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**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,409

LIST OF ILLUSTRATIONS

At Back of Report

Property Location Map 1:10,000,000 Sheet 1

Claim Map 1: 50,000 Sheet 2

In Back Pocket

Airborne Magnetic 1:10,000 Sheet 3
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Results

SUMMARY

Airborne magnetic and VLF-EM surveys were carried out over the Dog Claim Group owned by Stryder Explorations of Vancouver, B.C. on July 17, 1983. The claims are located on Cannell Creek, 28 km N35°W of the City of Kamloops. Access is easily gained by vehicle, preferably 4-wheel drive. The terrain consists of mainly gentle to moderate slopes forested with light to moderately dense coniferous trees. The purpose of the surveys was to aid in the mapping of geology as well as to locate probable areas for exploration of gold mineralization.

The Dog Claims are a staking of the old Allies showings which were previously explored for gold. The mineralization consists of pyrite, chalcopyrite, bornite, and galena within quartz veins. These veins are within dark grey porphyry dykes cutting serpentine of the Cache Creek group. Overlying the Cache Creek rocks on and around the Dog claims are Tertiary volcanics of the Kamloops Group.

Previous work consisted of trenches, adits, and shafts during the 20's and 30's and, more recently, magnetic and VLF-EM surveys, soil geochemistry sampling, and limited geological mapping.

The airborne surveys were flown at about a 30-meter terrain clearance on straight lines with a separation averaging about 200 meters. The instruments used were a Sabre Electronics proton precession magnetometer and a Sabre Electronics VLF-EM receiver. The magnetic data were picked from the strip charts and hand contoured. The contours were drawn on a survey plan on which the VLF-EM anomalies were plotted as well.

CONCLUSIONS

1. Both the VLF-EM and magnetic surveys revealed lineations within the survey area that are likely caused by fault, shear and/or contact zones. These usually are important indicators of sulphide and native gold mineralization especially where the lineations cross. The Allies showing is located within an area of cross lineations.
2. The magnetic survey has shown that most of the Dog 1 and 3 and some of the Dog 2 claims are underlain by serpentine, sediments, as well as possibly volcanics of the Cache Creek Group. The survey also appears to show the Cache Creek contact with the Tertiary Kamloops volcanics which cover much of the Dog 2 claim.

RECOMMENDATIONS

These are as follows:

1. The property should be thoroughly prospected and/or geologically mapped. This will also greatly aid in the interpretation of any geophysics and geochemistry that have been or may be carried out, especially the airborne survey.
2. Though a soil geochemistry survey has been done, another one should be considered. On the previous survey the sample was screened to -80 mesh. The total sample picked up should be pulverized and not screened in order to preclude the screening out of coarser gold.

3. An induced polarization-resistivity survey should be considered. The purpose of the induced polarization would be to pick up sulphide zones that are hopefully associated with gold mineralization and that of the resistivity to outline alteration zones related to the same mineralization.

4. Trenching and diamond drilling of promising targets resulting from the above work.

GEOPHYSICAL REPORT
ON
AIRBORNE MAGNETIC AND VLF-EM SURVEYS
OVER THE
DOG CLAIM GROUP
CANNELL CREEK
KAMLOOPS MINING DIVISION
BRITISH COLUMBIA

INTRODUCTION AND GENERAL REMARKS

This report discusses the survey procedure, compilation of data and the interpretation of low-level airborne magnetic and VLF-EM surveys carried out over the Dog Claim Group located on Cannell Creek within the Kamloops M.D. on July 17, 1983.

The surveys were carried out by E.A. Dodd, instrument operator and project manager, and Lloyd Brewer, navigator, both of whom are of Columbia Airborne Geophysical Services Ltd. A total of 120 line km of airborne surveys were done over the property and surrounding area.

The object of the two surveys was to aid in the geological mapping of lithology and structure for the purpose of exploration of gold mineralization. Magnetic surveys have especially been proven to be a good geological mapping tool. VLF-EM surveys are quite useful for mapping geological structure.

PROPERTY AND OWNERSHIP

The property consists of three 20 - unit claims totalling 60 units as shown on Sheet 2 and as described below:

| <u>Claim Name</u> | <u>No. Units</u> | <u>Record No.</u> | <u>Expiry Date</u> |
|-------------------|------------------|-------------------|--------------------|
| Dog 1 | 20 | 4117 | July 19, 1983 |
| Dog 2 | 20 | 4118 | July 19, 1983 |
| Dog 3 | 20 | 4119 | July 19, 1983 |

The expiry dates shown does not take into account the surveys under discussion as being accepted for assessment credits.

The property is owned by Stryder Explorations of Vancouver, British Columbia.

LOCATION AND ACCESS

The property is found 28 km N35°W of the City of Kamloops, B.C. on Cannell Creek located within the Tranquille Plateau.

The geographical coordinates are 50°52'N latitude and 120°33'W longitude.

Access to the property is by the Pass Lake dirt road to Pass Lake. This road starts approximately one mile north of the city centre of North Kamloops along the west side of the North Thompson River. From the agricultural research station at Pass Lake, one travels northwesterly for 1 km where one turns west and travels a further 8.5 km northwest to the Allies showing over a logging road.

Pass Lake is accessible by a two-wheel drive vehicle all year around, the road being kept open in winter. A four-wheel drive vehicle is recommended from Pass Lake to the property during summer months and a skidoo during winter months.

PHYSIOGRAPHY

The property lies at the southern end of the Tranquille Plateau which forms part of the physiographic division known as the Thompson Plateau System. The terrain varies from gentle and moderate slopes throughout most of the property to steeper slopes occurring along gullies and creeks.

Elevations vary from 1,020 meters a.s.l. on Cannell Creek at the southern property boundary to 1,530 meters a.s.l. within the northwest and southwest corners of the Dog 1 claim.

The main water sources would be Cannell Creek and its tributaries which cross the property as well as Sydney Lake located 850 m west of the Dog 1 claim.

The forest cover consists of fir, pine and spruce and varies from closely growing, immature stands to widely spaced, mature stands.

HISTORY OF PREVIOUS WORK

This property was previously known as the Allies Group upon which work was done in exploration for gold during the 1920's and 1930's. At this time several trenches, shafts and adits were dug out.

The property was staked as the Dog Claims in 1969-70 and in 1973, magnetic, VLF-EM, limited soil sampling and limited geological surveys were carried out. In 1976, further soil sampling was carried out producing gold-copper anomalies that were subsequently diamond drilled. No mineralization was encountered.

GEOLOGY

The geological description of the property is taken from Cockfield and Saleken. (See Selected Bibliography.)

Much of the general area is underlain by Tertiary volcanics of the Kamloops Group. These consist of rhyolites, andesites and basalts with associated tuffs, breccias and agglomerates.

Forming a window in the Tertiary volcanics and underlying much of the Dog claims are rocks of the Carboniferous Cache Creek group. This group in this area consists of argillite, quartzite, hornstone, limestone, sheared conglomerate, breccia, greenstone, and serpentine. The units have a northwest trend with varied dips.

Cutting the Cache Creek rocks but not the Kamloops volcanics are light grey and dark grey porphyry dykes (or flows?). The dark grey porphyry is a dense rock with phenocrysts of hornblende and feldspar.

The mineralization of the Allies prospect occurs as pyrite, chalcopyrite, bornite and galena within quartz veins which occur within the dark grey porphyry dykes (or flows?). Up to 1.42 oz/ton of gold has been assayed with the sulphides.

INSTRUMENTATION AND THEORY

a) Magnetic Survey

The magnetic data are detected using a nuclear free precession proton magnetometer, manufactured by Sabre Electronic Instruments Ltd. of Burnaby, B.C. The magnetometer measures the total count of the earth's magnetic field intensity with a sensitivity of one gamma. The data are recorded on magnetic tape and 12 cm analog strip chart.

The magnetic patterns obtained from a regional airborne survey are directly related to the distribution of magnetite in the survey area. However, the geology cannot be deduced from isomagnetic maps by simply assuming that all magnetic highs are underlain by gabbro or ultramafic rocks, and that all magnetic lows are caused by limestone or chert. The problem with such a simplistic approach is that magnetite is not uniformly distributed in any type of rock. Other problems arise from the fact that most geologic terrains have rocks of high susceptibility superimposed on less 'magnetic' rocks, and vice versa. Cultural features such as powerlines, pipelines and railways also complicate matters. So many variables can be involved that it may be impossible to make a strictly accurate analysis of the geology of an area from magnetic data alone. It is preferable to use other information such as geological, photogeological and electromagnetic in combination with magnetic data to obtain a more accurate geological analysis.

b) VLF-EM Survey

A two-frequency omni-directional receiver unit, manufactured by Sabre Electronic Instruments Ltd., of Burnaby, B.C., was used for the VLF-EM survey. The transmitters used are NLK Arlington (Seattle), Washington, operating on 24.8 KHz, and Annapolis,

Maryland, transmitting at 19.0 KHz. These signals are used due to their orientation with respect to northeast and northwest geological structures, and their good signal strengths. The measurement taken during the survey is the variation in the horizontal component of the signal strength.

The VLF (Very Low Frequency) method uses powerful radio transmitters set up in various parts of the world for military communications. These powerful transmitters can induce electric currents in conductive bodies thousands of kilometers away from the radio source. The induced currents set up secondary magnetic fields which can be detected at surface through deviations in the normal VLF field. The VLF method is inexpensive and can be a useful initial tool for mapping structure and prospecting. Successful use of the VLF requires that the strike of the conductor be in the direction of the transmitting station so that the lines of magnetic field from the transmitter cut the conductor. Thus, conductors with northeast to southeast strikes will respond to Annapolis transmissions, while conductors striking north to east will respond to Seattle transmissions. Conductors striking east to northeast may respond to both stations, giving coincident field strength peaks.

The theory of VLF-EM interpretation is quite simple. Conductors are located at field strength maxima. In the Hedley area, one may assume that a Seattle field strength peak represents a conductor with a generally northeast trend, and an Annapolis peak will be a conductor with an east-west trend. This, of course, only applies to conductors with clearly linear trends and cannot be assumed for single line anomalies.

It is impossible to determine the quality of conductors with any reliability, using field strength data alone. The question of linearity is in doubt if the conductor does not appear to

cross the adjacent flight lines. The relatively high frequency results in a multitude of anomalies from unwanted sources such as swamps, creeks and cultural debris. However, the same characteristic also results in the detection of poor conductors such as faults, shear zones, and rock contacts, making the VLF-EM a powerful mapping tool.

The interpretive technique requires information from magnetic surveys, air photo analyses, and ground traverses to aid in discrimination between important and unwanted anomalies. Even armed with this information the interpreter can easily be misled.

SURVEY PROCEDURE

A two-meter bird was fitted with a magnetometer coil and two omni-directional EM receivers and towed beneath the helicopter on a 10-meter cable. The terrain clearance for the bird was 30 m.

The surveys were straight-line flown at an average line spacing of 200 m. Navigation was visual, using 1:50,000 scale maps blown up to 1:10,000.

The aircraft used to conduct this survey was a Bell Jet Ranger helicopter. Airspeed was a constant 60 KPH so that creek valleys and canyons were penetrated thoroughly. The slow airspeed provided safety, detailed coverage of boxed-in areas, and consistency of data retrieval, which is critical in rugged terrain.

The number of line km flown as shown on Sheet 3 is about 120.

The project supervisor, Mr. Dodd, has over 14 years of experience in conducting aerial magnetic, electromagnetic and radiometric surveys from fixed-and rotary-wing aircraft, under all types of terrain conditions.

DATA REDUCTION AND COMPILATION

The observant magnetic total field was recorded on analogue strip charts. These were played-back together with audio recordings containing fiducial markers, and the fiducial markers were transferred to the strip charts. The fiducial markers were identified with topographic features along the flight lines.

The magnetic data were taken from the strip charts and plotted on Sheet 3 at a scale of 1:10,000 (1 cm = 100 m). The data were then contoured at a 100-gamma interval.

The VLF-EM anomalies were taken from the strip charts and plotted on the sheet with the magnetics. For each anomaly, a heavy line along the flight line was drawn showing its half-width. An 'S' or an 'A' designated the anomaly as being from the Seattle transmitter or the Annapolis transmitter.

A question mark on the anomaly indicates that it could be caused by terrain. The survey area was somewhat rugged causing numerous VLF-EM anomalous responses most of which was easily sorted out as being caused by terrain. However, some were difficult to sort out and they were therefore plotted with a question mark.

Strong anomalies were plotted with exclamation marks, and anomalies without any marks indicate average responses. Other symbols are explained on the sheets.

DISCUSSION OF RESULTS

The magnetic survey has shown the magnetic field over the Dog claims to vary from 500 gammas to 4500 gammas within a distance of 600 meters giving a very high range of 4000 gammas.

Most of the property, however, has a magnetic field varying from about 1500 to 2500 gammas. The window of Cache Creek rocks, as mapped by the G.S.C., is located within this magnetic low. Therefore, it is quite possible that the 2500-gamma contour is mapping the Cache Creek window within the Kamloops volcanics. That is, the magnetic values less than 2500 gammas are found over the Cache Creek rocks.

The magnetic field to the southeast, to the south, to the west, and partially to the north has a much higher amplitude and is much noisier (that is, goes from lows to highs within short distances). This is a typical description of Tertiary volcanics, which in this case consists of a capping of Kamloops Group rocks. It shows most of the Dog 2 claim is underlain by these volcanics, as well as the west side of the Dog 1 claim and the southeast corner of the Dog 3 claim.

The very strong low of 500 gammas is located a few hundred meters southeast of the Allies workings. Therefore this low could well be related to the original source of the rich float discovered in this area.

The strong magnetic high of 4500 gammas is 600 meters south of the low. It is lineal in shape, strikes easterly, and has a length of about 1500 meters. It is probably reflecting a magnetic flow of the Tertiary basalts though it could be reflecting a basic dyke within the Cache Creek rocks.

The major cause of VLF-EM anomalies, as a rule, are geologic structure such as fault, shear and breccia zones. It is therefore logical to interpret VLF-EM anomalies to likely be caused by these structural zones. Of course, sulphides may also be a causative source. But in the writer's experience, when VLF-EM anomalies correlate with sulphide mineralization, the anomalies are usually reflecting the structure associated with the mineralization rather than the mineralization itself.

There is some variation in intensity from one VLF-EM anomaly to the next. This is not only due to the conductivity of a causative source, but also the direction it strikes relative to the direction to the transmitter. In other words, those conductors lying close to the same direction as the direction to the transmitter can be picked up easier than those that are lying at a greater angle. Depending upon its conductivity, a conductor may not be picked up at all if it is at too great an angle.

Lineal trends considered to be indicative of geological structure have been drawn on Sheet 3 taking into account:

- a) Magnetic lows which are often caused by the magnetite within the rocks being altered by geological structure processes.
- b) VLF-EM anomalies which more often than not are reflecting structure.
- c) Topographic depressions such as creek valleys which are usually caused by structure.

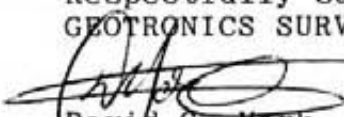
Several lineations that are indicative of faults have been mapped across the property striking in virtually all direc-

tions. The lineations cross each other on the property in different areas. Structure is often important for the emplacement of mineralizing fluids especially where lineations intersect. Thus these areas may have greater exploration interest. The Allies workings are located within an area of cross lineations. Another zone occurs about 1900 m to the east.

There are also some moderately strong EM conductors occurring on the Stryder property that could well be related to mineralization. These conductors are marked as such on Sheet 3.

The VLF-EM survey has revealed numerous EM conductors throughout the claims area. Most of these are broad and of low amplitude. Several of these type of conductors can be related to broad swampy areas such as are found along Cannell Creek.

Respectfully submitted,
GEOTRONICS SURVEYS LTD.



David G. Mark,
Geophysicist

October 20, 1983

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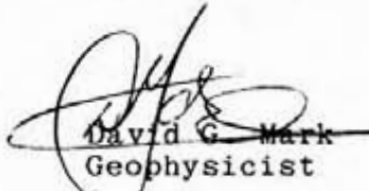
GEOPHYSICIST'S CERTIFICATE

I, DAVID G. MARK, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geophysicist of Geotronics Surveys Ltd., with offices located at #403-750 West Pender Street, Vancouver, British Columbia.

I further certify:

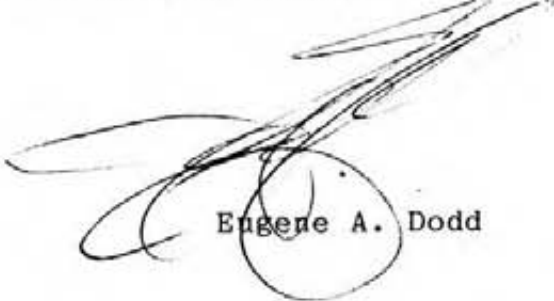
1. That I am a graduate of the University of British Columbia (1968) and hold a B.Sc. degree in Geophysics.
2. I have been practising my profession for the past 15 years and have been active in the mining industry for the past 18 years.
3. That I am an active member of the Society of Exploration Geophysicists and a member of the European Association for Exploration Geophysicists.
4. This report is compiled from data obtained from airborne magnetic and VLF-EM surveys carried out by Columbia Airborne Geophysical Services Ltd., under the supervision of E.A. Dodd on July 17, 1983.
5. I have no direct or indirect interest in any of the properties mentioned within this report, nor in Stryder Explorations, nor do I expect to receive any interest as a result of writing this report.


David G. Mark
Geophysicist

October 20, 1983

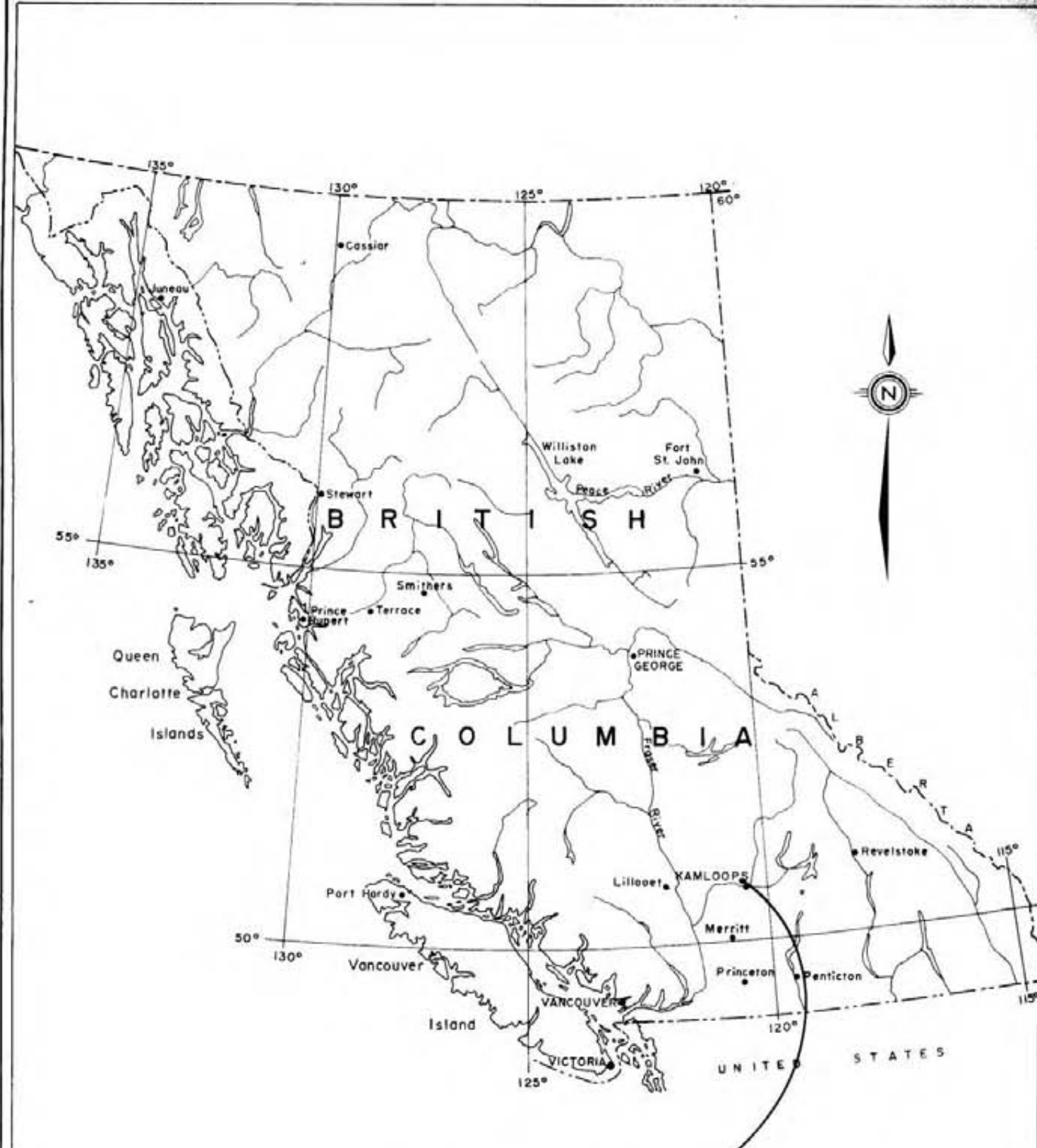
AFFIDAVIT OF COSTS

I, Eugene A. Dodd, president of Columbia Airborne Geophysical Services Ltd., certify that the airborne magnetic and VLF-EM surveys were flown on July 17, 1983, and that they were flown at a cost of \$100/km, the total number of km being about 120, to give a total cost of \$12,000.00.



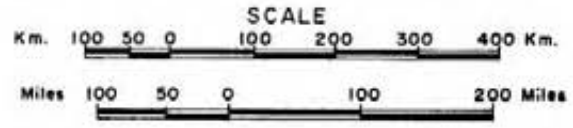
Eugene A. Dodd

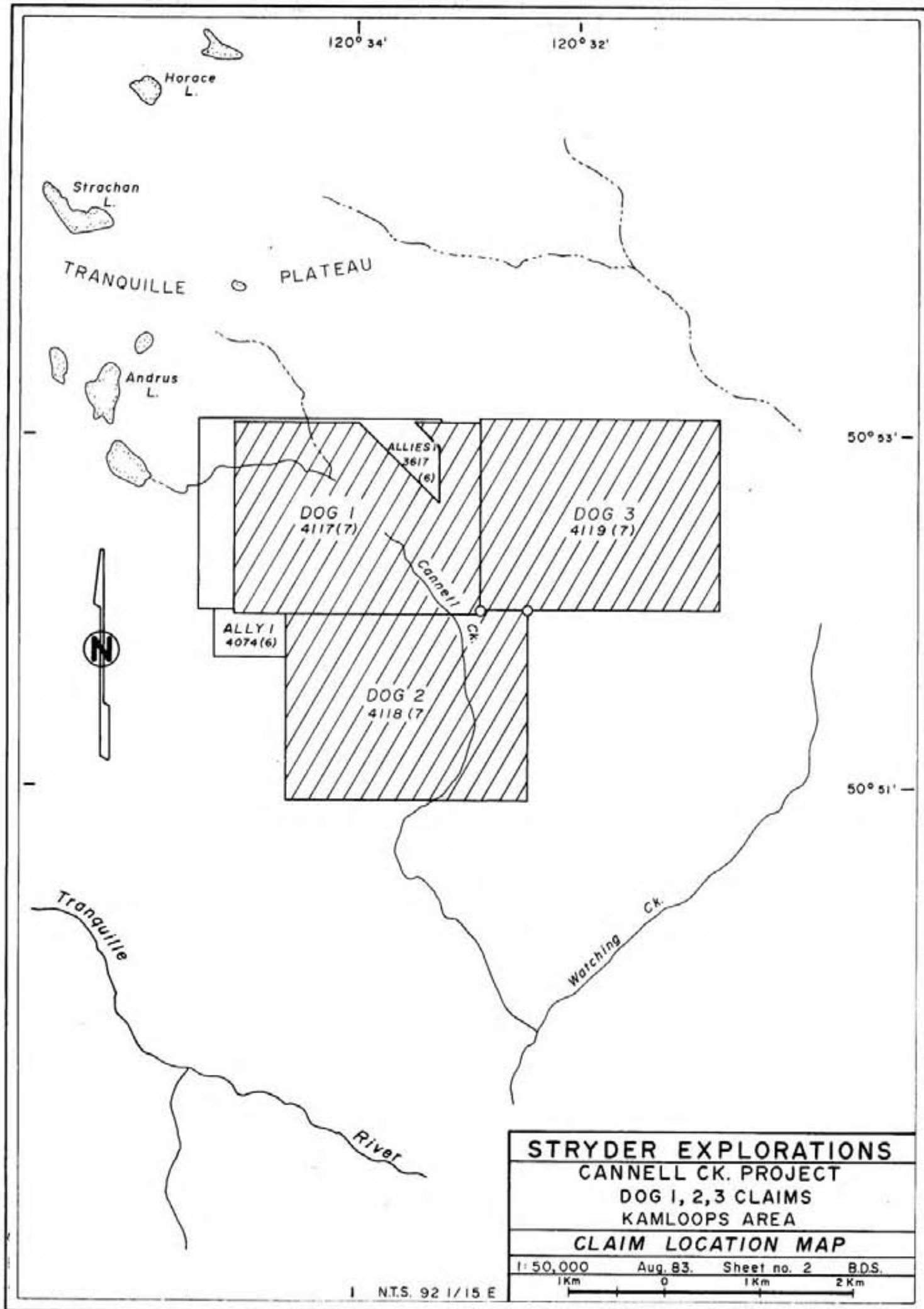
October 20, 1983



STRYDER EXPLORATIONS

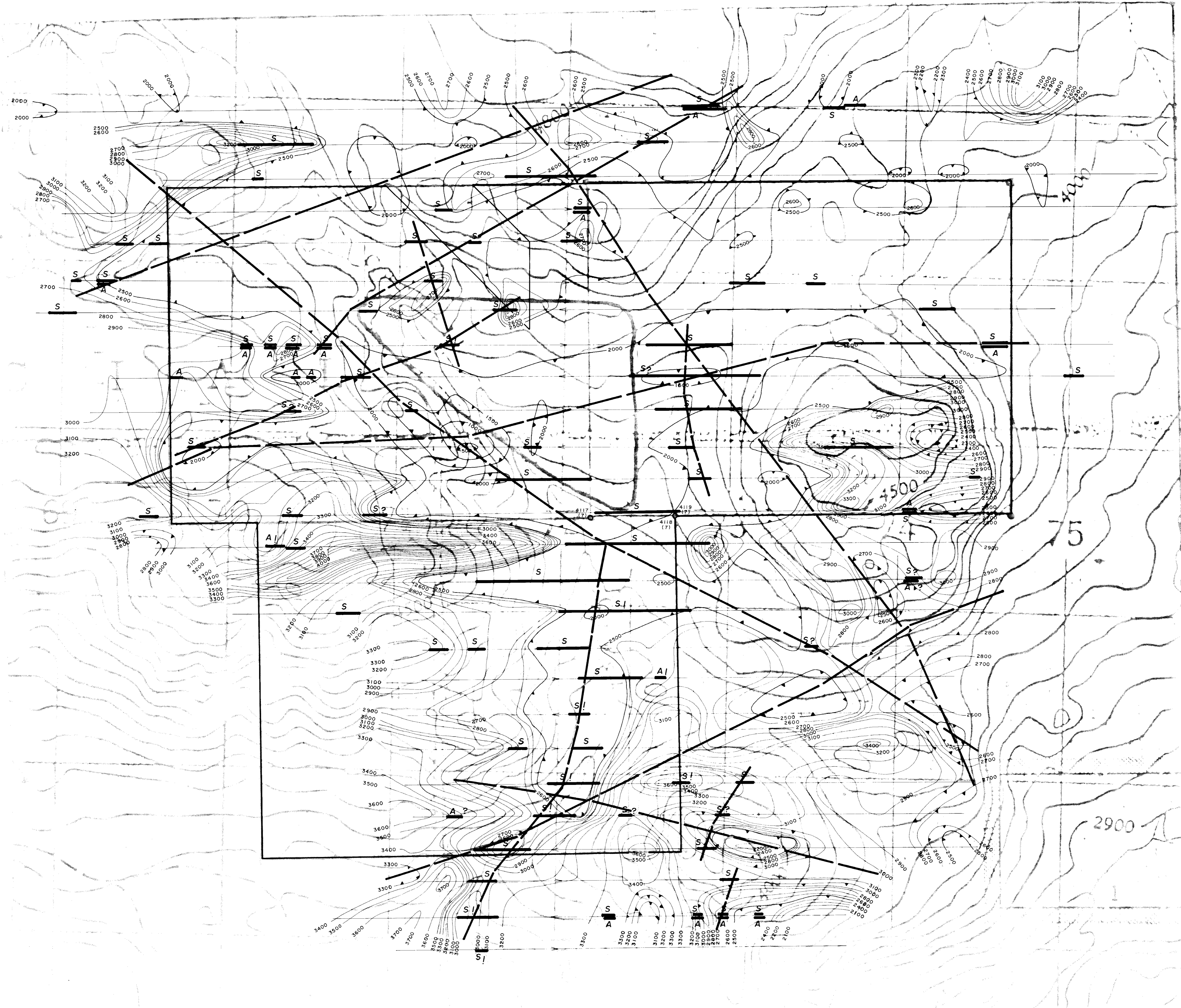
PROPERTY LOCATION MAP





STRYDER EXPLORATIONS
CANNELL CK. PROJECT
DOG 1, 2, 3 CLAIMS
KAMLOOPS AREA
CLAIM LOCATION MAP
1:50,000 Aug. 83. Sheet no. 2 B.D.S.
1 Km 0 1 Km 2 Km

50° 53'

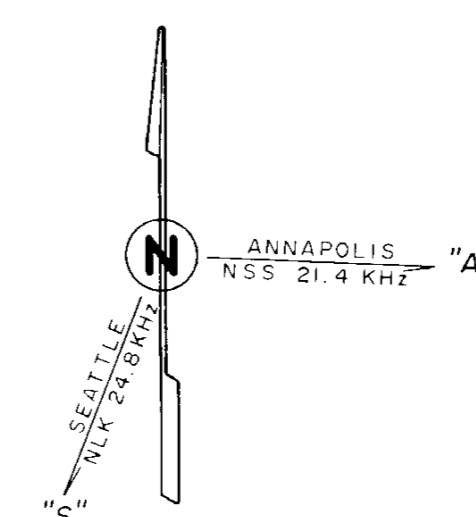


LEGEND

- Lineation produced from magnetic and E.M. results suggesting geological structure.
- VLF-EM anomaly.
- ! Strong anomaly.
- ? Questionable anomaly.
- Magnetic depression.
- Claim boundary.
- Flight line - direction flown.

Contour interval 0 - 2000, 500 gamma interval
 2500 gamma interval
 2600 - 4000, 100 gamma interval

Mean terrain clearance 30 m



500m 250m 0 500m
 N.T.S. 92 1/15 E

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,409

STRYDER EXPLORATIONS

CANNELL CK. PROJECT

DOG GROUP

KAMLOOPS AREA

AIRBORNE SURVEY

MAGNETIC CONTOURS & VLF-EM ANOMALIES

| | | | |
|-------------------|------------------|----------------|--------------------|
| SCALE 1:10,000 | DATE Aug. 83. | SHEET NO. 3 | DRAWN BY B.D.S. |
|-------------------|------------------|----------------|--------------------|