

6210

REPORT ON

Part 1

AIRBORNE GEOPHYSICAL SURVEYS

on the

KUTCHO 1 - 6 Mineral Claims

KUTCHO CREEK AREA, B.C.

58°12'N 128°30'W

MINERAL RESOURCES BRANCH ASSESSMENT REPORT NO. _____
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J.T. Walker

L.C. Bradish

NORANDA EXPLORATION COMPANY, LIMITED

Liard Mining Division

August 9, 1976 to August 13, 1976

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REPORT ON
AIRBORNE GEOPHYSICAL
on the
KUTCHO 1 - 6 Mineral Claims
KUTCHO CREEK AREA, B.C.
NORANDA EXPLORATION COMPANY, LIMITED

INTRODUCTION

The Claims referred to in this report are owned by Noranda Exploration Company, Limited. The Mineral Claim names and Record Numbers are KUTCHO No. 1 to KUTCHO No. 6 inclusive with Record Nos. 99 to 104 also inclusive.

The airborne survey was flown over the KUTCHO 1 - 6 mineral claims totalling approximately 36.7 kilometers. The index map indicates the location of the KUTCHO mineral claims.

The claims are located 90 kilometers south east of Dease Lake, British Columbia with access by helicopter.

The Geophysical survey was flown by Noranda Exploration Company, Limited during the period August 11 to August 17, 1976. The survey included magnetic, and electromagnetic measurements. A Bell Jet Ranger 206B helicopter, on charter from Highland Helicopters, Vancouver, B.C. was employed to fly the survey.

Thirteen lines were flown for a total of 36.7 line kilometers. All lines were flown on a true north - south bearing with 400 meter flight line spacing.

SURVEY PERSONNEL

Pilot: R. Rasmussen

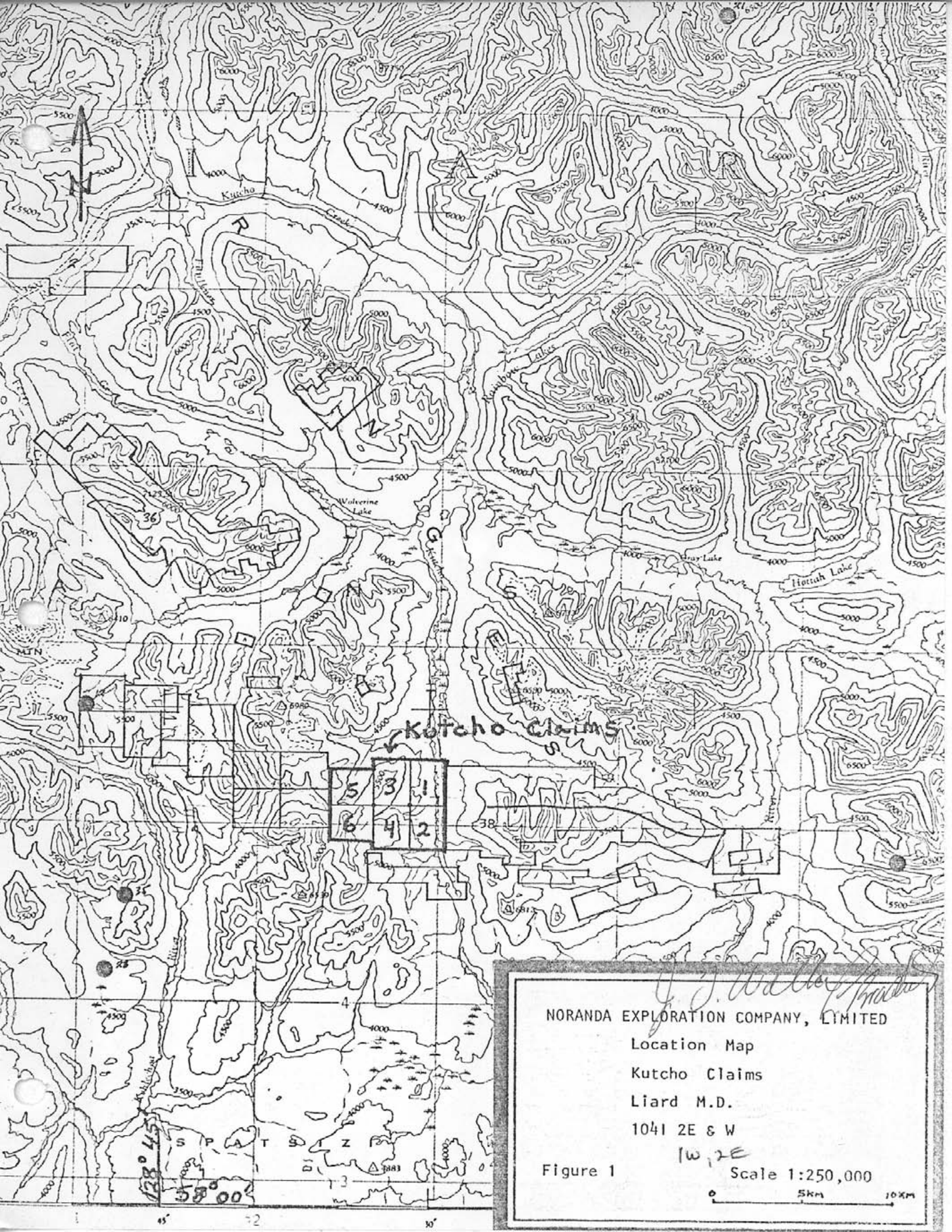
Navigator: G. Belik

Operator: L. Bradish

Data Reduction: T. Walker, L. Bradish, J. van Voorst

Drafting: L. Bradish and J. van Voorst

All personnel are employes of Noranda Exploration Company, Limited except R. Rasmussen an employee of Highland Helicopters.



NORANDA EXPLORATION COMPANY, LIMITED

Location Map

Kutcho Claims

Liard M.D.

1041 2E & W

Figure 1

Scale 1:250,000

0 5km 10km

SURVEY PROCEDURE AND NAVIGATION

The base map is at a scale 1:25,000 and is a blow-up of N.T.S 1:250,000 topographic maps compiled by Surveys and Mapping Branch, Department of Energy, Mines and Resources. Flight lines and topographically located control points were plotted prior to flying the survey. During the survey flight, the navigator announces control points by voice intercom onto the magnetic tape recording system and where necessary, corrects flight line and control point locations on the base map. The operator logs flight details and continuously monitors the instruments and recording system.

An aircraft - terrain clearance of 60 meters was maintained.

INSTRUMENTATION AND DATA RECORDING

The following equipment was installed in the helicopter for measurement and recording of data during flight.

a) Proton Precession Magnetometer

The magnetometer was manufactured by Sabre Electronic Instruments Ltd., Burnaby, B.C. This magnetometer measures the total magnetic field using a 2 second cycle period. During each cycle the head is energized and the field is measured and displayed. An analogue output is provided for recording. Sensitivity was set at 2,000 gammas full scale and the total field datum was set at 57,600 gammas. The sensing head is installed in a fibreglass bird towed 50 feet below the helicopter.

b) Electromagnetic System (VLF-EM)

The VLF-EM receiver was manufactured by Sabre Electronic Instruments Ltd., Burnaby, B.C.

The amplitude of the horizontal component of the electromagnetic field is measured by a sensing coil mounted in a fibreglass bird, towed 50 feet below the helicopter. The coil is mounted axially horizontal and oriented for maximum coupling to the VLF-EM field. The signal originating from the VLF station near Seattle, Washington was utilized for the survey. The frequency is 18.6 kilohertz. The amplitude of the horizontal component of the field is measured continuously and displayed on the receiver console as a relative field strength. An analogue output is provided for recording.

c) Radar Altimeter

A Mark 10 radar altimeter (Bonzar Inc.) was employed to display inflight terrain clearance and an analogue output for recording.

d) Recording System (in flight)

The recording system consists of a frequency modulator and stereo cassette tape recorder. The magnetic and electromagnetic measurements and radar altimeter readings are recorded on the "left" channel of the tape while all pilot, navigator, operator conversation is recorded on the right channel.

The right channel also records a 1000 Hz tone controlled by the navigator to correlate flight line control points.

High Fidelity cassette magnetic tapes (Philips Type) are used to record all in flight data and conversation.

e) Playback System (on ground)

The playback system consists of a stereo cassette tape recorder, demodulator and a 4 pen chart recorder. To retrieve the in-flight recorded data, the tapes are replayed, tone are demodulated and the data is graphically displayed on the strip charts. The playback is in real time and all recorded voice data, control points etc., are written on the charts during playback.

The stereo tape recorders are manufactured by Sony, Model TC 124C, the chart recorder is manufactured by M.F.E. Model M-26 CAHA and the modulator and demodulator are manufactured by Sabre Electronic Instruments Limited.

DATA REDUCTION AND PRESENTATION

All survey data are presented on plan maps at a scale of 1:10,000. Corrected flight lines and control points are drawn and numbered. Sufficient Topography is drawn to permit showing to aid location of the survey. The claims outline is shown on each plan map.

a) Aeromagnetic Data

The magnetic data is presented as isomagnetic contours of the total field using a contour interval of 50 gammas. The results are not corrected for diurnal variations.

The magnetic values are picked at 50 gamma intervals on the charts and these points transcribed to the base maps with reference to the flight line and control points. Points of equal magnetic intensity are then contoured. The contour values are based on a datum of 57,600 gammas total magnetic field intensity. The magnetic data is shown on Dwg. No. 1.

b) Electromagnetic Data (VLF-EM)

The VLF-EM field strength data is presented in contour form using units of relative field strength. (0 - 100% full scale). A contour interval of 5% is used. Data is transferred from chart to plan map as was described under magnetic data. Electromagnetic data is shown on Dwg. No. 2.

DISCUSSION OF RESULTS

The results of the aeromagnetic survey indicate a magnetic variation ranging from 100 gammas to 750 gammas with a background intensity of 250 gammas.

Three magnetic features are evident. A low magnetic background in the central part of the survey area flanked with two magnetically active areas on the north and south. One prominent feature is the crescent shaped magnetic ridge extending between flight lines 4 and 6.

No correlation is evident between the electromagnetic and magnetic field results.

One distinct E.M. anomaly is suggested on flight line No. 4. This anomaly is located at the northeast tip of the magnetic crescent.



J.T. Walker



L.C. Bradish

March 10, 1977

STATEMENT OF QUALIFICATIONS

I, James T. Walker of the City of Vancouver, Province of British Columbia do certify that:

1. I have been an employee of Noranda Exploration Company, Limited since May, 1958.
2. I have held the position of Geophysicist for Noranda Exploration Company, Limited, British Columbia since June, 1965.
3. I am a member of the Canadian Institute of Mining and Metallurgy.
4. I am a member of the Canadian Exploration Geophysical Society.
5. I am a member of the British Columbia Geophysical Society.

March 10, 1977



J.T. Walker
Geophysicist
Noranda Exploration Company, Limited
(No Personal Liability)

STATEMENT OF QUALIFICATIONS

I, Lyndon C. Bradish of the City of Vancouver, Province of British Columbia, do certify that:

1. I have been an employee of Noranda Exploration Company, Limited since May 1973.
2. I am a graduate of the University of British Columbia with a Bachelor of Science Degree in Geophysics.
3. I am a member of the Canadian Institute of Mining and Metallurgy.
4. I am a member of the British Columbia Geophysical Society.
5. I have held the position of Geophysicist for Noranda Exploration Company, Limited since May 1973.



L.C. Bradish
Geophysicist
Noranda Exploration Company, Limited
(No Personal Liability)

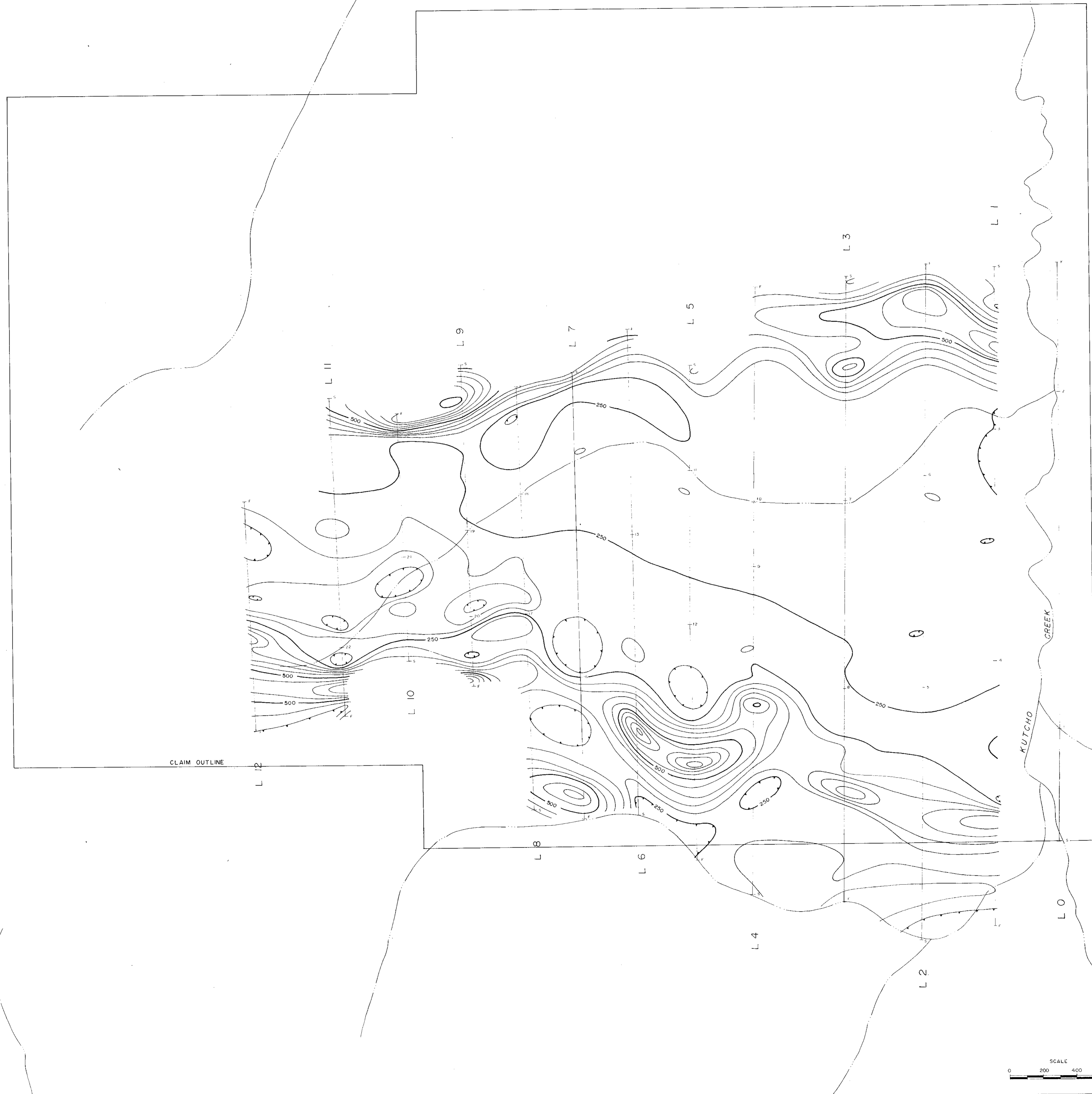
NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT: KUTCHO

TYPE OF REPORT: Airborne Geophysics

(a) Employees: G. Belik, L. Bradish, J.T. Walker Number of days: 10 Dates worked: Between Aug. 11 and Aug. 17/77		
(b) Average cost per day \$ 100.09 Total cost \$100.09 X 10		\$ 1,000.90
(c) Cost of food & accomodation		\$ 137.00
(d) Cost of transportation		
i. During work period		
type:		
cost:		
ii. To and from Claims from within B.C.		
cost:	183.00	183.00
(e) Cost of aircraft		
i. Fixed wing:		
ii. Helicopter:		883.57
(f) Cost of instruments		
i. Rental:	875.00	
ii. Supplies	205.50	1,080.50
(g) Cost of geochem analysis (details attached):		
(h) Cost of report preparation:		514.50
(i) Other:		
Sub-total		<hr/> 3,799.47
Less 1/3, area not covered by this report		1,266.36
TOTAL		<hr/> <u>2,533.11</u>



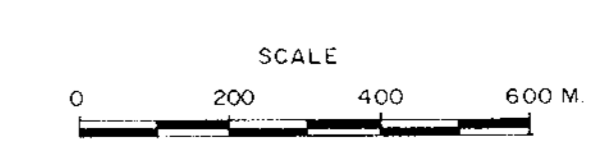
6210-M-1

L.15 — 3 Flight line number, flight line and numbered control point
 Flight line direction: odd numbered lines flown south even numbered lines flown north
 Measurement: Total magnetic field.

TO ACCOMPANY AIRBORNE GEOPHYSICAL REPORT BY
 L.C. BRADSHAW, J.T. WALKER GEOPHYSICISTS IN THE
 KUTCHO CREEK AREA, LIARD M.D., B.C.
 DATED: MARCH 7, 1977

J.T. Walker
L.C. Bradshaw

REVISED	KUTCHO PROPERTY	
	AIRBORNE SURVEY	
	MAGNETOMETER SURVEY	
	TOTAL FIELD (DATUM 57,600γ)	
	CONTOUR INTERVAL: 50 γ	
PROJ. No.	SURVEY BY: L. BRADSHAW, J. WALKER	DATE: AUG. 1976
N.T.S. 1/17,250	DRAWN BY: L.R.	SCALE: 1:10,000
DWG. No.	NORANDA EXPLORATION	
1	OFFICE: VANCOUVER	



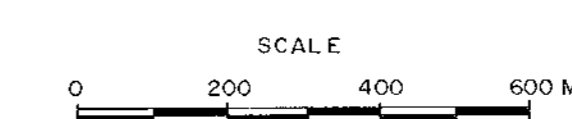


6210-M2

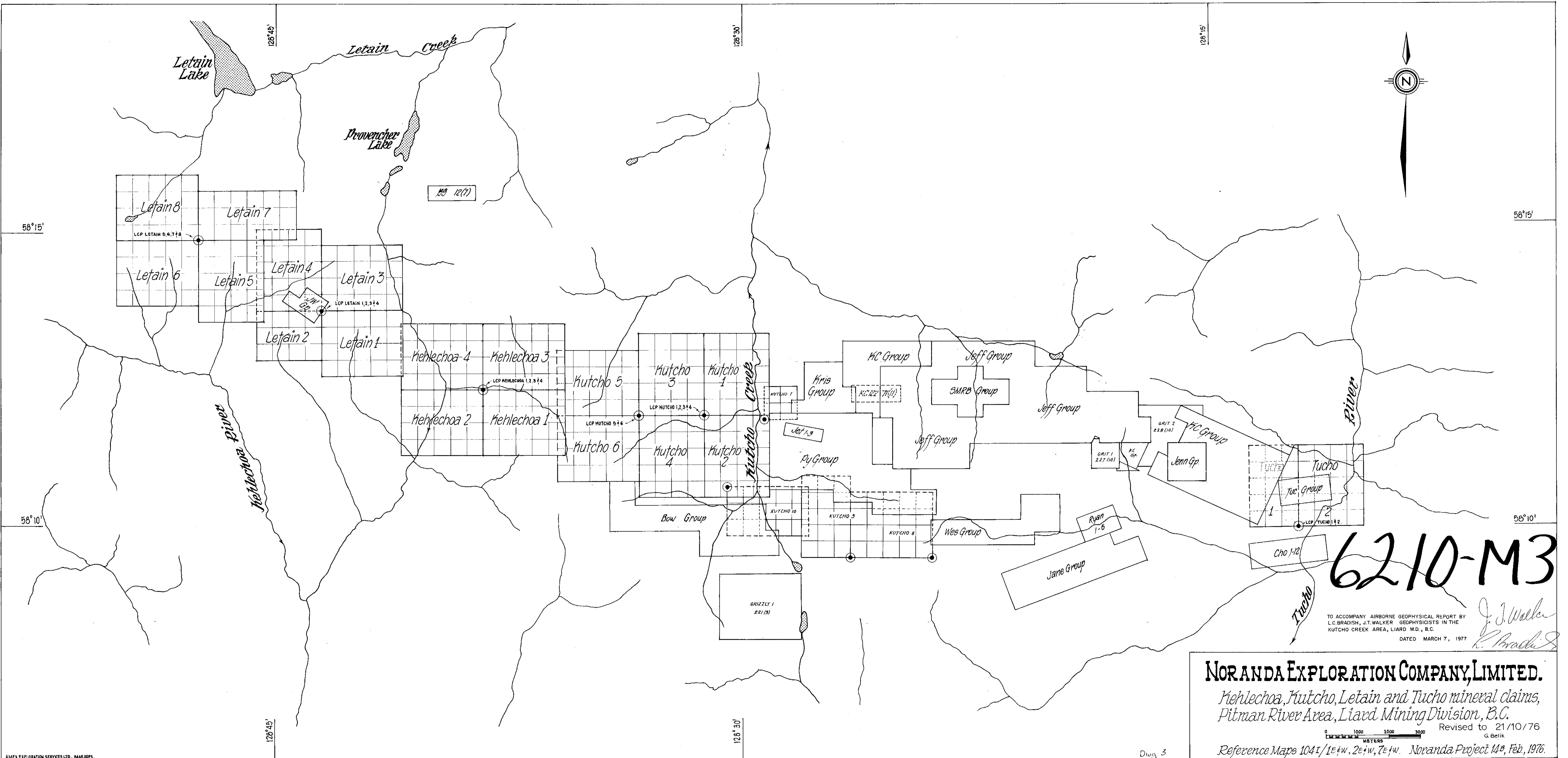
L.15 — Flight line number, flight line and numbered control point
 Flight line direction odd numbered lines-flown south even numbered lines-flown north
 Measurement Relative field strength, Horizontal component (0-100%)

TO ACCOMPANY AIRBORNE GEOPHYSICAL REPORT BY
 L.C. BRADISH, J.T. WALKER, GEOPHYSICISTS, IN THE
 KUTCHO CREEK AREA, LIARD M.D., B.C.
 DATED: MARCH 7, 1977

J. Walker
L. Bradish



REVISED	KUTCHO PROPERTY	
	AIRBORNE SURVEY	
	HORIZONTAL VLF-E.M. FIELD STRENGTH	
	CONTOUR INTERVAL : 5 UNITS	
	T _x : SEATTLE, WASH	
PROJ. No.	SURVEY BY: L. BRADISH, J.T. WALKER	DATE: AUG. 1976
N.T.S. 104.1/1W.2E	DRAWN BY: L.B.	SCALE: 1:10,000
DWG. No.	NORANDA EXPLORATION	
2	OFFICE: VANCOUVER	



6210-M3

TO ACCOMPANY AIRBORNE GEOPHYSICAL REPORT BY
 L.C. BRADISH, J.T. WALKER GEOPHYSICISTS IN THE
 KUTCHO CREEK AREA, LIARD M.D., B.C.
 DATED MARCH 7, 1977

J. J. Walker
L. C. Bradish

NORANDA EXPLORATION COMPANY, LIMITED.

*Kehlechoa, Kutcho, Letain and Tucho mineral claims,
 Pitman River Area, Liard Mining Division, B.C.*

Revised to 21/10/76
 G. Belik

Reference Maps 1041/1E±W, 2E±W, 7E±W. Noranda Project 148, Feb, 1976.

