



42A06NW0273 2.6891 OGDEN

010

VLF-EM REPORT

ON

OGDEN TWP. PROPERTY

for

MAURICE HIBBARD
EDWARD KARPOVITCH
ROBERT ROUSSEAU

in the

PORCUPINE, MINING DIVISION
NORTHERN ONTARIO

RECEIVED

JUN 22 1984

MINING LANDS SECTION

June 10, 1984

Leaf 2, 3, 4, 6
BY: J.K. Filo
H.B.Sc. Geology



42A06NW0273 2.6891 OGDEN

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INTRODUCTION

A VLF-EM Survey was carried out over the Ogden Township Property by S. Mortson during May 1984. This survey was initiated to test for conductive zones that may be associated with gold mineralization. The results of this survey are documented within this report along with recommendations for further exploration in this area.

PROPERTY & OWNERSHIP

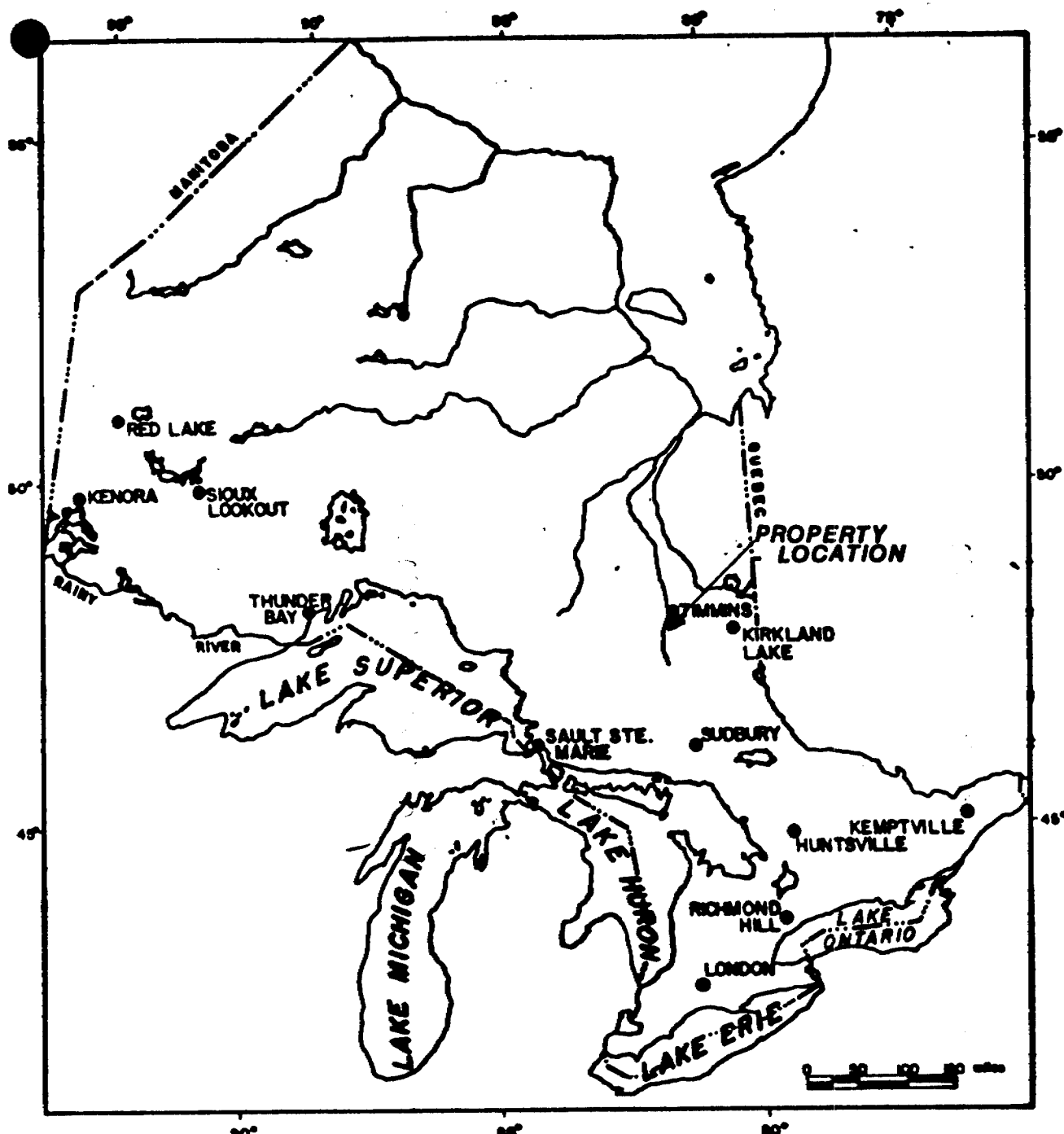
The property consists of 8 contiguous mining claims in east central Ogden Twp. These claims are numbered 724569 to 724571 inclusive and 618207 to 618210 inclusive. The claims are owned by M. Hibbard, Edward Karpovitch, and Robert Rousseau.

LOCATION & ACCESS

The claims are located a few miles south of the Timmins City Centre. Access is by all weather road from Timmins along Pine Street to the eastern section of the property.

PROPERTY HISTORY

The property has been worked intermittently for some time. The first recorded work appears to have commenced in 1923; this work was done by Ridgely Mines Ltd. & Ridgely Porcupine Mines. The following excerpt was taken from Goshawk Mines Prospectus:



PROVINCE OF ONTARIO

REVISIONS	OGDEN TWP PROPERTY		
	for		
	Title		
	PROPERTY LOCATION		
	FIG. 1		
	Date:	Scale:	N.T.S.
	Drawn:	Approved:	File:

Property History (continued)

During the period 1923 to 1930 considerable work was done by Ridegegold Mines Ltd. & Ridegegold Porcupine Mines Ltd. on four of the unpatented claims. This included trenching, surface stripping & sinking of a shaft to one hundred & twenty-five feet. while confirmed details are not available, gold values were reported in the vein and porphyry formation while sinking the shaft. Extensive stripping & trenching was previously carried out on the patented claims, however results of the same ore not shown. (Assessment File T-1655)

Values shown in the actual Ridgegold File show assay certificates as high as 0.4 oz Au/ton but the actual location of these values is difficult to ascertain. (Assessment File T-763) Later work by Goshawk Mines Ltd. included a magnetic survey and 1 diamond drill hole near the shaft collar. No values were reported in the drill logs.

During 1980 Amax Exploration flew an airborne magnetic and EM survey over Ogden and other surrounding Townships. However, no follow up appears to have occurred on the property in question. (Assessment File T-1978)

GEOLOGY

From OGS Map 2455 it appears that the claim group is underlain by predominantly mafic volcanics and some iron formation. However diamond drill logs from Goshawk Mines Ltd. show that in the shaft area a whole suite of rocks is present. These rocks range compositionally from ultramafic (spinifex textured komatities) to rhyolite. Shearing and pyrite mineralization were also known to be associated with units adjacent to the shaft area.

The type of geological environment is very favourable for gold mineralization in the Porcupine Camp.

SURVEY PARAMETERS

During the course of this survey an east west baseline was established. Crosslines were later spaced at 400' intervals and cut at right angles of the baseline. Station on control lines were placed every 100 feet. In total, approximately 8 miles of control grid was established.

CLAIM MAP

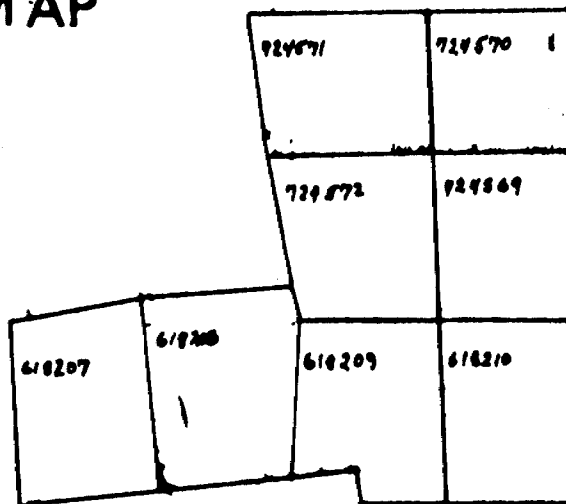


FIG 2

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02/20/80

INSTRUMENTATION

The VLF-EM method utilizes the worldwide network of high-powered VLF (very low frequency) transmission stations used for air and marine navigation. The VLF antenna is effectively a grounded vertical wire several hundred feet high, emitting a near vertical electric field. The large power output of the stations (500 - 1000 KW), along with minimal attenuation, make it possible to use VLF transmitters as EM sources at a distance of 2000 - 3000 miles. At these distances it is reasonable to consider the magnetic field as being uniform over areas of up to a square mile of ground surface.

When the primary horizontal magnetic field encounters conductive sub-surface bodies, secondary fields are induced. The VLF receiver measures the vertical component of the resulting secondary fields, determining tilt angle and quadrature component by means of two mutually perpendicular coils wound on ferrite cores. That is, if the secondary signals are small in comparison to the primary field, the mechanical tilt angle is an accurate measure of the vertical real-component, and the compensation $\Omega/2$ -signal from the horizontal coil is a measure of the quadrature vertical signal.

The advantages of the VLF-EM include its relative ease and low cost of operation. Although minimal interpretation of anomaly depth, depth extent, and dip angle is possible, due largely to the lack of control over the primary field direction with respect to conductor strike, the VLF system provides a usually reliable method of defining the conductor strike and extent.

Instrumentation: VLF-EM (continued)

The Geonics EM-16 was used in the VLF-EM survey of the Mother Cat property of the Lower Detour Lake area, specifications for which are presented in Appendix #1.

The transmission station used was Cutler, Maine, transmitting at 24.0 KHz.

INTERPRETATION

During the course of the geophysical survey, five zones of conductivity were detected. These zones are described in detail as follows:

Conductor "A"

This is the strongest and most extensive conductor on the property. It has a strong in phase response. The cause of this conductor is suspected to be a bedrock source but the quadrature profile suggests some response from conductive overburden.

Conductor "B"

This is a short conductor with a profile that is similar to conductor "A". Conductor "B" is also suspected to be caused by a bedrock source and due to its similarity and proximity to conductor "A" it may be a faulted portion of "A".

Conductor "C"

This is a fairly weak conductor in the NW corner of the property. The quadrature profile tends to follow the weak in-phase curve. This suspected cause of this anomaly is conductive overburden.

Conductor "D"

This is a fairly strong conductor with a good response on L4W; this conductor becomes slightly weaker towards the west and gradually fades. Assessment file data shows that a strong magnetic response is present in this area. The suspected cause of this anomaly is iron formation.

Conductor "E"

This is a weak conductor and the suspected cause of this anomaly is conductive overburden.

CONCLUSIONS

Limited diamond drill data and O.G.S. Maps show that this property has a excellent geological environment for Au mineralization.

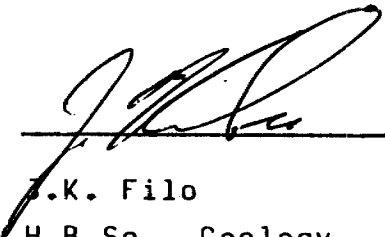
To date much of the work carried out on this property has been poorly documented or inconclusive. This property merits a modern exploration program utilizing present day geophysical techniques and updated geological theories for Au deposits.

RECOMMENDATIONS

The following program is recommended to fully evaluate this property's previous metal potential.

- 1) First of all, a detailed geology survey and proton precession magnetometer survey should be carried out.
- 2) Old showings and pits should be re-examined and re-sampled
- 3) Further work recommendations should be considered upon completion of this first phase of work.

Respectfully submitted,



J.K. Filo
H.B.Sc. Geology

BIBLIOGRAPHY
=====

GEONICS, E.M. 16, Operating Manual, Geonics Ltd. P.78

O.D.M. , Assessment Files

PYKE, D.R., Geology of the Timmins Area, District of Cochrane;

O.G.S. Survey Report 219, P. 141. Accompanied by Map 2455,

Scale 1:50,000, 3 charts, & 1 Sheet Microfiche.

APPENDIX #1

EM16

VLF Electromagnetic Unit

ioneered and patented exclusively by Geonics Limited, the LF method of electromagnetic surveying has been proven to e a major advance in exploration geophysical instrumentation.

ince the beginning of 1965 a large number of mining ompanies have found the EM16 system to meet the need for simple, light and effective exploration tool for mining eophysics.

he VLF method uses the military and time standard VLF ansmissions as primary field. Only a receiver is then used to easure the secondary fields radiating from the local con- ctive targets. This allows a very light, one-man instrument o do the job. Because of the almost uniform primary field, ood response from deeper targets is obtained.

he EM16 system provides the *in-phase* and *quadrature* omponents of the secondary field *with the polarities indicated*.

terpretation technique has been highly developed particularly o differentiate deeper targets from the many surface indications.

Principle of Operation

he VLF transmitters have vertical antennas. The magnetic gnal component is then horizontal and concentric around he transmitter location.



Specifications

Source of primary field	VLF transmitting stations.	Reading time	10-40 seconds depending on signal strength.
Transmitting stations used	Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.	Operating temperature range	-40 to 50° C.
Operating frequency range	About 15-25 kHz.	Operating controls	ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature, dial $\pm 40\%$, inclinometer dial $\pm 150\%$.
Parameters measured	(1) The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid). (2) The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).	Power Supply	6 size AA (penlight) alkaline cells. Life about 200 hours.
Method of reading	In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone.	Dimensions	42 x 14 x 9 cm (16 x 5.5 x 3.5 in.)
Scale range	In-phase $\pm 150\%$; quadrature $\pm 40\%$.	Weight	1.6 kg (3.5 lbs.)
Readability	$\pm 1\%$.	Instrument supplied with	Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional), set of batteries.
		Shipping weight	4.5 kg (10 lbs.)

CERTIFICATE

I, John Kevin Filo of Timmins, Ontario hereby certify that:

- 1) I hold an Honours B.Sc. (1980) degree in Geology from Laurentian University, Sudbury, Ontario.
- 2) I have practiced my profession in exploration geology continually since graduation.
- 3) I have based my conclusions and recommendations contained in this report on knowledge of the area, my previous experience, and on the result of the drilling program carried out in the June 1984, under my supervision.
- 4) I hold no interest in Ogden Twp. Property nor do I expect to receive any interest in the property other than my professional fees.



J.K. Filo, Honours B.Sc.

1984 07 06

Your File: 213
Our File: 2/6891

Mr. Bruce Hanley
Mining Recorder
Ministry of Natural Resources
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

We have received reports and maps for a Geophysical
(Electromagnetic) Survey submitted under Special
Provisions (credit for Performance and Coverage) on
Mining Claims P 618207 et al in the Township of Ogden.

This material will be examined and assessed and
a statement of assessment work credits will be
issued.

Yours sincerely,

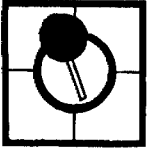
S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416) 965-1380

A. BarrPsc

cc: Robert Rousseau
225 Ross Avenue W
Timmins, Ontario
P4N 4M6

cc: Ingamar Explorations Limited
Cedar Hill
Connaught, Ontario
PON 1A0



INGAMAR EXPLORATIONS LIMITED

CEDAR HILL CONNAUGHT, ONTARIO P0N 1A0
TEL. (705) 433-3551 or (705) 264-3100
TELEX 067-81502

June 15, 1984

Ministry of Natural Resources
Land Management Branch
Whitney Block, Room 6450
Queen's Park
TORONTO, Ontario
M7Z 1W3

RECEIVED
JUN 22 1984
MINING LANDS SECTION

ATTENTION: MR. FRED MATTHEWS

Dear Sir:

Please find enclosed two (2) reports on VLF-EM Survey in the Ogden Township Property, for Maurice Hibbard, Edward Karpovitch, and Robert Rousseau. Claim numbers 724569 to 724572 inclusive; 618207 to 618210 inclusive.

Also, please find enclosed Work Reports for these properties.

Thank you.

Sincerely,
MAUREX RESOURCES LIMITED

Maurice Hibbard, President

MH/cl

Enclosure

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✓

✓

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VLF-EM SURVEY

OGDEN TWP

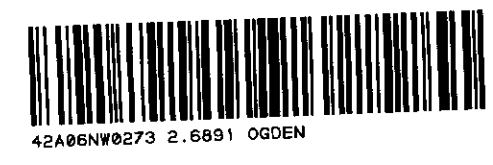
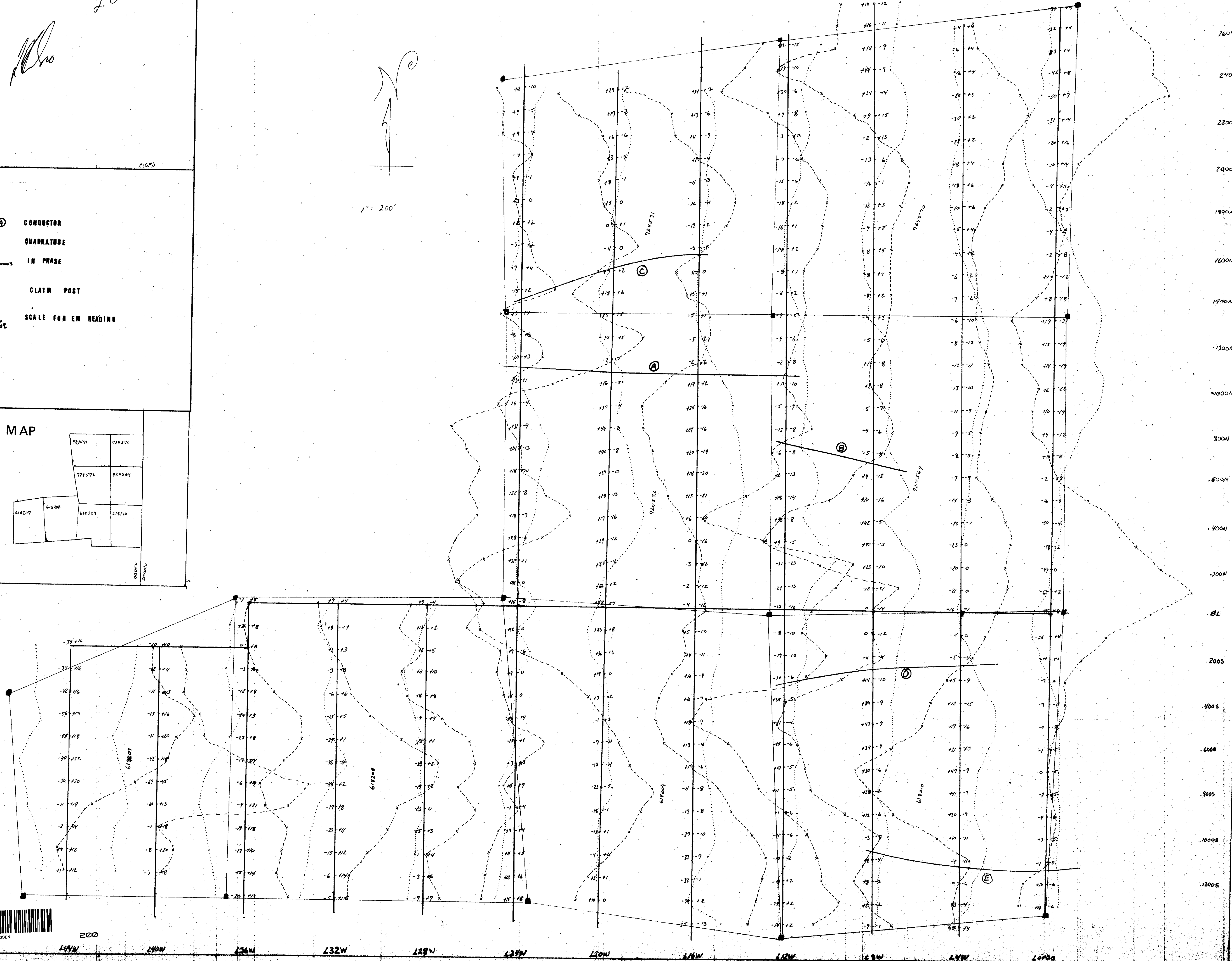
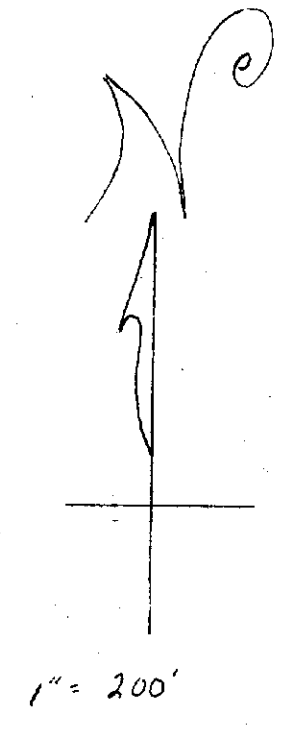
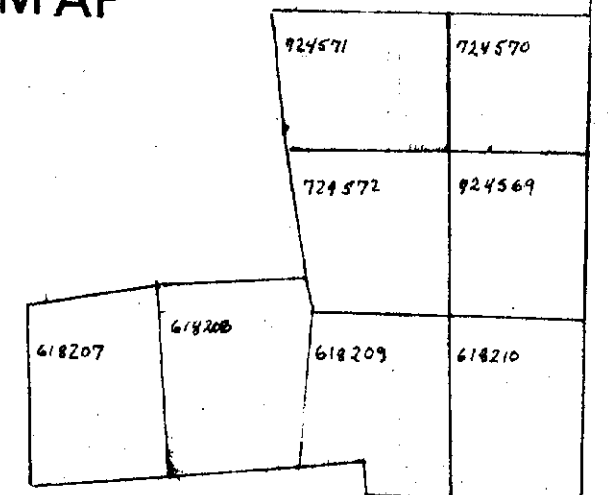
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FIG. 3

KEY

- CONDUCTOR
- QUADRATURE
- IN PHASE
- CLAIM POST
- SCALE FOR EM READING

CLAIM MAP



200

13600W 13500W 13400W 13300W 13200W 13100W 13000W 12900W 12800W 12700W