GEOCHEMICAL REPORT

ON THE VEGAS CLAIM GROUP

DAWSON RANGE, YUKON TERRITORY

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

Claim Sheet - 115-J-14

By:

D. BRABEC

ATLAS EXPLORATIONS LIMITED

September, 1970

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Illustrations

LIST OF CLAIMS

CLAIM NO.		GRANT NUMBER	RECORDING DATE
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

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ATLAS EXPLORATIONS LIMITED

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

GEOCHEMICAL REPORT ON THE VEGAS GROUP

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 were 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°. 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. 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 the Key Map.

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.

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 Figure 2.

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 accompaning "VEGAS Mineral Claim Group - Report on Geological Mapping of Claims".

GEOCHEMICAL SURVEY

a) Sampling Techniques

At reconnaissance stage, stream sediment samples were taken from selected drainages both on the claim group and in the adjoining areas. This sampling was supplemented by contour soil sampling at variable intervals (see Fig 4).

Soil survey on the property consisted of sampling the B-horizon every 200 feet along north-northeasterly lines spaced at 800 feet. A number of rock chip samples was also taken.

Samples were sent to the Atlas Explorations Laboratory in Whitehorse to be analyzed.

b) Analytical Methods

After drying, all silt and soil samples were sieved to -80 mesh and the fines retained for analysis. Rock samples were crushed in a jaw crusher and then pulverized in a grinder with steel plates. The resulting powder was reduced by quartering to a 20-30g working sample.

0.5g of each sample was digested with aqua regia, diluted to 10 mls and allow to settle. The concentrations of Cu, Pb and Zn in the solutions were determined with a Perkin-Elmer 303AA spectrophotometer. Molybdenum content was

estimated colourimetrically by the thiocyanate-stannous chloride method using the isoprophyl ether for extraction of the coloured Mo complex. Interferences were often encountered in this test, particularly when analyzing soil, due to the organic matter extracted by the solvent along with the molybdenum complex.

Analytical reproducibility was controlled by including a soil sample selected as standard with every batch of 40 samples to be analyzed.

Average analytical precision derived from the replicate analysis of standard samples was $\pm$ 30% for both Cu and Zn and $\pm$ 60% for Pb. Analytical precision for Mo was not determined due to the lack of suitable standard.

Lower detection limit for all elements sought was 2 ppm.

c) Presentation of Data

Analytical values were plotted on 1000 feet to the inch scale for reconnaissance samples (Fig. 4), and on 400 feet to the inch scale for samples taken during the soil survey (Fig. 5). On both maps anomalous sites are indicated by appropriate symbols.

INTERPRETATION OF RESULTS

General distribution of data, both on the Vegas Claim Group

and on other properties within Dawson Range, indicates that the following values can be taken as respective anomaly thresholds for elements sought:

Cu	-	50 ppm
Pb	-	30 ppm
Zn	-	100 ppm
Mo	-	4 ppm

Reconnaissance samples are mostly low in all elements sought. Only a few soil samples had anomalous Cu content, at one site combined with high Mo. All these values occur north of claim group and are not reflected in the nearby drainage (Fig. 4).

A small number of soils collected on the grid had above threshold contents of Pb and/or Zn, and only one sample was copper-anomalous. No Mo highs were found (Fig. 5). Anomalous values, low in contrast, do not define any specific target areas and appear to be related to the contact between Yukon Group and granitic rocks, or to some of the Tertiary volcanic dykes. Alignment of anomalous sites on eastern part of claim group coincides with foliation in Yukon Group metamorphic rocks.

CONCLUSIONS AND RECOMMENDATIONS

Distribution and magnitude of anomalous values probably indicates only sporadic mineralization along contacts between

different rock units and/or along foliation in metamorphic rocks. No further geochemical work in the area is recommended.

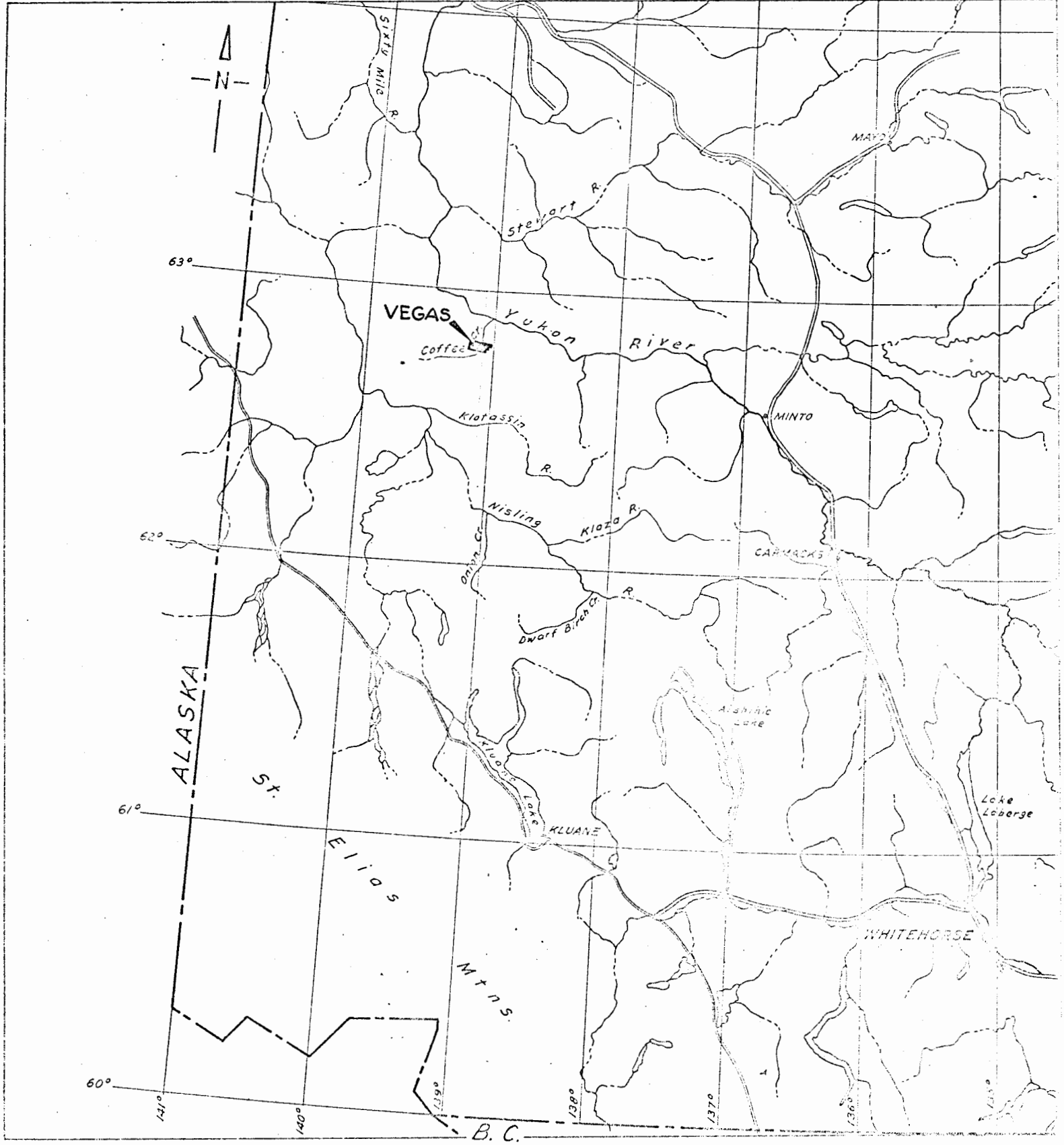
Respectfully submitted,

D. Brabec
Geochemist

September, 1970

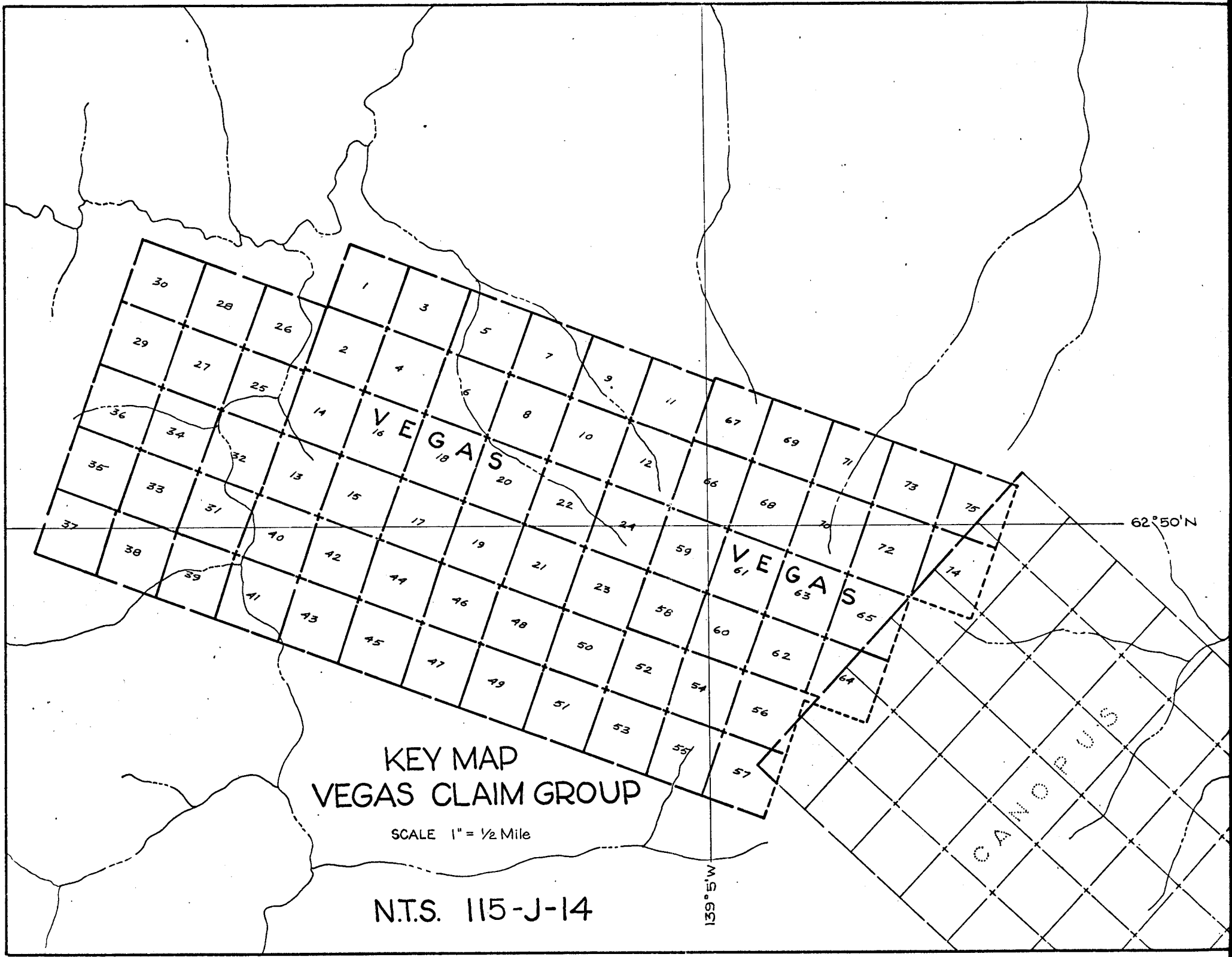
LIST OF PERSONNEL

P. Dean	Party Chief	Vancouver, B. C.
J. S. Brock	Geophysicist, Vice President	Vancouver, B. C.
J. Britton	Sampler	Vancouver, B. C.
P. Charlie	Sampler	Ross River, Y. T.
P. James	Sampler	Whitehorse, Y. T.
J. Jackson	Cook	Whitehorse, Y. T.
J. Dennison	Draftsman	Vancouver, B. C.



Scale: 1" = 32 miles

KEY MAP SHOWING
VEGAS CLAIM GROUP
DAWSON RANGE YUKON TERRITORY



KEY MAP
VEGAS CLAIM GROUP

SCALE 1" = ½ Mile

N.T.S. 115-J-14

22,880,000 N

22,875,000 N

22,870,000 N

22,865,000 N

22,860,000 N

22,855,000 N

300,000 E

305,000 E

310,000 E

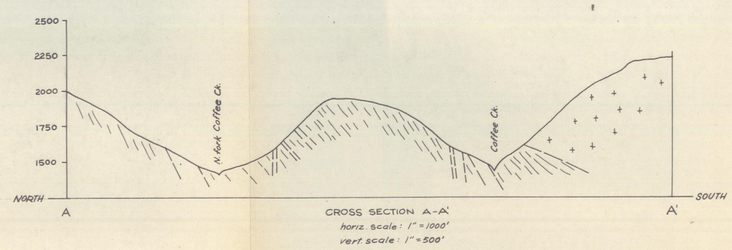
315,000 E

320,000 E

325,000 E

330,000 E

335,000 E



CROSS SECTION A-A'
horiz. scale: 1" = 1000'
vert. scale: 1" = 500'

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 Klotassin 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 4500
- Cut line
- River
- Stream
- Intermittent stream
- Swamp
- Spot elevation ·4190
- Horizontal control △ STA 16
- Vertical control V-4710-57

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VEGAS CLAIMS

YUKON TERRITORY

MAP SCALE
FEET 1000 500 0 1000 2000 3000 FEET

CONTOUR INTERVAL 50

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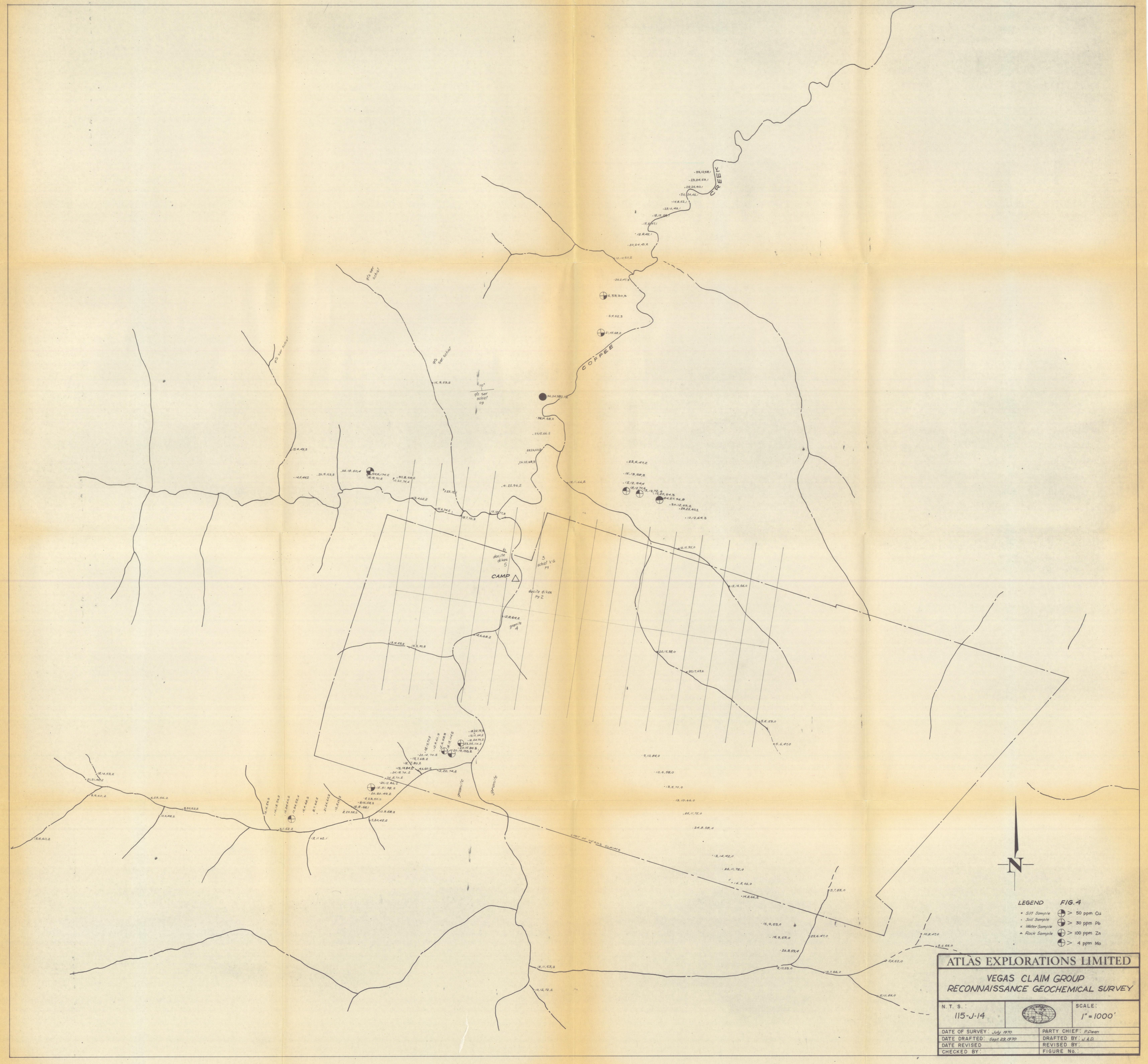
GEOLOGY OF VEGAS CLAIMS
Dawson Range-Yukon

N. T. S.		SCALE
115-J-14		1" = 1000'
DATE OF SURVEY:		PARTY CHIEF:
DATE DRAFTED: September 18, 1970		DRAFTED BY: J.A.D.
DATE REVISED:		REVISED BY:
CHECKED BY:		FIGURE No.:



COFFEE
CREEK
CAMP
dacite dikes
5
3
schist V.G.
dacite dikes
py 2
granite
4
granite
LIMIT OF VEGAS CLAIMS
N
LEGEND
FIG. 4
• Silt Sample
· Soil Sample
× Water Sample
▵ Rock Sample
> 50 ppm Cu
> 30 ppm Pb
> 100 ppm Zn
> 4 ppm Mo
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VEGAS CLAIM GROUP
RECONNAISSANCE GEOCHEMICAL SURVEY
N. T. S.: 115-J-14
SCALE: 1" = 1000'
DATE OF SURVEY: July 1970
PARTY CHIEF: P. Dean
DATE DRAFTED: Sept. 29, 1970
DRAFTED BY: J.A.D.
DATE REVISED
REVISED BY:
CHECKED BY:
FIGURE No.:

Vegas Claim boundry

COFFEE CREEK

L32W L24W L16W L8W BL 0 L8E L16E L24E L32E L40E L48E L56E L64E L72E L80E

LEGEND

- > 50 ppm Cu
- > 30 ppm Pb
- > 100 ppm Zn
- ° Silt Sample
- · Soil Sample
- × Water Sample
- △ Rock Sample

Sample attack: Hot aqua regia
Estimation: Atomic absorption spectophotometry

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VEGAS CLAIM GROUP
GEOCHEMICAL SOIL SURVEY

N. T. S.: 115-J-14		SCALE: 1" = 400'
DATE OF SURVEY:		PARTY CHIEF:
DATE DRAFTED: October 7, 1970		DRAFTED BY: J.A.D
DATE REVISED		REVISED BY:
CHECKED BY:		FIGURE No.: