Kian A. Jensen
Exploration and Consulting Services

010

ELECTROMAGNETIC SURVEY

for

KEEFER LAKE RESOURCES INC.

on the

KEEFER-DENTON PROPERTY

in

KEEFER TOWNSHIP

PORCUPINE MINING DIVISION

DISTRICT OF COCHRANE

ONTARIO

by

Kian A. Jensen
Consulting Geologist/Geophysicist

April, 1988

Kian A. Jensen
Exploration and Consulting Services

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Kian A. Jensen
Exploration and Consulting Services

INTRODUCTION

During November, 1987 and late March, 1988, an electromagnetic VLF-EM survey were completed on 5 contiguous unpatented mining claims on the western part of the claim block known as the Keefer-Denton Property in the southeastern part of Keefer Township and the southwest part of Denton Township.

A total of 4.92 miles of linecutting was completed to establish a total of 233 electromagnetic readings. The survey was completed from November 5 to 8, 1987, by personnel of Guy Thibault Exploration Services under the supervision of the author. The grid lines on the lake were established and surveyed on March 27, 1988, by personnel of Kian A. Jensen Exploration and Consulting Services. The data reductions, drafting, interpretation and report were completed by the author from April 11 to 14, 1988.

The project area is located approximately 12.5 miles (20 km) west of the junction of Highways 101 and 144. The claims cover the southeastern portion of Keefer Township eastwards to the creek draining Godon Lake in the southwestern portion of Denton Township, Porcupine Mining Division, District of Cochrane, Ontario.

The purpose of the survey was to identify conductive zones which may be favourable areas for gold mineralization.

LOCATION AND ACCESS

The 5 unpatented mining claims cover the area south and eastwards from Mosher Lake located in the southeastern quadrant of Keefer Township, Porcupine Mining Division, District of Cochrane, Ontario as shown in Figure 1.

The project area is located approximately 12.5 miles (20 km) west of the junction of Highways 101 and 144. On the east side of Warren Lake, a logging road leads south to southeasterly through Keefer Township to the southwest corner of Denton Township and the project area. A four wheel drive vehicle would be required to travel the road for a short distance. Further access is either by four wheel vehicle or walking.

Additional access from Denton Township approximately 1 mile west of Cripple Creek. This road can be travelled by four wheel vehicle on the southern route to southeast of Godon Lake.

PROPERTY

The portion of the Keefer Lake Resources Inc. holdings covered by this report consists of 5 unpatented mining claims as shown in Figure 2, and consists of the following mining claims and recording dates:

P-947863 to P-947867 inclusively Keefer Twp. Sept. 11, 1986

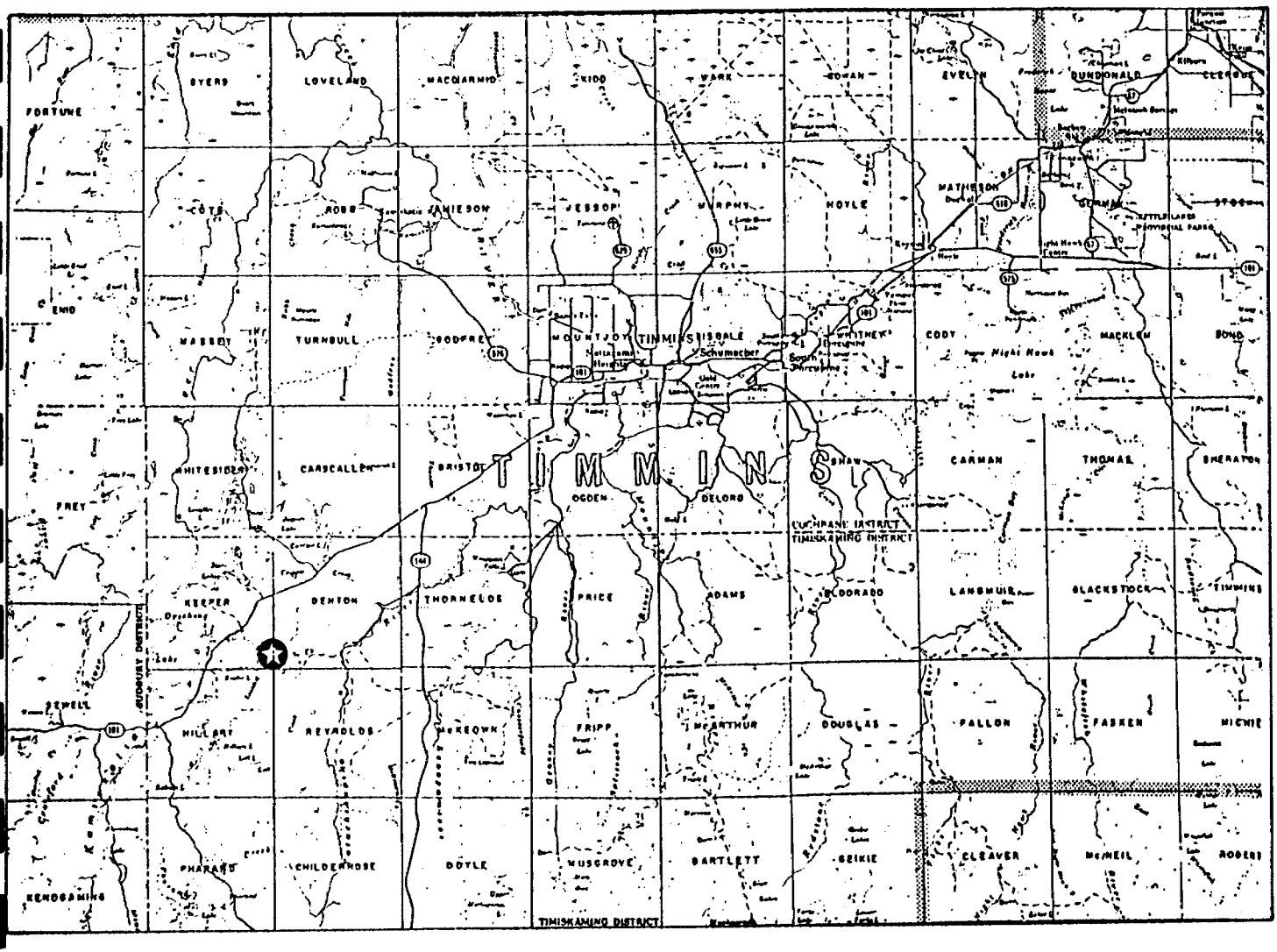


Figure 1: Location Map for Keefer Lake Resources Inc., Keefer and Denton Townships, Porcupine Mining Division, District of Cochrane, Ontario.

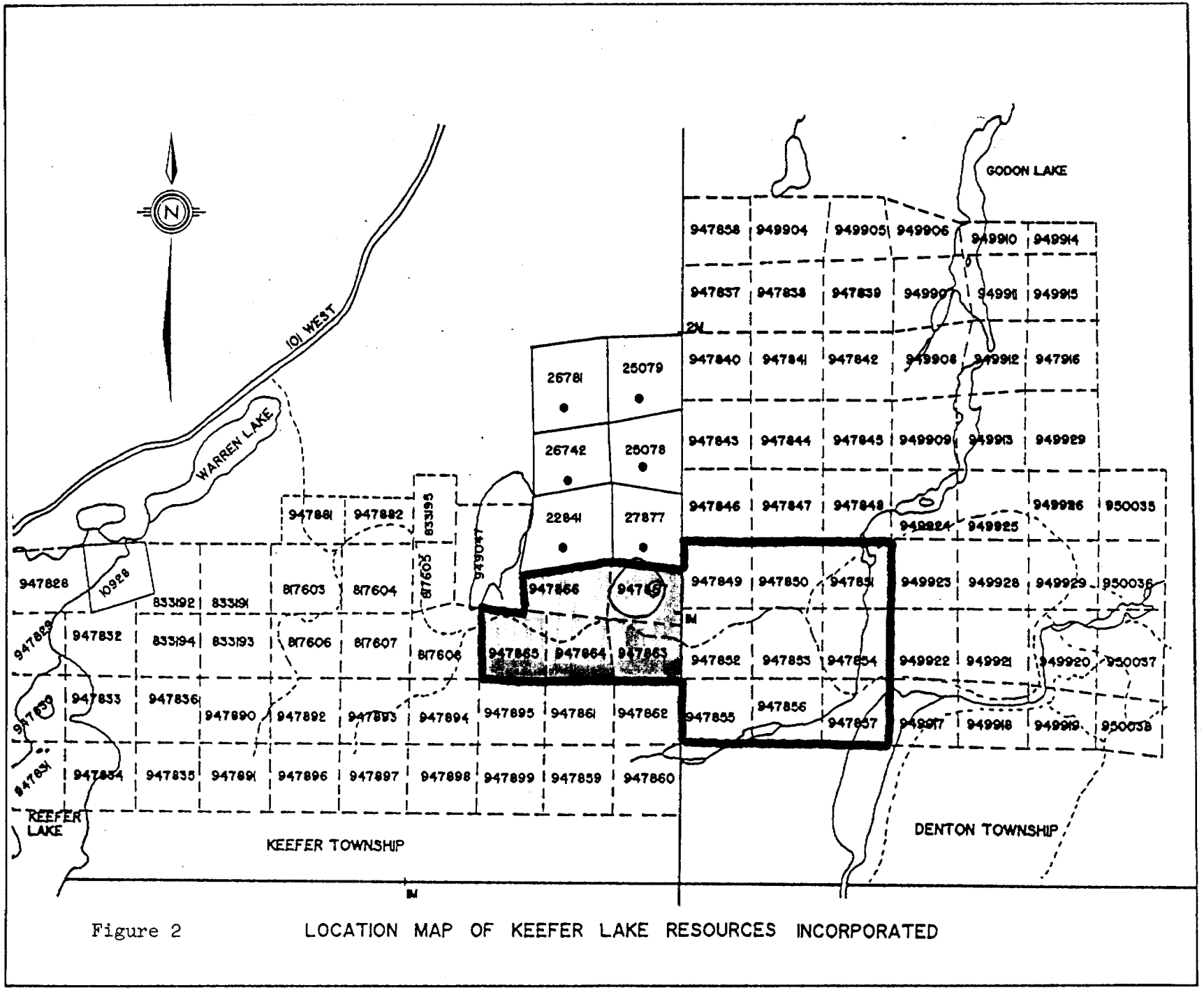


Figure 2 LOCATION MAP OF KEEFER LAKE RESOURCES INCORPORATED

GENERAL GEOLOGY

The bedrock in the area consists of an early Precambrian metavolcanic-metasedimentary sequence and has been intruded by granitic rocks.

The rock units strike in a northeast to east direction. The oldest rocks appear to be pale colour ultramafic flows which are intercalated with metasediments. In isolated areas these rocks grade into a massive flow consisting of serpentinized peridotitic komatite. These rock are overlain by basaltic komatite and/or Mg tholeiites. The above rocks are succeeded upwards by Fe tholeiite, calc-alkalic basalt, intermediate to felsic metavolcanics and clastic metasediments.

The intermediate to felsic metavolcanics consist of tuffs, breccia and foliated to massive flows. This unit grades into metasediments and clastic metasediments. Within isolated areas the metasediments contain a zone of chert and magnetite iron formation.

The above lithological units are intruded by gabbroic to dioritic rocks. The felsic intrusives appear to have three stages, being: quartz diorite to tonalite, porphyritic granodiorite and a medium grained granodiorite.

Metamorphism in the area is of the greenshist facies. Rocks near the late intrusive have been altered to a epidote amphibolite to amphibolite facies.

Intruding all the above lithological units are north to northerly trending diabase dikes.

The structure in the area appears to be dominated by north northwest trending transverse faults, several are filled by the later diabase dikes. Several northeast trending shear zones are located in the southern portion of Godon Lake.

PREVIOUS EXPLORATION ACTIVITIES

A detailed description of the exploration activities and the various properties up to 1938 is given in the O.D.M. Report Volume 47, Part 4, titled "Geology of the Keefer-Eldorado Area" by W.D. Harding and L.G. Berry.

From 1945 to 1947, A. Phillips trenched and diamond drilled a sericite-carbonate schist zone located about 1 mile southwest of Godon Lake. In 1961 Paymaster Consolidated Mines Limited conducted a ground magnetic and electromagnetic surveys in the area. Results of sampling of the trenches returned values up to 0.07 o.p.t. of gold.

During 1971, Texas Gulf Sulphur Company Inc. and Conwest Exploration Company Limited were joint venture partners on the Galata property. They conducted an airborne survey over portions of Keefer and Denton Townships.

In 1972, Falconbridge Nickel Mines Limited conducted a magnetic survey without locating any significant anomalies.

In recent years, Frank Galata has trenched many areas of Keefer and Denton Townships. Most of the sites are quartz or quartz-carbonate veining.

The present exploration program of Keefer Lake Resources Inc. is to define gold bearing target by means of geophysical surveys, geological mapping, trenching, and diamond drilling.

Kian A. Jensen
Exploration and Consulting Services

GEOPHYSICAL SURVEY

INTRODUCTION:

The linecutting was conducted by Guy Thibault Exploration Services of Timmins, Ontario, from October to early November, 1987. The tie line 20+00 South was extented from the original 14 claim group located on the west side of Mosher Lake in Keefer Township. The east trending base line within the property covered by this report extends from Line 24+00 East to Line 60+00 East "B". North-south grid lines were established at 400 foot intervals and picketed every 100 feet.

During February 6 to 8, 1988, grid lines were established over the round lake in Keefer Township by Kian A. Jensen Exploration and Consulting Services.

A total of 4.92 line miles of grid was established.

On completion of the linecutting, Guy Thibault Exploration Services conducted an electromagnetic VLF-EM survey with the following personnel and dates: Guy Thibault - November 5 to 8, 1987 and Doug Baird - March 27, 1988. The survey was conducted with the Phoenix VLF-2 unit.

The data reductions, drafting, interpretation and report was completed by the author from April 11 to 14, 1988.

ELECTROMAGNETIC SURVEY:

The electromagnetic base station was established on the existing grid in Keefer Township and the horizontal field strength (HFS) was adjusted to compare to the original survey. The base line and all the tie lines were surveyed at 100 foot intervals in a looping fashion to establish accurate control stations for each grid line. The north-south grid lines were surveyed at 100 foot intervals.

The data was corrected for the daily fluctuations of the HFS and the tie-ins at the control stations.

The corrected data was plotted on a base map with a scale of 1 inch to 200 feet (1:2400) with the dip values being profiled as shown in Figure 3. The dip data was filtered by a low pass Fraser Filtering and contoured as shown in Figure 4.

INTERPRETATION:

Within the 5 mining claims, there are four separate anomalies. The strongest and longest anomaly is located at about 400 feet north of TL 20 South and extends from Line 32 East to Line 60 "A" East. It is associated with a general magnetic low flanked on the north and south by intermittent moderate magnetic highs. This is suspected to be a quartz feldspar porphyry dike with a moderate amount of sulphide mineralization near a possible fault or shear zone.

The second strongest anomaly is located at about 900 to 1000 feet north of TL 20 South. This anomaly has peaks and valleys and is flanked by moderate magnetic values. It is suspected that this anomaly may be due to sulphide mineralization within the tuffaceous to fragmental tuff units.

There are two weak easterly trending anomalies in the southwestern part of the property which are probably related to possible shearing within the syenitic stock.

Kian A. Jensen
Exploration and Consulting Services

CONCLUSIONS

The VLF-EM survey located 4 anomalies of which two are possibly related to a shear zone in the syenite, one possibly related to sulphide mineralization in a porphyry dike trending east-west and one probably related to sulphide mineralization within the metavolcanic tuffs.

The strongest anomaly is also related to a magnetic low which could indicate a zone of alteration due to a fault or shear zone.

RECOMMENDATIONS

Based upon the results of the present survey and the available information, the author recommends geological mapping of the property. The areas of importance for gold mineralization is in the vicinity of the magnetic lows in areas of suspected shear zones. A limited amount of diamond drilling may be warranted in the area of the round lake to test the two strongest anomalies. The ultramafic intrusives may be host to base metal mineralization.

Dated at Timmins, Ontario
April 14, 1988

Respectfully submitted,

K. A. JENSEN

GEOLOGICAL ASSOCIATION OF CANADA · FELLOW ·

Kian A. Jensen
Consulting Geologist/Geophysicist

2.3969

Kian A. Jensen
Exploration and Consulting Services

CERTIFICATE

With reference to my report on the Electromagnetic Survey on the western part of the Keefer-Denton Property of Keefer Lake Resources Inc. Dated April 14, 1988.....

I, Kian A. Jensen, of the City of Timmins, Ontario, do hereby certify the following to be true and accurate to the best of my knowledge:

1) That I received an Honour B.Sc. degree in Earth Science, Geology Major, from the University of Waterloo,

2) That I have been employed as a geologist and/or geophysicist by various exploration companies and consulting companies since 1978,

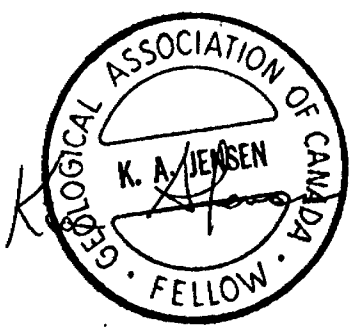
3) That I have been and still am a member in good standing in the following associations:

a) Society of Exploration Geophysicists - Associate, 1981
b) Geological Association of Canada - Fellow, 1983

4) That I am the author of the corresponding report, and have been actively exploring and prospecting in the Timmins area since 1981,

5) That I have no interest directly or indirectly in the mining claims comprising the property described in this report or in the shares of any company or companies in this joint venture on this property or the surrounding properties, nor do I expect to receive any directly or indirectly.

Dated this
14th day of April, 1988
Timmins, Ontario

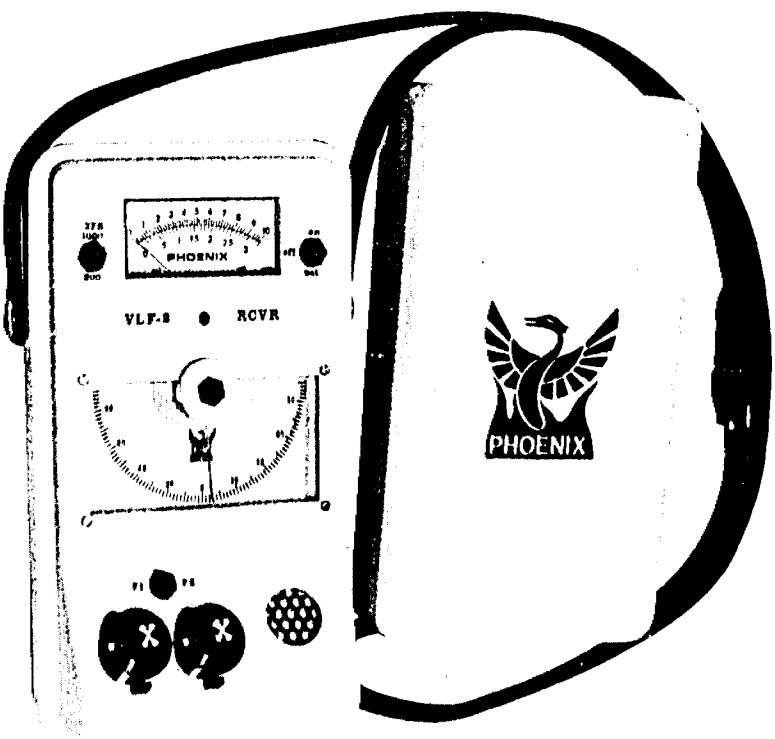


Kian A. Jensen, B.Sc.
Consulting Geologist/Geophysicist

VLF-2

Electromagnetic Unit

- Lightweight, low battery drain, rugged, simple to operate
- Two independent channels
- Each channel may select any station between 14.0 and 29.9 kHz
- Single crystal used for all frequencies
- Locking clinometer provides tilt-angle memory
- Superheterodyne detection and digital filtering provide extremely high selectivity and noise rejection



Military and time standard VLF transmitters are distributed over the world. These stations are used for geophysical EM surveying thus eliminating the need for a local transmitter and permitting one-man operation.

To ensure that a station excites the prospective conductor, two stations at approximately right angles are used during a survey (see data on back).

The choice of 160 frequencies in the range 14.0 to 29.9 kHz permits the use of a local EM transmitter when no suitable regular VLF station is available.

PHOENIX

PHOENIX GEOPHYSICS LIMITED

Geophysical Consulting and Contracting, Instrument Manufacture, Sale and Lease.

Head Office: TORONTO 200 Yorkland Blvd., Willowdale, Ontario Canada M2J 1R5 • Tel: (416) 493-6350 Telex: 06-986856 • Cable: PHEXCO TORONTO

VANCOUVER 214 – 744 West Hastings Street, Vancouver, B.C. Canada V6C 1A6 Tel: (604) 669-1070

DENVER 5590 Havana St., Denver, Colorado, 80239, U.S.A. Tel: (303) 371-2980 • Telex: 00-450690

Specifications

Parameters Measured	:	Orientation and magnitude of the major and minor axes of the ellipse of polarization.
Frequency Selection, Front Panel	:	Dual channel, front panel selectable (F1 or F2) each with independent precision 10-turn dial gain control.
Frequency Selection, Internal	:	F1 and F2 can be selected by internal switches within the range 14.0 to 29.9 kHz in 100 Hz increments.
Detection And Filtering	:	Superheterodyne detection and digital filtering provide a much narrower bandwidth and thus greater rejection of interfering stations and 60 cycle noise than conventional receivers.
Meter Display	:	2 ranges: 0 to 300 or 0 to 1000. Background is typically set at 100. Meter is also used as dip angle null indicator and battery test.
Audio	:	Crystal speaker. 2500 Hz used as null indicator.
Clinometer	:	$\pm 90°$, $+0.5°$ resolution. Normal locking, push button release.
Battery	:	One standard 9v transistor radio battery. Average life expectancy - 1 to 3 months (battery drain is 3 mA)
Temperature Range	:	-40° to + 60° C.
Dimensions	:	8 x 22 x 14 cm (3 x 9 x 6 inches).
Weight	:	850 grams (1.9 pounds).

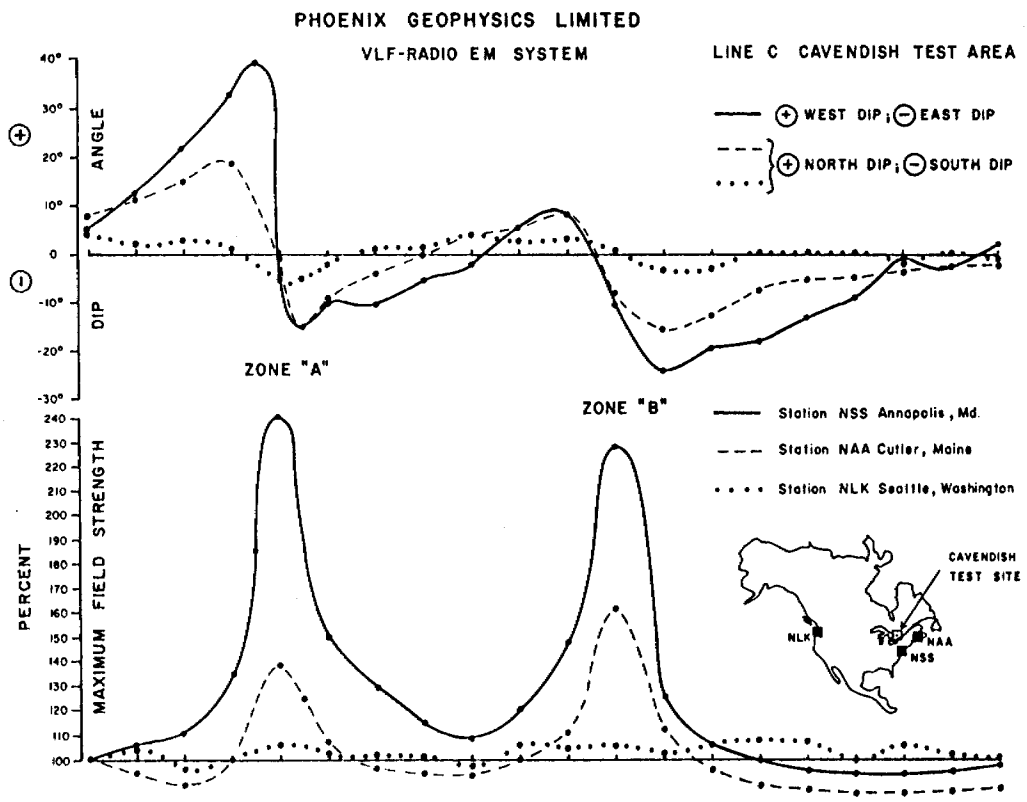
All of the established stations may be selected, or alternatively, a local VLF transmitter may be used which transmits at any frequency in the range 14.0 to 29.9 kHz.

VLF Station	Frequency (kHz)
Bordeaux, France	15.1
Odessa (Black Sea)	15.6
Rugby, U.K.	16.0
Moscow, U.S.S.R.	17.1
Yosamai, Japan	17.4
Hegaland, Norway	17.6
Malabar, Java	19.0
Oxford, U.K.	19.6
Paris, France	20.7
Annapolis, Maryland	21.4
Northwest Cape, Australia	22.3
Lualualei, Hawaii	23.4
Buenos Aires, Argentina	23.6
Cutler, Maine	24.0
Seattle, Washington	24.8
Rome, Italy	27.2
Aguada, Puerto Rico	28.5

Field Data

The results below illustrate the need for using two orthogonal stations when the strike of the prospective conductor is not well-known. The dip angle and amplitude data measured using station NLK in Seattle, Washington, show only a very weak anomaly associated with the two conductive sulphide zones at Cavendish, Ontario.

The results obtained using Cutler, Maine reveal a more prominent anomaly, but the best response was obtained using Annapolis, Maryland since the station lies almost due south and the transmitted electromagnetic field is thus maximum-coupled with the North-South trending conductors.



#223

Ministry of Northern Development and Mines

Ontario

Report of Work

(Geophysical, Geological, Geochemical and Expenditure)

DOCUM 8806

Minin

42A05SE0207 2.11480 KEEFER

2.11480

900

Type of Survey(s)
ELECTROMAGNETIC SURVEY

Township or Area
KEEFER TWP

Claim Holder(s)
KEEFER LAKE RESOURCES INC.

Prospector's Licence No.
T-5010

Address
P.O. BOX 72, 160 KINGCROSS DRIVE, KING CITY, ONT. L0G 1K0

Survey Company
K.A. JENSEN EXPLORATION & CONSULTING

Date of Survey (from & to): 5 11 87 (Day Mo. Yr.) — 27 03 88 (Day Mo. Yr.)

Total Miles of Line Cut
4.92 miles

Name and Address of Author (of Geo-Technical report)
KIAN A. JENSEN, P.O. BOX 37, SOUTH PORCUPINE, ONTARIO, P0N 1H0

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical - Electromagnetic	20
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical - Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

RECEIVED
AUG 15 1988
MINING LANDS SECTION

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.
P	947863	
	947864	
	947865	
	947866	
	947867	

Prefix	Number	Expend. Days Cr.

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES OFFICE
SEP 2 1988
RECEIVED

RECORDED
AUG 08 1988

Total number of mining claims covered by this report of work: 5

Expenditures (excludes power stripping)

Type of Work Performed
[illegible]

Performed on Claim(s)
[illegible]

AUG 5 1988

Calculation of Expenditure Days Credits

Total Expenditures: $ ÷ 15 = Total Days Credits

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
100	Aug 23/88	D.G. White
	Date Approved as Recorded: 23 Aug 88 R.M.	Branch Director:

Date	Recorded Holder or Agent (Signature)
Aug 5/88	Kian A. Jensen.

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
KIAN A. JENSEN, P.O. BOX 37, SOUTH PORCUPINE
ONTARIO, P0N 1H0

Date Certified	Certified by (Signature)
Aug 5/88	Kian A. Jensen.

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

	Description	Order No.	Date	Disposition	File
(1)	SEC 43/70	W 26/77	11/3/77	S R O	188543
(2)	SEC 42/60			M + S	171506
(3)	SEC 42/60		7/10/66	M + S	149113
(R4)	DANA AND JOWSEY LAKES PARK RESERVE SEC 36/80 W 64/83			S.R. M.R.	

(35) DUMPING STATION

SAND AND GRAVEL

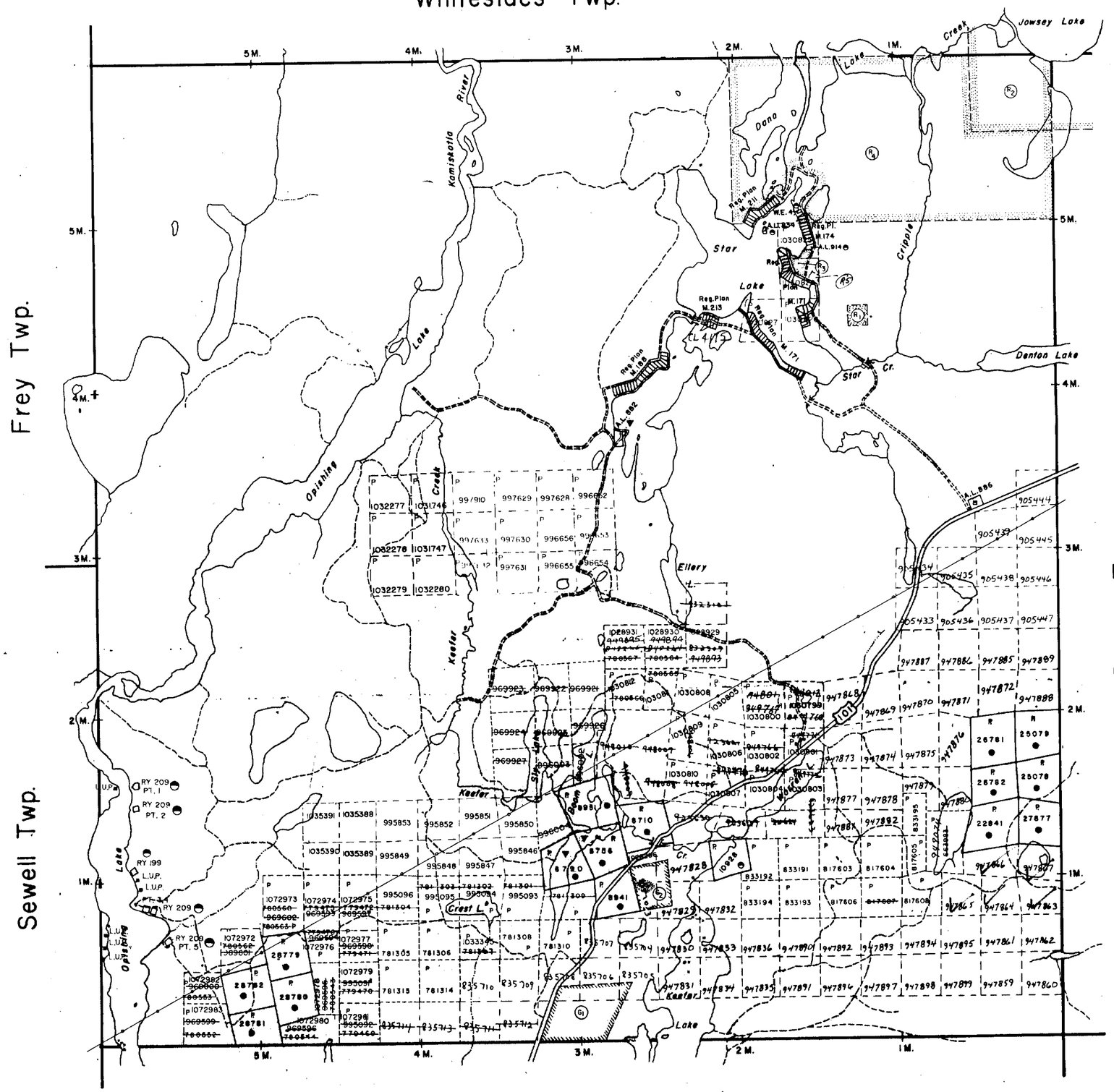
(G1) M.T.C PIT 1593
(G2) GRAVEL FILE 44986

IMPORTANT NOTICE

This township forms part of the WAFERBOARD FOREST MANAGEMENT AGREEMENT – The 1985/86 Annual Plan, on file in The Mining Recorders Office shows the area to be affected in the next year

– If this plan affects you, further information may be obtained from:

Mr. Malcom Kilgour - Unit Forester
Ministry of Natural Resources
896 Riverside Drive, Timmins Ont.
Telephone: 267-7951
and/or
Mr. Pierre Corbeil
Waferboard Group
Telephone: 268-1462



LEGEND

- HIGHWAY AND ROUTE No.
- OTHER ROADS
- TRAILS
- SURVEYED LINES:
  - TOWNSHIPS, BASE LINES, ETC.
  - LOTS, MINING CLAIMS, PARCELS, ETC.
- UNSURVEYED LINES:
  - LOT LINES
  - PARCEL BOUNDARY
  - MINING CLAIMS ETC.
- RAILWAY AND RIGHT OF WAY
- UTILITY LINES
- NON-PERENNIAL STREAM
- FLOODING OR FLOODING RIGHTS
- SUBDIVISION OR COMPOSITE PLAN
- RESERVATIONS
- ORIGINAL SHORELINE
- MARSH OR MUSKEG
- MINES
- TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	◒
" , MINING RIGHTS ONLY	◓
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	▣
" , MINING RIGHTS ONLY	▤
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	R
CANCELLED	⊗
SAND & GRAVEL	S
L.U.P. LAND USE PERMIT	L.U.P. ●

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC 1.

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 (1 KM) 2000 (2 KM)

TOWNSHIP

KEEFER

M.N.R. ADMINISTRATIVE DISTRICT
TIMMINS
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
COCHRANE

Ontario Ministry of Natural Resources — Land Management Branch

Date MARCH, 1985
Rec'd Jan. 4/85 checked L.h.

Number G-3237

K. Kelemen

KEEFER TOWNSHIP

DENTON TOWNSHIP

L 64 E L 68 E L 72 E L 76 E L 80 E L 84 E L 88 E L 92 E L 96 E L 100 E

T.L. 20 S

20 S

30 S

947846 947847 947848 947850 947851 947852 947853

LAKE

L 24 E L 28 E L 32 E L 36 E L 40 E L 44 E L 48 E L 52 E L 56 E L 60 E "A" L 60 E "B"

Iron Bar 4-947866

3-947865 4-947865 1-947894 4-947895 2-947865 1-947895 3-947864 4-947861 2-947865 1-947865 4-947864 3-947866 2-947866 1-947866 3-947867 2-947867 1-947863 4-947863 3-947846 4-947849 2-947846 1-947847 4-947847 3-947843 4-947846 2-947852 1-947855 4-947856 3-947851 4-947852 2-947863 1-947864 4-947855 3-947852 2-817608

947865 947866 947864 947867 947863

LOCATION MAP OF KEEFER LAKE RESOURCES INCORPORATED

KEEFER LAKE RESOURCES INCORPORATED

KEEFER and DENTON TOWNSHIP
PORCUPINE MINING DIVISION

VLF-EM SURVEY

Scale 1 inch = 200 feet

200 0 200 400 600 800

Survey by G.TH'BAULT, D.BAIRD Date Nov.5-8/87, March 27/88

Revision by Date

Project No. 87-016
File No.:

Kian A. Jensen
Exploration and Consulting Services

GEOLOGICAL ASSOCIATION OF CANADA · FELLOW ·

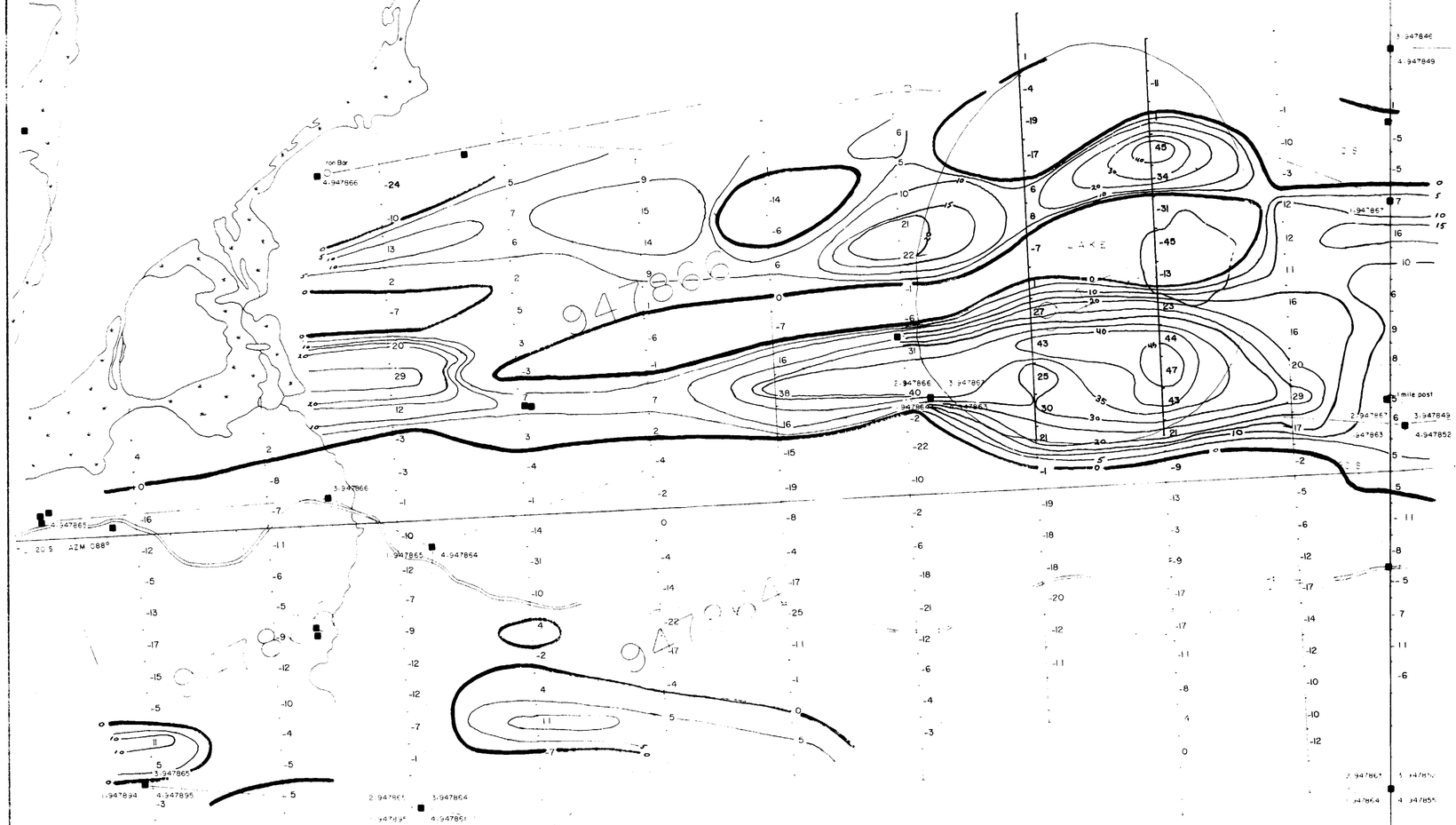
2.11460

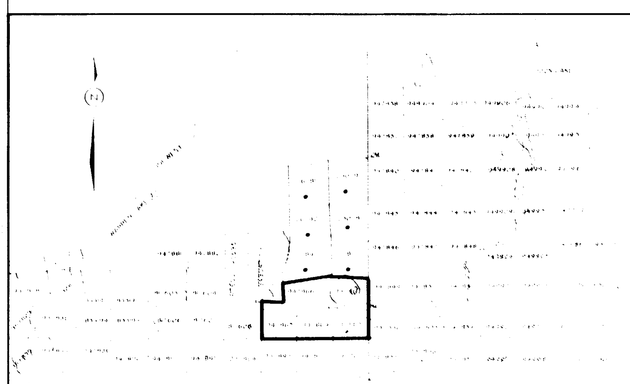
210

KEEFER TOWNSHIP

DENTON TOWNSHIP

LAKE





KEEFER LAKE
INCORPORATED

FRASER FILTER

2.11480

220