

ARIS SUMMARY SHEET

District Geologist, Kamloops

Off Confidential: 90.04.05

ASSESSMENT REPORT 18612

MINING DIVISION: Kamloops

PROPERTY: Cedar
LOCATION: LAT 51 29 30 LONG 120 17 00
UTM 10 5707783 688596
NTS 092P08W

CAMP: 036 Cariboo - Quesnel Belt

CLAIM(S): Cedar 7-18
OPERATOR(S): Pacific Comox Res.
AUTHOR(S): Sayer, C.J.
REPORT YEAR: 1989, 25 Pages
COMMODITIES
SEARCHED FOR: Gold, Silver, Copper
KEYWORDS: Triassic, Permian, Nicola Group, Eagle Bay Formation, Andesite
Argillite, Pyrite, Chalcopyrite, Skarns

WORK
DONE: Geophysical, Physical
EMGR 22.0 km; VLF
Map(s) - 4; Scale(s) - 1:2500
LINE 22.0 km
MAGG 22.0 km
Map(s) - 2; Scale(s) - 1:2500

RELATED
REPORTS: 14477, 16362, 17709

FILMED

LOG NO: 0407	RD.
ACTION:	
FILE NO:	

GEOPHYSICAL REPORT
ON THE
CEDAR 7 - 18 MINERAL CLAIMS
RECORD NUMBERS 7433 - 7444
KAMLOOPS MINING DIVISION
LITTLE FORT, B.C.
NTS 92P/8

Latitude $51^{\circ}29'30''$ Longitude $120^{\circ}17'$

by

C.J. Sayer P. Geol.

For

E.A. Debock, Clearwater B.C.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,612

REPORT DATED: FEBRUARY 25, 1989

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INTRODUCTION

The Cedar Claims 7 - 18 were located in January 1988 by E.A. DeBock. These claims were staked to cover a prominent showing in a roadcut on the new highway 24 nine km. northwest of Little Fort, B.C. The same area was previously staked by E.A. DeBock in 1984 and optioned to Craven Resources Inc. Craven Resources conducted a first phase exploration program in which a narrow grid was established and soil geochemistry, VLF-EM, and geological surveys conducted.

In spring of 1988, Comox Resources Ltd; now Pacific Comox Resources Ltd. optioned the Cedar claims from E.A. DeBock. A preliminary prospecting survey was conducted in August 1988, the results of which are presented in an earlier report.

In January 1989 Pacific Comox Resources conducted VLF-EM and Magnetometer surveys over the bulk of the Cedar claims. The results of these geophysical surveys are presented in the following report.

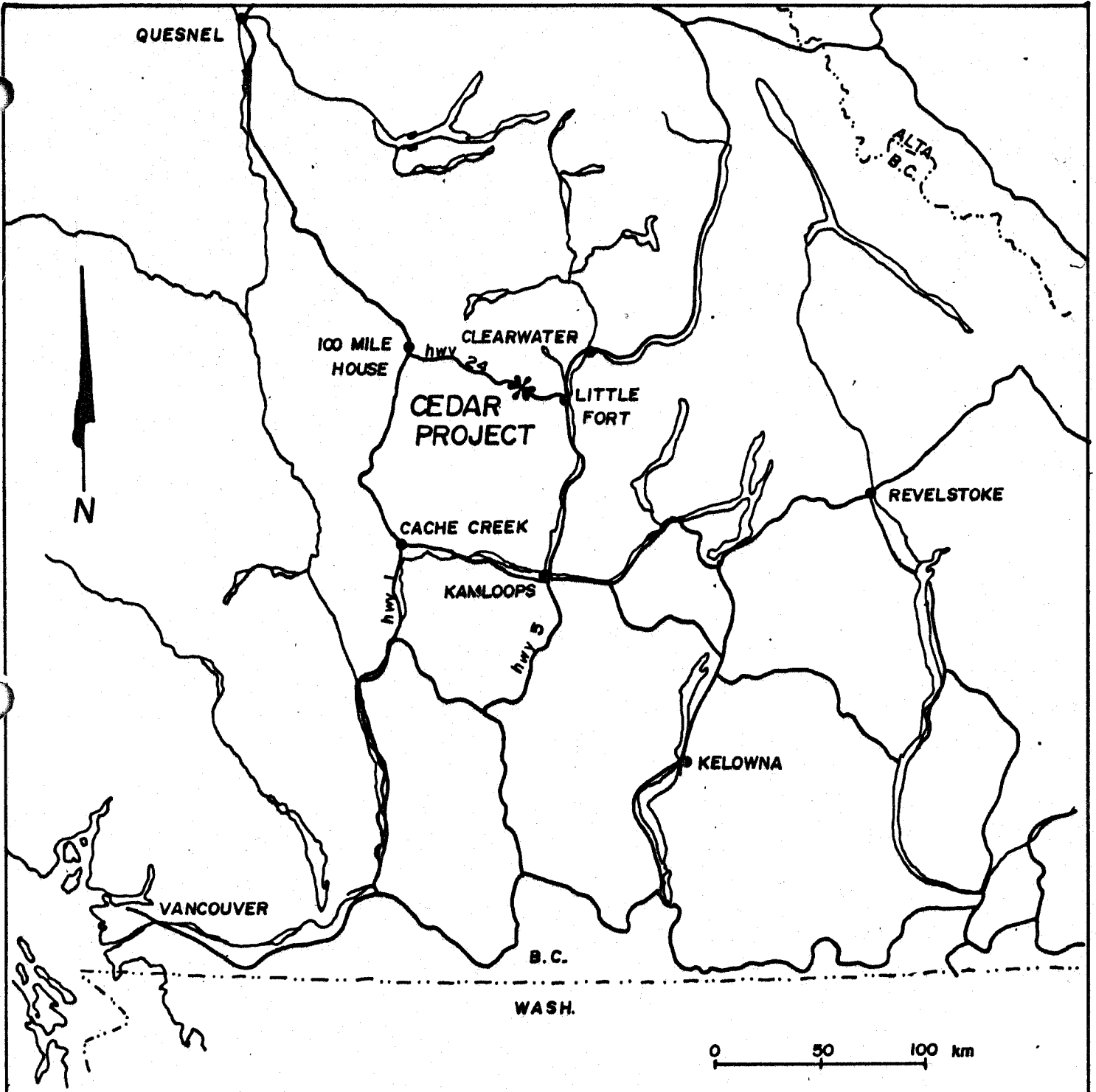
LOCATION AND ACCESS

The Cedar property is located approximately 9 km. northwest of the town of Little Fort B.C. on the new highway 24. (Figure 1) The claims extend from just north of Nehalliston Creek to approximately 1 km. south of the highway.

The northern part of the claims are easily accessed by Highway 24. The southern part of the claim area can be readily reached on foot from the highway. A tractor trail extends from the old highway location along Eakin Creek into the west portion of the claim group.

Elevations on the property range from about 3000 feet (915 metres) along Nehalliston Creek in the northeast portion of the property to 4000 feet (1219 metres) in the south west portion of the property. Steep slopes occur along the creek. The eastern third of the property slopes generally to the east and the western portion is of a relatively gentle rolling nature. Overburden is widespread but generally thin. A swampy area occurs south of the highway at about 6 + 00W.

The original Craven Resources survey grid was relocated and extended. Original lines were rechainned where they could be located and the grid extension was done by tape and compass. Errors in closure at the base line are plotted on the survey maps as closely as reasonably possible.



J.C. STEPHEN EXPLORATION LTD.

PACIFIC COMOX RESOURCES LTD.

CEDAR PROPERTY

LOCATION MAP

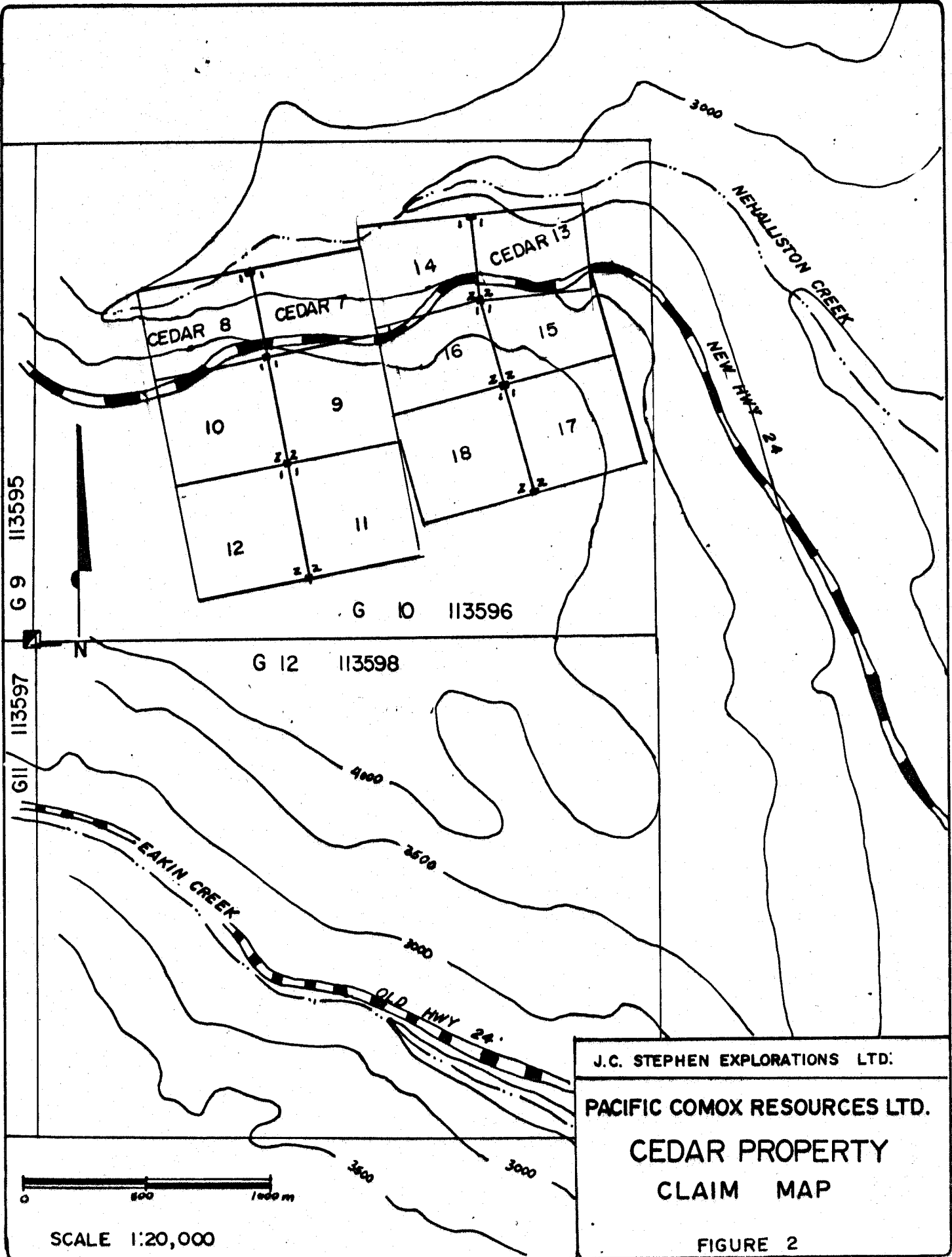
FIGURE 1

CLAIM STATUS

A total of 12 two-post claims, Cedar 7 - 18 are staked on north-northwest lines (Figure 2). The following table details pertinent information on each claim

<u>Claim</u>	<u>Record Number</u>	<u>Expiry Date</u>	<u>Owner</u>
Cedar # 7	7433	Jan 12/90	E.A. DeBock
Cedar # 8	7434	Jan 12/90	E.A. DeBock
Cedar # 9	7435	Jan 12/90	E.A. DeBock
Cedar #10	7436	Jan 12/90	E.A. DeBock
Cedar #11	7437	Jan 12/90	E.A. DeBock
Cedar #12	7438	Jan 12/90	E.A. DeBock
Cedar #13	7439	Jan 12/90	E.A. DeBock
Cedar #14	7440	Jan 12/90	E.A. DeBock
Cedar #15	7441	Jan 12/90	E.A. DeBock
Cedar #16	7442	Jan 12/90	E.A. DeBock
Cedar #17	7443	Jan 12/90	E.A. DeBock
Cedar #18	7444	Jan 12/90	E.A. DeBock

The Cedar 7-18 two post claims are overstaked by the G-10 grid staked claim. As a result the property is surrounded on all sides and any wedges as between Cedar 11 and Cedar 18 from part of the G-10 claim.



J.C. STEPHEN EXPLORATIONS LTD.

PACIFIC COMOX RESOURCES LTD.

CEDAR PROPERTY CLAIM MAP

FIGURE 2

SCALE 1:20,000

HISTORY

The earliest recorded work done in the area of the Cedar claims was placer exploration in the 1920's. Placer gold deposits were discovered in Lemieux Creek and its tributary Eakin creek which is just south of the Cedar claims. Efforts to find the lode source of the gold led to the discovery of the Lakeview property 9 miles due west of Mt. Olie. The Lakeview showings are characterised by massive sulphide replacements in fracture zones cutting a belt of limestone. A massive specimen of arsenopyrite was reported to contain 12.3 oz gold/ton (B.C.D.M. 1930).

In the late 1960's and early 1970's the area around the Cedar claims was examined for its porphyry copper potential with limited success.

In 1984 the area of the present Cedar 7-18 claims as well as ground to the South was staked by E.A. DeBock and also called the Cedar claims. This ground was optioned by Craven Resources Ltd. and a first phase exploration program was conducted on it. The road showing was geologically mapped and sampled in great detail. A long (4.4 km) narrow (600 m wide) grid was established parallel to the mineralization. Soil geochemical and VLF-EM surveys were conducted on the grid.

A few widely spread gold geochemical anomalies were reported as well as quite strong VLF-EM conductors. The conductors run parallel with the known mineralization. Results of Craven Resources' work is filed with the B.C.D.M. as assessment work.

In the winter of 1987-1988 E.A. DeBock restaked the northern part of the old Cedar claims with new claims of the same name. Comox Resources optioned the ground from E.A. DeBock and conducted a preliminary prospecting survey in August, 1988. This work is also filed with the B.C.D.M. as assessment work.

GEOLOGY

Regional Geology

The Cedar claims are located on the Thompson plateau which is characterised by gentle to moderate rolling topography with steeply incised drainage.

The area of the claims was mapped in 1964-65 at 1:250,000 scale by R.B. Campbell and N.W. Tipper of the Geological Survey of Canada. This work is presented in Memoir 363; map sheet 92-P (Figure 3).

According to Campbell and Tipper the Cedar claims straddle a large fault which separates Triassic Nicola group andesites, tuffs, argillites and limestone from Permian Cache Creek sediments and volcanics.

To the southwest of the claim area lies the late Triassic-Early Jurassic Thuya Batholith. Lithology of the batholith and associated smaller bodies is dominated by hornblende-biotite granodiorite and quartz diorite.

A major fault along the Thompson River Valley separates the Thompson Plateau from Paleozoic rocks to the east.

Structure in the area of the Cedar claims is dominated by quite dense block faulting. These faults run generally in a N-S, NNW, or NW direction with occasional NE or E-W faults.

The regional aeromagnetic survey at 1" = 1 mile indicates a large magnetic high to the west of the claims (Figure 4). This high magnetic reading is most likely caused by an intrusive body. A northwest trending magnetic low occurs in the central area of the claims. This would roughly correlate with the location of the fault between Nicola and Cache Creek rocks. Immediately east of the magnetic low in the southern part of the claim a narrow northwest trending high exists. This high would indicate a change in lithology such as a small intrusion or possibly skarn.

MESOZOIC

JURASSIC

LOWER AND (?) MIDDLE JURASSIC

16

Porphyritic augite andesite breccia, conglomerate and flows; minor andesite, arenite, flows; 16a, isolated areas of augite and hornblende andesite (may be all or partly intrusive)

LOWER JURASSIC

15

Andesitic arenite, siltstone, grit and breccia; local granite bearing conglomerate; minor argillite and flows; includes minor amounts of 12, 11, and (?) 2

TRIASSIC OR JURASSIC

UPPER TRIASSIC OR LOWER JURASSIC

14

Hornblende-biotite quartz diorite and granodiorite, minor hornblende diorite, monzonite, gabbro, hornblendite

13

13a, fine- to medium-grained, pink to brown and grey syenite and monzonite; 13b, medium-grained, creamy-buff, locally coarsely porphyritic (K-feldspar) syenite and monzonite (13b may be equivalent in age to 14 or 17)

TRIASSIC

UPPER TRIASSIC

NICOLA GROUP (11 and 12)

12

Augite andesite flows and breccia, tuff, argillite, greywacke, grey limestone; includes minor 2, 10, and 11

11

Black shale, argillite, phyllite, siltstone, black limestone

TRIASSIC AND/OR EARLIER

UPPER TRIASSIC AND/OR EARLIER

10

FENNEL FORMATION: pillow lavas, greenstone, foliated greenstone, greenschist, argillite, chert, minor amphibolite, limestone, breccia

9

9a, quartzite, quartz-phyllite, quartz-granule conglomerate, argillite, phyllite, calcareous phyllite, marble, greenschist, greenstone; 9b, dark grey and black argillite, siltstone, phyllite, minor limestone

8

Serpentinite and serpentized peridotite

PERMIAN

UPPER PERMIAN

CACHE CREEK GROUP (IN PART)

7

MARBLE CANYON FORMATION: massive limestone, limestone breccia and chert; minor argillite, tuff, andesitic and basaltic flows

UPPER (?) PERMIAN

CACHE CREEK GROUP (IN PART)

6

Argillite, basaltic flows, tuff, chert, limestone

LOWER PERMIAN

CACHE CREEK GROUP (IN PART)

5

Basic volcanic flows, tuff, ribbon chert, limestone, argillite (may be equivalent in part to 6)

PALAEOZOIC

PERMIAN (?)

PAVILION GROUP (3, 4)

4

Tuff, chert, argillite, limestone, greywacke, andesitic and basaltic flows (may be equivalent in whole or in part to 5 or 6)

3

Chert, argillite, siltstone; minor tuff and limestone (may be equivalent in whole or in part to 2)

PENNSYLVANIAN AND PERMIAN

LOWER PENNSYLVANIAN TO LOWER PERMIAN

CACHE CREEK GROUP (IN PART)

2

Volcanic arenite, greenstone, argillite, phyllite; minor quartz-mica schist, limestone, basaltic and andesitic flows, amphibolite and conglomerate; includes small bodies of 16a

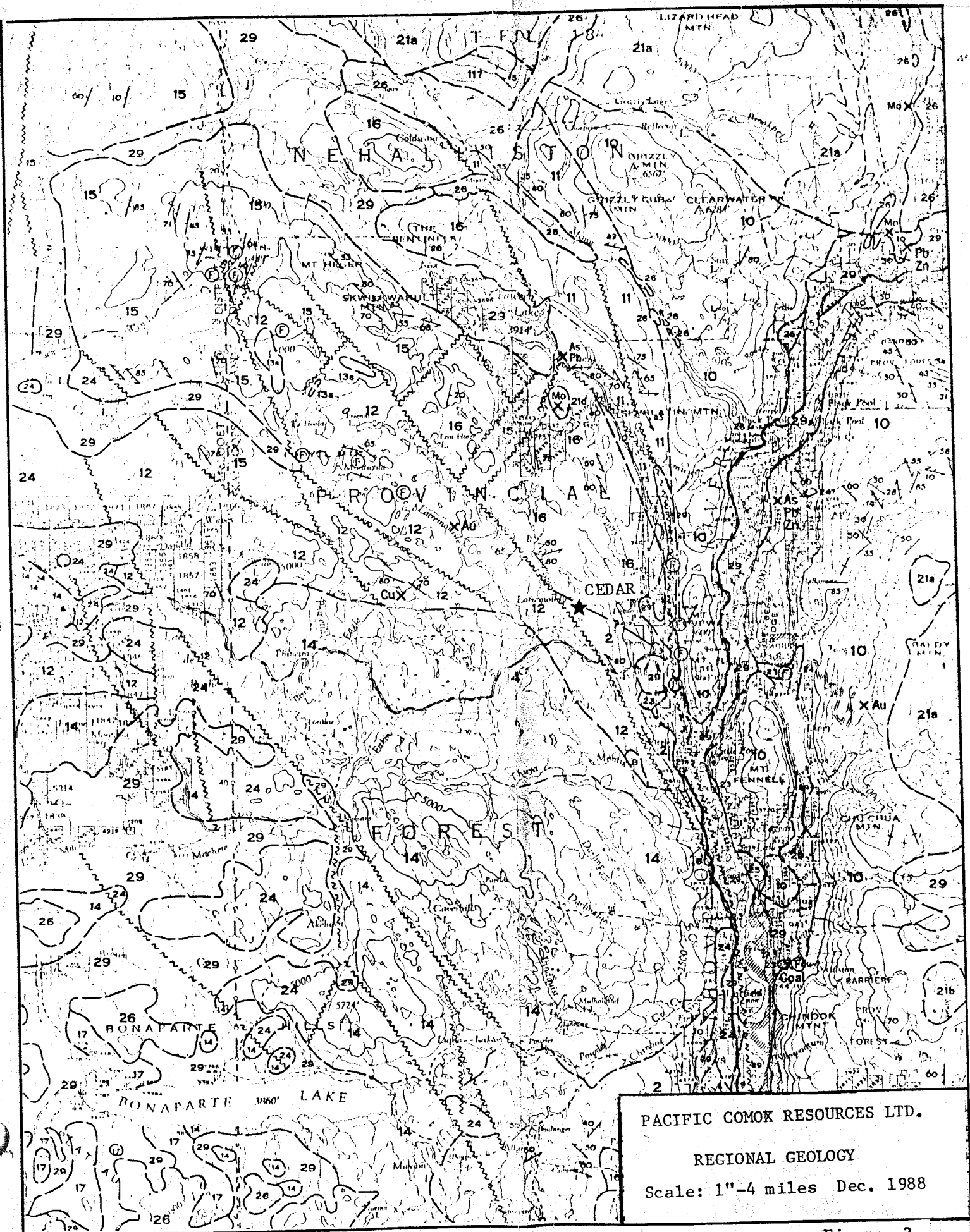


Figure 3.

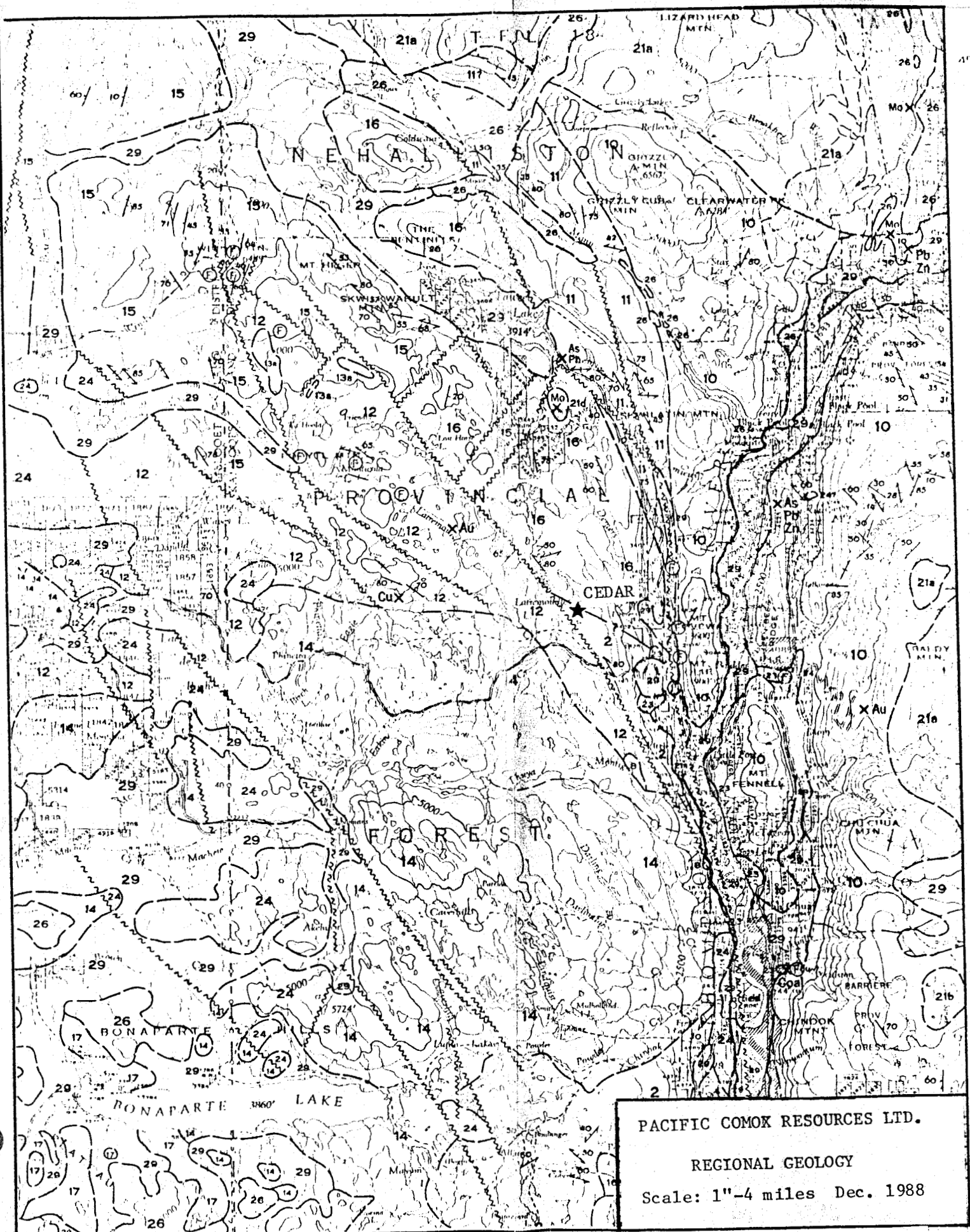


Figure 3.



PACIFIC COMOX RESOURCES LTD.
REGIONAL AEROMAGNETICS
Scale: 1"-1 mile Dec. 1988

Figure 4.

Property Geology

Detailed geologic mapping has not been conducted on the Cedar claims with the exception of the road exposure on the new Highway 24. The main showing occurs approximately 150 m east of the baseline on the highway (Map 1).

At the main showing itself mineralization occurs in the footwall of a strong northwest trending fault (Figure 5). Footwall rocks include silicified volcanics and silty limestone.

In the immediate footwall silicified volcanic is layered with chert. West of the chert is massive Nicola andesite with a few small dioritic intrusions. The fault contact between Nicola and Cache Creek groups was originally interpreted by Yorston and Ikona (1985) to be at the chert contact. It is now felt that an exact contact should not be drawn until the remainder of the property is mapped.

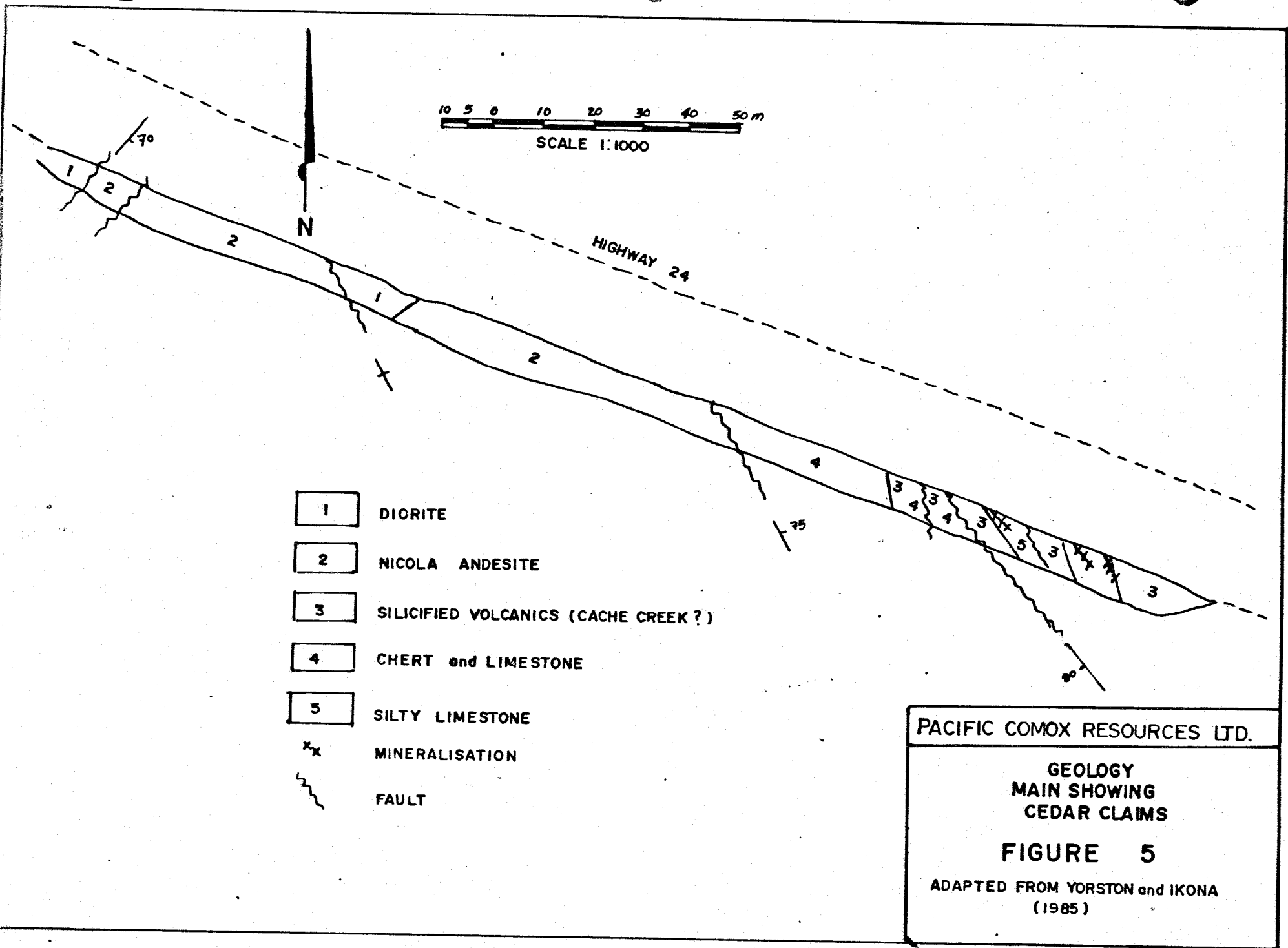
West of the showing the rock is dominated by volcanics of the Trassic Nicola group. These are generally massive and fine grained with pervasive chloritic alteration. Numerous carbonate veins cut the volcanic in generally a north-northwest direction.

In Nehalliston Creek just northwest of the baseline similar Nicola volcanic is exposed.

East of the main showing interlayered volcanic rocks and argillite are exposed. The argillite is quite distorted in sections, possibly due to faulting. At the western side of the outcrop the rock is highly sheared and is separated from the main showing by a gully. This eastern rock is considered to be part of the Cache Creek group and was formerly specified to be Eagle Bay Formation.

A small section of skarn with pyrite mineralization occurs approximately 300 m west of the baseline on the highway. The skarn is composed primarily of epidote, chlorite and amphibole. Mineralogy is difficult to determine because of the fine grained nature of the rock and weathering from sulphides.

Rock Sampling of the skarn material did not reveal significant precious metal values but 30-40 meters west of the skarn low grade gold was detected in quartz-carbonate veins (Sayer, 1988).



Mineralization and Alteration

At the main showing mineralization is manifested in two sulphide zones in the footwall of a fault (Figure 5). The zones are each approximately 1 m wide and occur in highly silicified volcanic. The sulphides may comprise up to 35% of the rock with pyrite and pyrrhotite being dominant. Traces of chalcopyrite occur and galena and chalcopyrite may occur in quartz veinlets within the fault zone.

As previously stated a skarn zone to the west of the showing may contain 10-35% pyrite, and quartz-carbonate veins to the west of the skarn contain low grade gold values.

Many small carbonate and /or quartz veins occur throughout the property. These may contain traces of pyrite or chalcopyrite.

Small sericitized shear zones also occur.

GEOPHYSICAL SURVEYS

Purpose

Examination of rock outcrops west of the claim group along Highway 24 indicated narrow quartz-carbonate filled fractures in diorite intrusive rocks. These fracture zones carry low gold values. As described under Property Geology, above, a strong zone of alteration and shearing occurs on the CEDAR claims. Sulphide mineralization and traces of gold occur in association with this zone. West of this zone low gold values have been obtained in quartz carbonate filled fractures in altered volcanics. Since no adequate geological mapping has been done on the CEDAR claims a comprehensive geophysical program was undertaken which will serve as an aid to detailed mapping in summer 1989 and to possible subsequent diamond drilling.

Instrumentation and Procedure

A Scintrex IGS-2 MP-4 combination unit was used to provide total field magnetometer readings and VLF-EM Seattle and Cutler readings using a single instrument operator. Data is recorded in the instrument memory and transferred each day to a compatible computer disc for correction, processing and storage. A brief description of the instrumentation taken from the Scintrex Catalogue follows:-

VLF-3 VLF Electromagnetic Receiver

The VLF-3 is designed to measure the Very Low Frequency (VLF) fields which are generated by submarine communications transmitters located around the world. The magnetic and electric fields of these signals in the 15 to 30 kHz range can be interpreted to provide information about the electrical properties of the earth useful in mineral and groundwater exploration and in geotechnical studies.

The microprocessor-based VLF-3 is simpler to operate, faster and more precise than conventional VLF receivers.

Several parameters of both VLF-magnetic and VLF-electric fields can be measured and automatically recorded in solid-state memory.

For accuracy and ease in data processing, the actual position coordinates and time are automatically recorded.

Up to three different stations may be measured with automatic tuning. This digital tuning feature ensures that no crystals or circuit boards have to be changed to select any VLF frequency.

The 32 character digital display communicates with the operator in English plus one of many languages ensuring simple, error-free operation.

After surveying, data can be edited if required and output as listings or profiles directly on a printer, without the use of a microcomputer. Alternatively, data can be dumped to commonly available cassette recorders, modems or microcomputers.

The optional base station capability permits recording of the varying primary field amplitudes and subsequent automatic correction of portable or airborne VLF data.

Scintrex IGS applications software packages are available to permit archiving, editing, calculation of tilt angle and ellipticity and Fraser filter VLF data on an IBM PC, IBM XT or compatible microcomputer.

A capability similar to the VLF-3 is available by selecting an IGS-2 System Control Console and VLF-4 Option from the Scintrex IGS family. While the VLF-3 is dedicated to VLF measurements, the IGS-2/VLF-4 combination can also be used with magnetometer and EM sensors. See "Ground Instruments -- Integrated Portable Geophysical System".

VLF-4 VLF Electromagnetic Sensor Option

The VLF-4 VLF Electromagnetic Sensor Option is designed for use with the IGS-2 System Control Console when it is desired to make portable or base station VLF EM measurements.

The VLF-4 Option consists of: 1) a dual coil sensor for VLF magnetic field measurements, 2) two electronic circuit boards and 3) a program EPROM. The latter two items may be installed inside the IGS-2 console by the user. An additional choice is to add a dipole with capacitive electrodes in order to measure VLF electric fields.

The VLF-4 is often used simultaneously with an MP-4, permitting one operator to efficiently measure both VLF and magnetic field parameters. An IGS-2/VLF-4 combination performs identically to the VLF-3 (see "Ground Instruments - Electromagnetic") except that the VLF-3 can not be used with additional sensors.

In addition to the common features described in the IGS-2 section, the following are principal features of the IGS-2/VLF-4:

- values are normalized by the horizontal vector amplitude, to overcome errors due to varying primary field strengths
- resistivity and phase angle are calculated
- digital tuning to any VLF station (15 to 30 kHz)
- automatic measurement of up to three VLF stations
- automatic tilt compensation
- signal/noise enhancement through signal stacking
- automatic gain adjustment
- primary field drift corrections may be made (see VLF EM Primary Field Drift Correction in the "Ground Instruments - Electromagnetics" section)
- IGS Applications Software package permits archiving, editing, calculating tilt angles and ellipticity and outputting profiles or contours using an IBM PC, IBM XT or compatible microcomputer.

MP-3 Proton Magnetometer

The flexibility of the MP-3 permits the same console to be used as a portable, mobile or base station magnetometer. It measures the total field with a resolution of 0.1 nT (gamma). Vertical gradient measurements over either 0.5m or 1.0 m separation may be made through the use of a second, add-on sensor.

The MP-3 is very simple to operate, typically requiring only three keystrokes to take a measurement, store information in the fail-safe, solid-state memory and automatically advance the station coordinates.

With full semiconductor memory expansion, nearly 54 hours of two second interval readings can be stored internally during base station use. This allows computer compatible recording without an external tape recorder. During portable use the data is stored in the same way, no notebook is needed.

The 32 character LCD display uses full words. This aids the operator because there is no ambiguity about the meaning of the display and no confusing codes to memorize. The two line display lets the operator compare the present measurement, which is always in the upper line, with the previous value or any other measurement saved in memory, shown in the lower line.

For accuracy and ease in data processing, the line and station number are recorded either by automated incrementation or by operator entry. Along with each measurement the time is automatically recorded.

Diurnal corrections, data listings and profile plots are made in minutes by connecting the MP-3 to an identical base station unit and a printer. Alternatively, data can be transferred to a wide range of commonly available analog recorders, tape recorders, modems or microcomputers. Scintrex IGS Applications Software packages are available to permit archiving, editing and other functions to be carried out on an IBM PC, IBM XT or compatible microcomputer.

A capability similar to the MP-3 is available by selecting an IGS-2 System Control Console and MP-4 Option from the Scintrex IGS family. While the MP-3 is dedicated to magnetic measurements, the IGS-2/MP-4 combination can also be used with VLF or Genie/Horizontal Loop EM sensors. See "Ground Instruments - Integrated Portable Geophysical System".

MP-4 Proton Magnetometer Sensor Option

To make magnetic field measurements, an IGS-2 System Control Console may be complemented by the MP-4 Proton Magnetometer Sensor Option. This IGS-2/MP-4 combination is a magnetometer and/or vertical gradiometer with a performance identical to the Scintrex MP-3 Proton Magnetometer. The difference between the IGS-2/MP-4 and the MP-3 is that the IGS-2 can be used with other sensors while the MP-3 is dedicated to magnetometry. See the MP-3 description in the "Ground Instruments - Magnetics" section of this catalog as well as the foregoing description of the IGS-2.

The MP-4 Proton Magnetometer Sensor Option consists of: 1) a choice of portable total field, portable vertical gradiometer, marine, airborne and base station sensors, 2) an electronic circuit board and 3) a program EPROM. These items can be installed in an IGS-2 by Scintrex or the end user.

In addition to the common features described under the IGS-2 section, the following are additional features of an IGS-2/MP-4 magnetometer:

- 0.1 gamma resolution over 20 k to 100 k gamma range ability to add additional sensors for VLF, EM and IP
- high gradient tolerance
- automatic tuning
- automatic diurnal correction without a microcomputer
- IGS Applications Software permits archiving, processing and outputting data on an IBM PC, IBM XT or compatible microcomputer.

Magnetometer Survey

A magnetometer base station was established at Little Fort, nine kilometres from the property, to record variations of the total magnetic field. These recorded variations were computer integrated with the field readings to reduce the magnetic field to a standard base. For ease in plotting the total field readings have been reduced by 56,000 gammas and plotted on Map II which shows a range of values from 236 to 2486 gammas.

Magnetometer readings are recorded at 25 metre intervals on tape and compass lines at, nominally, 100 metre spacing. Check readings taken along the base line indicate that the values plotted may be assumed to be accurate within +/- 20 gammas. Results plotted on Map II are contoured at 200 gamma intervals and residual errors are considered to be insignificant.

South of Highway 24 relatively flat magnetic readings ranging from 838 to 1478 gammas and largely between 838 and 1000 gammas occur on claims CEDAR 15 and 17. Locally narrow magnetic highs of approximately 100 gamma amplitude trend northwest (about 325°). This area is assumed to be underlain by sediments with, possibly, narrow belts of volcanics.

Westerly the magnetic pattern changes to a series of narrow, northwest trending, magnetic highs and lows with readings ranging from 512 to 2486 gammas. The strongest magnetic low through the No. 2 claim posts of CEDAR 17, 18 coincides with a local steep and narrow valley with outcrops of dark green relatively massive volcanics on either side. It is presumed this valley or "draw" is the locus of a fault zone. The VLF-EM survey does not indicate a conductor along this zone.

West of this strongest low are two relatively strong narrow magnetic highs reaching peaks of 1573 and 2486 gammas. These may represent skarn zones developed in limey sediments but until geological mapping is completed no certain interpretation is possible. It is important that these zones are near areas of moderately anomalous copper and gold geochemistry reported by Craven Resources.

The western portion of CEDAR 16 and 18 and most of the area of CEDAR 9 and 11 exhibits magnetic readings ranging from 812 to 1461 gammas similar to the area underlying CEDAR 15 and 17. A local low from 579 to 812 gammas occurs within CEDAR 9 & 10. This general area is probably underlain by sediments with bands of volcanics. It should be noted that the general trend of the magnetic pattern is at about 350° in this area.

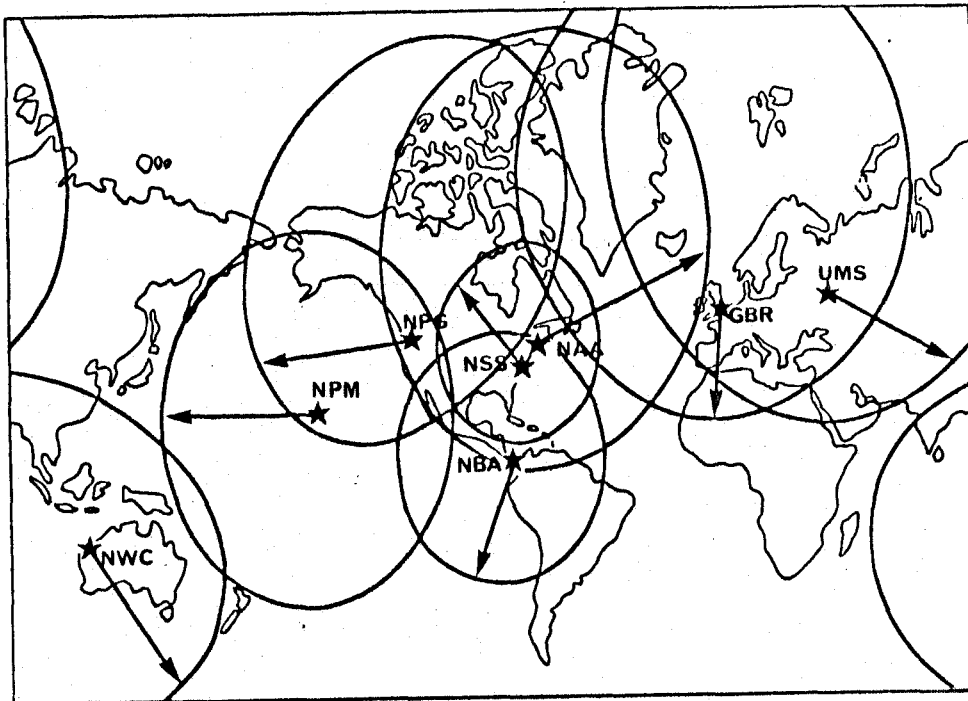
In the southwest corner of CEDAR 11 the trend changes to about 312° and leads northwesterly into a complex area of magnetic highs and lows ranging from 236 to 2217 gammas. Within this complex in the south portion of CEDAR 10 the general trend changes to about 340° . Judging from outcrops on the highway in this area the underlying rock is largely altered volcanics with quartz carbonate veins and pyritic mineralization. Anomalous gold values were obtained from samples of these outcrops. The local magnetic highs may be due to small diorite intrusives.

The magnetometer survey near Highway 24 on claims CEDAR 7, 8, 13 and 14 covers the more rugged portion of the property. Results are magnetically flat ranging from 704 to 1176 gammas with no strong trends

VLF-EM Surveys

Where possible readings were taken from Seattle, frequency 24.8 khz, and Cutler, frequency 24.0 khz. These stations are at a large angle to each other and it was expected that EM fields from rock structures and conductive zones at different attitudes would be selectively enhanced. The coverage of Seattle (NPG) and of Cutler (NAA) stations is indicated by Figure 6.

AREAS OF VLF SIGNALS



△ Coverage shown only for well known stations. Other reliable, fully operational stations exist.

The Scintrex instrument used provides a reading of the vertical in phase and vertical quadrature components of the EM field as well as a measurement of the horizontal field strength. The Cutler station is relatively weak producing horizontal field strengths ranging from 0.08 to 8.24 in contrast to Seattle station with field strengths ranging from 30.30 to 192.0. Collection of data was hampered by periods of time during which one or the other transmitting station was not operating. As a result not all survey areas are equally covered.

Profiles of in phase and quadrature readings are plotted on Maps III and IV. The data was processed using the Fraser filter method to produce contourable results as shown on Maps V and VI.

Locations of "cross-overs" are indicated on the profile maps III and IV. As expected the two transmitting stations give somewhat different results and in the southern portion of the survey area more or less coincident anomalies are lettered.

Contoured values plotted on maps V and VI help provide a basis for correlation of certain EM cross-overs but more than one interpretation is possible for several of these trends.

Within the south portion of the area covered by magnetic and VLF-EM surveys it must be assumed that the pattern of contoured results is influenced by the relatively wide (100 to 200 metre) spacing of survey lines in contrast to the 25 metre spacing of readings along each line. In spite of this the contoured patterns suggest several complimentary structural trends. In summary these are:

<u>Survey type</u>	<u>Number of Trend Segments Measured</u>	<u>Range of Values</u>	<u>Average Trend</u>
Magnetometer	6	311 ^o - 317 ^o	313 ^o
VLF Cutler	7	309 ^o - 319 ^o	313 ^o
VLF Seattle	Nil	Nil	Nil
Magnetometer	8	320 ^o - 328 ^o	324 ^o
VLF Cutler	Nil	Nil	Nil
VLF Seattle	1	323 ^o	323 ^o
Magnetometer	8	333 ^o - 340 ^o	336 ^o
VLF Cutler	Nil	Nil	Nil
VLF Seattle	4	330 ^o - 336 ^o	333 ^o
Magnetometer	4	349 ^o - 358 ^o	354 ^o
VLF Cutler	4	357 ^o - 359 ^o	358 ^o
VLF Seattle	7	354 ^o - 02 ^o	358 ^o
Magnetometer	Nil	Nil	Nil
VLF Cutler	2	02 ^o - 08 ^o	05 ^o
VLF Seattle	2	09 ^o - 11 ^o	10 ^o

Contoured Fraser filter results, Seattle, show a trend extending southerly from the main shear zone mineral showing on the highway through 32N on the base line. This trend is relatively strong using Seattle as a transmitter but is not well marked using Cutler. The magnetic signature is relatively neutral. There is insufficient geological data to confirm this trend.

A sharp valley is located at 4 + 00 E on lines 28N to 33N. A narrow magnetic low coincides with this location but no significant VLF-EM anomaly is indicated.

Several VLF-EM cross over trends which are indicated by both Seattle and Cutler surveys are designated by letters A-H, and J-N. Comparison of these trends, the Fraser filter pattern and the magnetometer results indicates that the majority of VLF-EM anomalies lie in magnetically neutral areas. The exception is anomaly E which lies at the nose of, and along the trend of, a positive magnetic anomaly.

This is a relatively weak VLF-EM anomaly but is possibly significant because of coincident copper and gold geochemical values (Yorston, Ikona January 1985).

There is no geological or geochemical information to assist in assessment of VLF-EM anomalies G, H and J-N in the east portion of the property. These with their northern projections crossing the highway, are strong and well defined. Geological mapping may identify these as specific geological units but close prospecting, and possibly detailed soil sampling, should be done to investigate strongly anomalous areas such as on line 33 + 00N at 7 + 25E and 8 + 75 E.

A gap occurs in the Seattle VLF-EM data in the central portion of the grid due to the transmitter being turned off during certain periods. Comparison of the available data along with the Fraser filtered Cutler data in the west portion of the grid shows conductive zones "wrapping around" the magnetic high anomalies. The conductive zones may be due to sheared sediments or volcanics while the magnetic highs may indicate non conductive dioritic intrusives.

The most westerly conductive zone coincides in part with a swamp area indicating some structural control. This zone warrants investigation.

CONCLUSIONS AND RECOMMENDATIONS

Previous work along the projected mineralized structure has consisted of geological mapping. VLF-EM surveys and geochemical sampling on a very narrow, 300 to 600 metre wide, grid with line spacing varying from 100 metres to 400 metres. The current survey over a somewhat greater width covers only the 12 claim CEDAR group.

The early information indicates a strong south to southeast trending structure which contains some indication of pyrite, pyrrhotite mineralization with some chalcopyrite, galena and quartz. Low gold values occur with some correlation with copper values. The anomalous pattern on the CEDAR 7 - 18 claims may be considered a microcosm representing mineral possibilities to the southeast on claims which may become available in the future.

It is recommended that: -

- 1) The CEDAR 7 - 18 mineral claims be mapped geologically in a detailed manner. It is expected that this mapping should take a geologist approximately 10 days. Data would be tied into the current tape and compass grid. Location of the highway pavement and rock cuts, the tractor roads, swamps, creeks and unusual topography such as the "draw" at 4 + 00 E should be documented.
- 2) Previous geochemical sampling within the claim area indicated values in soil up to 6800 ppm copper and 120 ppb gold. Samples were generally collected at 50 metre spacing on lines 100 to 200 metres apart on a grid 600 metres wide. It is recommended that soil sampling be carried out with samples taken at 50 metre spacing on lines at 100 metre intervals. Certain portions of lines sampled by Craven Resources should not be resampled (lines 31N to 36N) as it is expected the data will be compatible and this area is not strongly anomalous. On the other hand sampling should be reduced to 25 metre spacing over the strong VLF-EM and magnetic anomalies. These areas of detail may be better designated during, or after, detailed geological mapping.
- 3) Zones of coincident anomalies, geophysical and geochemical, should be covered by I.P. surveys. Geological mapping should be able to separate anomalies which might be due to graphite. Diamond drilling may then be justified to test recommended anomalies.

4) The proposed geological mapping, with attendant prospecting, should be done prior to the May 1989 option agreement anniversary date. If no encouraging alteration or mineralization is located serious consideration should be given to dropping the property option. This rather drastic action is due to problems with the existing 2 post staking. The strongest magnetic anomalies with coincident copper-gold geochemistry may not be covered by the optioned claims and, until a better ground position can be obtained, it would not be prudent to risk larger expenditures.

Respectfully submitted

J.C.STEPHEN EXPLORATIONS LTD.



C.J. Sayer, P. Geol.



J.C. Stephen, President

REFERENCES

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Campbell R.B., and Tipper N.W. 1971, Geology of Bonaparte Lake Map-Area, British Columbia. Geological Survey of Canada Memoir 363, pp. 100

Caulfield D.A., and Ikona C.K. 1986, Assessment Report on the Cedar I, VI, VII- XVII, XIX, XV. Mineral Claims. Craven Resources Inc.

Ikona C.K. 1984, Progress Report on Cedar Claims NTS 92-P-8. Internal Report, Craven Resources Inc.

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Yorston R., And Ikona C.K. 1985, Geological Report on the Cedar I to VI Mineral Claims. Internal Report, Craven Resources Inc.

COST STATEMENTGEOPHYSICAL SURVEY - CEDAR PROJECTWAGES, SALARIES & BENEFITS

C.J. Sayer	Jan 20 - Feb 14		
	2 @ \$138.	24 days @ \$161.	\$4,140.00
M.A. Orman	Jan 20 - Feb 6		
	18 days @ \$138.		2,484.00
M. Blank	Jan 20 - 29		
	10 days @ \$138.		1,380.00
P.S. Roberts	Jan 30 - Feb 6		
	8 days @ \$138.		1,104.00

VEHICLE RENTAL & OPERATION

Redhawk Rentals	\$735.85	&	\$623.96	=	1,618.80
Fuel	\$132.95	&	\$126.04		

<u>PRINTING</u>	Dominion Blueprint	132.96
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<u>HOTEL, MEALS, etc.</u>	1,774.07
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<u>REPORT PREPARATION</u>	<u>1,500.00</u>
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TOTAL LISTED EXPENSES	\$14,133.83
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Respectfully submitted
J.C. Stephen Explorations Ltd.

Christina Sayer


Christina J. Sayer P. Geol.

STATEMENT OF QUALIFICATIONS

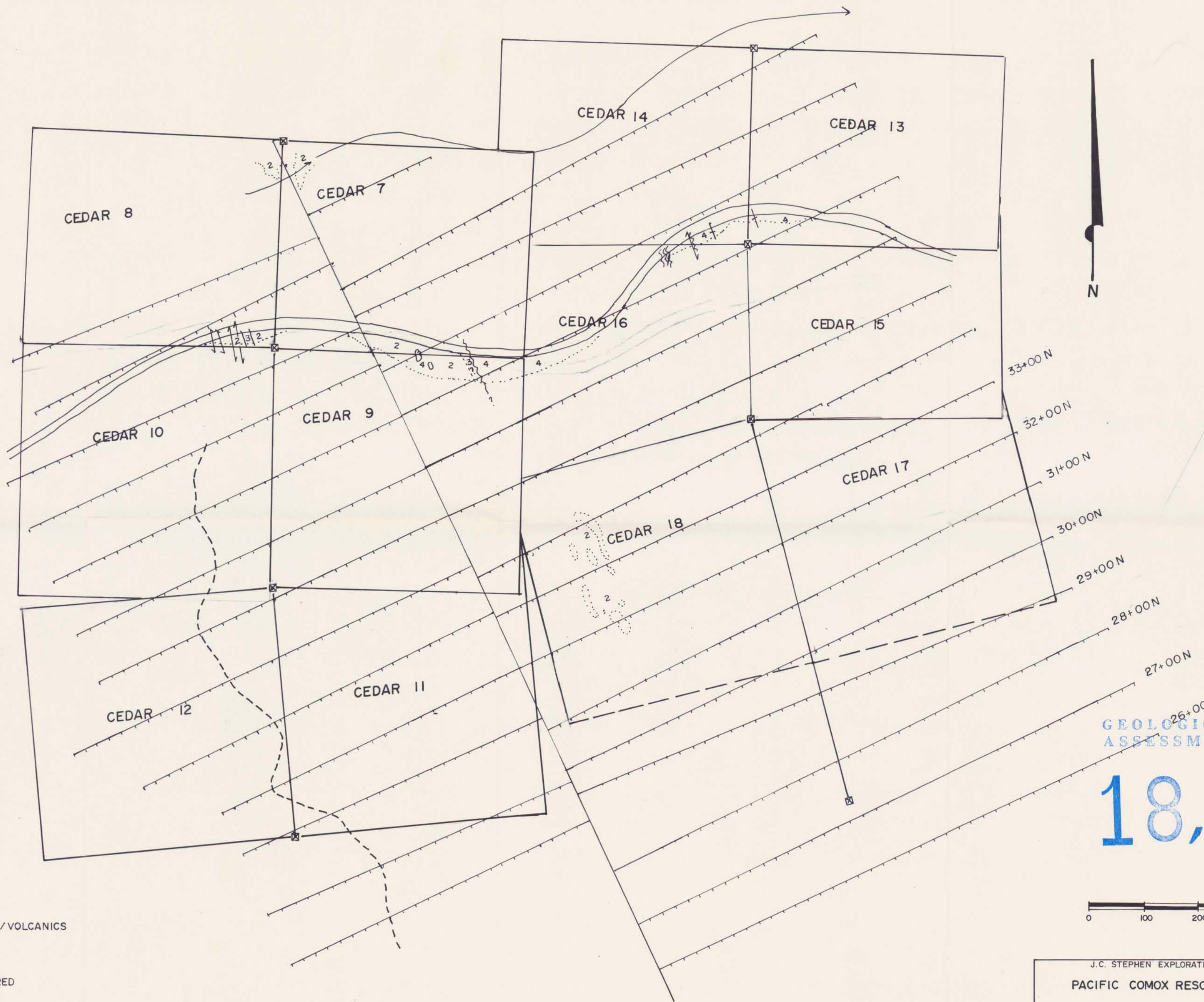
I, Christina J. Sayer of Vancouver, B.C. state that:

- 1) I have obtained BSc (Honours) and MSc degrees in Geology from the University of Alberta 1984 and 1986 respectively.
- 2) I have practiced geology steadily as a geologist from 1986 till the present and as a geological assistant from 1981-1985.
- 3) This report is based on work performed by myself of the Cedar property, and examination of reports on previous work.
- 4) I have no interest in the Cedar property or in Pacific Comox Resources Ltd.

Dated at Vancouver, British Columbia this 25 day of Feb 1989.


Christina J. Sayer, P. Geol.

(cedar718)



- 1 DIORITE
- 2 NICOLA ANDESITE
- 3 SKARN
- 4 CACHE CREEK SEDIMENTS / VOLCANICS
- OUTCROP OUTLINE
- GEOLOGIC CONTACT / INFERRED
- FAULT / SHEAR
- CLAIM POST

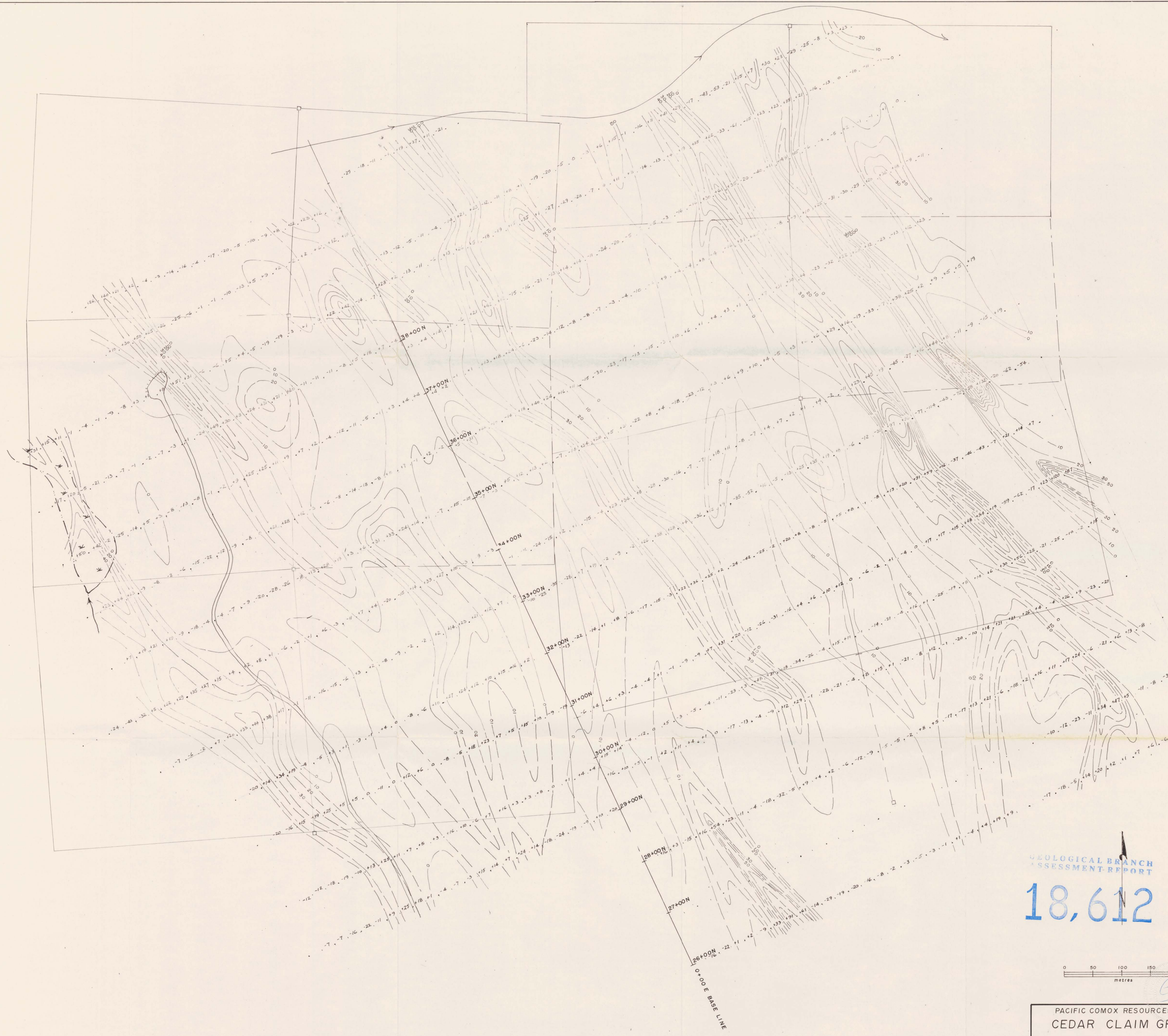
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ASSESSMENT REPORT

18,612

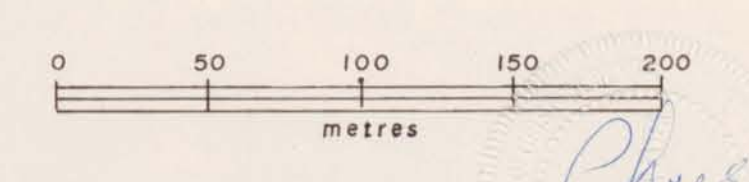
J.C. STEPHEN EXPLORATIONS LTD.
 PACIFIC COMOX RESOURCES LTD.
 GEOLOGY
 (SAYER 1988)
 CEDAR PROPERTY
 NTS 92P/8
 MAP I

SCALE 1:5000

FEB. 1989



GEOLOGICAL BRANCH
ASSESSMENT REPORT
18,612

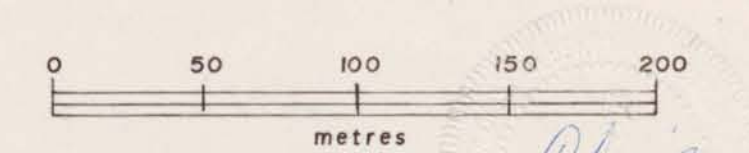


PACIFIC COMOX RESOURCES LTD.
CEDAR CLAIM GROUP
KAMLOOPS M.D. NTS 92P/B
VLF-EM CUTLER
FRASER FILTER CONTOURS
SCALE 1:2,500 DEC. 1988



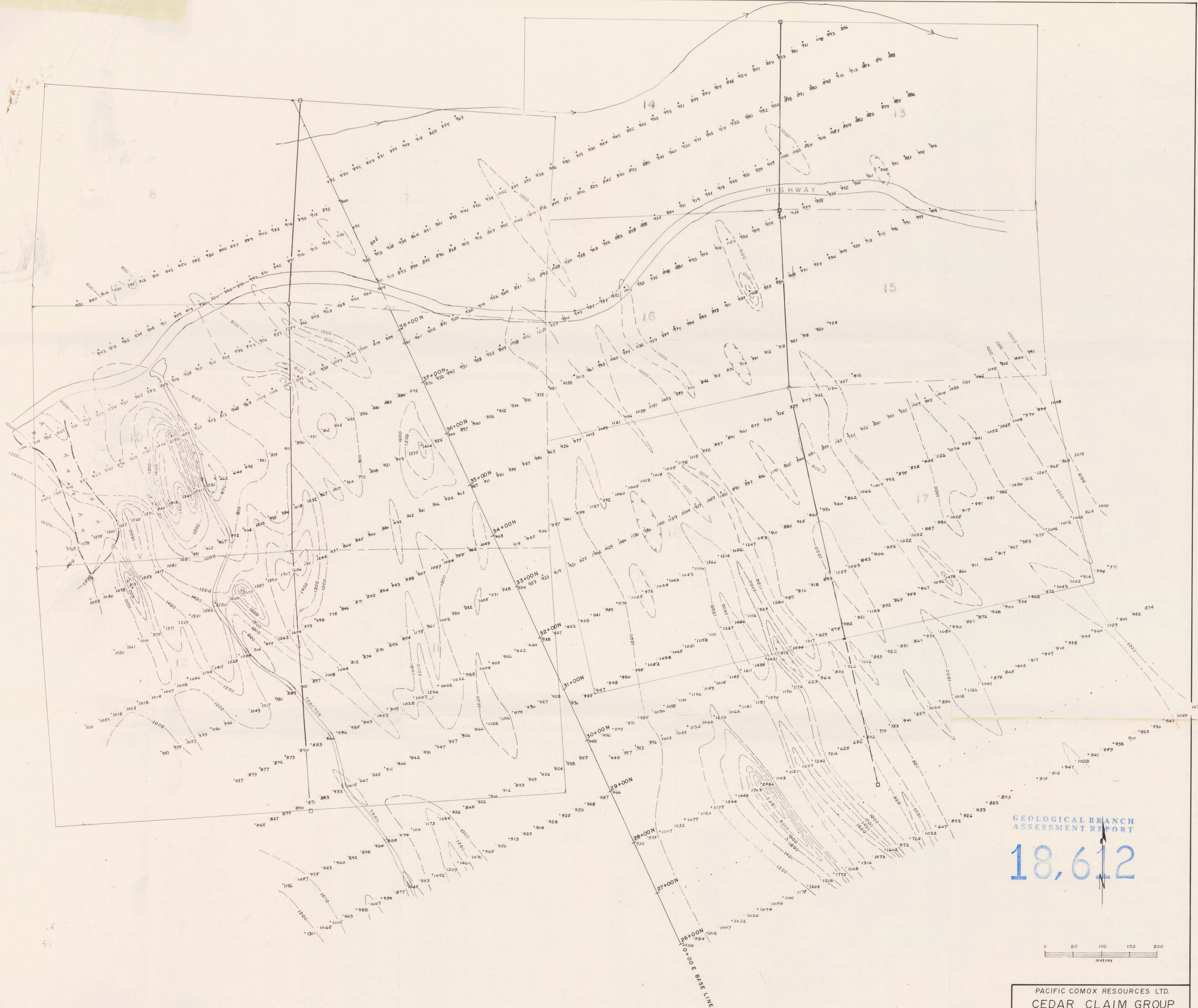
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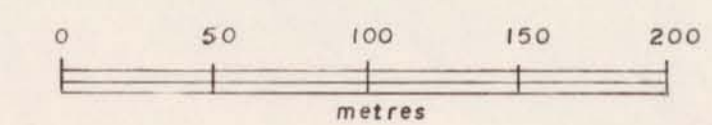
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CEDAR CLAIM GROUP
KAMLOOPS M.D. NTS 92P/B
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FRASER FILTER CONTOURS
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MAP V



GEOLOGICAL BRANCH
ASSESSMENT REPORT

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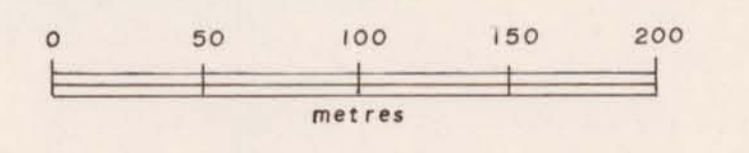
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CEDAR CLAIM GROUP
KAMLOOPS M.D. NTS 92P/B
MAGNETOMETER SURVEY
SCALE 1:2,500
DEC. 1988

1120 MAGNETOMETER READING
TOTAL FIELD LESS 56,000



GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,612



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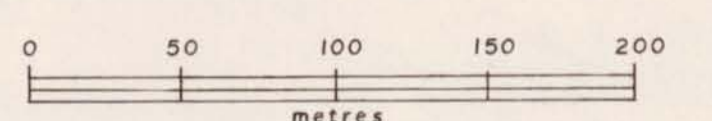
PACIFIC COMOX RESOURCES LTD.
CEDAR CLAIM GROUP
KAMLOOPS M.D. NTS 92P/8
VLF-EM CUTLER
PROFILES
SCALE 1:2,500
DEC. 1988

MAP IV



GEOLOGICAL BRANCH
ASSESSMENT REPORT

18,612



IN PHASE 1 CM = 10
QUADRATURE 1 CM = 10

PACIFIC COMOX RESOURCES LTD.
CEDAR CLAIM GROUP
KAMLOOPS M.D. NTS 92P/8
VLF-EM SEATTLE
PROFILES
SCALE 1:2,500
DEC. 1988