4194

REPORT ON 93L/3E
A TURAM ELECTROMAGNETIC SURVEY
HOUSTON AREA, BRITISH COLUMBIA
ON BEHALF OF
PERRY, KNOX AND KAUFMAN, INC.

by

Peter J. Fominoff, B.A.Sc., P.Eng.

and

Michael J. Lewis, M.Sc.

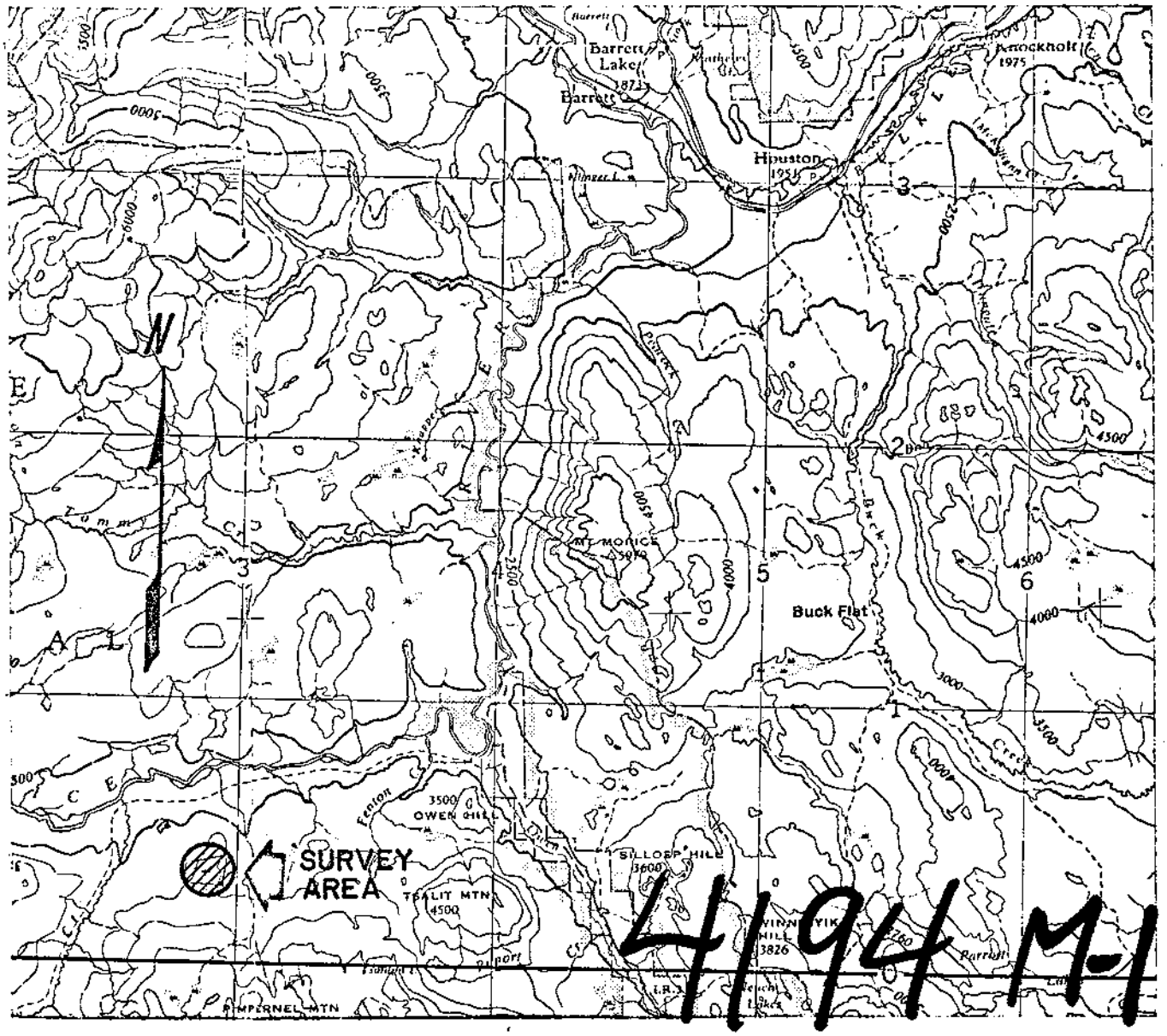
March 6, 1973

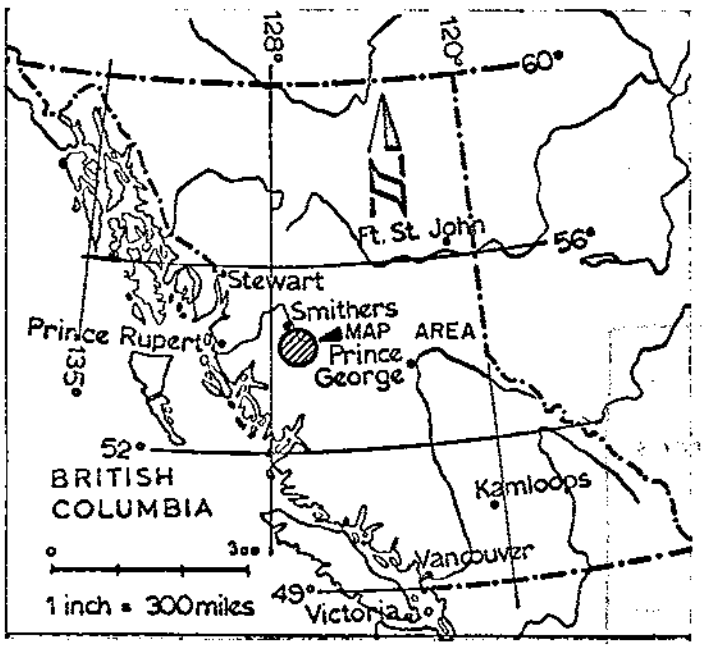
CLAIMS:

Name
Hagas 3 - 6 (inclusive)
Hagas 14, 16, 18

LOCATION:
About 22 miles southwest of Houston, British Columbia
Omineca Mining Division
127°02' 54°09' SE

DATES:
January 31 to February 4, 1973





PERRY, KNOX & KAUFMAN INC.

LOCATION MAP

HAGAS CLAIM GROUP
HUSTON AREA B.C.
OMINECA MINING DIVISION

SCALE 1 : 250,000

4miles 0 4miles

Survey by
SCINTREX, SURVEYS LTD.
FEB. 1973

FIG. 1

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FIGURES AND PLATES

SUMMARY

Several anomalous electromagnetic responses, likely reflecting moderately conducting steeply dipping bedrock conductors, were outlined by the present survey.

It is recommended that two of these indications be sampled by diamond drilling.

REPORT ON
A TURAM ELECTROMAGNETIC SURVEY
HOUSTON AREA, BRITISH COLUMBIA
ON BEHALF OF
PERRY, KNOX AND KAUFMAN, INC.

INTRODUCTION

During the period January 31st to February 4th, 1973, a geophysical crew established a grid and carried out a Turam Electromagnetic survey in the Houston area, British Columbia on behalf of Perry, Knox and Kaufman, Inc. The field work was directed by Peter Fominoff, a geophysicist on staff with Scintrex Surveys Limited.

As shown in Figure 1, the survey area is located about 22 miles southwest of Houston. Access is by good winter road off Highway No. 16. The property is mostly flat and logged over.

The claims covered, in whole or in part, by the survey are listed on the front page of this report and are shown on Plate 1 (scale 1' = 400"

DESCRIPTION OF METHOD AND INSTRUMENTATION

The Turam method was utilized on the present survey. In comparison with other electromagnetic techniques, it is relatively unaffected by orientation errors caused by rough topography, it provides deep penetration and allows accurate interpretation of anomaly characteristics.

Electromagnetic methods detect massive sulphide bodies by measuring the secondary electromagnetic field produced by eddy currents induced in such bodies by a transmitted or primary electromagnetic field. The Turam method employs a large closed loop of wire as transmitter; the field strength ratio and phase difference, at two nearby observation points, are measured by means of two receiver coils.

The presence of a subsurface conductor is indicated by abnormal field strength ratios and phase differences. Typically, anomalies show a correspondence between positive values of the field strength ratio and negative phase differences.

A Scintrex SE-71 instrument was employed. The receiver coil separation was 100'. A transmitting loop approximately 2500' X 3200' was used; the location of its leading edge is shown on Plate 1.

An energizing frequency of 400 Hz was employed for reconnaissance work and 200 Hz for detail coverage.

Approximately 2.4 line miles of profile were covered. Readings were taken every 100' along eight lines oriented northwest as illustrated on Plate 1.

GEOLOGY AND PURPOSE OF SURVEY

The writers are not familiar with the geology of the survey area. It has been studied by personnel of Perry, Knox and Kaufman, Inc. and is the subject of their reports.

The purpose of the present survey was to investigate a number of VLF and geochemical anomalies observed by Perry, Knox and Kaufman, Inc.

PRESENTATION OF RESULTS

The results of the present survey are presented on Plate 2 (scale 1" = 200'). The Reduced Ratios and Phase Differences have vertical scales of 1" = 20% and 1" = 10^{o} respectively.

Where anomalous field distortion occurs on the electromagnetic profiles the location and depth of the main current flow has been derived from the curve shapes. This location is noted on the profile sheets by

a circle at the appropriate point. Anomalies have, where feasible, been connected between lines to obtain the projection of the current pattern. These "conductor axes" are chosen on the basis of depth estimates, σt values and other characteristics of the electromagnetic curve.

Conductivity X thickness (σt) values have been determined where possible. Highly conducting bodies (massive sulphides or graphite) generally have high σt values ($>$ 100 mhos). Poorly conducting bodies (overburden, etc.) usually have low σt values ($<$ 10 mhos).

To facilitate the final evaluation of the geophysical data the electromagnetic distortions are classified as Weak, Moderate or Strong. Strong anomalies are first priority exploration targets and are represented by well defined conductors of good conductivity. Weak anomalies, on the other hand, are generally poorly defined and are, on the basis of the geophysical data, of questionable merit.

DISCUSSION OF RESULTS

Anomalous electromagnetic responses were observed on all lines within the survey area. These are denoted by circles and "conductor axes" on Plates 1 and 2. Broad low amplitude responses are denoted by broken circles and probably represent background noise - they will not be discussed further. Anomalies of (relatively) high apparent conductivity, which probably reflect bedrock conductors, are denoted by solid circles and prominent "conductor axes".

The following is a listing of the peak amplitude values, their respective locations, their calculated conductivity X thickness (σt) parameters and their calculated depth (h).

Reduced Ratios	Phase Differences	Location	σt mhos	h feet
127%	14°	L-24 NE; 4 + 50 NW	20	150
120%	13°	L-24 NE; 5 + 8 NW	20	150
120%	15°	L-20 NE; 8 + 00 NW	30	150
142%	20°	L-16 NE; 7 + 50 NW	25	100
121%	10°	L-8 NE; 5 + 20 NW	20	130
117%	9°	L-8 NE; 6 + 80 NW	20	150
115%	9°	L-8 SW; 4 + 80 NW	-	-

The upper edges of the conductors lie at depths less than the above h estimates. The calculated σt values suggest weak-moderate conductivities.

The highest intensities and apparent conductivities occur on L-16 NE and L-20 NE - this region may represent the central portion of a banded conductor trending about north-east across L-8 NE to L-24 NE inclusive. It has a probable strike length of about 2000' and is probably dipping steeply grid NW. Two conductor axes appear on L-8 NE and L-24 NE.

The anomalous zones are located within a swampy region approximately 100' - 200' NW of the swamp - outcrop contact (see Plate 1).

CONCLUSIONS

One region of anomalous electromagnetic response, likely reflecting steeply dipping bedrock conductors, was indicated by the survey. The trace of these conductors is shown on Plates 1 and 2. The indicated σt values range from 20 - 30 mhos suggesting moderate - conductivity, the indicated current axes depths are less than 150'.

On the basis of the Field Strength Ratios and Phase Differences the observed anomalies warrant further attention.

The following diamond drill holes are tentatively recommended to sample the main anomalous indications:

DDH #1 - Collar at L-16 NE; 8 + 75 NW - Drill grid NE at 45° for a distance of 250'.

DDH #2 - Collar at L-20 NE; 9 + 40 NW - Drill grid NE at 45° for a distance of 250'.

Additional drilling and/or geophysical coverage would be dependent upon the results of the above programme.

Respectfully submitted,

SCINTREX SURVEYS LIMITED

Peter J. Fominoff, B.A.Sc., P.Eng.
Geophysicist

Michael J. Lewis, M.Sc.
Geophysicist

Vancouver, B. C.
March 6, 1973

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA.

To Wit:

In the Matter of a geophysical survey on behalf of Perry, Knox and Kaufman, Inc.

I, Leslie A. Merrifield for Scintrex Surveys Limited

of 750 - 890 West Pender Street, Vancouver, B. C.

in the Province of British Columbia, do solemnly declare that a Turam Electromagnetic survey has been executed on some HAGAS claims in the Houston area, British Columbia between January 31st to February 4th, 1973. The following expenses were incurred:

(1)	Wages:		
	P. Fominoff 5 days @ $45.00/day	$225.00	
	F. Bourqui 5 days @ $30.00/day	150.00	
			$375.00
(2)	Transportation & shipping to the job		$52.35
(3)	Transportation on the job		$187.27
(4)	Food & Living Expenses		$201.88
(5)	Use of geophysical equipment 5 days @ $60.00/day		$300.00
(6)	Paid to Scintrex Surveys Limited to cover geophysicist's supervision, calculating, plotting and fairdrawing data and preparation of final reports.		$800.00
			$1,916.50

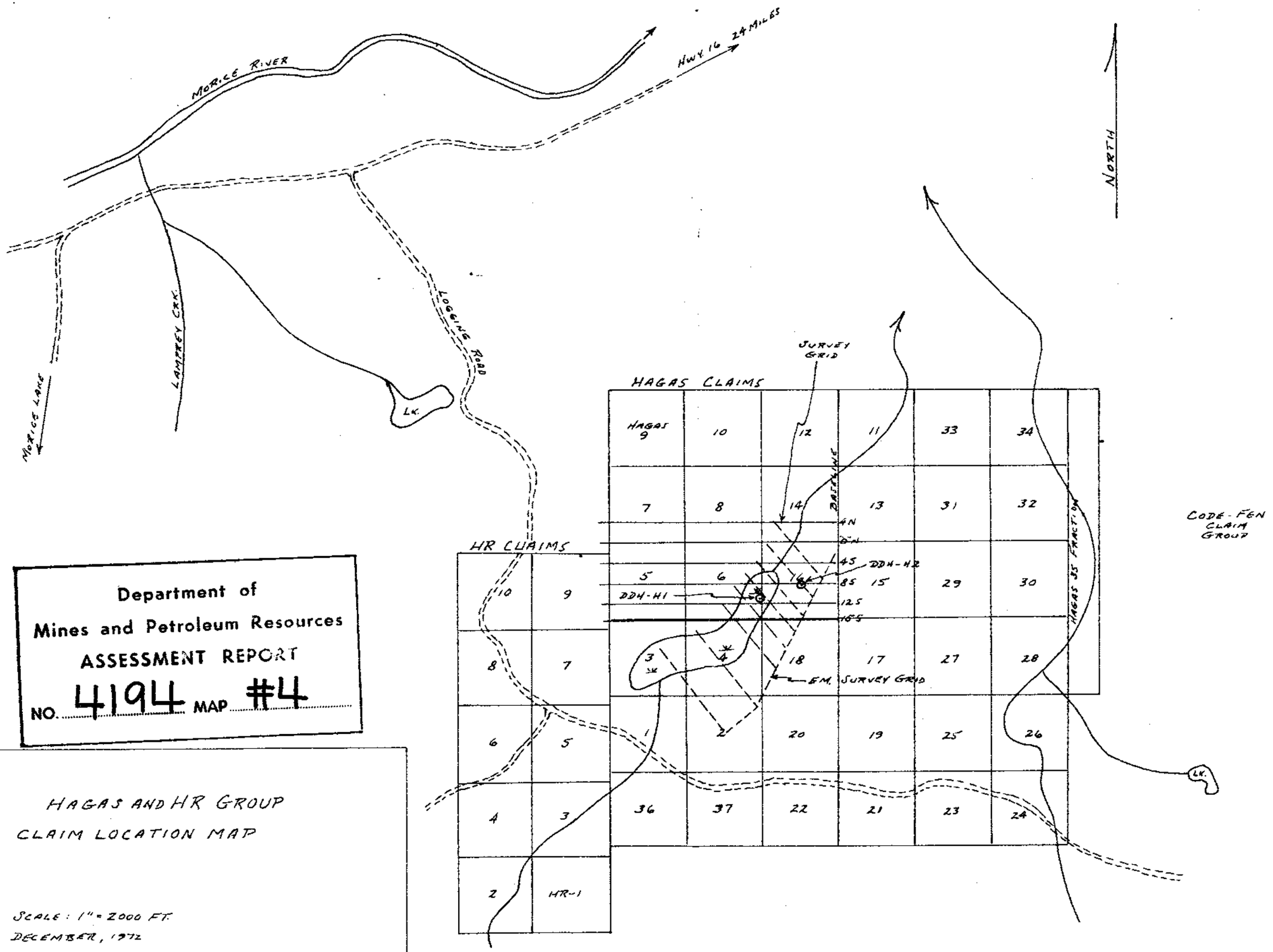
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City of Vancouver, in the Province of British Columbia, this 8th day of March, 1973, A.D.

Leslie A. Merrifield

Joan Paul Sub-mining Recorder

A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.



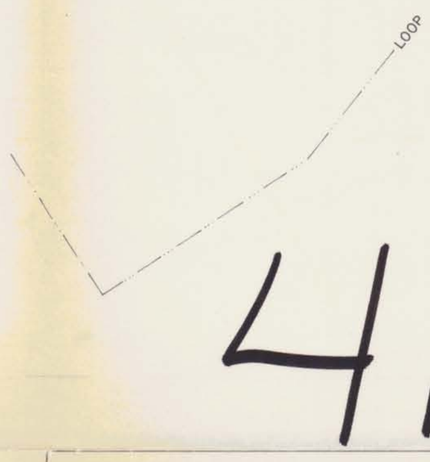
Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4194 MAP #4

HAGAS AND HR GROUP
CLAIM LOCATION MAP

SCALE: 1" = 2000 FT.
DECEMBER, 1972

J. A. KNOX
PERRY, KNOX, KAUFMAN, INC.

HAGAS AND HR CLAIM GROUP, OMINECA M.D.
J. A. KNOX DECEMBER 1, 1972



4194 M-2

LEGEND

(4) CLAIM NUMBER OF "HAGAS" CLAIM GROUP

CLAIM OUTLINE

WEAK ANOMALY

MODERATE ANOMALY

PLATE I

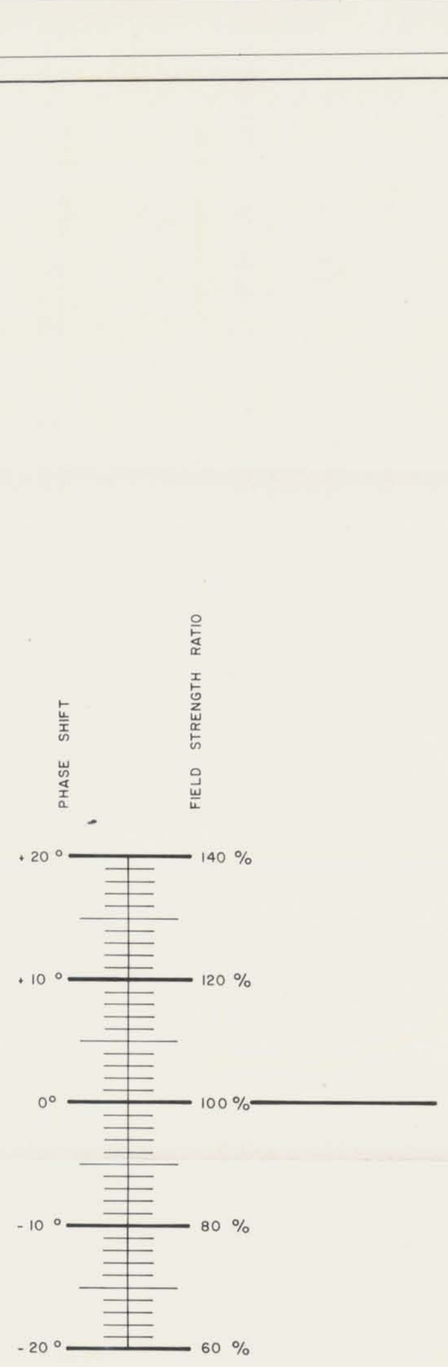
PERRY, KNOX & KAUFMAN INC.

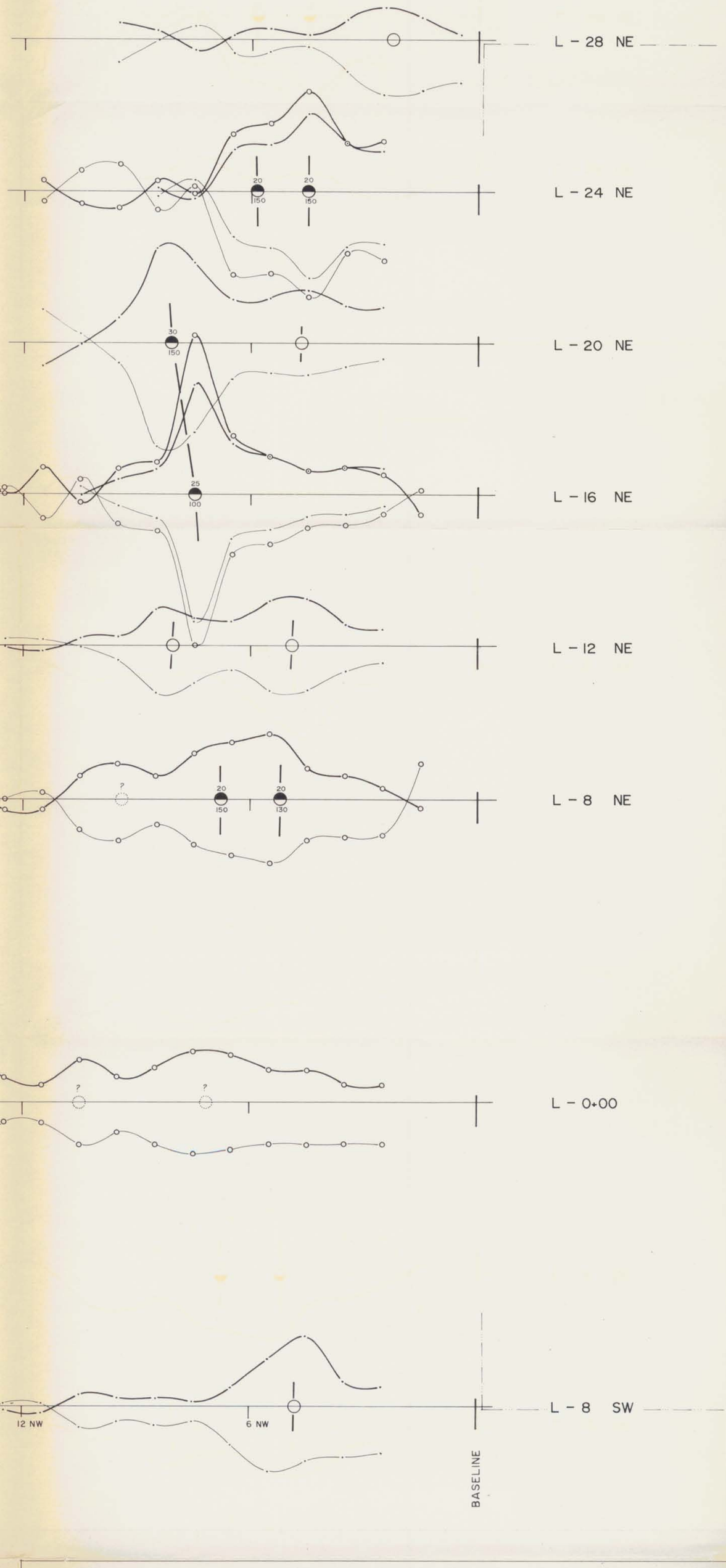
HAGAS CLAIM GROUP
HUSTON AREA B.C.
OMINECA MINING DIVISION

GRID AND CLAIM MAP
OF
TURAM ELECTROMAGNETIC SURVEY

SCALE 1" = 400'
BY
SCINTREX SURVEYS LIMITED

TO ACCOMPANY A GEOPHYSICAL REPORT BY MICHAEL J. LEWIS P. J. FOMINOFF DATED: 6.3.1973	WORK COMPLETED: 4.2.1973 DRAFTED: 15.2.1973 at REV.:	JOB NUMBER 900	SHEET NUMBER 1 OF 1





N

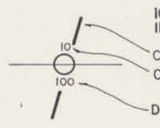
LEGEND

200 Hz — RATIO — PHASE

400 Hz — RATIO — PHASE

READINGS TAKEN AT 400 Hz., UNLESS INDICATED OTHERWISE.

LEADING EDGE OF TRANSMITTING LOOP



100 FEET RECEIVING COIL SEPARATION. INTERLINE SPACING TO SCALE.

CONDUCTOR AXIS

CONDUCTIVITY x THICKNESS (dt mhos)

DEPTH TO CURRENT AXIS

NORMAL ANOMALY:

WEAK

MODERATE

STRONG

REVERSED ANOMALY

SCINTREX SE-71 INSTRUMENTATION EMPLOYED.

PLATE 2

PERRY, KNOX & KAUFMAN INC.

HAGAS CLAIM GROUP
HUSTON AREA B.C.
OMINECA MINING DIVISION

PROFILES
OF

TURAM ELECTROMAGNETIC SURVEY

SCALE 1" = 200'
BY
SCINTREX SURVEYS LIMITED

TO ACCOMPANY A GEOPHYSICAL REPORT BY MICHAEL J. LEWIS P. J. FOMINOFF DATED: 6.3.1973	WORK COMPLETED: 4.2.1973 DRAFTED: 15.2.1973 REV.:	JOB NUMBER 900	SHEET NUMBER 1 OF 1