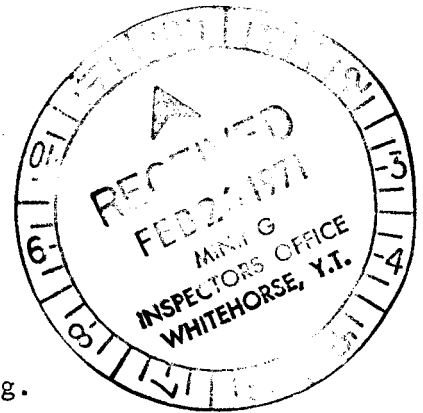


REPORT ON
AEROMAGNETIC SURVEY
KENO AREA, YUKON TERRITORY
ON BEHALF OF
LACANEX MINING CO. LTD.
105M 13



by

Richard O. Crosby, B.Sc., P.Eng.

June 10, 1970

This report has been examined by the Geological Evaluation Unit and is recommended to the Department of Mineral and Technical Surveys for the purpose of

21,700

D.B. Craig

LOCATION:

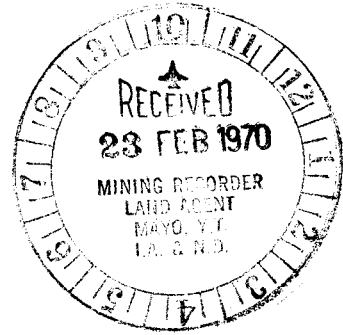
About 35 miles northeast of Mayo,
Yukon Territory
64° 135° SE

DATES:

April 12 to April 16

[Signature]

WESTERVELT ENGINEERING LTD.
904-1112 West Pender Street
Vancouver 1, B.C.



February 17, 1971

Mr. R.G. Ronaghan
Mining Recorder
Box 10
Mayo, Yukon Territory

Dear Mr. Ronaghan:

Re: Nomad Claim Group, Mayo Mining District, Y.T.

To the attached "Report on Aeromagnetic Survey, Keno Area, Yukon Territory, on behalf of Lacanex Mining Company Limited" by R.O. Crosby, P.Eng., we wish to append the following information:

- (1) the aeromagnetic survey covers the Nomad claims 1-221 inclusive (Grant No's Y33079-Y33299) shown on claim sheets 105-M-13, 105-M-14, and 106-D-3.

As indicated on the accompanying location map, the claims are situated in the McQuesten valley near Hanson Lake at approximately 63°58'N, 135°25'W.

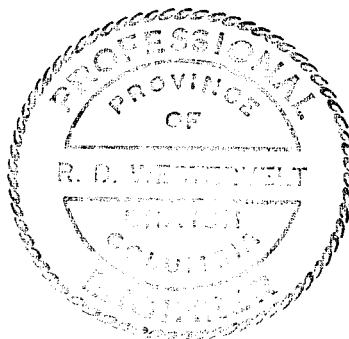
For reference, the Nomad claim group has been outlined in red on the aeromagnetic survey plans.

- (2) the survey was carried out under the supervision of Westervelt Engineering Ltd. between April 12th-17th, 1970 at a direct contract cost of \$11,677.15 (as per attached bills).

We trust this information will complete the data required to file this report as representation work on the Nomad claims.

Yours very truly,

WESTERVELT ENGINEERING LTD.



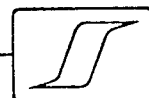
A handwritten signature in cursive script that reads "R. D. Westervelt, P. Eng.".

R. D. Westervelt, P.Eng. (B.C. & Ont.)

RDW/tr

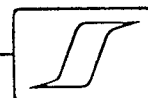
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Plate 1 - Location Map	1" = 4 miles
(in envelope)	
Plate 2 - Magnetometer Contour Plan Sheets 1, 2, 3, 4	1" = 1/4 mile
Plate 3 - Geophysical Interpretation	1" = 1 mile



SUMMARY

A recently completed aeromagnetic survey has indicated features warranting field investigation. In addition, the thickness of valley fill has been determined over a portion of the survey grid.



REPORT ON
AEROMAGNETIC SURVEY
KENO AREA, YUKON TERRITORY
ON BEHALF OF
LACANEX MINING CO. LTD.

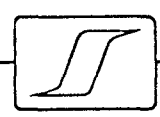
INTRODUCTION

From April 12 through April 16, 1970, an airborne geophysical survey was executed on behalf of Lacanex Mining Co. Ltd. in the Keno area, Yukon Territory, covering approximately 150 square miles (see Plate 1).

The airborne survey consisted of magnetometer measurements using a Scintrex NPM-1 nuclear resonance, total intensity magnetometer.

Appendix 'A', attached, gives full details of the airborne geophysical equipment and the ancillary equipment employed, as well as the treatment of data resulting from this survey. In the case of the present survey a Bell 47G3B1 helicopter, on charter from Trans North Turbo Air Helicopters, was employed as the transport vehicle.

Reconnaissance survey lines were flown at a nominal 1/2 mile line interval at a mean terrain clearance of 400 feet. A portion of the area was detail flown at 1/4 mile interval. The magnetometer sensor was flown 50 feet below the helicopter. Flight navigation and flight path recovery have been based upon a photomosaic, on the scale of approximately 1" = 1/4 mile. Seventy-five flight lines measuring a total of 540 line miles were flown on the present programme. The intensity of the earth's total magnetic field in the survey area measures approximately 58,300 gammas and the inclination of the total field vector is approximately 80 degrees. The purpose of the present survey was to obtain information relating to the



distribution of intrusive rocks and geologic structure, and if possible to determine the thickness of overburden in the centre of the survey grid.

PRESENTATION OF DATA

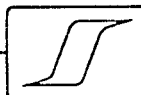
The results of the geophysical survey are presented on Sheets 1, 2, 3, and 4 of Plate 2, on the scale of 1" = 1/4 mile. Some topographic features and the flight lines are shown on the plate. Magnetic data are contoured at a 10 gamma interval. Base datum is arbitrary.

The magnetometer data are presented together with altimeter and fiducial recording on a dual trace Moseley recorder.

The vertical scale of the magnetic trace is 1" = 100 gammas with automatic steps of 500 gammas.

GEOLOGY

A description of the geology of the area including the survey grid is found in G.S.C. Bulletin 111, "Geology, Geochemistry and Origin of the Lead-Zinc-Silver Deposits of the Keno Hill - Galena Hill Area, Yukon Territory", by R. W. Boyle, 1965. The map accompanying this report reveals that the central portion of the survey grid is drift covered. Precambrian and/or Paleozoic metamorphics and sediments are found both north and south of the drift covered central area. Mesozoic intrusive rocks, including granodiorite, granite, diorite, quartz-feldspar porphyry and granite porphyry are mapped along the northern and southern limits of the area. Metadiorite and meta-gabbro (greenstone) are also mapped in the area.



Mineral deposits or prospects including gold, lead, zinc, silver, cadmium, antimony, tin, tungsten and mercury are found within the survey grid, the most important of which are located in the Keno Hill - Galena Hill area.

DISCUSSION OF RESULTS

Plate 3, on a scale of 1" = 1 mile, shows the magnetic field along with a geophysical interpretation.

The observed magnetic relief is a total of 700 gammas and occurs primarily as a series of east-west trending negative anomalies across the survey grid. The anomalies are interpreted as arising from greenstone sills, plugs and lens. A number are indicated on the geological map, however the present detailed aeromagnetic survey indicates the extensive distribution of these rocks.

The north central portion of the survey grid between L 15 and L 43 is a relatively magnetically featureless area typical of the field found over acidic intrusive rocks. An interesting feature warranting further investigation is the generally circular area recorded midway along L 28 through L 33 interpreted as an acidic intrusive. A 30 gamma gradient in the vicinity of TL 3 indicates a minor magnetic susceptibility contrast with the acidic rocks to the north. Two features, labelled A and B, also require field checking. Feature A is a 120 gamma positive anomaly recorded south of Haldane Creek on L 7. This could indicate a skarn zone. Feature B was recorded on the north end of L 41. It is a circular negative anomaly measuring about 100 gammas. The source is interpreted as greenstone, probably outcropping; however because of its isolation it should be investigated.



One of the objectives of the survey was to attempt to determine the thickness of valley fill using the recorded magnetic data. This has been done in the central part of the survey grid using the top of the greenstone sills as the top of the crystalline basement. Thickness of the fill is shown on the interpretation overlay in feet.

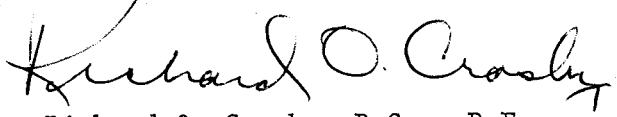
The magnetic map also indicates a number of major structural trends and faults which have been interpreted and shown on Plate 3.

CONCLUSIONS AND RECOMMENDATIONS

The aeromagnetic survey has indicated features which warrant field investigation. These features, such as A and B on Plate 3, along with the interpreted acidic intrusive have been previously discussed. There are, however, additional anomalies which should also be field checked. All anomalies not directly correlated with the geology should be explained, especially those recorded in areas geologically mapped as limestone.

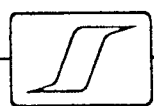
Respectfully submitted,

SEIGEL ASSOCIATES LIMITED



Richard O. Crosby, B.Sc., P.Eng.
Geophysicist

Vancouver, B. C.
June 10, 1970



MAGNETOMETER - SCINTREX NPM-1

The Scintrex NPM-1 nuclear resonance airborne magnetometer is based on a Newmont modification of a Varian Associates magnetometer and is produced under license to both companies. It is a very light weight, solid state unit, especially designed for use in a helicopter or light fixed-wing aircraft where weight is an important consideration.

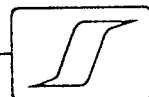
Its cycle period is 1.1 seconds. Each cycle it measures the total intensity of the earth's magnetic field and this quantity, in gammas, is recorded, in analogue form, on a suitable graphic recorder. The full scale sensitivity is usually 1000 gammas and the recorder automatically steps each 500 gammas. In very active areas a full scale sensitivity of 5000 gammas with steps of 2,500 gammas may be employed. Only the magnetic variations are actually recorded although the absolute base level may be established from the NPM-1 as well.

The magnetic sensing head may be on a cable as much as 100 ft. below the aircraft or, in some installations, may be rigidly attached to the aircraft on a suitable boom.

The intrinsic noise level of each reading is about 5 gammas.

Where it is intended to contour the NPM-1 information it is customary to fly tie lines across the survey grid. A fixed magnetic field monitor is often used as well, on the ground, primarily to indicate periods of magnetic storms during which the aeromagnetic data should be considered as unreliable.

The aeromagnetic data may be contoured if desired, using a contour interval of 25 gammas or up, depending on the amount of magnetic relief. Alternatively they may be used simply for purposes of correlation with simultaneously obtained electromagnetic data to determine which conductor zones are appreciably magnetic.



ANCILLARY EQUIPMENT

1. Altimeter

A Bonzer, high frequency solid state radioaltimeter is employed to continuously indicate the mean terrain clearance of the helicopter or other transporting aircraft. The altimeter is installed in the aircraft (unless otherwise indicated) so that the elevation of the sensing birds (electromagnetic or magnetic) will be less by the usual vertical displacement of these birds below the aircraft.

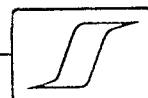
The output of the Bonzer may be expressed in analogue form on a suitable graphic recorder, or may be, for convenience, converted to a semi-digital form on a recorder side pen. In the latter event the altimeter record is a series of spaced pulses whose separation is proportional to the mean terrain clearance.

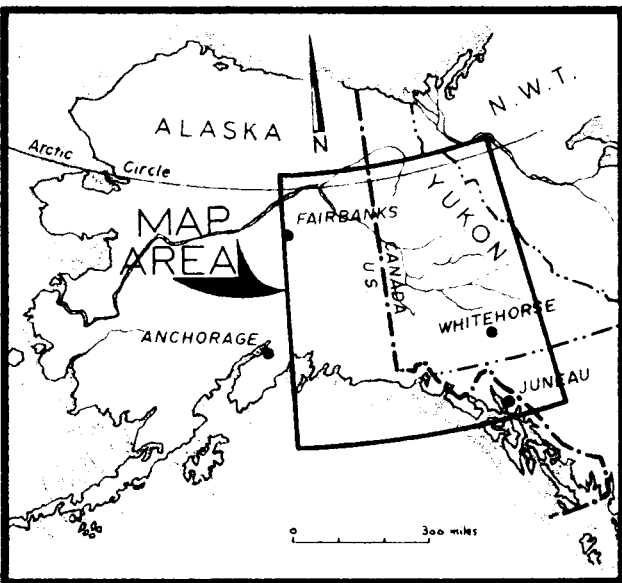
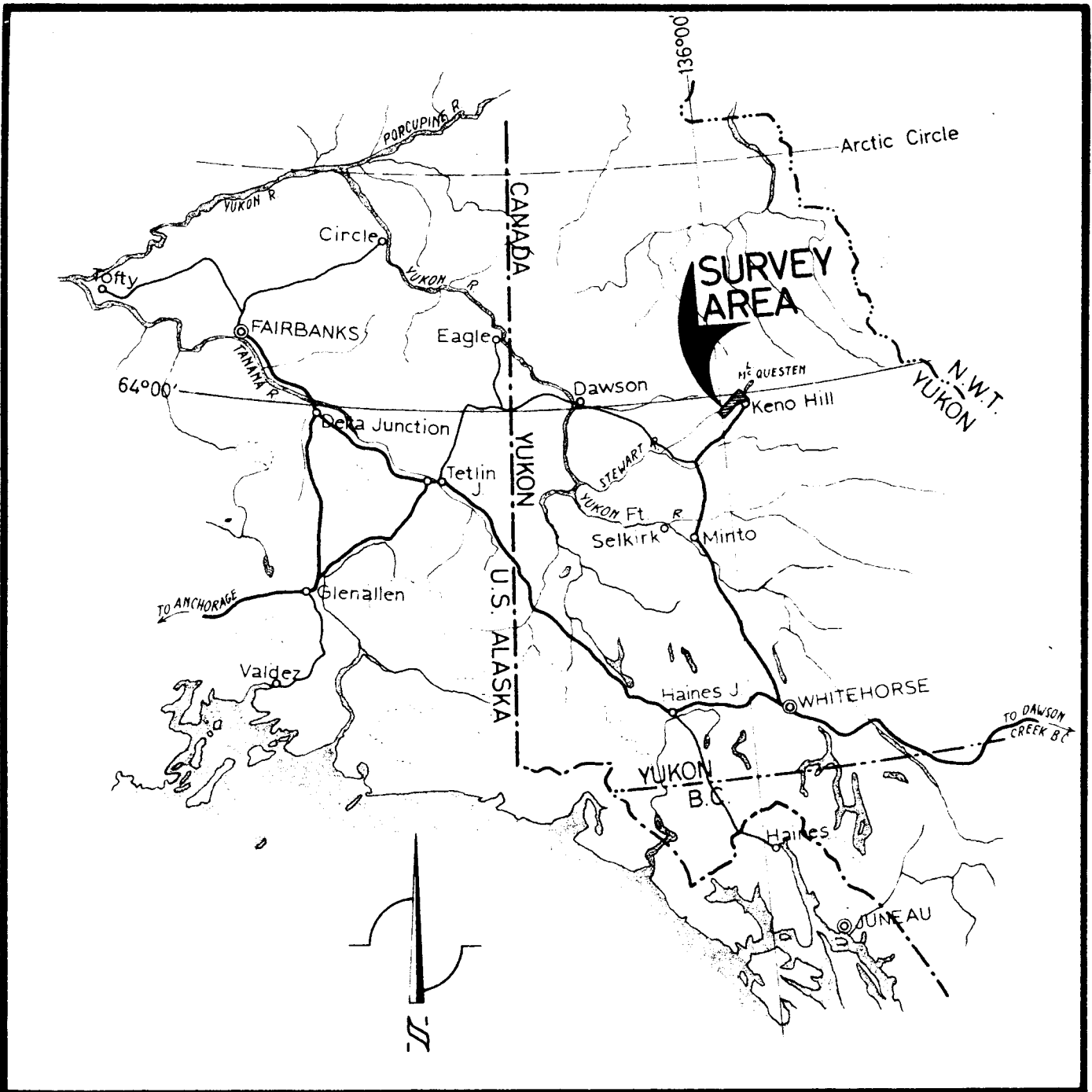
2. Positioning Camera

A Vinten Mark 3 16 mm positioning camera is employed with a wide angle lens. Photographs of the ground are taken with sufficient frequency to give a complete record of the flight path of the aircraft or helicopter. The frequency of exposure is controlled by the intervalometer referred to below.

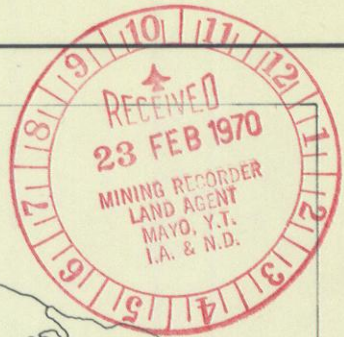
3. Intervalometer

A Scintrex IA-2 intervalometer provides regularly spaced timing pulses which drive the positioning camera exposure mechanism and produces synchronous "fiducial marks" on the side pen of the geophysical graphic recorder or recorders. Because of the synchronization of the geophysical traces and the positioning camera it is then possible to relate the geophysical events of interest to their proper ground location. The timing pulse frequency may be adjusted in accordance with the ground speed of the aircraft so that an adequate flight path record is obtained.





LACANEX MINING CO. LTD.	
LOCATION MAP	
AIRBORNE GEOPHYSICAL SURVEY	
KENO AREA - YUKON TERRITORY	
<p>0 100 200 300 SCALE IN MILES</p>	
SURVEY BY SEIGEL ASSOCIATES LIMITED APRIL - MAY 1970	PLATE I



135° 30'

139° 30'

ERIN



SOUTH

Mc QUESTEN RIVER

HANSON LAKE

SILVER SPRING

LADUE LAKE

GAMBLER LAKE

64° 00'

MILLSITE

UR

RAILROAD

WERNEKE

BARB

WILLOZ

PEG

V.O.

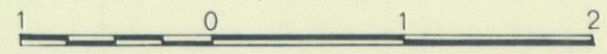
ORCHID

LACANEX MINING COMPANY LIMITED

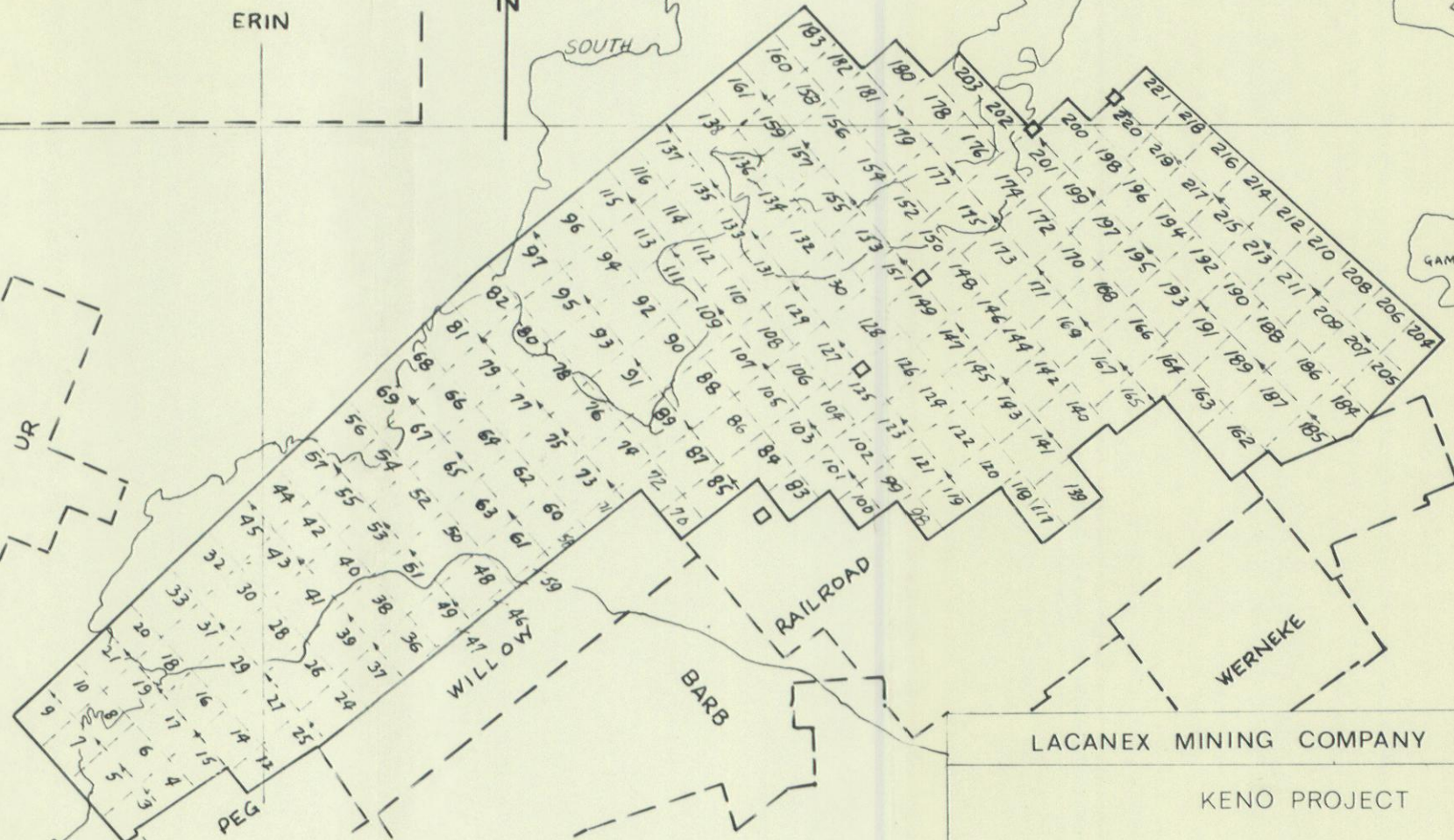
KENO PROJECT

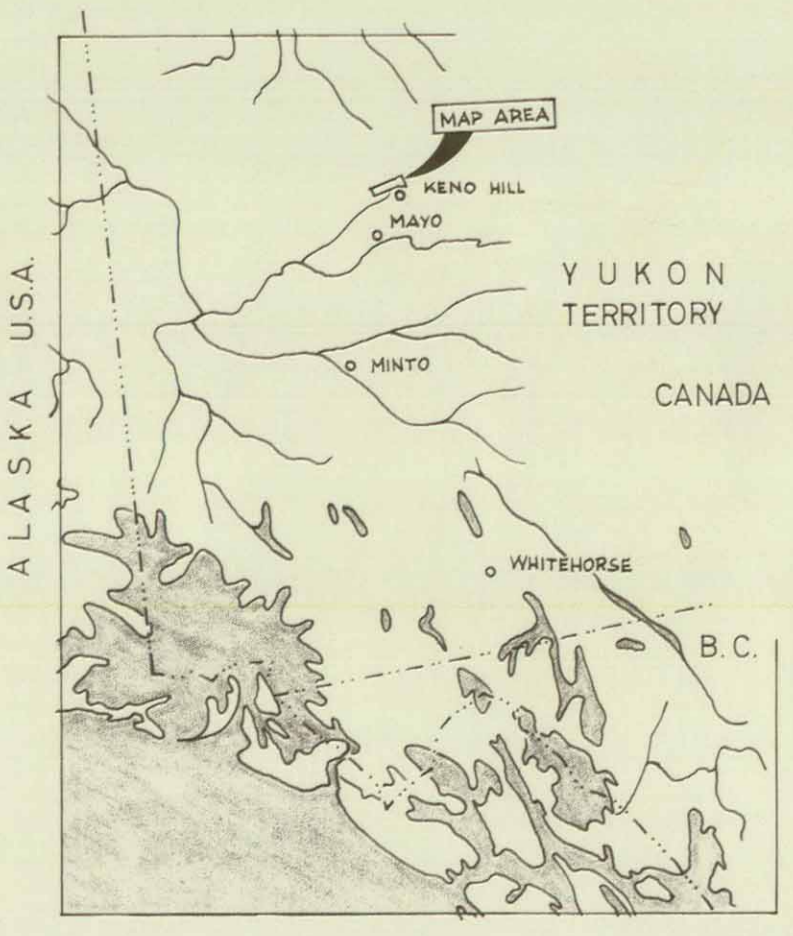
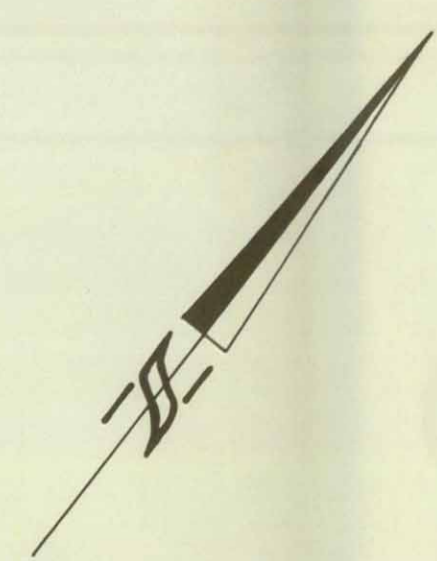
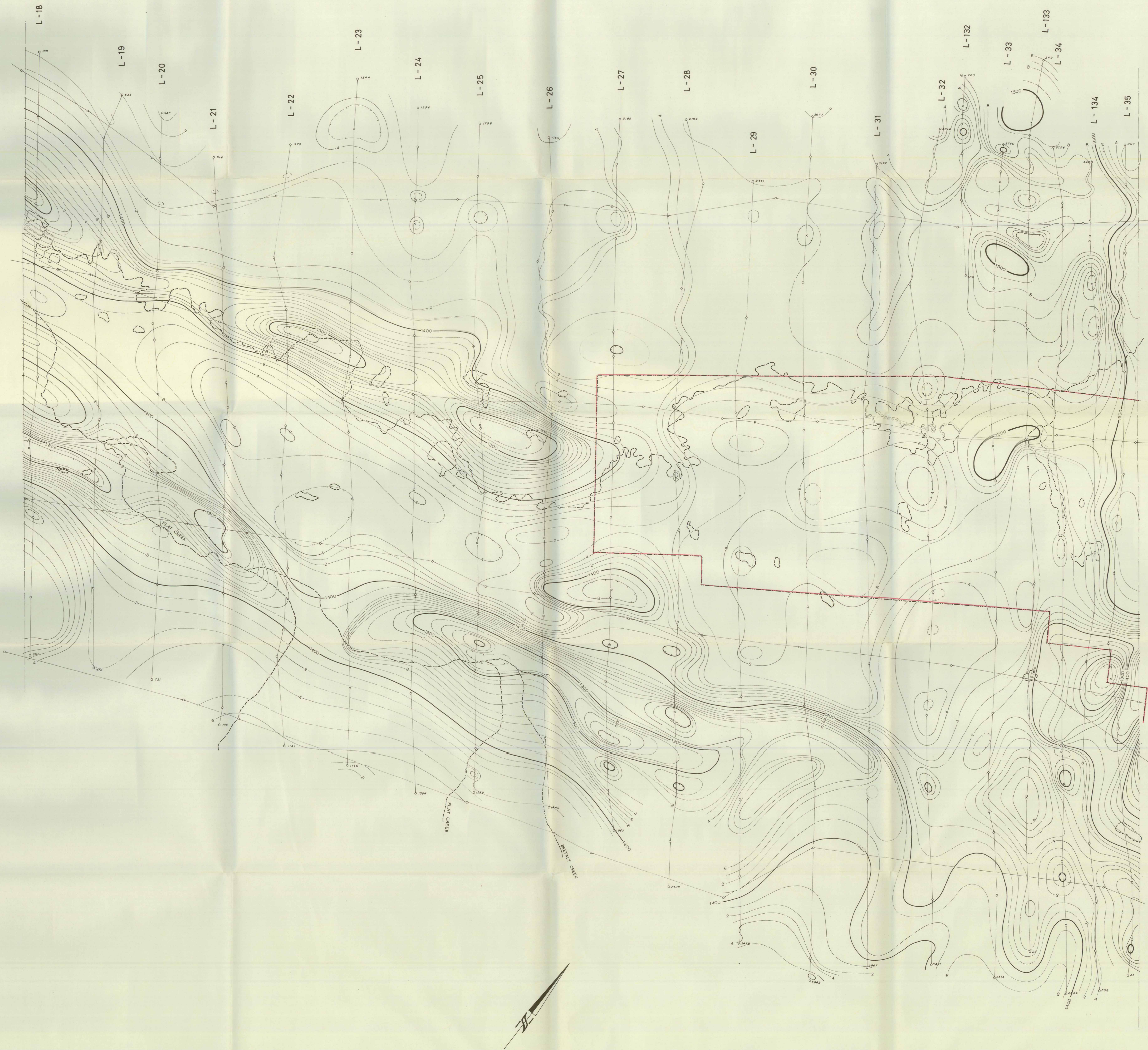
NOMAD CLAIM GROUP

1" = 1 Mi

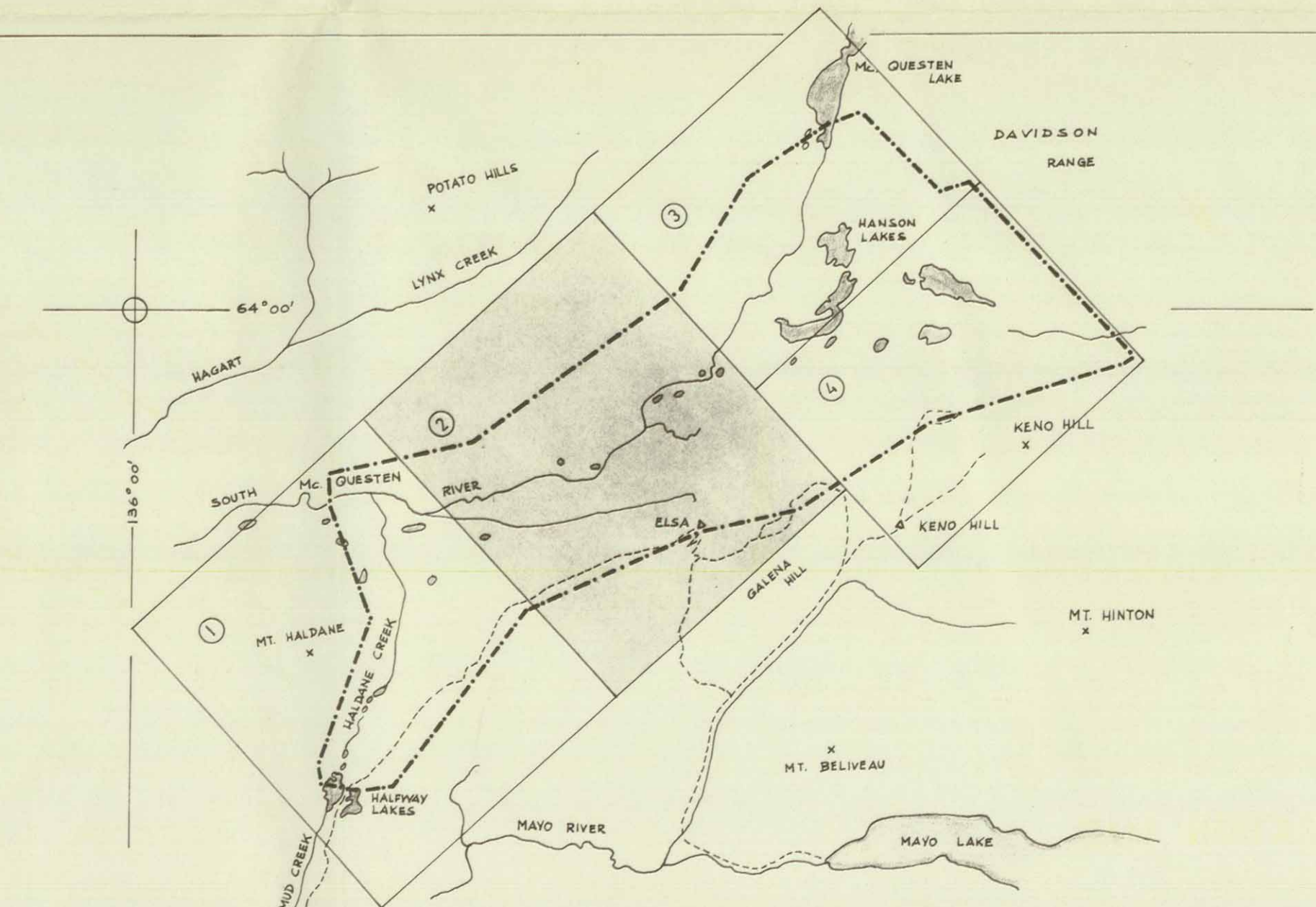


FEB. 1971





LOCATION MAP



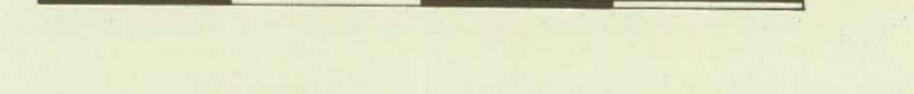
LEGEND

- L-2 1000 — FLIGHT LINE, FLIGHT LINE NUMBER AND NUMBERED FIDUCIAL POINTS
- 500 GAMMA ISOMAGNETIC CONTOUR INTERVAL
- 100 GAMMA ISOMAGNETIC CONTOUR INTERVAL
- 20 GAMMA ISOMAGNETIC CONTOUR INTERVAL
- 10 GAMMA ISOMAGNETIC CONTOUR INTERVAL
- MAGNETIC LOW
- AIRCRAFT TERRAIN CLEARANCE - 400'
- FLIGHT LINE SPACING 1/2 AND 1/4 MILE
- BASE INTENSITY ARBITRARY
- DRAINAGE
- PROPERTY LINE

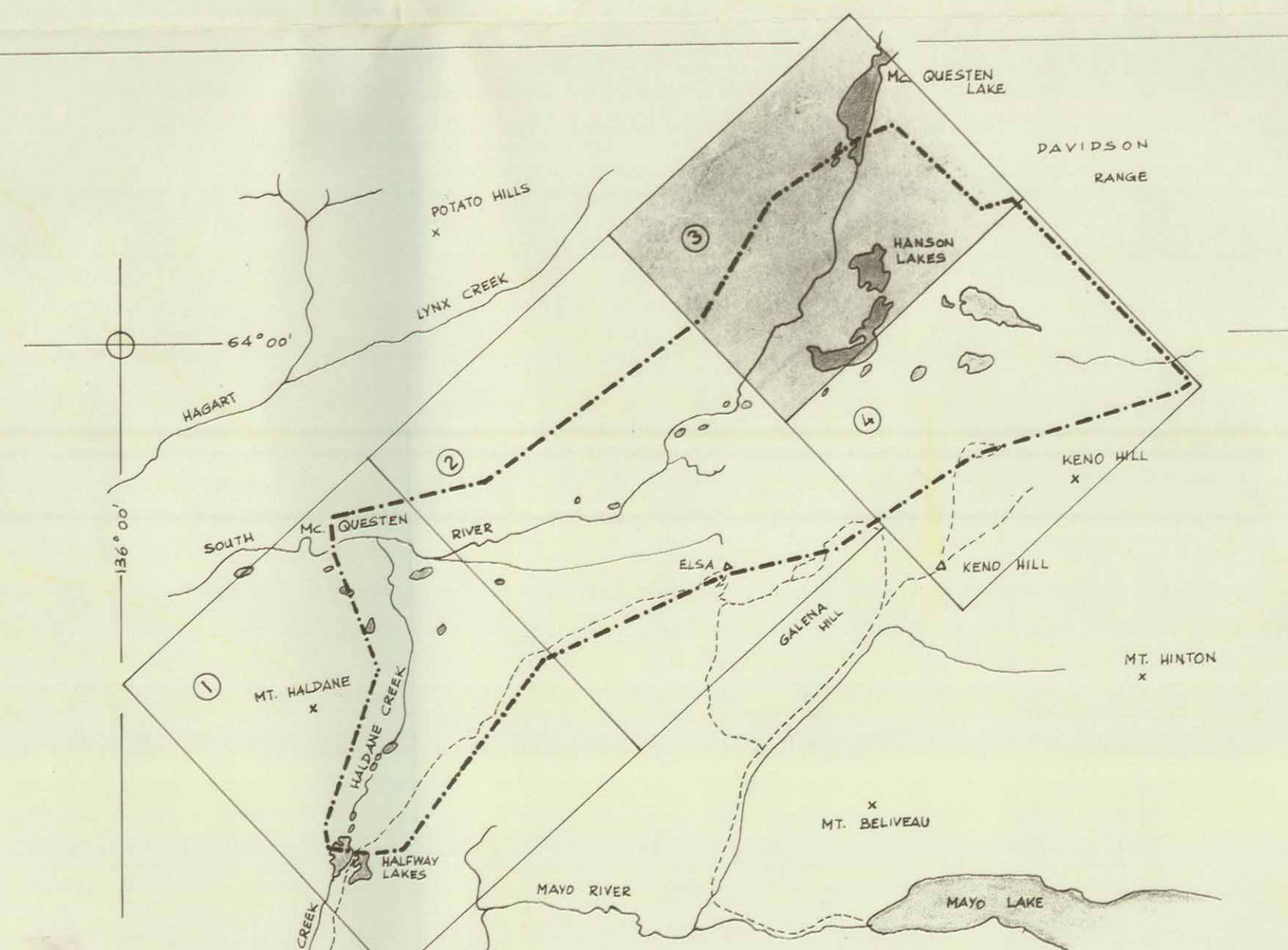
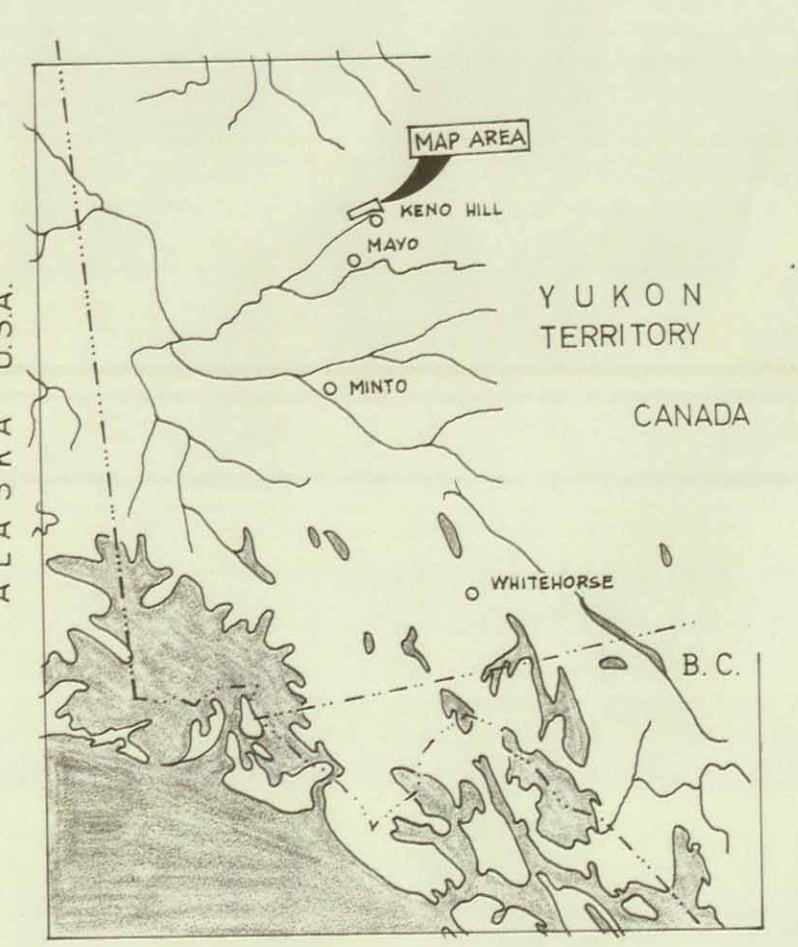
PLATE 2
LACANEX MINING CO. LTD.
 KENO AREA, YUKON TERRITORY

AIRBORNE GEOPHYSICAL SURVEY
 MAGNETOMETER CONTOUR PLAN

APPROX SCALE 1" = 1/4 MILE



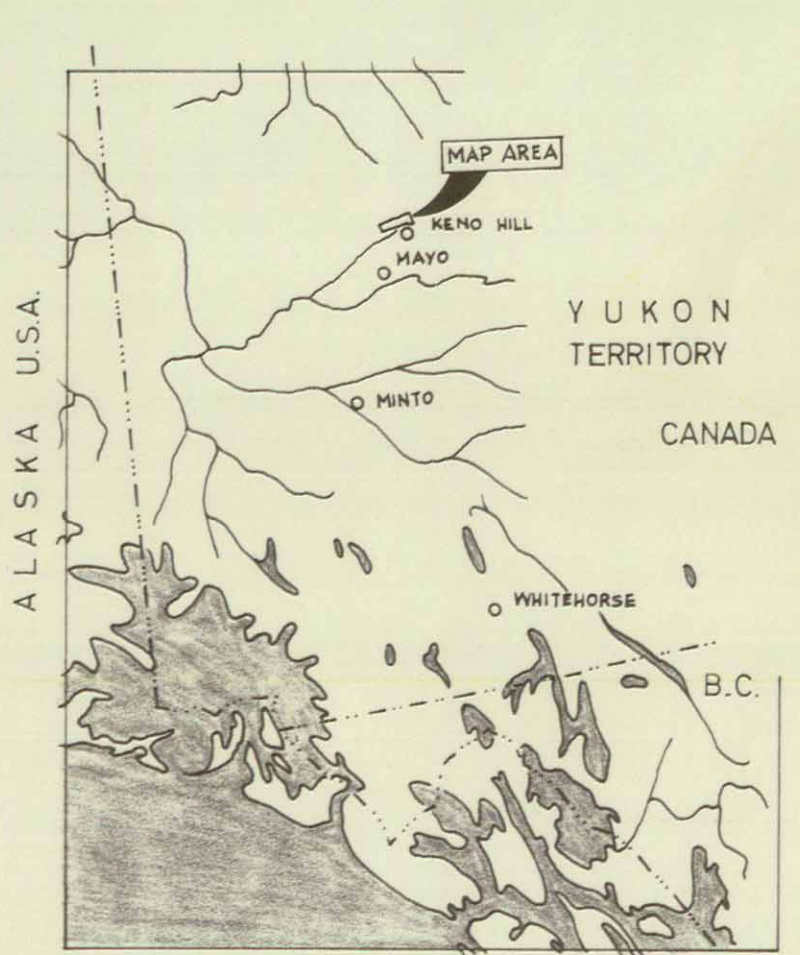
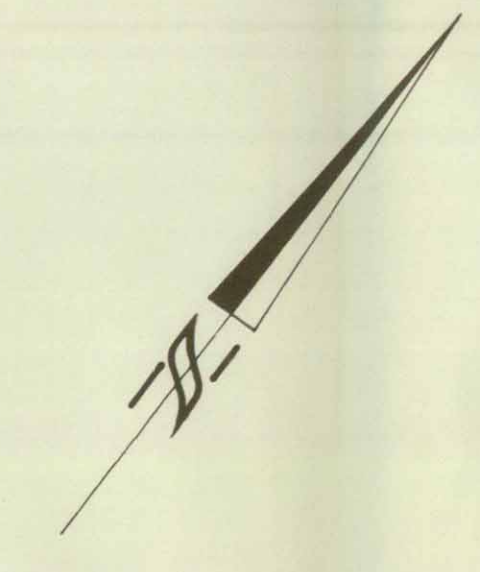
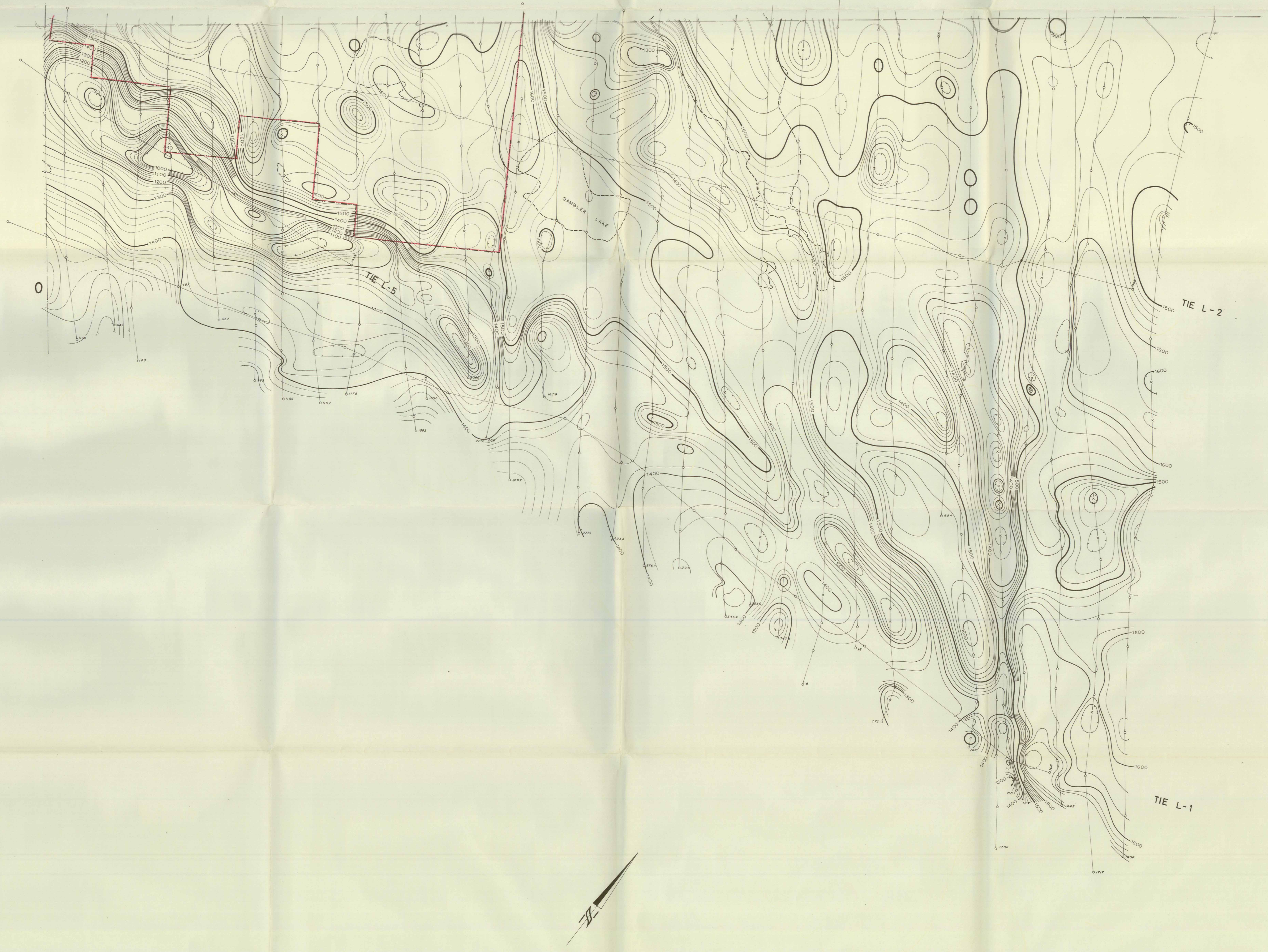
SURVEY BY SEIGEL ASSOCIATES LIMITED
 FLOWN AND COMPILED APRIL-MAY 1970



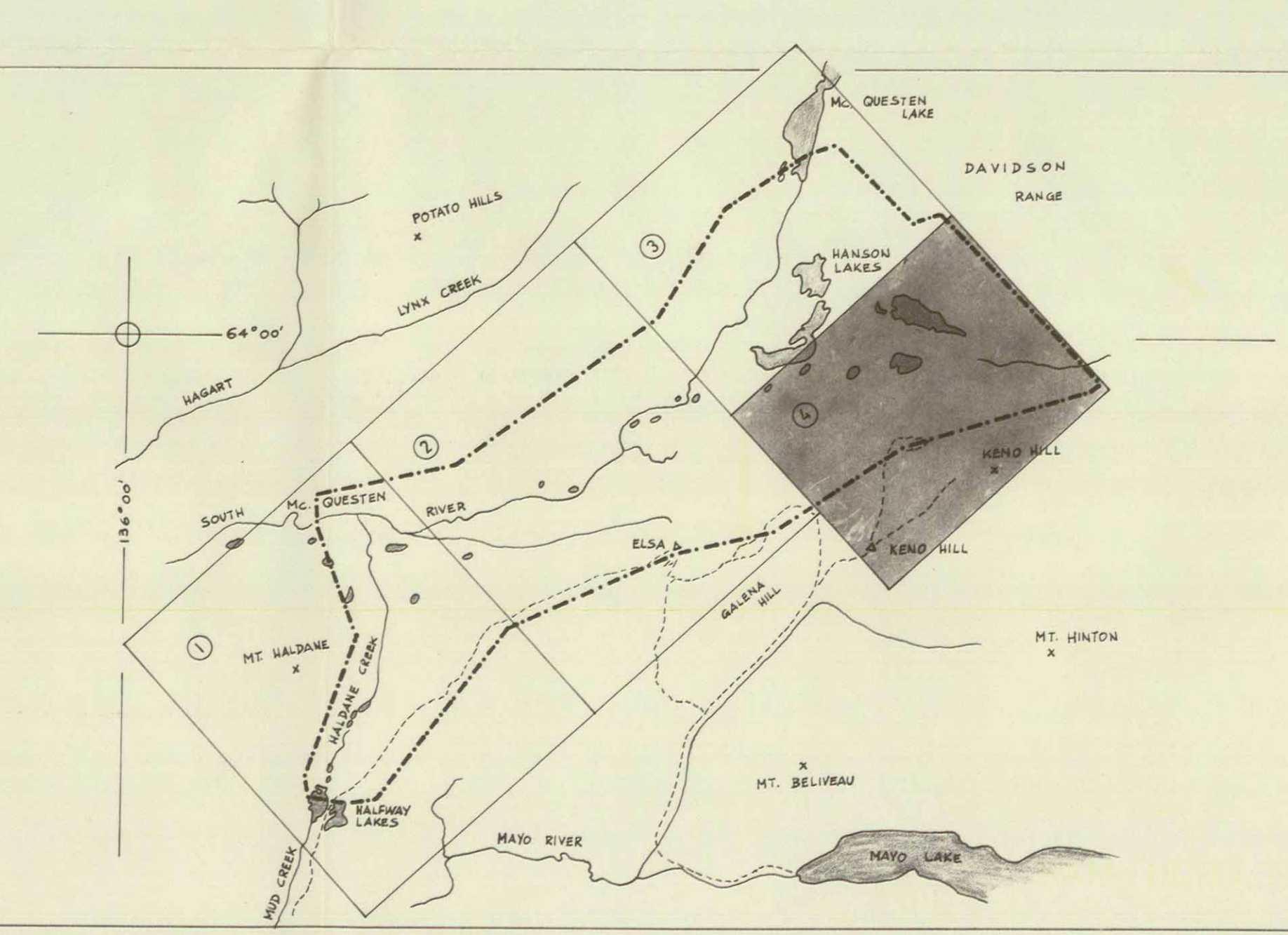
LEGEND

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PLATE 2
LACANEX MINING CO. LTD.
 KENO AREA, YUKON TERRITORY
AIRBORNE GEOPHYSICAL SURVEY
 MAGNETOMETER CONTOUR PLAN
 APPROX. SCALE 1" = 1/4 MILE
 SURVEY BY SEIGEL ASSOCIATES LIMITED
 FLOWN AND COMPILED APRIL-MAY 1970



LOCATION MAP



LEGEND

- FLIGHT LINE, FLIGHT LINE NUMBER AND NUMBERED FIDUCIAL POINTS
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PLATE 2
LACANEX MINING CO. LTD.
 KENO AREA, YUKON TERRITORY
AIRBORNE GEOPHYSICAL SURVEY
 MAGNETOMETER CONTOUR PLAN
 APPROX. SCALE 1" = 1/4 MILE
 SURVEY BY SEIGEL ASSOCIATES LIMITED
 FLOWN AND COMPILED APRIL-MAY 1970



LEGEND

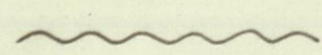

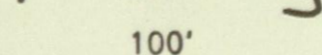

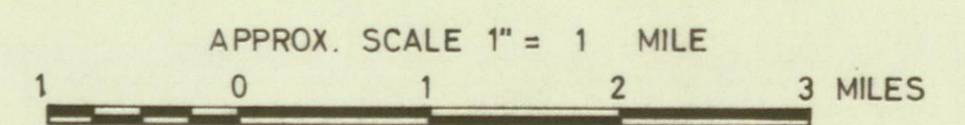
-  PROBABLE FAULT
-  GEOLOGIC CONTACT
-  INTERPRETED THICKNESS OF VALLEY FILL
-  MAGNETIC ANOMALY DISCUSSED IN REPORT

PLATE 3
LACANEX MINING CO. LTD.
 KENO AREA, YUKON TERRITORY

AIRBORNE GEOPHYSICAL SURVEY
 GEOPHYSICAL INTERPRETATION



SURVEY BY SEIGEL ASSOCIATES LIMITED