

810756

COTTON BELT PROPERTY

KAMLOOPS MINING DIVISION

BRITISH COLUMBIA

CANADA

R E P O R T

B Y

ALFRED R. ALLEN

GEOLOGICAL ENGINEER

NOVEMBER, 1951.

THE COTTON BELT PROPERTY

TABLE OF CONTENTS

| | <u>PAGE NUMBER</u> |
|---|--------------------|
| A. INTRODUCTION | 1 |
| B. LOCATION, TRANSPORTATION & TOPOGRAPHY | 2 |
| C. CLAIMS | 3 |
| D. HISTORY | 3 |
| E. CONCLUSIONS | 4 |
| F. RECOMMENDATIONS | 5 |
| G. GEOLOGY | 6 |
| 1. REGIONAL GEOLOGY | 6 |
| (a) Stratigraphy | 6 |
| (b) Structure | 6 |
| 2. LOCAL GEOLOGY | 6 |
| (a) Stratigraphy | 6 |
| (b) Structure | 6 |
| (c) Mineralogy | 7 |
| (d) Sample Results | 7 |
| H. EXPLORATORY WORKINGS | 10 |
| GENERAL STATEMENT AND DETAILS OF WORKINGS | 10 |
| (a) Open Pits | 10 |
| (b) Tunnels | 10 |
| (c) Shafts and Raise | 11 |
| (d) Diamond Drilling | 12 |
| I. METAL MARKETS AND PRICES | 12 |
| J. VALUE OF METALLIC CONSTITUENTS | 13 |
| K. TONNAGE POSSIBILITIES | 14 |
| L. CAMP | 15 |
| M. WATER | 15 |
| N. TIMBER | 15 |
| O. POWER | 16 |
| P. CLIMATE | 16 |
| Q. MILLSITES | 16 |
| R. REFERENCES | 17 |

MAPS IN POCKET

REPORT ON THE COTTON BELT

BY

ALFRED R. ALLEN

A. INTRODUCTION

The Cotton Belt property was examined by the writer September 25th to October 1st, 1951. Mr. A. St. Claire Brindle and Mr. E. M. Johnson accompanied the writer from Vancouver to Seymour. Four additional assistants were hired at Seymour, Mr. E. Daniels, Mr. A. Daniels, Mr. A. Holts, and Mr. F. West. The writer and Mr. E. M. Johnson, accompanied by the four assistants proceeded to the property. Mr. Brindle remained at Seymour and guided the "Beaver" aeroplane to the Cotton Belt camp where supplies for the period of examination were dropped.

The party rode by truck to the end of the road and backpacked by trail the remainder of the distance to the Cotton Belt camp. This trip was made in one day.

The object was to complete as thorough an examination of the Cotton Belt property as possible in one week.

B. LOCATION, TRANSPORTATION AND TOPOGRAPHY

The property is located in the Kamloops Mining Division 10 miles by road and 18 miles by trail northerly from Seymour Arm, a small settlement at the north end of Seymour Arm, Shuswap Lake. Seymour Arm is 36 miles up Shuswap Lake from Sicamous, and there is a tug-boat service between the two twice weekly. Sicamous is on the main line of the Canadian Pacific Railway.

Lack of transportation facilities have delayed development of the Cotton Belt property. Mining materials and supplies have had to be transported from Seymour Arm by men and horses to the workings. Nevertheless, mining machinery was moved to the Cotton Belt by the Cotton Belt Mining Company Limited in 1926, and considerable surface and underground work was done.

There is a truck road from Seymour Arm to the forks of Seymour river, 10 miles, and from there to the property there is a fairly good trail. This trail may be made passable for horses at a low cost. A road to the property can be constructed at moderate cost, since practically no rock work will be necessary, and a low even grade will be possible.

The Cotton Belt claim, mine camp, and workings are located on and near the crest of a plateau 5500 to 6200 feet above sea level. The broad open plateau surface is characterized by low rocky hummocks and numerous small lakes. Northwesterly, the McLeod and Copper King showings lie on the steeply sloping southwest side of Deep creek, at about 4000 feet above sea level, and 800 feet above the creek. Shuswap Lake is about 1135 feet and Deep creek - Seymour river junction about 2000 feet above sea level. Grace mountain, upon which the showings occur, is heavily timbered with moderately steep sloping sides, particularly where cut by Deep creek. It is topped, however, by rolling plateau topography rather than rugged peaks so characteristic of the mountains to the north and east in the Big Bend area.

C. CLAIMS

Twenty-nine mineral claims are held, as follows:

1. Mineral Claims held under option agreement: -

| | | |
|---|---|---|
| 3 | Crown Granted claims, being the Cotton Belt | |
| | Joe | |
| | Boyne | |
| 7 | Located claims, being the Grace Mountain | 5 |
| | " " | 6 |
| | " " | 7 |
| | " " | 8 |
| | Venus | 1 |
| | " | 2 |
| | " | 3 |

2. Mineral Claims held by location: -

19 Located claims, being the June 1 to 16 inclusive.
 McLeod 1 to 3 inclusive.

All the above mineral claims are in good standing.

D. HISTORY

Indians of the district knew of the extensive Cotton Belt mineral zones many years before the white settlers arrived. In 1905 the deposit was named and staked by Alexander Clark, a negro prospector, who was guided to it by Johnny Cabbage, an Indian.

Clark and partners, F. N. Daniels and Isaac Harris, staked the Cotton Belt, Boyne, Joe, Harrison, Victoria, Jessie, and Wellington mineral claims to cover the mineral occurrences exposed on the plateau.

The next year the lower showings were discovered and staked by McLeod, Bass, McConnel, Yorkman, Lund, McMullen, Sinclair, Munger and others.

At least seven properties were worked by small groups of prospectors, and during the next eight years they dug hundreds of open pits to expose the "Cotton Belt Lode", "McLeod Lode" and the "Copper King Lode". These properties were amalgamated and actively explored by the Cotton Belt Mining Company Limited, during the years 1925 to 1929.

No work has been done on the properties since 1929.

E. CONCLUSIONS

The Cotton Belt properties are composed of adjoining mineral claims upon which are exposed three long and persistent zones of mineralization, conforming with limestone bands in pre Cambrian schist and gneiss of the Shuswap complex.

The zones are partially covered by overburden and forest growth, but sufficient exposures have been made to indicate a 6500 foot zone named the Cotton Belt, a 1000 foot zone named the McLeod, and a 1000 foot and longer Copper King zone.

The Cotton Belt and McLeod zones contain silver, lead and zinc, and the Copper King copper. The Cotton Belt and McLeod zones, along with the intervening unexposed ground lie in a narrow mineralized section about three miles long and over 2000 feet difference in elevation.

From an examination of the showings, I estimate that an average run-of-mine grade of 1.96 ounces silver per ton, 5.84% lead, and 3.16% zinc may be expected over a minimum average width of 30 inches for the 1000 feet of McLeod zone and 6500 feet of Cotton Belt zone.

Surface showings indicate that the lengths of the zones will be found double the figures given, with a moderate amount of exploratory work. From the data available there is a reasonable possibility that sufficient ore to warrant a 750 ton concentrator may be quickly developed, and that under present economic conditions a net profit of about ten dollars per ton may be expected from such an operation.

F. RECOMMENDATIONS

It is recommended that the option agreement be exercised and that the following minimum works program be commenced as soon as possible: -

| | <u>Estimated Cost</u> |
|---|-----------------------|
| 1. Improve the trail from the end of the road at Seymour bridge to the Cotton Belt camp suitable for horses | \$ 2,500.00 |
| 2. Construct several camps for small crews . . | 15,000.00 |
| 3. Have a magnetometer survey made of the entire mineralized section, particularly to locate the northwest extension of the Cotton Belt and both northwest and southeast extensions of the McLeod zones | 15,000.00 |
| 4. Follow up the magnetometer survey with surface stripping and diamond drilling of anomalies | 50,000.00 |
| 5. Map the various showings and workings | 5,000.00 |
| 6. Clean out the old workings necessary for a thorough examination and prepare to extend those warranting further work | 2,500.00 |
| 7. Necessary equipment for the above | 10,000.00 |
| 8. Contingencies Fund | 25,000.00 |
| TOTAL | <u>\$ 125,000.00</u> |

G. GEOLOGY

1. REGIONAL GEOLOGY

(a) Stratigraphy

The property lies in an area underlain by Pre Cambrian schist and gneiss containing long and persistent bands of limestone. G.M.Dawson named the series the Shuswap. Westerly from the property several miles there is a large body of granodiorite.

(b) Structure

The general strike of the schist, gneiss and limestone is north to northwest and dip southwest. Despite the metamorphosed character of the rocks the attitude is remarkably uniform over the entire area.

2. LOCAL GEOLOGY

(a) Stratigraphy

Thin and thick bands of crystalline limestone lie conformable with the schist and gneiss of the Shuswap series. Long zones of thin bedded limestone and schist are replaced and altered by sulphide, oxide, and silicate minerals. The schist, essentially mica, quartz and garnet, comprises the largest proportion of the country rock. A band of hard grey gneiss lies between the McLeod and Copper King zones. A 50 foot band of white crystalline limestone lies about 200 feet above the Cotton Belt zone, and the zone is associated with thinner 2 to 12 inch bands of limestone. The McLeod zone is associated with a 30 foot band of white crystalline limestone. The Copper King zone appears to be two or more thick siliceous bands in gneiss.

(b) Structure

The strike of the entire assemblage of country rocks and mineralized zones is about north 30 degrees west and the dip 35 to 45 degrees southwest. In the bottom of the "Bass" shaft the vein steepens to more than 50 degrees dip. No faults were observed by the writer, but a fault of small displacement has been reported near the "Bass" shaft.

The mineralized zones appear to be replacement of the limey constituents

and bands in the mica schist. These zones contain hard bands of non metallic silicates and oxides along with softer bands of quartz, calcite, mica, and oxides and sulphides of iron, lead, zinc and silver. Some shearing is evident throughout the zone. The bands containing sulphides are from 2 inches to 12 feet thick and very long.

(c) Mineralogy

The country rock is comprised of schist, gneiss, and limestone. The schist is composed of white and brown mica, quartz, garnet, epidote, andalusite (?) and minor silicates and oxides. It is dark brown to grey, compact and tough. The gneiss is composed of biotite, quartz, feldspars, epidote, and minor silicates. It is finely banded light and dark grey. The limestone is white and fine-to-coarsely crystalline.

The Cotton Belt and McLeod mineralized zones are composed of galena, sphalerite, magnetite, pyrite, pyrrhotite and limonite, in a gangue of garnet, quartz, mica, diopside, epidote, feldspars and hornblende. The Copper King zone contains in white quartz, chalcopyrite, bornite, pyrite and chalcocite with inclusions of micaceous silicified country rock.

(d) Sample Results

The exposed mineralized zones were sampled by the writer and the assay results are listed below. These do not represent sampled ore shoots only, since the underground workings were marked off in 20-foot lengths and then sampled every 20 or 40 feet as deemed necessary without regard to the width of the zone. Exceptions to the above were where the tunnels were off the zone in one or two places, and there no samples were taken.

1. COTTON BELT ZONE - Surface Open Cuts:

| SAMPLE NO. | LOCATION | Width Inches | Silver Oz/Ton | Lead % | Zinc % |
|---------------------|--|--------------|---------------|--------|--------|
| 5001 | Southeast open cut near top of Plateau | 18 | 1.2 | 6.00 | 0.36 |
| 5002 | 1062 Feet northwest from Sample 5001 | 84 | 1.2 | 2.50 | 1.00 |
| 5003 | 534 Feet northwest from Sample 5002 | 36 | 1.45 | 3.50 | 3.60 |
| 5045 | Southeast of Bass Shaft | 30 | 2.0 | 2.80 | 2.50 |
| Arithmetic Averages | | 42 | 1.46 | 3.92 | 1.86 |

NO. 1 TUNNEL

| SAMPLE NO. | LOCATION | Width Inches | Silver Oz/Ton | Lead % | Zinc % |
|---------------------|----------------------------|--------------|---------------|--------|--------|
| 5044 | Portal plus 20 feet - wall | 42 | 2.80 | 7.30 | 2.50 |
| 5043 | " " 60 " " | 26 | 1.40 | 2.30 | 0.70 |
| 5042 | " " 100 " " | 27 | 1.10 | 3.70 | 3.90 |
| 5041 | " " 140 " " | 28 | 1.10 | 3.80 | 1.30 |
| 5040 | " " 180 " " | 36 | 1.30 | 3.00 | 0.80 |
| 5039 | " " 220 " " | 16 | 1.30 | 2.00 | 3.00 |
| 5038 | " " 260 " " | 12 | 0.80 | 9.50 | 3.90 |
| 5037 | " " 306 " Tunnel Face | 13 | 1.75 | 2.30 | 1.90 |
| Arithmetic Averages | | 25 | 1.44 | 4.84 | 2.43 |

NO. 2. TUNNEL

| SAMPLE NO. | LOCATION | Width Inches | Silver Oz/Ton | Lead % | Zinc % |
|---------------------|----------------------------|--------------|---------------|--------|--------|
| 5004 | Portal plus 20 feet - wall | 14 | 0.55 | 0.65 | Trace |
| 5005 | " " 40 " " | 22 | 1.05 | 3.30 | 3.50 |
| 5006 | " " 60 " " | 30 | 0.80 | 2.90 | 1.50 |
| 5007 | " " 80 " " | 18 | 0.80 | 2.00 | 3.10 |
| 5008 | " " 100 " " | 22 | 1.30 | 5.20 | 7.50 |
| 5009 | " " 120 " " | 22 | 1.00 | 1.80 | 4.70 |
| 5010 | " " 140 " " | 24 | 0.85 | 2.80 | 2.00 |
| 5011 | " " 160 " " | 24 | 0.50 | 1.80 | 1.80 |
| 5012 | " " 180 " " | 26 | 0.90 | 4.90 | 5.20 |
| 5013 | " " 200 " " | 30 | 1.60 | 3.30 | 1.80 |
| 5014 | " " 220 " " | 26 | 1.20 | 3.50 | 3.30 |
| 5015 | " " 240 " " | 26 | 0.90 | 3.90 | 8.00 |
| 5016 | " " 260 " " | 12 | 0.45 | 1.90 | 2.00 |
| 5017 | " " 280 " " | 28 | 2.80 | 8.50 | 2.50 |
| 5018 | " " 320 " " | 12 | 0.95 | 7.00 | 5.70 |
| 5019 | " " 340 " " | 12 | 1.45 | 3.30 | 7.70 |
| 5024 | " " 440 " " | 24 | Tr. | 2.30 | 3.50 |
| 5025 | " " 460 " " | 12 | 0.50 | 3.20 | 5.20 |
| 5026 | " " 500 " " | 16 | 0.30 | 1.30 | 2.00 |
| 5027 | " " 540 " " | 14 | 1.20 | 5.60 | 4.20 |
| 5028 | " " 600 " " | 48 | 0.90 | 5.50 | 4.80 |
| 5029 | " " 640 " " | 18 | 1.30 | 4.40 | 8.00 |
| 5030 | " " 680 " " | 12 | 2.65 | 8.70 | 9.00 |
| 5031 | " " 740 " " | 6 | 1.90 | 6.20 | 12.50 |
| 5032 | " " 780 " " | 6 | 2.40 | 8.50 | 10.50 |
| 5033 | " " 820 " " | 24 | 0.50 | 1.30 | 2.30 |
| 5034 | " " 855 " Face | 24 | 1.30 | 4.00 | 5.20 |
| Arithmetic Averages | | 20.44 | 1.11 | 3.99 | 4.72 |

NO. 3 TUNNEL

| SAMPLE NO. | LOCATION | Width Inches | Silver Oz/Ton | Lead % | Zinc % |
|---------------------|---------------------------------------|--------------|---------------|--------|--------|
| 5046 | Portal plus 110 feet - widest showing | 36 | 2.00 | 4.30 | 0.30 |
| 5047 | Portal plus 420 feet - Tunnel face | 4 | 4.55 | 14.80 | 0.20 |
| Arithmetic Averages | | 20 | 3.27 | 9.56 | 0.25 |

RAISE BETWEEN 1 and 2

| SAMPLE NO. | LOCATION | Width Inches | Silver Oz/Ton | Lead % | Zinc % |
|---------------------|-------------------------|--------------|---------------|--------|--------|
| 5035 | 40 Feet above Tunnel 2 | 14 | 3.60 | 12.80 | 2.50 |
| 5036 | 100 Feet above Tunnel 2 | 12 | 1.20 | 3.30 | 6.00 |
| Arithmetic Averages | | 13 | 2.40 | 8.05 | 4.25 |

2. McLEOD ZONE

| SAMPLE NO. | LOCATION | Width Inches | Silver Oz/Ton | Lead % | Zinc % |
|---------------------|-----------------------------|--------------|---------------|--------|--------|
| 5020 | 108 Feet from Southeast End | 36 | 3.85 | 6.50 | 11.50 |
| 5021 | 288 " " " " | 66 | 3.50 | 5.80 | 6.30 |
| 5022 | 840 " " " " | 84 | 3.20 | 5.80 | 3.30 |
| 5023 | 1000 " " " " | 50 | 0.80 | 0.65 | 0.65 |
| Arithmetic Averages | | 59 | 2.09 | 4.69 | 5.44 |

3. COPPER KING ZONE

The Copper King Tunnel is caved at the portal, and since the examination was primarily to assess the silver - lead - zinc showings, only one sample was taken.

| SAMPLE NO. | LOCATION | Width Inches | Gold Oz/Ton | Silver Oz/Ton | Copper % |
|------------|--------------------|--------------|-------------|---------------|----------|
| 5049 | Near Tunnel Portal | 84 | 0.005 | 1.10 | 1.00 |

The overall average of the Cotton Belt and McLeod Zones is herein taken to represent what grade may be expected from these presently exposed silver - lead - zinc showings, and is as follows: -

| Width Inches | Silver Oz/Ton | Lead % | Zinc % |
|--------------|---------------|--------|--------|
| 29.83 | 1.96 | 5.84 | 3.16 |

H. EXPLORATORY WORKINGS

Between the years 1905 and 1925 the Cotton Belt and adjoining properties were explored by numerous individuals and groups. Along the narrow 3-mile zone, over a vertical range of 2500 feet, numerous open pits, shafts and adit tunnels were excavated.

From 1925 to 1930 the properties were amalgamated by Cotton Belt Mines Limited and, using mechanical equipment, extensive underground and surface exploratory work was done, including drifting, raising, and diamond drilling.

(a) OPEN PITS

About 30 open pits which expose the Cotton Belt zone were examined by the writer. Several of these which appear representative of the zone were sampled. Fifteen in which the zone is well exposed measured 12 to 96 inches true mineralized thickness, or an average of 48.8 inches.

Six shallow pits were observed on the McLeod zone. These along with natural exposures show the continuity of the zone for 1000 feet along the steep side of Deep creek. The zone is strong where it passes under overburden at both ends.

The Copper King zone was not examined by the writer except at the caved tunnel portal. The zone is reported to have been exposed by pits at one time parallel to the McLeod zone, and across the entire McLeod groups of claims.

(b) TUNNELS

The uppermost, or No. 1 tunnel at elevation 5660 feet above sea level, is an adit drift south 30 degrees east on the Cotton Belt mineral zone. It is approximately 5 by 6 feet in section and 306 feet long. The mineral zone is exposed from portal to face.

The No. 2 tunnel, 100 feet vertically below No. 1, is also an

adit drift south 30 degrees east on the Cotton Belt zone. It is approximately 5 by 6 feet in section and 855 feet long. The mineral zone, except for 100 feet near the middle portion of the tunnel where it is believed in the footwall, is exposed from portal to face.

No. 3 tunnel, elevation about 5150 feet above sea level, is an adit drift about south 30 degrees east on the Cotton Belt zone. It is about 5 by 6 feet in section and 420 feet long. The mineralized zone is exposed from portal to face.

No. 4 tunnel, reportedly 100 feet below the "Bass" shaft was not examined by the writer. It is reportedly an adit crosscut for 100 feet. Drifting amounting to 200 feet was reportedly done from the inner end of the crosscut, but not on the Cotton Belt zone, since apparently the crosscut did not reach the zone.

The McLeod tunnel is an adit drift south 30 degrees east on the McLeod mineralized zone. It is 5 by 6 feet in section and 62 feet long. The mineral zone is exposed from portal to face.

The Copper King is reportedly an adit drift south 30 degrees east, on one of the Copper King quartz zones. It is 5 by 6 feet in section and 140 feet long.

(c) SHAFTS AND RAISE

The "Bass" shaft is a 40 degree incline on the Cotton Belt zone. It is 5 feet high and 7 feet long directed down a minus 40 degree slope, for reportedly 60 feet. The mineralized zone is reportedly exposed the length of the shaft and steepening in dip at the bottom.

The "Victoria" shaft located on the Cotton Belt zone about a mile southeast of the tunnels was the first shaft sunk on the property. It is caved and was not examined, but high grade mineralization was reportedly exposed.

The "Tartar" shaft, reportedly 48 feet deep, was not examined by the writer. This shaft also was reported to have exposed good grade mineralization on the Cotton Belt zone.

The No. 1 and No. 2 tunnels are connected by a raise. The bottom of the raise is 570 feet from the portal of the No. 2 tunnel and 200 feet from the portal of the No. 1 tunnel. The raise exposes the mineral zone from bottom to top. The mineralization is strong for the entire length and appears to average better than 18 inches thick.

(d) DIAMOND DRILLING

Sixty five hundred feet of the Cotton Belt zone was diamond drilled by the Cotton Belt Mining Company. Sixteen holes were drilled and 15 reportedly intersected the Cotton Belt mineralized zone. The intersections indicated greater width of zone than exposed in the No. 1 and No. 2 tunnels, this being 4 to 12 feet. The intersections were 270 to 370 feet down the dip from the outcrop. A total of 3333 feet of drilling was completed.

The Copper King zone was diamond drilled by the Granby Consolidated Mining and Smelting Company Limited, but no data relating to results obtained have been seen by the writer.

I. METAL MARKETS AND PRICES

Experts in the field of metal marketing believe that the demand for lead and zinc will remain high for several years.

The present metals prices, as of November 1951, are high, but with an anticipated steady or increased demand, the indications are that the prices will remain at about this level for some years; - they are as follows:

| | | | | |
|------|---|----------------|---|---------------------|
| Lead | - | New York | - | 19 cents per pound. |
| Zinc | - | East St. Louis | - | 19.5 " " " |

Since these prices are in American funds the exchange must be added and the present rate is about 5.2%, hence although the exact amount changes weekly with slight fluctuations in exchange rate, the present prices, in Canadian funds are about: -

| | | |
|------|---|---------------------|
| Lead | - | 20 cents per pound. |
| Zinc | - | 20.5 " " " |

J. VALUE OF METALLIC CONSTITUENTS

Sampling of the Cotton Belt and McLeod mineralized zones by the writer indicates average grades of 1.96 ounces per ton silver, 5.84 % lead and 3.16 % zinc. Although these values are considerably lower than those reported by other engineers, it is suggested that a dilution factor of 20% be allowed, thereby reducing the indicated run-of-mine values down to 1.57 ounces per ton silver, 4.67% lead and 2.53% zinc.

Only preliminary ore dressing tests have been made on this material, but assuming that a 65% lead concentrate and a 55% zinc concentrate may be produced with 90% lead and zinc and 80% silver recovery, the following calculations give net value of a ton of ore, using the C. M. & S. Smelter schedules as standard: -/-

| | | | | |
|--------|------------------------------------|---|----------------|----------|
| LEAD | (.9) (20-2) (.925) (4.67) (20) | - | \$ 13.98 | |
| ZINC | (.9) (20.5-3.25) (.84) (2.53) (20) | - | 6.60 | |
| SILVER | (.8) (.85) (.92) (1.57) | - | .98 | \$ 21.56 |
| | NET SMELTER PAYMENT | - | <u>\$21.56</u> | |

Production costs are estimated as follows: -/-

| | | | |
|---|---|--------------|-----------------|
| MINING | - | 4.00 per ton | |
| MILLING | - | 1.75 | |
| CONCENTRATE transportation and treatment | - | 2.25 | |
| ORE transportation | - | 1.00 | |
| EXPLORATION and development | - | 1.00 | |
| ALL OTHER | - | <u>1.56</u> | |
| TOTAL PER TON | | \$ 11.56 | \$ 11.56 |
| ESTIMATED NET PROFIT PER TON OF ORE MINED - - | | | <u>\$ 10.00</u> |

K. TONNAGE POSSIBILITIES

The sampled sections only indicate an average width of mineralized zone of 29.83 inches. The average of 15 measured surface exposures is 48.8 inches. Diamond drilling over 6500 feet of zone indicated 4 to 12 feet widths. The 1000 foot McLeod zone appears to average 5 feet wide. Hence, for considerable lengths the mineralized zones will, in the writer's opinion, be 4 feet and wider. However, if the 29.83 inches is considered average available width, and 20% added for dilution, a width of 36 inches is arrived at and may be taken as a conservative average. The Cotton Belt zone has been indicated by diamond drilling to be continuous for 270 to ~~370~~ feet down the dip along 6500 feet of length.

Neglecting the fact that the zone is exposed over a vertical range of 1200 feet, consider the average indicated depth to be 320 feet, the average of the depth of drill intersections. The rock in place is estimated to measure 9 cubic feet per ton. The reasonably indicated tonnage, using the above data, on the Cotton Belt zone may be calculated as follows: -

$$\frac{6500 (3) (320)}{9} = 673,333 \text{ tons}$$

The McLeod zone has been exposed for about 1000 feet and more than 320 feet vertical difference in elevation, but if the same 320 feet depth is taken, the following tonnage may be indicated: -

$$\frac{1000 (3) (320)}{9} = 106,667 \text{ tons}$$

The total reasonably indicated tonnage is, therefore, 780,000 tons. This is sufficient to operate a 750 - ton per day concentrator over three years.

L. CAMP FACILITIES

There is presently available one cabin at the Cotton Belt camp in which may be accommodated five men. The several other log buildings are in a state of disrepair, but could be made habitable for a small crew until a road is built to the property. There is one small cabin at the end of the road, about 10 miles from Seymour Arm, owned by the Daniels brothers. There are several other cabins along the trail which could be acquired and used during preliminary opening of the property, notably the trapper's cabin at "The Meadows".

M. WATER

There are large flows of water in Seymour river and Deep creek, and hydro possibilities reported available on both. There are numerous small creeks tributary to Seymour river and Deep creek and ample water available for camp, mining and milling requirements. On the plateau there are numerous small lakes and sloughs, but during a dry year there is a scarcity of sufficient water for a large mining operation. This is one of the reasons the main concentrator should be at a lower elevation, probably on Deep creek.

N. TIMBER

Up to an elevation of 5000 feet there is an ample supply of timber for camp, and mining requirements for years. The trail to the property passes through large stands of fir, cedar, hemlock, spruce and pine.

O. POWER

There are reportedly several possible power sites for hydroelectric development on both Deep creek and Seymour river. Some of the smaller tributary creeks may also have power possibilities. During the preliminary development stage of the property, however, diesel power would have to be utilized.

P. CLIMATE

The climate is typical of central British Columbia. The snowfall is moderately heavy at higher elevations. There is usually a cold spell in January or February when, during several weeks, the temperature drops 30 to 40 degrees below zero.

A crew worked during the winter of 1927 on the Cotton Belt. Several mines in more rigorous climates in British Columbia, with considerably heavier snowfall, operate all year.

Q. MILLSITE

The practical location for a millsite is somewhere in the vicinity of Deep creek, below the McLeod mineralized exposures. If a suitable location can be found it may pay to instal two or more sink-float concentrators at strategic locations between and on the lower and upper showings, and truck the sink to the selective flotation concentrator at the main millsite.

R. REFERENCES

British Columbia Minister of Mines Reports.

| | | | |
|------|------|-----|---|
| 1905 | Page | 195 | |
| 1906 | " | 175 | |
| 1907 | " | 131 | |
| 1908 | " | 123 | |
| 1909 | " | 141 | |
| 1910 | " | 129 | |
| 1911 | " | 181 | |
| 1912 | " | 184 | |
| 1913 | " | 182 | |
| 1914 | " | 201 | x |
| 1922 | " | 150 | x |
| 1925 | " | 171 | x |
| 1926 | " | 188 | x |
| 1927 | " | 195 | x |
| 1928 | " | 309 | x |
| 1930 | | | |
| 1931 | | | |

Note: x - Descriptions, sketches, and
Photographs of the properties.

Want 300000 + 10% interest

R. REVENUE

500000 for holding option

British Columbia Minister of Mines Reports.

Want 20000 by Aug 1952

Rest get in 7-8 years

County fees would be accepted

1908 " 1908

1909 " 1909

1910 " 1910

Norman L. Harvey

1165 West 16th Ave

Vancouver.

Represents owner, with full power.

x 190 " 1908

x 191 " 1909

x 192 " 1910

x 193 " 1911

x 194 " 1912

1913

1914

Note: x - Descriptions, sketches, and Photographs of the properties.

1165 West 16th Avenue

Vancouver, B. C.

January 4/52

Dear Mr. Spellenyer,

With regard to the Cottonbelt
lead zinc property, a local Vancouver
Group who have previously employed
Mr. Alfred Allen for geological
work, have made us an offer
for the property, which we have
accepted. That Group accepted
Mr. Allen's report and have made
the down payment, without inspection.

This is in accordance
with our understanding, when you
were here and I promised to advise
you immediately of any deal.

I had not heard from
you since you left Vancouver
and am therefore presuming that
this sale by us, will not
upset any arrangements of yours.

With best wishes for
1952.

Sincerely,

H. J. Hawley

Mr. S. A. Spellenyer,

1206 - Pacific Mutual Bldg

Los Angeles, 14 Cal.

1206-File
BWS
SAS

| | | |
|--------------|------------|-----|
| RECD. | J. 15 1952 | |
| ANSD. | BY | |
| RETURN TO | | |
| PLEASE REPLY | | |
| HSM | RWM | SGM |
| INM | BWS | LCD |
| JLB | KRW | ILW |
| GDD | LP | LEA |
| CWS | SAS | ALD |
| | | |
| | | |

January 16, 1952

Mr. N. L. Harvey
1165 West 16th Avenue
Vancouver, B. C.

Dear Mr. Harvey:

Thank you for letting me know so promptly that you have made a contract for the Cottonbelt Group. It was our understanding that you were free to take any satisfactory offer.

I am glad you were able to turn it so quickly and hope that the mine proves up to be a good and profitable producer.

I hope that you are feeling much better than you were when I last saw you and that you got that rest you were talking about. Give my regards to Mr. Allen when you see him.

With best personal regards and wishes for a happy and prosperous year, I am

Sincerely yours,

S. A. Spellmeyer

SAS/a

1206-File
BWS
SAS

| | | |
|---|---|------|
| RECD. | DEC 1 1951 | |
| ANSD. | BY | |
| RETURN TO | <i>[Signature]</i> | |
| PLEASE REPLY | | |
| HSM | RWM | ISGM |
| <input checked="" type="checkbox"/> HIM | <input checked="" type="checkbox"/> BWS | LCD |
| <input checked="" type="checkbox"/> JLB | KKW | LWW |
| IGDD | LP | LCA |
| ICWS | SAS | ALD |

To J.L.B. & B.W.
 Received letter from N.L. Harvey
 in which he said his property has
 no been sold - Some former employes
 of Al Allen - took it over & made
 a cash payment - See letter
 from my letter to Harvey
 1/17/52

Please comment
 should see
 this summary
 provided favorable
 deal can be obtained
 1/17

December 7, 1951

SAS:
 Are diamond drill records available
 JB

To: Blair W. Stewart
 From: S. A. Spellmeyer
 Re: Cotton Belt Property

Location: Kamloops Mining Division, on Grace Mountain about 42 miles northwest of Revelstoke, B. C.

Accessibility: Nearest railroad is Sicamous, B. C. on Canadian Pacific Ry., 36 miles from Sicamous northerly up Shuswap Lake to Seymore Arm by boat. From Seymore Arm 10 miles by road to Forks of Seymore River and 18 miles by pack trail to Grace Mountain.

General: A very long narrow vein can be traced for approximately 3 miles - it has an average width of 30" and will assay Ag. 1.96 oz; Pb. 5.84%; Zn. 3.16%. The elevation range along this vein is about 2000'. Two parallel veins lie in the foot wall down the north flank of the mountain considerably lower. One of these is also a Pb-Zn vein and the other carries values in copper. These veins cannot be traced as far as the Cotton Belt Vein but seem to be a little wider. They also carry values which would be commercial under milling conditions. One geologist suggests the tonnage available as being sufficient for a 750 ton mill for more than 3 years. This estimate seems rather optimistic but is set down only to call attention to the fact that there is a high probable tonnage in spite of the narrowness of the main Cotton Belt Vein. There is rather high magnetite in the ore so it could be traced even under the glacial till cover by magnetometer. It is understood that drilling would be feasible.

Reports: Report and maps by A. R. Allen are attached. Reports by S. Clair Brindle and other geologists were read and a number of short reports in the annual reports of the Minister of Mines for British Columbia were also seen.

Allen's report is the most conservative as the length, width and values. Most of the other give it wider widths and a higher grade. Allen did not follow the main vein personally for the three miles reported but some of the government reports say it is traced that far.

Allen is a geologist in Vancouver, B. C. with a satisfactory reputation. He does some work for Estella, Giant Mascot as well as being in general practice.

St. Clair Brindle is an elderly engineer and geologist with a reputation for competence but he has been connected with various promotional activities of which several have developed into pretty good mines. The government reports are all rather optimistic in tone.

Presentation: By Norman L. Harvey, 1165 West 16th Avenue, Vancouver, B. C., who says he represents the owner. Mr. Harvey is secretary of the Estella Company.

Terms of Proposal: Price \$300,000 and retention of 10% interest; wants \$5,000.00 as preliminary holding payment; \$20,000 August, 1952; balance in 3 years. He was informed that we would not pay any money down before examination and exploration and that the time of payment is too short. He indicated he'd welcome a counter proposal.

Discussion: The attached report by Allen can probably be assumed to be conservative and correct so far as length, width, assays and geology are concerned. He says there is a reasonably indicated tonnage of 780,000. He goes out of his sphere to some extent in recommending methods of work and milling at this time but he seems to have been asked to do that by his principal.

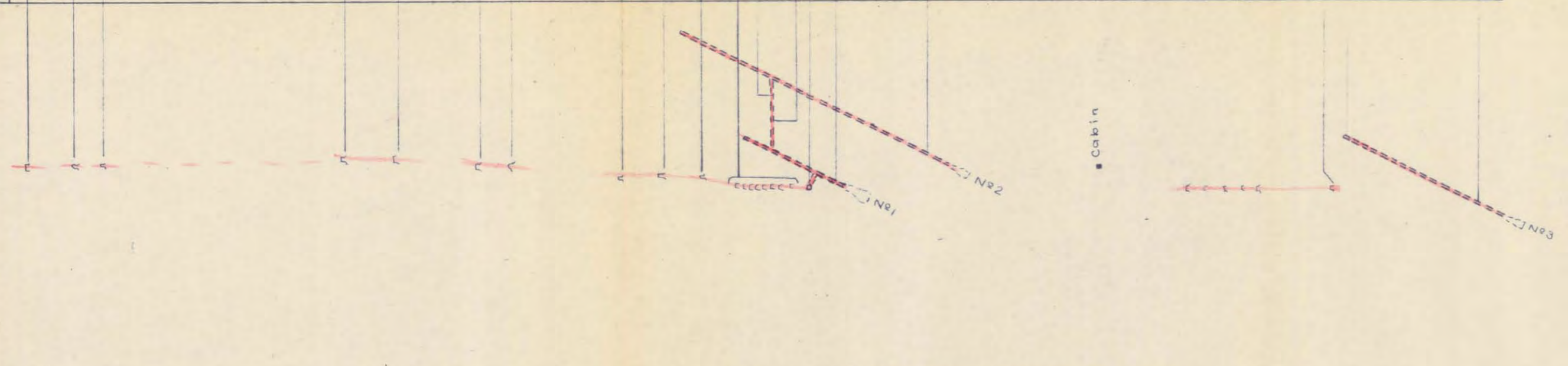
Whether or not it is believed that a vein as narrow as this can be worked profitably seems to be the main point to be considered. The terms proposed are not satisfactory but if it is of interest there is little doubt that a modification can be obtained.



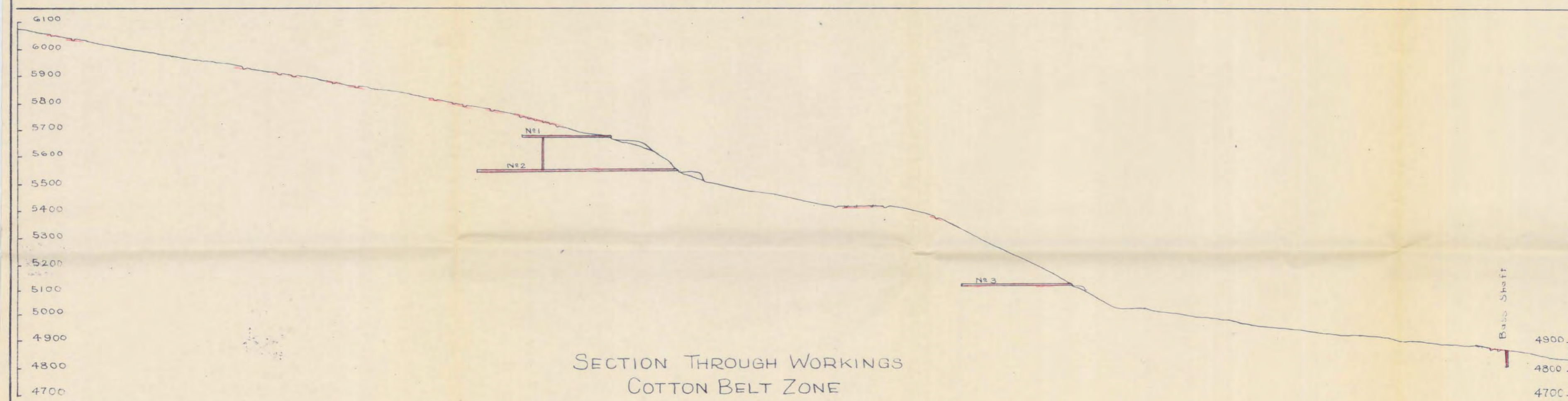
S. A. Spellmeyer

SAS/a

| Width | Sample No. |
|----------|------------|
| 1.8 | 5001 |
| 5.4 | |
| 3.0 | |
| 2.7 | |
| 5.0 | |
| 2.4 | 5002 |
| Caved | |
| 3.6 | 5003 |
| Caved | |
| 2.0 | |
| 30 to 50 | |
| 14 | 5025 |
| 12 | 5030 |
| 5.4 | |
| 4.2 | 5037 |
| 5.4 | 5044 |
| 5.0 | 5004 |
| 5.1 | 5019 |
| 4.0 | 5024 |
| 5.0 | 5054 |
| 5.0 | 5045 |
| 4 | 5047 |
| 3.6 | 5046 |



PLAN OF WORKINGS
COTTON BELT ZONE



SECTION THROUGH WORKINGS
COTTON BELT ZONE

inches
0 1 2

centimetres
0 1 2 3 4 5

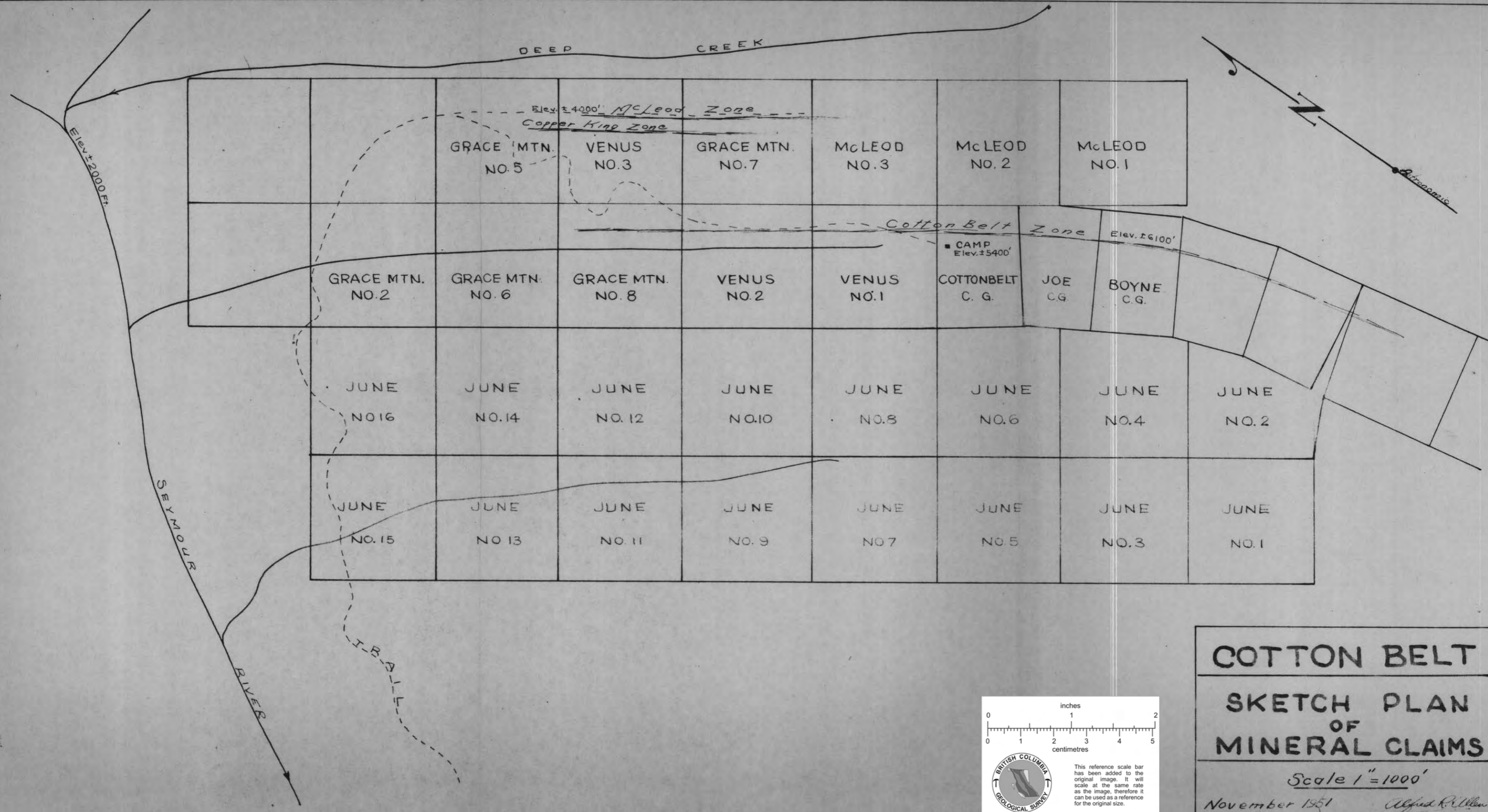
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

COTTON BELT
COTTON BELT ZONE
SHOWING
SKETCH PLAN & SECTION

Scale 1" = 300'

November 1951

Alfred H. Allen



COTTON BELT
SKETCH PLAN
OF
MINERAL CLAIMS
Scale 1" = 1000'
 November 1951 *Alfred R. Allen*

inches
 0 1 2
 centimetres
 0 1 2 3 4 5

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

Heavy
overburden
and
Barren
Creek

Zone
Exposed
Width 4'

5020
35°

Zone Exposed
Width 5' to 6'

5021

Numerous

Exposures

of Zone

Steep Sidehill

Some small

Open Cuts

To Deep
Creek

Width 3' to 6'

5023

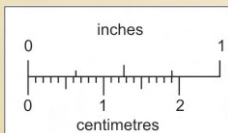
SKETCH PLAN

MCLEOD ZONE

Scale 1"=100'

November '51 *Alfred R. Allan*

| Sample No | Width Inches | Silver Oz/Ton | Lead % | Zinc % |
|-----------|--------------|---------------|--------|--------|
| 5020 | 36 | 3.85 | 6.50 | 11.50 |
| 5021 | 66 | 3.50 | 5.80 | 8.50 |
| 5022 | 84 | 3.20 | 5.80 | 3.70 |
| 5023 | 50 | 0.80 | 0.65 | 0.65 |

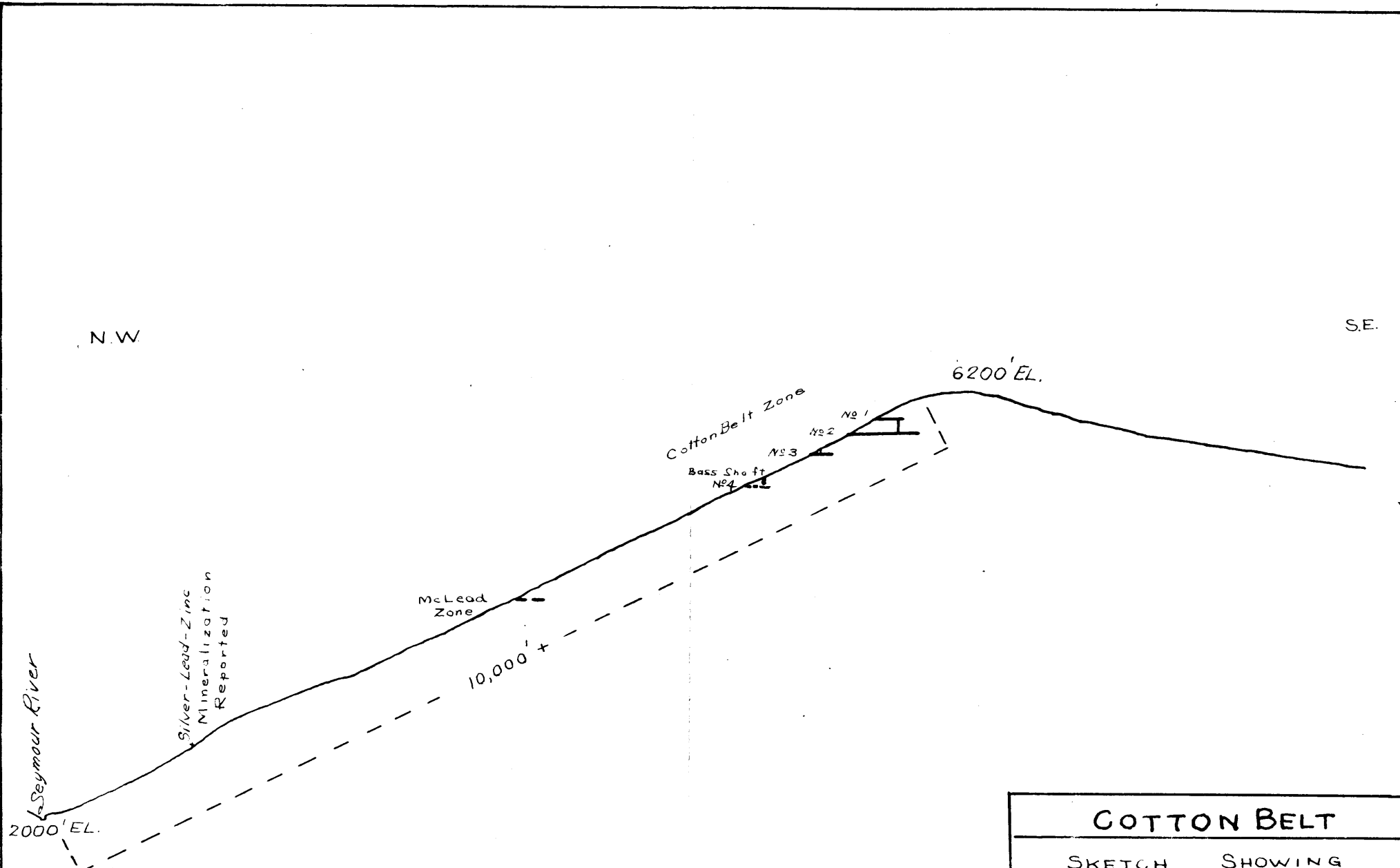


This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

Prospect
Tunnel

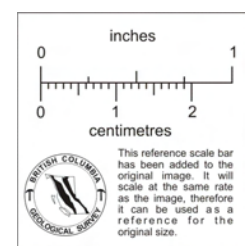
Creek

5024
Timber
and Overburden

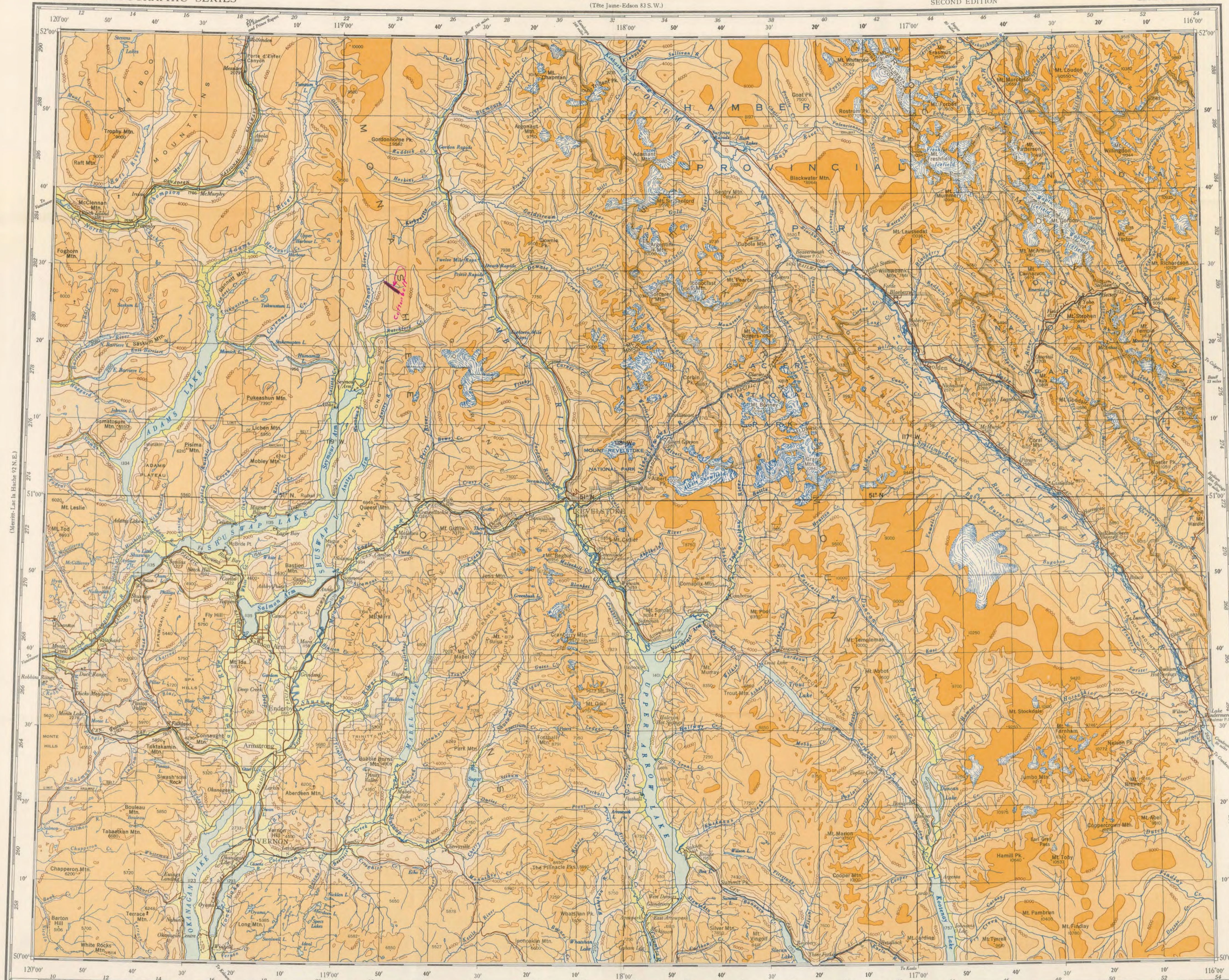


COTTON BELT

SKETCH SHOWING
LONGITUDINAL SECTION
THROUGH
GRACE MOUNTAIN



After: A. St. Claire Brindle ME
A.B.T. 151



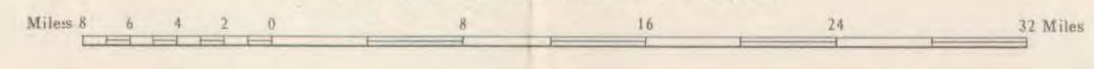
THE DECLINATION OF THE COMPASS NEEDLE, 1940

The declination of the compass needle at any place along a dotted line is the declination given on that dotted line. At other places the declination is between those given on the neighbouring dotted lines; that at the place marked A, the declination is between N 24° E. and N 25° E. The declination of the compass needle is decreasing 5 minutes annually. Area adequately mapped and contoured.

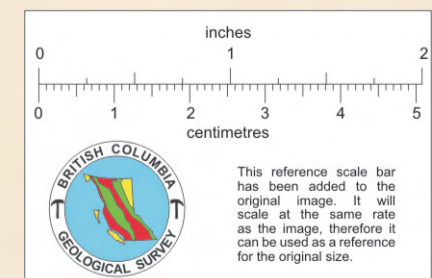
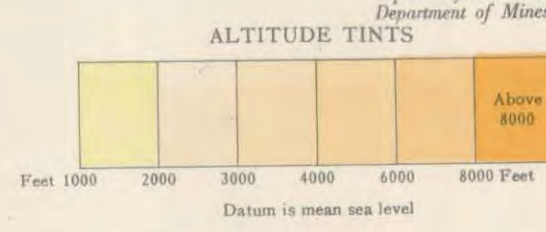
- REFERENCE**
- Boundary: provincial
 - Railway: steam, double track
 - Abandoned railway grade
 - Main highway
 - Secondary road
 - Local road or trail
 - Ferry
 - City or large town
 - Town or village
 - Settlement
 - Forestry lookout
 - Mine
 - Glacier
 - Height in feet

VERNON - GOLDEN
BRITISH COLUMBIA-ALBERTA

Scale 8 miles to 1 inch or 1:506,880



NOTE: Grid squares may be drawn on this map by joining the corresponding divisions shown along the outer border. The even numbers of the squares are given along the outer border.



Copies may be obtained from the Map Distribution Office, Department of Mines and Technical Surveys, Ottawa.

Compiled, drawn and printed at the Hydrographic and Map Service, Ottawa, 1943. Reprinted with minor corrections at the Surveys and Mapping Branch, Ottawa, 1951.

82-M-7 - RPT. COTTON BELT PROPERTY
Kamloops M.D.
By: A. R. Allen, 1951
