

G E O L O G I C A L R E P O R T
M A C N o s . 1 & 3 M . C . s
B O U L D E R C R E E K P R O P E R T Y 92/7^E
10 M I L E S S . E . O F P E M B E R T O N
Q U A D . 50° 122° S . W .
D R . A . C . S K E R L , P . E N G .
J U L Y 1958 & M A R C H 1959

0263

263

STATEMENT OF EXPENDITURES FOR GEOLOGICAL SURVEY OF
MAC Nos 1 and 3 MINING CLAIMS
JULY 1958 AND MARCH 1959

Geologist, Dr. A. C. Skerl, P. Eng. :		\$
	5 days at \$35.00	175.00
Assistant, Bob Bowen	4 days at \$10.00	40.00
		<hr/>
	Total	\$215.00

A. C. Skerl

DR. A. C. SKERL

A.R.S.M., PH.D., P. ENG.

CONSULTING MINING GEOLOGIST

1758 WESTERN PARKWAY
VANCOUVER 8, B.C.

GEOLOGICAL REPORT
MAC Nos. 1 & 3 MINING CLAIMS
BOULDER CREEK PROPERTY
10 MILES S. E. OF PEMBERTON
QUAD. 50° 122° E.

BY DR. A. C. SKERL; P. ENG.

9th. APRIL 1959

TABLE OF CONTENTS

	Page
INTRODUCTION	1
SITUATION	1
TOPOGRAPHY	1
#1 MAP BOULDER CREEK CLAIMS	after 1
COMMUNICATIONS	2
POWER AND TIMBER	2
GENERAL GEOLOGY	2
STRUCTURE	4
MINERALIZATION	5
#2 MAP DETAILS OF GEOLOGY NEAR S. W. CORNER MAC No 1 CLAIM	after 5
DISCUSSION AND CONCLUSIONS	6
RECOMMENDATIONS	7
#3 MAP GEOLOGY OF MAC Nos 1 & 3 CLAIMS at ba	

I N T R O D U C T I O N

The field work upon which this report is based was conducted in July 1958 and March 1959 to comply with the terms of the 'Mineral Act' of B. C. so that it might be allowed as assessment work on the Mac Nos. 1 and 3 mining claims which are part of a group of ten claims known as the Boulder Creek Property.

A base map was constructed from Brunton compass - chain traverse lines with stations at most 100 feet apart. Elevations were also taken so that the contours could be drawn.

S I T U A T I O N

The claims are located astride Boulder Creek about one mile above its mouth on Lillooet Lake and ten miles southeast of Pemberton which is 95 miles north of Vancouver by the Pacific Great Eastern Railway.

T O P O G R A P H Y

Within the claims the elevation ranges from 1300 to 2300 feet above sea level whilst the lake is at 700 feet.

The canyon of Boulder Creek is very precipitous making field work there very difficult. The tributary Schist Creek is also bounded by high rock bluffs.

The accompanying map (scale 1" to 1500') shows the location of the Boulder Creek claims in relation to Lillooet Lake.

C O M M U N I C A T I O N S

The property is reached from Pemberton by 8 miles of gravel road to the head of the Lake and then by boat for three miles to the west shore near the mouth of Boulder Creek from where one of two trails can now be taken for about $1\frac{1}{2}$ miles into the claims.

Within a year or two a logging road of the Anglo Canadian Co. will reach the head of the Lake on the west side from where there is an easy route to extend the road to Boulder Creek.

P O W E R A N D T I M B E R

A fair amount of power could be developed on Boulder Creek but since the new B. C. Electric power line from Bridge River to the Fraser Valley passes within one mile down the east side of Lillooet Lake ample power at a reasonable rate would be available.

To avoid an under-water or long overhead span of transmission line a route would be followed for four miles on the west side of the Lake.

There is ample timber of all sizes available within the claims. A few years ago some timber was logged off for about a thousand feet adjacent to the lake shore in this area.

G E N E R A L G E O L O G Y

C. E. Cairnes gave a good description of the geology of the Pemberton area in a Summary Report for the Geological Survey of Canada in 1924.

Briefly there is a four to eight miles wide roof pendant of a partly metamorphosed and sheared sedimentary-volcanic series of

Upper Triassic age that stretches for at least 20 miles to the northwest from about the south end of the Boulder Creek Property.

Along a straight line at N 30° W and within ½ mile of the east contact of the roof pendant Cairnes described five properties named from south to north the Apex, Boulder, Lake, Eagle and Margery groups that had been explored for copper during the First World War.

The present account deals with part of the Boulder Property.

The accompanying geological map (scale 1" to 200') shows the distribution of the rock types encountered during the detailed mapping.

Much of the area is probably underlain by a fine grained andesitic lava that is often sheared moderately. It is relatively soft compared with the other rock types so that it does not outcrop so readily. A more basic variety that is restricted to a small area near the northeast corner of the Mac No 1 claim has been classified as basaltic in composition.

A fragmental rock of andesitic composition was recognized in a number of localities.

The most important rock type is believed to be tuffaceous in origin. It is often well-banded, fine textured and siliceous but frequently contains finely crystallized epidote with scattered pyrite and sometimes massive bands of pyrite.

All these rocks have been invaded by a series of andesitic dykes from a few inches to twenty feet thick. They are usually vertical and commonly strike northwest.

Mac No 3 claim lies on a steep slope facing northeast that was formed by the large glacier that once must have moved down the valley of Lillooet Lake. Rock outcrops are found only along the high ground in the western third of the claim below which there is an old scree slope of rock fragments, now forested, that extends for 600 feet down to the east. Here, at the 1600 feet elevation, it merges with a thick glacial deposit that extends east beyond the boundary of the claim. The upper edge of this glacial material is marked by large erratics up to 20 feet across whose distribution probably defines a position in elevation that the ice held for some time with the scree forming above it.

In Mac No. 1 claim there is a large area of residual glacial material on the south side of Boulder Creek. Here and there also there are patches of a cream-coloured soil suggesting remnants of glacial clay.

S T R U C T U R E

The steep dykes are usually along northwest faults that weather out readily leaving isolated ribs of dyke with vertical walls. The common vertical shearing is in the same direction so that a strong impression of steeply dipping rocks is formed especially in the volcanic lavas and fragmentals.

When the banded tuffs are examined however they are often found to dip south at from 20° to 45° only and to strike in an easterly direction.

The relative positions of most of the outcrops mapped suggest that the fragmentals are above the tuffs and the andesitic lavas below.

A number of faults that strike north and dip steeply west were also mapped. Schist Creek and the three gullies to the east of it all have the same north strike suggesting a fault control.

M I N E R A L I Z A T I O N

The striking appearance of the red, brown and yellow bluffs that are several hundred feet high along Schist Creek no doubt first attracted the early prospectors to the area.

On breaking into the rock much fresh pyrite is seen and in certain areas chalcopyrite is plentiful. A little finely divided galena and yellow sphalerite have been observed. The gangue is usually a siliceous epidote rock that may contain up to 20% pink rhodonite but sometimes it is a green chloritic material.

Malachite and azurite may be present but are never found naturally exposed - only by breaking into the rock.

At the original discovery of 1916 in the so-called lower cut near the south^{west} corner of Mac No 1 claim recent work has shown that copper mineralization extends over a true width of at least 40 feet of the tuffs that dip 35°S. Of this amount 20% is occupied by dykes. In the upper cut that is 70 feet above there is another band that carries copper for a true width of 15 feet.

Similar heavy pyrite mineralization with low grade copper content in siliceous epidote rock has now been found just west of of the common initial posts of Mac Nos. 1 and 3 claims.

The accompanying plan (scale 1" to 40') shows the details of the geology at the copper occurrence near the S. W. corner of Mac No 1 claim.

DISCUSSION AND CONCLUSIONS

Both the staking and exploration of the Boulder Creek group of claims has been based on the northwest alignment of a zone containing the various properties as described by Cairnes but the reason for the position of the mineralization at intervals along the zone was not known.

At Boulder Creek it now appears that a specific rock type, namely siliceous tuff, contains sulphides where intersected by northwest fractures which later became filled with dykes.

Most of the sulphide is pyrite and it is much more widely spread than the chalcopyrite so a geochemical survey was carried out to define the distribution of the copper with the results recorded in a separate report.

The effective blanketing by the glacial and scree materials to geochemical tests suggests that a self-potential survey would be useful in testing these areas.

Some important copper assays have been obtained from channel samples near the southwest corner of Mac No 1 claim but considerable development would be required to demonstrate the presence of an ore-body. Before concentrating a major effort here it would be best to search for a possibly higher grade area by means of geological, geochemical and geophysical surveys in the other 8 claims of the group and further afield if necessary.

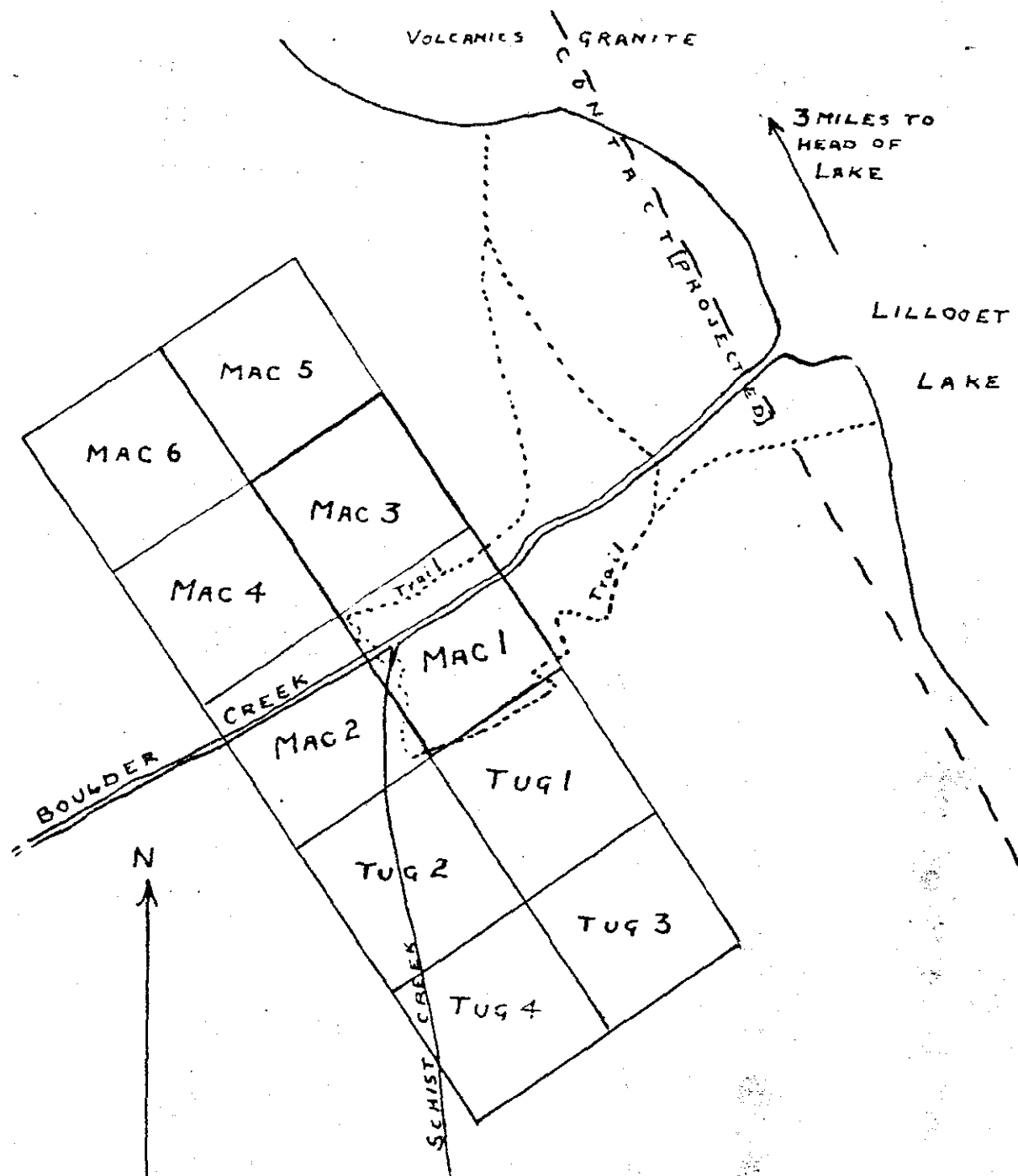
R E C O M M E N D A T I O N S

When snow conditions permit extend the geological survey through the rest of the group of claims in an endeavour to trace the favourable siliceous tuff beds. Follow up with a geochemical and then a self-potential survey.

Explore any interesting discoveries by means of open-cuts.



Dr. A. C. Skerl, P. Eng.

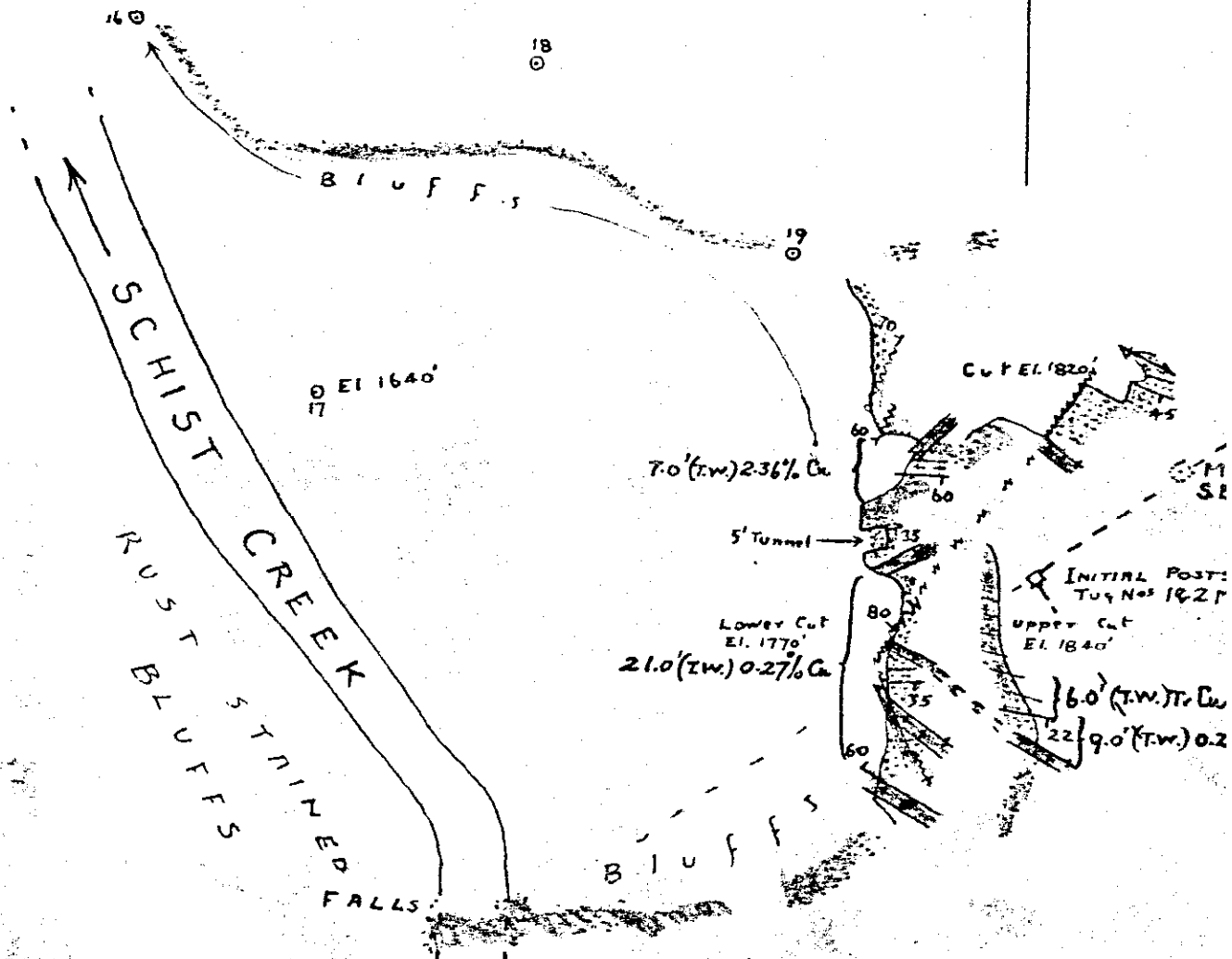




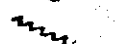

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT

BOULDER CREEK CLAIMS
 NEAR LILLOOET LAKE
 SCALE 1" = 1500'
 APRIL 9th 1959 *P. G. Sherrill*

NO. **263** MAP #1

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **263** MAP **#2**



-  Siliceous rock with banded pyrite
-  Andesitic Dyke
-  Fault
-  Shear

Plan showing details of the Geology in the Cuts near the S.W. corner of the Mac No 1-M. C.

Scale 1" to 40'

April 9th 1959

A. C. Skeel
A. C. Skeel

