

06/87

Assessment Report

Linecutting and Geophysical Surveys

CQ Group mineral claims

Cariboo Mining Division

Latitude 53°06'N NTS 93 G 1E Longitude 122°~~08.5~~W
10.8'

For

Abby Investment Corp.

Operator

By

FILMED

Dirk Moraal

Owner

Record No. 6838(6) and 6839(6)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,975

uesnel, June 1986

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LIST OF REFERENCES

- Fraser, D.C. Profiling VLF-EM data.
- Anderson, C.D. Detailed magnetic profiles over an elecromag-
netic conductor. CMJ Oct 1984.
- Dept of Mines and Bedrock Geology, Cottonwood area, 93 G 1E
technical surveys
- Breiner, S. Applications manual for portable magnetometers.
- Moraal D. Assesment report, BAR claims, 1985.
- Moraal, D. Assessment report, Handy I, Feb 1986.
- Aerophotograph BC 78101-218, 219, 220.

1.0 INTRODUCTION

The CQ Group consists of 40 units staked under the modified grid system. These claims were staked on the basis of their proximity to several gold producing properties and prospects. Other features such as aeromagnetic anomalies, photolinears and surficial features were thought to reflect subsurface geomechanical expressions. A previously located conductor, presumably associated with gold mineralization was shown to the owner on the CQ 2 block, and work by other authors in the last five years suggests that the margin of a large graben or similar geotectonic feature crosses through the claim group. It has been postulated that such an occurrence could have been associated with an upwelling of fluids carrying precious metals.

Evidence of this mineralization is found on adjacent properties in drillholes and trenches. Large deposits of gold at the Toop Mine, while being called placer have cast doubts on the genesis of the ore, and more likely are a combination of volcanic, hydrothermal and mechanical events.

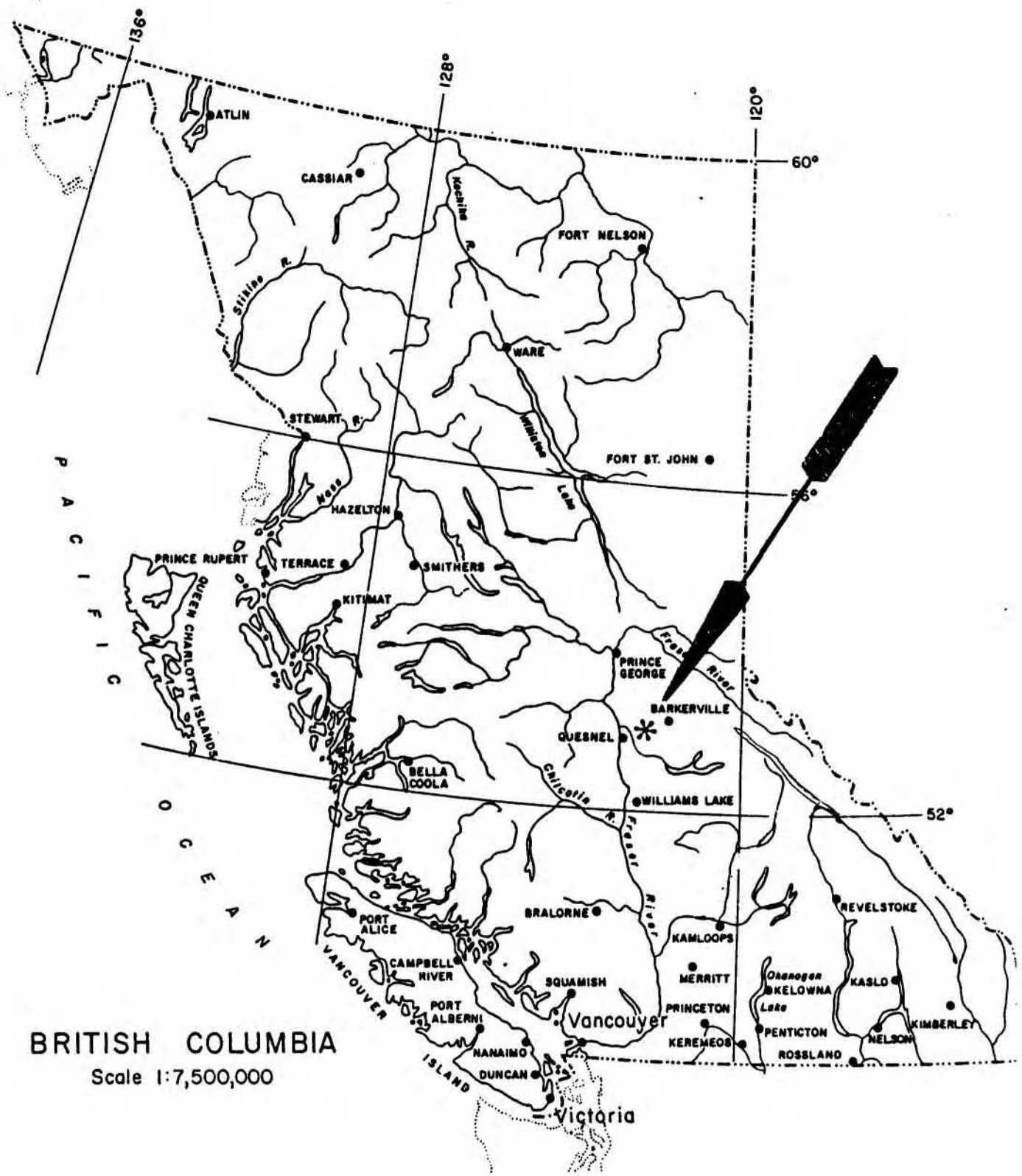
The most accepted theories applied to the area are, a) Buchanan epithermal model, b) Hydrothermal deposit models with their attendant faults and breccias, and c) Contact metasomatism.

Recent information from airborne surveys place a center of conductivity at the Toop Mine, with extensions apparently trending north-westerly.

This report presents the work performed on the CQ group before June 10, 1986 and is respectfully submitted for assesment purposes.

2.0 LOCATION, ACCESS, AND TOPOGRAPHY

The CQ Group is located some 30 km east of Quesnel, B.C., and six km north of the settlement of Cottonwood House, on the historical Barkerville Highway. There is good access to the property yearround. The visitor leaves Cottonwood and follows the 600 Road, a wide and well traveled main forestry haulage road, for 9½ km to the 6B road



BRITISH COLUMBIA
Scale 1:7,500,000



LOCATION MAP	
Abby Investment Corp CQ GROUP Mineral Claim Cariboo Mining Division	
Plate 1	
D.M.	June, 1986

which crosses the property from east to west, and once turned off the 600 Road, the visitor is on the CQ Group at the eastern boundary. The 6B road at the time of this report has a large washout about .6 km west of the tunoff which prevents most vehicles from continuing their journey.

The CQ Group is situated on gentle rolling rounded hill terrain. Maximum elevation difference on the property is 150 m. (850 to 1000 m) above sea level. Several creeks intersect the property and are contained in small, moderately sloped gullies with the angle of slope increasing in the north of the property. Tree cover consists of mature stands of spruce and balsam and pine. Parts of the claim have been logged off and these are now the domain of the willow and alder. Second growth naturally occurring jackpine shares the old clearcuts with the willows.

Much water collects in depressions on the relatively flat ground. Hillocks are generally dry islands of sand and gravel.

3.0 OWNERSHIP AND CLAIM STATUS

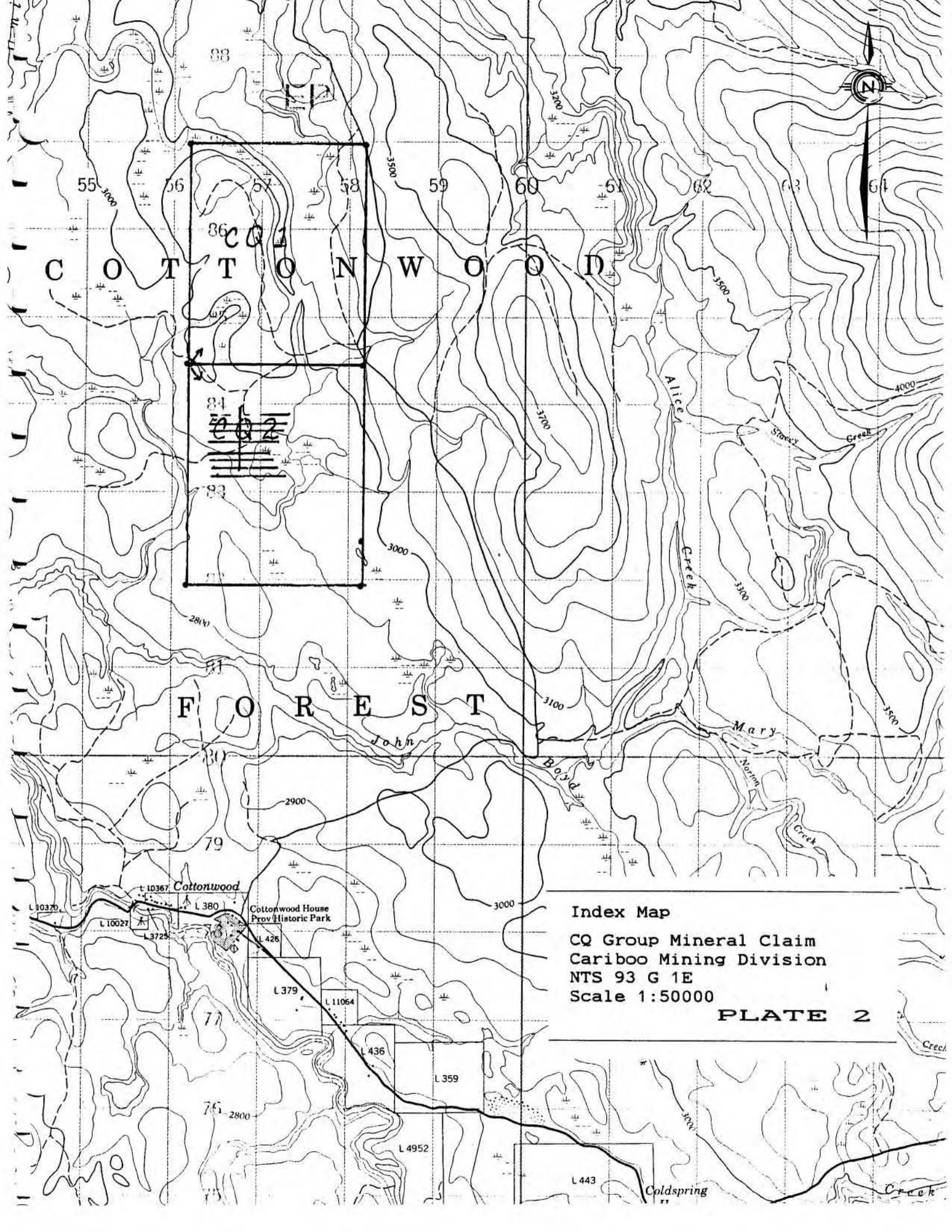
The writer visited the L.C.P. and found it to be in the location described.

The CQ Group is owned by Dirk Moraal of Kamloops B.C. and Art Fredrickson of Prince George, B.C.

The CQ Group is currently under option to Abby Investment Corp. of Vancouver, B.C.

Claim Name	Record No.	Record Date
CQ 1 (20 units)	6933(6)	June 10, 1985
CQ 2 (20 units)	6939(6)	June 10, 1985

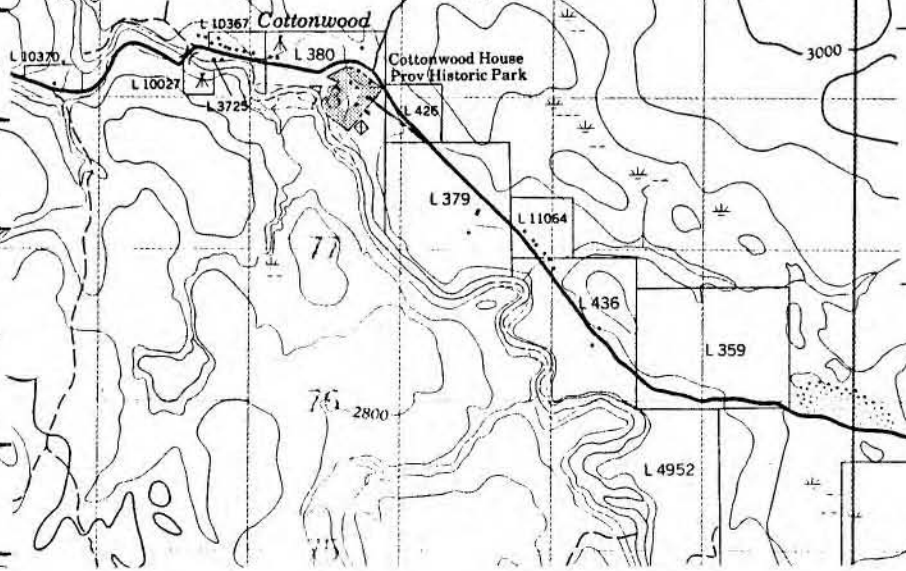
UTM Coordinates for the LCP are 5610000mE and 8450000mN.



Index Map

**CQ Group Mineral Claim
Cariboo Mining Division
NTS 93 G 1 E
Scale 1:50000**

PLATE 2



4.0 HISTORY AND PREVIOUS WORK

The writer could find no reports of work performed in the area covered by the CQ Group. No evidence of staking for mineral claims prior to the present was seen on the ground.

The prospectors have made traverses over sections of the claim in search of outcrops, but found little in the way of rock exposure. Historically a placer mining area, exploration has thus far been biased in that direction and at least two locations on the CQ have at some time in the past been tested for placer gold.

Other projects in the area include surficial and glacial deposit mapping as part of a report on the Cottonwood area, Geophysical Surveys on the adjacent Bar Claims, drilling and trenching on mineral claims and sporadic rock chip sampling of two post claims along the eastern boundary of the CQ Group.

5.0 SUMMARY OF WORK DESCRIBED IN THIS REPORT

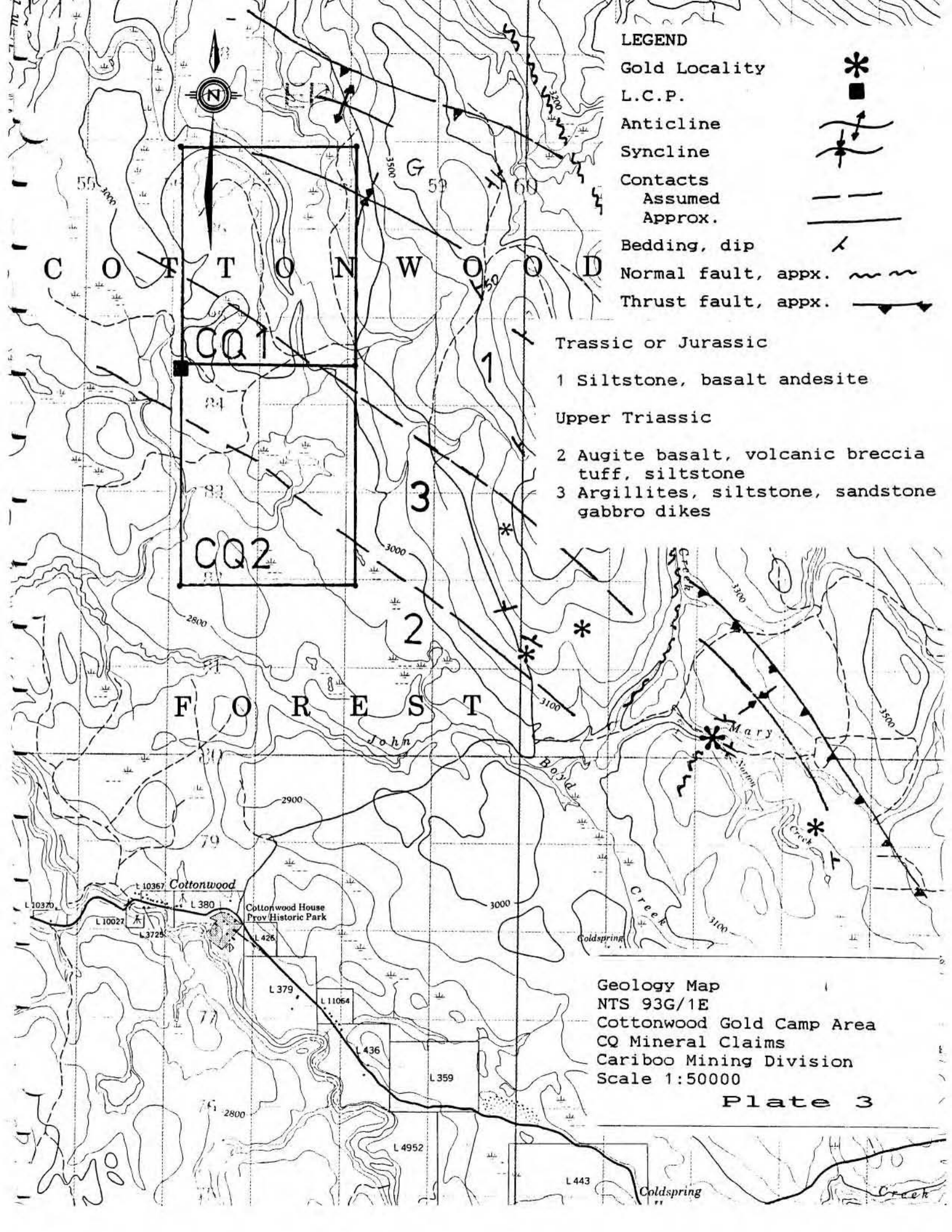
The programme carried out in 1986 consisted of a grid positioned over a reported gold occurrence for orientation purposes and totaling 8.8 Km. Subsequent surveying of the grid was carried out using a magnetometer and a VLF-EM receiver.

The data was then corrected and filtered using a microcomputer using software designed by the writer as described further in this report.

6.0 GEOLOGY

Determining bedrock geology on the CQ Group is a challenge. However, a reasonably acceptable picture can be compiled from maps, drillhole sections, and extrapolations.

The main unit underlying the CQ Group is mapped as an Upper Triassic suite of argillites, siltstones, minor sandstones and occasional gabbro dikes. It is possible that Upper Triassic basalts, augite basalt, tuff and volcanic breccias also may extend northwestwards into the claimgroup from known locations a few kilometers away.



LEGEND

Gold Locality *
 L.C.P. ■

Anticline

Syncline

Contacts
 Assumed

Bedding, dip

Normal fault, appx.

Thrust fault, appx.

Trassic or Jurassic

1 Siltstone, basalt andesite

Upper Triassic

2 Augite basalt, volcanic breccia tuff, siltstone

3 Argillites, siltstone, sandstone gabbro dikes

Geology Map

NTS 93G/1E

Cottonwood Gold Camp Area

CQ Mineral Claims

Cariboo Mining Division

Scale 1:50000

Plate 3

Known geological contacts, surface traces of folds, and faults suggest this is the case. In this the writer disagrees with Roed, who would have the local units curling around the base of Alice Ridge. It would seem more logical to suppose that the contacts follow the norm and parallel the strike of the other contacts and generally, the bedding, .Plate 3.

Precious metals have been found in drillholes in the Upper Triassic argillites. Stratabound pyrite in black shales has assayed to .45 g/tonne. These locations are near the contacts with the Upper Triassic volcanic unit.

Mineralization associated with hydrothermal activity appears east of the CQ Group, where buff coloured argillites appear to have been altered by rising fluids with a resulting in situ decomposition of the rock and enrichment with manganese, silica and graphite.

Precious metals are reported from this location.

Overburden makes it difficult to deduce the location of faults. Airphoto interpretation suggests that bedrock may influence some of the surficial linears (i.e. lines of swamps, long depressions) but the writer does not wish to make any pronouncements at this time. Three such linears may be seen on the airphotographs within the claim boundaries.

In terms of glacial debris, the CQ group is covered extensively by glacial debris consisting of dry morainal till and sands over wet boulderclay, and aluvial gravels, mud and sand, while the streambeds exhibit mixed colluvial gravels and sand. Variable in depth, these deposits are related to the last, north moving glacier.

7.0 GEOPHYSICAL SURVEYS

7.1 Magnetometer survey. The gridlines were surveyed with a reliable Scintrex fluxgate^{MF-1} magnetometer at 25 m intervals along both lines and baseline.

Standard procedures and precautions were followed for this type of survey. The survey was conducted using the closed loop method.. Data recorded was then corrected for drift and base shift using a simple computer assisted procedure that uses total time, time within the loop, drift and base shift to produce a corrected reading.

Corrected readings were further filtered to remove near surface spot anomalies such as magnetic materials or boulders, to better reflect bedrock conditions. The filter is a three point weighted running average.

Contoured, the filtered readings reveal an apparent contact between two rocktypes, and at the contact, a linear non conforming feature that due to its conductivity, may be a breccia zone or a fault. A few areas of low magnetic intensity appear at the north and south ends of the grid, and on line 200S just west of the baseline. The suspected contact runs from the SE corner to the NW corner of the grid, with another linear feature crossing almost at right angles from the baseline at 700S to 300E on line 00. An area of higher magnetic intensity exists along the entire east side of the grid from lines 00 to 500S. Points of highest and lowest magnetic intensity appear to be associated with the NE trending linear mentioned above.

(Seattle transmitter)

7.2 Sabre VLF-EM survey. The writer chose this instrument after obtaining excellent results on nearby properties. The method has been regarded with various degrees of opinion in the past, mainly perhaps because it is inexpensive, and can baffle the operator who is not familiar with the instrument. The Sabre is a very sensitive instrument that requires care by the operator in taking readings over the flat structure in the area, which is masked yet more by the layers of glacial sands and clays. Typical of the area are the flat readings that would lead to believe that the instrument cannot be used for exploration under the conditions. Subtle changes require, as stated above, care in taking the readings. Subsequent filtering to several levels will return an astounding sectional view of the subsurface. Perhaps the most important parameter is the Horizontal Field Strength, which if carefully corrected, can be contoured to find the areas of conductivity which the dip angle is unable to define. On the CQ grid, the Horizontal Field Strength (HFS) shows a linear conductor that coincided with the NE trending magnetic linear mentioned in 7.1, extending at least 500 m in strike length.

HFS readings on lines 00 and 100S are noticeably higher than those on the rest of the grid.

This may be due to bedrock with a higher conductivity, or may simply be a procedural error during the survey. Since there is doubt, these readings will not be taken into account in this report, but will be rechecked in the field.

Dip angle readings were predictably flat, but filtering produced several good conductors, with strike lengths of 300 to 500+ meters and since they represent a depth of 40+ meters, are considered to represent true bedrock conductivity.

Conductor "A", is the anomaly of main interest because of the correlation of several parameters, and probably has a total strike length of 700+ meters, but appears cut in half at line 400S, giving the appearance of two conductors. The top portion of this conductor continues off the grid striking NNE, insinuating that this conductor is of large proportions.

Anomaly "B" is a discreet anomaly that coincides with a magnetic dipole and therefore should be considered in future plans. Since Platinum occurs in serpentinized rocks in several adjacent claims the exploration of these magnetic anomalies found coincidental to VLF conductors is a very important part of the exploration program. Conductors "C" and "D" on the west side of the grid are of short strike length, but also coincide with weak magnetic dipoles, and have an above normal HFS.

Due to the layers of glacial material overlying the conductors, the residual Field strength did not react, nor was it expected to. The last parameter recorded was an experimental one, dubbed "needle response" for lack of a better term. It has been noted that with the Sabre VLF, the Field strength needle becomes sensitive when approaching the up dip side of a conductor. By noting this, and the rate of falloff, it has been seen that the structure at conductor "A" is relatively flat and dips to the SE.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The small orientation grid has proven the practicality of the two geophysical methods employed, if proper care is taken in the field, and the data is filtered properly. Anomalies sought in this area are subtle, and a structure covered by many metres of overburden may only return a signal that becomes apparent after data reduction and plotting. Correlation with another method, is useful, but perhaps not necessary here. The VLF-EM HFS is a valuable tool, and readings must be taken at no less than 12.5 m spacing because the HFS peaks over the centre of the structure, and few breccia zones are wider than 10 m.

Based on the data presently available for the area, the writer feels that the present grid should be extended 1500 m to the north, with lines 1500 m long extending 500 m west and 1000 m east of the base line, and another 500 m to the south, with lines of the same dimension of those of the existing grid.

It is recommended that two and possibly three drillholes be put into anomaly A, concentrating on the area between lines 100S and 300S, to prove the anomaly. Another drillhole at 12 m west of the baseline on line 200S would intersect the center of an HFS high. Access to the proposed drillholes is by existing road, which conveniently crosses anomaly A at a shallow angle. 200 m of access road will have to be built into anomaly B.

Prior to drilling, road repairs will have to be made at the two washouts on 6B Road. Two 36 inch (1 m) diameter culverts will be needed, and a large front end loader, available locally would be needed for about 4 hours.

The writer draws upon his knowlege of the area to recommend the above drillholes. While the area surveyed is small, and more grids should be cutand surveyed, only the drill will return material for assays.

STATEMENT OF COSTS

Line cutting	
Wages, 10 mandays @ 160 ⁰⁰ /day	1600 ⁰⁰
Food	178 ⁰⁰
Supplies	60 ⁰⁰
Fuels	60 ⁰⁰
 Geophysical surveys	
Wages, 8 mandays @ 160 ⁰⁰	1280 ⁰⁰
Instrument rentals, 2x 100 ⁰⁰	200 ⁰⁰
Food	66 ⁰⁰
Fuels	77 ⁰⁰
 Travel	
2 half days @ 80 ⁰⁰	160 ⁰⁰
Meals	24 ⁰⁰
 Report	
Typing, draughting, 2 days @ 80 ⁰⁰ /day	160 ⁰⁰
Compilation, data reduction, plotting, 14.7 hrs @ 15.50/hr	227 ⁰⁰
 Total	<hr/> 4092 ⁰⁰

STATEMENT OF QUALIFICATIONS

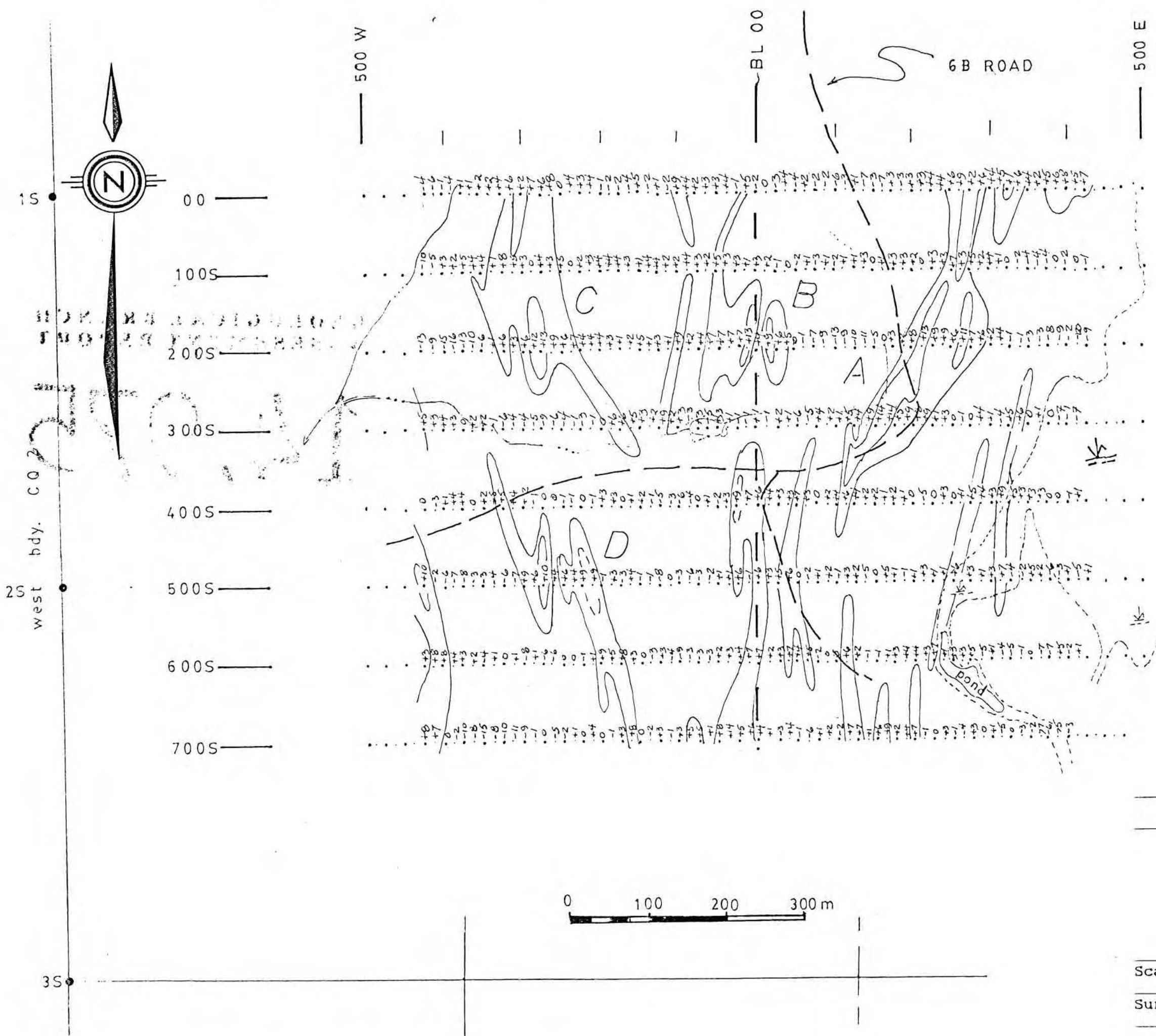
I, Dirk Moraal, of the City of Kamloops, in British Columbia do hereby state:

1. I am a professional prospector and geophysical operator
2. I have been carrying out my profession continually since 1969
3. I am a graduate of the B.C. Dept. of Mines Exploration Course for prospectors, the Yukon College underground mining course
4. This report is based on information gathered before June 1986 during the exploration programme, and opinions expressed reflect that knowlege and information gathered during the last twoyears.
5. I am part owner of the CQ claim group and have been hired by the Operator to perform assessment work on the propety.



Dirk Moraal

June, 1986.



LEGEND

25m station/reading	• +10
VLF Conductor	
Claimpost, line	—•—
Swamp	
Road	- - - - -
Creek	

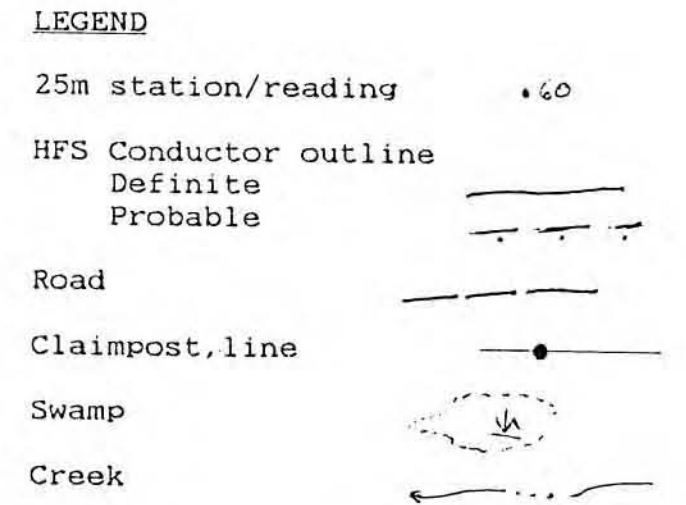
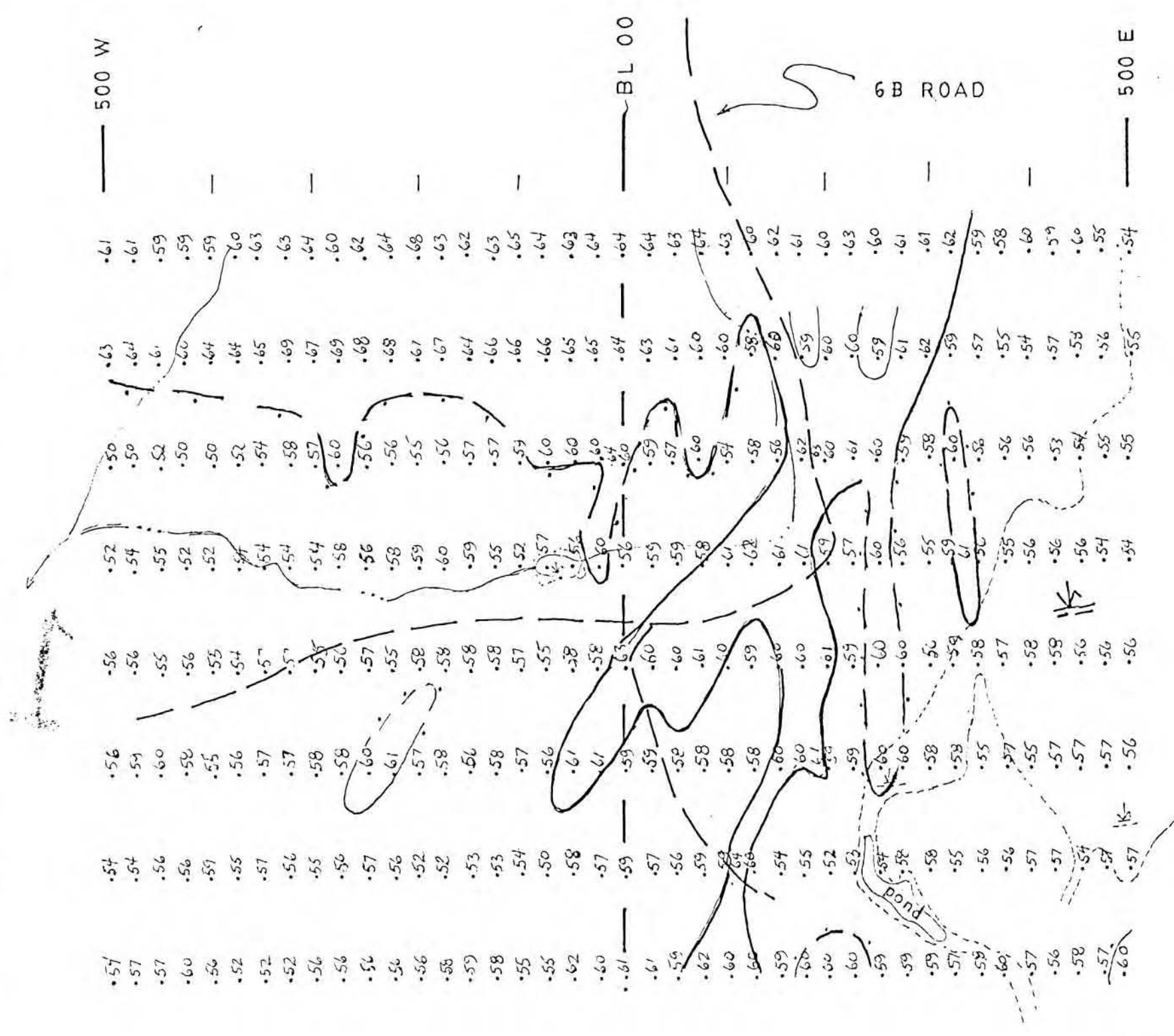
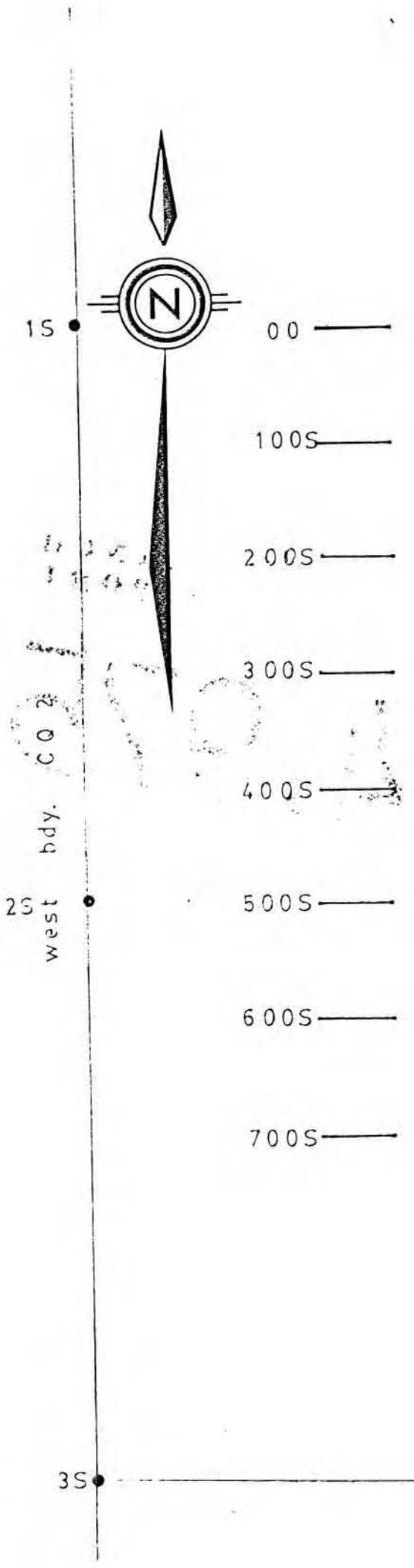
Abby Investment Corp.

CQ GROUP MINERAL CLAIM
Cariboo M.D.

SABRE VLF EM SURVEY
Fraser Filter Contours

Scale 1:5000 Date: June, 1986 Revd: 14,975

Survey by: W.M. Map by: W.M. PLATE: 7

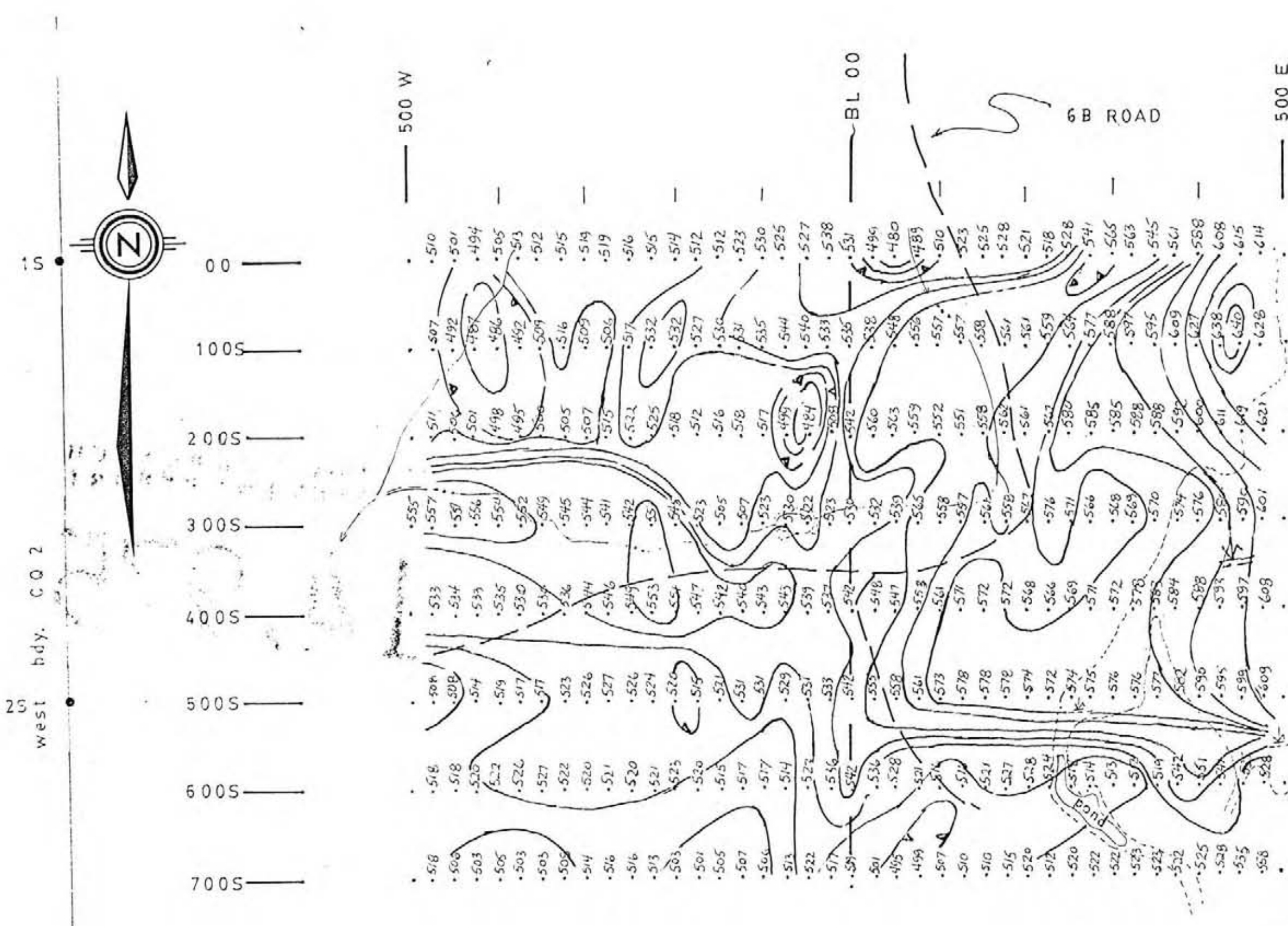


Abby Investment Corp.

CQ GROUP MINERAL CLAIM
Cariboo M.D.

SABRE VLF-EM SURVEY
HORIZONTAL FIELD STRENGTH

Scale 1:5000	Date: June, 1986	Revd: 14,975
Survey by: J.M	Map by: J.M	PLATE: 6



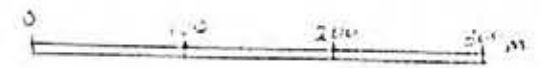
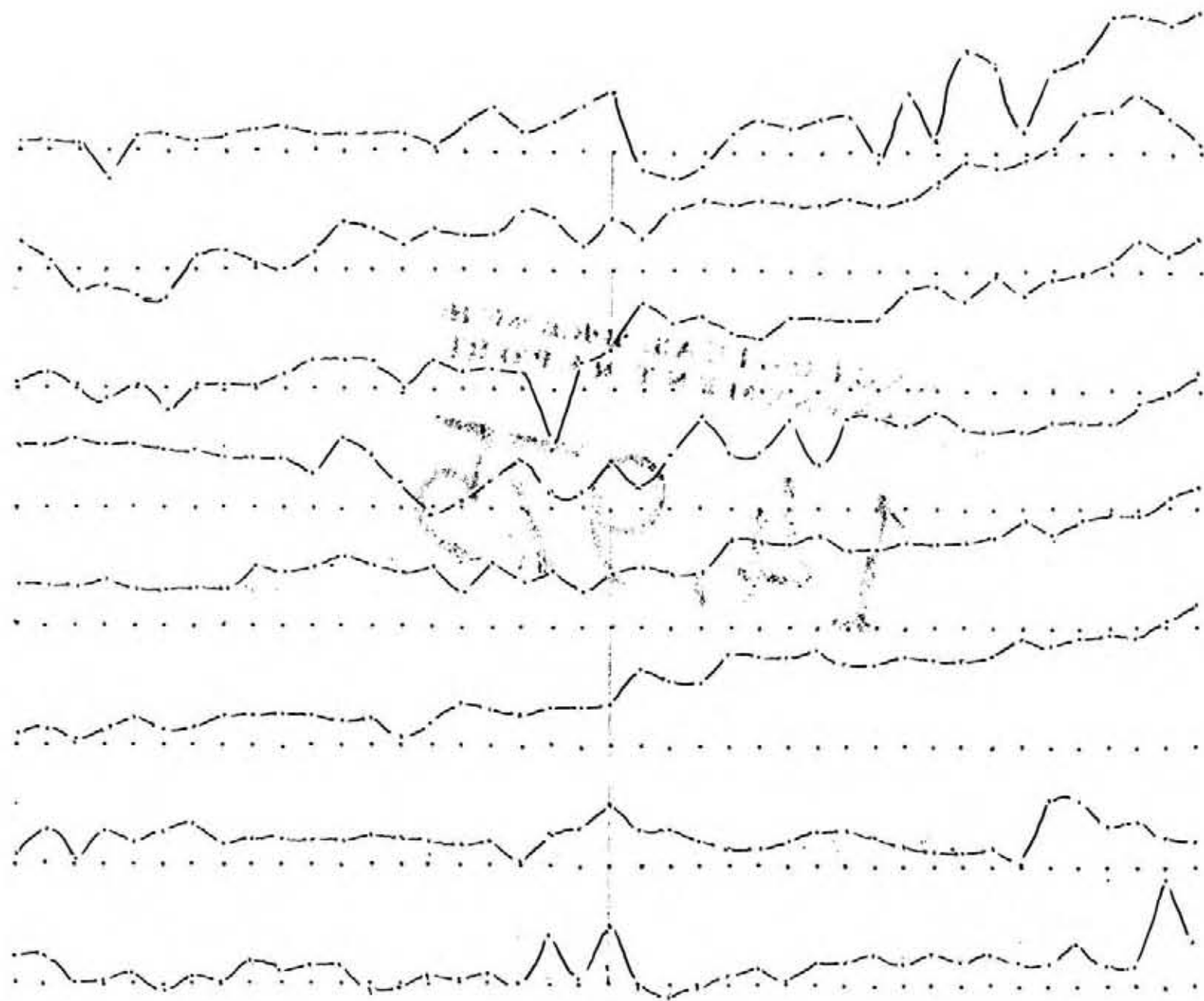
- LEGEND**
- 25m station/reading • 500
 - Magnetic contours ()
 - Magnetic low ()
 - Road ———
 - Claimpost, line —·—·—·—
 - Swamp ()
 - Creek ~~~~~

Abby Investment Corp.

CQ GROUP MINERAL CLAIM
Cariboo M.D.

**MAGNETOMETER SURVEY
FILTERED READINGS**

Scale 1:5000	Date: June, 1986	Revd: 14, 975
Survey by: A.F	Map by: DM1	PLATE: 5



Abbey Investment Corp

CQ GROUP MINERAL CLAIM
Cariboo M.D.

MAGNETOMETER SURVEY
PROFILES

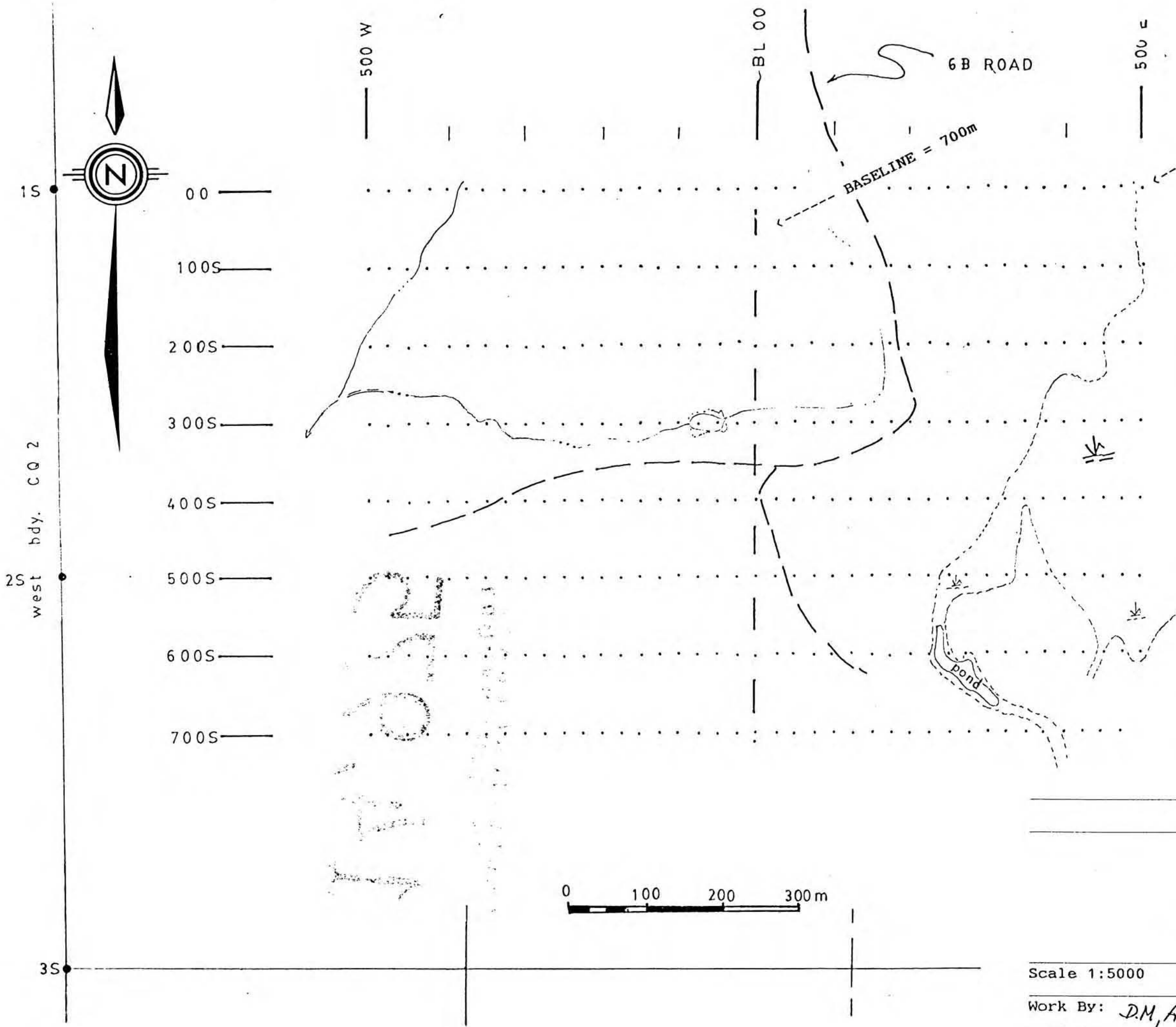
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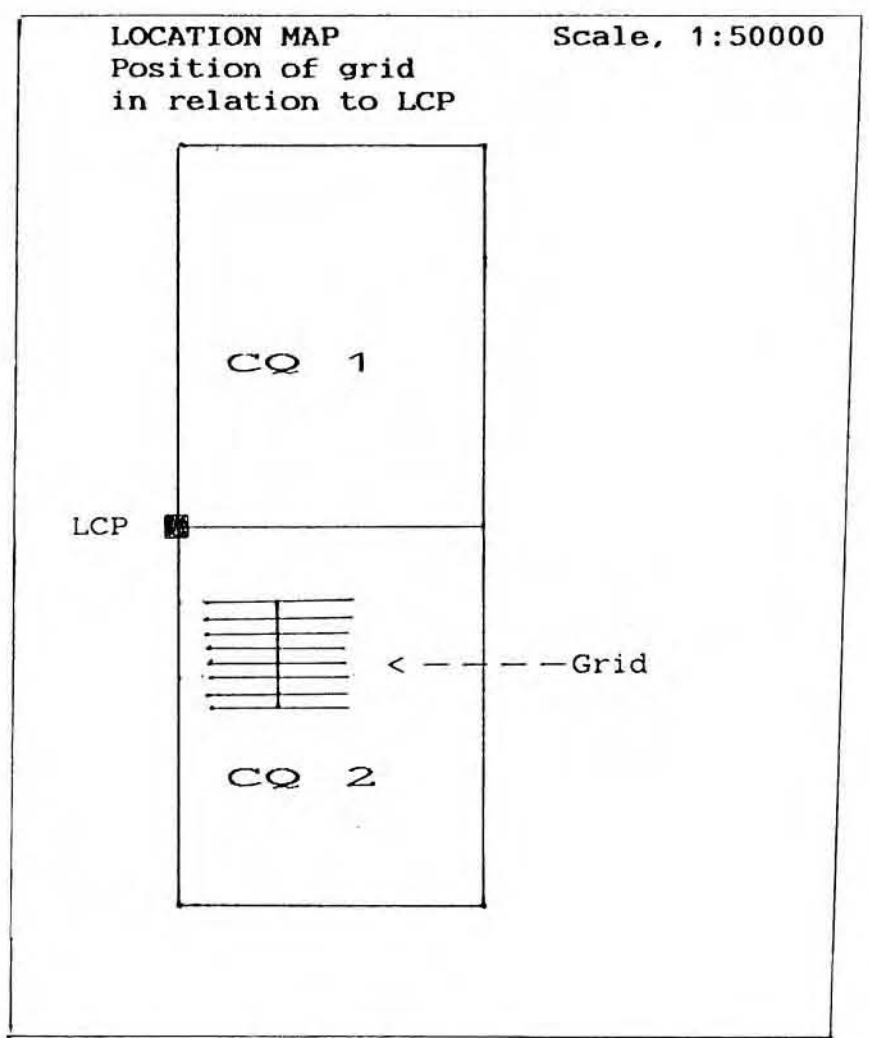
Survey by AF

Map by DM.

14,975



GRIDLINE = 1000m *
Stations ea. 25m, picketed.



Abby Investment Corp

CQ GROUP MINERAL CLAIM
Cariboo M.D.

PHYSICAL WORK
Linecutting, Grid and Baseline

Scale 1:5000

Date: June 1986

14,975
Rev'd:

Work By: D.M., A.F.

Map By: D.M.

PLATE: (Late addition)