECHNICAL DATA

#### GROUND SURVEYS

Number of Stations ~~25~~ 44 Number of Readings \_\_\_\_\_  
Station interval 100 ft. or 50 ft. \_\_\_\_\_  
Line spacing 400 ft. \_\_\_\_\_  
Profile scale or Contour intervals ~~1" = 200~~ 100 gammas  
(specify for each type of survey)

#### MAGNETIC

Instrument Scintrex MF-2 Flusgate  
Accuracy - Scale constant ± 20 gammas 0-100,000 gammas.  
Diurnal correction method base station  
Base station location tie lines - 20 N

#### ELECTROMAGNETIC

Instrument Crane CEM  
Coil configuration Co-planar, Horizontal Loop.  
Coil separation 300 ft  
Accuracy ± 1 %  
Method:  Fixed transmitter  Shoot back  In line  Parallel line  
Frequency 1230 Hz, 390 Hz  
(specify V.L.F. station)  
Parameters measured dip angle of secondary field

#### GRAVITY

Instrument \_\_\_\_\_  
Scale constant \_\_\_\_\_  
Corrections made \_\_\_\_\_  
Base station value and location \_\_\_\_\_

Elevation accuracy \_\_\_\_\_

#### INDUCED POLARIZATION -- RESISTIVITY

Instrument \_\_\_\_\_  
Time domain \_\_\_\_\_ Frequency domain \_\_\_\_\_  
Frequency \_\_\_\_\_ Range \_\_\_\_\_  
Power \_\_\_\_\_  
Electrode array \_\_\_\_\_  
Electrode spacing \_\_\_\_\_  
Type of electrode \_\_\_\_\_