

VEGAS MINERAL CLAIM GROUP

REPORT ON GEOLOGICAL MAPPING 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 GEOLOGICAL MAPPING 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° . 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.

REGIONAL 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.

TABLE OF GEOLOGIC FORMATIONS

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.

NOTE: NUMBERS OF FORMATIONS
CORRESPOND TO GEOLOGIC
MAP OF VEGAS CLAIMS,
APPENDIX.

GEOLOGY OF VEGAS CLAIMS

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.

Yukon Group

Yukon Group rocks are predominantly dark grey and white laminated quartz-hornblende-plagioclase gneiss, intercalated with granite gneiss, amphibolite and marble. Yukon Group rocks form the northern contact of Klotassin batholith in this area. The contact trends westward across the claim group, defined mainly by felsenmeer and float. A cross section through the Yukon Group along Coffee Creek (see Geologic Map) reveals a bed of rusty-weathering marble, about three hundred feet thick, at the northwest corner of the claim group. Marble is enclosed by quartz-hornblende-plagioclase gneiss, and

apparently is concordant with the regional foliation that strikes northeastward and dips 30° - 75° southeast. Along the east bank of Coffee Creek, a two hundred ft. thick band of amphibolite crops out. Smaller bands of similar coarse-grained amphibolite are indicated by float on hillsides to the northwest. Foliation in amphibolite strikes east-west and dips 70° southward. Amphibolite gives way eastward to coarse-grained pink granite gneiss. Granite gneiss is in contact with Klotassin granite along both banks of Coffee Creek. Eastward, the Yukon Group rocks are a uniform sequence of quartz-hornblende-plagioclase gneisses, with minor sericitic and biotitic phases.

Klotassin Intrusions

The southern part of the claim group is underlain by medium- to coarse-grained granite of the Klotassin batholith. The unit in the vicinity of Casino Mine yields a potassium-argon age of approximately 90 million years, or Late Cretaceous (C. Godwin, personal communication, 1970).

The Yukon Group - Klotassin granite contact is fairly well-defined over the western part of VEGAS claims, but is less definite to the east where few outcroppings were found. Inferred contacts along each side of Coffee Creek permit an estimate of the dip of the contact, which is about 25° to the

south (see cross section on Geologic Map). Granite is usually unfractured and unaltered, but occasionally shows minor epidote, hematite and manganese alteration. Mafics may be entirely leached rendering the rock leucocratic in appearance.

Medium to coarse grained biotite granite in vicinity of VEGAS claims gives way to hornblende granodiorite and quartz monzonite of similar texture two miles southeastward, in vicinity of ROYALE claims. These units probably are all phases of the Klotassin batholith, and may be intergradational.

Tertiary Intrusions

Yukon Group gneiss is intruded by an elongate, dyke-like body of medium to coarse grained granite. The dyke, which originates in a stock of similar composition on ROYALE claims, extends three miles northwestward to its termination at the eastern end of VEGAS group. The granite is porphyritic with abundant euhedral crystals of orthoclase up to 1½ inches long. This granite dyke and stock is distinctly different in appearance and discordant structure to the Klotassin granite. It may well be related to similar Tertiary granites at Home Creek and Casino Mine.

Porphyritic latite and dacite dykes, ranging in width from a few feet to several hundred feet, trend generally westward across the claims. A 200 ft. wide hornblende latite dyke that crops out along Coffee Creek dips vertically and strikes northeastward, discordant to the general dyke trend. The dykes and intruded Yukon Group gneiss commonly contain disseminated pyrite, pyrrhotite and magnetite. Magnetic anomalies are detected over this mineralization.

A small alaskite dyke intrudes the northern contact of the large hornblende latite dyke exposed in Coffee Creek. Alaskite is pink, medium-grained and locally rusty. Both dykes are offset in a right lateral displacement along a northwest-trending fault. The fault trends obliquely to the inferred granite-gneiss contact in the area, and a strong magnetic anomaly marks the intersection of the two structures. A small diabase dyke crops out along the fault, indicating that a larger body of this rock may exist to the southeast, giving rise to the magnetic anomaly. Magnetic contact mineralization also may have caused an anomaly at this locality and along the granite-gneiss contact to the east, which is marked by a linear magnetic high.

Mineralization and Alteration

Disseminated pyrite-pyrrhotite-magnetite mineralization is noted in and adjacent to several dykes in the area. The most abundant contact mineralization is associated with a porphyritic dacite dyke to the east of VEGAS claims. The dyke is about 500 ft. wide and is exposed for 4500 ft. along its 130° strike direction. The dacite dyke is parallel to the large granite dyke mentioned above, and apparently intrudes the southern contact of the granite dyke and Yukon Group gneiss. Disseminated pyrite and pyrrhotite are confined to contact zones of the dacite dyke. No minerals of economic significance were seen.

A large swarm of small latite and dacite porphyry dykes occurs just within Yukon Group quartz-hornblende-plagioclase gneiss adjacent to the granite contact at the southeast corner of the grid. Disseminated pyrite-pyrrhotite-magnetite mineralization occurs within the dykes and the wallrocks. A strong circular magnetic high is detected adjacent to the dyke swarm. Soil geochemical samples in the vicinity show sporadic, weakly anomalous copper responses. No copper or other significant mineralization was seen, but fine-grained chalcopyrite may be associated with pyrite-pyrrhotite in some instances, giving rise to local geochemical anomalies.

A band of amphibolite along Coffee Creek contains abundant disseminated pyrrhotite. A strong magnetic high was detected over this unit. No other mineralization was seen.

One area of possible mineralization lies just outside the southeast corner of VEGAS grid. A granite-gneiss contact apparently passes through a saddle at this locality and the granite is sheared, brecciated and altered. Epidote and tourmaline occur in the granite, and the mafics are leached. No sulfides were found in the area. Soil and silt samples from this area were not anomalous.

Geochemistry

Backgrounds in Cu, Pb, Zn and Mo from soil samples are low. A few anomalous copper results were obtained in the general vicinity of disseminated sulfides associated with latite and dacite dykes. Chalcopyrite may be associated with pyrite and pyrrhotite in these areas. Scattered weakly anomalous values in lead, zinc and molybdenum are believed to be non-significant. A discussion of geochemical trends is given in accompanying Geochemical Report on VEGAS claims.


CONCLUSIONS

1. The VEGAS claims are underlain by a northwest-trending intrusive contact between Klotassin biotite granite and

Yukon Group gneiss and amphibolite. Numerous latite and dacite porphyry dykes intrude the gneiss. A body of younger granite intrudes the Yukon Group east of the claims.

2. No significant mineralization or alteration occurs within the VEGAS claims.
3. Disseminated contact mineralization in and adjacent to dykes, including pyrite, pyrrhotite and magnetite, accounts for most magnetic anomalies on VEGAS claims. Similar mineralization in amphibolite and along the contact zone between granite and gneiss may account for several strong magnetic anomalies.
4. A generally low geochemical response obtained from soil samples reflects the lack of visible Cu, Pb, Zn and Mo mineralization, and indicates a generally low economic potential for the area.
5. On the basis of geological, geochemical and geophysical surveys, no further work is warranted on the VEGAS claims.

Respectfully submitted,



Kenneth M. Dawson
Geologist



Sept. 1970

22,880,000 N 300,000 E 305,000 E 310,000 E 315,000 E 320,000 E 325,000 E 330,000 E 22,880,000 N

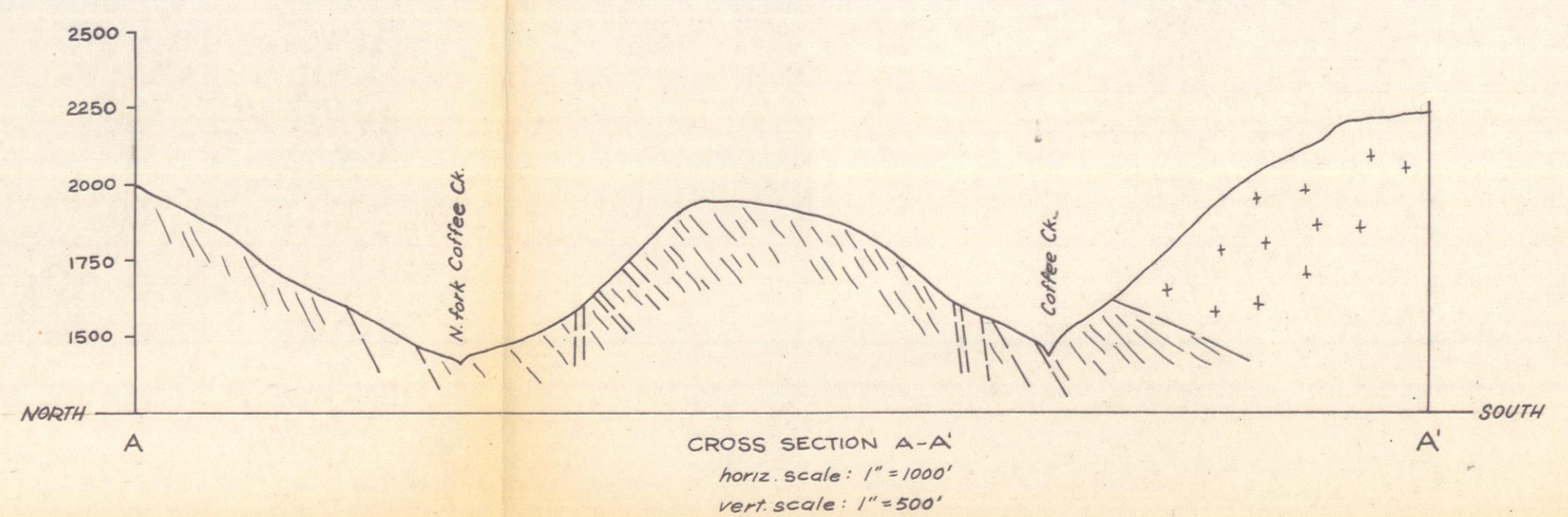
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22,870,000 N

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 22,855,000 N



GEOLOGICAL LEGEND

TERTIARY

- 5 Latite and dacite porphyry dykes, diabase dykes.
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PRECAMBRIAN

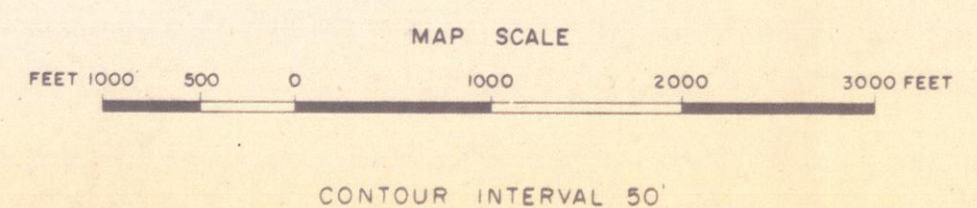
- 1a Yukon Group
- 1b Quartz-hornblende-plagioclase gneiss
- 1c Granitic gneiss
- 1d Amphibolite
- 1e Marble

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:	September 18, 1970	PARTY CHIEF:	J.A.D.
DATE DRAFTED:		DRAFTED BY:	
DATE REVISED:		REVISED BY:	
CHECKED BY:		FIGURE No.:	