#### GEOPHYSICAL REPORT

on the

F. G. #1 Jennie Extension 3, & 4, SUN, SNO, UP, VAL, MILL, NED, LAKE & BB mineral claims

Liard Mining Division

104 P/4 E

Lat. 59° 13' Long. 129° 40'

owners

The Agnes & Jennie Mining Co. Ltd.,

Table Mountain Mines Ltd.,

Nu-Energy Development Corp.,

æ

Kristian Ross

operator

ERICKSON GOLD MINING CORP.

å

NU-ENERGY DEVELOPMENT CORP.

consultant

J. M. Black, PhD., P. Eng.

author

W. C. Botel, P. Eng.

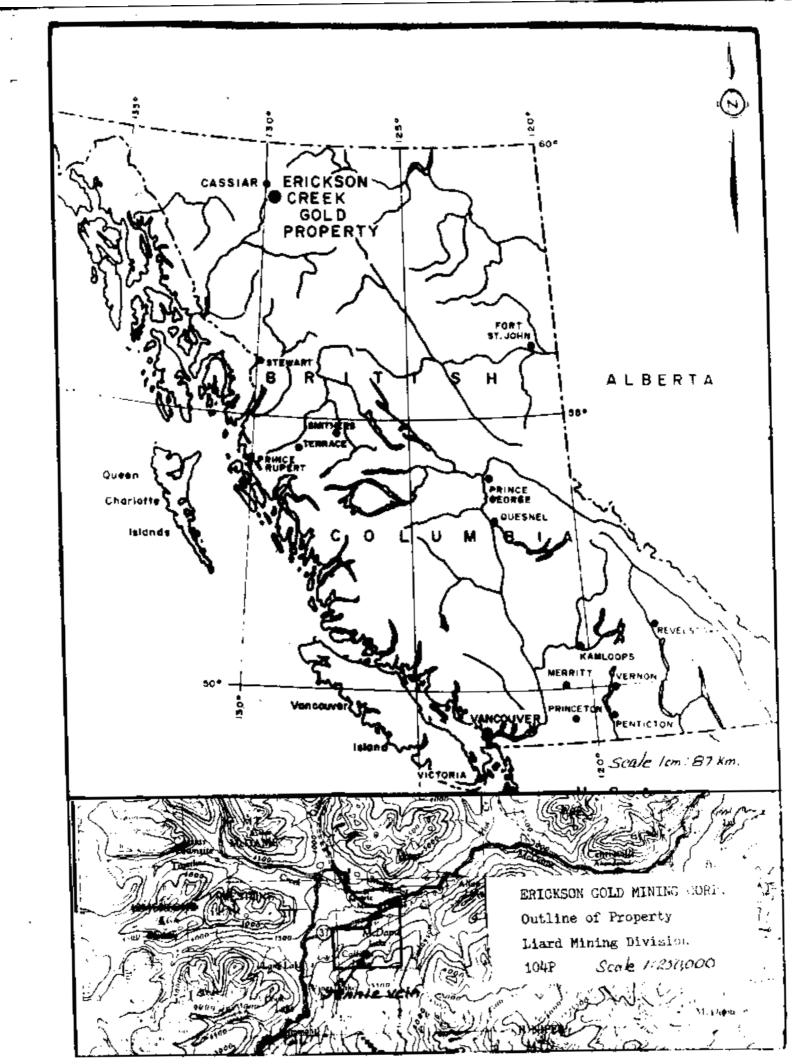
February 25, 1978

part 3 of 3

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#### INTRODUCTION

The Jennie vein of the Erickson Gold Mining Corp.'s property was discovered in 1935 by Hans Erickson. The Crawford group located on the south side of McDame Lake also forms part of the property.

This report is based on field work consisting of diamond drilling, underground exploration and geophysics carried out in 1977 and January 1978.

#### LOCATION AND ACCESS

The Erickson Gold Mining Corp. property is located on the north slope of Table Top Mountain between 930 m. and 1500 m. elevation and lies west and south of highway 37 from the Cassiar road junction. The Jennie vein outcrops in Erickson Creek at about 1400 metres.

Access is by highway 37 from the Alaska highway - 80 miles, or by Kitwanga - 407 miles. The property road leads south from highway 37 at Troutline Creek about 2 km. westerly of the Cassiar junction.

#### HISTORY

Placer mining for gold in the McDame area started in 1874. A rush followed and several profitable operations existed up the McDame River.

Hardrock prospectors discovered many gold bearing quartz veins in the area. Table Top Mountain was first mentioned in 1936 following discovery of the Vollag vein and the Jennie vein in Erickson Creek.

Cominco optioned the claims and carried out exploration consisting of trenching and diamond drilling but dropped their option the following year.

A small scale mining operation on the Jennie vein was started by the McDame Lake Mining Company in 1938 or 1939. Approximately 130 tons of ore was put through a 10 ton mill. The reported yield was 114 oz. Au and 20 oz. Ag.

No further work of consequence was done on the Jennie vein until it was acquired by the Agnes and Jennie Mining Co. Ltd. in 1973.

Preliminary testing in 1973 indicated a mineralized source extending west of the Jennie outcrop. Percussion drilling in the spring of 1975 resulted in some spectacular gold assays over good lengths. Three diamond drill holes were put down through the Jennie vein in September-October 1975 and again the assays were favourable.

Nu-Energy Development Corporation optioned the property in 1976 and carried out a more extensive drilling program consisting of 18 Winkie drill holes in 1976 and commenced an underground exploration program in January 1977. The underground work consisted of a cross-cut adit collared 235 metres N 30° W of the Jennie vein outcrop in Erickson Creek and 61 metres lower in elevation. This adit cut the Jennie vein at

191 m. and was continued for another 36 m. Thirty-six metres of drifting along the Jennie vein cut through the lower section of the ore-shoot outlined by the previous surface drill holes. Underground drilling of 27 holes during February, March and April 1977 further outlined the vein.

Surface drilling of 29 holes in the summer and fall of 1977 extended the dimensions of the vein laterally to the west and downdip while, at the same time, indicated more ore shoots. Surface drilling was completed in October 1977. Drifting to the west along the Jennie vein started in December 1977 and was completed in January 1978 following a decision by the operators and their consultant, J.M.Black, Phd. P. Eng. that enough ore was in sight to justify production at 100 - 150 tons per day.

#### GEOPHYSICS

Steve Presunka was contracted with to carry out VLF E.M. - 16 surveys in the period May 15, 1977 to June 12, 1977. The E.M. - 16 instrument is sometimes capable of delimiting narrow conductive zones caused by mineralization, gross change in rock conductivity and wet fault or fracture zones.

On the Erickson Creek property the Jennie quartz vein is fault controlled, is wet, and has variable amounts of pyrite with it. An E.M. - 16 survey was decided upon as the best tool to delimit possible other quartz veins. The survey commenced in May and due to snow conditions started at the lower elevations ending in June over the area occupied by the Jennie vein.

A total of 28.7 km. of line was marked out using topo/quik chain and compass. Control of lines being provided by a topographic map of the area prepared by McElhanney Surveying & Engineering Ltd. on a scale of 1:5000. (See Figure #1, Sheet 1)

Several zones giving anomalous values were located and have been partially checked on by diamond drilling. More follow up work remains when time and money permits.

The Jennie vein appears to be non-conductive.

## SUMMARY OF WORK

The geophysical Electromagnetic survey used a Ronka VLF E.M. - 16 receiver (Instrument #2) to measure dip angles to conductive zones. Readings were normally taken at 30 metre intervals along lines spaced 60 metres apart. Anomalous readings, that is a change from positive dip angles or vice versa, were rerun at closer spacings until the

exact inflection point was located on the ground. If necessary the line spacing was also narrowed.

Two frequencies were read at every station:

17.8 Maine and 18.6 Seattle.

These stations are approximately at right angles to each other and thus by using N-S or E-W lines resolution of conductors should be good.

#### PURPOSE

The purpose of the survey was to outline narrow conductive zones that could possibly contain gold mineralized quartz veins.

#### RESULTS

Survey results are presented on Figures 4, 5, 6, 7, 8, 9 at a scale of 1:1500 in both profile and contoured plans for each frequency. Interpretive comments were provided by Mr. Steve Presunka, the contractor, on two composite sheets (Figures 2 & 3). Mr. Presunka rates the conductors on a scale beginning with (1) as being the best conductor for the particular frequency as marked. Recommended diamond drill holes showing bearing and dip are also plotted.

Diamond drill hile 77 - 33 @ 135 E; 1230 S cut mixed volcanic flows and tuffs plus a 40 cm section of graphite and quartz between 23.5 m. and 23.9 m. The hole continued in tuffs to 68.6 metres. There appears little doubt that the graphite-quartz shear is the conductor.

Diamond drill hole 77 - 48 @ 590 E - 480 N cut mainly volcanic flows and also a section between 20.13 m. to 28.5 m. of an altered, bleached zone with at least 3% pyrite and several narrow quartz stringers.

The trend of this conductor is E - W and is marked to the east by trenches along a quartz vein.

The above two holes appear to verify the original purpose of the survey but until more drilling has been completed the cause of the other marked conductors are in doubt.

The flat lying conductors at the south end of composite sheet Figure 3 may be due to relatively flat slightly pyritized argillite beds.

## MAGNETOMETER\_SURVEY

The magnetometer survey was run with a Scintrex M.F. 1 magnetometer measuring vertical intensity of the magnetic field. The survey was carried out in conjunction with the previously mentioned E.M. - 16 survey but only on the northern portion of the property (See Figure 10).

The remainder of the survey was abondoned when it became apparent that magnetic susceptibility of the underlying rocks was nearly of equal value resulting in poor resolution of rock types and faults.

# COSTS

Contract survey carried out by Steve Presunka between May 12 to June 15, 1977.

Cost of survey	\$5,970.60	
W. G. Botel, P. Eng. 5 days @ \$100.00	500.00	June 10 - 15,1977
Report preparation	400,00	
Total	\$6,870.60	

To be applied to PAC account.

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#### OPERATING INSTRUCTIONS

## 1. Principle of Operation

The VLF-radio stations operating for communications with submarines have a vertical antenna. The antenna current is thus vertical, creating a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, there will be secondary fields radiating from these bodies. This equipment measures the vertical components of these secondary fields.

The EM16 is simply a sensitive receiver covering the frequency band of the new VLF-transmitting stations, with means of measuring the vertical field components.

The receiver has two inputs with two receiving coils built into the instrument. One coil has normally vertical axis and the other is horizontal.

The signal from one of the coils (vertical axis) is first minimized by tilting the coil. The tilt-angle is calibrated in percentages. The remaining signal in this coil is finally balanced out by a measured percentage of a signal from the other coil, after being shifted by 90°. The axis of this coil is at right angles to the axis of the first coil. This coil is kept normally parallel to the primary field.

Thus, if the secondary signals are small compared to the primary horizontal field, the mechanical tiltangle is an accurate measure of the vertical real-component, and the compensation  $\pi/2$ -signal from the horizontal coil is a measure of the quadrature vertical signal.

I, Steve Presunks of 232 Pembins Street, New Westminster, British Columbia, have been performing geophysical survey for over 30 years. I feel that I am competent in carrying out several types of geophysical surveys and able to interpret the geophysical date acquired in the field.

My geophysical survey consists mainly of magnetometer, electromagnetic (both borizontal and vertical), self-potential and scentilometer surveys.

I was assisted by Peter Presunka (nephew) of 14 Claver St., Ottawa 9, Ontario. He presently is attending MacMaster University in Hamilton, Ontario in his second year Science. He has six years field experience in geophysical work and does excellent map work. He is 20 years old as of December 31, 1977.

I finished Grade XII in Dauphin, Manitobs and later attended geophysical classes in Toronto, Ontario.

I prospected for three years after which I switched to geophysical surveys. I worked for Ventures Ltd., - Falconbridge Nickel Mines Ltd., for 16 years.

In May 31, 1973 I was incorporated under the Company name of Presunka Geophysical Explorations Ltd., No. 118946.

Dated this 22nd day of February, 1978.

Steve Presunka

#### STATEMENT OF QUALIFICATIONS

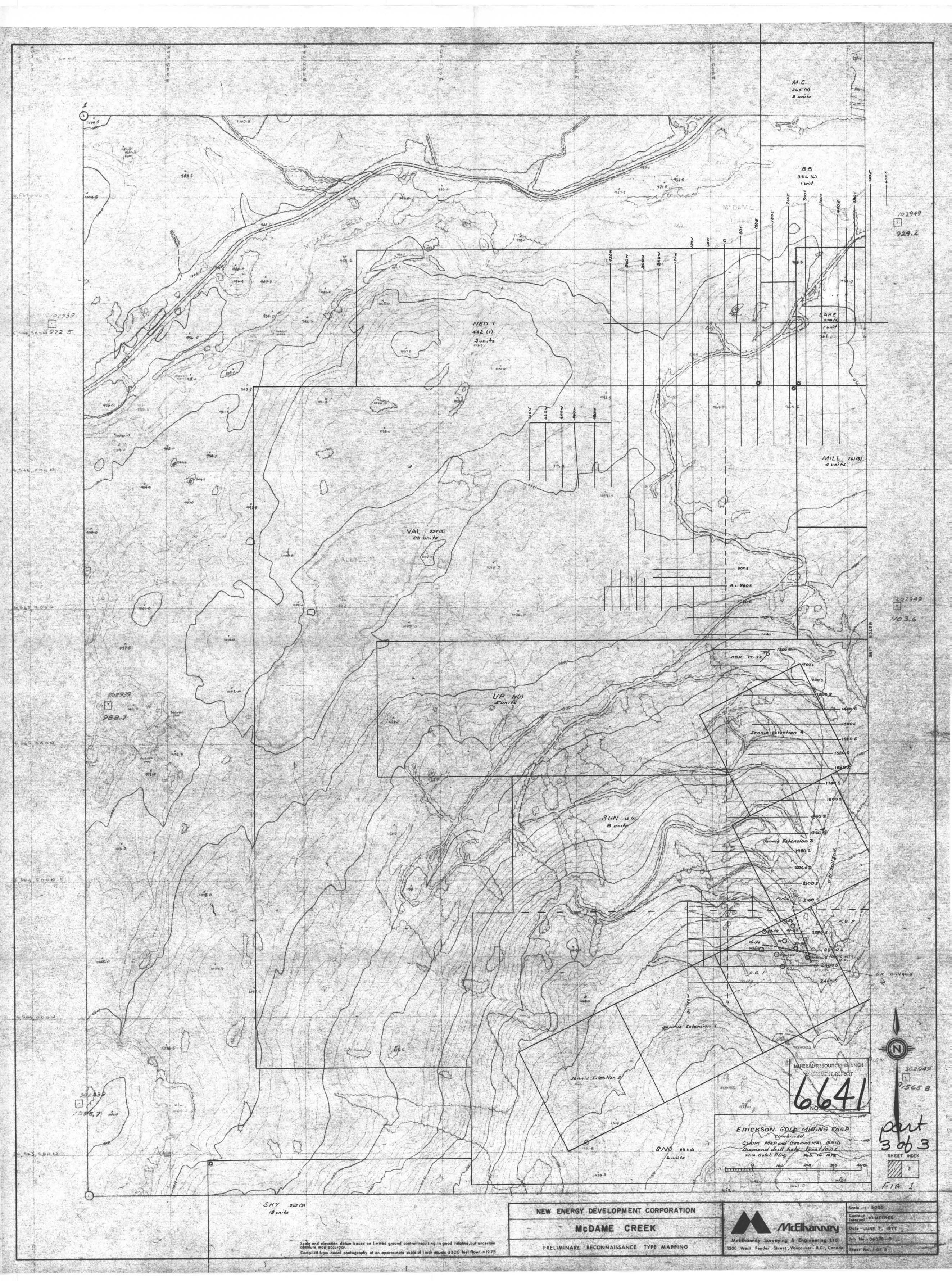
I, William G. Botel, of 14218 Marc Road, Maple Ridge, B.C. do hereby certify that:

- (1). I am a graduate of the University of British Columbia B. Sc. 1959, a fellow of the Geological Association of Canada and a member of the Association of Professional Engineers of British Columbia. I have practised my profession for 18 years.
- (2). I am the author of this report, which is based upon work under my personal supervision during 1977 and 1978 on the Erickson Creek property of Nu-Energy Development Corp. and Erickson Gold Mining Corp. near Cassiar, B.C.
- (3). While supervising the Erickson Creek property work I was under the direction of J. M. Black, Phd. P. Eng., consultant to Nu-Energy Development Corp. and Erickson Gold Mining Corp.
- (4). I have no interest either direct or indirect in either Nu-Energy Development Corp. or Erickson Gold Mining Corp.

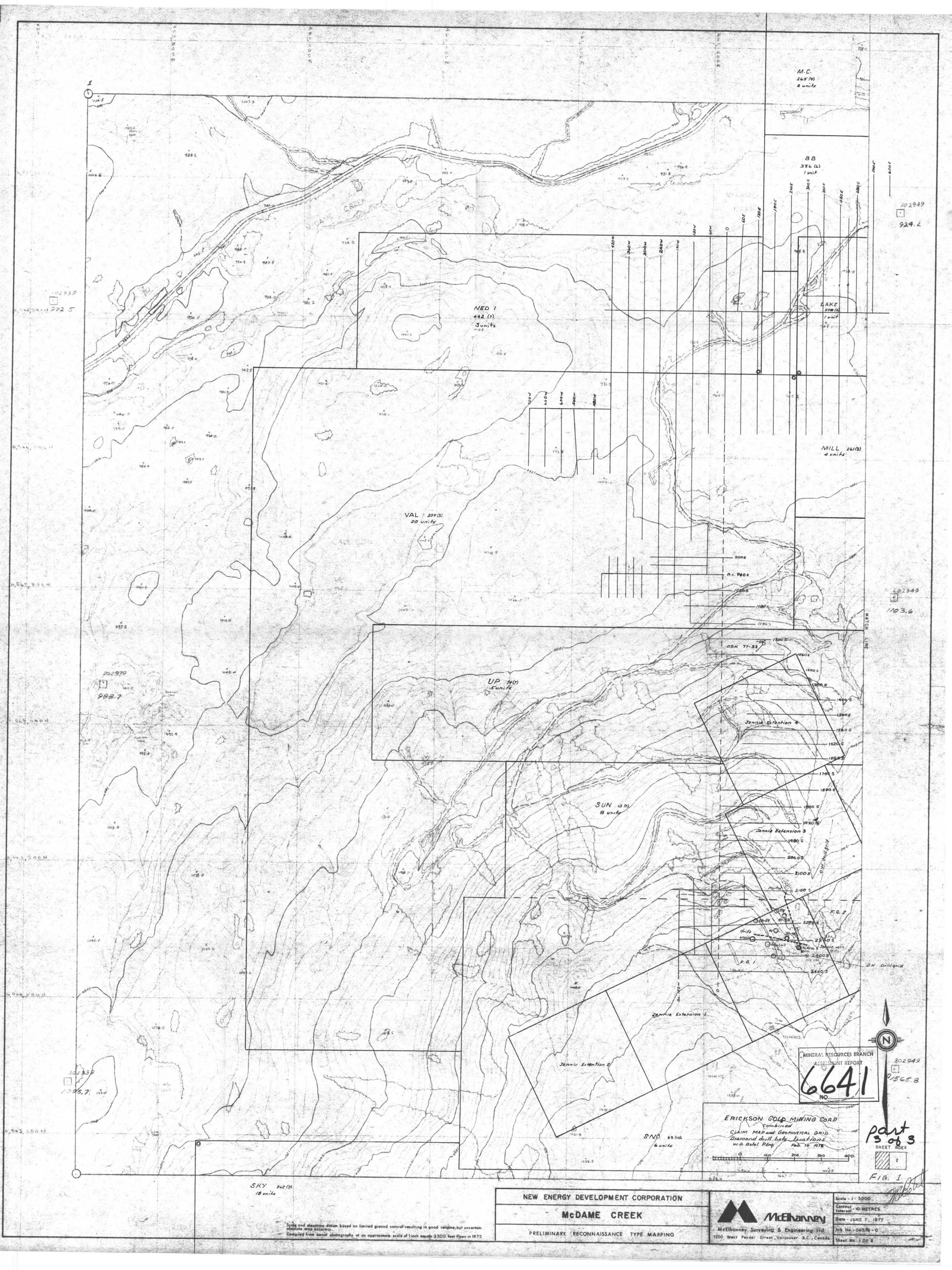
Respectfully submitted,

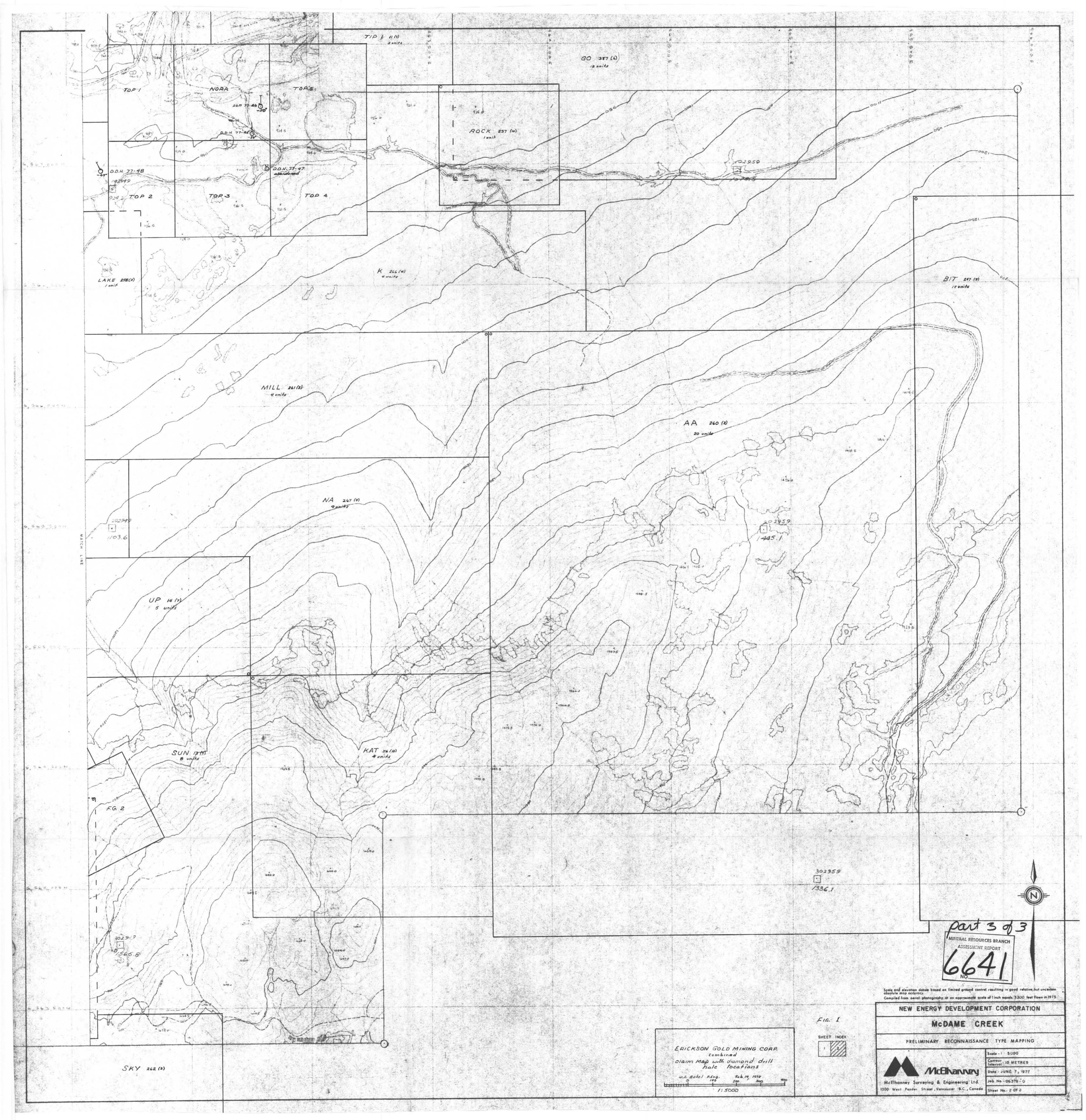
William G. Botel, P. Eng.

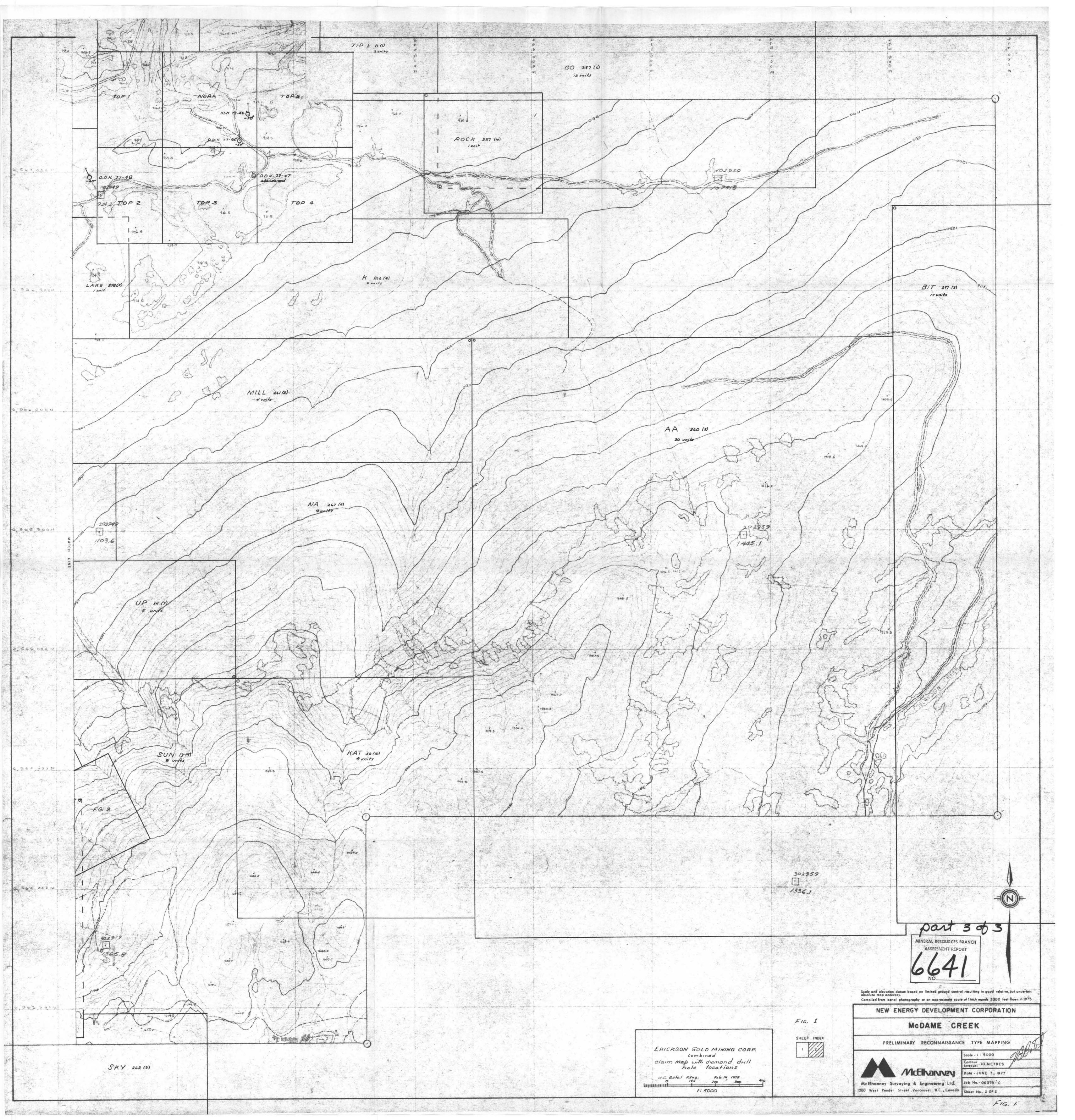
North Vancouver, B.C. February 25, 1978

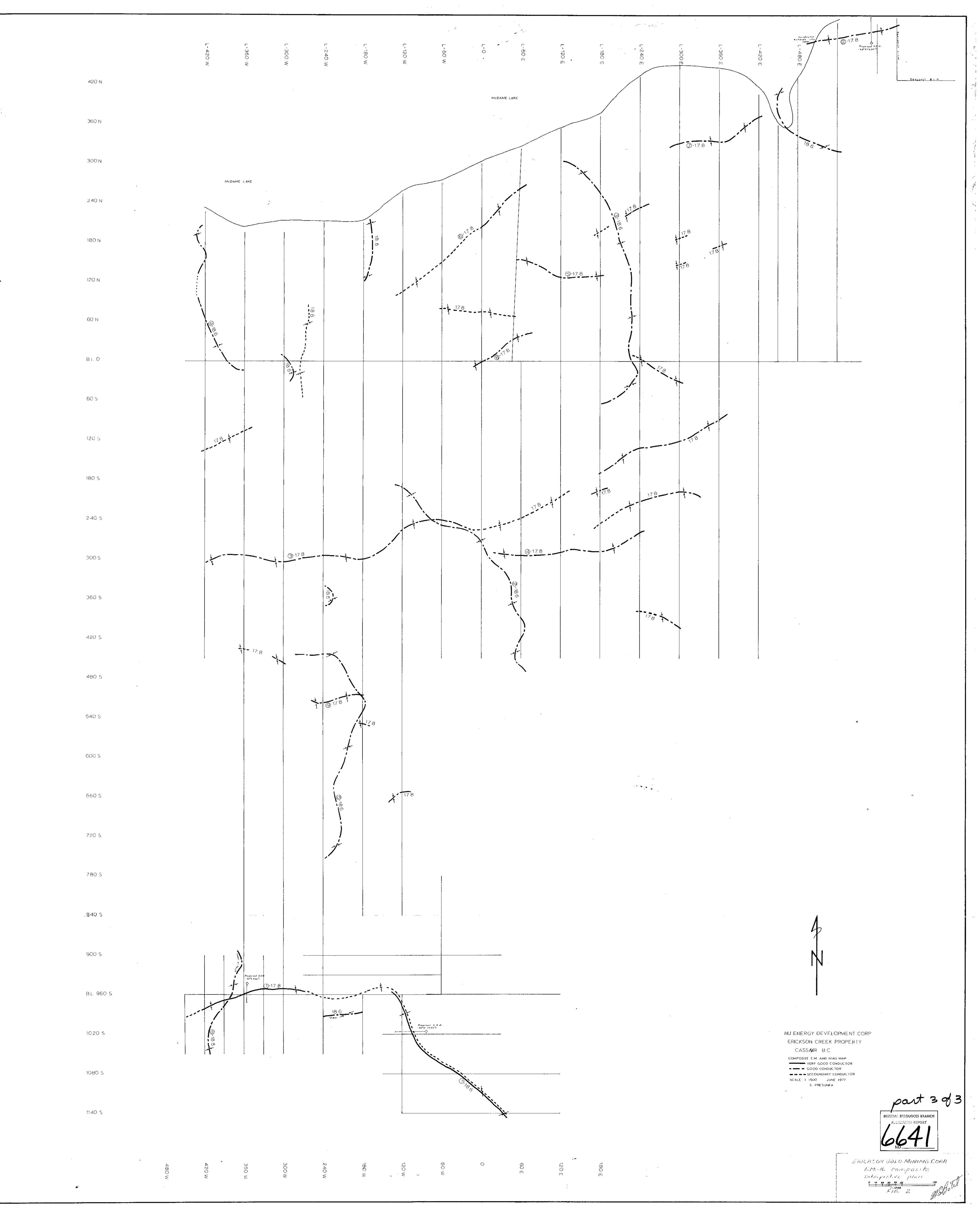


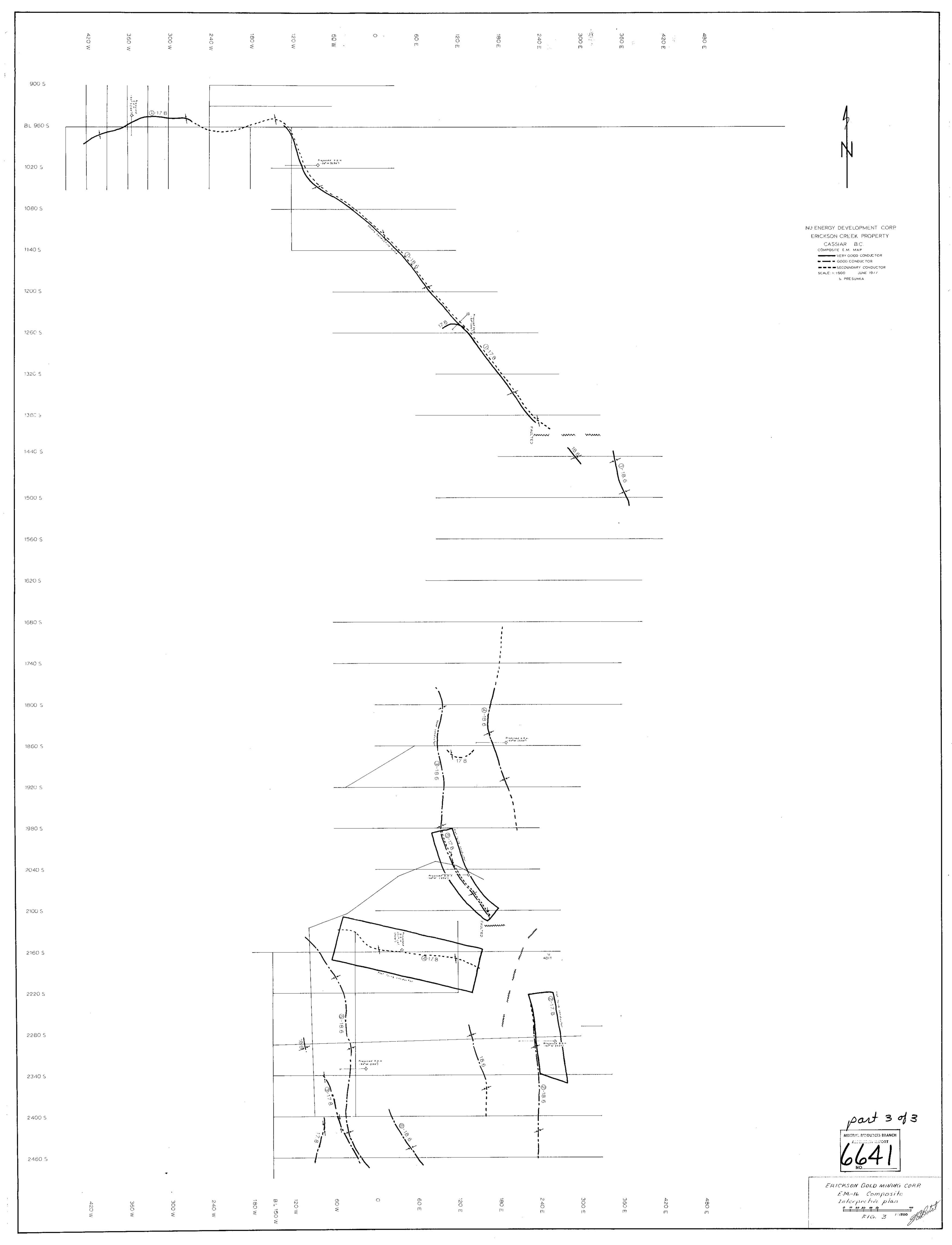


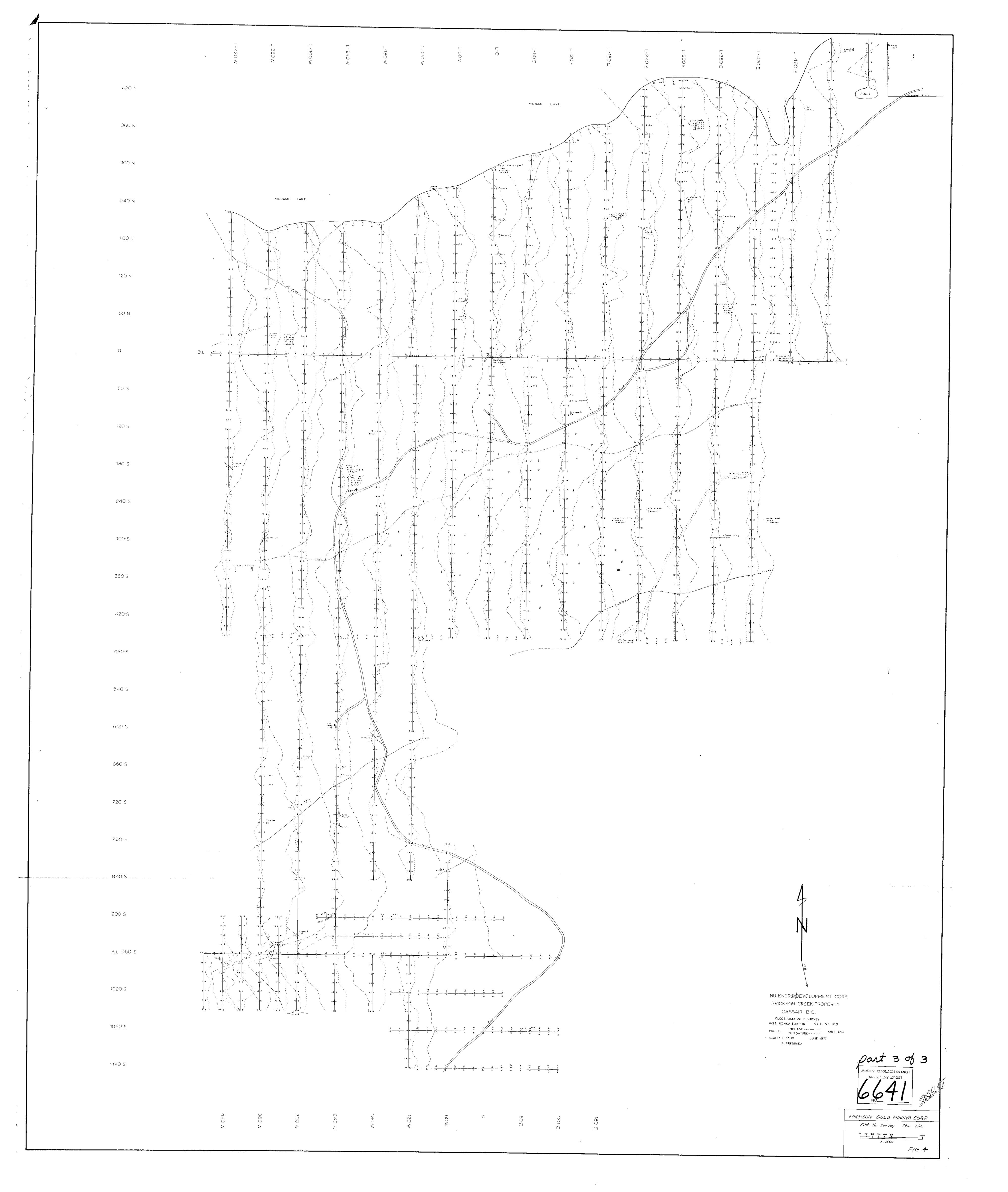


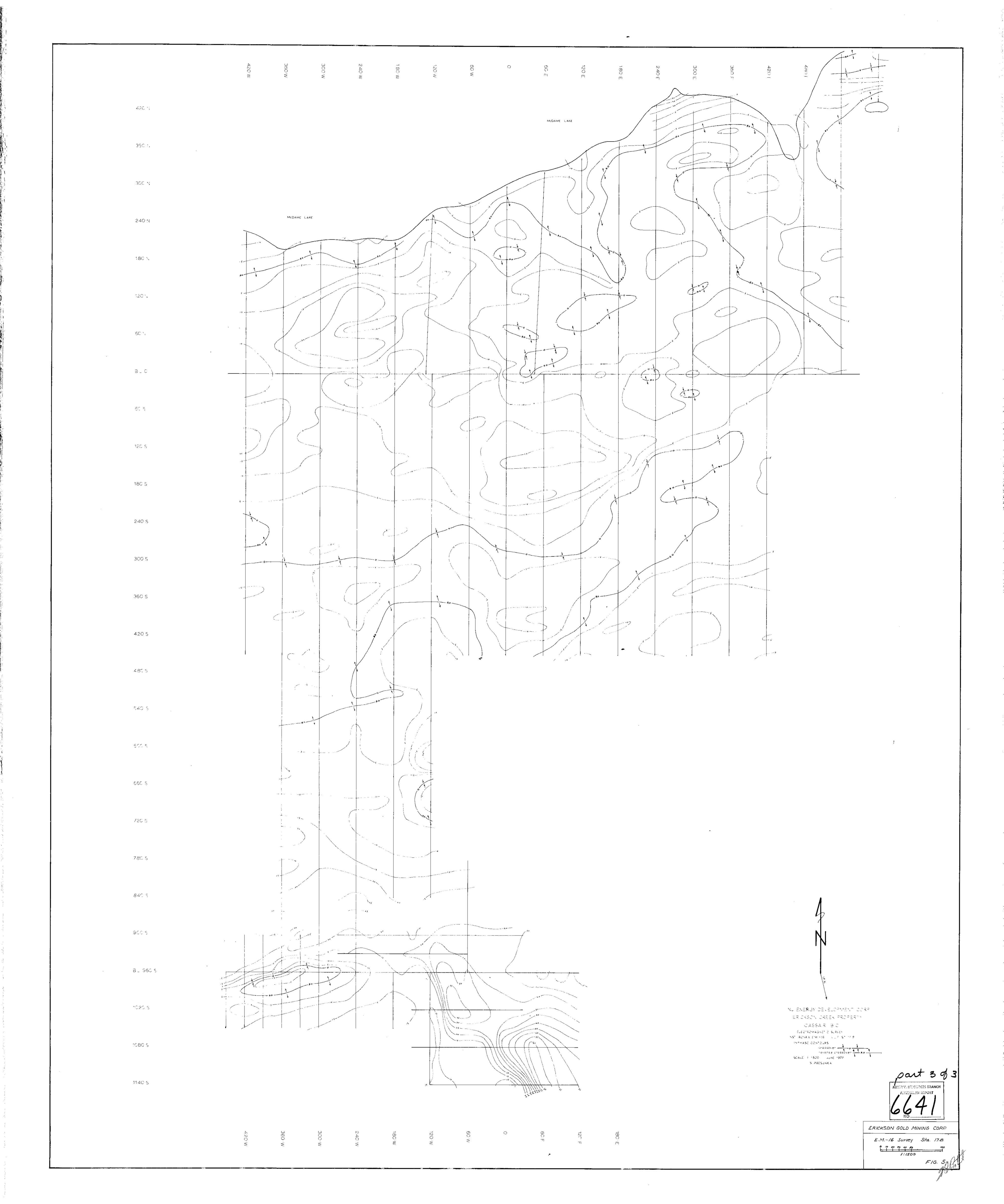


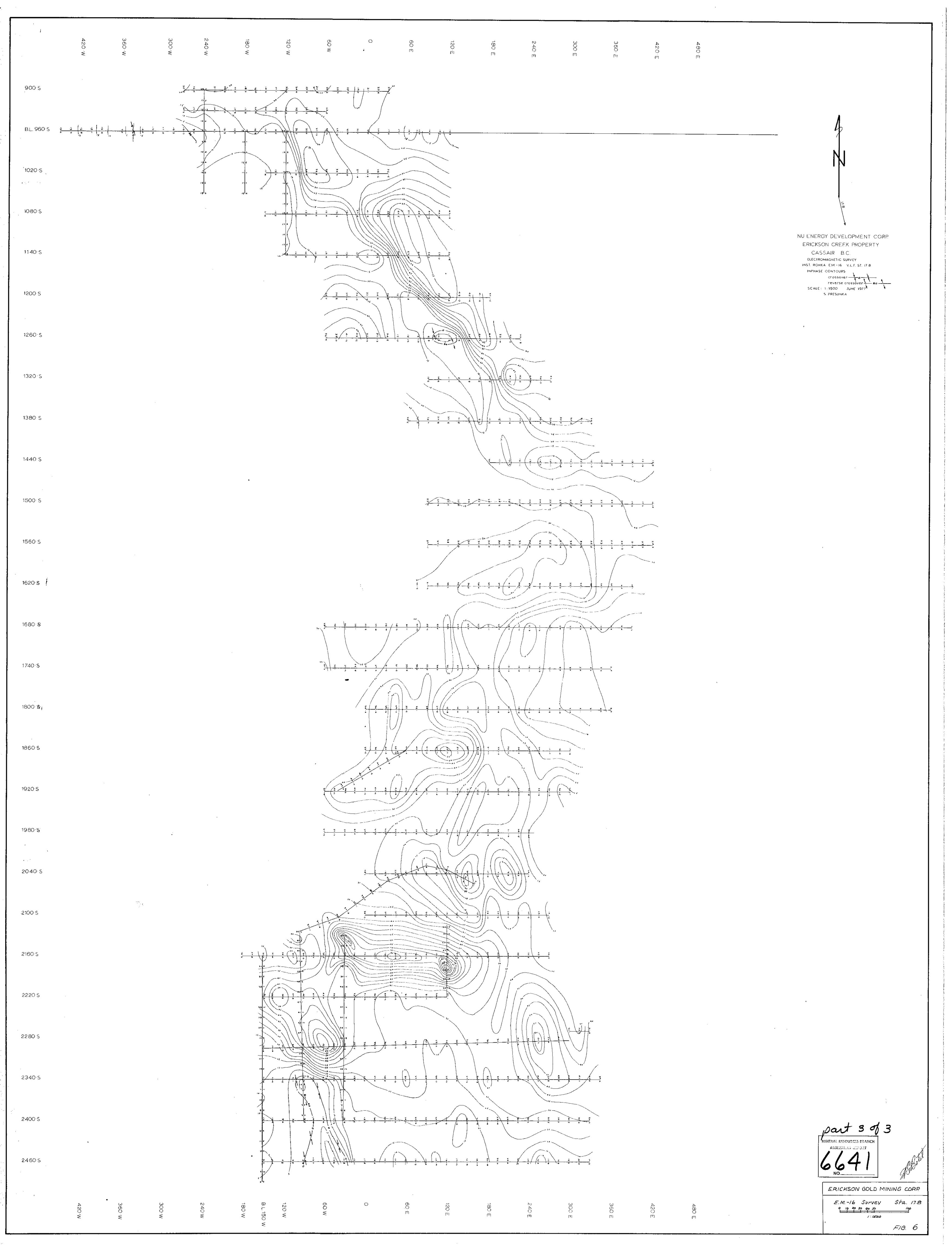












420 N 360 N 300·N 240 N 120 N ' 60 S 120 S 180 · S 240 S 300·S 360 S 720·S 900.5 B.L. 960 S 1020.5 1080·S S PRESUNKA 1140 5

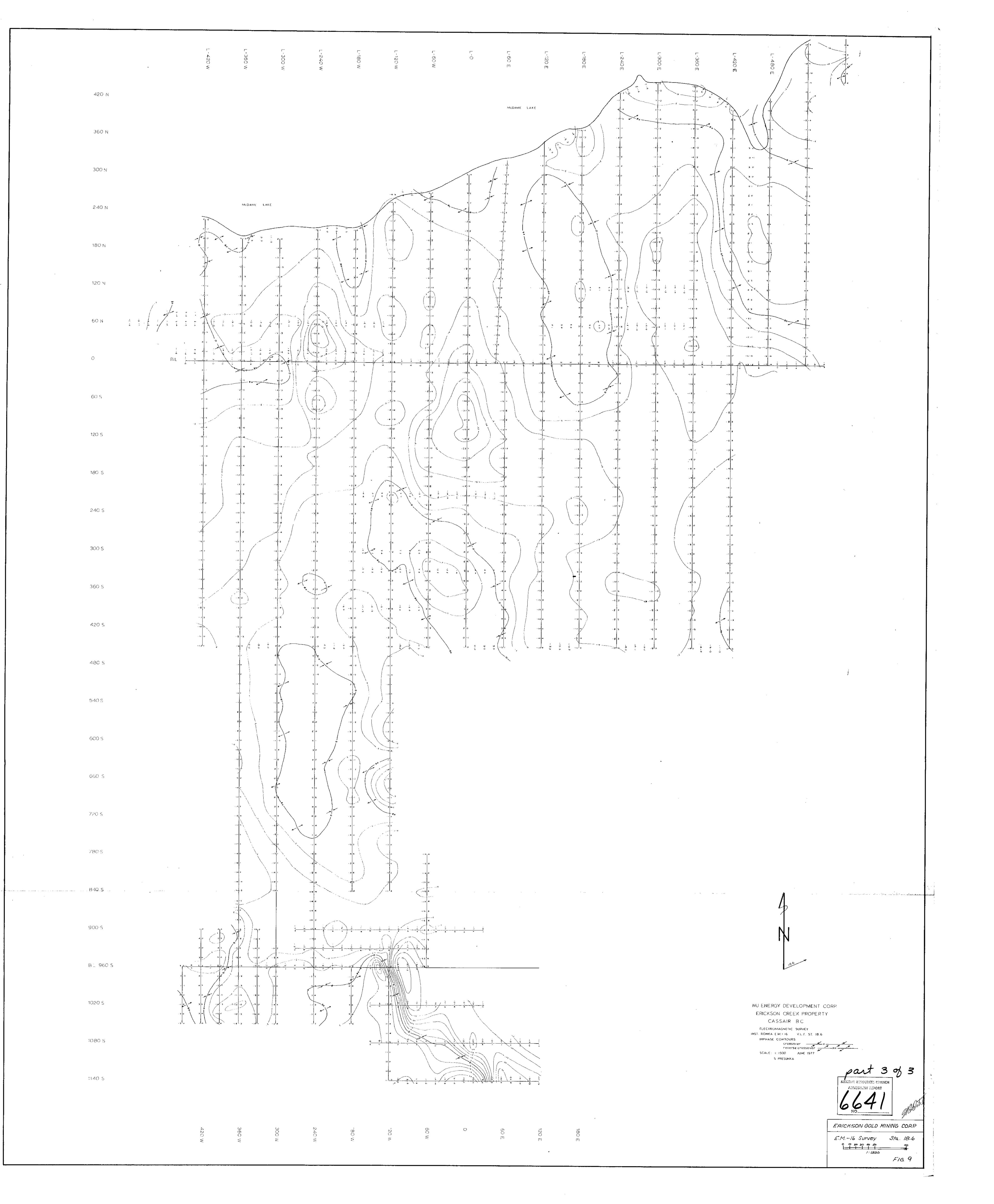
NU ENERGY DEVELOPMENT CORP ERICKSON CREEK PROPERTY CASSAIR BC. ELECTROMAGNETIC SURVEY INST. RONKA EM - 16 V. F. ST. 18.6 INPHASE CONTOURS reverse crossover SCALE 1:1500 JUNE 1977

MINERAL RESOURCES BRANCH

ERICKSON GOLD MINING CORP. E.M.-16 Survey

FIG. 7

A STREET, WILLIAM STREET, WILL 900.5 1020 S 1080 S NU ENERGY DEVELOPMENT CORP. ERICKSON CREEK PROPERTY CASSAIR B.C. ELECTROMAGNETIC SURVEY 1140 S INST RONKA EM + 16 VLF. ST. 18 6 PROFILE QUADATURE---- 10 % SCALE: 1:1500 JUNE 1977 S PRESUNKA 1200 S 1260 S 1320 S 1380 S 1440 S 1500 \$ 1560 S 1620 S 1<u>6</u>80 S 1740 S 1800 S 1860 S 1920 S 1980:S 2040 S 2100 S 2160 S 2220 S 2280 S 2340 \$ 2400 S MINERAL RESOURCES BRANCH 2460 S ERICKSON GOLD MINING CORP. E.M.-16 Survey Sta. 18.6 F16. 8



420 N 360·N 300 N 240 N 180 √ 120 N 60 N 60 S 120 S 180·S 240 S 300·S 360 S 420°S 480 S 540 S 600 S 660 S 720 S 780 S 840 S 900\$ BL 960 S NU ENERGY DE ZELOPMENT CORP 1020 S ERICKSON CREEK PROPERTY CASS#AR BC MAGNETOMETER SURVEY CONTOUR INTERVAL - 50 gammas SCALE I 1500 5. PRESUNKA 1080 5

ERICKSON GOLD MINING CORP. MAGNETOMETER SURVEY 1:/500

FIG. 10