

VEGAS MINERAL CLAIM GROUP

REPORT ON MAGNETIC GEOPHYSICAL SURVEY OF CLAIMS

Whitehorse Mining District  
Yukon Territory

Longitude: 139°09'W  
Latitude : 62°50'N

N.T.S. 115-J-14

Field work done during period  
July 4 - July 16, 1970

By:

KENNETH M. DAWSON

ATLAS EXPLORATIONS LIMITED

September, 1970

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LIST OF CLAIMS

<u>CLAIM NO.</u>		<u>GRANT NUMBER</u>	<u>RECORDING DATE</u>
VEGAS	1-8	Y39083-Y39090	Oct. 27, 1969
	9-16	Y39091-Y39098	Oct. 27, 1969
	17-24	Y39099-Y39106	Oct. 27, 1969
	25-30	Y39107-Y39112	Oct. 27, 1969
	31-36	Y39113-Y39118	Oct. 27, 1969
	37-44	Y49967-Y49974	Feb. 9, 1970
	45-51	Y49975-Y49981	Feb. 9, 1970
	52-59	Y49982-Y49989	Feb. 9, 1970
	60-67	Y49990-Y49997	Feb. 9, 1970
	68-75	Y49998-Y50005	Feb. 9, 1970

# ATLAS EXPLORATIONS LIMITED

330 MARINE BUILDING  
355 BURRARD STREET  
VANCOUVER 1, B.C.

## VEGAS MINERAL CLAIM GROUP REPORT ON MAGNETIC GEOPHYSICAL SURVEY OF CLAIMS

### INTRODUCTION

In the course of reconnaissance mapping and sampling of the Dawson Range in the fall of 1969, Atlas personnel examined an area east of Coffee Creek marked by two aeromagnetic highs. The magnetic feature corresponded to a granite-gneiss contact intruded by large latite and dacite dykes. Disseminated pyrite and pyrrhotite were noted in the dykes and contact rocks. Reconnaissance silt sampling yielded some copper anomalies. The first group of 36 VEGAS claims was staked in early October, 1969, and the second group of 39 VEGAS claims was staked in January, 1970, bringing the total to 75 claims.

Linecutting, soil sampling and magnetometer survey of the VEGAS grid was done by Peter Dean's crew in the period July 4-16, 1970. The grid, totalling 105,200 ft. of cut line, was laid out to cover most of the claims. The base line

was located with chain and compass at Azimuth 100<sup>o</sup>. Grid lines were spaced 800 ft. apart normal to the base line. Soil samples were collected at 200 ft. intervals over the grid. Magnetometer stations were located at 100 ft. intervals. The grid and adjacent area was mapped geologically at 1"= 1000 ft.

#### LOCATION AND ACCESS

The VEGAS claims are in the Dawson Range in western Yukon, five miles south of the abandoned settlement of Coffee Creek on the Yukon River 95 miles upstream from Dawson. Location of the claim group is given on Location Map, Appendix I. The claims are located eight miles west of Casino Mines Ltd., at the junction of the main branch and the west branch of Coffee Creek. The claims are located on claim sheet 115-J-14. The claim group is depicted on Key Map, Appendix II.

Access to claims was attained by helicopter during 1969 and 1970. Men and supplies were flown by fixed-wing aircraft to the Casino, Polaris and Uranus airstrips, and then to the property by helicopter.

## MAGNETOMETER SURVEY

### Instrument

A Sharpe MF-1 fluxgate-type vertical component magnetometer was used. The instrument is hand-held and designed for rapid, accurate ground surveys. It gives a direct reading in gamma values and is not subject to large-scale drift by virtue of extensive temperature compensation and advanced transistorized circuitry. The maximum sensitivity is 20 gammas per scale division and readability is 5 gammas per scale division on the 1000-gamma range.

### Survey Control

Base map used in the geophysical survey, as well as geochemical and geologic mapping of VEGAS claims, was a 1"= 1000 ft. topographic map, contour interval 50 ft., prepared for Atlas by Northwest Survey Corp. Ltd. The map was enlarged to 1"= 400 ft. for plotting geophysical data.

Survey control for the geophysical survey was attained by a grid comprising 105,000 ft. of cut lines. A base line was located with chain and compass at Azimuth 100°. Grid lines were spaced 800 ft. apart, normal to the base line. Magnetometer stations were located at 100 ft. intervals.

### Survey Method

Prior to the actual survey, readings were taken at intersections of cross lines with the base line. The stations were "looped" and re-read every hour as a means of controlling drift and diurnal variations. Base stations of an established value served as reference points for each cross-line portion of the survey. A rapid check was kept on magnetic variations and the entire survey was kept on a relative basis during day-to-day operations

### Treatment of Data

Results were corrected for diurnal variations and drift each night by the operator. The final gamma values are plotted on a grid plan at scale 1"= 400 ft. and profiles constructed for each line (Appendix IV). A contoured plan of magnetic data is given in Appendix V.

### GEOLOGY

The VEGAS claims are located in the Dawson Range, which consist of a northwest-trending belt of isolated mountains, 6000 ft. or more high, standing above the undulating upland surface of the Yukon Plateau. The rocks underlying the Dawson Range include a basement of old metamorphic rocks, the Yukon Group, and early intrusives. The basement is

overlain by the Mesozoic Mount Nansen volcanic group and also Mesozoic sedimentary units in the Carmacks area. The Yukon and Mount Nansen groups form the roof pendants and walls of the granitic to granodioritic Klotassin batholith that constitutes the core of the Dawson Range. Large areas of these Cretaceous and older rocks are covered by intermediate to basic flows of the Early Tertiary Carmacks Volcanics. Younger Tertiary acidic intrusive and extrusive bodies occur as small stocks, dykes and flows in the Dawson Range and along its flanks.

Copper, molybdenum, lead and zinc mineralization is associated mainly with these Tertiary intrusions, and to a lesser degree with Cretaceous intrusives.

Regional geologic data is drawn, in part, from Geological Survey of Canada Preliminary Map 44-34 and Map 340A.

A geologic map of VEGAS claims, based upon mapping by Atlas geologists Kenneth Dawson, Donald Hersak and Gary Pearse, is given in Appendix III.

The geology of the VEGAS claims is not complex. The claims overlie a northwest-trending intrusive contact between Klotassin biotite granite and Yukon Group gneiss and amphibolite. Numerous large dacite and latite porphyry dykes

intrude the gneiss parallel and sub-parallel to the granite contact. Disseminated sulfides are found in dykes and wall-rocks.

Details of VEGAS geology are given in accompanying "VEGAS Mineral Claim Group - Report on Geological Mapping of Claims".

#### GEOPHYSICAL OBSERVATIONS AND INTERPRETATIONS

Three strong magnetic anomalies, in the range of 1500-2000 gammas, were detected on the VEGAS grid. The anomalies occur in a linear east-west array that corresponds closely with an aeromagnetic anomaly in Geophysics Paper 4305.

A contoured plan of magnetic data with superimposed geology (Appendix V ) shows that the granite-gneiss contact follows almost exactly along the southern boundary of the three anomalies. The anomalies probably result, in part, from disseminated magnetic minerals in the contact zone. Magnetite veinlets were found in Yukon Group contact rocks on line 56E, an area of particularly high magnetic values.

The most intense anomaly on the VEGAS grid was detected on line 56E, an area of no outcrop. The strong circular 2000-gamma anomaly is flanked 300 ft. to the south by a swarm of small latite dykes. Disseminated pyrite-pyrrhotite mineralization

was noted in dykes and wallrock, and magnetite veinlets were seen in Yukon Group. The anomaly apparently represents magnetic mineralization associated with an extension of the dyke swarm that is mantled by overburden.

An elongate east-west anomaly in the range of 1500-1800 gammas was detected along Coffee Creek, just south of the base line on lines 0 and 8W. Several geological structures intersect at this point. A southwest-striking latite porphyry dyke, flanked by amphibolite on the south, terminates against a northwest-striking fault at the centre of the magnetic high. A small diabase dyke intrudes the fault zone at the same locality. The Klotassin granite-Yukon Group gneiss contact passes about 500 ft. to the south of the magnetic high. Disseminated pyrrhotite was noted in amphibolite, traces of pyrite-pyrrhotite were seen in latite, and the diabase dyke has a strong magnetic susceptibility. Any of the above rock units plus the fault-contact intersection could have caused the magnetic anomaly in this area.

A magnetic high of lower intensity but covering a large area was detected between the two previously described anomalies. It is continuous with the anomaly at Coffee Creek, but is separated from the line 56E high by an elongate north-south low. The granite-gneiss contact is notably conformable with

the southern boundary of the anomaly. Magnetic mineralization in the contact zone, although not observed, evidently has been largely responsible for this effect. Small intense highs occur within the broad main anomaly at distances up to 1800 ft. from the intrusive contact. These anomalies possibly reflect latite and dacite dykes, with associated magnetic mineralization, on strike from exposed dykes to the east and west but obscured by shallow overburden.

#### CONCLUSIONS

1. An east-west linear array of magnetic highs on VEGAS claims corresponds with a similar aeromagnetic anomaly in Geophysics Paper 4305.
2. Most magnetic anomalies are readily explained by observed geological features. The linear array of anomalies is probably due, in part, to disseminated magnetic mineralization along the granite-gneiss contact. The most intense magnetic high is adjacent to a latite dyke swarm containing pyrrhotite. An intersection of several magnetic rock units at Coffee Creek accounts for a magnetic high. An intervening magnetic high flanks the contact and may also overlie latite dykes.

3. Geochemical and geological surveys of the anomalous areas reveal no coincident geochemical anomalies nor any visible mineralization of economic significance.
4. On the basis of the combined geophysical, geochemical and geological evidence, no further mapping or sampling of the VEGAS claims, and adjacent ground, is foreseen. No magnetic anomalies worthy of trenching or diamond drilling were detected on VEGAS claims.

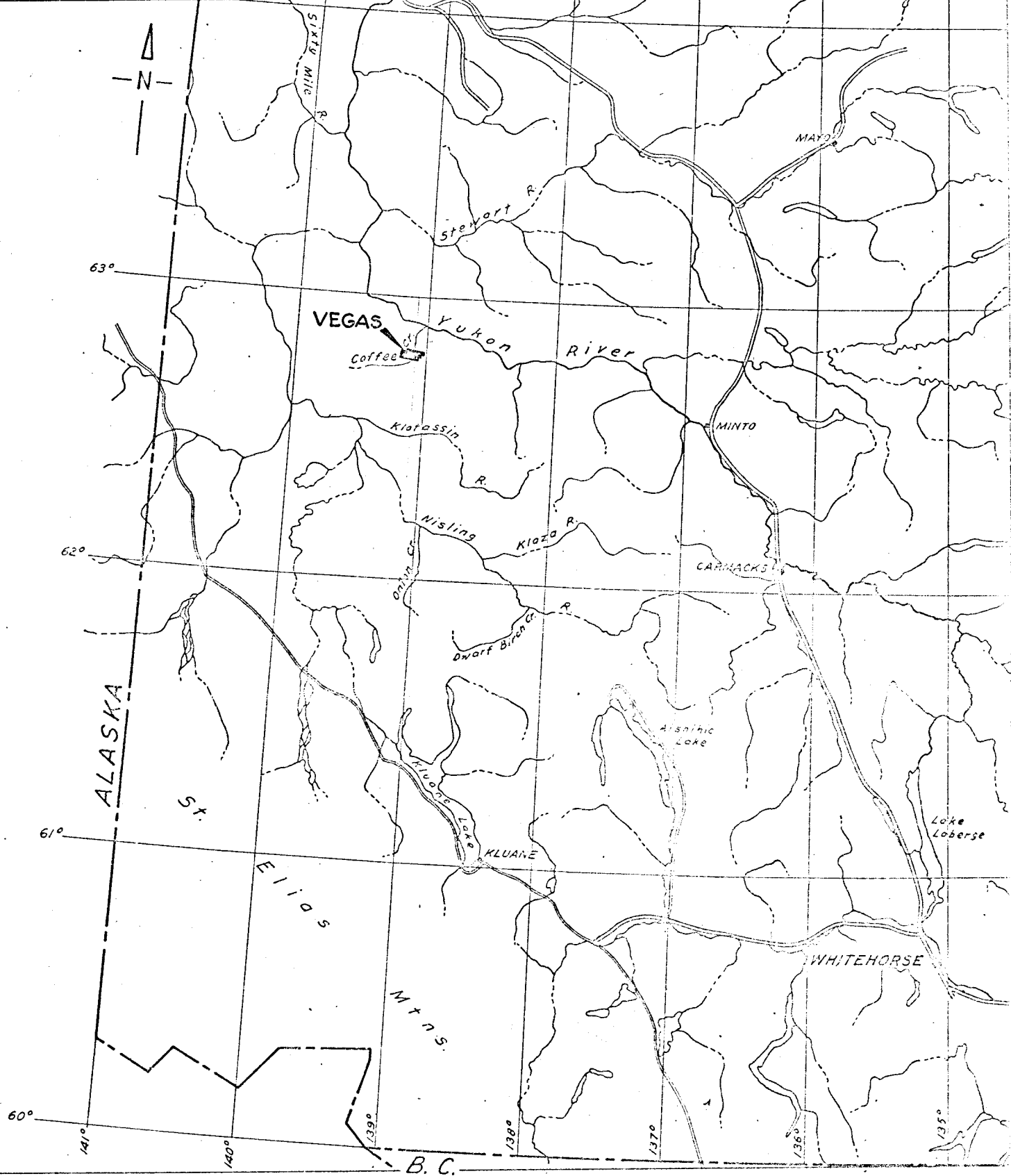
Respectfully submitted,



Kenneth M. Dawson,  
Geologist

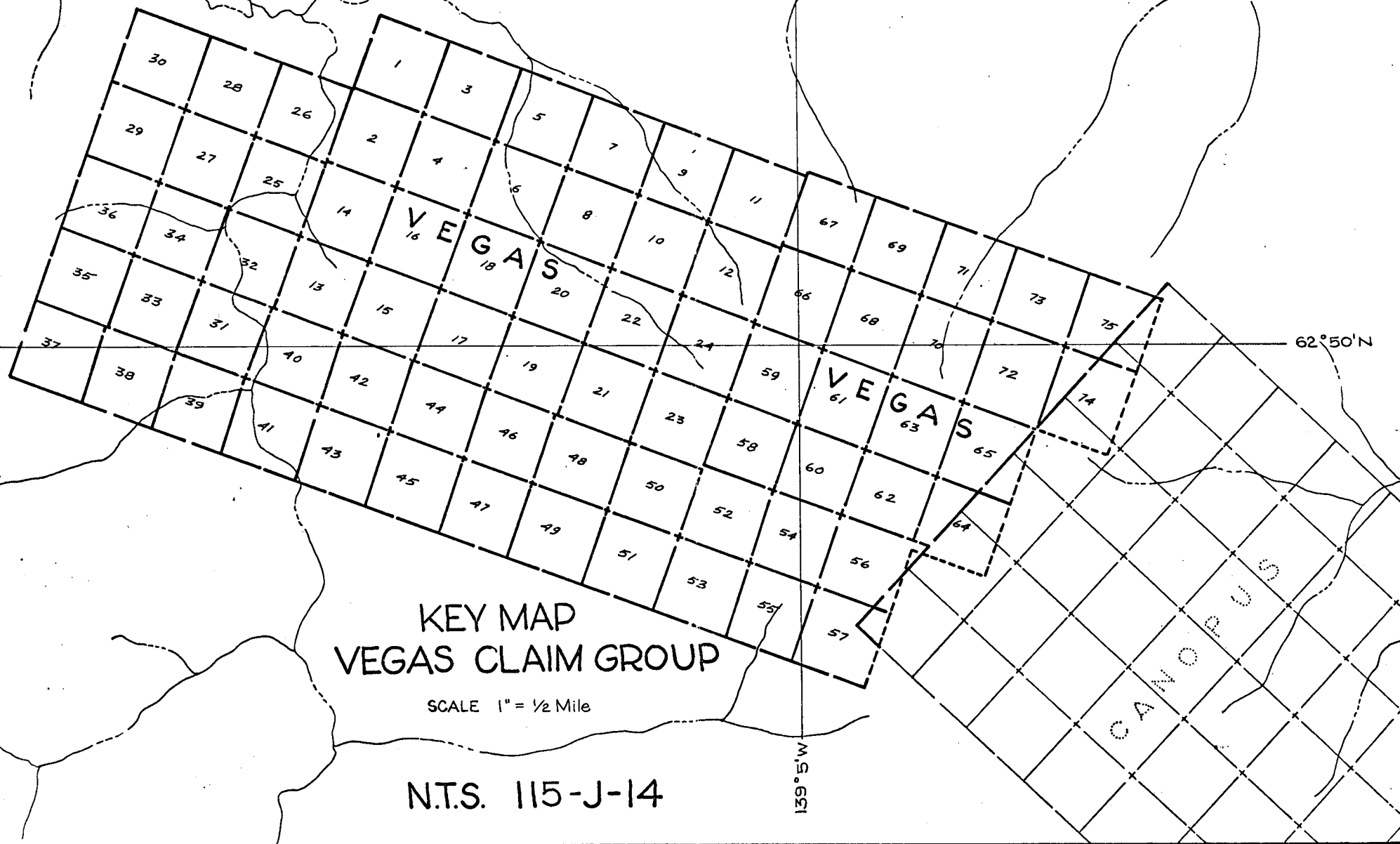
Sept. 1970





Scale: 1" = 32 miles

KEY MAP SHOWING  
 VEGAS CLAIM GROUP  
 DAWSON RANGE YUKON TERRITORY



KEY MAP  
VEGAS CLAIM GROUP

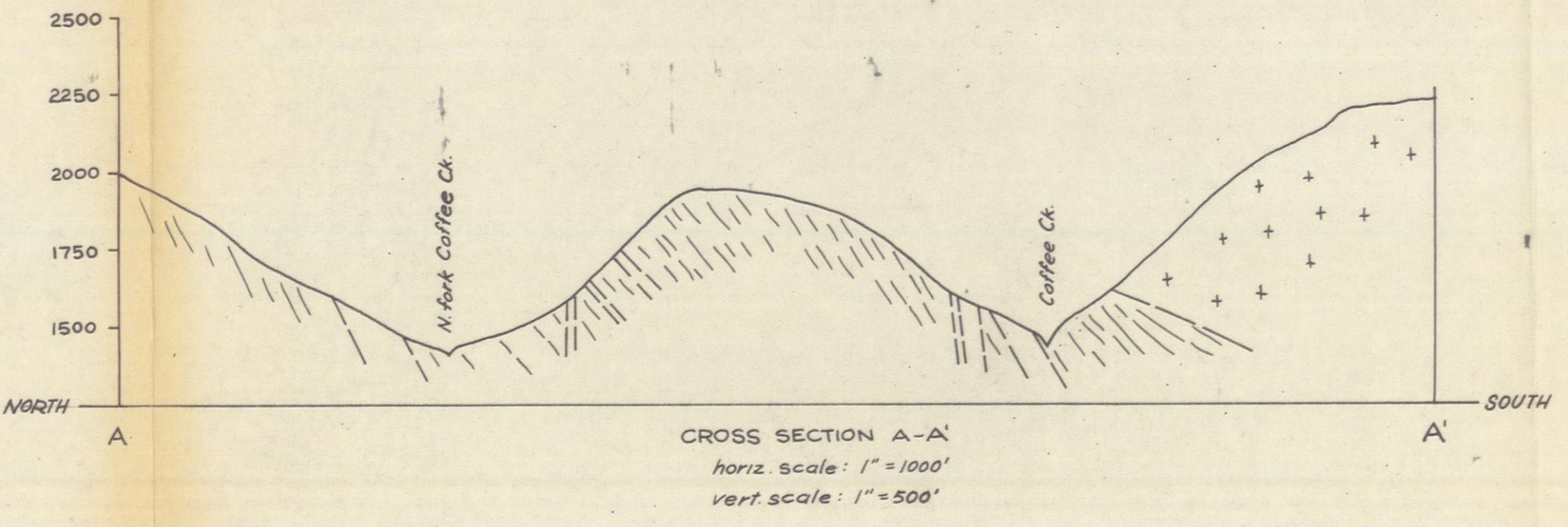
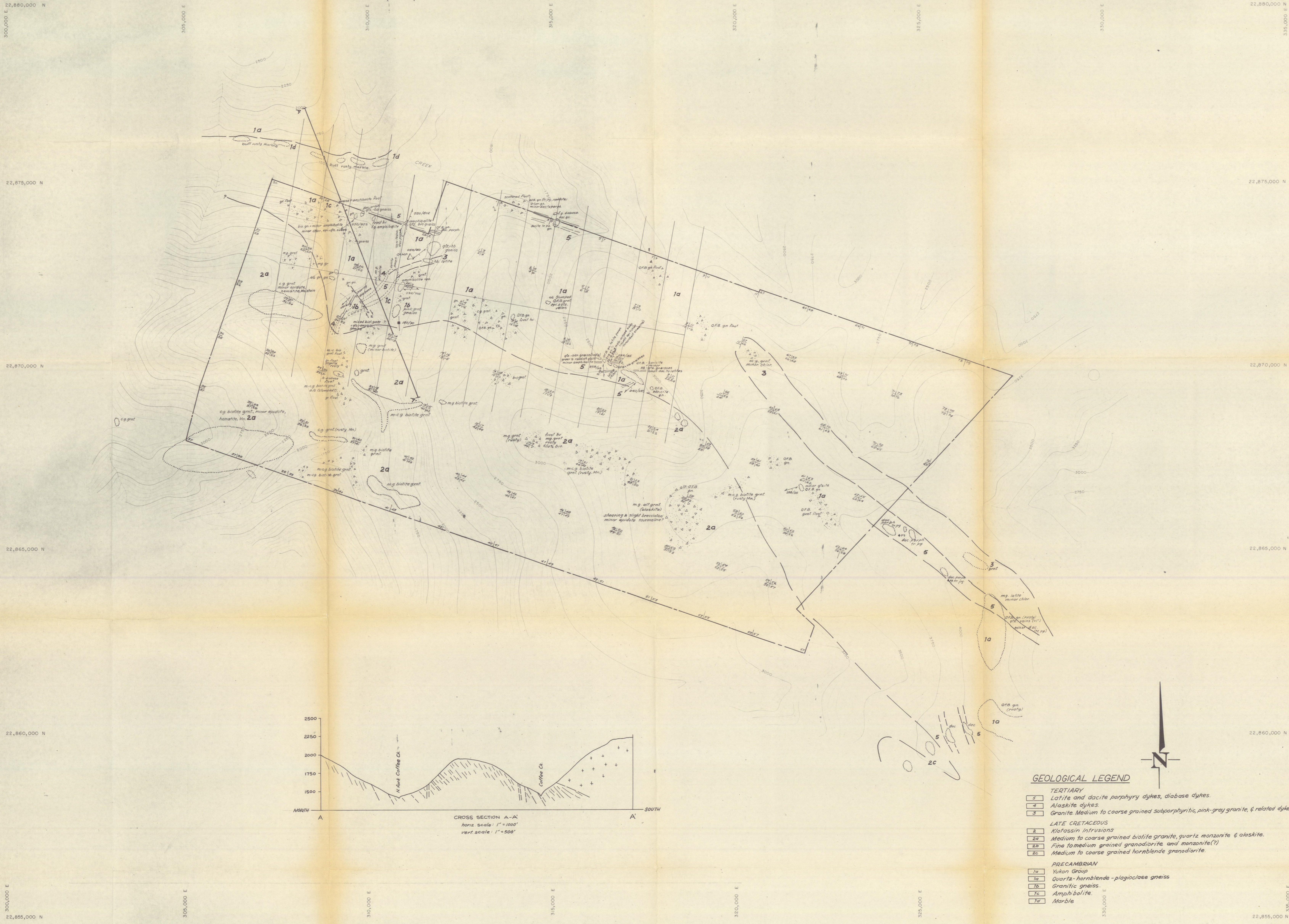
SCALE 1" = 1/2 Mile

N.T.S. 115-J-14

62° 50' N

139° 5' W

CANON

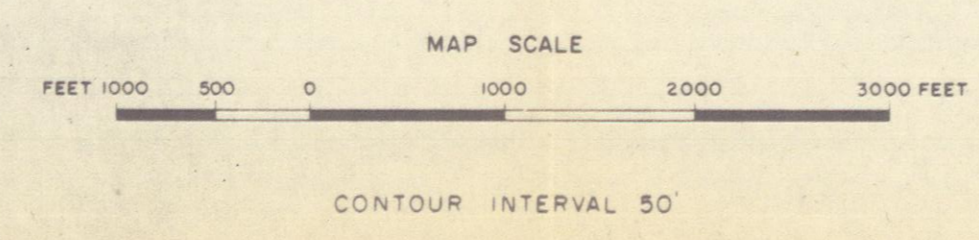


- GEOLOGICAL LEGEND**
- TERTIARY**
    - 5 Latite and dacite porphyry dykes, diabase dykes.
    - 4 Alaskite dykes.
    - 3 Granite Medium to coarse grained subporphyritic, pink-grey granite, & related dykes.
  - LATE CRETACEOUS**
    - 2 Klafassin intrusions
    - 2a Medium to coarse grained biotite granite, quartz monzonite & alaskite.
    - 2b Fine to medium grained granodiorite and monzonite(?)
    - 2c Medium to coarse grained hornblende granodiorite.
  - PRECAMBRIAN**
    - 1a Yukon Group
    - 1a Quartz-hornblende-plagioclase gneiss
    - 1b Granitic gneiss.
    - 1c Amphibolite.
    - 1d Marble

- LEGEND**
- Improved road
  - Secondary road
  - Track or trail
  - Railway
  - Contours
  - Cut line
  - River
  - Stream
  - Intermittent stream
  - Swamp
  - Spot elevation
  - Horizontal control
  - Vertical control

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**VEGAS CLAIMS**  
**YUKON TERRITORY**



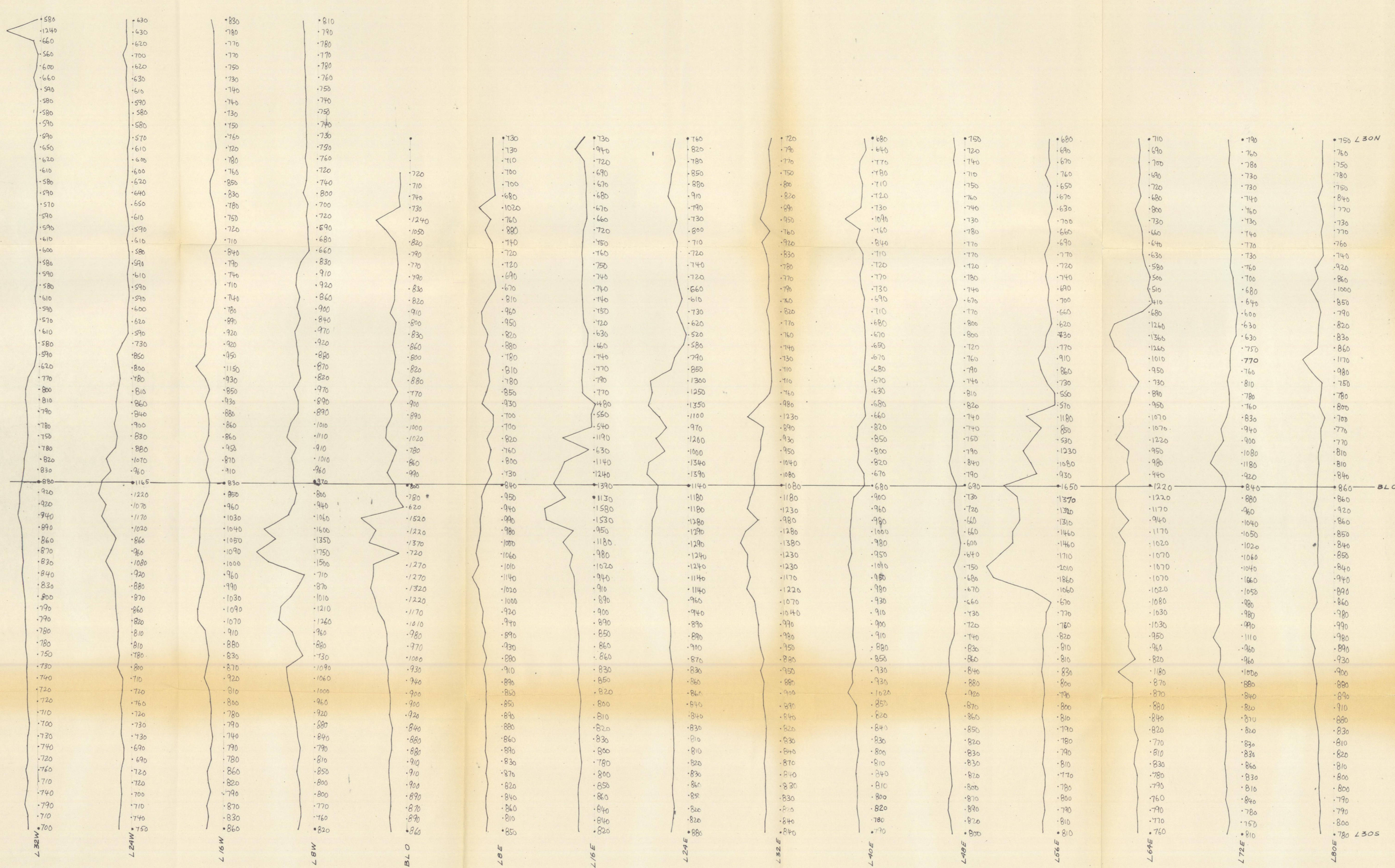
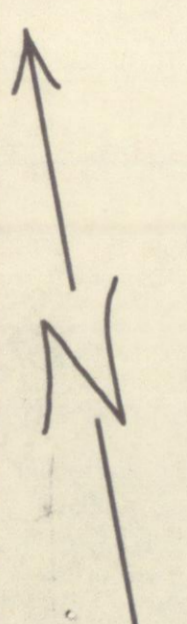
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**GEOLOGY OF VEGAS CLAIMS**  
**Dawson Range-Yukon**

N. T. S. : 115-J-14

SCALE: 1" = 1000'

DATE OF SURVEY:	PARTY CHIEF:
DATE DRAFTED: September 16, 1970	DRAFTED BY: J.A.D.
DATE REVISED:	REVISED BY:
CHECKED BY:	FIGURE No.:



GROUND MAGNETOMETER SURVEY  
 GAMMA VALUES - PROFILES

INSTRUMENT: Sharpes MF-1  
 PROFILE SCALE: 1" = 1000 γ  
 MAGNETOMETER OPERATOR: J. Britton

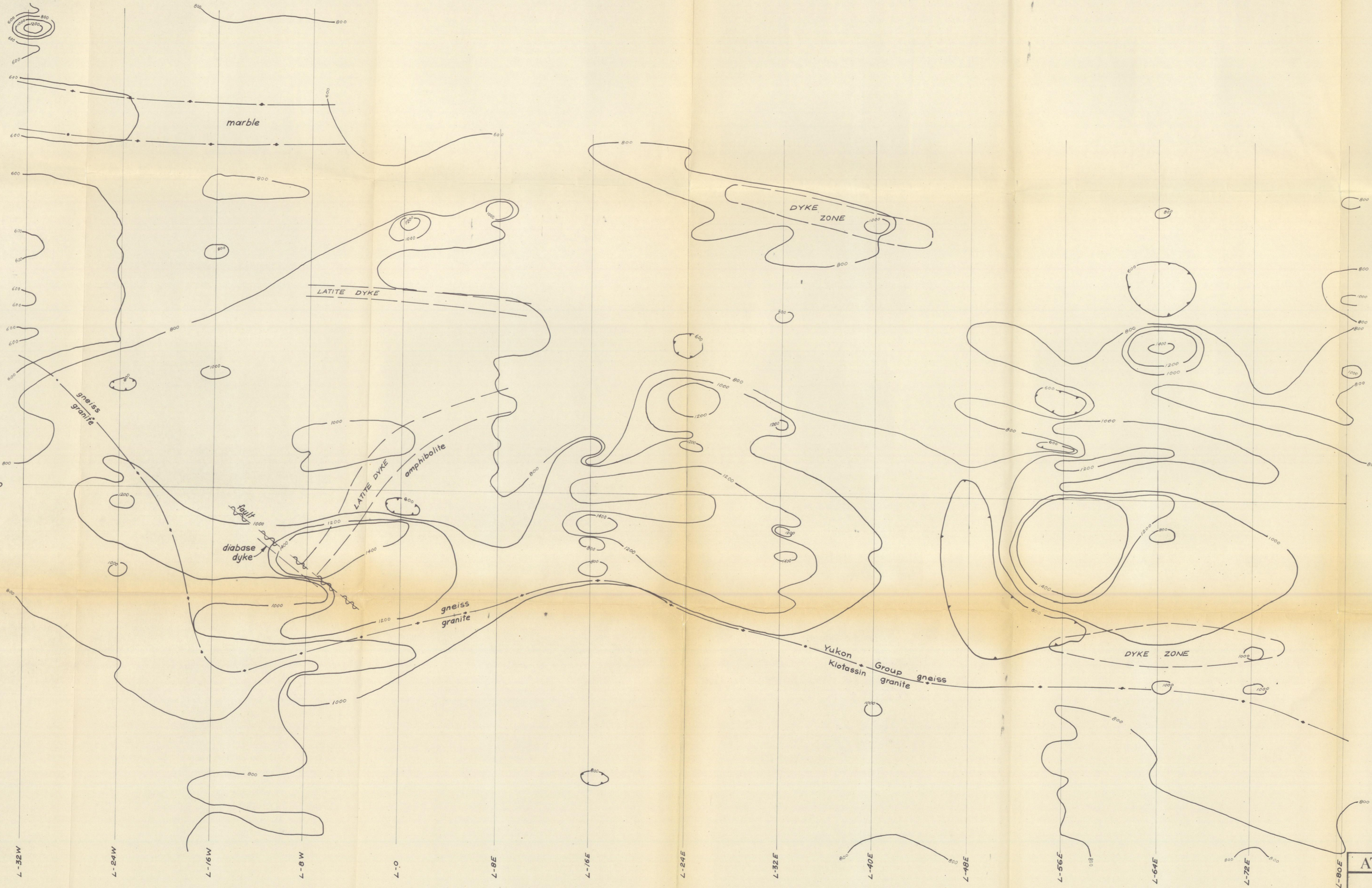
ATLAS EXPLORATIONS LIMITED  
 VICTOR PROJECT - VEGAS CLAIM GROUP  
 GRID No.  
 GROUND MAGNETOMETER SURVEY

N. T. S.	SCALE
115-J-14	1" = 400'
DATE OF SURVEY: July 1970	PARTY CHIEF: P. Dean
DATE DRAFTED:	DRAFTED BY:
DATE REVISED:	REVISED BY:
CHECKED BY:	FIGURE No.

L-40 N

BASELINE 0

L-30 S



<b>ATLAS EXPLORATIONS LIMITED</b>	
VEGAS MINERAL CLAIMS CONTOURED MAGNETIC DATA AND GEOLOGICAL FEATURES	
N. T. S. 115-J-14	SCALE: 1" = 400' CONTOUR INTERVALS 200 Y
DATE OF SURVEY: JULY 1970	PARTY CHIEF: P. Dean
DATE DRAFTED: October 1, 1970	DRAFTED BY: J. A. D.
DATE REVISED:	REVISED BY:
CHECKED BY:	FIGURE No.:

LIST OF PERSONNEL  
VEGAS LINECUTTING AND GEOPHYSICAL SURVEY

P. Dean	Party Chief	Vancouver, B.C.
J. Britton	Assistant	Vancouver, B.C.
P. Charlie	Linecutter	Ross River, Y.T.
P. James	Linecutter	Whitehorse, Y.T.
J. Jackson	Cook	Whitehorse, Y.T.
G. Templeman	Draftsman	Vancouver, B.C.
J. Dennison	Draftsman	Vancouver, B.C.