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SUNDAY SUMMIT MINES LTD. (N.P.L.)

SIMILKAMEEN DISTRICT, B.C.

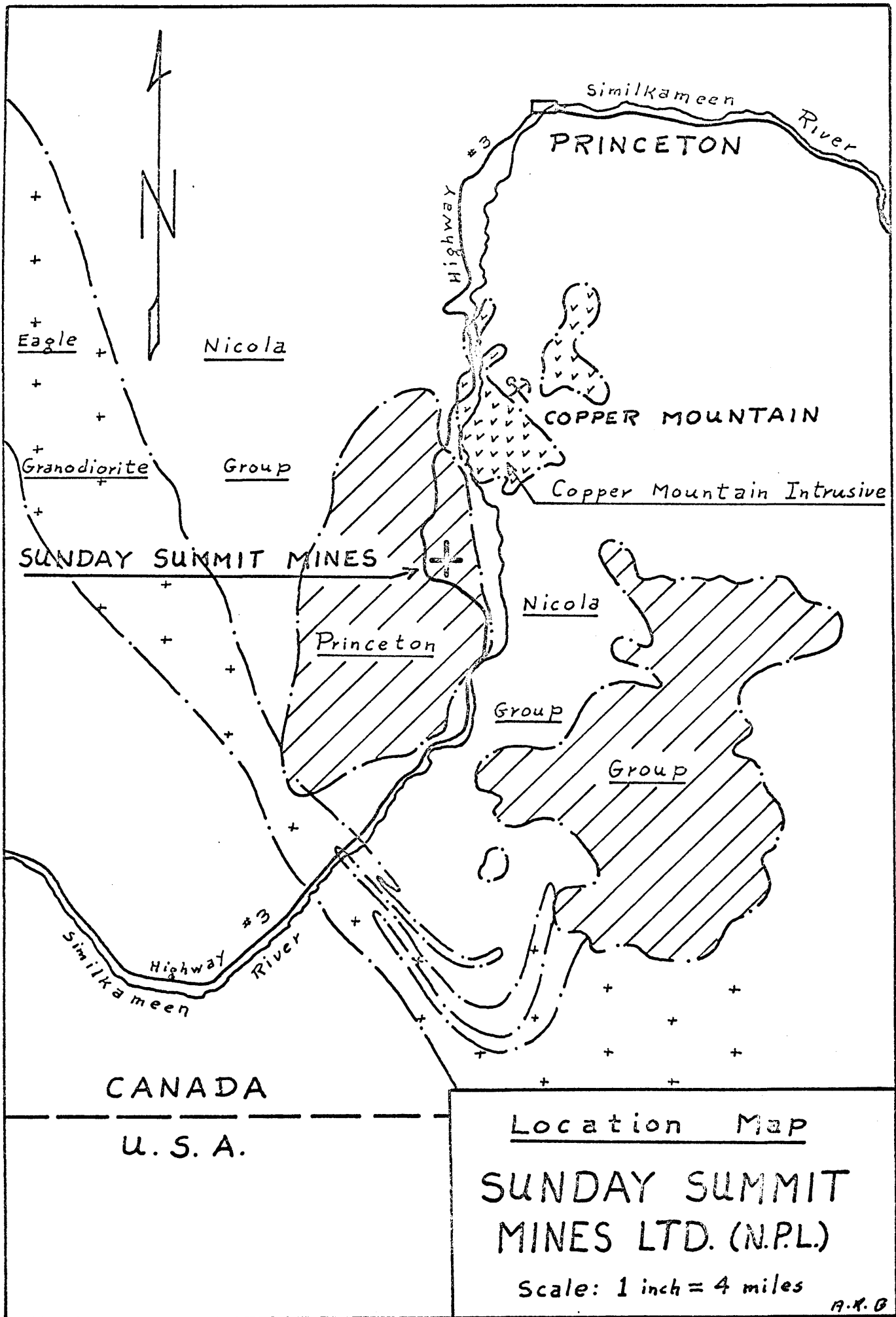
BY: A. R. BULLIS, P.ENG.

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A.T.G.

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SUNDAY SUMMIT MINES LTD. (N.P.L.)

SUMMARY

Sunday Summit Mines holds a group of 42 claims on Sunday Summit in the Similkameen District. The district has been an important mineral producer since 1885, the bulk of the production has come from the Copper Mountain Mines where 34 million tons of ore have been produced. Production ceased in 1956 but recent exploration by Granby Consolidated Mining and Smelting and Newmont Mining Corporation has indicated large low grade deposits that may be exploited in the future.

The area is underlain by the Nicola Group, which is composed mainly of volcanic rocks, and the Princeton Group, which is comprised of both sediments and volcanic flows. The Nicola Group have been cut by a number of intrusive stocks, plugs and dykes. The copper mineralization appears to be associated with the intrusives in the Nicola formation.

The Princeton rocks contain coal and this has been mined for years at Princeton. The Sunday Summit property is underlain by both the Princeton Group and the Nicola Group.

Recent geophysical work on the property has revealed one good E.M. anomaly, and the author has recommended that the anomaly be investigated, by drilling and stripping.

## INTRODUCTION

The author has not examined the property of Sunday Summit Mines, nor has he examined the staking. Mr. T. Ralston, who was retained to do the geophysical work described in the report, has plotted the claim posts on the maps he prepared.

## CONCLUSIONS AND RECOMMENDATIONS

The formations underlying the property include the Princeton Group and the Nicola Group. All metal deposits found to-date in the district are in the Nicola Group, and the E.M. survey, conducted over part of the property by T. Ralston has revealed a good conductive zone. The ratio of high-to-low frequency responses over the zone indicates that it could be caused by either a sulfide body or else a graphitic shear zone.

The author recommends that sufficient work be done on the zone to determine the cause of the anomaly. If sulfides are encountered, additional exploration will be necessary to outline the body completely. The first work should be done on Claim Pat 14 over the E.M. anomaly on Line 12 North, 100 feet east of Base Line 1. The first work should consist of stripping the zone, if the depth of overburden will permit. Alternatively, a series of diamond drill holes should be planned to test the zone.

Conclusions - Cont.

If the zone proves to contain copper, lead or zinc sulfides, then additional electromagnetic surveys and geochemical programs should be conducted over the entire Claim Group.

COST OF PROGRAM

1.	Stripping of Anomaly	
	100 hrs. @ \$ 20.00 (D7 or D8 Tractor)	\$ 2,000.00
2.	Diamond Drill Program	
	6 holes x 300 feet @ \$ 7.00	\$ 12,600.00
3.	Follow-up Geophysics and Geochemical Program	
	Say 30 Claims @ \$ 150.00 per claim	\$ 4,500.00
4.	Engineering & Supervision	\$ 1,500.00
5	Sample handling and Assaying	\$ 1,500.00
		<hr/>
	Sub Total	\$ 22,100.00
	Plus Contingency	\$ 2,200.00
		<hr/>
	<u>GRAND TOTAL</u>	<u>\$ 24,300.00</u>

Respectfully Submitted

*AR Bullis*

A. R. Bullis, P.Eng.

### LOCATION & ACCESS

The claim group is located in South-western British Columbia in the Similkameen District. The coordinates of the claim group are approximately 49 degrees 14 minutes North Latitude and 120 degrees 35 minutes West Longitude. The property is situated on Sunday Summit, east of #3 Highway on the Sunday Summit. The claims are easily accessible from the #3 Highway via logging roads and trails over most of the group. The property is twenty-four miles west of Princeton and fifty-five miles east of Hope. Claims are from a roadway down to river.

### PROPERTY

Mr. S.H. Davis, holds by location, a total of forty-two mineral claims. The author has not made an inspection of the claim-posts nor has he investigated the title of the claims. The claims are recorded in the Mining Recorder's Office in Princeton.

The mineral claims are: Pat 1 to Pat 42 inclusive; Record Numbers 21326 to 21367 inclusive.

### HISTORY

The Princeton area first came to the attention of miners in the 1860's when placer gold and platinum was found along the Tulameen and Similkameen Rivers. In 1885, rich



History - Cont.

placer zones were discovered and by 1891 the district was the primary producer of platinum in North America. The production of placer gold and platinum continued on a small scale until 1943; there has been a sporadic production to the present day. The bulk of the production came before 1900 when about \$ 750,000 in gold and 9000 ozs. of platinum were produced.

The Copper Mountain ore-bodies were discovered in 1892 and by 1923 the mines were explored and developed; production commenced in 1926. These important bodies are located about ten air-line miles south of Princeton on Copper Mountain. The mines were operated from 1926 until 1956, except for occasional closures due to low metal prices; a total of over 34 million tons of ore were extracted during the period of operation. The daily production was 5,288 tons, grading only 0.703% copper during the last year of operation which was only marginal at the prevailing price of copper and forced the closure of the mines.

The Copper Mountain area has recently been the scene of much surface exploration by a number of companies, including Granby Consolidated Mining & Smelting Co., and recently Newmont Mining Corp., announced that the Granby properties on Copper Mountain had been purchased by Newmont for \$ 8,000,000 and a share consideration. The Copper Mountain

History - Cont.

area will, in all probability, become productive again in the near future.

Further south, near the junction of the Pasayten and Similkameen River, several promising discoveries were made before 1900. The Pasayten Camp has been prospected and developed in a desultory manner from time to time; a small production is recorded from the camp, where Bonniver & Pouwels first discovered copper ore. The area is now under active exploration by Spenho Mines Ltd.

The area in which the Sunday Summit property is located has never been intensely explored; C. Bonniver did some surface trenching on the property many years ago. Today the sloughed condition of the trenches conceal any mineralization that Bonniver may have discovered. Mr. T. Ralston has recently conducted a ground electromagnetic survey over a portion of the property on behalf of the registered owner. (See Section on Geophysics).

GEOLOGY

The area south of the village of Princeton is underlain by two principal formations; the Nicola Group, of Upper Triassic age, and the Princeton Group, of Miocene age. The Princeton Group form a flat capping over the older Nicola rocks.

Geology - Cont.

The Nicola rocks are comprised mainly of a succession of lavas of unknown thickness. Tuffaceous and argillaceous rocks and occasional beds of limestone are irregularly distributed throughout the formation. The common type of Nicola rock is a massive andesite porphyry but there are many variations. The andesite is generally deep green to grey green in color, the phenocrysts are inconspicuous to prominent. North of Princeton, the lavas range from green and purple to bright red and mottled. Despite the diversity of appearance, the Nicola volcanic rocks are quite similar in composition; they range from fairly acid andesite to basalt but extremes are rare. The formational strikes are north or west of north and the dips are quite variable. In the area south of Princeton, the dips are generally to the west at 15 degrees to vertical. A large anticline which plunges south exists in the region of the Pasayten River; the Eagle granodiorite intrusive is wrapped around the nose of the anticline. The Nicola Group have been intruded by the Eagle granodiorite (Coast Intrusives), the Copper Mountain intrusives and the Otter intrusives.

The Princeton Group of rocks was deposited in continental basins and consist of sediments and volcanic flows and tuffs. The sediments range from fine grained shale to coarse-conglomerate and are normal fresh-water types. By far

Geology - Cont.

the bulk of the Princeton rocks are made up of volcanic flows of andesite, dacite, basalt and feldspar porphyry. The Princeton rocks were laid down as a discontinuous blanket covering the older Nicola group and intrusives, the sediments are derived mainly from the erosion of the Nicola volcanics and granitic intrusives. The Princeton formations are generally flat-lying but there are exceptions where close-folding has produced dips as high as 70 degrees.

The major structures in the area are north-trending fault zones that converge from the north towards Copper Mountain. A second set of east-west fractures occur around the Copper Mountain intrusive stocks. Much of the mineralization of the Copper Mountain area is associated with these fractures.

The precious and base metal deposits near Princeton are located in Nicola rocks and are associated with intrusives that range in composition from gabbro to granite. The deposits include gold, platinum, copper and some lead and zinc. The Princeton Group on the other hand are host to numerous coal seams that have been exploited from 1909 until the present day; the total production has been approximately four million tons of sub-bituminous coal.

## GEOPHYSICAL SURVEYS

Two geophysical surveys were conducted over the Pat 1, 2, 3, 4, 17 and 18 Claims in October and November, 1967. The surveys, conducted by T. Ralston, were magnetometer and electromagnetic surveys; the instruments used were the Sabre Vertical Component Fluxgate Magnetometer and a Crone J.E.M. Dual Frequency instrument. The surveys were performed on an east-west grid with line spacing of approximately 400 feet, the readings were taken at 100 foot intervals.

## MAGNETOMETER SURVEY

The overall magnetic readings are not high; the general background is 700 to 800 gammas, the maximum reading was 1760 gammas. There are a number of magnetic low areas centered on Claims Pat 17 and Pat 3. The magnetic highs are located on either side of the low readings on Claim Pat 17.

The high readings probably represent a band of volcanic rocks of higher magnetic susceptibility than the enclosing rocks. The magnetic low reading on Claim Pat 17 probably represent an area of deep overburden.

## ELECTROMAGNETIC SURVEY

The E.M. survey reveals a good conductive zone along Base Line 1, the best response was obtained on Line 12 North just east of the base line. Here the ratio of the High

Electromagnetic Survey - Cont.

and Low frequency readings is close to unity and indicates excellent conductivity. The zone extends in a northerly direction along, or near Base Line #1 from Line 4 North to Line 16 North, a distance of 1200 feet. The ends of the zone appear to be more deeply buried than the central high and this may indicate a body of sulfides that plunges north and south or it may be a graphite shear zone.

A second zone, that parallels the first, lies 400 to 800 feet west of Base Line #1 and, although it does not have the high positive readings of Zone 1, the ratio of high to low frequency response is good. The zone may represent disseminated sulfides at a somewhat greater depth than in Zone #1.

There is a broad low area under Claim Pat 17 where the readings are quite uniform. The ratio of the high-to-low frequency responses are very low and this probably indicates an ancient lake bottom or else clay layers in the overburden. The suspected lake bottom of the E.M. survey corresponds closely to the magnetic low area located by the magnetometer survey.

Respectfully submitted

*A. R. Bullis*

6th Jan. 1968

A. R. Bullis, P. Eng.

DEPOSITION

I, Albert Ralph Bullis, of 5215 Saratoga Drive, in the Municipality of Delta, in the Province of British Columbia, do hereby certify:

1. That I am a Consulting Geological Engineer with office and residence at 5215 Saratoga Drive, Ladner, B.C.
2. That I am a graduate of the University of British Columbia and have been granted the degree of B.A.Sc.
3. That I am a registered Professional Engineer in the Association of Professional Engineers of the Province of British Columbia and the Association of Professional Engineers of the Province of Ontario.
4. That I have practised my profession as a geologist and engineer for fifteen years.
5. That the information and statements made in the report are based on a study of published geological reports on the area and from the author's own personal knowledge of the Pasayten Camp area.
6. That I have not personally examined the properties described in the report.
7. That I have no interest, direct or indirect, in the properties or securities of Sunday Summit Mines (N.P.L.) nor do I expect to receive any.

Dated this 6 day of January, 1968

*ARB Bullis*

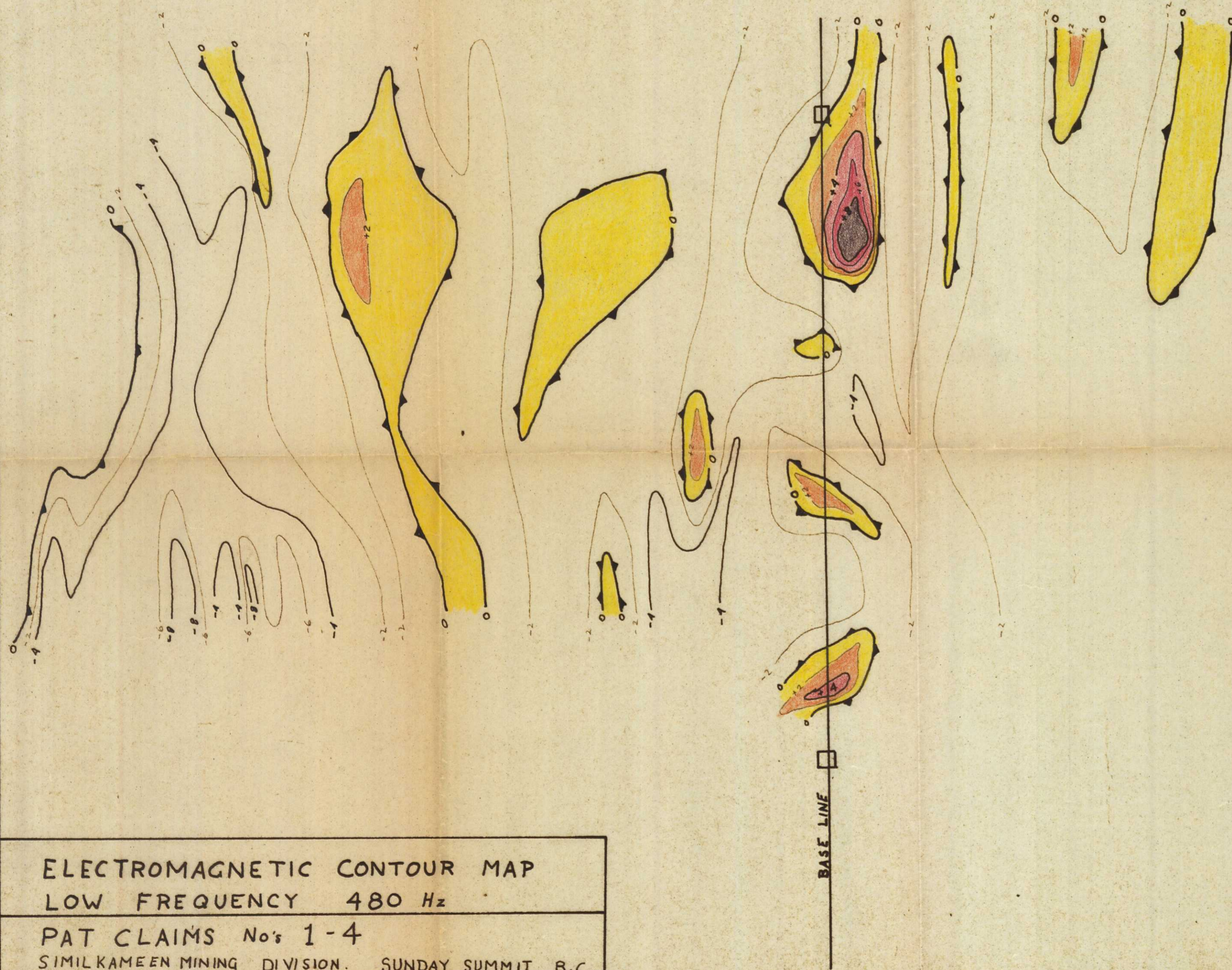
A. R. Bullis, P. Eng.

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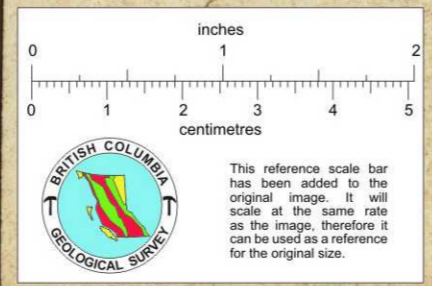


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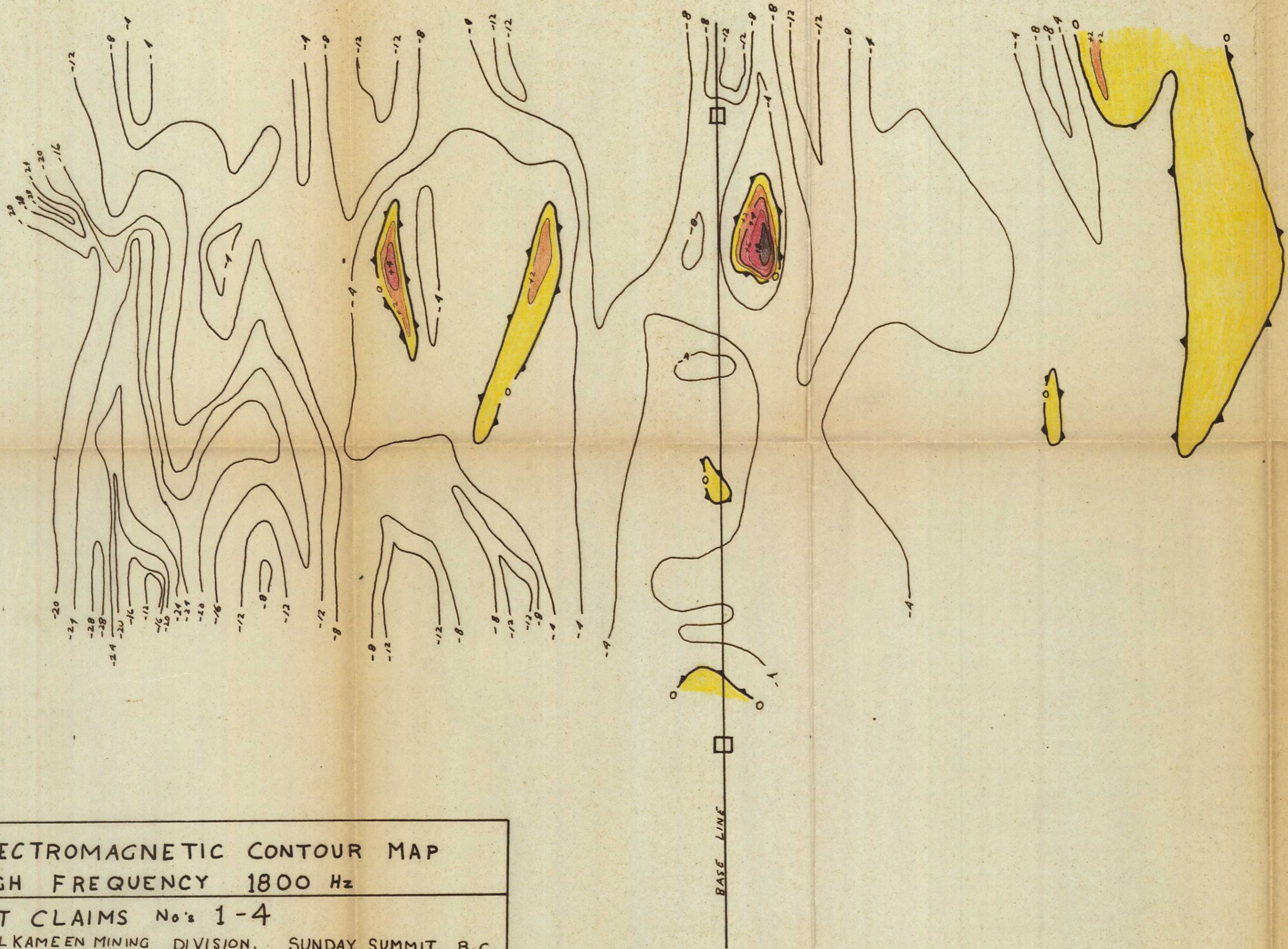


ELECTROMAGNETIC CONTOUR MAP  
 LOW FREQUENCY 480 Hz  
 PAT CLAIMS No's 1-4  
 SIMILKAMEEN MINING DIVISION. SUNDAY SUMMIT B.C.  
 NOV. 1967 SCALE: 1" = 200'  
 SURVEY & MAPPING BY: TOM ROLSTON  
 Electronic Services

CONTOUR INTERVAL = 2°  
 To accompany report on SUNDAY SUMMIT MINES LTD.  
 CURB by A. R. Bullis, P. Eng. T.W.R.







ELECTROMAGNETIC CONTOUR MAP  
HIGH FREQUENCY 1800 Hz

PAT CLAIMS No's 1-4  
SIMILKAMEEN MINING DIVISION. SUNDAY SUMMIT B.C.

NOV. 1967 SCALE: 1" = 200'

SURVEY & MAPPING BY: **TOM ROLSTON**  
*Electronic Services*

CONTOUR INTERVAL = 4°  
To accompany report on SUNDAY SUMMIT MINES LTD.

*curbs* by A. R. Bullis, P. Eng.

T.W.R.

