

3396

GEOLOGICAL & GEOCHEMICAL REPORT

by

J. M. Newell, P. Eng.
G. R. Peatfield, B.A.Sc.

on surveys completed during June and July, 1971 on the

DIG, TED, KEN, SNOW & PAT MINERAL CLAIMS

situated on

Rampart and Summers Creeks, 10 miles north of Princeton

in the

SIMILKAMEEN MINING DIVISION

49°N, 120°W, N.E.

(N.T.S. 92-H-9 and 92-H-10)

and owned by

MR. T. COYNE

October, 1971

Vancouver, B.C.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3396 MAP

TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION	2
LOCATION, ACCESS & OWNERSHIP	2
REGIONAL GEOLOGY	3
PROPERTY GEOLOGY	3
Lithology	3
Structure	4
Mineralization	4
GEOCHEMISTRY	5
CONCLUSIONS	7
APPENDIX	
Statement of Qualifications	8

LIST OF ACCOMPANYING MAPS

Page No.

#1
Geology and Geochemistry Snow Group Grid: Scale 1" = 500'

in pocket

#2
Snow Group - Claims, Regional Geology and Geochemistry. Scale:
(Claims) 1" = 800'; (Regional Geochemistry) 1" = 1320' (approx);
(Regional Geology) 1" = 1320' (approx)

in pocket

GEOLOGICAL & GEOCHEMICAL REPORT
T. COYNE RAMPART CREEK PROPERTY

INTRODUCTION

The opportunity to examine this property, with a view to negotiating an option to purchase, was offered to Texas Gulf Sulphur Co., by the owner, during June 1971. An initial examination, involving geological reconnaissance and limited geochemical sampling, yielded encouraging results. A more detailed examination was then undertaken, including a soil sampling survey controlled by a pace-and-compass grid. This report is based on data obtained in these two examinations.

LOCATION, ACCESS & OWNERSHIP

The property, owned by Mr. Thomas Coyne, of Princeton, B.C., is comprised of the following mineral claims:

Dig 1 - 7 inclusive
Ted 1 - 4 "
Snow 1 - 6 "
Pat 1 - 10 "
Pat 14 - 15 "
Pat 17 - 18 "
Dig 1 - 3 Frs. inclusive
Ken 4 - 5 Frs. inclusive

The property is located near the confluence of Rampart and Summers Creeks, some ten miles north of Princeton, and is centred at latitude 49°37' north, longitude 120°29' west. Access from Provincial Highway 5, north of Princeton, is gained by way of the all-weather gravel road up Summers Creek and several old logging roads extending onto the property.

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 property area is underlain by volcanic rocks of the Triassic Nicola Group, intruded by granitic rocks of the Okanagan Batholith. Tertiary sedimentary and volcanic rocks of the Princeton Coal Basin outcrop to the south and may underly the southern part of the claim group.

PROPERTY GEOLOGY

Geological mapping on the property was controlled by air photographs at a scale of 1" to $\frac{1}{4}$ mile and by the pace-and-compass grid established for geochemical soil sampling. Geological observations were made along stream courses, old logging roads and prominent ridge lines.

Lithology

The Nicola Group rocks exposed on the property represent a volcanic sequence of variable composition. Massive, dark green andesites and related tuffs and agglomerates, typical of the Nicola Group, are intercalated with narrow, discontinuous bands of dacitic and rhyolitic material. This volcanic assemblage is similar in character to the host rocks in other mineralized areas in the Princeton district.

The volcanic rocks have been intruded by plutonic rocks

of the Okanagan Batholith, varying in composition from diorite, through granodiorite, to granite. The contacts are frequently irregular and poorly defined, with the margins of the intrusive containing partially assimilated inclusions of the country rock. Tuffaceous rocks near the intrusive contact are frequently hornfelsic in character. Tertiary syenetic dykes intrude both the volcanic and granitic rocks.

The eastern margins of the property are deeply gravel-covered.

Structure

Strong shearing is evident in many outcrops along Rampart Creek and an arcuate fault zone can be inferred along the trend of the creek. Northwest-trending faults intersect this zone at several points.

Moderate to strong argillic alteration is associated with the fault zones and becomes particularly intense in the vicinity of fault intersections, where the rocks may become sufficiently decomposed as to crumble in the hand. This alteration is, however, at least partially due to the effects of deep weathering.

Primary structures are generally lacking in the volcanic rocks, but the sequence does not appear to have been strongly folded.

Mineralization

An adit, now caved, has been driven on a mineralized shear zone on the right bank of Rampart Creek, in the central part of the grid area. Mineralization consists of pyrite, galena, sphalerite and chalcopyrite, in a matrix of quartz and sheared, altered country rock. Secondary minerals including limonite, malachite, azurite and gypsum are also present.

This showing is probably the "Dry Creek Prospect" referred to in the British Columbia Minister of Mines Report for 1922 (page N 168), but there are some discrepancies in the geological description. The old report refers to the mineralization occurring in altered sedimentary rocks (possibly the hornfelsic tuffs of current mapping) and mentions the presence of limestone. No limestones were observed in the course of the current examination, but it is possible a narrow lens may be obscured by caving at the mouth of the adit.

Away from the showing, observed mineralization is confined to weak to moderate limonite staining derived from weak pyrite mineralization and occasional sparse disseminated chalcopyrite or weak secondary copper stain.

Three rotary drill holes have been put down on the property, by Quintana Minerals Corporation (British Columbia Minister of Mines Annual Report, 1968. p. 204) but results are not available to the writers. Two holes, located west of the old adit (see Geological Map) apparently did not intersect significant mineralization. Assays on cuttings remaining at the hole collars yielded negligible copper and molybdenum values. A third hole, located in the creek bed, below the old adit, is reported to have been abandoned at shallow depth, but this could not be verified and no cuttings remain at the collar.

GEOCHEMISTRY

Approximately 100 soil samples were collected from the property during the initial examination. A further 153 samples were collected in the subsequent, more detailed follow-up.

Samples were taken from shallow holes, dug with a

mattock. Where possible the "B" soil horizon was sampled, but it is not always present and "C" horizon material was substituted. On the eastern margin of the grid, soils are derived from the underlying glacial gravels and the reliability of the results is suspect.

All samples were placed in Kraft paper envelopes and shipped to the Bondar Clegg and Co. Ltd. laboratory, in North Vancouver, for 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 statistical study of the 263 soil samples collected on the property shows a background range of values of 5 - 60 p.p.m. copper and 1 - 3 p.p.m. molybdenum. The value distribution curves peak in the 21-30 p.p.m range for copper and 1-2 p.p.m range for molybdenum.

Thresholds of interest are therefore established at 61 p.p.m. copper and 4 p.p.m. molybdenum. Values in excess of 121 p.p.m and 7 p.p.m respectively are regarded as significantly anomalous. This pattern conforms with experience obtained in other parts of the Princeton district.

A significant and well defined copper anomaly has been outlined in the central part of the grid. It was first detected by the reconnaissance survey when several values were obtained in excess of 300 p.p.m. copper, peaking at 1700 p.p.m near the old adit. The

anomaly was confirmed and outlined more precisely by grid sampling.

The anomaly has a strike length of some 4000 feet, but is restricted in width. It correlates closely with the surface trace of the northwest-trending fault in which mineralization occurs at the old adit. The highest values are obtained in the vicinity of this showing.

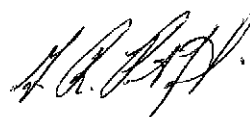
There are several weaker anomalies elsewhere on the grid, but they are not extensive and are therefore of subordinate interest.

CONCLUSIONS

1. A strong copper anomaly, with some supporting molybdenum values, has been outlined on the property.
2. Two of the three holes known to have been drilled on the property lie outside the anomalous area. Information from the third hole, centrally located within the anomaly, is lacking, but it is reported to have been abandoned at shallow depth.
3. The anomaly correlates closely with the surface trace of a fault zone in which mineralization is known to be present in the adit near the stream bed. It is probably indicative of continuity of mineralization controlled by this structure.



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 Ph.D. at Queen's University. In the interim he has been employed by Texas Gulf Sulphur Co., 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. B. D. Chapman obtained his B.A.Sc. degree in Geological Engineering from the University of British Columbia in 1971. He has been employed by Texas Gulf Sulphur Co. in varying capacities during the summer months, every year since 1967. During this time he has obtained broad experience in mineral exploration in British Columbia and I consider him to be a competent and experienced geologist.

Mr. A. Axen is a second year Geology student at the University of British Columbia. He had two summers' field experience in geochemical sampling prior to his employment with Texas Gulf Sulphur Co in 1971. He is a competent and conscientious field assistant.

Mr. D. E. Esau is a second year Geological Engineering student at the University of British Columbia. 1971 was his first summer's field experience. However I regard him as a competent and conscientious field assistant.


J. M. Newell, P. Eng.

LIST OF ACCOMPANYING MAPS

Page No.

Geology and Geochemistry Snow Group Grid: Scale 1" = 500' in pocket

Snow Group - Claims, Regional Geology and Geochemistry. Scale:
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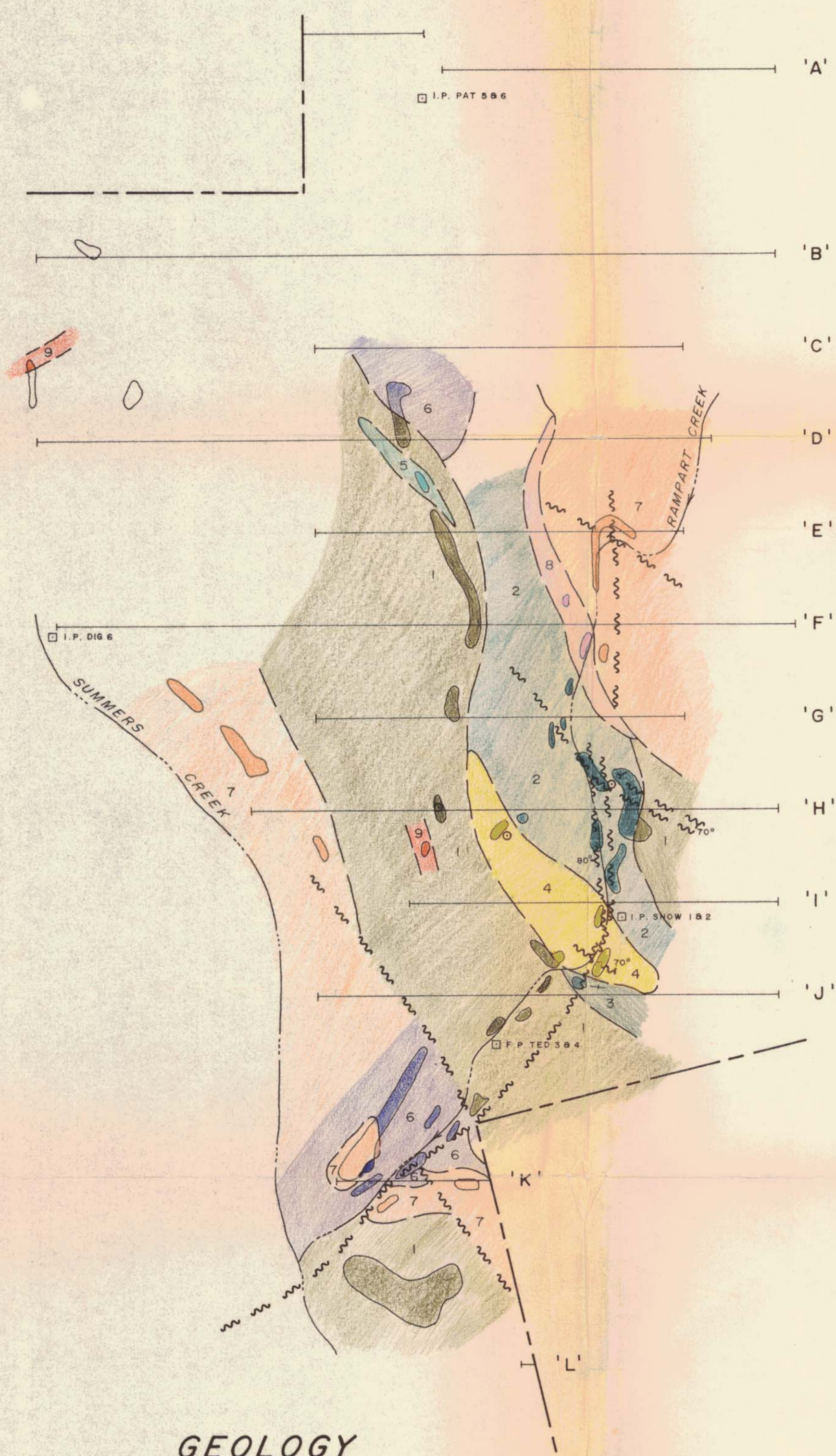
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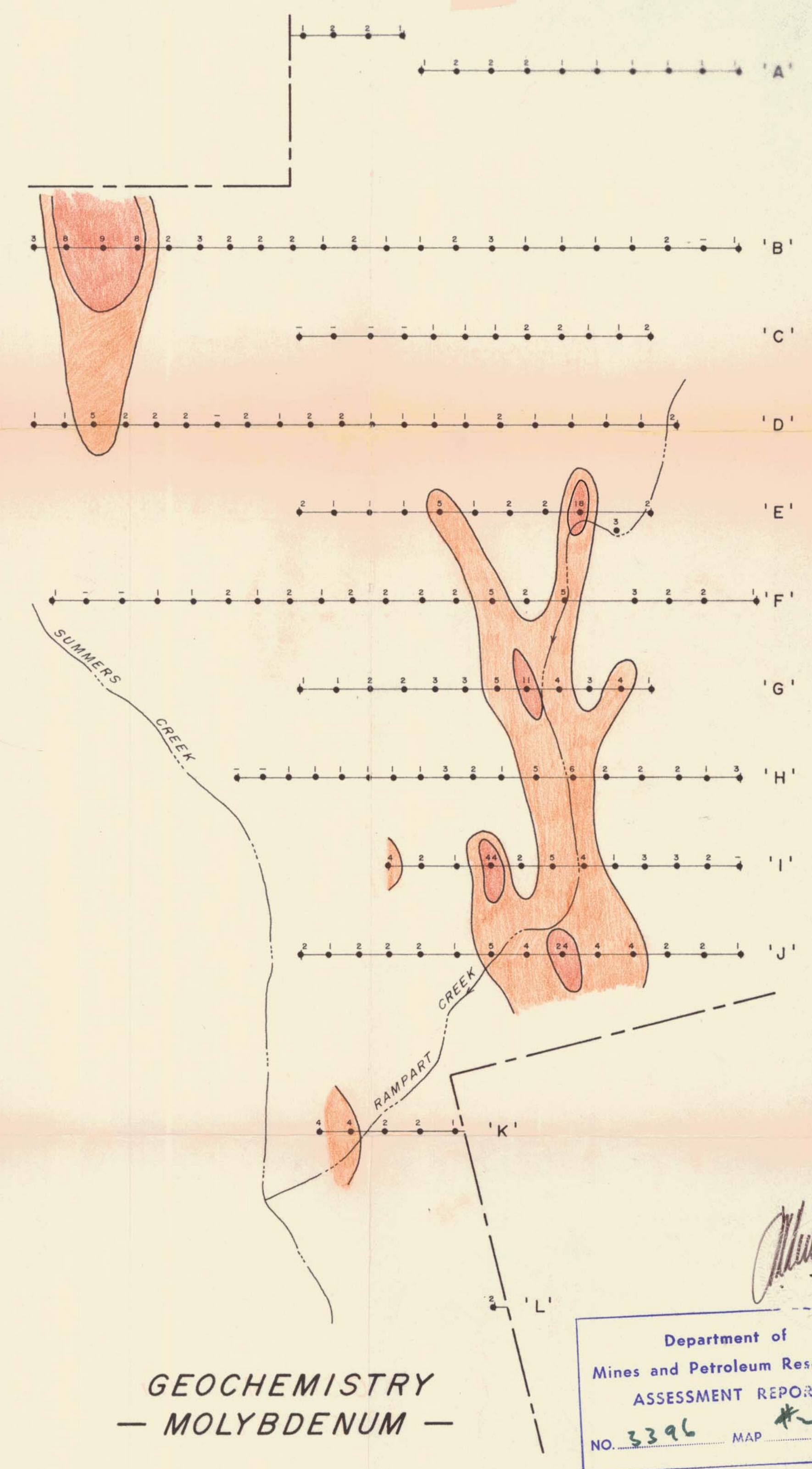
in pocket



GEOLOGY



**GEOCHEMISTRY
— COPPER —**



**GEOCHEMISTRY
— MOLYBDENUM —**

LEGEND

- GENERAL**
- SNOW GROUP BOUNDARY (Approx.)
 - ~ CREEK
 - CLAIM POST
 - SOIL SAMPLE TRAVERSE LINE
 - ROTARY DRILL HOLE
 - QUINTANA MINERALS CORP.

- GEOLOGY**
- OUTCROP
 - GEOLOGICAL CONTACT
 - ~ FAULT
 - PORTAL OF ADIT

- | | |
|---------------------------|------------------|
| 1 MASSIVE GREEN ANDESITE | 4 DIORITE |
| 2 ANDESITE TUFF, HORNFELS | 7 GRANODIORITE |
| 3 ANDESITIC AGGLOMERATE | 8 GRANITE |
| 5 RHYOLITE | 9 TERTIARY DYKES |
| 6 DACITE | |

- GEOCHEMISTRY**
- SOIL SAMPLE LOCATION
 - NOT DETECTED

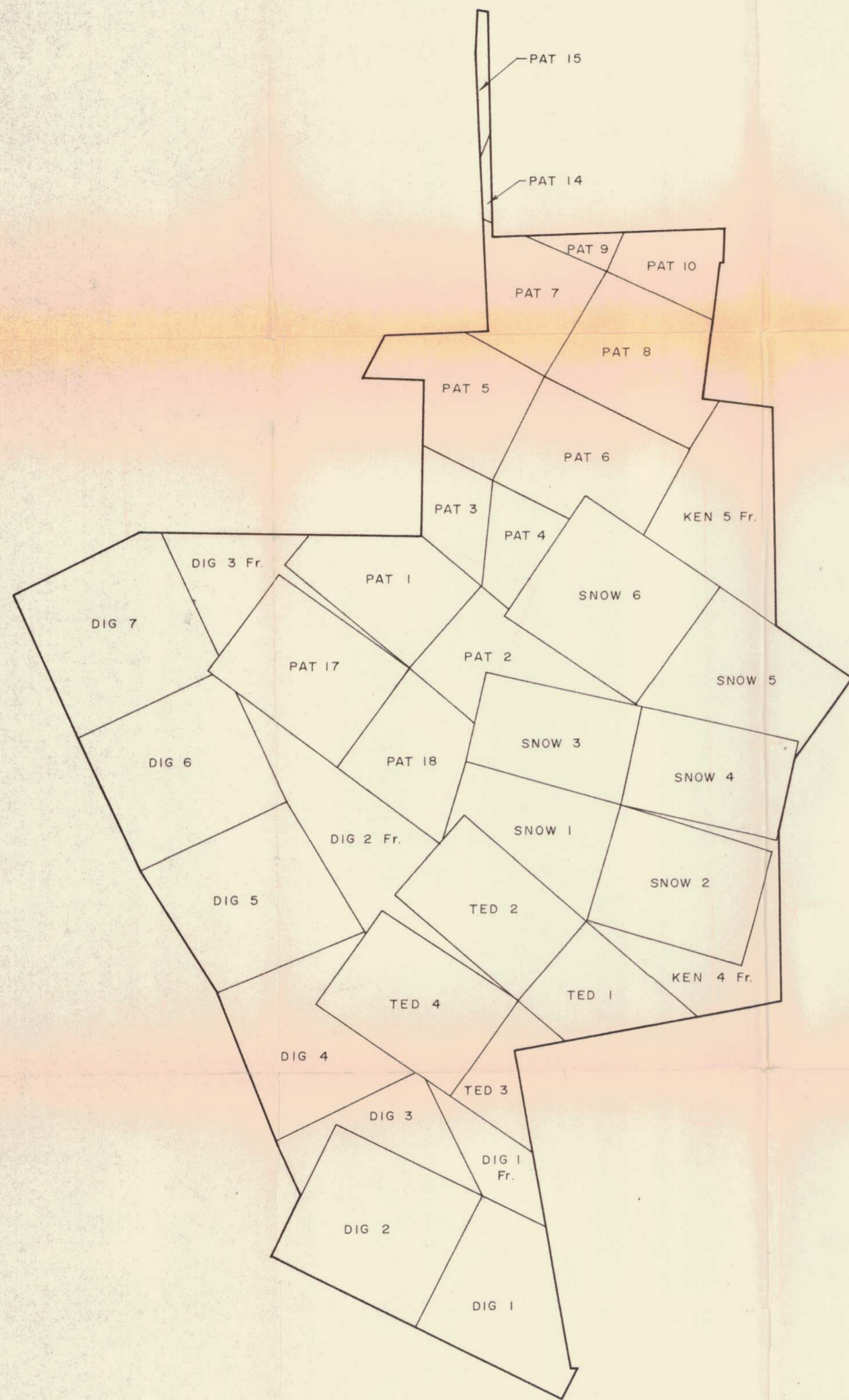
To accompany a geological and geochemical report by J. M. Newell and G. R. Peatfield on the Dig, Ted, Ken, Snow and Pat Mineral Claims in the Similkameen Mining Division, dated October, 1971

Newell

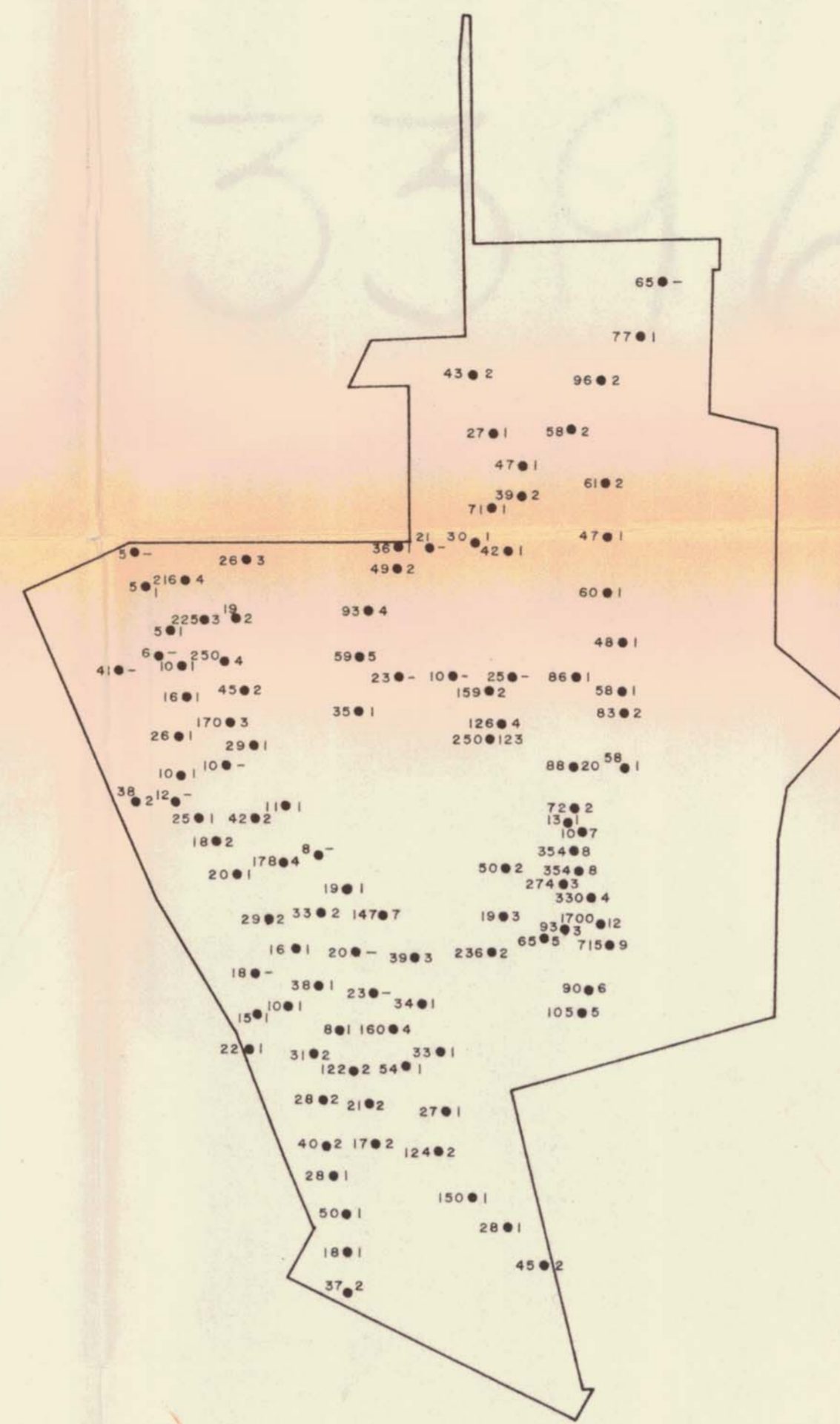
Department of
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SCALE: ONE INCH = 500'

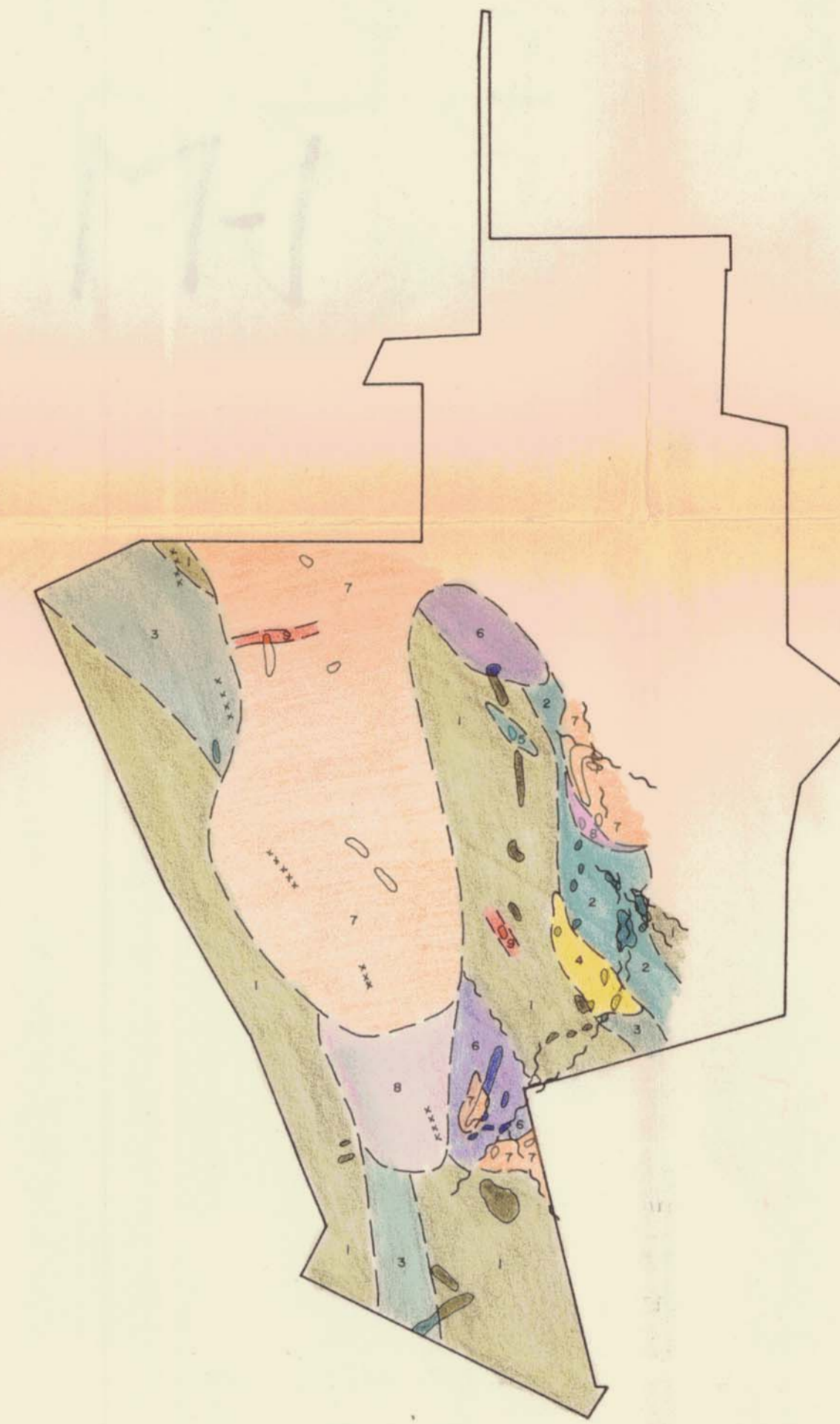
TEXAS GULF SULPHUR CO.		
GEOLOGY AND GEOCHEMISTRY SNOW GROUP GRID		
WORK BY	DRAWN BY	DATE
G.P.B.C. & A.A.	L. BELL	OCT. 21, 1971



CLAIMS
SCALE: 1" = 800'



REGIONAL GEOCHEMISTRY
SCALE: 1" = 1320' (Approx.)



REGIONAL GEOLOGY
SCALE: 1" = 1320' (Approx.)

Department of
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SCALE: ONE INCH =

3396 M-1 *Newell*

LEGEND					
	OUTCROP		MASSIVE GREEN ANDESITE		DIORITE
	GEOLOGICAL CONTACT		ANDESITE TUFF		GRANODIORITE
	FAULT		AGGLOMERATE		GRANITE
	PORTAL OF ADIT		RHYOLITE		TERTIARY DYKES
	SOILS (PPM)		TALUS FLOAT		
	TALUS FLOAT		DACITE		

TEXAS GULF SULPHUR CO.		
— SNOW GROUP —		
CLAIMS, REGIONAL GEOLOGY AND GEOCHEMISTRY		
WORK BY	DRAWN BY	DATE
G.P., B.C., A.A., D.E.	L. BELL	OCT. 22, 1971