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GEOLOGICAL & GEOCHEMICAL REPORT

by

J. M. Newell, P. Eng.

G. R. Peatfield, B.A.Sc.

on surveys completed during August 1971 on the

TULAMEEN MINERAL CLAIMS

situated on the

Tulameen River, 6 miles northwest of Princeton

in the

SIMILKAMEEN MINING DIVISION

49°N, 120°W, SW

(NTS 92 - H - 6)

and owned by

MR. J. ELDER

October, 1971

Vancouver, B.C.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3357 MAP.....

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in pocket

Geochemistry - Copper and Molybdenum - Tulameen Group #2

Scale: One Inch = 400'

in pocket

GEOLOGICAL & GEOCHEMICAL REPORT

TULAMEEN MINERAL CLAIMS

INTRODUCTION

The opportunity to examine these claims, in order to determine possible interest in negotiating an option to purchase, was offered to Texas Gulf Sulphur Co., by the owner, during July, 1971. This report is based on data obtained in the course of this examination, which was carried out in conjunction with work on adjacent ground. Work consisted of establishing a chain and compass grid, with lines at 400 foot intervals, followed by geological mapping and geochemical soil sampling.

LOCATION, ACCESS & OWNERSHIP

The property is comprised of two mineral claims, the Tulameen 1 and 2, owned by Mr. J. Elder, of Princeton. It is located on the Tulameen River, some six miles northwest of Princeton. The all-weather gravel road, from Princeton to Coalmont and Tulameen, passes through the claims.

REGIONAL GEOLOGY

The geological setting is described in G.S.C. Memoir 243 "Geology and Mineral Deposits of the Princeton Map Area" (Rice, 1947). In summary, the claims are underlain by volcanic rocks of the Triassic Nicola Group, intruded by a small boss of granitic rock.

PROPERTY GEOLOGY

A series of volcanic rocks, trends northwestwards through the property and dips gently to the northeast. The sequence is

is largely comprised of green, fine to medium grained andesitic tuffs, but also contains discontinuous bands of porphyritic andesite, sometimes amygdaloidal. Three bands of white to grey, porphyritic and tuffaceous rhyolite are also present.

A small boss of coarse grained, equigranular granodiorite to quartz diorite, intrudes the volcanic rocks on the Tulameen No. 1 claim, and is exposed at river level and uphill towards the Princeton-Coalmont road.

Outcrops of volcanic rock show moderate to strong argillic alteration and surficial limonite stain, the latter being derived from disseminated pyrite. Most outcrops show the effects of deep surface weathering and attendant leaching. The granodiorite is only very weakly altered: feldspars are relatively fresh, but the rock shows some development of chlorite and epidote.

Copper mineralization occurs in both the volcanic and intrusive rocks in the southwest corner of the Tulameen No. 1 claim. Generally sparse chalcopyrite-pyrite occurs in quartz veins, irregular shear zones and weakly disseminated in the andesitic tuffs.

GEOCHEMISTRY

Soil samples were collected at 100 foot intervals on grid lines spaced 400 feet apart. A total of 127 samples were taken on the Tulameen Claims.

Samples were collected from shallow holes, dug with a mattock or shovel. The "B" soil horizon was sampled where possible, but due to the steepness of the terrain, only "C" horizon material or talus fines is available at many sample points.

The samples were collected in Kraft paper envelopes and shipped to the Bondar Clegg and Co. Ltd. laboratory in North

Vancouver for total copper and molybdenum analyses.

The analytical technique is summarized as follows:

The samples are first dried and seived to obtain the -80 mesh fraction. Contained metal is extracted from a weighed sample of this fraction with LeFort aqua regia. The resulting solutions are bulked to a 20% acid concentration and analysed by atomic absorption spectrophotometry, in constant comparison with both synthetic and matrix standards. Results are expressed in parts per million total metal content.

A value distribution curve for samples from the Tulameen claims shows a rather broad and poorly defined background range. However, a much greater number of samples has been collected from adjacent ground and thresholds of interest at 70 ppm copper and 4 ppm molybdenum have been clearly established. Values in excess of 140 ppm copper and 7 ppm molybdenum are regarded as anomalous.

An appreciable number of the samples taken from the Tulameen claims returned above threshold values, but anomalous areas are very limited in extent. The strongest anomaly (peaking at 600 ppm copper) lies in the southwest corner of Tulameen No. 1 claim in an area where weak copper mineralization can be seen in outcrop, adjacent to the granite contact. Weaker anomalies to the north and west are probably derived from similar, sub-economic mineralization.

The relatively broad areas of threshold copper values can be crudely related to underlying porphyritic andesites and are probably a formational feature. Rock chip sampling shows the andesitic volcanic rocks to be consistently higher in copper than both the rhyolites and granitic intrusives.

CONCLUSIONS

Several copper anomalies, of very limited areal extent have been delineated. The strongest is related to observed weak copper mineralization. The material sampled is, in most cases, talus fines as topographic slopes on the property are very steep. Values in this material closely reflect values obtained in rock chip samples of underlying bedrock and the anomalies are not considered indicative of economic mineralization.



J. M. Newell, P. Eng



G. R. Peatfield, B.A.Sc.

Statement of Qualifications

Mr. G. R. Peatfield obtained his B.A.Sc. degree in Geological Engineering, from the University of British Columbia, in 1966. He is currently reading for his PhD at Queen's University. In the interim he has been employed by Texas Gulf Sulphur, continuously during the period 1967 - 1969 and during the summers thereafter, as an exploration geologist.

He has worked on a wide variety of exploration projects in British Columbia and also in Ontario and Mexico. I consider him to be a competent and experienced geologist.

Mr. V. V. Pratico has completed all the geology courses required for his B.Sc. degree at the University of British Columbia. He has been employed by Texas Gulf Sulphur Co., during the summer months, from 1968 to 1971. He had several summers exploration experience prior to 1968. I regard him as competent in geological mapping and related exploration techniques.

Mr. B. C. Ratcliffe is a student at the University of British Columbia, who has six summers' field experience in geochemical sampling, five of them employed by Texas Gulf Sulphur Co.

Mr. C. J. Rockingham is a student of the University of Toronto with three summers' field experience in mineral exploration. I regard both as well-trained, competent and conscientious field assistants.

A handwritten signature in black ink, appearing to read "M. J. Rockingham", is located in the bottom right corner of the page.

DOMINION OF CANADA:

PROVINCE OF BRITISH COLUMBIA.

To WIT:

In the Matter of Assessment work carried out on the Tulameen 1 and 2 Mineral Claims, situate 6 miles northwest of Princeton, in the Similkameen Mining Division.

I, John M. Newell, agent for Texas Gulf Sulphur Company

of 701 - 1281 West Georgia Street, Vancouver 5.

in the Province of British Columbia, do solemnly declare that during the period 1 - 31st August 1971, I caused assessment work to be done on the Tulameen 1 and 2 Mineral Claims, to the value of \$982.15. The expenses were incurred as follows:-

Geological Mapping

V.V. Pratico 3 days @ \$35 105.00

Geochemical sampling

B. C. Ratcliffe 6 days @ \$25 150.00

C. J. Rockingham 6 days @ \$20 120.00

127 copper-molybdenum analyses @ \$2.20 279.40

5 copper-molybdenum analyses (rock chips) @ \$2.75 13.75

Field Supervision, Report writing, etc.

G. R. Peatfield, B.A.Sc. one day @ \$45 45.00

J. M. Newell, P. Eng., one day @ \$75 75.00

Room & Board

16 man-days @ \$10 160.00

Transportation

1/5 month vehicle rental @ \$450/month 90.00

Drafting, map reproduction, etc. 25.00

1063.15
~~982.15~~ *ML*

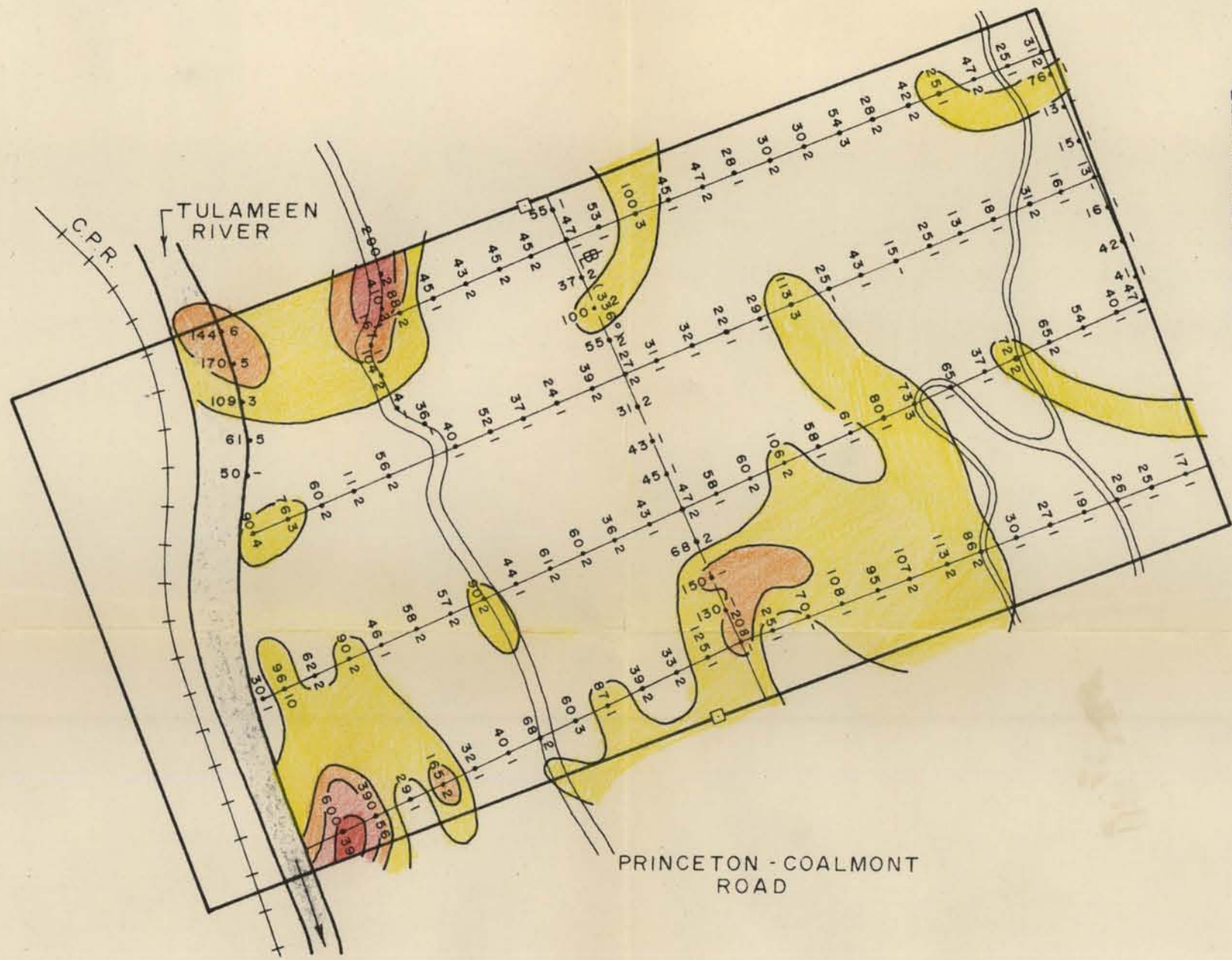
And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the *City*
of *Vancouver*, in the
Province of British Columbia, this *29*
day of *October* *1971*, A.D.

Newell

Julie Turner
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.
Sub-mining Recorder

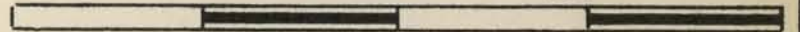
Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 3357 MAP *hz*



Newell



SCALE: ONE INCH = 400'



LEGEND

Cu (ppm) ——— SOIL SAMPLE (COPPER CONTOURED)
 Mo (ppm) ———
 - NOT DETECTED

—+—+—+— RAILROAD

~~~~~ ROAD

□ CLAIM POST

To accompany a geological and geochemical report  
 by J. M. Newell and G. R. Peatfield on the Tulameen  
 Mineral Claims in the Similkameen Mining Division,  
 dated October, 1971

|                           |          |              |
|---------------------------|----------|--------------|
| TEXAS GULF SULPHUR CO.    |          |              |
| GEOCHEMISTRY              |          |              |
| — COPPER AND MOLYBDENUM — |          |              |
| TULAMEEN GROUP            |          |              |
| WORK BY                   | DRAWN BY | DATE         |
| V.V.P.                    | L. BELL  | OCT. 26, '71 |

Department of  
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ROCK-CHIP SAMPLES

| No | Cu (ppm) | Mo (ppm) |
|----|----------|----------|
| 1  | 72       | 2        |
| 2  | 164      | 3        |
| 3  | 12       | 1        |
| 4  | 12       | N.D.     |
| 5  | 61       | N.D.     |

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*Newell*



SCALE: ONE INCH = 400'

LEGEND

- OUTCROP
- GEOLOGIC CONTACT
- ROAD
- RAILROAD
- CLAIM POST
- 4 ANDESITE
- 3 ANDESITIC TUFF & AGGLOMERATE
- 2 RHYOLITE
- 1 GRANODIORITE - QTZ. DIORITE

To accompany a geological and geochemical report  
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Tulameen Mineral Claims in the Similkameen Mining  
Division, dated October 1971

TEXAS GULF SULPHUR CO.

— GEOLOGY —  
**TULAMEEN GROUP**

| WORK BY | DRAWN BY | DATE         |
|---------|----------|--------------|
| V.V.P.  | L. BELL  | OCT. 26, '71 |



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M-1

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*Newell*



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— GEOLOGY —  
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| V.V.P.  | L. BELL  | OCT. 26, '71 |