

GEOCHEMICAL, LINECUTTING AND PROSPECTING REPORT

ON THE

COMMONWEALTH GROUP

consisting of

<u>Name of Claim</u>	<u>Lot No.</u>	<u>Record No.</u>	<u>Recorded Owner</u>	<u>Group Name</u>
Sultan	L.4171	137	Eric Denny	
Commonwealth	L.4172	138	Eric Denny	Commonwealth
Republic	L.4173	139	Eric Denny	
Republic Fr.	L.4176	140	Eric Denny	

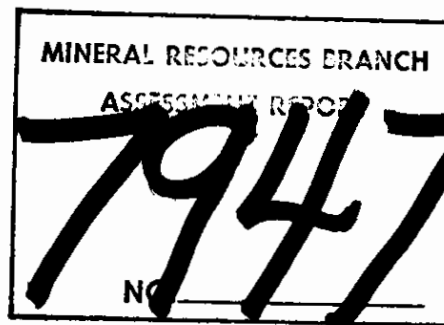
Operators: Eric and Jack Denny  
R. R. #1,  
Nelson, B. C.  
V1L 5P4

Location: Slocan Mining Division  
Nat. Top. Map 82F/10E  
Latitude 49 degrees 40' Longitude 116 degrees 40'  
At headwaters of Hooker Creek on North slope of  
Mt. Hooker, 10 km in an airline due east of the  
Crawford Bay arm of Kootenay Lake.

Author: Eric Denny

Date Submitted: January 3, 1980.

*Respectfully submitted by*  
*Eric Denny*



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LIST OF MAPS AND PLANS

<u>Figure</u>	<u>Title</u>	<u>Scale</u>	<u>Location</u>
1	Index Map	1:50,000	Page 3
2	General Map	1:1500	Map Pocket
3	Soil Geochem - Cu.	1 cm= 50 m	page 11
4	" " - Pb.	" "	" 12
5	" " - Zn.	" "	" 13
6	" " - Ag.	" "	" 14
7	Silt Geochem	" "	" 15

## INTRODUCTION

### LOCATION

The Commonwealth Group is situated in Plocan Mining Division at the headwaters of Hooker Creek, a north-westerly flowing tributary of Crawford Creek. The claims are on the north slope of Mount Hooker, ten kilometers in an airline due east of the north end of the Crawford Bay arm of Kootenay Lake. See Index Map-Figure 1.

### Access

Access is by four-wheel drive either 75 kilometers north from Creston to Crawford Bay on Highway 3A or 5 kilometers east from Kootenay Bay ferry landing to Crawford Bay, then 11 kilometers up Crawford Creek and 6 kilometers by logging road up Hooker Creek. From the road end it is about 2 kilometers by trail to the main showings on the Commonwealth mineral claim.

### Topography and Climate

Elevations range from 1800 meters to 2200 meters. Mt. Hooker is quite precipitous but the area of interest consists of a series of parallel ravines separated by ridges all sloping about 10 to 15 degrees to the north. The main showings on the Commonwealth and Republic claims are in one of these ravines -- the floors of which have a fairly heavy cover of overburden with a heavy growth of grass and alpine flowers each drained by a small stream. The ridges are fairly well timbered with spruce, balsam and alpine larch up to 50 centimeters in diameter. Snowfall is fairly heavy and due to the



north slope the ground does not become bare until approximately July 1. Snow can be expected again about November 1.

History

The building of the Pilot Bay Smelter in 1891-92 caused an influx of prospectors into the Crawford Creek area. One of the most travelled routes between East Kootenay and Kootenay Lake was through Hooker Pass just to the north of the Commonwealth. According to old reports these claims were worked from 1896 until at least 1901. A little work was probably done in the 1920's judging from the vintage of the remains of one of the old cabins. Various people have held the claims over the years but until the logging road was completed in the 1960's, on Hooker Creek, access was a big problem to discourage any more work. There is no record of any production. The area was geologically mapped in 1936, 1937 and 1938 by H. M. A. Rice. The Commonwealth Group of four reverted crown grant claims was acquired by the author and his son in 1976.

### Economic Assessment

Most of the claim area lies within the Horcethief Creek Series although in this particular area it is more similar in many ways to the Mt. Nelson Formation. The Toby Conglomerate lies on the east side of the claims. See Map 603A - H.M.A. Rice 1940.

There are beds of rotten, porous, buff weathering dolomite, in places quite brecciated and containing specks and blobs of lead and zinc. There are two known occurrences where the dolomite contains quartz stockworks some of which is slightly mineralized. In the area of the dolomite outcrop shown near the bottom centre of Figure 2 there is a width of over 15 meters that contains some stringers of quartz that are fairly well mineralized, some more massive quartz also quartz stockwork and dolomite that contains disseminations of galena, grey copper, malachite and azurite. As the dolomite is mostly in the depressions it is obscured with overburden. The ridges are composed of argillite, schist and quartzite.

Most of the work has been done on a large quartz vein or veins running for at least 450 meters with widths up to 5 meters. Over 20 open cuts and a 35 meter drift prove these measurements and show the extent of the mineralization to date -- see Map - Figure 2.

Mineralization is widespread but the overall grade so far proven is comparatively low. Minerals that are present in order of abundance are lead, zinc, grey copper, azurite, malachite and pyrite. Not so obvious but definitely there according to assays are silver, gold, antimony, and cadmium. Although some of the quartz veins could be mined and the high grade sorted and shipped; the main economic possibilities lie in proving up a large body or bodies of low grade lead-zinc replacement or stratiform type of mineralization in the rotten brecciated dolomite. The showings of quartz stockwork could also prove a potential source of a good size ore-body.

With present high mineral prices the mining and shipping of the considerable tonnage of mineable width quartz veins could prove viable due to its high silica content.

## WORK DONE

### Prospecting

Prospecting consisted of breaking rocks, following formations, examining existing workings, taking samples and making notes and sketches on everything of interest with the idea of trying to assess the economic viability of the claims and also to make sure that the claims covered the best ground in the area.

### Linecutting

A north-south baseline was cut for 540 meters with the mid-point beside the original No. 1 post of the Commonwealth. Seven cross-lines were cut at 90 meter intervals with stations at 30 meter intervals - 5 stations to the east and 3 stations to the west on each cross-line. Each station was marked by an orange and blue flagging tape with its location printed on the tape with a marking pen. Lines were run with a hip chain and Silva Ranger compass making allowance for slope. Lines were marked by cutting branches and small trees and windfalls and using orange flagging tape. In all 5.5 kilometers of line was cut on an average width of one meter. For plan of grid see Figure 2.

### Geochemical Survey

Purpose - The existence of mineralized float in areas where there was no outcrop made us believe that a geochemical survey



would do more to help us find the source of this float and perhaps lead us to some showings that have never been found before. There has never been any modern exploration done on the property so we felt that a geochemical survey was the most logical first step to take.

Sampling Procedure - A cast iron mattock was used and the material sampled was from the B. Horizon wherever possible. Care was taken to avoid the inclusion of any humus rich topsoil or the leached upper subsoil. The depth from which samples were taken varied from 12 cm to 30 cm. Approximately 100 grams of the finer grained material was placed in high wet-strength, Kraft paper bags, each numbered the same as the flagging beside which they were taken. The bags were closed by folding.

The sampling consisted of:

63 soil samples to be run for Cu., Pb., Zn., Ag.

5 sediment samples to be run for Cu., Pb., Zn., Ag., Mo.,  
Cd., Sb.

The sediment samples were put in cloth bags each containing about 500 grams of fine grained material.

Description of Sample Analysis - Samples were analyzed by Kamloops Research and Assay Laboratory Ltd. using methods that are approved by the British Columbia Ministry

of Energy, Mines and Petroleum Resources. The samples are dried in a drying oven, then screened through an 30 mesh stainless steel sieve in a room where only geochem samples are processed. Determination of Cu., Pb., Zn., Ag., Mo., Cd. is arrived at by digesting and mixing a fixed amount of the sample with a proportionate amount of the acid required for each metal sought. Analysis is done on an atomic absorption spectrophotometric unit.

#### Results

The results of the soil sampling program are given on Pages 11-14.

Figures 3, 4, 5, 6 and the results of the silt sampling are given on Page.15. Figure 7. Geochemical Lab Reports are given as received from the assayer on Pages 16-18.

The results for the soil sampling were disappointing except for 90S + 30W and 4 others. The results of the sediments were higher than expected.

Interpretation

Considered anomalous are	Copper	100 and over
	Lead	100 and over
	Zinc	400 and over
	Silver	2 and over

Decision on a choice of the above values was arrived at by calculating the average background values and the threshold values on these claims and averaging the results with geochemical surveys taken at other places in the Horsethief Creek formation.

The high readings on sample 90S + 30W were investigated and a small greenstone sill was found but it contained no visible mineralization other than magnetite. 90S + 30E and 90N + 90W are interesting but the other few higher soils could be explained as being contaminated by known mineral occurrences.

The sediments gave far better average results than the soils. The most unexplainable thing about the sediment results was that 270N + 18W was not higher in relation to the others because it drains the gulley in which all the known workings exist. 27N + 7E is close enough to the workings to allow a higher reading but the results of the other 3 sediments are not

explainable, there being no known mineralization in the areas they drain. However there is enough overburden in the depressions to completely hide any mineral that might be there. The sediment results might suggest extending the grid further up the hill toward the source of the streams.

Conclusions

The results are quite inconclusive but the widespread mineralization and good assays obtained in former years together with the favorable host rocks such as the brecciated dolomite, the quartz stockworks and the good widths and lengths of quartz veins certainly warrant further exploration.

Because so much of the bedrock is hidden a geophysical survey could prove worthwhile on the present grid together with any extensions that might be adviseable. Some cross trenching would be adviseable in the event that 2 kilometers of road was built so as to be able to use a back-hoe. It is quite possible that after doing the above that there would be some worthwhile diamond drill targets to go after.

*Respectfully submitted by  
Eric Denny*

— 90W      — 60W      — 30W      — B/L      — 30E      — 60E      — 90E      — 120E      — 150E

25      9      31      75      15      19      23      20      12

— 270N

16      16      21      20      17      10      14      21      16

— 180N

352      36      44      18      18      14      13      22      29

— 90N

44      20      34      15      16      13      16      19      17

— 00

47      26      235      42      31      12      14      22      20

— 90S

23      29      100      28      30      14      13      17      21

— 180S

65      18      17      21      36      19      21      14      20

— 270S



COMMONWEALTH GROUP  
 GEOCHEM IN P.P.M.  
 SCALE 1CM=30M      0      30      60      90M  
 FIGURE 3 - COPPER

— 90W    — 60W    — 30W    — B/L    — 30E    — 60E    — 90E    — 120E    — 150E

49    26    39    120    37    22    41    28    22    — 270N

49    32    32    25    30    31    21    32    34    — 180N

71    51    43    200    26    20    26    25    30    — 90N

48    21    42    34    20    15    17    18    15    — 00



25    55    1390    17    161    20    24    25    21    — 90S

28    16    14    13    61    17    19    19    33    — 180S

78    30    22    26    52    42    27    27    63    — 270S

# COMMONWEALTH GROUP

GEOCHEM IN P.P.M.

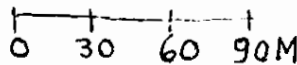
SCALE 1CM = 30M 

FIGURE 4 - LEAD

90W	60W	30W	B/L	30E	60E	90E	120E	150E
-----	-----	-----	-----	-----	-----	-----	------	------

79	20	64	141	45	29	90	37	23	- 270N
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67	37	53	51	82	28	15	35	46	- 180N
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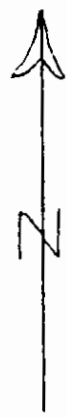
196	105	94	846	65	30	34	34	119	- 90N
-----	-----	----	-----	----	----	----	----	-----	-------

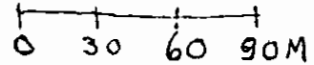
93	29	40	56	24	16	53	57	51	- 00
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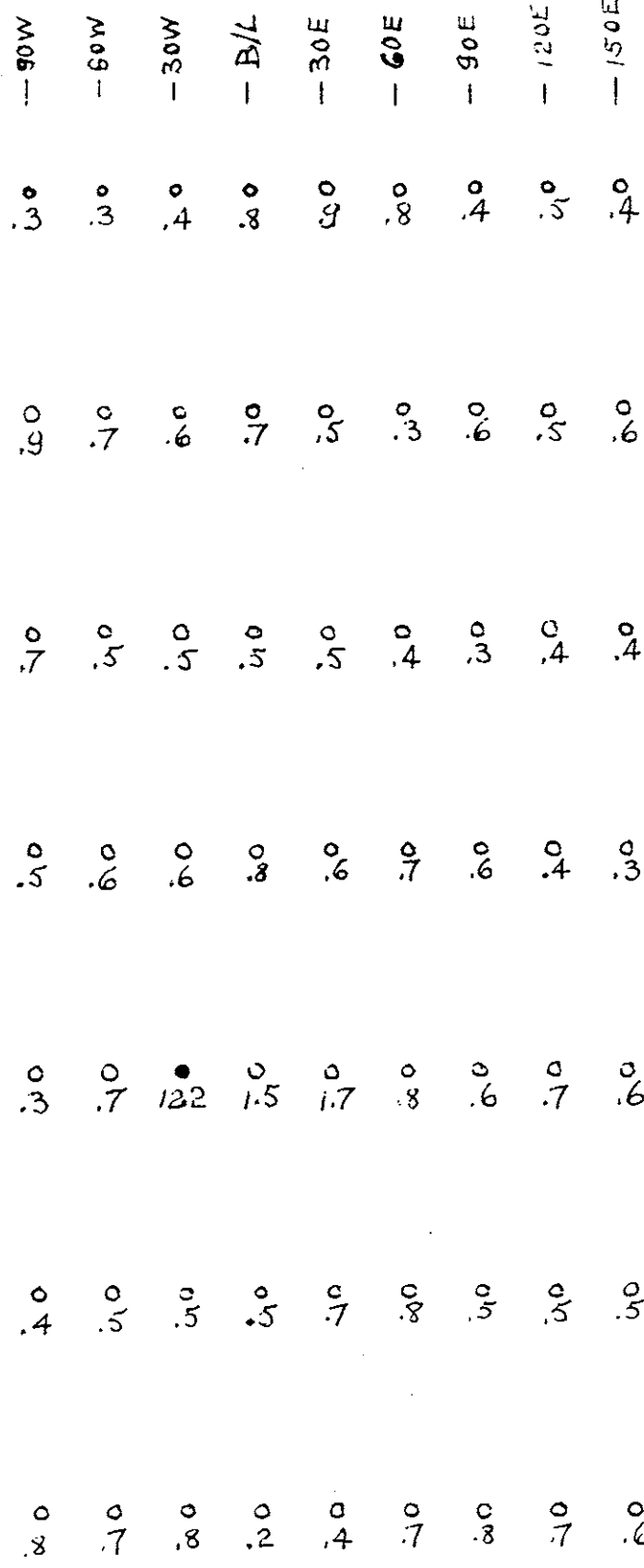
45	72	1490	18	189	12	32	40	21	- 90S
----	----	------	----	-----	----	----	----	----	-------

29	24	45	17	142	15	24	41	57	- 180S
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127	22	20	32	129	27	31	15	117	- 270S
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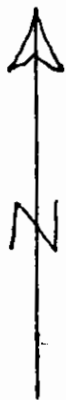
COMMONWEALTH GROUP  
 GEOCHEM IN P.P.M.  
 SCALE 1CM=30M   
 FIGURE 5 - ZINC



COMMONWEALTH GROUP  
 GEOCHEM IN P.P.M.  
 SCALE 1CM=30M 0 30 60 90M  
 FIGURE 6-SILVER



	-90W	-72W	-60W	-30W	18W	B/L	7E	-30E	-60E	-85E	90E	-120E	140E	150E	
COPPER	▲ 29	▲ 48	▲ 19	▲ 21	▲ 38										-270N
LEAD	▲ 110	▲ 187	▲ 200	▲ 186	▲ 264										-270N
ZINC	▲ 180	▲ 846	▲ 134	▲ 120	▲ 396										-270N
SILVER	▲ 1.3	▲ 1.5	▲ .8	▲ .8	▲ .8										-270N
MOLYBDENUM	▲ L-1	▲ L-1	▲ L-1	▲ L-1	▲ L-1										-270N
CADMIUM	▲ 1	▲ 3	▲ 3	▲ 1	▲ 6										-270N
ANTIMONY	▲ 5	▲ 15	▲ 9	▲ 13	▲ 13										-270N



COMMONWEALTH GROUP  
 5 SILTS IN P.P.M. ON LINE 270 N.  
 SCALE 1CM=30M 0 30 60 90M  
 FIGURE 7

Kamloops Research  
&  
Assay Laboratory  
LTD.



B.C. CERTIFIED ASSAYERS

2095 WEST TRANS CANADA HIGHWAY - KAMLOOPS, B.C. V1S 1A7  
PHONE 372-2784 - TELEX 048-8320

16-

GEOCHEMICAL LAB REPORT

DATE August 14, 1979.

Mr. Eric Denny,  
R. R. #1,  
Nelson, B. C.  
V1L 5P4

ANALYST DB

FILE NO. G-298

KRAL No.	IDENTIFICATION	ppm Cu	ppm Pb	ppm Zn	ppm Ag					
1	00 + 00	15	34	56	.8					
	00 + 3 E	16	20	24	.6					
	00 + 6 E	13	15	16	.7					
	00 + 9 E	16	17	53	.6					
	00 + 12 E	19	18	57	.4					
	00 + 15 E	17	15	51	.3					
	00 + 3 W	34	42	40	.6					
	00 + 6 W	20	21	29	.6					
	00 + 9 W	44	48	93	.5					
	9 N + 00	18	200	846	.5					
	9 N + 3 E	18	26	65	.5					
	9 N + 6 E	14	20	30	.4					
	9 N + 9 E	13	26	34	.3					
	9 N + 12 E	22	25	34	.4					
	9 N + 15 E	29	30	119	.4					
	9 N + 3 W	44	43	94	.5					
	9 N + 6 W	36	51	105	.5					
	9 N + 9 W	352	71	196	.7					
	18 N + 00	20	25	51	.7					
	18 N + 3 E	17	30	82	.5					
	18 N + 6 E	10	31	28	.3					
	18 N + 9 E	14	21	15	.6					
	18 N + 12 E	21	32	35	.5					
	18 N + 15 E	16	34	46	.6					
	18 N + 3 W	21	32	53	.6					
	18 N + 6 W	16	32	37	.7					
	18 N + 9 W	16	49	67	.9					
	27 N + 00	75	120	141	.8					
	27 N + 3 E	15	37	45	.9					
30	27 N + 6 E	19	22	29	.8					

# Kamloops Research & Assay Laboratory Ltd.

## GEOCHEMICAL LAB REPORT

FILE NO. G-298

PAGE 2 -2/-

RAL No.	IDENTIFICATION	ppm Cu	ppm Pb	ppm Zn	ppm Ag				
31	27 N + 9 E	23	41	90	.4				
	27 N + 12 E	20	28	37	.5				
	27 N + 15 E	12	22	23	.4				
	27 N + 3 W	31	39	64	.4				
	27 N + 6 W	9	26	20	.3				
	27 N + 9 W	25	49	79	.3				
	9 S + 00	42	17	18	1.5				
	9 S + 3 E	31	161	189	1.7				
	9 S + 6 E	12	20	12	.8				
	9 S + 9 E	14	24	32	.6				
	9 S + 12 E	22	25	40	.7				
	9 S + 15 E	20	21	21	.6				
	9 S + 3 W	235	1390	1490	12.2				
	9 S + 6 W	26	55	72	.7				
	9 S + 9 W	47	25	45	.3				
	18 S + 00	28	13	17	.5				
	18 S + 3 E	30	61	142	.7				
	18 S + 6 E	14	17	15	.8				
	18 S + 9 E	13	19	24	.5				
	18 S + 12 E	17	19	41	.5				
	18 S + 15 E	21	33	57	.5				
	18 S + 3 W	100	14	45	.5				
	18 S + 6 W	29	16	24	.5				
	18 S + 9 W	23	28	29	.4				
	27 S + 00	21	26	32	.2				
	27 S + 3 E	36	52	129	.4				
	27 S + 6 E	19	42	27	.7				
	27 S + 9 E	21	27	31	.8				
	27 S + 12 E	14	27	15	.7				
	27 S + 15 E	20	63	117	.6				
	27 S + 3 W	17	22	20	.8				
	27 S + 6 W	18	30	22	.7				
63	27 S + 9 W	65	78	127	.8				



ITEMIZED COST STATEMENT

Month	Eric Denny	Jack Denny	Ian MacLeod	Total Day
July	23,24,25,26,30	23,24,25,26,30	23,24,25,26,30	15
Oct.	9,12	9,12		4
				<u>19</u>

Total wages as above 19 man-days @ \$60. per day ----- \$1140.00

1977 Ford F150 4 wheel drive - 3 return trips of 112 km  
or a total of 336 km @ 15¢ per km----- 50.40

Power Saw - Stihl 049 - 24" bar - 2 days @ \$12. per day----- 24.00

Supplies and Equipment - flagging tape, hip chain string, files- 25.72

Office supplies, photocopying, phone, postage, express  
charges, field notes, typing ----- 73.54

Report Preparation - 5 days @ \$50. per day ----- 250.00

Geochemical Analysis:

63 Geochemical Analysis - soils-

Copper, Lead, Zinc, Silver @ \$2.80 --- \$176.40

5 Geochemical Analysis - silts-

Copper, Lead, Zinc, Silver,  
Molybdenum, Cadmium @ \$3.80 --- 19.00

5 Geochemical Analysis - silts -

Antimony ----- @ \$2.50 --- 12.50

\$207.90

207.90

\$1771.56

AUTHORS QUALIFICATIONS

I first started prospecting thirty-four years ago. I only spent an average of about fifteen days per year for the first few years -- mostly in partnership with older, experienced prospectors.

From 1955 - 1970 an average of thirty days per year were spent in the hills.

From 1971 to the present the full season has been utilized in prospecting, mostly for myself, but occasionally for various companies.

In addition to the above I have spent most of my spare time, especially in the winters, in studying and researching in various libraries and at home using the large collection of books and maps that I have gradually bought over the years.

I attended prospecting classes in Nelson for five different winters in the following years, 1953, 1955, 1960, 1964 and 1963.

*Respectfully submitted by  
Eric Denny*

LIST OF REFERENCES

Commonwealth Group -

Annual Report of the Minister of Mines- 1896 - page 94.

"	"	"	"	"	"	"	1900	-	"	982,
"	"	"	"	"	"	"	"		"	987,
"	"	"	"	"	"	"	"		"	988.

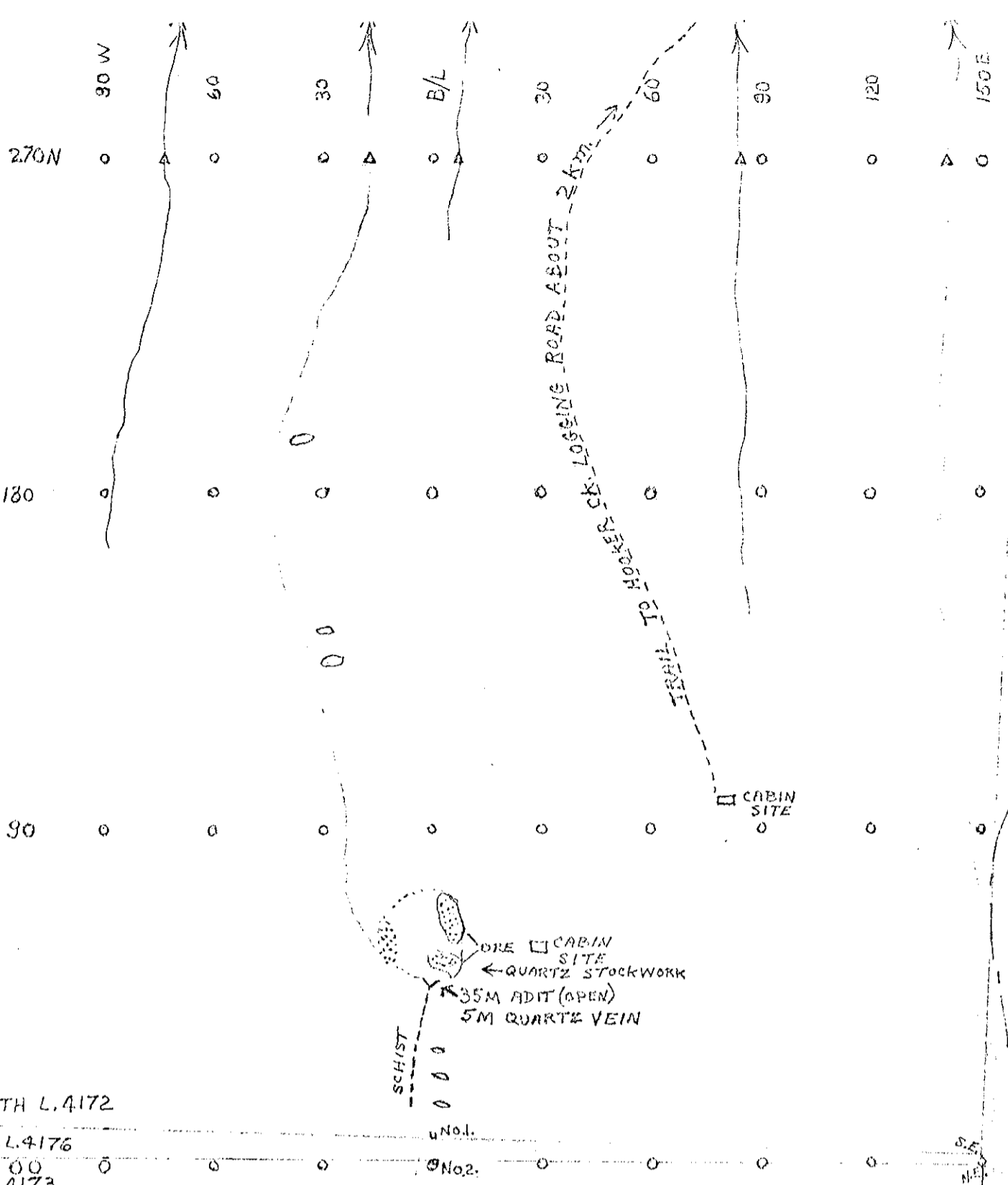
The Canadian Mining Manual 1901 - page 389

Geology only of the Purcell Range in which lies the

Commonwealth Group -

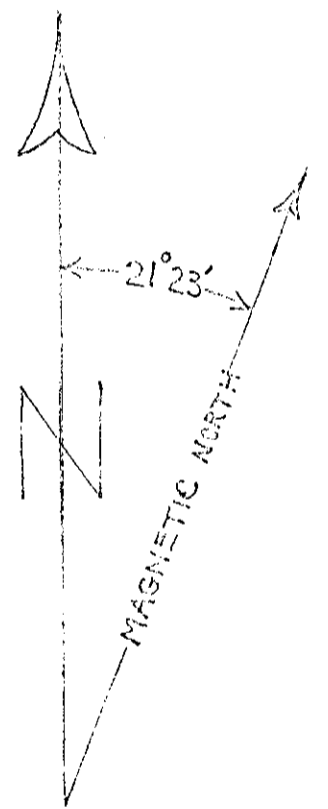
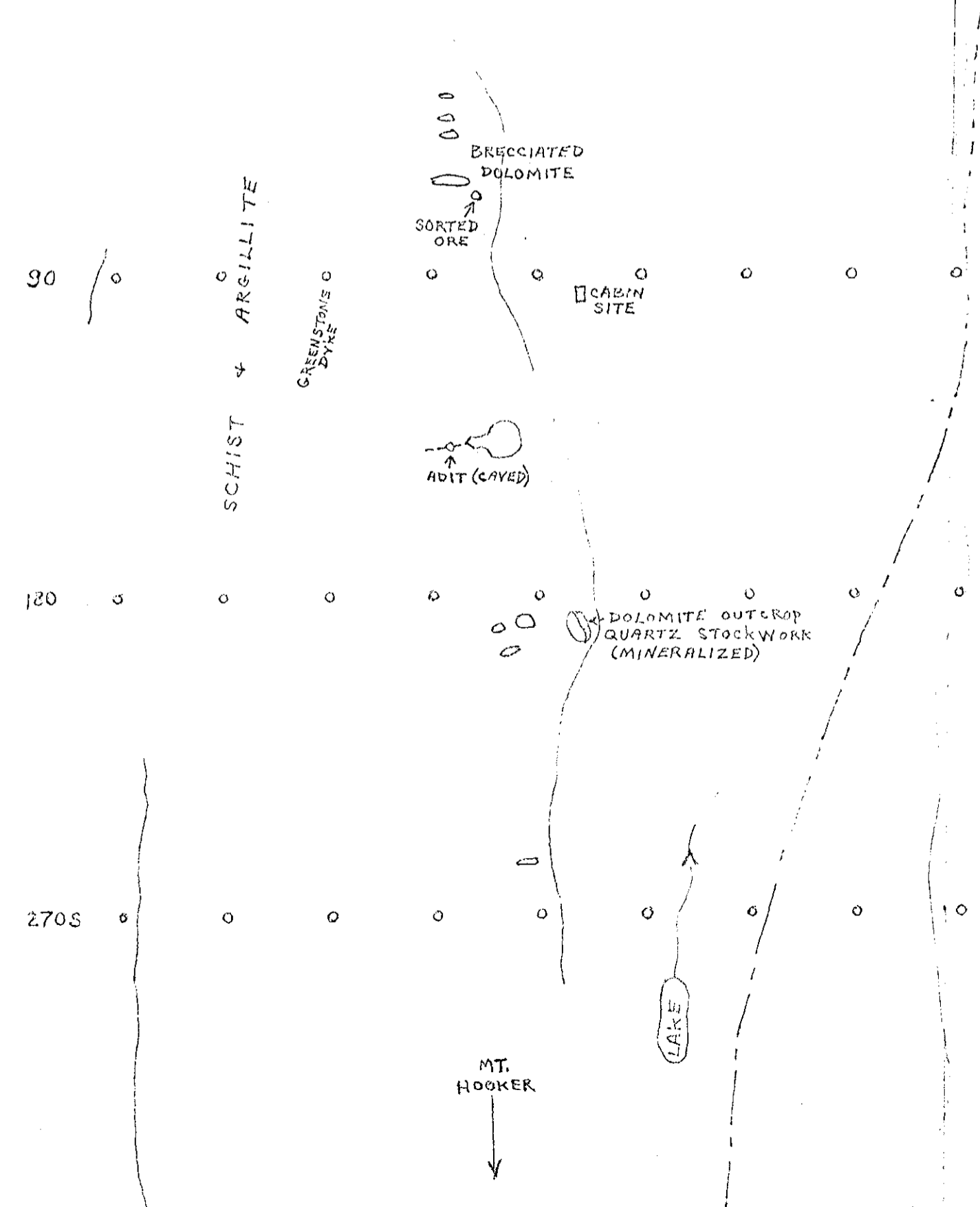
Memoir 228 - Nelson Map-Area, East Half  
by H.K.A.Rice - 1940 -----pages 12,14-19,27

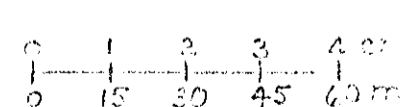



Map 605A accompanying Memoir 228.



COMMONWEALTH L.4172  
 REPUBLIC FR. L.4176  
 REPUBLIC L.4173

MINERAL RESOURCES BRANCH  
 ASSESSMENT REPORT  
**7947**  
 No. \_\_\_\_\_



COMMONWEALTH GROUP  
 HOOKER CREEK  
 FIGURE 2  
 Scale 1cm=15m   
 Open-Cuts -   
 Soil Sampling Grid -   
 Sediment Samples   
 Claim Lines Plotted From Survey  
 Grid + Workings Located With  
 Chain + Compass.  
 Map Compiled By Eric Denny