



32D05SW0052 2.545 CLIFFORD

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Report covering an
Electromagnetic Survey
Clifford Twp.

1971

2.545

REPORT
FOR
CANADEx MINING CORPORATION LIMITED
COVERING
AN ELECTROMAGNETIC SURVEY
CLIFFORD TOWNSHIP
ONTARIO
LARDER LAKE MINING DIVISION

PROPERTY, LOCATION & ACCESS

The claims numbered 266295 - 266309 inclusive and 266312 - 266315 inclusive form a contiguous block of 19 claims in the southeast corner of the township. Located 15 miles northeast of the Town of Kirkland Lake, the claims are readily accessible from the Esker Park road which runs north from Highway 66 at a point 8 miles east of Kirkland Lake. Ten miles north of Highway 66, logging roads run easterly from the Esker Park road and cross the west boundary of the property.

PREVIOUS WORK & HISTORY

The claims have been prospected many years ago and numerous trenches and pits are in evidence. A few drill casings were found indicating the presence of a drill program at some unknown date.

Best source of geological information is the recently published O.D.M. Map P.692 of Clifford Township.

LINE CUTTING

From the southwest corner of the property a base line was cut striking N 30° E. From this, lines were cut at right angles every 400 feet to the property boundaries. This work was done by Murray Macquarrie, 88 Taylor Avenue, Kirkland Lake, Ontario during September, 1970. A total of 18.5 miles of lines were cut.

EQUIPMENT USED (See appendix)

A Crone Radem - VLF - EM Unit was used for a survey using the Seattle Washington Station at 18.6KHZ for the detection of East-West conductors. The dip angle of the resultant field was measured in degrees to an accuracy of $\pm 1^\circ$.

In addition to reading this dip angle, a second measurement was made at each station. This was the field strength intensity.

GEOPHYSICAL OPERATORS

The field work was under the direction of the writer with the operator being Murray Macquarrie of Kirkland Lake, Ontario. Work in the field was carried out during the period October 1970. A total of 968 stations were utilized with 1936 readings being made. The dip angle readings are shown as profiles and the field strength readings are contoured.

INTERPRETATION

Two conductors have been detected and are designated A and B.

A is located on the base line at lines L 8 E and L 12 E and has a coinciding high field strength over a 500 foot interval. The strike is northeasterly .

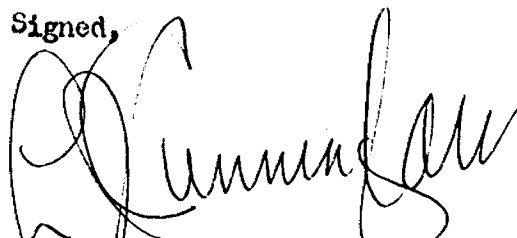
B is located on the west boundary on lines 4 W, 8 W and 12 W. There is some supporting high field strength. However, conductive overburden is suspected as the cause of this conductor.

RECOMMENDATIONS

Because conductor A lies on strike of known sulphide mineralization, it is recommended that this area be tested by soil sampling. Positive geochemical results should be investigated by drilling.

Conductor B warrants similar investigation by soil sampling.

Signed,



L. J. Cunningham, B.Sc., P.Eng.,
Mining Engineer

Dated at
Kirkland Lake, Ontario
28th July, 1971

APPENDIX

The Radem equipment simply utilizes a radio receiver covering the frequency band of VLF transmitter stations scattered over this continent and other parts of the world. These transmitter bases are specially constructed towers which transmit on the VLF frequency (very low frequency) expressly for communication with submarines which they do effectively through depths of salt water. Therefore it is understandable that penetration into rock is substantial should there be no conductive overburden acting as an inhibitor.

These transmitter stations transmit in the 17 Kcs. to 26 Kca. range. A station is chosen so that the electromagnetic lines of force of the horizontally concentric field are perpendicular to the strike of the formations or conductors which are being sought in the region of interest. The numerous VLF stations available make it a simple matter to select the appropriate primary field direction required which was the Seattle, Oregon station in the present case. The transmitter station may almost be considered as located at infinity, therefore the primary field is uniform and parallel in a given area.

Coupling due to a secondary induced field is measured by a tilt angle. This is accomplished by turning the receiver around a vertical axis to a position of minimum signal and then tilting around a horizontal axis to a position of no signal or "null". This angle is measured in degrees and the direction of dip is noted. The receiver is marked so that when tilted an arrow on the instrument point toward the axis of the conductor. As the conductive axis is "crossed over" the arrow points vertically down and the dip angle is zero. The degree of tilt or amplitude is generally a measure of the intensity of the conductor. The width between the peaks of the amplitude is generally an indication of the depth of the conductor. The narrower spread of the peak indicating a conductor nearer surface.



ASSESSMENT WORK DETAILS

Type of Survey VLF ELECTROMAGNETIC
A separate form is required for each type of survey

Chief Line Cutter or Contractor Murray Macquarrie, 88 Taylor Ave., Kirkland Lake, Ontario.
Name Address

Party Chief Murray Macquarrie, 88 Taylor Ave., Kirkland Lake, Ontario.
Name Address

Consultant L. J. Cunningham, B.Sc., P.Eng., 1 McPhee Avenue, Kirkland Lake, Ontario
Name Address

COVERING DATES Line Cutting 17 - 30 September, 1970

Field Geology or Geophysics 1 October - 21 October, 1970

Office 2 - 3 November 1970 and 2 - 8 July, 1971

INSTRUMENT DATA Make, Model and Type Crone Radem - VLF-EM Unit

Dip angle accuracy + 1/2°
Scale Constant or Sensitivity Field strength accuracy + 2% (dependent on signal)
Or provide copy of instrument data from Manufacturer's brochure.

Total Number of Stations Within Claim Group 968 Number of Miles of Line cut Within Claim Group 18.5

ASSESSMENT WORK CREDITS REQUESTED
Geological Survey _____ Days per Claim
Geophysical Survey 40 Days per Claim

MINING CLAIMS TRAVERSED
266295 ~~52~~ to 266309 inclusive
266312 to 266315 inclusive

Allow 30 day each for
L 266303
L 266313

TOTAL 19 claims

DATE 30th July, 1971 SIGNED

Special provision credits do not apply to Radiometric Surveys.

Submission of Geological and Geophysical Surveys

As Assessment Work

SPECIAL PROVISION

In order to simplify the filing of geological and ground geophysical surveys for assessment work, the Minister has approved the following procedure under Section 84 (8a) of the Ontario Mining Act. This special provision does not apply to geochemical, ground radiometric or airborne geophysical surveys.

If, in the opinion of the Minister, a ground geophysical survey meets the requirements prescribed for such a survey, including:

- (a) substantial and systematic coverage of each claim
- (b) line spacing not exceeding 400 foot intervals
- (c) stations not exceeding 100 foot intervals or
- (d) the average number of readings per claim not less than 40 readings,

it will qualify for a credit of 40 assessment work days for each claim so covered. It will not be necessary for the applicant to furnish any data or breakdown concerning the persons employed in the survey except for the names and addresses of those in charge of the various phases (linecutting contractor, etc.). It will be assumed that the required number of man days were spent in producing the survey to qualify for the specified credit.

Each additional ground geophysical survey using the same grid system and otherwise meeting these requirements will qualify for an assessment work credit of 20 days.

A geological survey using the same grid system, and meeting the requirements for submission of geological surveys for maximum credits will qualify for an assessment work credit of 20 days. If line cutting has not previously been reported with any other survey and is reported in conjunction with the geological survey a credit of 40 days per claim will be allowed for the survey.

Credits for partial coverage or for surveys not meeting requirements for full credit will be granted on a pro-rata basis.

If the credits are reduced for any reason, a fifteen day Notice of Intent will be issued. During this period, the applicant may apply to the Mining Commissioner for relief if his claims are thus jeopardized for lack of work or, if he wishes, may file with the Department, normal assessment work breakdowns listing the names of the employees and the dates of work. The survey would then be re-assessed to determine if higher credits may be allowed under the provisions of subsections 8 and 9 of section 84 of the Mining Act.

If new breakdowns are not submitted, the Special Provision credits are confirmed to the Mining Recorder at the end of the fifteen days.

CLIFFORD

Claim Map

LARDER LAKE MINING DIVISION

DISTRICT OF TIMISKAMING

Scale 40 Chains - 1 Inch

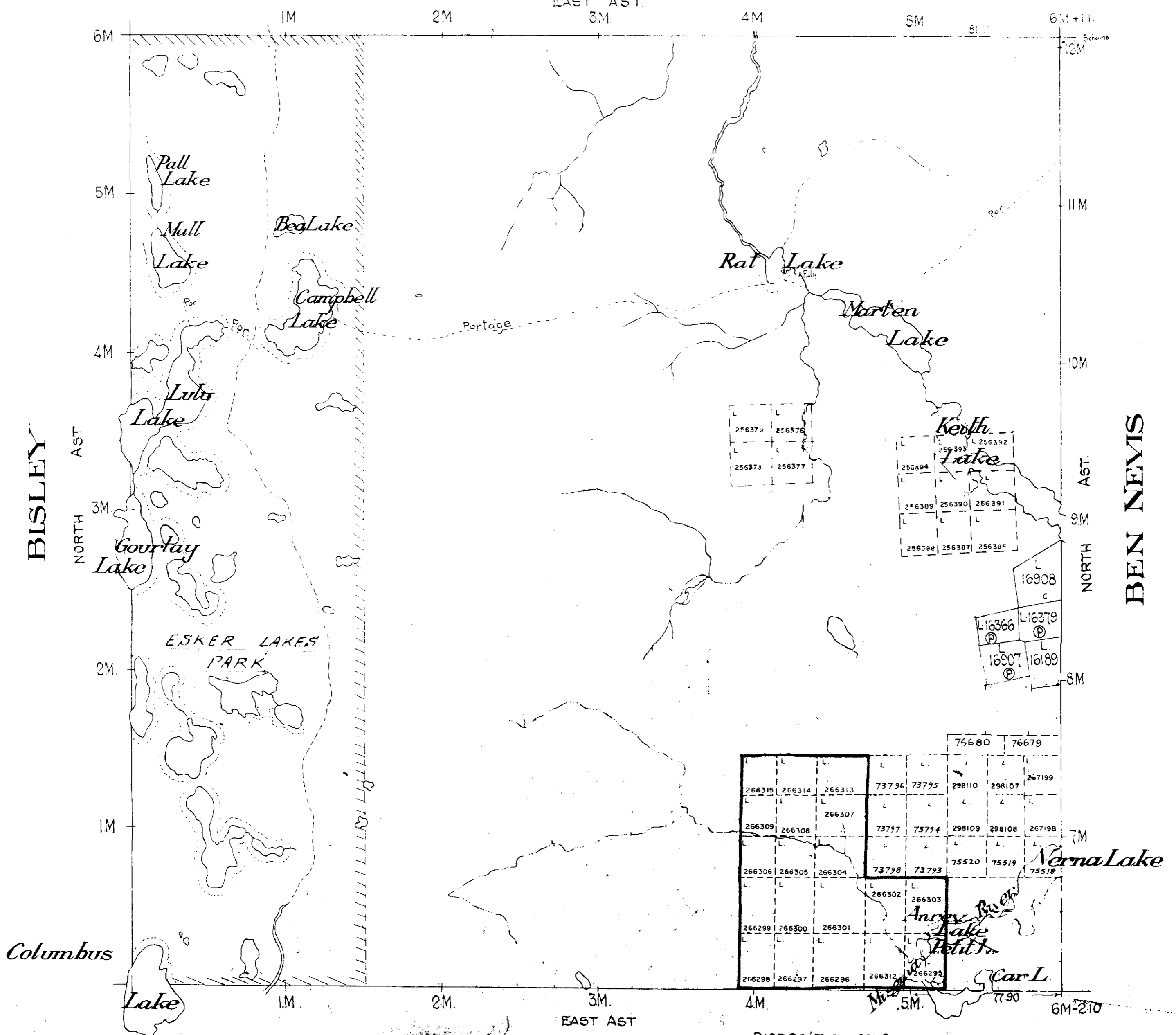
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1974

See notes on reverse side of map from station

ELLIOTT

North Axis

EAST AST



BISLEY

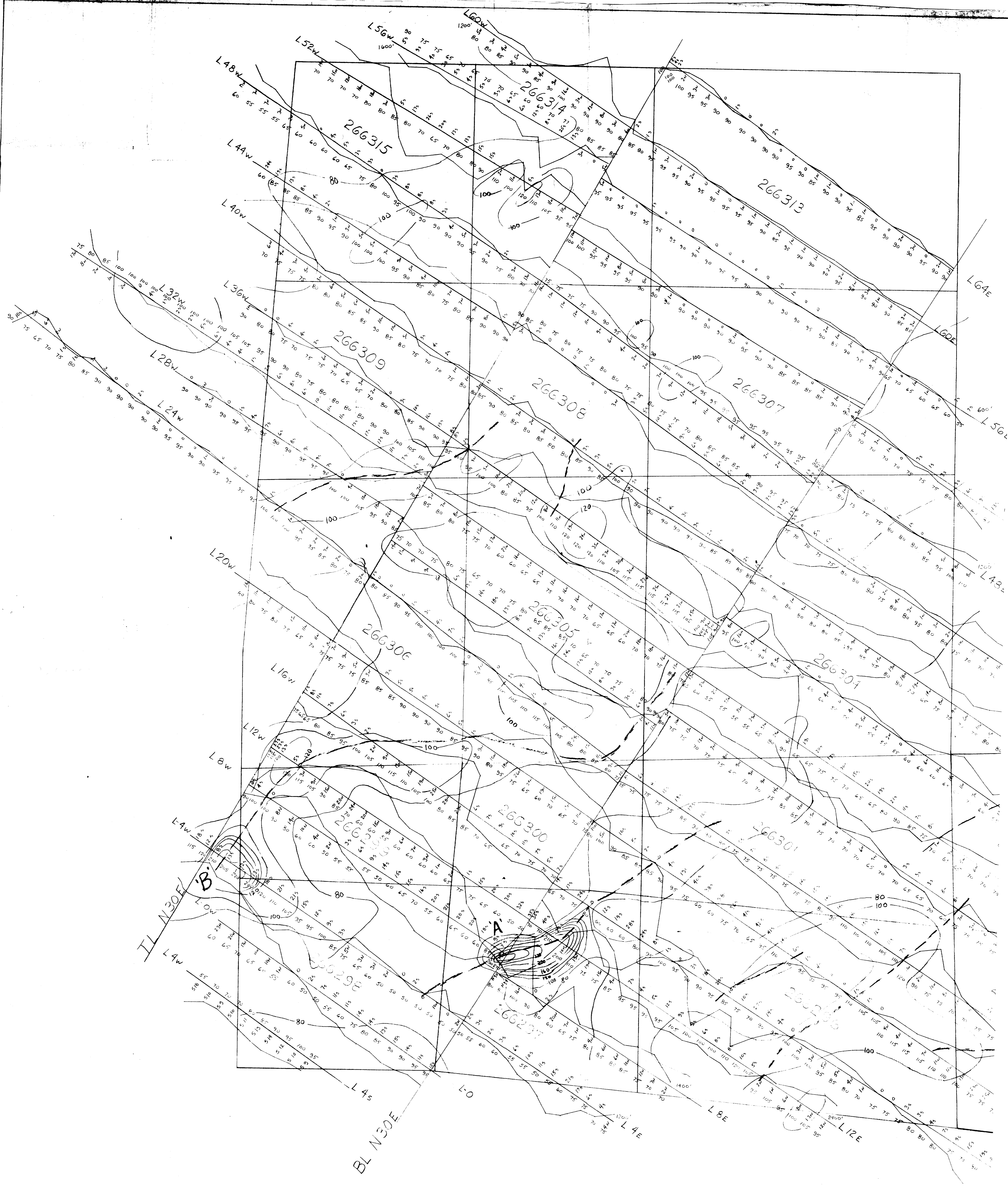
BEN NEVIS

ARNOLD

DISPOSITION OF CROWN LANDS

- PATENTED _____
- LEASED _____
- LICENSE OF OCCUPATION _____
- GRANTED BY ORDER IN COUNCIL _____





CANADAX MINING CORPN LTD

CLIFFORD TWP

SCALE 1" = 200ft

LJ CUNNINGHAM B.Sc. P.ENG. NOVEMBER 2 1970

LEGEND

DIP ANGLE OF VLF FIELD IN DEGREES 1" = 20°

FIELD STRENGTH READINGS

FIELD STRENGTH CONTOURS

STATION USED SEATTLE WASHINGTON

LJ Cunningham B.Sc. P.Eng.
29 JULY 1971

