VLF - E.M.16 ELECTROMAGNETIC SURVEY

ON THE

JESSE 1 AND 2 MINERAL CLAIMS

SIMILKAMEEN MINING DIVISION

92H/9E

(Latitude 49° 44', Longitude 120° 03')

OWNER AND OPERATOR
B.R. MOWRY
PRINCETON, B.C.

Author: G.D. Bysouth

Submitted: July 1990

TABLE OF CONTENTS

FIGURES

APPENDICES

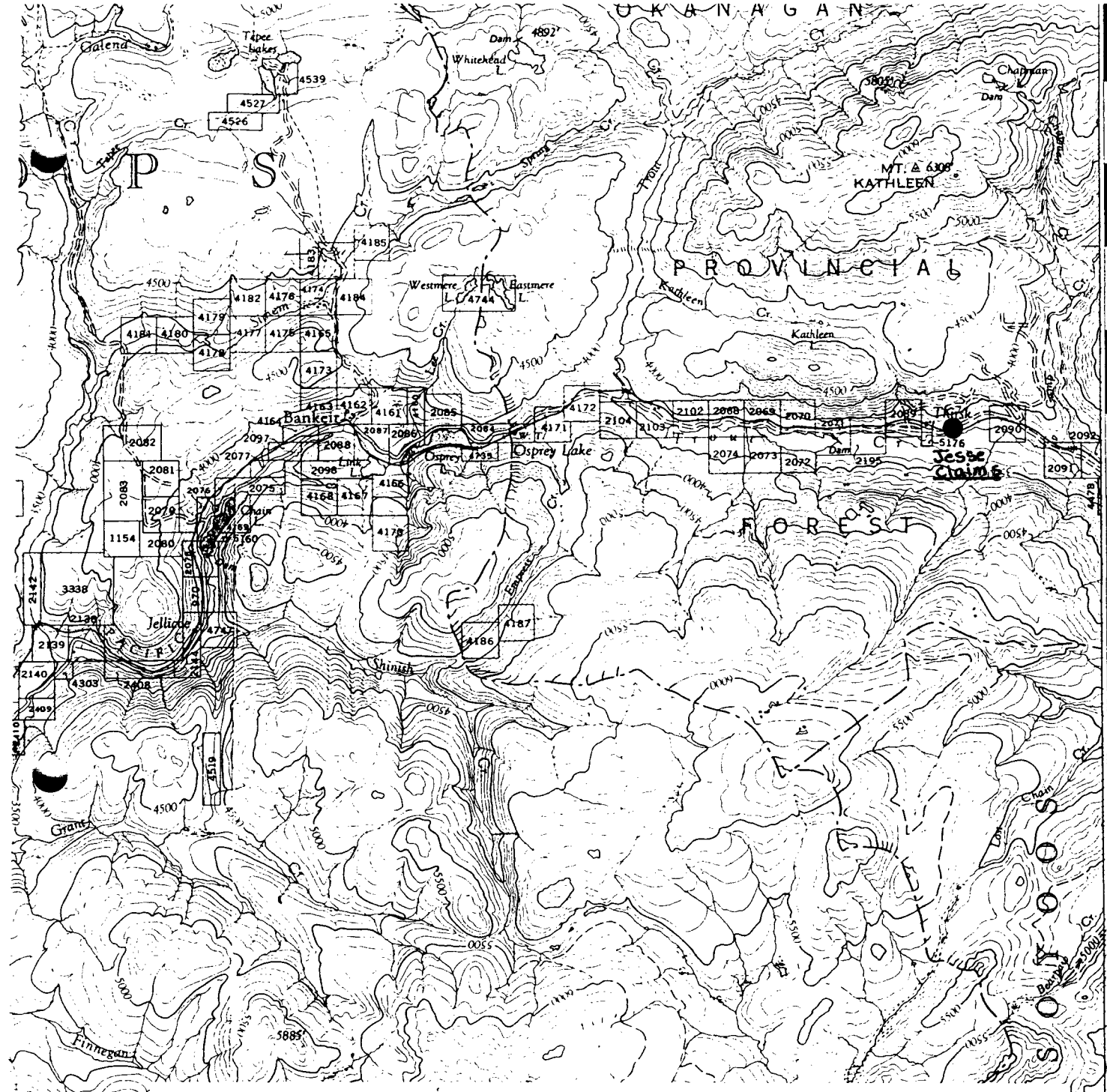


FIGURE 1
LOCATION MAP
JESSE MINERAL CLAIMS SIMILKAMEEN M.D.

Scale 1:126,720 or 1 Inch to 2 Miles

Miles 1 ½ 0 2 4 6 8 10 Miles

Scale of Kilometres

1 0 2 4 6 8 10 12 14 16

Approximate Magnetic Declination 23°20' East at centre of map 1958.
Decreasing approximately 3' 15" annually.

1.0 INTRODUCTION

The Jesse property is a gold-silver-copper prospect located in the Trout Creek valley about 18.53 kilometers northeast of Princeton, B.C. The claims can be reached from either Princeton or Summerland via all weather gravel roads.

The claims cover the old Jesse prospect which is described in Minister of Mines Report for 1928(1). The main showings consist of a quartz vein system mineralized with pyrite, chalcopyrite, galena and sphalerite, which had been explored by a 20-foot open cut and two tunnels of 10- and 80-foot lengths. A sample of high grade ore assayed .56 oz per ton gold.

The objective of the E.M.16 survey was to search for conductors within the claim group which may provide some indication of the trend and extent of the mineralization exposed on surface. A large east trending shear zone is suspected to extend across the claims, but the observed mineralization appears to strike northerly. Accordingly, two survey grids were employed; one was oriented at 20^{0} azimuth and the other at 290° azimuth.

Field work was done during the period April 14, 1990 to April 16, 1990. A total of 4300 meters of line was completed within the claims. For continuity, anomalous readings taken outside of the claim boundary have been also included in the report.

2.0 MINERAL CLAIMS

The location of the Jesse 1 and 2 Mineral Claims is shown in Figure 2. The claims are two-post with a location line common to both claims trending 290°. The record numbers of Jesse 1 and 2 are 2864 and 2865 respectively. Date of record is April 22, 1987. Both claims are owned by B.R. Mowry of Princeton, B.C. The E.M. survey was carred out over both claims.

3.0 GEOLOGY

The Jesse claims straddle the broad easterly trending valley of Trout Creek. Glacial deposits of sand and gravel cover the valley floor, and in places form a pockety or kettle-like topography. Within the claim area the creek appears to have cut through the glacial material down to bedrock. The original Jesse showings occur within the creek exposure along the north wall of a shallow rock canyon. Numerous rock outcrops also occur along the northern side of the valley forming a series of steep rock bluffs. The southern rim of the valley is largely drift covered but is characterized by a steep, almost scarp-like rise from the valley floor.

The bedrock geology appears to be entirely plutonic. A prevailing rock type is a medium to coarse grained granodiorite or quartz-monzonite characterized by conspicuous pink orthoclase feldspar. Rice[2] has classified these rocks Coast intrusions. Of particular interest within the claim area is the presence of numerous alaskite dykes which often appear related to mineralization and alteration.

4 VLF - E.M. ELECTROMAGNETIC SURVEY

4.1 INSTRUMENTATION AND THEORY

The instrument used in this survey was an E.M.16 manufactured by Geonics Limited of Missisauga, Ontario. The instrument operates within a frequency of 15 to 25 KHz. Nulling is by audio tone. Quad-phase measurements are taken from a graduated dial. In-phase measurements are taken from a mechanical inclinometer.

This method employs V.L.F. radio signals in the 15-25 KHz range as a primary field source. The normal field from these V.L.F. stations is horizontal but can be locally distorted by many factors, the most important of which are electrical conductors in the ground. The distortion by such a conductor

will cause the normally horizontal field to tilt and this tilt can be quantified by measuring the angle of null, or minimum signal, in a vertical plane, tangential to the wave front of the primary field. With this instrument, readings will be positive as one approaches the conductor and negative in moving away from it.

4.2 FIELD PROCEDURES

In-phase (tilt-angle) and quad-phase readings were taken at 25 meter intervals along lines spaced 100 meters apart. On the lines oriented at 20° the signal from Maryland was employed which has a frequency of 21.4 KHz. On the lines oriented at 290° the signal from Washington was used which has a frequency of 24.8 KHz. In taking the reading, the instrument is held horizontally and rotated in a horizontal plane until a null signal is received. In this position the instrument is pointing to the direction of the transmitting station. The instrument is then swung to a position perpendicular to this direction and readings taken in a vertical plane which in effect is tangential to the wave front of the primary field. At each 25-meter station the grid coordinates, tilt angle, quad-reading and topographic slope was recorded in a field notebook. By convention the topography was taken in the same direction as the E.M. readings with negative slopes denoting downhill and positive slopes uphill.

4.3 RESULTS AND INTERPRETATION

The grid configuration and location is shown in Figure 2. The E.M.16 profiles are provided in Figure 3.

The northerly trending grid was run along lines oriented at 20° azimuth. As shown in Figure 2, the continuity of the grid was interrupted by the abandoned Kettle Valley railway line and bordering fences. Since the track and fences lie along the path of the Maryland signal, a large interference was experienced for at least 100 meters on either side of the

track. The full effect of this conductor is demonstrated in the Line 0 profile which was run across the track. The other lines were terminated on eitherside of the track as soon as the interferences became apparent.

Within the northerly grid, the lines north of the track did not encounter any recognizable conductivity contrast. To the south, however, all lines have shown a moderate tilt angle inflection associated with a flat or weakly negative quadrature response near the edge of the grid between stations 500S and 600S. This zone generally corresponds with a series of spring-fed swamps located at the base of a scarp-like hillside. Since the tilt angles are opposed to that expected by the hillslope, a topographic cause for the anomaly has been ruled out. Possibly, a east trending fault system lies at the base of the scarp, and the E.M.16 is responding to either a resistivity contrast across the fault, or some weak conductivity within the fault.

The westerly trending grid was run along lines oriented 290° azimuth. These lines all appear relatively flat which would suggest very little resistivity contrast within the underlying bedrock.

5.0 STATEMENT OF EXPENDITURES

E.M. SURVEY - JESSE CLAIMS 1990

1. Field Work*

G.D. Bysouth	April 14 . .	9 hours	
	April 15 . .	7 hours	
	April 16 . .	6 hours	
	Total	22 Hours @ $25/hr	$550.00
B.R. Mowry	April 14 . .	9 hours	
	April 15 . .	7 hours	
	April 16 . .	6 hours	
	Total	22 Hours @ $12/hr	$264.00

Total Field Work . . . . . $ 814.00

2. Report Preparation

G.D. Bysouth 7 hours @ $25.00/hr. . . . . $ 175.00

3. Vehicle Costs

1989 Chevrolet 4x4 $20.00/day . . . . . $ 60.00

4. Supplies

Topo string, flagging . . . . . $ 19.00

Total Cost . $1068.00

(* refers only to work done during claims)

G.D.B.

6.0 CONCLUSIONS

The only significant conductor responsive to the E.M.16 method was found along the southern edge of the claims. Since the anomaly is also associated with a line of springs and seeps, it should be tested further by geochemical sampling of both water and hydromorphic soil.

Garry D. Bysouth
Geologist

APPENDIX A
STATEMENT OF QUALIFICATIONS

I, Garry D. Bysouth, of Williams Lake, British Columbia, do certify that :

1. I am a geologist.
2. I am a graduate of the University of British Columbia, with a B.Sc. degree in Geology in 1966.
3. From 1966 to the present I have been engaged in mining and exploration geology in British Columbia.
4. I personally participated in all field work and interpreted the results.

Garry D. Bysouth

Garry D. Bysouth

APPENDIX B

FIELD NOTES

Line O

Jesse Claim

April 14/96

Maryland @ 120°

Traverse run @ 20° az. Reading facing N

Dist.	L.	Quad	Topo	Remarks
0	+20	-6	∅	No 1 Post Jesse land 2
25 N	+32	-5	+5	
50 N	+80	+5	+15	S of Fence
75 N	-5	-22	0	N of Fence S of rail
100 N	no null	→	Fence and rail road	N. of Fence and rail road cause of anomaly
125	+10	+33	"	"
150	-15	+22	"	"
175	-3	+26	0	
200 N	0	+12	0	
225 N	+4	+8	+5	
250 N	+2	+10	+10	
275 N	+3	+5	+15	Frequent
300 N	+7	+5	+10	G.D. stops
325	+10	+8	+10	
350	+10	+2	+10	
375	+13	+4	+15	
400	+14	+6	+15	~ N. of old rd.
425	+17	+2	0	/
450 N	+18	+1	+5	
475 N	+18	+1	+10	
	go 100 m @ 290°			

Line 100W

Jesse Claims — April 14/98

Maryland @ 120° line as 20° — Facing N

Dist	L	Quad	Topo	Remarks
475 N	+18	0	+5	
450 N	+18	0	+5	
425 N	+18	0	+10	
400 N	+18	0	+20	
375 N	+17	0	0	
350 N	+20	+5	+5	
325 N	+20	+3	+20	
300 N	+20	+8	+15	
275 N	+17	+8	+5	numerous
250 N	+15	+10	+5	grid steps
225 N	+10	+10	+5	
200 N	+7	+8	+5	
175 N	+2	+10	+5	
150 N	-3	+12	+5	
125 N	-12	+12	+25	N. fence of railway track
100 N	-32	+20		

railway track @ 75N

∴ go 100m W from 75N

Line 100W

Jesse Claims — April 15/98

Maryland @ 120° ; line run @ 20° az ; facing N

Dist	L	Quad	Topo	Remarks
525 S	-20	+2	-20	
500 S	-21	+5	0	swamy
475 S	-38	-5	-10	logged area
450 S	-28	-2	-5	
425 S	-22	-2	-20	
400 S	-17	+2	-15	
375 S	-15	0	0	
350	-12	+1	+10	
325	-12	0	-15	
300 S	-10	+2	-15	
275 S	-12	-2	-10	
250 S	-11	-3	-5	
225 S	-8	-2	0	
200 S	-3	-6	0	
175 S	-4	-4	0	main road
150 S	-3	-6	0	
125 S	+3	-6	+10	
100 S	+7	-4	-5	
75 S	+10	-6	-5	creek
50 S				
25				

Line 200W

Jesse Claims — April 14/90

Maryland @ 120° ; lines run at 20°az - looking N

Dist	L	Quad	Topo	Remarks
75N	-15	+12	0	250N of fence
100N	-3	+13	25°	
125N	+5	+12	20	
150N	+10	+8	-5	
175N	+15	+7	0	numerous
200N	+18	+4	+10°	g.d. steps
225N	+18	+6	+10	
250N	+22	+4	+5	
275N	+24	+4	+5	line parallels road / rd
300N	+25	+2	+15	road
325N	+22	0	+15	
350N	+25	+4	+10	
375N	+27	+2	+10	
400N	+28	+4	0	
425N	+30	+2	-5	numerous
450N	+28	0	-5	g.d. steps
475N	+33	+4	-15	

∴ go 100 m W from 475N

Line 200 W

Jesse Claims — April 15/90

Maryland @ 120° : lines run @ 20° az : readings facing N

Stn	L	Quad	Topo	Remarks
200S	-1	-3	-5	
225S	-2	-4	0	15m N of main rd.
250S	-2	0	0	
275S	-5	0	0	
300S	-7	+1	0	
325S	-11	+1	0	
350S	-13	+1	0	
375S	-17	-17	-20	
400S	-22	-2	-20	
425S	-24	-1	-10	
450S	-25	+3	0	
475S	-34	+2	0	Swamp
500S	-28	+4	0 to +20	Swamp
525	-16	+4	-20	
175S	+4	-2	-10	
150S	+5	-4	-15	
125S	+8	0	-15	
100S	+12	0	-15	
75S	+16	0	-20	
50S	+20	-5	-30	
25S	+32	-5	-30	Creek - S side

Line 300W

Jesse Claims — April 15/90

Maryland @ 120° ; lines run @ 20° az - readings face N.

Dist	L	Quad	Topo	Remarks
175 S	+2	−4	0	E side of creek
200 S	−4	−6	−5	
225 S	−8	−7	0	good rock exposure
250 S	−7	−4	−5	
275 S	−8	−2	−5	
300 S	−7	0	0	S side of main rd.
325 S	−5	+3	10	
350 S	−10	+3	0	
375 S	−16	+5	10	Pocketty terrain (gravel moraine?)
400 S	−19	+4	0	
425	−26	−2	0	
450	−26	+5	0	
475	−28	+6	0	
500	−33	+6	+5	
525	−41	+1	−15	
550	−23	+3	−5	
575	−20	−3	−30	
600	−17	−4	−30	
625	−21	−8	−35	
650	−25	−10	−35	

Line 300W

Jesse Claims — April 14/90

Maryland @ 120° ; lines run @ 20° az - readings facing N.

475N	+22	0	+10	
450N	+22	+2	+10	
425N	+22	−1	+10	
400N	+17	−3	+20	
375N	+23	+2	+15	
350N	+28	+2	+15	
325N	+29	+3	−10	
300N	+28	+2	+10	
275	+29	+3	−5	
250	+28	+3	+5	
225	+27	+3	+10	
200N	+25	+2	+15	
175N	+25	+5	+5	rock pile
150N	+18	+4	0	
125N	+12	+6	0	
100N	+7	+7	+10	
75N	−3	+12	+5	interference from tracks and fences
50N	−18	+12	+5	
25N	−50	−15	+10	
0	N. fence line			
25S	~@ S fence line		main showing lics from 25 S. along rail track	71m E.
50S				
75S	+15	−12	+5	
100S	+10	−2	+10	
125S	+7	−13	+5	creek

Line 400 W

Jesse Claims

April 15/90

Maryland @ 120° ; lines run @ 20° - reading facing N

Dist	L	Quad	Topo	Remarks
650 S	-16	0	0	edge of logged area
625 S	-18	-4	-5	
600 S	-22	-10	-30	
575 S	-18	-5	-25	
550 S	-12	+1	-20	
525 S	-10	+8	0	small swamp
500 S	-34	+6	+15	
475 S	-26	+8	+5	logging rd + rock cut
450 S	-18	+8	0	paralleling road
425 S	-18	+4	0	" "
400	-17	+4	-5	" "
375	-15	0	0	" "
350	-13	0	0	main rd and junction with logging rd

go L 450W

Jesse Claims

April 15/90

Line 450W

Maryland @ 120° ; lines run @ 20° - readings facing N

250 S	-15	+8		Creek
275 S	-11	+5		
300 S	-7	+2		
325	-8	-2		
350	-12	2		N of main rd.
375	-13	0		
400	-16	+2	+5	
425	-18	+3	+6	
450	-22	+5	+15	
475 S	-32	+3	+15	logging rd
500	-23	+5	+5	swamp
525 S	-2	+6	0	swamp
550 S	-7	+2	-15	base of steep hillside
		+5		
A50	-22			

Line 150N

Jesse Claims

Washington 200° ; lines run @ 290° az ; facing E

Dist	L	Quad	Topo	Remarks
325 W	+8	0	0	
300 W	+12	-2	+5	
275 W	+15	-1	+5	pass extension of main showings
250 W	+18	+2	-5	
225	+18	+1	+0	
200	+15	-6	-15	
175	+10	-5	+5	
150	+8	-8	-10	
125	+12	-6	-5	
100	+12	-2	-5	pass interference by RR tracks
75				
50				

Line 200N

Jesse Claims

Washington 200° ; lines run @ 290° az ; facing E

Dist	L	Quad	Topo	Remarks
0	+4	-2		
25 W	0	-4		
50 W	-2	-8		
75 W	+2	-6		
100 W	+2	-8		
125	+4	-7		
150	+4	-5		
175	-2	-5		
200	-5	-9		
225	-4	-7		pass extension of main showings
250	+2	-3		
275	+6	-3		
300	+3	-1		
325	+4	-1		
350				
400				
425				
450				

Line 350S

Jessa Claims — April 16/90

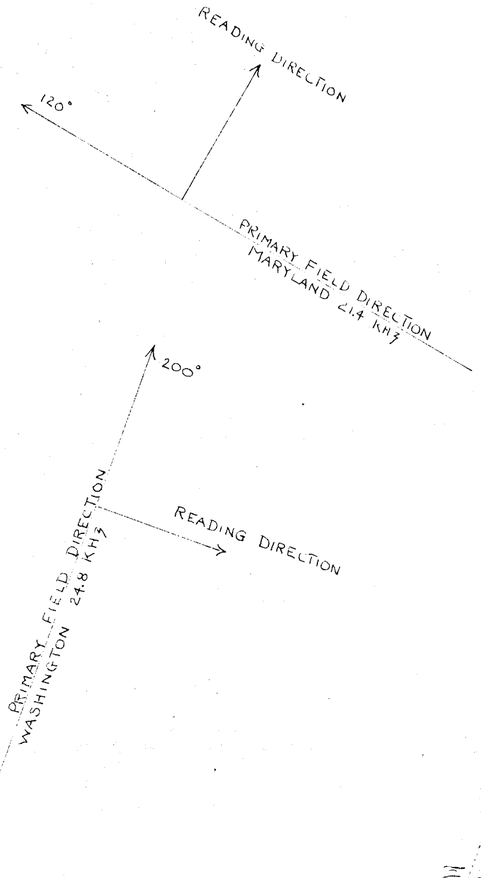
Washington 200°; lines run @ 290°; facing E.

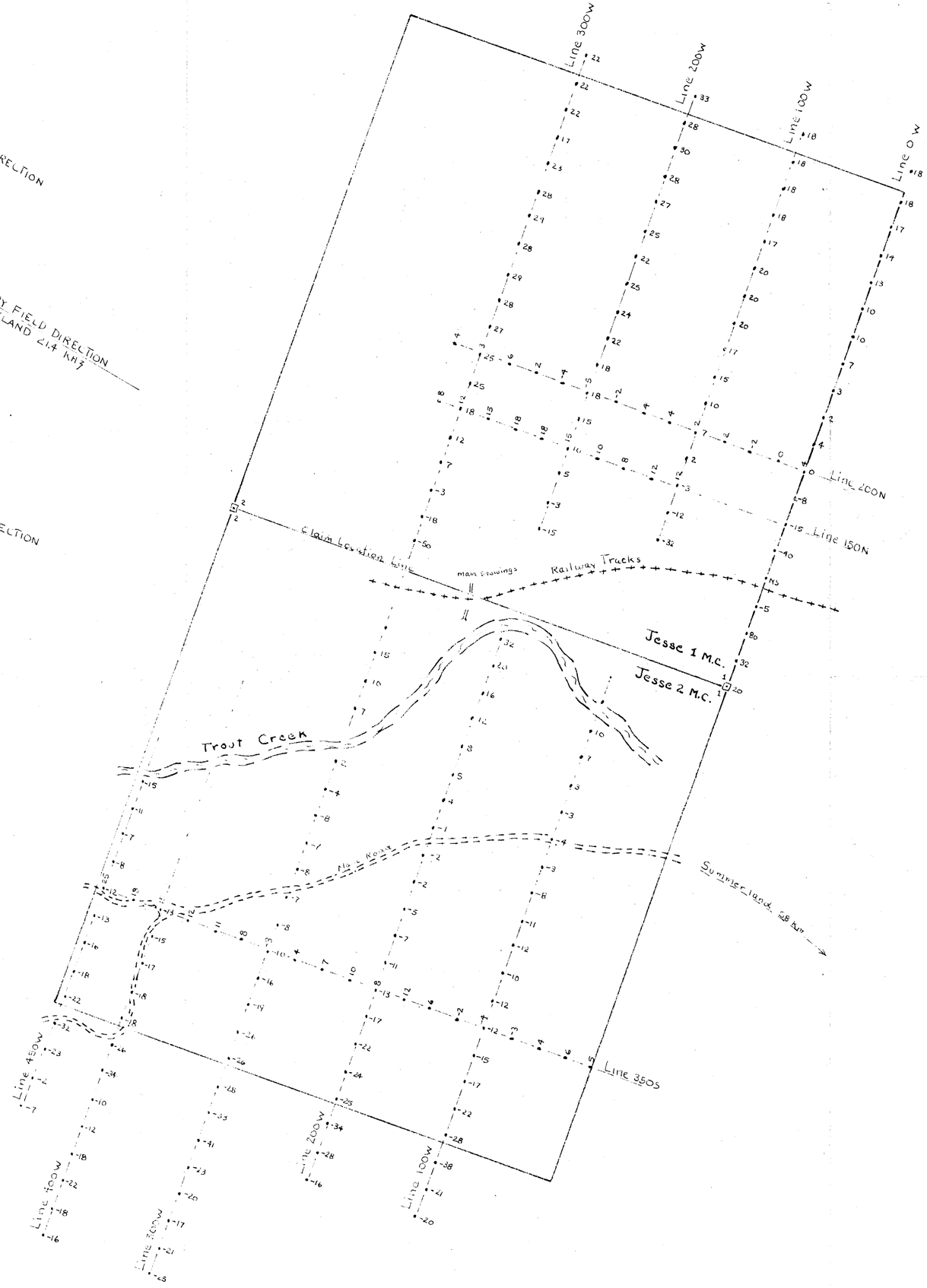
Dist	L	Quad	Topo	Remarks
400W	+15	0	+0	traverse starts
425W	+18	-2	+10	@ 350S on L400W
450W	+25	+2	+15	at road junction -
				- gen. poor,
375W	+12	0	+5	weak signal
350W	+11	-4	+15	
325	+8	-5	+10	
300	-3	+2	0	
275	+4	-4	-5	rolling homogeley
250	+7	-2	+10	topo
225	+10	+2	0	
200	+8	0	+10	
175	+12	0	+10	
150	+6	0	-5	
125	-2	+4	+5	start of logged
100	-4	+6	-10	area
75	-3	+5	-5	
50	+4	-5	+5	
25	+6	-2	-10	
0W	+5	+6	+10	

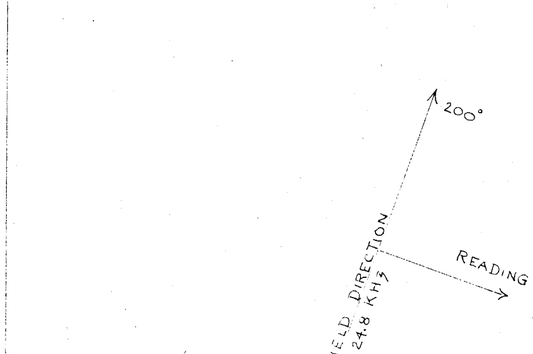
APPENDIX C
REFERENCES

1. B.C. Minister of Mines Report 1928 p 264.

2. G.S.C. Memoir 243, Geology and Mineral Deposits Of The Princeton Area by H.M.A. Rice, p 38-39.







Scale 1:3000
0 25 50 75 100 meters

Control
Hip Chain and Compass

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,170

EM-16 SURVEY 1990
GRID LOCATION AND IN PHASE PLOT
JESSE CLAIMS
SIMILKAMEEN M.D.

June 1990 G.D.B.

FIGURE 2

Direction of Readings (North) ⟶

Line 150 W

base of scarp

Line 400 W

base of scarp

base of scarp

base of scarp

base of scarp

Line 300W

Railway

Line 200 W

Line 100W

Railway

Line 0

Railway

500S 450S 400S 350S 300S 250S 200S 150S 100S 50S 0 50N 100N 150N 200N 250N 300N 350N 400N 450N 500N

⟵ Direction of Readings (East)

Line 200N

Line 150N

Line 350S

0 50W 100W 150W 200W 250W 300W 350W 400W 450W

Legend:

In Phase Profile

Quad Phase Profile

Scales:

Horizontal 0 25 50 75 100 meters

Vertical

Percent 20 10 0 10 20

GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,170

EM-16 SURVEY, 1990

IN PHASE AND QUAD PHASE PROFILES

JESSE CLAIMS

SIMILKAMEEN M.D.

June 1990 G.D.B.

FIGURE 3