

DR. A. C. SKERL
A.R.S.M., Ph.D., P. ENG.
CONSULTING MINING GEOLOGIST

1758 WESTERN PARKWAY
VANCOUVER 8, B.C.

304

G E O C H E M I C A L R E P O R T
T U G N o . 1 M I N I N G C L A I M
B O U L D E R C R E E K P R O P E R T Y
1 0 M I L E S S . E . O F P E M B E R T O N
B . C . Q U A D . 5 0 ° 1 2 2 ° E .
B Y D R . A . C . S K E R L , P . E N G .
2 n d . t o 4 t h . A P R I L 1 9 6 0

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

The field work upon which this report is based was conducted from the 2nd. to 4th. April 1960 to comply with the terms of the 'Mineral Act' of B. C. so that it might be allowed as assessment work on the Tug No. 1 mineral claim which is part of a group of ten claims known as the Boulder Creek Property.

A base map to a scale of 1" to 200' 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 claim is located just south of 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

The claim is on a steep north facing slope whose elevation ranges from 1400 to 2500 feet above sea level as compared with the Lake at 700 feet.

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 be taken for about 1½ miles into the claims.

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 from the head of the Lake on the west side for four miles.

There is ample timber of all sizes available within the claim.

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 at least 20 miles to the northwest from about the south end of the Boulder Creek property.

G E O L O G Y O F T U G N o . 1 C L A I M

A geological report has recently been completed on this claim and submitted for assessment purposes.

A bedded siliceous tuff that strikes east along the north side of the claim and dips 20° to 45° to the south is associated with andesitic lavas and fragmental rocks.

Numerous northwest striking dykes have invaded these rocks.

Widespread pyrite mineralization occurs in epidotized siliceous tuff and chalcopyrite is present just outside the northwest corner of

the claim.

A means was needed to prospect for further copper-bearing sections and so geochemistry was selected.

METHOD OF GEOCHEMICAL SURVEY

The Rubenic Acid Field Test as described by H. V. Warren and R. E. Delavault in the January 1959 issue of the Western Miner was used in this survey.

The materials were prepared as follows :

1. Reagent Paper.

1 gm of rubenic acid was dissolved in 100 ml reagent grade acetone and then used to wet strips of filter paper that were then dried and cut up into pieces 1" by $\frac{1}{4}$ ".

2. Extracting Solution

One pound of hydrated sodium acetate together with 1 quart of acetone, both reagent grade, were made up to 1 gallon with copper free water.

3. A quantity of 2 inch squares of glazed onion skin paper were prepared.

4. Apparatus

The following were obtained :

a 50 ml pyrex beaker, a 12 mm test tube with rubber stopper,
a $\frac{1}{4}$ teaspoon measure , a plastic bottle for the extracting solution,
9 cm filter papers and 1" squares of filter paper.

PROCEDURE

To make a test a piece of reagent paper with an identification number on it was placed on a 1" square of filter paper in the bottom of the beaker. A carefully folded filter paper with a sharp tip was

placed in the beaker so that the tip just touched the reagent paper. Next some soil was placed on the onion skin paper where small stones and roots could be sorted out before taking a level $\frac{1}{4}$ teaspoonful that was placed in the test tube. From 1 to 2 ml of extracting solution sufficient to make a thick slurry was then added, the tube closed with the stopper wrapped in onion skin paper to prevent contamination and then shaken for 15 to 20 seconds. The mixture was then poured neatly into the filter paper funnel whereupon a stain would develop on the reagent paper whose intensity and size would depend on the amount of copper present.

The various spots obtained were classified by letters as follows with the approximate equivalent in micrograms of copper per gm as suggested by Warren and Delavault :

F	very large black stain	1.0
E	large black stain	0.5
D	distinct black stain	0.2
C	distinct dark grey stain	0.1
B	distinct grey stain	0.05
A	stain just apparent	0.02
N	nil	nil

The soil samples were taken at marked stations, not more than 100 feet apart, on various traverses through the claim by removing the surface material and sampling the soil immediately beneath. In some cases there was mainly scree rock underneath and considerable searching was necessary to find sufficient soil. A total of 100 samples were collected in this way and tested as described above. The results are plotted both by letter and colour scheme on the accompanying map (1"=100'). The test papers and soil samples have been retained for reference.

R E S U L T S

It was found that the A and N categories were the normal background for the general area while B can only be regarded as significant in areas of higher values.

The map shows that no areas with appreciable positive copper tests were discovered by the survey.

The strong response of E at J 1 is just outside the claim and is part of the known copper area at the northwest corner.

Along the J line near the north boundary a C value was recorded halfway along and a D at the east end but they are not supported by adjacent values. In each case pyritic tuff is present which probably has a small local content of copper.

The southwestern third of the claim is covered by scree and glacial material that gives a uniformly negative result as was the case in similar areas to the north in the Mac Nos. 1 and 3 claims.

Some special sampling conducted last year and reported in the account of these two claims showed that 2 feet of glacial cover effectively masked copper bearing material immediately below.

C O N C L U S I O N

The results of the geochemical survey show that the method employed is amply sensitive for soil derived directly from the underlying rock but its effectiveness in the glacially covered areas is doubtful.

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

1. Conduct a self-potential survey across the claim.
2. Extend the geochemical and geophysical surveys into the other claim

A. C. Skerl

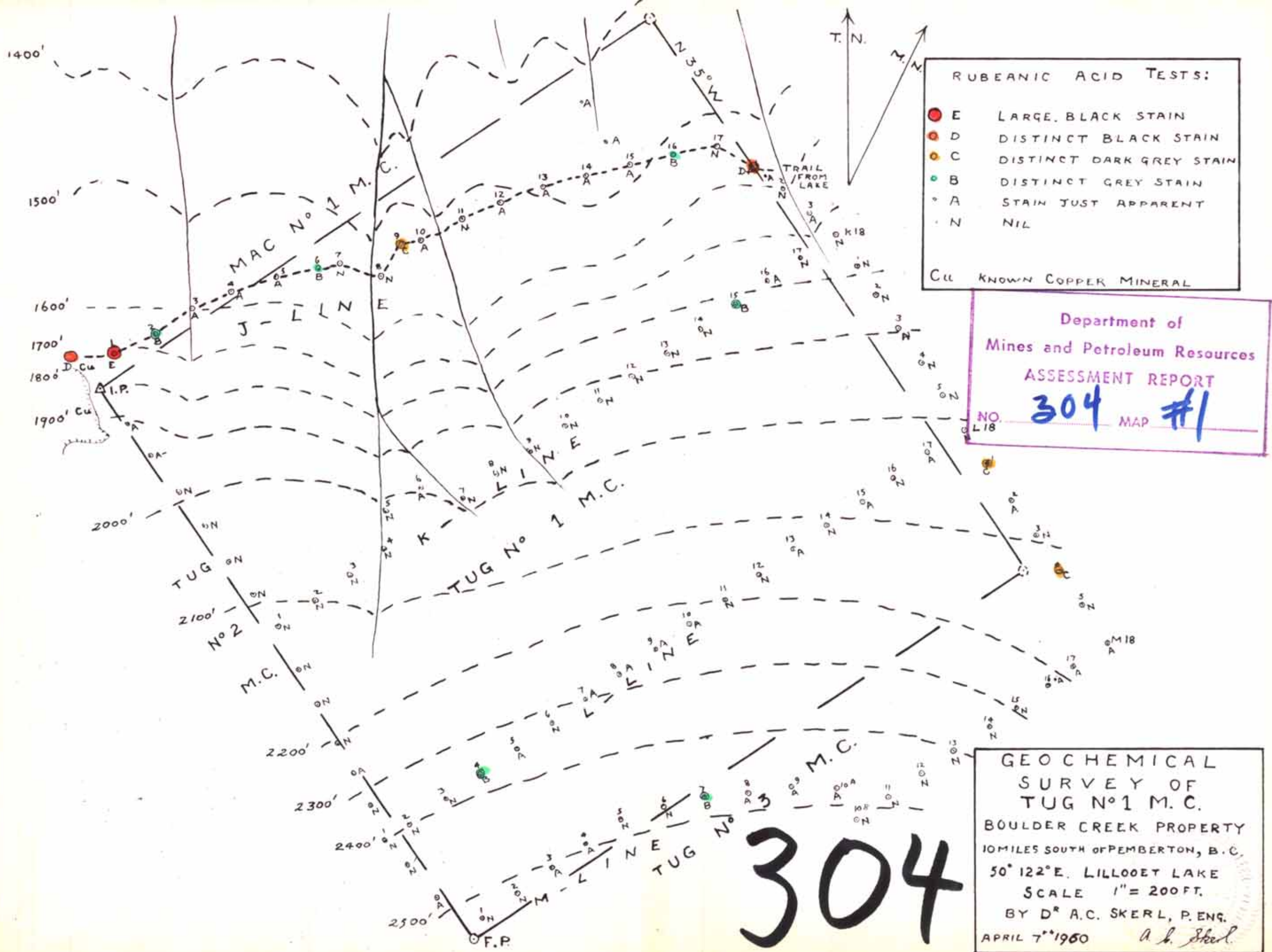
DR. A. C. Skerl, P. Eng.

7th. April 1960

STATEMENT OF EXPENDITURES FOR GEOCHEMICAL SURVEY OF
TUG No. 1 MINERAL CLAIM
2nd. to 4th APRIL 1960

Geologist, Dr. A. C. Skerl, P. Eng. :		\$
	3 days at \$35.00	105.00
Assistant, H. Perkins :		
	2 days at \$10.00	25.00
		<hr/>
Total		\$125.00

A. C. Skerl



RUBEANIC ACID TESTS:

● E	LARGE. BLACK STAIN
○ D	DISTINCT BLACK STAIN
○ C	DISTINCT DARK GREY STAIN
○ B	DISTINCT GREY STAIN
○ A	STAIN JUST APPARENT
○ N	NIL

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Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
304 #1

GEOCHEMICAL SURVEY OF TUG No 1 M.C.
BOULDER CREEK PROPERTY
10 MILES SOUTH OF PEMBERTON, B.C.
50° 122' E. LILLOOET LAKE
SCALE 1" = 200 FT.
BY D^R A.C. SKERL, P. ENG.
APRIL 7th 1960 *A. C. Skerl*

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