017559

REPORT ON

CRONE ELECTROMAGNETIC SURVEY

FOR

TAY RIVER MINES LIMITED

Snafu Mineral Claims 1 - 16 incl.

Sheet 105 K-2

Approximately 132° 15' W, 62° 15' N.

Whitehorse Mining District

Yukon Territory

Survey performed by:

Watts, Griffis and McOuat Limited

October 7 to October 13, 1966

Toronto, Ontario
November 3, 1966

C. K. O'Connor, B.A.Sc., P.Eng.

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LOCATION MAP - "Snafu" Claim Group

MAP POCKET - Electromagnetic Survey - scale 1" = 300 feet.

SUMMARY AND CONCLUSIONS

The Crone electromagnetic survey conducted on the Snafu mineral claims for Tay River Mines Limited in the Vangorda Creek area of the Yukon indicated four weakly conductive zones.

Three of the conductors are open at one end. From the work done the conductors generally appear to be flat-lying, but as only the easterly end of three of them have been properly surveyed, the electromagnetic profiles are not definitive.

The conductors are believed to be caused by either weakly graphitic schists, or argillite, or possibly disseminated sulphides.

Because of the importance of the sulphide occurrences located in the Vangorda Creek area to-date, further work is warranted to evaluate the conductors located by this survey.

RECOMMENDATIONS

The grid should be enlarged to include mineral claims Snafu 17 and 18 in the southwest corner of the property.

Conductor No. 1 could then be traced further west and more information obtained as to its characteristics and attitude, especially as it appears to be stronger to the west. Detail fan method profiling is recommended for all the conductors, again to try and better determine their attitude.

Following this, it is recommended that magnetometer and gravity surveys be conducted over the four conductive zones and any additional ones that might be outlined on the Snafu 17 and 18 claims. Gravity surveys have been especially effective in outlining lead-zinc mineralization in the Vangorda Creek area.

Any conductors showing correlation with a strong gravity high should be investigated by either trenching or diamond drilling to obtain an explanation.

INTRODUCTION

This report describes the results of a Crone JEM duel frequency electromagnetic survey carried out on the Snafu mineral claims of Tay River Mines Limited in the Vangorda Creek area of the Yukon Territory during October, 1966.

The field work was conducted and supervised by Mr. Wayne Pelet with the assistance of Mr. Lloyd Alexander.

The author of this report is fully acquainted with the geology of th Vangorda Creek area and its relation to the various geophysical techniques employed in the area through personal experience over the past eight months.

PROPERTY

The property covered by the electromagnetic survey consists of 16 contiguous unpatented mineral claims known as the Snafu claims, numbere 1 to 16 inclusive located in the Whitehorse Mining District of the Yukon Territory.

These claims form the greater part of the total group of 18 Snafu claims staked and held by Tay River Mines Limited.

LOCATION, ACCESS AND TOPOGRAPHY

The Snafu mineral claim group of Tay River Mines Limited is located in the Vangorda Creek area of the Yukon Territory, about 130 air-mil northeast of Whitehorse.

The claims are on Sheet 105 K-2 in the Whitehorse Mining Distric with co-ordinates approximately 132° 15' W longitude and 62° 15' N latitude, about 25 miles northwest of Ross River and eight miles northeast of the Pelly River.

Ross River is accessible by road from Whitehorse, a distance of about 220 miles.

At Ross River, helicopters can be chartered for direct access to the property as there are no roads suitable for wheeled vehicles within eight miles.

The Swim Lakes, two to three miles south of the property are suitable for fixed wing, ski or float-equipped aircraft, and there is a gravel airstrip at Ross River.

The property lies in relatively gently rolling terrain between the Swim Lakes and Blind Creek at elevations of about 4,000 to 4,500 feet above sea level, and is completely timbered with medium-sized pine and spruce, as well as tag alders and buck brush.

There are no streams on the property, but two swamps would probably provide sufficient water for drilling during the summer.

There are relatively few outcrops except on the high ridges.

HISTORY

The Vangorda Creek area recently gained prominence as an important economic mineral area of Canada with the discovery in 1965 by Dynasty Explorations of a large lead-zinc-silver deposit on their Faro claim group about 18 miles northwest of the Company's claims. This deposit, reported to contain in excess of 40 million tons of about 10 percent combined lead-zinc and 1.25 ounces of silver, is presently being developed by Anvil Mining Corporation, an operating company owned jointly by Dynasty Explorati Limited (40%) and Cyprus Mining Corporation (60%).

Prospectors Airways, since merged into Kerr Addison, discovere and drilled the first major deposit found in the area in the period 1953 to 1956 but ceased work due to unfavourable economic and logistic conditions. This deposit, located on Vangorda Creek about 10 miles west of the Snafu claims, contains about nine million tons of eight percent combined lead-zinc and 1.5 ounces of silver.

Kerr Addison resumed exploration in the area in 1963 and in 1965 discovered a second, large lead-zinc-silver deposit on their "Swim" claim group, only five miles west-southwest of the Company's claims. Kerr has be drilling this deposit with four machines for the past four months and although no tonnage figures have been published, the deposit is reputedly of similar grade and size to the original Vangorda deposit, if not larger.

Many companies staked or acquired claims in the Vangorda Creek area following the announcement by Dynasty in the fall of 1965 of their major discovery.

GENERAL GEOLOGY

The Vangorda Creek area is underlain by Paleozoic sediments and volcanics which have been intruded by the Cretaceous Anvil granitic batholith.

The sediments are strongly metamorphosed and now consist predominantly of quartz-sericite, chlorite and graphite schists, with lesser argillite, quartzite and limestone.

The lead-zinc-silver mineralization found to-date appears to be related to strong northeast-trending faults subsidiary to the Tintina trench which marks the Pelly River valley in this area, and to the Anvil granitic batholith. The three major deposits found to-date all occur in the favourable schists close to the batholith, northeast faults, or both.

The schists generally strike northwest and dip moderately away from the granitic core giving the appearance of a major anticlinal structure paralleling the Pelly River on the northeast side.

The Company's claims lie about five miles southeast of the main intrusive outcrop in a large basin of schists centred about Swim Lakes.

The property is indicated on the geological map (GSC No. 13 - 19("Tay River") to be underlain mainly by volcanics which probably form a thin capping over the underlying schists, striking northwest and dipping moderatel northeast.

DISCUSSION OF RESULTS

The electromagnetic survey was carried out using a Crone JEM dual frequency unit on lines trending N 05° W spaced 400 feet apart. Reading: were taken at 100-foot intervals.

The initial reconnaissance survey employed the in-line technique with a coil separation of 200 feet and the dip angle reading plotted between th two coils. The high frequency, 1,800 cps, was used for this reconnaissance.

No strong conductors were located, but several moderate to weak indications were obtained and these were checked by taking readings at 50-foc intervals, as well as employing the low frequency, 480 cps to determine the relative conductivity.

The conductors indicated are described individually as follows:

(1) This conductor was located on Line 28 W at 34 + 00 S, and was traced 400 feet west by blazing a short line at 32 + 00 W and pacing distances. It strikes slightly north of west and is open to the west.

(2) This conductor was located on Line 28 W at about 3 + 00 S. Again a line was run 400 feet to the west and the conductor was located on this line at about 2 + 00 N indicating a northwest strike.

(3) About 600 feet north of and parallel to the Number 2 conducto a third indication was obtained with similar characteristics to the others. Again this conductor is open to the west, but no further work has been done as it extends off the property.

(4) A short conductor was indicated on Line 20 W at about 25 + 0(The strike is indicated to be east-west and the maximum length of the conduct is in the order of 300 feet.

All of the conductors located show a poor response on the low frequency, indicating relatively poor conductivity.

There is a suggestion from the profiles of a flat dip to the conductors, but the information is limited because of the short distance they have been traced on the property. If conductors 1, 2 and 3 were traced further wes where they are indicated to be stronger, a more definite indication of their attitude might become apparent.

Depth to the conductive sources is probably in the order of 50 feet or less.

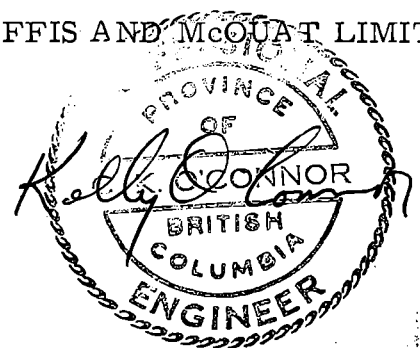
Although all of the conductors located are weak, they are not likel to be caused by overburden because of the relatively strong high frequency response and the absence of obvious overburden conductors associated with them.

The type of response that might be expected from a swamp is well illustrated in the area of Lines 4 E to 8 W at about 20 + 00 N as seen on the map.

The most likely explanation for the conductors is weakly graphitic schists or argillite, although they may be caused by disseminated sulphides.

Respectfully submitted,

WATTS, GRIFFIS AND McQUAT LIMITED



Toronto, Ontario
November 3, 1966

C. K. O'Connor, B.A.Sc., P.Eng.

APPENDIX

Survey Personnel and Data

Field Operators

Wayne Pelette,
Apartment 126 - 199 Upper Canada Drive,
Willowdale, Ontario.

Lloyd Alexander,
Apartment 602 - 100 Rowena Drive,
Don Mills, Ontario.

Supervising Consultant

Kelly O'Connor, B.A.Sc., P.Eng.,
278 Princess Avenue,
Willowdale, Ontario.

Miles of Line Surveyed	17.25
Instrument	Crone JEM dual frequency (480/1,800 cps) unit.
Duration of Survey	October 7 - October 13, 1966.

CERTIFICATE

I, Caven Kelly O'Connor, hereby certify:

1. That I am a geologist and reside at 278 Princess Avenue, Willowdale, Ontario.

2. That I am a registered Professional Engineer in the Provinces of Ontario and British Columbia.

3. That I graduated from the University of Toronto in 1962 with the degree of Bachelor of Applied Science in geological engineering.

4. That I have been continuously engaged in my profession for 4 1/2 years.

5. That the foregoing report is based on personal experience in the Vangorda Creek area since November, 1965, and on discussions with Mr. Wayne Pelette who conducted and supervised the survey.

6 That I have no personal interest, nor do I expect to receive any interest directly or indirectly in the properties or in the securities of Tay River Mines Limited.

Toronto, Ontario
November 3, 1966

C. K. O'Connor, B.A.Sc., P.Eng.

62°15'

35°

True North

Magnetic North

FRONTIER EXPLORATIONS

ANVIL MINING CORPORATION

13 1 2

14 3 4

15 5 6

17 16 7 8

18 11 9

12 10

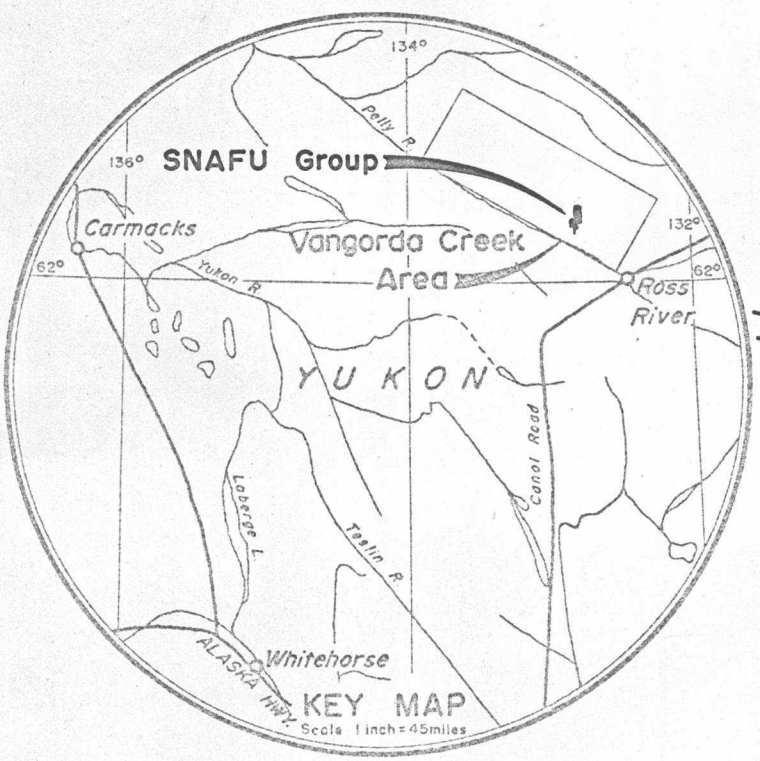
Outline of surveyed area

GOLDEN GATE

Swim Lakes

132°15'

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA K. O'CONNOR



WATTS, GRIFFIS & McOUAT LIMITED

TAY RIVER MINES LIMITED

SNAFU CLAIM GROUP

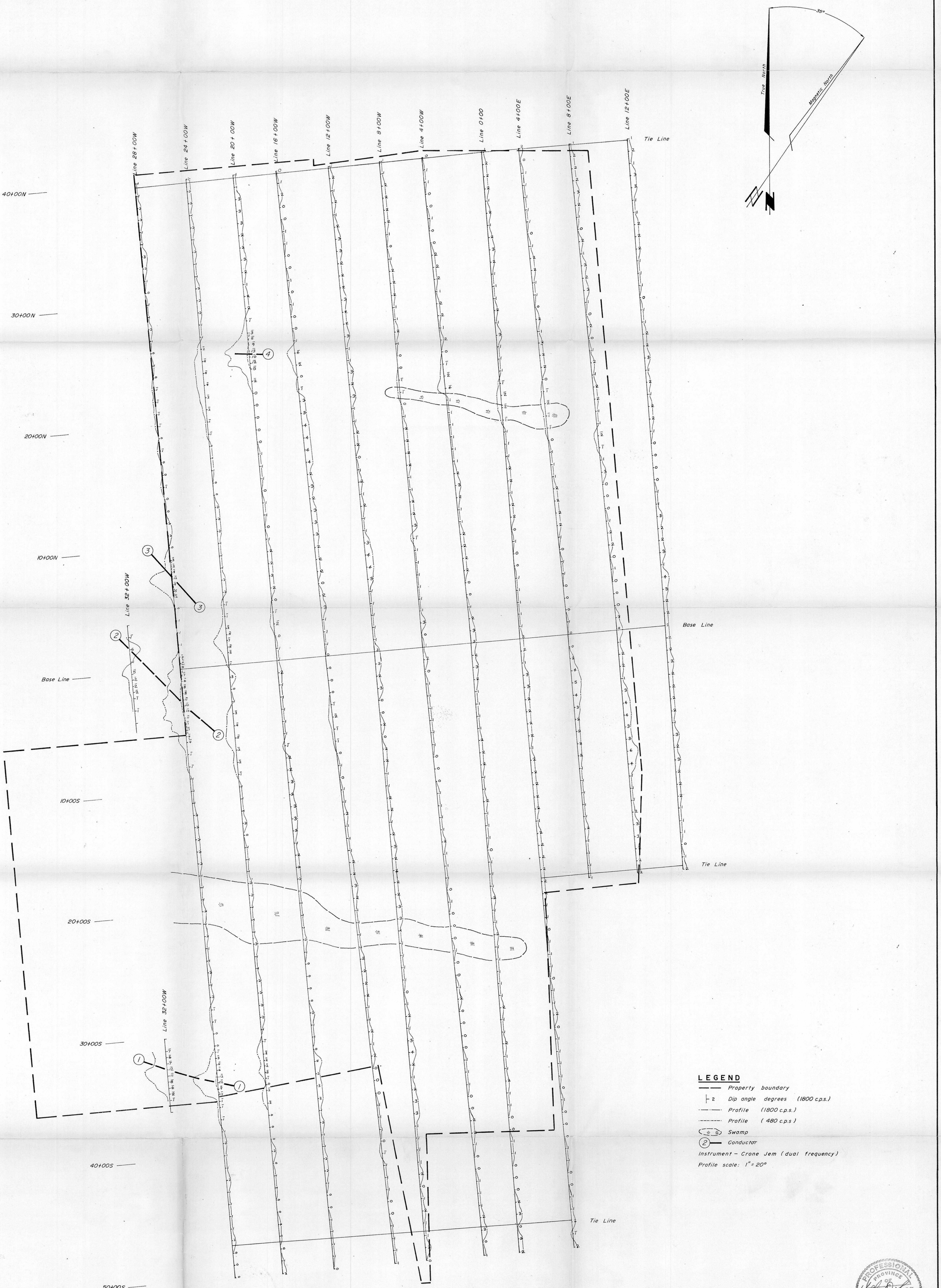
VANGORDA CREEK AREA

Whitehorse Mining District

— YUKON TERRITORY —

Scale 1" = 1/2 mile

October, 1966



LEGEND

- Property boundary
- 2 Dip angle degrees (1800 c.p.s.)
- Profile (1800 c.p.s.)
- Profile (480 c.p.s)
- Swamp
- (2) Conductor

Instrument – Crone Jem (dual frequency)

Profile scale: 1" = 20°

WATTS, GRIFFIS & McOUAT LIMITED

TAY RIVER MINES LIMITED

Snafu Group

VANGORDA CREEK AREA

— YUKON TERRITORY —

ELECTROMAGNETIC SURVEY

Feet 300 0 300 600 900 Feet

TORONTO, ONTARIO — OCTOBER, 1966.

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — Kelly Dobson — No. 5166

inches 0 1 2 — centimetres 0 1 2 3 4 5

YUKON GEOLOGICAL SURVEY

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.