



42A05SE0121 2.11773 DENTON

010

ELECTROMAGNETIC SURVEY

for

KEEFER LAKE RESOURCES INC.

on the

DENTON PROPERTY

in

DENTON TOWNSHIP
PORCUPINE MINING DIVISION
DISTRICT OF COCHRANE
ONTARIO

RECEIVED

OCT 5 1988

MINING LANDS SECTION

*Deal
2.3969* by

Kian A. Jensen
Consulting Geologist/Geophysicist

September, 1988



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INTRODUCTION

During October and November, 1987 and early February, 1988, linecutting was completed on the majority of the Keefer Lake Resources Incorporated property. This report pretains to 9 contiguous unpatented mining claims in Denton Township.

A total of 8.06 miles of linecutting was completed to establish a total of 347 electromagnetic readings on 6.58 miles of north-south grid lines. The survey was completed from August 18, 1988 to September 7, 1988, by the author. The data reductions, drafting, interpretation and report were completed by the author from September 8 to 21, 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 area from the township line to the creek draining into Godon Lake in the southwestern portion of Denton Township, Porcupine Mining Division, District of Cochrane, Ontario.

The purpose of the survey was to identify the conductors parallel to the local stratigraphy and the known structural features and to identify favourable areas in drift cover portions of the property for gold mineralization.

LOCATION AND ACCESS

The 9 unpatented mining claims cover the area from the township line to the creek draining into Godon Lake in the southwestern portion of Denton 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 Warran 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 9 unpatented mining claims as shown in Figure 2, and consists of the following mining claims and recording dates:

P-947849 to P-947857 inclusively Denton Twp. Sept. 11, 1986

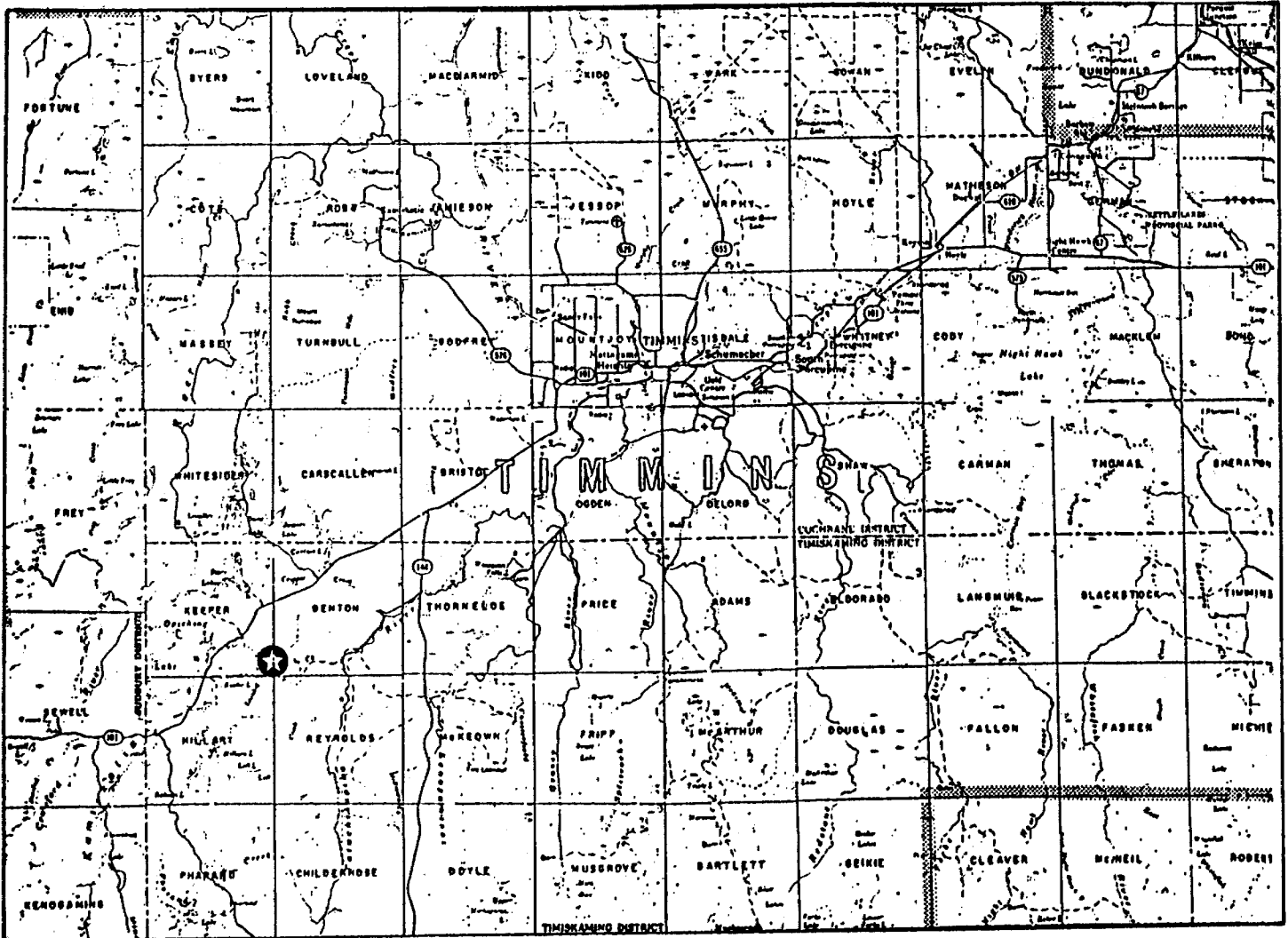


Figure 1: Location Map for Keefe Lake Resources Inc., Keefe and Denton Townships, Porcupine Mining Division, District of Cochrane, Ontario.

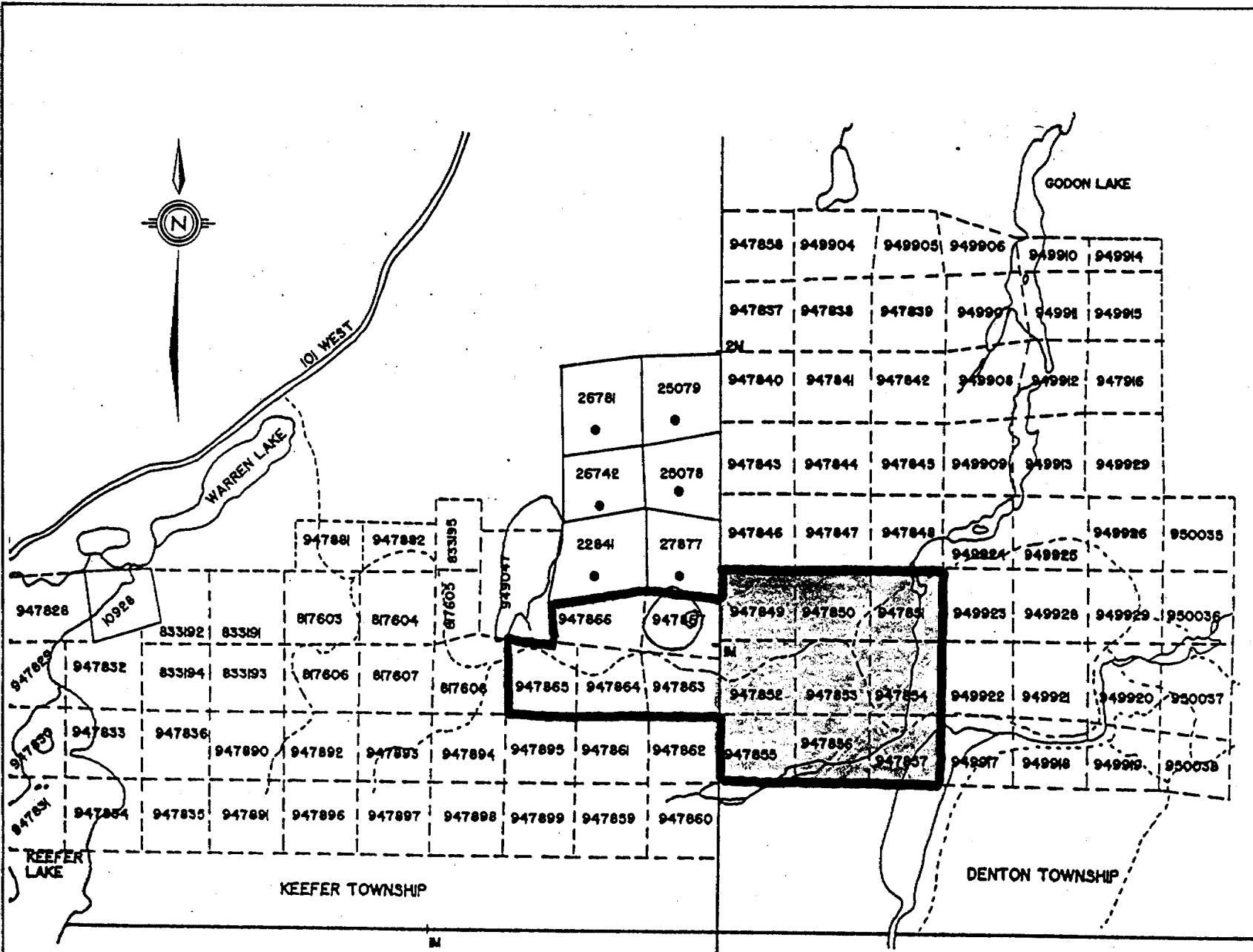


Figure 2 LOCATION MAP OF KEEFER LAKE RESOURCES INCORPORATED

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 serpentized 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 greenschist 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.

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 extended 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 60+00 East to 99+00 East. North-south grid lines were established at 400 foot intervals and picketed every 100 feet. A base line was established at 0+00 North from the Keefer-Denton Township boundary from Line 60+00 East "B" to Line 100+00 East.

A total of 8.06 line miles of grid was established within the boundaries of the 9 mining claims.

On completion of the linecutting, the author conducted a VLF-EM survey over the north-south grid lines from August 18, 1988 to September 9, 1988, utilizing a Phoenix VLF-2 unit. The data reductions, drafting, interpretation and report were completed by the author from September 8 to 21, 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 transmitter station used for the survey was Cutler, Maine, with a frequency of 24.0 kHz. The base line and the tie line was surveyed in a looping fashion to establish accurate control tie-ins for each grid line. The north-south grid lines were then surveyed with readings being observed every 100 feet.

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:

The VLF-EM survey located many anomalies which appear to form at least 4 trends and several smaller isolated anomalies. The most northern and the two southern trends appear to be moderate conductors with a 60% to 90% increase in the HFS, while the second northerly trend is weak to moderate. The Fraser Filtering of the dip values indicate that the most northern and the third trend from the north have high values, which may indicate either an increase in sulphide content or a shallow depth of burial.

The northern trend is located from Line 72 East at 5+50 North to Line 80 East at 4+50 North on the west and the eastern portion appears to be fault about 100 feet to the south and is located from Line 84 East at 3+50 North to Line 96 East at 4+50 North. This conductor is probably due to a shear or fault zone probably associated with some sulphide mineralization. The western portion does not have complete anomaly signature. It also appears that the conductor is associated with a magnetic low and may be bisected in the vicinity of Lines 68 East and 80 East by northerly trending diabase dikes.

The next trend is located in at least two fragments from Line 80 East at 2+25 South to Line 84 East at 1+50 South and from Line 92 East at 0+50 South to Line 96 East at 0+50 North. It appears that a northerly trending diabase dike possibly terminates this trend. However, two one line anomalies on Line 76 East at 5+50 South and Line 72 East at 7+50 South may represent faulted portions of a weak to moderate conductor.

The third anomaly is located from Line 60 East at 12+75 South to Line 76 East at 15+50 South. This trend appears to traverse across the general magnetic trend for the area and may represent a east-southeast trending structural feature. At Line 76 East, there appears to be a double conductor trend and may merge with the fourth conductor trend.

The fourth conductor trend is located from Line 64 East at 20+00 South to Line 96 East at 16+50 South. Some interference with the third conductor trend is apparent on Line 76 East. This fourth trend appears fragmented but located on the southern side of a strong easterly trending magnetic high which is suspected to be a magnetite and sulphide banding within a peridotite gabbro.

A few weak anomaly is locate from Line 84 East at 8+50 South to Line 92 East at 9+50 South. This is suspected to be either caused by the overburden effect or from a narrow metasedimentary unit.

A weak anomaly is located at the southern limits of Lines 92 and 96 East which is probably due to the contact between the metavolcanics to the north and the granitic intrusive to the south.

CONCLUSIONS

The VLF-EM survey was successful in locating four conductor trends which are probably caused by either bedrock anomalies possibly due to localized sulphide mineralization or several structural features. Some of the structural features located by this survey were not that apparent from the previous total field magnetic survey.

Several of the shorter and weaker anomalies are probably caused from the overburden effect or narrow metasedimentary units.

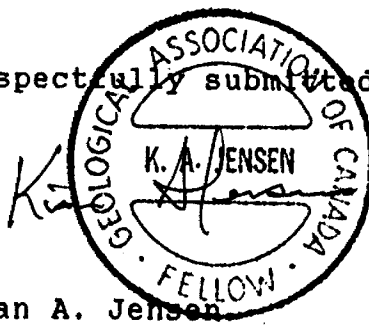
RECOMMENDATIONS

Based upon the results of the present survey and the available information, the author recommends a limited amount of prospecting, and 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. The ultramafic intrusives may be host to base metal mineralization.

Based upon the results of the recommended work, minor trenching may be warranted and possibly a limited diamond drilling program.

Dated at Timmins, Ontario
September 21, 1988

Respectfully submitted,



Kian A. Jensen
Consulting Geologist/Geophysicist

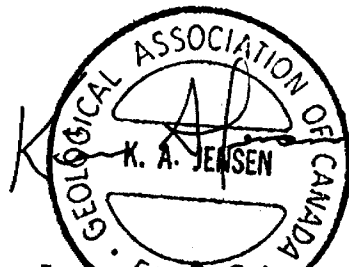
CERTIFICATE

With reference to my report on the Magnetic Survey on the Denton Property of Keefer Lake Resources Inc. Dated September 21, 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
21st of September, 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 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: 06-988856 • Cable: PHEXCO TORONTO

VANCOUVER 214 - 744 West Hastings Street,
Vancouver, B.C. Canada V6C 1A8
Tel: (604) 689-1070

DENVER 5590 Havana St.,
Denver, Colorado, 80239, U.S.A.
Tel: (303) 371-2980 • Telex: 00-450680

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** : $\pm 90^\circ$, $+0.5^\circ$ 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 $+60^\circ$ C.
- Dimensions** : 8 x 22 x 14 cm (3 x 9 x 6 inches).
- Weight** : 850 grams (1.9 pounds).

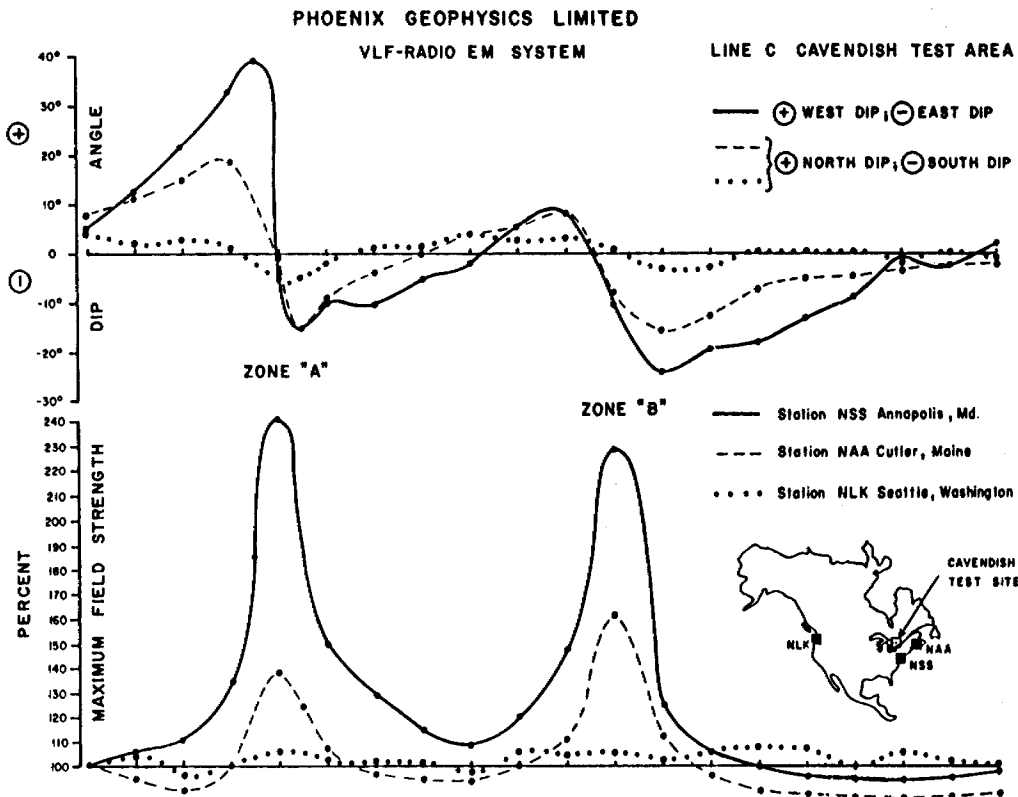
All of the established stations may be selected, or alternatively, a local VLF transmitter may be used which transmits at any frequency in the range 14.0 to 29.9 kHz.

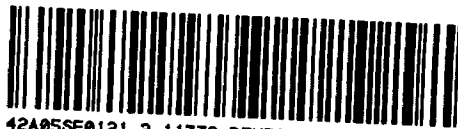
VLF Station	Frequency (kHz)
Bordeaux, France	15.1
Odessa (Black Sea)	15.6
Rugby, U.K.	16.0
Moscow, U.S.S.R.	17.1
Yosamoi, Japan	17.4
Hegaland, Norway	17.6
Malabar, Java	19.0
Oxford, U.K.	19.6
Paris, France	20.7
Annapolis, Maryland	21.4
Northwest Cape, Australia	22.3
Laulualei, Hawaii	23.4
Buenos Aires, 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.





42A055E0121 2.11773 DENTON

W8806.50061

Mining Act

DO NOT USE shaded areas below.

Type of Survey(s) **VLF-EM SURVEY** **2.11773** Township or Area **DENTON TWP**

Claim Holder(s) **KEEFER LAKE RESOURCES INC.** Prospector's Licence No. **T-5010**

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

Survey Company **KIAN A. JENSEN EXPLORATION & CONSULT** Date of Survey (from & to) **18 08 88** to **10 09 88** Total Miles of line Cut **8.42 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	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	20
	- Magnetometer	
	- Radiometric	
	- Other	
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	
	Geochemical	
Man Days	Geophysical	Days per Claim
Complete reverse side	- Electromagnetic	
RECEIVED SEP 12 1988	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Expenditures (excludes power stripping)	Geophysical	Days per Claim
Type of Work Performed	- Electromagnetic	
Performed on Claim(s)	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Mining Claims Traversed (List in numerical sequence)

Mining Claim		Expend. Days Cr.	Mining Claim		Expend. Days Cr.
Prefix	Number		Prefix	Number	
P	947846				
	947847				
	947848				
	947849				
	947850				
	947851				
	947852				
	947853				
	947854				

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OCT 24 1988
MINING LANDS SECTION

RECORDED
SEP 12 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.

Recorded Holder or Agent (Signature)

Sept 10 / 88 *Kian A. Jensen*

For Office Use Only

Total Days Cr. Recorded **180** Date Recorded **Sept 12/88** Mining Recorder *[Signature]*

Date Approved or Recorded **18 Nov 88** Branch Director *[Signature]*

Total number of mining claims covered by this report of work. **9**

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 **Sept 10/88** Certified by (Signature) *Kian A. Jensen*

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. - MINING RIGHTS ONLY
 S.R.O. - SURFACE RIGHTS ONLY
 M.A.S. - MINING AND SURFACE RIGHTS

Description	Order No.	Date	Disposition	File	
BARA AND JOWSEY PARK RESERVE	S.R.O.	DEC. 26/80	W. 08/83	NOV. 10/83	M.R.O.
RESERVED FOR PUBLIC USE	S.R.O.				
APPLICATION FOR CROWN LAND					

SAND AND GRAVEL

M.T.C.	PIT	FILE
1	1417	12030
2	1230	12030
3	1470	
4	1331	

NOTES
 THIS TOWNSHIP LIES WITHIN THE MUNICIPALITY OF THE CITY OF TIMMINS.

IMPORTANT NOTICE
 THIS TOWNSHIP FORMS PART OF THE SUPERBOARD FOREST MANAGEMENT AGREEMENT.

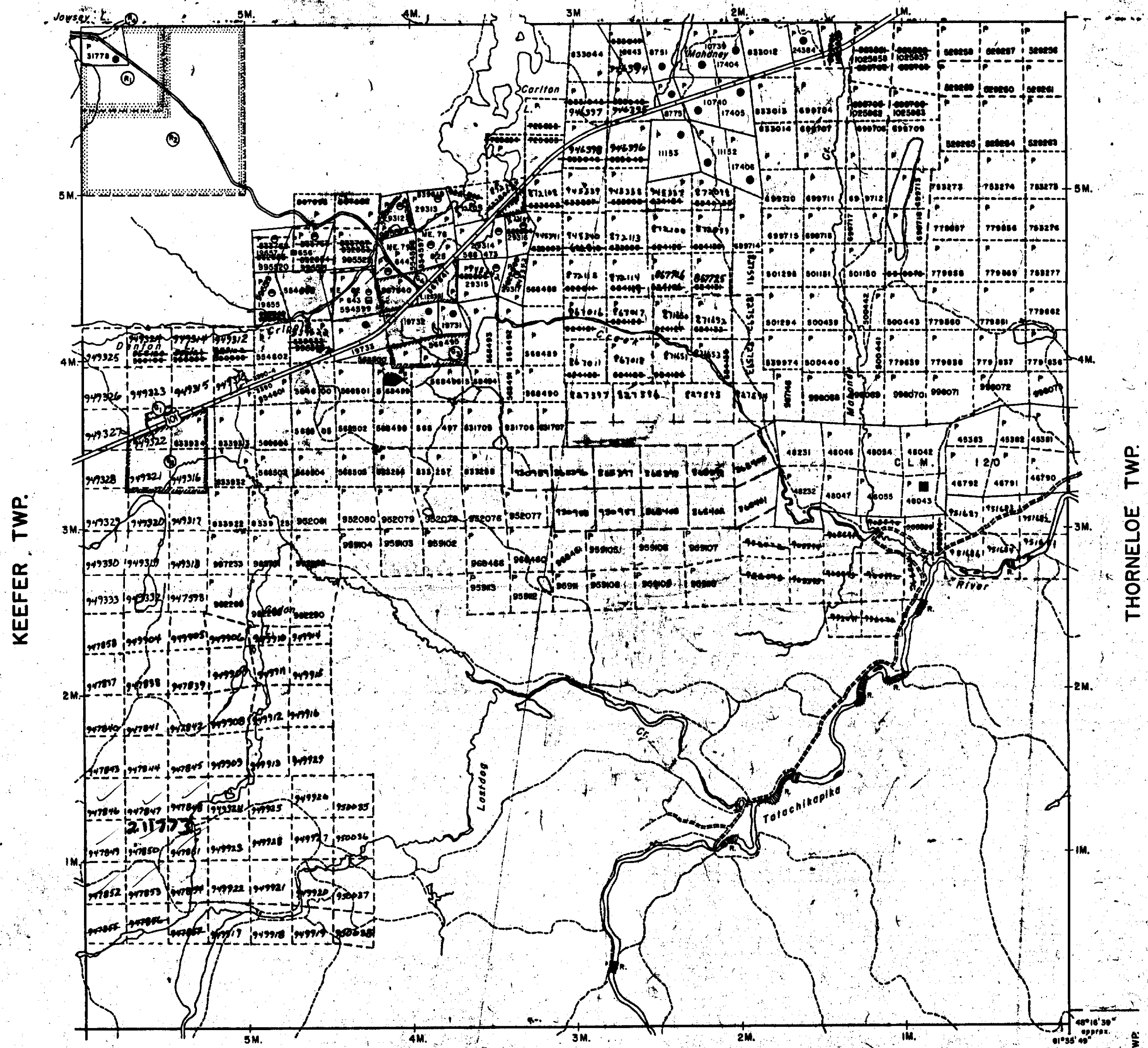
THE 1985/86 ANNUAL PLAN, ON FILE IN THE MINING RECORDS OFFICE, SHOWS THE AREAS TO BE AFFECTED IN THE NEXT YEAR.
 IF THIS PLAN AFFECTS YOU, FURTHER INFORMATION MAY BE OBTAINED FROM:

MR. MALCOLM KILGOUR,
 UNIT FORESTER,
 MINISTRY OF NATURAL RESOURCES,
 896 Riverside Drive,
 Timmins, Ontario

Tel: 705-267-7951

OR
 Mr. Pierre Corbell,
 Superboard Group
 Tel: 705-268-1452

CARSCALLEN TWP.



KEEFER TWP.

THORNELOE TWP.

REYNOLDS TWP.

LEGEND

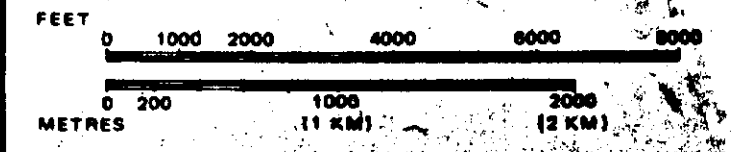
HIGHWAY AND ROUTE No.	
OTHER ROADS	
TRAILS	
SURVEYED LINES:	
TOWNSHIPS, BASE LINES, ETC.	
LOTS, MINING CLAIMS, PARCELS, ETC.	
UNSURVEYED LINES:	
LOT LINES	
PARCEL BOUNDARY	
MINING CLAIMS ETC.	
RAILWAY AND RIGHT OF WAY	
UTILITY LINES	
NON-PERENNIAL STREAM	
FLOODING OR FLOODING RIGHTS	
SUBDIVISION OR COMPOSITE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

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913, VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 360, SEC. 63, SUBSEC. 1.

SCALE: 1 INCH = 40 CHAINS



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

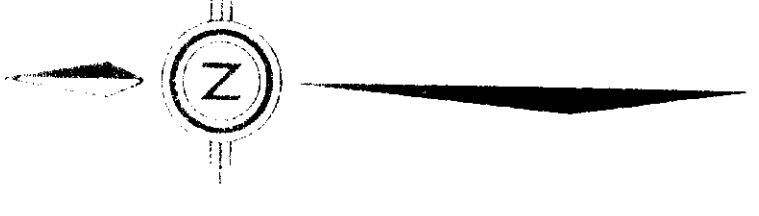
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Ontario Ministry of Natural Resources Land Management Branch

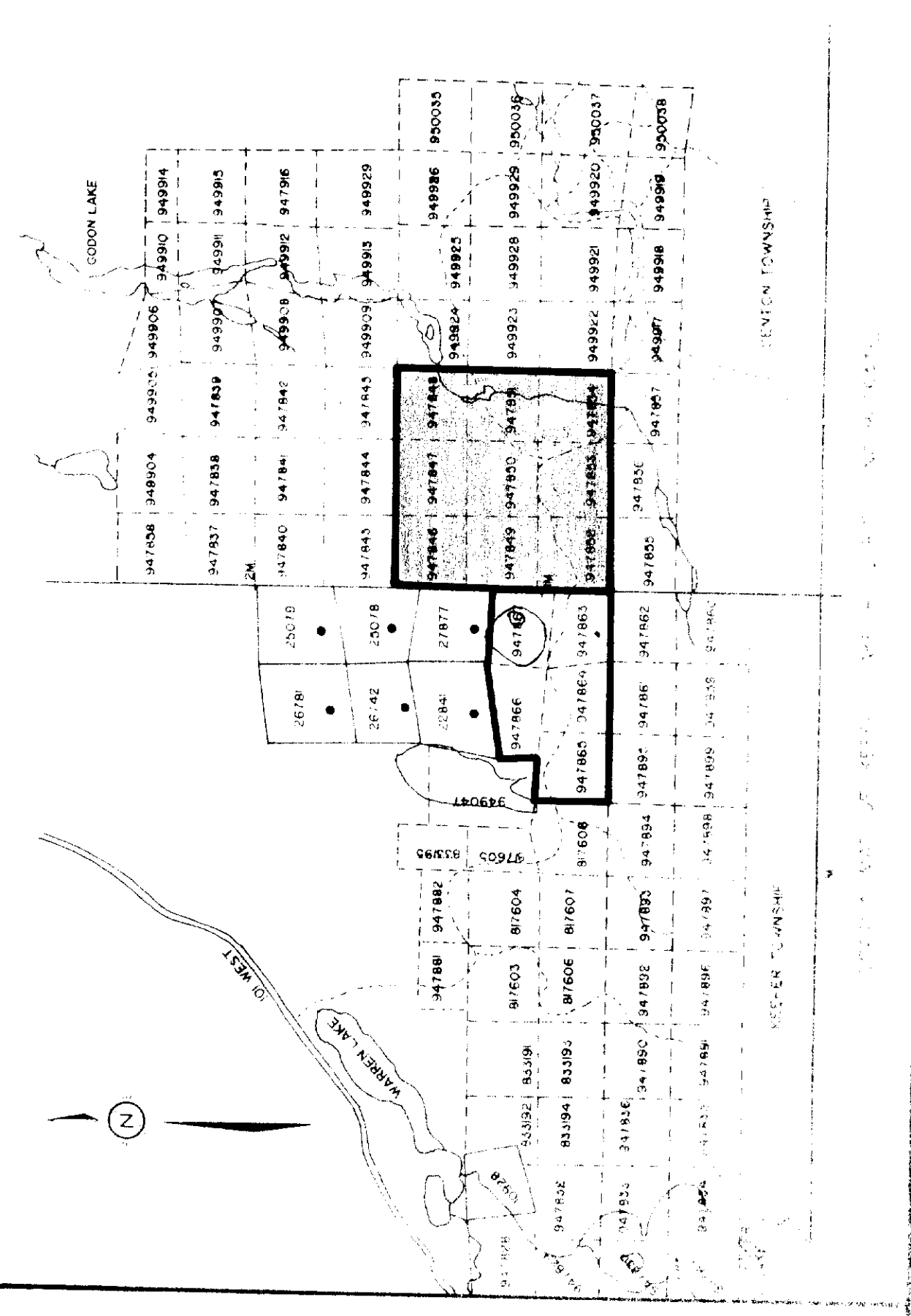
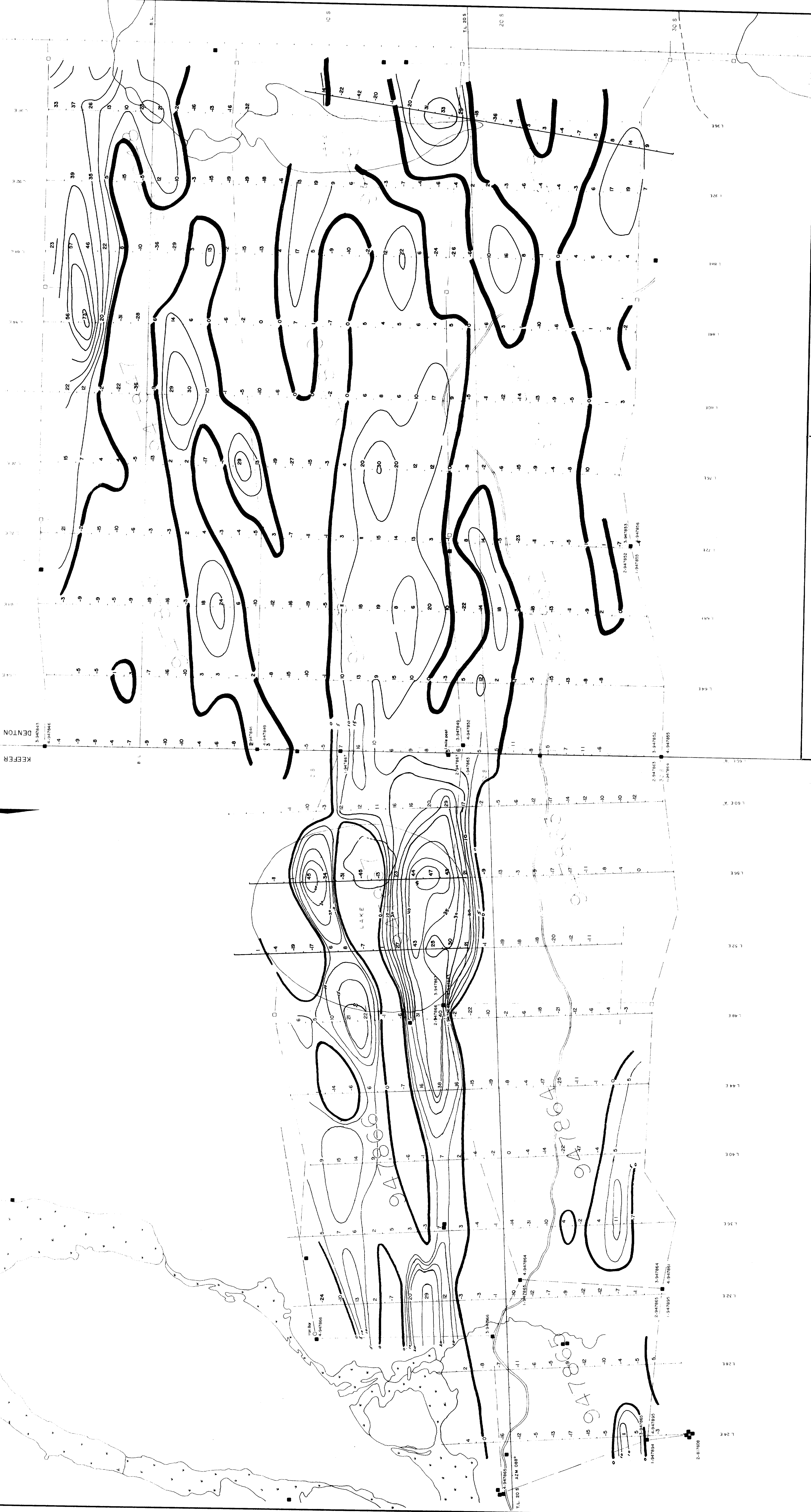
Date MARCH, 1988
 Number G-3224



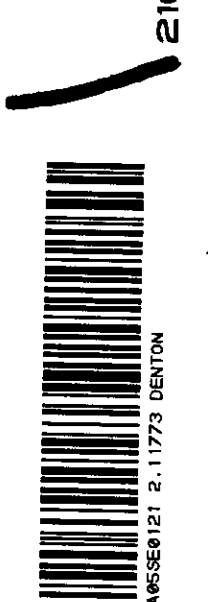
42A955E121 2.11773 DENTON

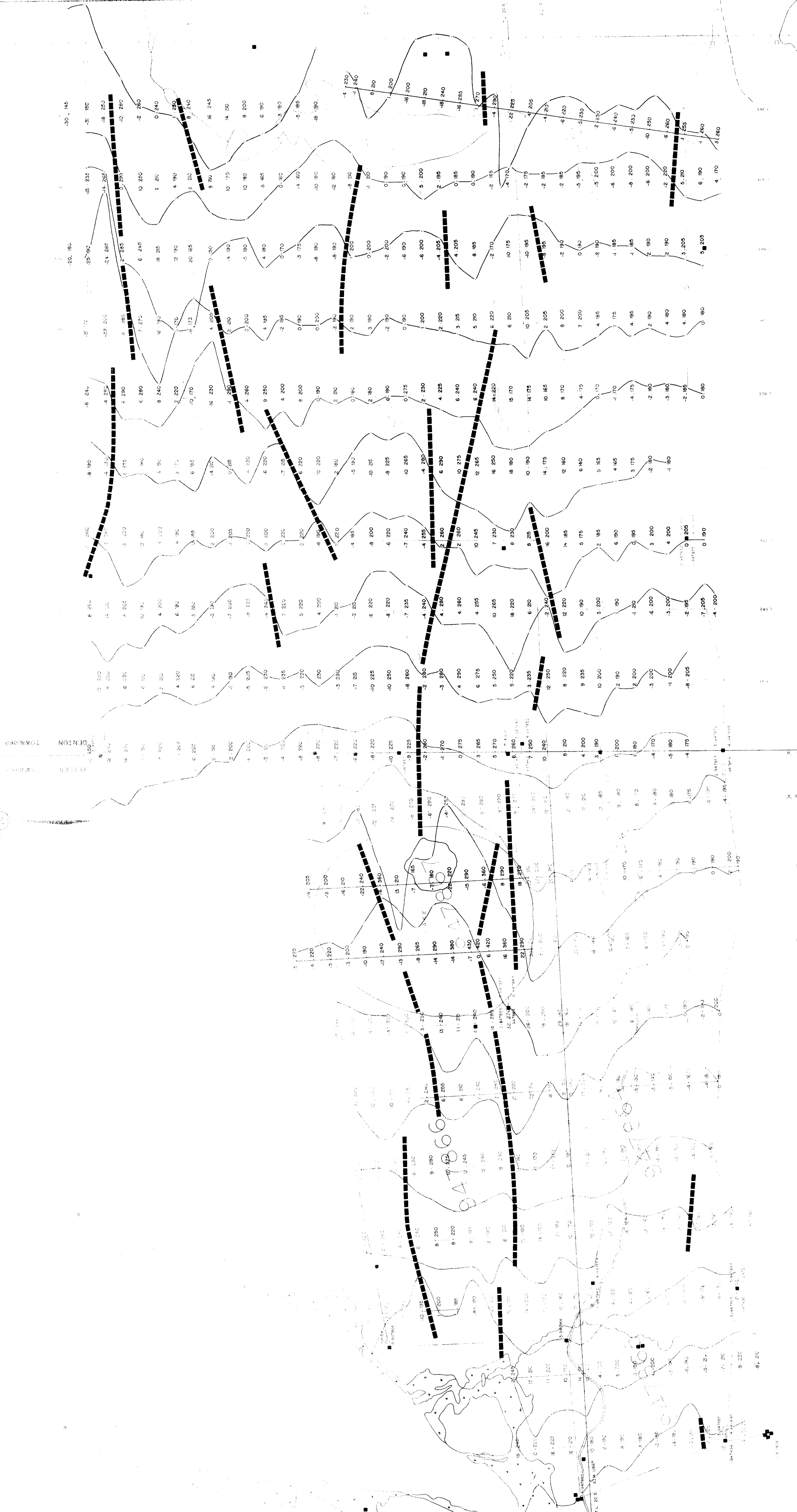


KEEFER TOWNSHIP
DENTON TOWNSHIP



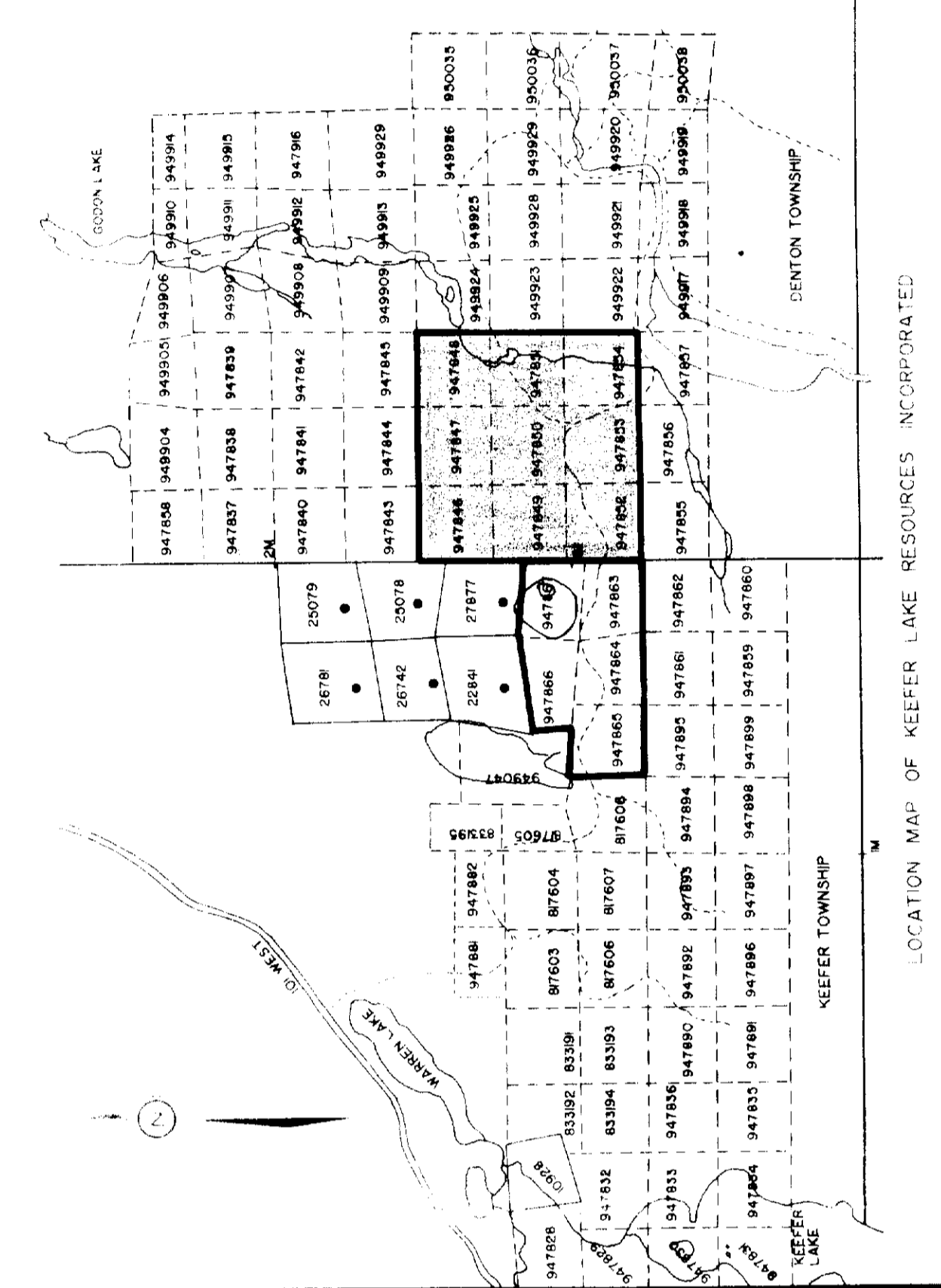
KEEFER LAKE RESOURCES INCORPORATED
KEEFER 3RD TOWNSHIP PEROUFA MINING DIVISION
FRASER FILTER
2.11773
Geological Survey of Canada 1:50,000 Scale 1:50,000 Scale 1:50,000 Scale
J. Kian A. Jensen





KEEFER LAKE RESOURCES
INCORPORATED

VLF-EM SURVEY 2.11778



NOV. 8, 1994 - SET 1, 7:18

A. J. PETER

LOCATION MAP OF KEEFER LAKE RESOURCES INCORPORATED

