

11/86

GEOPHYSICAL REPORT ON THE MS GROUP
SIMILKAMEEN MINING DIVISION
SUMMERS CREEK AREA, BRITISH COLUMBIA

LOCATION

N.T.S.: 92 H / 10E
LATITUDE: 049° 42' 50"
LONGITUDE: 120° 30' 36"

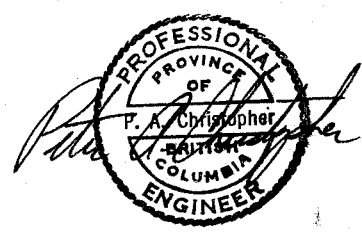
PREPARED FOR

GERALD BURR, PATRICIA MULLIN, WILLIAM STEPHENS
BOX 673
PRINCEON, BRITISH COLUMBIA

PREPARED BY

PETER A. CHRISTOPHER Ph.D., P.Eng.
PETER CHRISTOPHER & ASSOCIATES INC.
3707 WEST 34th AVENUE
VANCOUVER, BRITISH COLUMBIA
V6N 2K9

NOVEMBER 1, 1985



GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,042

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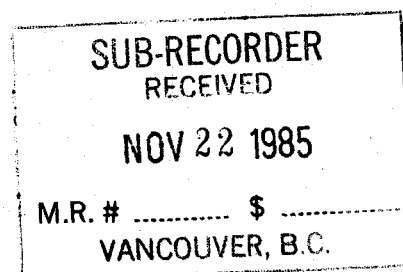
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SUMMARY

The MS Group consisting of 16 two post claims straddle Summers Creek and the Missezula Lake Road from 31 kilometers to 34.6 kilometer by good road from Princeton, British Columbia. The claims were staked to cover copper silver showings in the Triassic Nicola Group. Mineralization of the type found on the MS Group extends for several kilometers along the fault controlled Summers Creek Valley.

The present program consisted of locating the northern boundary of the claims and collecting magnetic and VLF-EM readings along the Summers Creek Road. A total of 81 stations or two kilometers were surveyed for magnetics and VLF-EM. Two strong VLF-EM crossovers and over 1200 gammas of magnetic relief were detected during the survey. The initial magnetic and electromagnetic surveys suggest that the methods are useful tools for exploring the MS Group.

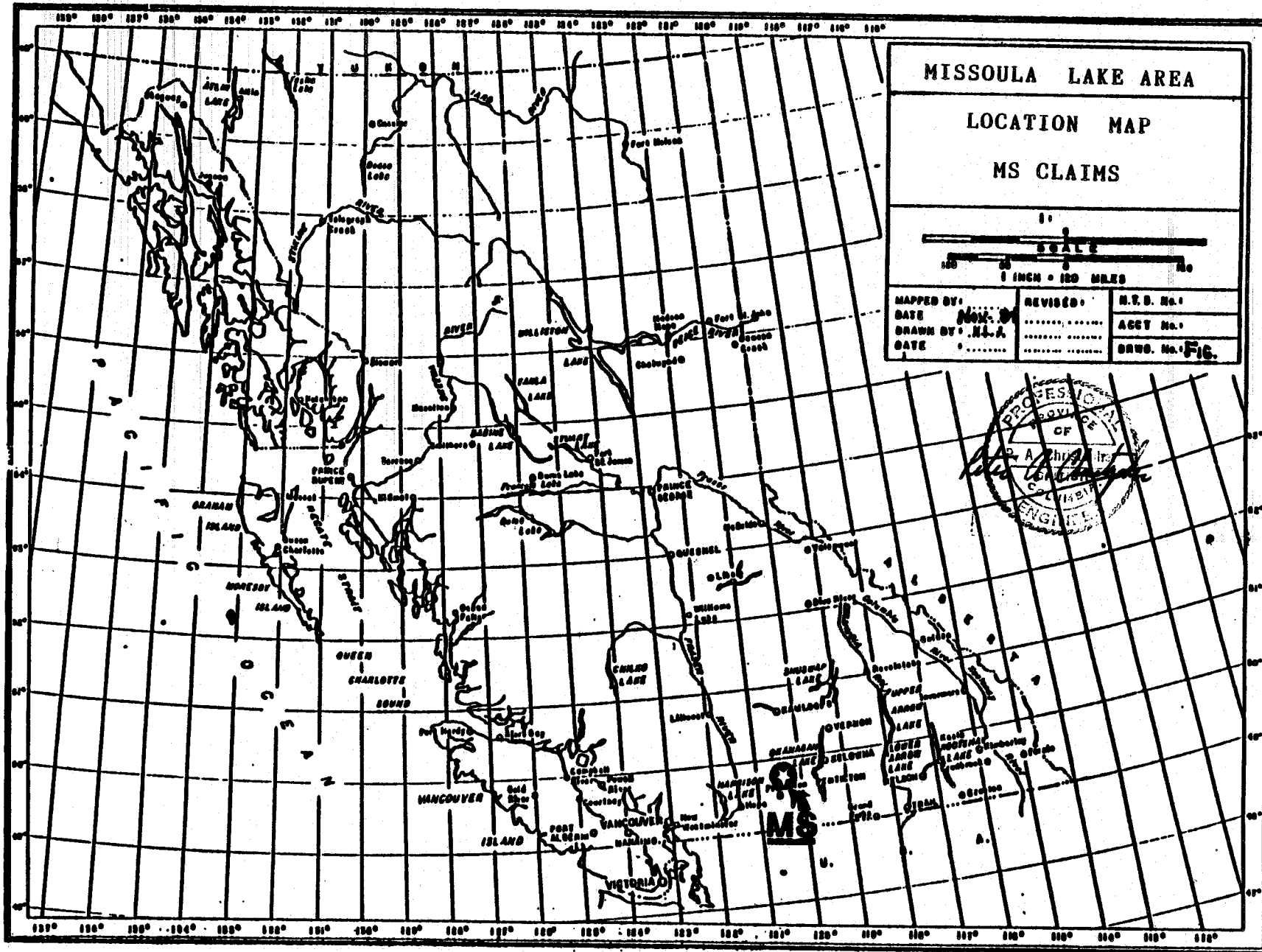
INTRODUCTION

The MS Group consisting of the MS 1 through MS 16 claims is situated in the Similkameen Mining Division about 30 kilometer north of Princeton, British Columbia. The property has easy road access and can be worked from either Princeton or a camp on Summers Creek. The writer has agreed to maintain the property in good standing for the claim owners. Peter Christopher & Associates was retained to conduct a preliminary magnetic and VLF-EM program on the property. Field work was undertaken by the writer and Mr. Gerry Hayne on June 14, 1985. This report summarizes the results for a two kilometer magnetic and VLF-EM test line along Summers Creek and provides recommendations for further exploration of the claim group.

LOCATION AND ACCESS (Figures I & II)

The MS claim group straddles Summers Creek and the Missezula Lake Road from 31 kilometers to 34.6 kilometers by road from Princeton, British Columbia. The property is about 3 kilometers south of Missezula Lake and 30 kilometers north of Princeton. The area is considered part of the Thompson Plateau of south-central British Columbia. The property is situated at the eastern edge of map sheet 92 H 10E and centers at geographic coordinates of 049° 42' 50" N. latitude and 120° 30' 36" W. longitude.

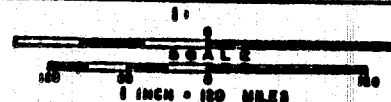
Access is by the Missezula Lake Road which branches of Highway 5 about 8 kilometers north of Princeton, British Columbia. Missezula Lake is 30 kilometers by good gravel road from Highway 5 with the claims straddling the road from 23 kilometer to 26.6 kilometer. Local claim access is by foot from the Missezula Lake Road with steep topography making for slow progress. Elevation vary from 945 meters (3100 feet) in the valley bottom to 1372 meters (4500 feet) on the valley wall.



MISSOULA LAKE AREA

LOCATION MAP

MS CLAIMS



MAPPED BY:	REVISED:	N.T.S. No.:
DATE: Nov. 1911	AGCY No.:
DRAWN BY: N.L.A.	DRWG. No. FIG.
DATE:	

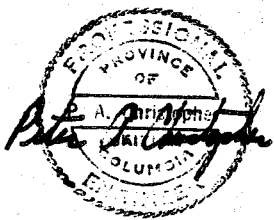


MISSEZULA AREA

FIG 2

92 H / 9, 10, 16 : N.T.S.

MISSEZULA LAKE AREA
INDEX MAP MS CLAIMS
(N.T.S.:92H-10E)
SCALE 1:50,000 NOV./1984



49°45' N

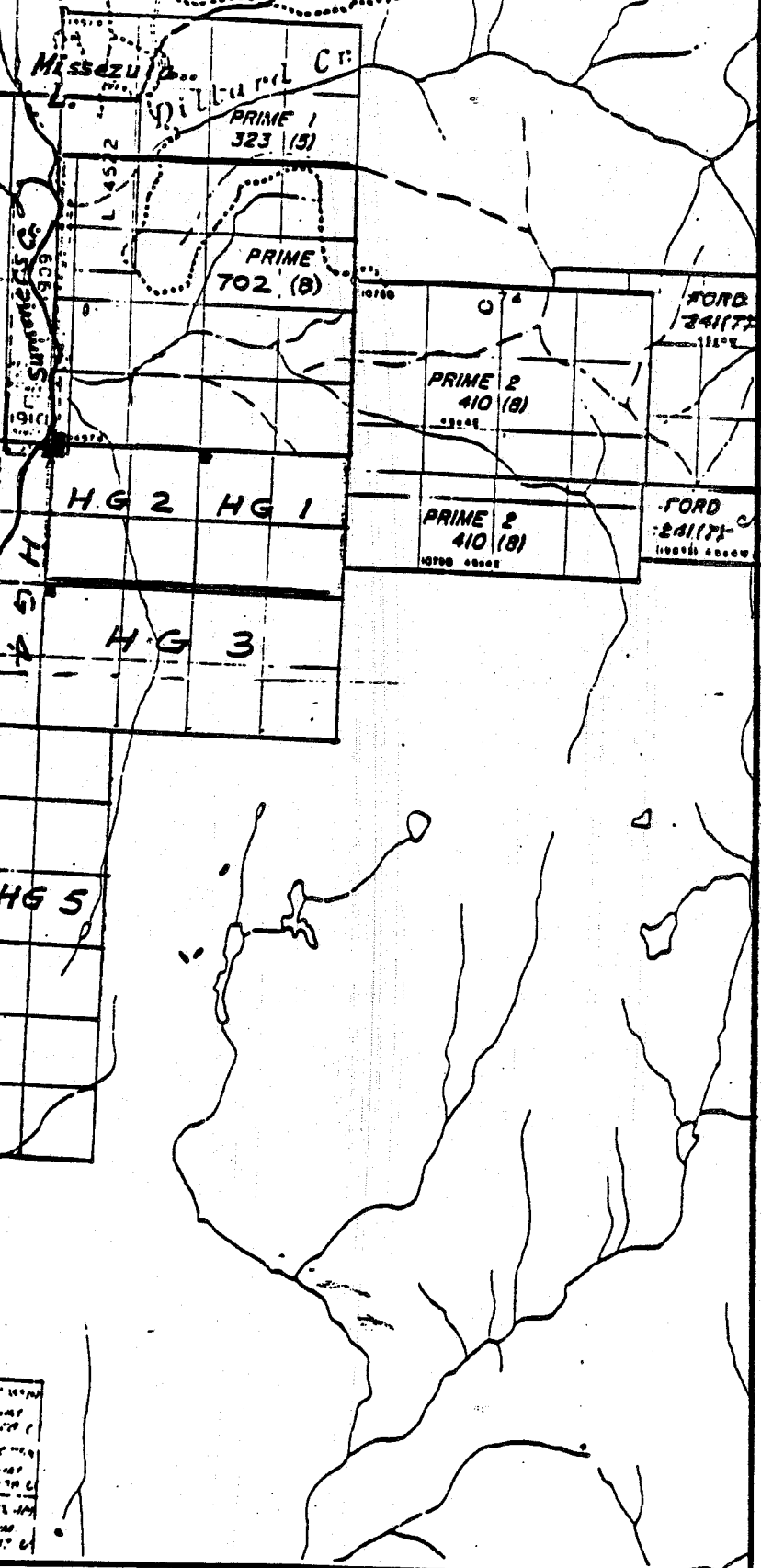
RUM 1
533 (13)

ERAL RESERVE
MILE EITHER SIDE
1242, 70-04-14
LEASE REQUIRED

Sample Line
GEOPHYSICAL LINE

MISSEZULA
MTN.

120°30' W



27233027291	27233027292	27233027293	27233027294	27233027295	27233027296	27233027297	27233027298	27233027299	27233027300
27233027301	27233027302	27233027303	27233027304	27233027305	27233027306	27233027307	27233027308	27233027309	27233027310
27233027311	27233027312	27233027313	27233027314	27233027315	27233027316	27233027317	27233027318	27233027319	27233027320
27233027321	27233027322	27233027323	27233027324	27233027325	27233027326	27233027327	27233027328	27233027329	27233027330
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27233027361	27233027362	27233027363	27233027364	27233027365	27233027366	27233027367	27233027368	27233027369	27233027370
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27233027401	27233027402	27233027403	27233027404	27233027405	27233027406	27233027407	27233027408	27233027409	27233027410
27233027411	27233027412	27233027413	27233027414	27233027415	27233027416	27233027417	27233027418	27233027419	27233027420
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27233027431	27233027432	27233027433	27233027434	27233027435	27233027436	27233027437	27233027438	27233027439	27233027440
27233027441	27233027442	27233027443	27233027444	27233027445	27233027446	27233027447	27233027448	27233027449	27233027450
27233027451	27233027452	27233027453	27233027454	27233027455	27233027456	27233027457	27233027458	27233027459	27233027460
27233027461	27233027462	27233027463	27233027464	27233027465	27233027466	27233027467	27233027468	27233027469	27233027470
27233027471	27233027472	27233027473	27233027474	27233027475	27233027476	27233027477	27233027478	27233027479	27233027480
27233027481	27233027482	27233027483	27233027484	27233027485	27233027486	27233027487	27233027488	27233027489	27233027490
27233027491	27233027492	27233027493	27233027494	27233027495	27233027496	27233027497	27233027498	27233027499	27233027500

PROPERTY DEFINITION

The MS Property consisting of the MS 1 through MS 16 mineral claims was recorded on November 10, 1978. The claims were staked using the two post system with record numbers 462 through 475 assigned to the claims. Table 1 summarizes pertinent claim data and Figure 2 from British Columbia government claim maps shows the approximate location of the MS Property. Claim posts that establish the MS claims were not located and the survey was conducted over the area of the northern claims shown on Figure 2.

Table I. Pertinent Claim Data For MS Claims.

<u>Claim</u>	<u>Tag #</u>	<u>Record #</u>	<u>Date Staked</u>	<u>Date Recorded</u>	<u>Staker</u>
MS 1	175357	462(11)	Nov. 2/78	Nov. 10/78	P.C. Mullin
MS 2	175358	463(11)	"	"	"
MS 3	175356	464(11)	"	"	"
MS 4	175359	465(11)	"	"	"
MS 5	437458	466(11)	"	"	W.C. Stevens
MS 6	437459	467(11)	"	"	"
MS 7	437460	468(11)	"	"	"
MS 8	437461	469(11)	"	"	"
MS 9	437462	470(11)	"	"	Edward Mullin
MS 10	437463	471(11)	"	"	"
MS 11	437464	472(11)	"	"	"
MS 12	437465	473(11)	"	"	"
MS 13	437467	474(11)	Nov. 3/78	"	Gerald Burr
MS 14	437466	475(11)	"	"	"
MS 15	437469	476(11)	"	"	"
MS 16	437468	477(11)	"	"	"

HISTORY OF THE CLAIMS

The MS claims were staked in November 1978 by a group of prospectors from Princeton, British Columbia. The claims were acquired to cover copper showings in volcanic rocks of the Nicola Group. The claims were group with the HG and Prime claims and optioned to Newmont Exploration of Canada Ltd. between 1979 and 1981. Newmont's work was mainly on the HG-Prime claims with results reported in government assesment reports. A short geochemical evaluation was conducted during 1984 (Christopher, 1984).

WORK PROGRAM

The 1984 work program was conducted by the writer and Gerry Hayne B.Sc. on June 14, 1985. Mobilization was from Vancouver, British Columbia. The north end of the property was located and a two kilometer line was chained and flagged at 25 meter intervals. Magnetic survey values and VLF-EM anomalies are shown on Figure 3. VLF-EM profiles are presented in Appendix B with a cost statement for the program presented as Appendix A.

REGIONAL GEOLOGY

The MS claims are situated in the Intermontane Tectonic Belt of the southern Canadian Cordillera. In southern British Columbia the upper Triassic Nicola Group dominates the belt. The Nicola Group consists of alkalic and calc-alkalic volcanic and volcanoclastic rocks that have been divided by Preto (1979) into three north-trending structural belts, bounded by major faults. The Summers Creek fault zone running through the center of the MS claims separates rocks of Preto's Central belt from rocks of the Eastern Belt.

Eastern Belt rocks along Summers Creek include both alkalic and calc-alkalic suites derived from comagmatic intrusions and are dominated by extensive tuffs, lahar deposits, some basaltic flows, and high-level syenitic rocks (Preto, 1979; Christopher, 1973). Float from the steep valley wall on the east side of Summers Creek consisted mainly of green and maroon lahars and tuff.

The Central Belt assemblage consists of massive pyroxene and plagioclase-rich flows of andesitic and basaltic composition, coarse volcanic breccia, conglomerate, and lahar deposits and by lesser amounts of fine-grained pyroclastic and sedimentary rocks (Preto, 1979). Along the west side of Summers Creek near the north boundary of the MS claims, fine volcanic sediments are exposed in road cuts. The Shamrock chalcocite prospect is situated in similar rocks to the north of the claims.

The Alleyne-Summers Creek Fault system, a major north-south rift system passes through the center of the claims and dominates the tectonic fabric of the property. Local faults generally parallel the northerly trend but N20°W and N40-45°E linears are probably also important fault directions.

Nicola rocks are generally only weakly metamorphosed with maximum regional grade reaching greenschist facies. Locally comagmatic intrusions have produced metamorphic and metasomatic effects with deposits like Ingerbelle, Copper Mountain, Afton, Axe and Craigmont resulting.

GEOPHYSICAL SURVEY (Figure 3)

Magnetometer and VLF-EM readings were collected along the Summers Creek Road which was flagged and chained at 25 meter intervals. Geophysical survey stations are shown on Figure 3 with a total of 81 stations or 2.0 kilometers surveyed. A Sintrex model MP2 magnetometer was employed with the detector in the pack mount. Machine readings less 56,000 gammas are plotted on Figure 3. A Geonics Ltd. EM 16 was used for the VLF-EM survey. Readings were taken at two frequencies with Hawaii and Cutler (Maine) used. VLF-EM sections are presented in Appendix B with anomalous results shown on Figure 3.

Results

Magnetometer readings varied from 56,054 gammas to 57,262 gammas with an isolated response of 58,085 resulting from a metal culvert. A magnetic relief of 1208 gammas detected during the survey. The strong magnetic relief results from a variety of volcanoclastic and intrusive units that underlie the MS Claims. A detailed magnetic survey would aid with geological mapping of rock units and alteration patterns. Two strong crossovers were detected with on VLF-EM line. The anomalies area centered at 1+00S and 5+25 south. Parallel lines are needed to determine if anomalous trends exist on the MS Claims.

CONCLUSIONS AND RECOMMENDATIONS

An test magnetic and VLF-EM survey conducted on the MS Claims has demonstrated that the methods provide useful tools for exploring the property. Magnetic relief of over 1200 gammas was detected and two strong VLF-EM crossovers occurred along the survey line. A grid should be established and surveyed for magnetic and electromagnetics to determine if anomalous trends exist. Soil samples should be collected at survey stations and analyzed for copper, silver and gold. The initial surveys conducted on the MS claims have located mineralized showings, geochemical anomalies and anomalous geophysical anomalies. Further work is warranted to follow-up initial encouraging results.

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Christopher, P.A., 1973. Preliminary geological map of the Aspen Grove Area, British Columbia, B.C. Ministry of Energy, Mines & Petroleum Resources, Preliminary Map No. 10.

Christopher, P.A., 1984. Geochemical report on the MS Group, Similkameen Mining Division, Summers Creek Area, British Columbia. assessment report Prepared For G. Burr, P. Mullin, and W. Stevhens, dated November 20, 1984.

Nebocat, J., 1980. Report on the Missezula Project 1979,1980. Assessment Report for Newmont Exploration of Canada Ltd. dated Dec. 19, 1980.

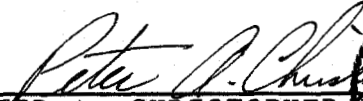
Preto, V. A., 1979. Geology of the Nicola Group between Merritt and Princeton. B.C. Ministry of Energy, Mines & Petroleum Resources, Bulletin No. 69, P. 1 - 90.

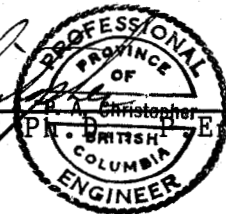
Visagie, D., 1981. Summary report on the Missezula Project 1979-1981, Similkameen Mining Division. Assessment Report for Newmont Exploration of Canada Ltd. dated Nov. 18, 1981.

CERTIFICATE

I, Peter A. Christopher, with business address at 3707 West 34th Avenue, Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geological engineer registered with the Association of Professional Engineers of British Columbia since 1976.
- 2) I am a Fellow of the Geological Association of Canada and a member of the Society of Economic Geologists.
- 3) I hold a B.Sc. (1966) from the State University of New York at Fredonia, a M.A. (1968) from Dartmouth College and a Ph.D. (1973) from the University of British Columbia.
- 4) I have been practising my profession as a Geologist for over 15 years.
- 5) I held an interest in the claims through agreement with Gerald Burr, Patricia Mullin and William Stephens.
- 6) I have based this report on a review of available geological data, and on a geophysical program conducted under my supervision on June 14, 1985.


PETER A. CHRISTOPHER P. Eng.
November 1, 1985



APPENDIX A COST STATEMENT

PERSONNEL

P.A. CHRISTOPHER P.ENG.	JUNE 14/85	1 DAY @ \$350	\$ 350
GERRY HAYNE B.Sc.	JUNE 14/85	1 DAY @ \$150	150

MOBILIZATION/DEMOBILIZATION 600

ROOM & BOARD 2 MAN DAYS @ \$50EA 100

TRANSPORTATION
4X4, GAS, MILEAGE 2 DAYS @ \$100 EA 200

EQUIPMENT RENTALS
MAGNETOMETER, VLF-EM, CHAIN SAW ETC. 60


EXPENDABLES
HIP CHAIN, FLAGGING, NOTE BOOK, MISC. 30

PHONE 10

DRAFTING, WORD PROCESSING, PRINTING 200

REPORT WRITING & MANAGEMENT 1050

TOTAL COST \$ 2700

Peter A. Christopher
Peter A. Christopher  Christopher
E. Sc. BRITISH COLUMBIA Ph D.
ENGINEER

APPENDIX B

VLF-EM PROFILES

300 REM MS PROPERTY JUN/85
301 REM STA 1 CUTLER STA 2 HAWAII
302 LINE ALONG SUMMERS CK FROM NORTH BOUNDARY @25M STA
310 DATA -5,5
320 DATA 2,7
330 DATA 6,8
340 DATA 3,5
350 DATA -4,0
360 DATA -10,-5
370 DATA -6,0
380 DATA -4,0
390 DATA -2,3
400 DATA -2,6
410 DATA -2,5
420 DATA 3,5
430 DATA 5,2
440 DATA 2,0
450 DATA -3,0
460 DATA -2,2
470 DATA 0,2
480 DATA 4,6
490 DATA 4,7
500 DATA 2,4
510 DATA 0,1
520 DATA -2,-1
530 DATA -4,-6
540 DATA -8,-10
550 DATA -5,-9
560 DATA -5,-5
570 DATA -1,0
580 DATA 0,0
590 DATA 0,-1
600 DATA 0,-2
610 DATA 0,-3
620 DATA -2,-4
630 DATA -2,-5
640 DATA -3,-5
650 DATA -4,-4
660 DATA -5,-6
670 DATA -7,-8
680 DATA -2,-4
690 DATA -2,-3
700 DATA 0,-3
710 DATA 2,-1
720 DATA 2,0
730 DATA 1,0
740 DATA 1,1
750 DATA 1,2
760 DATA 0,3
770 DATA 0,3
780 DATA -2,-1
790 DATA -3,-3
800 DATA -4,-4
810 DATA -5,-5
820 DATA -5,-5
830 DATA -5,-4
840 DATA -3,-3
850 DATA -2,-2
860 DATA 0,-1
870 DATA -2,-2
880 DATA 0,-1
890 DATA 0,-3

900 DATA 0,-1
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 920 DATA 0,-3
 930 DATA 2,-3
 940 DATA 0,-3
 950 DATA 0,0
 960 DATA 0,-2
 970 DATA 1,0
 980 DATA 0,-2
 990 DATA 0,-3
 1000 DATA -2,-2
 1010 DATA -2,-2
 1020 DATA -2,-4
 1030 DATA -2,-5
 1040 DATA 0,-4
 1050 DATA -2,-3
 1060 DATA 0,-3
 1070 DATA -1,-2
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 1100 DATA -2,-2

PROPERTY NAME :MS PROPERTY

FOR CLIENT:PETER A. CHRISTOPHER

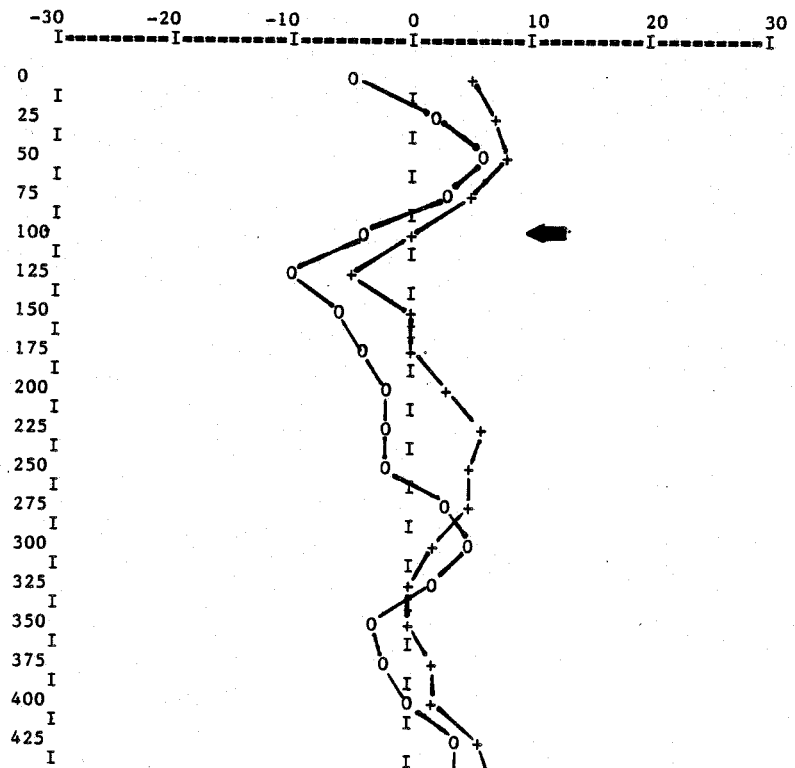
DATE :JUNE 14/85

STN 1 IS CUTLER

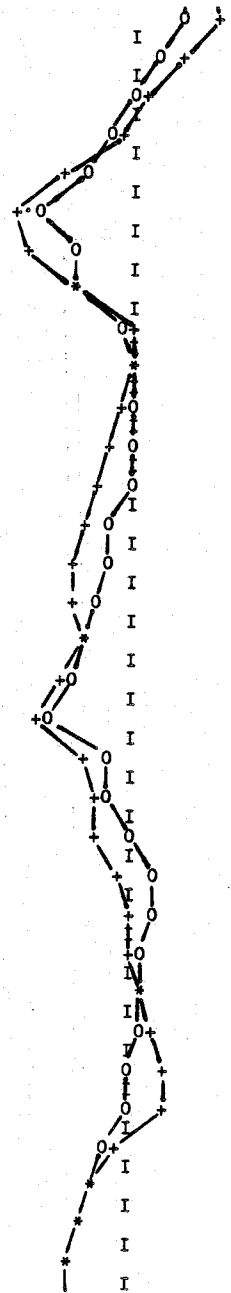
LINE NUMBER :SUMMERS CK ROAD 00 TO 2000S

STN 2 IS HAWAII

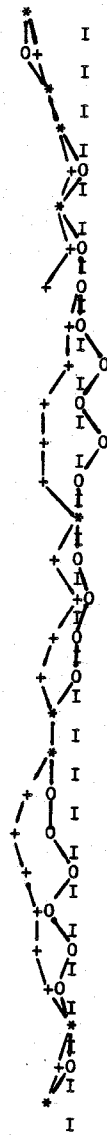
RAPITAN VLF - EM PROFILE: DIP ANGLES IN DEGREES

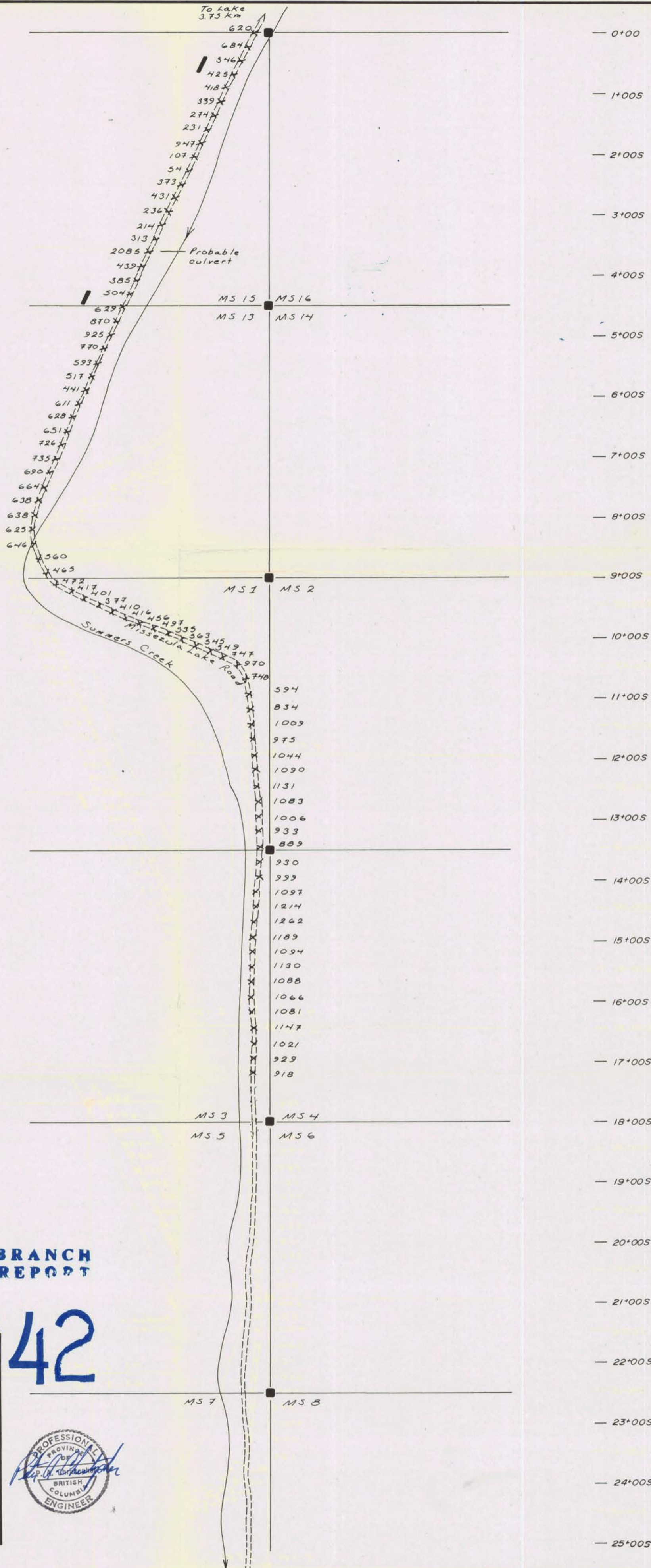


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




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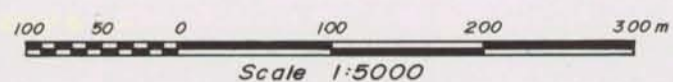
LEGEND

-  VLF-EM anomaly
-  Geophysical station
(value less 56,000gammas)
-  Road
-  Creek
-  Legal corner post

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,042
GEOPHYSICAL PLAN
THE MS GROUP

Similkameen Mining Division
Summers Creek Area, British Columbia
NTS: 92H/10E
LAT: 049° 42' 50" LONG: 120° 30' 36"

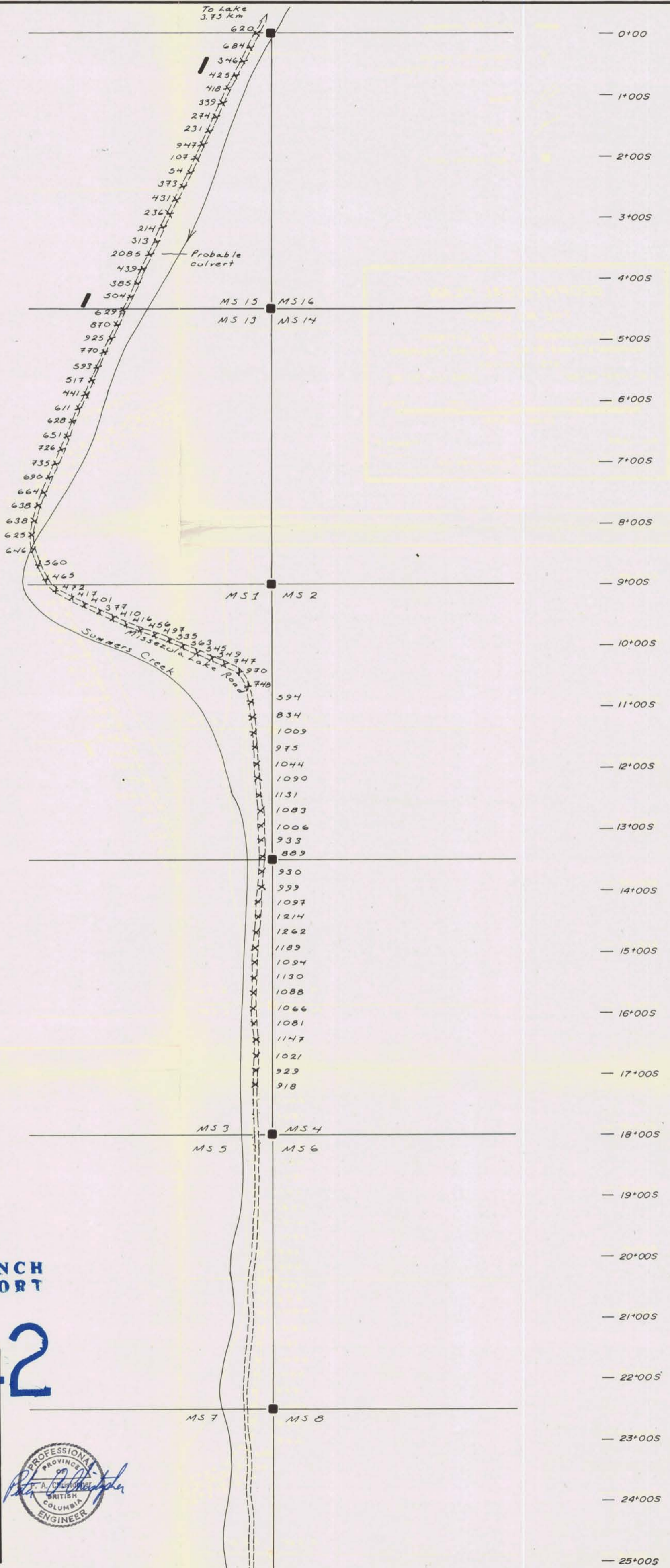


Nov., 1985






Figure 3

Peter Christopher & Associates Inc.





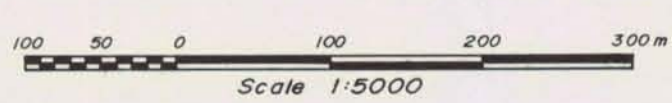
LEGEND

-  VLF-EM anomaly
-  Geophysical station
(value less 56,000gammas)
-  Road
-  Creek
-  Legal corner post

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,042
GEOPHYSICAL PLAN
THE MS GROUP

Similkameen Mining Division
Summers Creek Area, British Columbia
NTS: 92H/10E
LAT: 049° 42' 50" LONG: 120° 30' 36"



Nov., 1985

Figure 3

Peter Christopher & Associates Inc.

