85-276-13633
2/86

# GEOPHYSICAL REPORT

ON

AIRBORNE MAGNETIC AND VLF-EM SURVEYS

OVER THE

NURSE 1 AND 2 CLAIMS

WALSH CREEK, CRANBROOK AREA

FORT STEELE MINING DIVISION

BRITISH COLUMBIA

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| | |
|---|---|
| PROPERTY | : 22 km S85°W of Cranbrook, B.C. on Walsh and Perry Creeks. |
| | : 49° 30' North Latitude 116° 05' West Longitude |
| | : N.T.S. 82F/8E, 9E |
| WRITTEN FOR | : TRANS-ARCTIC EXPLORATIONS LTD. 815-850 West Hastings Street Vancouver, B.C., V6C 1E2 |
| SURVEYED BY | : COLUMBIA AIRBORNE GEOPHYSICAL SERVICES (1984) LTD. #1808-1450 West Georgia Street Vancouver, B.C. V6G 2T8 |
| WRITTEN BY | : David G. Mark, Geophysi GEOTRONICS SURVEYS LTD. #403-750 West Pender St. Vancouver, B.C., V6C 2T |
| DATED | : May 6, 1985 |

GEOTRONICS SURVEYS LTD.
Engineering & Mining Geophysicists
VANCOUVER, CANADA

13633

## TABLE OF CONTENTS

## LIST OF ILLUSTRATIONS

At Back of Report



In Back Pocket

## SUMMARY

Airborne magnetic and VLF-EM surveys were carried out over the Nurse 1 and 2 claims owned by Trans-Arctic Explorations Ltd. of Vancouver, B.C., on February 2nd, 1985. The claims are located 22 km S85°W of the town of Cranbrook, B.C. on Welsh and Perry creeks. The terrain consists of steep and rugged slopes forested with moderately dense coniferous trees. Access is best gained by a four-wheel drive vehicle. 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 prime target is porphyritic sills and/or dykes containing gold mineralization commonly known as "miner's porphyry".

The property is underlain by rocks of the Creston Formation and possibly of the Kitchener-Siyeh Formation. The Creston Formation is composed mostly of argillites and quartzites. The Kitchener-Siyeh Formation is composed of impure magnesium limestone, argillites, and calcareous quartzites. Occurring within the sediments are relatively narrow northeasterly-trending bands of Moyie Intrusives (meta-diorite and meta-quartz diorite). The northeasterly-trending Perry Creek fault strikes through the property. On the nearby Leader A Claim occurs an auriferous quartz vein returning assays up to 0.598 oz gold/ton and 10.56 oz silver/ton across 0.58 m.

The airborne surveys were flown at about a 50-meter terrain clearance on contour lines with a separation of 100 - 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. The magnetic survey has verified that the property is almost entirely underlain by sediments. Within the property area, these may be intruded by Moyie meta-intrusives as indicated by several low intensity magnetic highs. "Miner's porphyries" are probably related to the Moyie Intrusions.

2. The VLF-EM survey revealed three main conductors throughout the property. Because of their lineal shapes, in all likelihood, they are reflecting fault zones. This is backed up by evidence from the magntic survey.

3. 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 can be important indicators of sulphide and native gold mineralization especially where the lineations cross.

## RECOMMENDATIONS

The airborne geophysics has revealed several target areas throughout the property such as the magnetic highs and the VLF-EM highs. It is recommended to check these out by prospecting, geological mapping and possibly soil geochemistry. Soil geochemistry lines could be run in the areas of interest, such as across the VLF-EM conductors. Ground VLF-EM and magnetic surveying may be quite useful as well in finding and delineating more accurately the target areas.

It is not expected, however, that all gold-sulphide mineralization in the area will be reflected by the airborne magnetic and VLF-EM surveys. It is simply a start as far as defining target areas.

However, if one wants to cover the property effectively, the following program is recommended:

1. Take large soil samples every 50 m along contour lines preferably about 100 m apart in elevation. Silt, sand, and/or gravel along creeks and tributaries should also be sampled. In the lab, the total sample should be pulverized, and not screened at all in order to preclude the screening out of coarser gold. The anomalous samples should then be followed up by sampling on a tight grid, say 15 to 20 m centers on a grid, say 200 m square.

2. At the same time, careful geological mapping and prospecting should be carried out preferably by a geologist and prospector familiar with gold mineralization. One large benefit of this will be a better interpretation of any geophysics that are carried out. Special attention should

be paid to the VLF-EM conductors and magnetic highs.

3. The defined soil anomalies in gold should then be 'cat' trenched, if access and terrain permit.

4. Resistivity - IP mapping and/or MaxMin EM should then be considered in order to optimize drill targets.

5. Diamond drilling should then be carried out using a large diameter drill and a face discharge bit.

# GEOPHYSICAL REPORT

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# BRITISH COLUMBIA

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## 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 Nurse 1 and 2 Claims within the Cranbrook area on February 2nd, 1985. The surveys were carried out by Lloyd Brewer, instrument operator and project manager, and John Kime, navigator, both of whom are of Columbia Airborne Geophysical Services (1984) Ltd. A total of 34.2 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 the type of gold mineralization as has been found in the Perry Creek and Angus Creek areas. Of particular interest are porphyritic sills and/or dykes referred to in previous writings as "miners porphyries", and containing gold mineralization.

## PROPERTY AND OWNERSHIP

The property consists of two claims containing 40 units as shown on Map 2 and as described below:

| Claim Name | No. Units | Record No. | Expiry Date |
|---|---|---|---|
| Nurse 1 | 20 | 2068 | Feb. 6, 1986 |
| Nurse 2 | 20 | 2069 | Feb. 6, 1986 |

The expiry dates shown take into account the surveys under discussion as being accepted for assessment credits.

The property is owned by Trans-Arctic Explorations Ltd. of Vancouver, British Columbia.

## LOCATION AND ACCESS

The northeast corner of the property (Nurse 2 claim) is found 22 km S85°W of the town of Cranbrook. The property is located on Walsh, Glasgow and Perry creeks.

The geographical coordinates for approximately the center of the property are 49° 30' north latitude and 116° 05' west longitude.

Access is easily gained by travelling north from Cranbrook on Highway #95A for 15 km to Wycliffe. One then turns south and travels southwesterly along the Perry Creek access road to the northeast boundary of the property about 11 km past Old Town, a distance of about 20 km. The total distance from Cranbrook is approximately 35 km. Four-wheel drive is recommended.

## PHYSIOGRAPHY

The property lies to the west of the Rocky Mountain trench within the Purcell Mountains which are physiographic divisions of the Columbia Mountain System. The terrain consists of steep, partially logged slopes throughout most of the property. It lies on the northwest side of the northeasterly-trending valley of Perry Creek.

Elevations vary from about 1,310 meters a.s.l. on Perry Creek on the eastern boundary of the Nurse 2 claim, to 2,160 meters a.s.l.on the ridge on the west side of the Nurse 1 claim to give an elevation difference of 850 meters.

The main water sources are Perry Creek as well as the southeasterly-flowing Walsh and Glasgow creeks.

The forest cover consists of fir, spruce and hemlock(?) and varies from closely growing, immature stands to more widely spaced, mature stands.

## HISTORY OF PREVIOUS WORK

Since the two claims have been staked, no previous work has been done.

The history of the area goes back to the 1880's when prospectors working the Perry Creek placers discovered the vein now covered by the nearby Leader A Claim. Little ore has been shipped from this vein, even though assays have run as high as 4.8 oz/ton Au and 6.8 oz/ton Ag. There are also high values in lead, zinc and copper.

## GEOLOGY OF AREA

The following is quoted from L. Sookochoff's 1983 Geological Evaluation Report on the nearby Leader 2 Claim:

"The general geological setting of the area is of the Proterozoic Lower Purcell Group which is divided into three Formations. In the Hellroaring Creek - Angus Creek - Perry Creek area the Creston and Kitchener Formation predominate and are lenticularly northeasterly trending, commonly in a fault contact and bounded to the north and south by the Aldridge Formation.

"The basal Aldridge Formation - the oldest formation known to occur in the area - is composed mainly of grey to brownish grey, rusty weathering argillite and argillaceous quartzite.

"The Creston Formation is transitional from the Aldridge Formation and embraces that succession of greyish argillaceous quartzites which is included between the dark rusty weathering, argillaceous quartzites of the lower Aldridge Formation and the thin bedded, calcerous rocks of the upper Kitchener Formation. In general, the Creston Formation consists of argillaceous quartzites, purer quartzites and argillites whose beds average about one foot in thickness. Narrow beds, pods, and lenses of calcerous rocks occur in the upper part of the formation. These are more numerous toward the top of the Creston and where they are abundant, the strata are considered to belong to the overlying Kitchener Formation.

"The Creston Formation is host to gold quartz veins on Perry Creek, a northeasterly flowing tributary of the St. Mary River with the confluence 13 km northwest of Cranbrook. The deposits occur in the argillaceous quartzites which are well bedded in

beds '2 inches to 2 feet' in thickness, the latter separates by thin beds of meta-argillites.

"The deposits occur as true fissure veins averaging about '8 feet' with some as wide as '20 feet'. They can be traced for long distances along strike. The gold values occur as native in the outcrops and with pyrite at depth.

"The Kitchener Formation [joined with the Siyeh Formation to be called the Kitchener-Siyeh Formation on some maps] consists predominantly of impure, magnesium limestone, argillite and calcerous quartzite. Limestone and calcerous rocks compose the bulk of the formation and serve to distinguish it from the underlying formations. The upper part is generally argillaceous.Due to the formation containing easily deformed rocks, great stretches of it have been altered to chlorite and talc-carbonateschist.

"A small stock of porphyritic granite within one km west of the property intrudes sediments of the Creston Formation. The granite contains large idiomorphic crystals of orthoclase in an isometric groundmass of plagioclase, quartz and hornblende.

## STRUCTURE

"The general structure of the area is of a broad, northerly striking anticline exposing the core of the Proterozoic rocks with younger rocks to the west and east. The regional St. Mary's fault trends east northeast to the north of the property area and creates a fault contact with the Aldridge and younger formations.

"Faults extending from the south generally terminate or trend into the St. Mary's fault and commonly indicate contacts between

the Creston and Kitchener formations.

"One of the fault contacts referred to as the Sawmill Creek Fault determines a Creston-Kirchener Formation contact which trends through the Leader A Claim. The St. Mary's fault is within two km north.

## MINERALIZATION

"On the adjacent Leader A Claim a mineralized quartz vein follows a strong fissure with varying strike from nearly north-south to north 35-50° with a dip of from 68° to 80° east. The vein varying from 'a few inches to three feet wide' can be traced along a length of '2,000 feet'. The vein is composed of white banded quartz containing galena, pyrite and locally chalcopyrite with tungsten reported in the adit at the southernmost extension of the vein.

"Assays from the Leader A vein reportedly returned up to .598 oz Au/ton and 10.56 oz Ag/ton across '1.9 feet' with a reported assay of 4.80 oz Au/ton. A reported 1720 tons of possible ore were calculated on the vein."

## PROPERTY GEOLOGY

Rice's G.S.C. map shows the Nurse claims are entirely underlain by both the Creston and the Kitchener-Siyeh formations.

The contact trends northeasterly through the property with the Creston Formation occurring to the southeast and the Kitchener-Siyeh Formation occurring to the northwest. However, Leech's map which covers only the northern half of the Nurse 2 claim, indic-

ates the entire property is underlain by the Creston Formation.

Of Purcell or (?) Later age, and intruding into the sediments are meta-diorites and meta-quartz diorites of the Moyie Intrusions. The 'miners porphyry' referred to be many of the old time gold miners could well be Moyie intrusives containing gold mineralization.

The Perry Creek fault is shown by Leech to strike northeasterly through the property along Perry Creek, whereas Rice shows the fault (if it is the same fault) paralleling Perry Creek about 1 km to the northwest.

## MINERAL DEPOSITS IN CLOSE PROXIMITY

The following is a description of two deposits (besides the Leader deposits described above) occurring along the Old Baldy Fault a few km to the east and northeast and is taken from Rice's Memoir 228, dated 1941.

### Rome and Valley Group

"The Rome and Valley group consists of twenty-three claims held by location, controlled by J.M. Baird and associates of Cranbrook, B.C. It is located near the head of Rome Creek, a tributary of Perry Creek, about a mile from the Perry Creek road near Sawmill Creek.

"The deposits consist of two or more large and persistent quartz veins apparently occupying fissures in a fault zone. In a few places the contain small amounts of pyrite and galena. Crystals

of pyromorphite (lead phosphate) were seen in one open-cut. Assays from samples taken by the owners are reported to range from $1.10 to $19.95 a ton in gold (gold at $35 an ounce).

"The main workings consist of thirteen open-cuts, ten of which expose a vein striking north 15 degrees east and dipping 35 de grees to 50 degrees southeast. The vein has been traced for 1,550 feet and probably continues for at least another 1,000 feet to the north. It varies in width from 2 to 25 feet and averages about 9 feet. The remaining open-cuts are located on a parallel vein of the same type and apparently comparable in size with the first described.

Running Wolf Group

"The Running Wolf group is located on French Creek, a tributary of Perry Creek, and is reached by a trail about a mile long from the Perry Creek road.

"The deposit consists of a number of quartz veins occupying fissures in greatly altered Creston argillaceous quartzite. The workings consist of five adits, three of which are now caved. The main adit exposes three veins, each about 30 feet wide. Two of these veins occupy fissures striking in the same direction as the fault zone on the Rome and Valley group and approximately in line with it. The third vein is in a cross fracture. A few hundred feet down the hill another adit has been driven along a vein that parallels the main veins above. The veins are composed of massive quartz with occasional specks of pyrite and are reported to carry gold. They have been fractured by post-mineral movements along the original faults.

"The Rome and Valley and the Running Wolf groups are apparently

on the same zone of fracturing and faulting, and this zone probably continues south across the ridge between Perry Creek and Moyie River at Old Baldy Mountain. Exposed on the Ridge at this point is a strong fracture zone that is occupied by a large quartz vein."

## 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 21.4 KHz. These signals are used due to their ideal orientation with respect to easterly and northeasterly geological structures, and their good signal strengths.

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 northeasterly to southeasterly strikes should respond to Annapolis transmissions, while conductors with northerly to easterly strikes should respond to Seattle transmissions. Some conductors will respond to both stations, giving coincident field strength peaks.

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.

## 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 50 m.

The surveys were contour-line flown at an average line spacing of 100 to 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, such as within this survey.

The number of line km flown as shown on Map 3 is 34.2.

The project supervisor, Mr. L. Brewer, has over 4 years of experience in conducting aerial magnetic and electromagnetic surveys from 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 at a scale of 1:10,000 (1 cm = 100 m). The data were then contoured at a 10-gamma interval onto Map 3.

The VLF-EM survey measured the field strength. The resulting anomalies were taken from the strip charts and plotted on the sheet with the magnetics. Anomalies from the Seattle transmitter or the Annapolis transmitter is designated as 'S' or 'A', respectively. Also, a distinction is made on the map between weaker and stronger anomalies. However, within this survey area, all anomalies are considered very weak.

## DISCUSSION OF RESULTS

### a) Magnetics

The magnetic field over most of the property is very quiet which is typical of sediments. The general intensity is 600 to 680 gammas which can be considered as the magnetic background. The sediments, as mentioned above, are those of the Creston Formation and possibly of the Kitchener-Siyeh Formation.

The most prominent feature are two small magnetic highs of relatively weak intensity occurring within the center of the Nurse 2 claim.

These could easily be reflecting metamorphosed intrusives of the Moyie Intrusions. The intensity is only 60 and 70 gammas above background which is what would be expected for an intrusive that has been metamorphosed.

The two highs as well as a third one to the west could in actuality be one high. There is a terrain clearance problem that is causing a herring-bone effect which may therefore be dividing one high into three smaller separate highs.

Two small magnetic highs about 20 gammas above background occur within the Nurse 1 claim. These could also be reflecting Moyie intrusives. They are very lineal-shaped and occur along the flight lines. These run northeasterly which also is the strike direction of the bedding planes and rock contacts. However, it is quite possible that a 10-gammas contour interval is too fine a contour interval for such rough terrain. In other words the lows and highs which parallel the flight lines may simply be due to terrain clearance error, as mentioned above.

A magnetic low occurring along the northwest edge of the survey area is also parallel to the flight lines. However, also in this part of the claim occurs the northeasterly-trending fault mapped by Rice. And thus the low could easily be reflecting the fault.

Magnetic lows often occur along creek valleys, and/or areas of low topography. The reasons for this are as follows:

1. Valleys almost always contain deeper overburden which means the detecting element is further from the bedrock causing the magnetic field.

2. If the survey is flown across the valley or gully, then the

detecting element is also further from the bedrock.

3. Gullys and valleys are often caused by faults or shear zones which are often reflected by magnetic lows.

b) VLF-EM

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 any angle.

The Walsh Creek area is characterized by extremely rough topography which adversely affects the VLF-EM results. The noise level is greatly increased which can thus obliterate signals from EM conductors such as geological structure and/or mineral zones. Therefore, the VLF-EM system may have responded to mineral zones but the signal may have been masked by the noise level.

However, 3 EM conductors have been mapped within the property boundaries which stand out above the noise level. These have been labelled by the lower case letters a to c, respectively. All anomalies strike easterly to southeasterly. It is expected that conductors do occur northeasterly. However, since this is along the flight line direction, these conductors will not be picked up.

Conductor a is about 1,000 m long. It strikes easterly occurring along the magnetic high. It therefore could be reflecting the contact between sediments and Moyie Intrusions that the magnetic high may be reflecting.

Conductor b is about 1,700 m long and open to the southeast.

Conductor c is 2,000 m long and open to the west. The part of the anomaly that strikes southeasterly correlates with two magnetic lows. This supports the probability that the VLF-EM anomaly is reflecting structure, probably a fault.

There is also one single-line anomaly which could easily be reflecting a bedrock conductor associated with mineralization. The strike of the causative source is unknown.

c) Lineations

Lineal trends considered to be indicative of geological structure have been drawn on Map 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.

Three lineations that are indicative of faults and contacts have been mapped across the property striking in different directions One lineation which occurs along the magnetic low on the north-western edge of the property could be reflecting a northeasterly-trending fault as mapped by Rice (as discussed above).

Respectfully submitted,
GEOTRONICS SURVEYS LTD.

David G. Mark,
Geophysicist

May 6, 1985

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1915 - p. 113,
1930 - p. 243,
1932 - p. 162,

## 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 16 years and have been active in the mining industry for the past 19 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 (1984) Ltd., under the supervision of L. Brewer on February 2nd, 1985.

5. I have no direct or indirect interest in any of the claims mentioned within this report, nor in Trans-Arctic Explorations Ltd., nor do I expect to receive any interest as a result of writing this report.

David G. Mark
Geophysicist

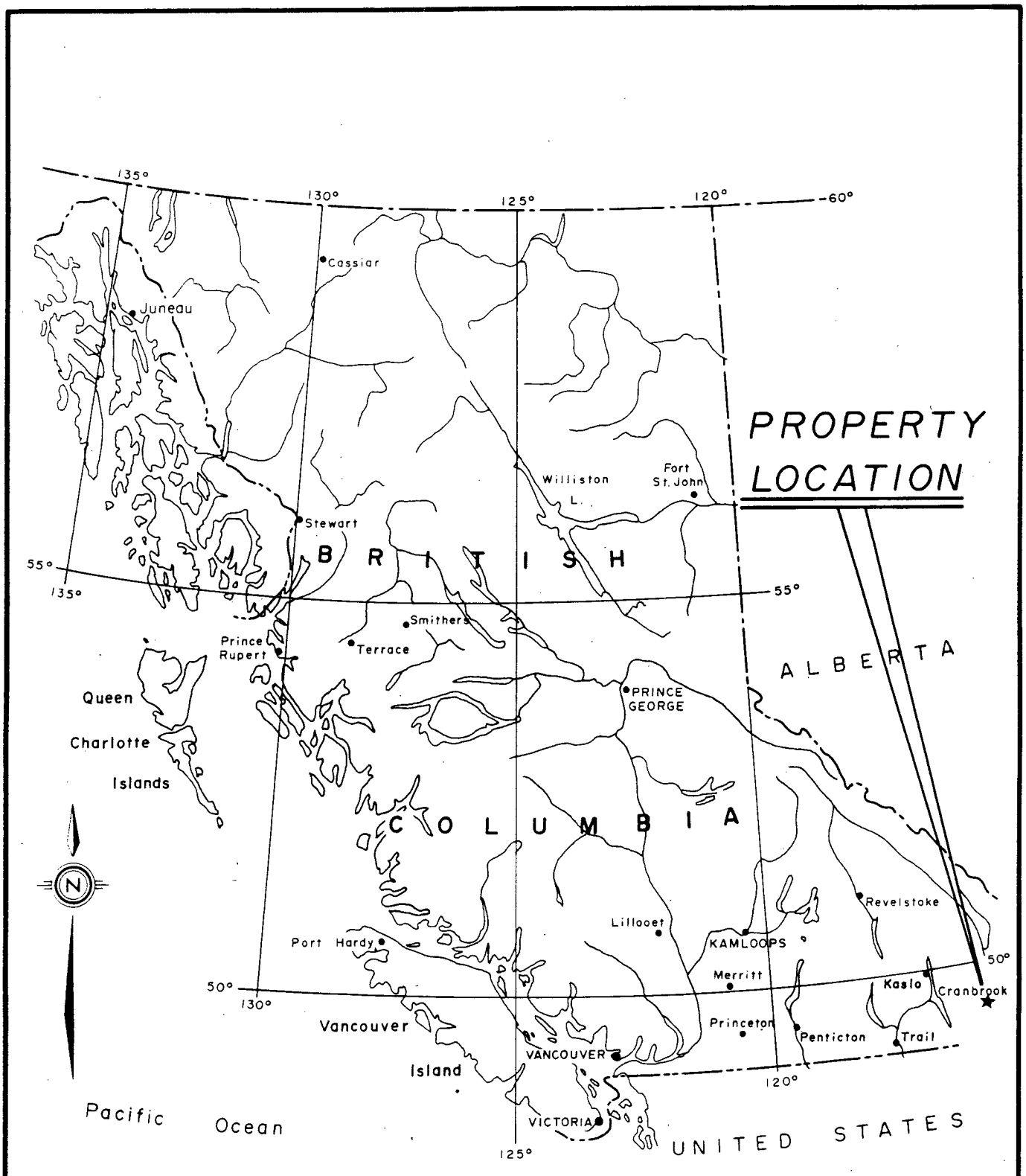
May 6, 1985

## AFFIDAVIT OF COSTS

I, Lloyd Brewer, president of Columbia Airborne Geophysical Services (1984) Ltd., certify that the airborne magnetic and VLF-EM surveys were flown in February of 1985, and that they were flown at an all inclusive cost of $5,100.00. This includes interpretive report.

Lloyd Brewer

May 6, 1985



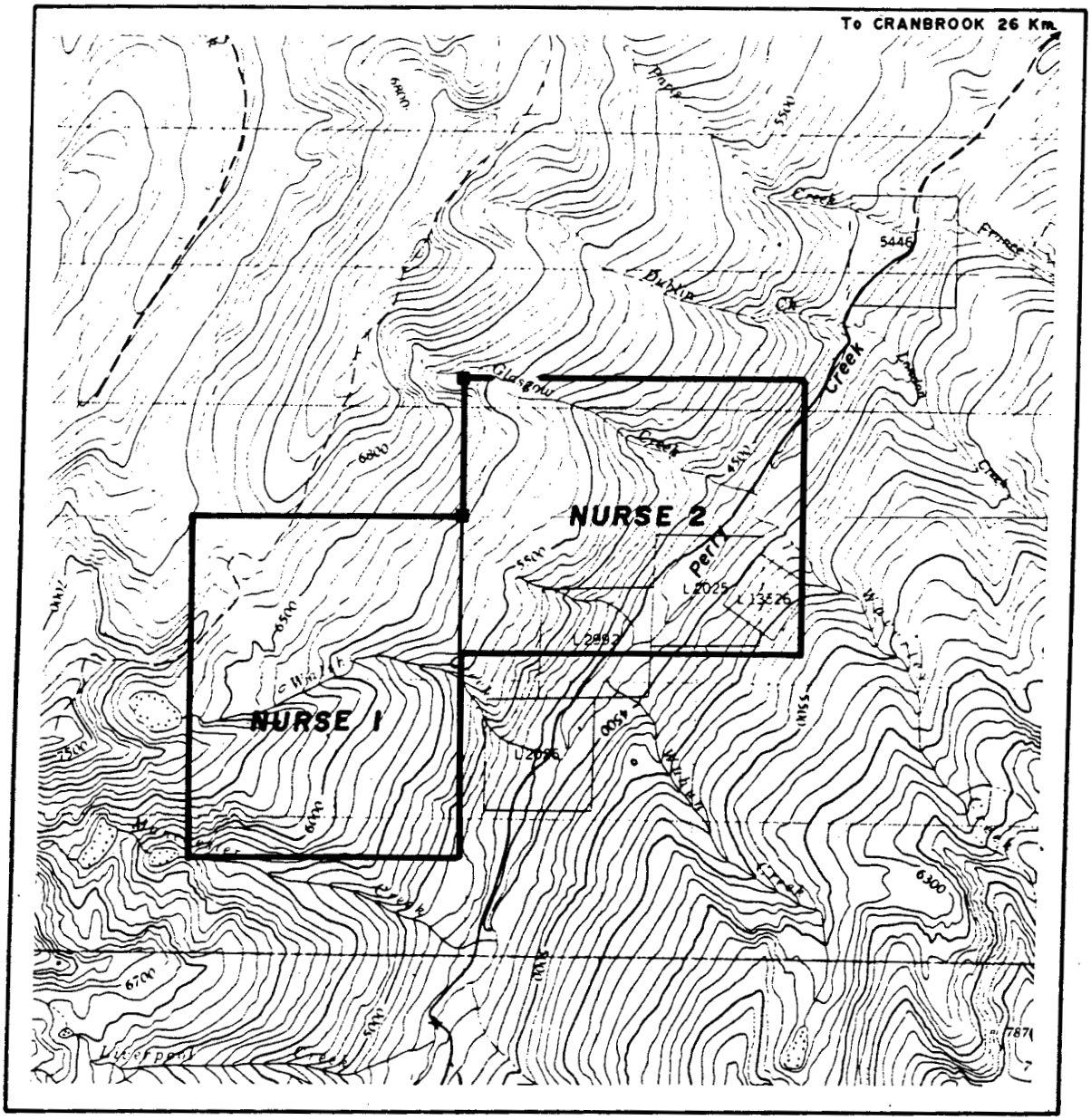

NURSE 1 & NURSE 2 CLAIMS

00 0 100 200 300 400 Km.

100 0 100 200 Mi.

MAP 1 BRAD'S DRAFTING SERVICES

116°05'




49° 30'



TRANS-ARCTIC EXPLORATIONS LTD.

# NURSE 1 & NURSE 2 CLAIMS

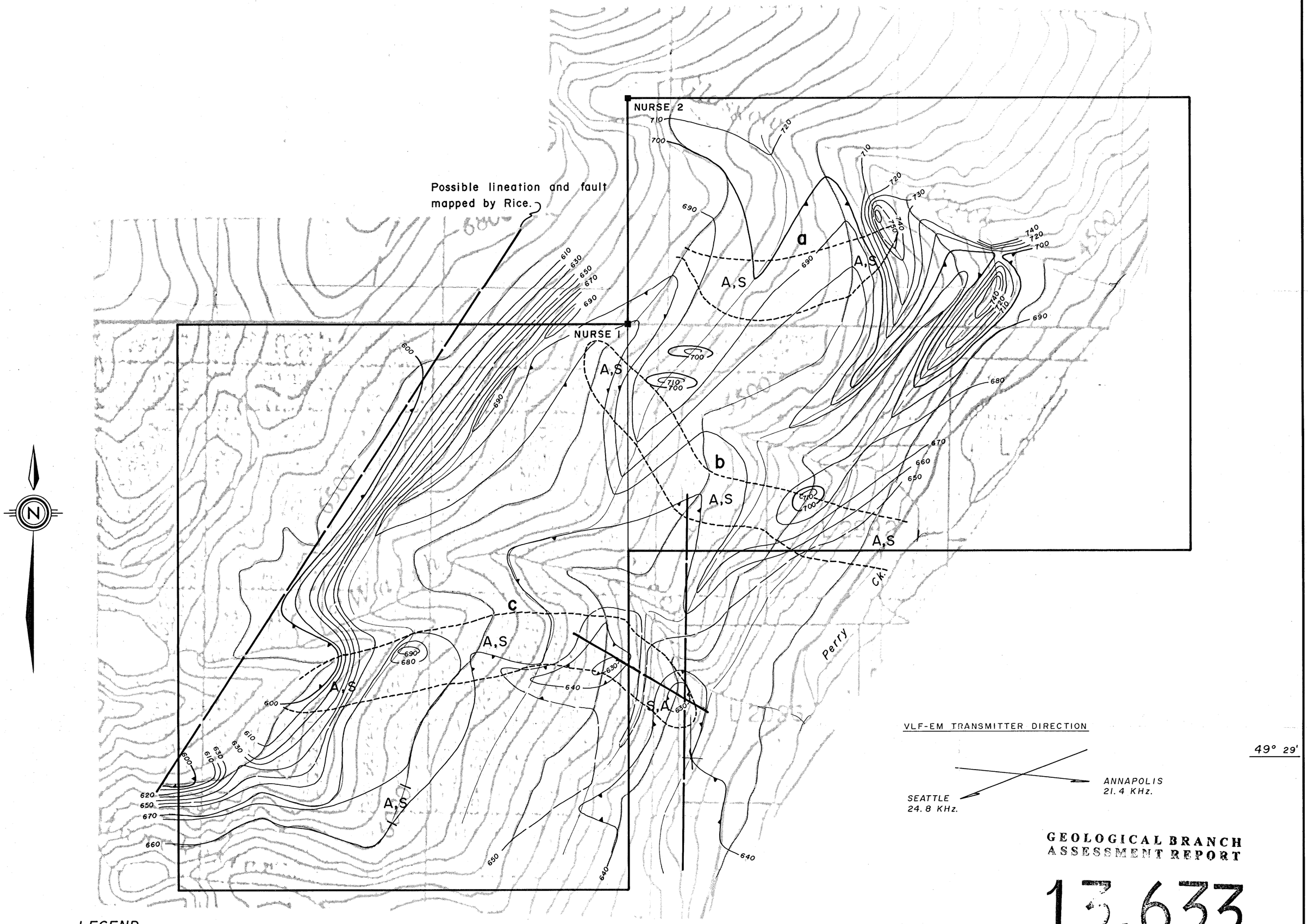
PERRY CREEK, CRANBROOK AREA

FORT STEELE M. D., B. C.

## CLAIM LOCATION MAP

| SCALE: | DATE: | MAP: | N.T.S. |
|---|---|---|---|
| 1:50,000 | June 85 | 2 | 82 F/8,9 E |

116° 06'




49° 29'

VLF-EM TRANSMITTER DIRECTION

SEATTLE 24.8 KHz.

ANNAPOLIS 21.4 KHz.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,633

To Accompany Report By: DAVID G. MARK, Geophysicist.

## LEGEND

- Legal corner post
- Property boundary
- Claim boundary
- Flight line
- Lineation produced from magnetic and EM result suggesting geological structure.

VLF-EM

- VERY WEAK ANOMALY
- Single line anomaly with no apparent strike
- S — Denotes Seattle anomaly
- A — Denotes Annapolis anomaly

NOTE: The VLF-EM Survey measures field strength.

VERY WEAK anomalies could be caused by terrain.

MAGNETIC CONTOURS

- 100 gamma
- 50 gamma
- 10 gamma
- Depression

500 0 1 Km

METRES

Survey Carried Out By: COLUMBIA AIRBORNE GEOPHYSICAL SERVICES (1984) LTD.

TRANS-ARCTIC EXPLORATIONS LTD.

NURSE 1 & NURSE 2 CLAIMS

PERRY CREEK, CRANBROOK AREA

FORT STEELE M.D., B.C.

*AIRBORNE SURVEY*

*MAGNETIC CONTOURS & VLF-EM ANOMALIES*

| SCALE: | DATE: | N.T.S. | MAP: | DRAFTED BY: |
|---|---|---|---|---|
| 1:10,000 | May 85. | 82 F/8 E,9 E | 3 | B.D.S. |