

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

NTS 105 I/13

GEOLOGICAL AND GEOCHEMICAL ASSESSMENT REPORT
ON THE ROOK GROUP OF MINERAL CLAIMS

Situated at

62° 45' N. Latitude
129° 55' W. Longitude

WATSON LAKE MINING DISTRICT

PERIOD OF WORK

JUNE 19 to AUGUST 15, 1977

September 1, 1977

090242

K.R. Pride



This is a copy of the original of the
Certificate of Election. This certificate
is issued to the County Clerk of the County of
and is for the purpose of work in the interest of

5,579.56

D. B. Craig

Condition of the work under
the Mining Act

B. R. Baxter

B. R. BAXTER
Supervising Mining Recorder

B. R. Baxter

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Plate 1.	Location Map	scale - 1" = 4 miles
Plate 2.	Geology Map	scale - 1" = 1/4 mile
Plate 3.	Geochemistry Map	scale - 1" = 1/4 mile

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WESTERN DISTRICT

September 1, 1977

GEOLOGICAL AND GEOCHEMICAL ASSESSMENT REPORT
ON THE ROOK GROUP OF MINERAL CLAIMS

Situated at

62° 45' N. Latitude
129° 55' W. Longitude

In the Watson Lake Mining District of the Yukon Territory.

INTRODUCTION

The Rook property consisting of 27 mineral claims was acquired in the late summer of 1976 to protect potentially favourable ground for stratiform base - metal mineralization. Within the Selwyn Basin there are a number of these stratiform base-metal deposits and the area now known as the Rook property had a number of favourable similarities and features to warrant staking.

In 1977 geological mapping and a geochemical survey were completed on the property, the results of which are described in this report.

Personnel employed by Cominco Ltd. during the course of this work are as follows:

M. Casselman (1 day), A. Elliot (9 days), J. Faubert (1 day), P. Moroney (9 days), R. Morris (1 day), K. Pride (4 days), of 200 Granville Street worked on the Rook claims during the period of June 19 to August 15, 1977.

LOCATION AND ACCESS

The Rook claim group is located approximately 100 miles north-northeast of Ross River and approximately 12 miles south of the Itsi Range.

The claim group lies within the Watson Lake Mining District and is located at 62° 45' north latitude and 129° 55' west longitude.

Access to the property is via fixed-wing aircraft from Ross River to Fuller Lake and then via helicopter, a distance of 16 miles, to the property.

SUMMARY

Work on Rook claims was completed during the period of June 19 to August 15, 1977. The property was geologically mapped at a scale of one inch equals one-quarter mile. Soil and silt geochemical samples were collected from various localities on the property.

Underlying the Rook property are carbonate and clastic strata of Upper Cambrian to Lower Devonian age. Five distinct stratigraphic units have been recognized on the property, of which, four are assigned to the Road River Formation. Strata comprising these units are limestone, calc-silicate rocks, mudstone, siltstone and shale.

There is no observable outcropping of mineralization on the Rook claims.

2./1 September 1977.

GENERAL GEOLOGY

The Rook claim group occupies a small section of the Selwyn Basin, a predominantly clastic basin extending in a northwest - southeast direction for approximately 200 miles with an average width of 50 - 70 miles.

A large proportion of this basin is characterized by "flysch-type" sedimentation and was developed from Upper Cambrian time to Mississippian time. Within the basin the oldest exposed unit is a limestone unit of Upper Cambrian age. Overlying this unit, unconformably is a thick sequence of mudstone, shale, argillaceous limestone and calcareous limestone that comprises the Road River Formation of Ordovician-Silurian age. The youngest exposed strata within the Selwyn Basin are siltstone, argillite and chert of Middle to Upper Devonian - Mississippian age.

LOCAL GEOLOGY

Strata underlying the Rook property belong to the Road River Formation and the Upper Cambrian limestone unit.

The oldest unit exposed on the property (Unit A) is on the Rook property as a light grey to white weathering calc-silicate unit and a light grey weathering silty limestone unit. It varies in thickness from 10 to 50 feet. The calc-silicate unit contains abundant tremolite.

Overlying this unit is a transitional unit that has characteristics of both the underlying limestone unit and overlying shale unit. This unit (Unit B) is Lower Ordovician in age and consists of interbedded tremolitic calc-silicate and black to dark-grey siliceous and tremolitic mudstone. The mudstone contains minor amounts of disseminated pyrite. This unit has a stratigraphic thickness of 5 to 20 feet.

Unit C consists of medium grey to rusty weathering black carbonaceous and siliceous mudstone and shale and black cherty mudstone. Disseminated pyrite is found throughout this unit and near the top minor amounts of pyrite nodules are present. Near the base of this unit thin calc-silicate beds, 1 to 5 feet thick, are present.

The unit above Unit C, termed Unit D, is an orange to buff weathering, light-grey siliceous siltstone that commonly contains black mudstone, rip-up clasts and convolute laminations that are interpreted to represent penecontemporaneous deformation. The presence of the rip-up clasts causes the siltstone to have a streaky appearance. Pyrite nodules are found throughout this unit. This unit has a probable stratigraphic thickness of 200 feet but is tectonically thickened due to normal and thrust faulting and tight isoclinal folding to an apparent thickness of approximately 2000 feet.

The youngest exposed strata (Unit E) on the property is the uppermost unit of the Road River Formation. This unit is composed of medium to light grey weathering, black siliceous mudstone and shale. Minor disseminated by pyrite and thin limestone beds, 3 to 10 feet thick, occur locally within this unit. This unit is believed to have a stratigraphic thickness of 200 - 500 feet but in many instances it has been tectonically thickened in the order of 700 feet.

3./1 September 1977.

STRUCTURAL GEOLOGY

The predominate structural feature on the property is the presence of a number of normal and thrust faults. The displacement on these faults is generally in the order of 10 to 50 feet but at least two major thrust faults have a probable displacement of 100 to 500 feet.

Isoclinal folds also occur on the property and often cause thickening of the stratigraphic units.

GEOCHEMISTRY

A. General Statement

During the period of June 19 to August 15, 1977 exploration geochemistry consisted of stream silt sampling, contour soil sampling, heavy mineral sampling and whole rock sampling. Geochemical sampling was oriented in areas of limited rock exposure in hopes of detecting shale-hosted Pb-Zn mineralization and barite hosted Pb-Zn-Ag mineralization. All samples were analysis for Cu, Pb, Zn, Ag and Ba.

B. Statistical Analysis

The technique used for treating the geochemical data was that described by A.J. Sinclair (JGE, Vol. 4, N. 2, 1974). Cumulative probability plots were obtained for Cu, Pb, Zn, Ag, Ba, revealing a polymodal distribution (2 or more populations). Partitioning of the polymodal distributions (separation of the component populations) was achieved by grouping the data using the limits of each component population corresponding to 2.5 and 97.5 cumulative % on the probability scale (median \pm standard deviations) which includes 95% of the possible cases.

	ppm Cu	ppm Pb	ppm Zn	ppm Ag	ppm Ba
1. <u>Stream Silt Samples:</u>					
Anomalous:	150 ⁺	30 ⁺	1500 ⁺	1.2 ⁺	5000 ⁺
2. <u>Soil Samples:</u>					
Anomalous:	200 ⁺	80 ⁺	800 ⁺	2.0 ⁺	5500 ⁺
3. <u>Heavy Mineral Samples:</u>					
Anomalous:	350 ⁺	200 ⁺	3500 ⁺	3.0 ⁺	10000 ⁺

C. Interpretation

Plate 3 shows sample locations and Cu, Pb, Zn, Ag, Ba content of stream silt, soil and heavy mineral samples. (Note: Cu, Pb and Ag results are not shown on some samples and as their values are extremely low).

The elements zinc and barium show moderate to strongly anomalous values in the claim group area.

4./1 September 1977.

CONCLUSIONS

The 1977 work was not successful in finding economic mineralization; geological mapping and detailed prospecting failed to discover any lead or zinc sulphide mineralization. The soil, stream silt and heavy mineral geochemistry delineated a small area of zinc and zinc-barium potential.

Report by: *K.R. Pride*

K.R. Pride
Geologist
Exploration

Endorsed by: *D.W. Heddle*

D.W. Heddle, P. Eng.
Assistant Manager

Approved for Release by: *G. Harden*

G. Harden, Manager
Western District

ATTACHMENTS

Exhibit "A" Statement of Expenditures

Plate 1.	Location Map	scale - 1" = 4 miles
Plate 2.	Geology Map	scale - 1" = 1/4 mile
Plate 3.	Geochemistry Map	scale - 1" = 1/4 mile

/pd

IN THE MATTER OF THE YUKON QUARTZ MINING ACT AND IN THE
MATTER OF A GEOLOGICAL AND GEOCHEMICAL SURVEY CARRIED OUT
ON THE ROOK GROUP OF MINERAL CLAIMS

Located in the Watson Lake Mining District of the Yukon
Territory

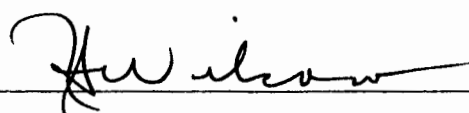
NTS 105 I/13

AFFIDAVIT

I, K.R. Pride of the City of Vancouver in the Province
of British Columbia, geologist, make oath and say:

1. that I am employed as a geologist by Cominco Ltd.
and, as such, have a personal knowledge of the facts
to which I hereinafter depose:
2. that annexed hereto and marked as "Exhibit A" to
this my Affidavit is a true copy of expenditures
on a geological and geochemical survey carried out
on the Rook mineral claims.
3. that the said expenditures were incurred between the
19th day of June, 1977, and the 15th day of August,
1977, for the purpose of mineral exploration on the
above-noted claim group.

Sworn Before Me at the City)
of Vancouver in the Province)
of British Columbia this)
8 day of September, 1977)


_____)

A Notary Public In and For)
the Province of British)
Columbia)



K.R. Pride

September 1, 1977

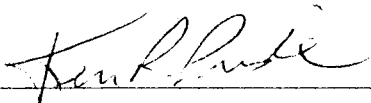
STATEMENT OF QUALIFICATIONS

I, Ken Pride with business address at 2200-200 Granville Square, Vancouver, British Columbia, do hereby certify that I have supervised the field work and have assessed and interpreted the data resulting from this geological and geochemical survey on the Rook mineral claims.

I also certify that:

1. I am a graduate of University of British Columbia, B. Sc. Honors Geology
2. I have engaged in mineral exploration since graduation.

Respectfully submitted

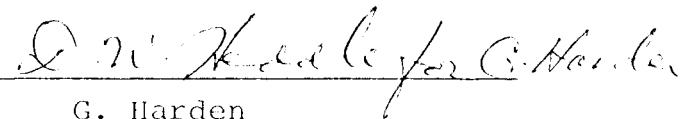


Ken R. Pride

Vancouver, B.C.

Ken R. Pride was responsible for supervising the geological and geochemical survey described herein. Mr. Pride received his B. Sc. degree in Honors Geology from the University of British Columbia in 1973. He has worked for Cominco Ltd. as a permanent employee since November 1, 1973. I consider him a competent geologist.

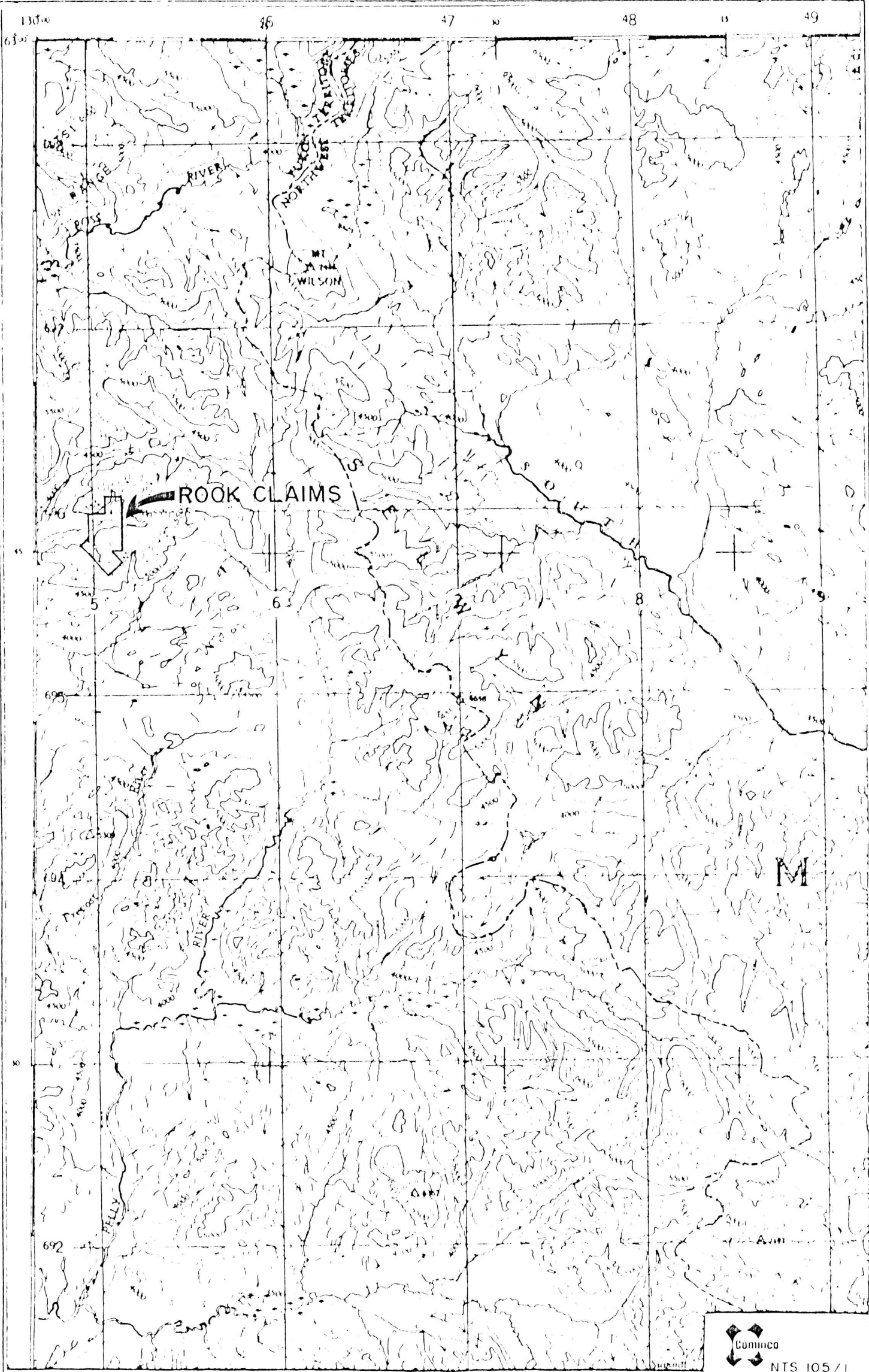
Signed by:



G. Harden

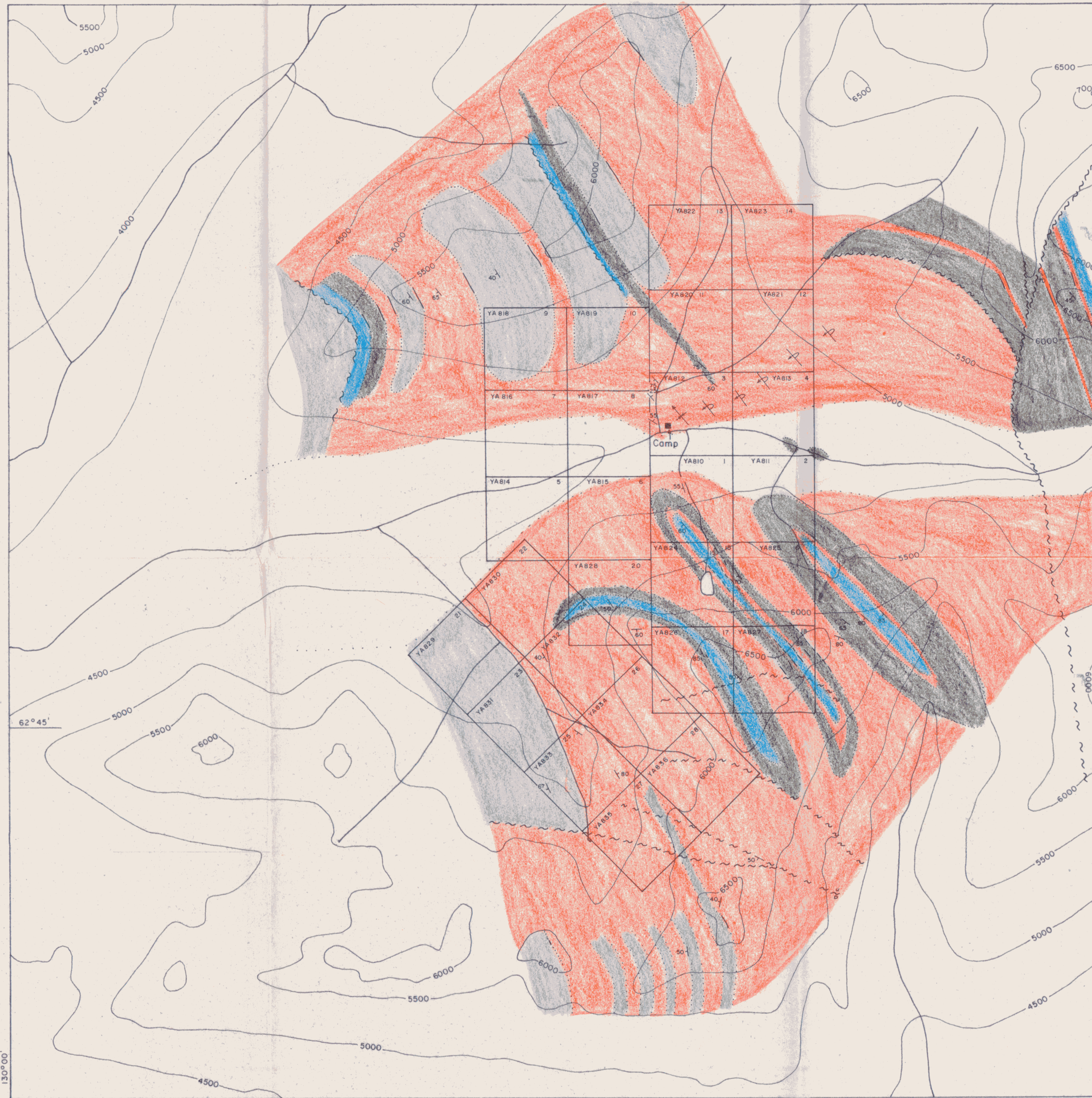
Manager

Western District Exploration



Drawn by	Traced by
Checked by	Reviewed by
Date	Date

LOCATION MAP ROCK CLAIMS



Legend

-  Unit E: Black siliceous mudstone (shales) with minor disseminated pyrite and thin (local) limestone beds or lenses. Medium to light grey weathering
-  Unit D: Light grey siliceous siltstone, streaky texture and pyrite balls. Buff to orange weathering
-  Unit C: Medium grey to rusty weathering hornfels, black, carbonaceous, siliceous mudstone (shale) and black cherty mudstone. Pyrite nodules towards top of bed and calc-silicate (tremolite) beds (1-3 feet) occurring in base of unit. Disseminated pyrite throughout.
-  Unit B: Siliceous and tremolitic mudstone with disseminated pyrite towards top of unit. Dark grey weathering.
-  Unit A: Calc-silicate (tremolite) - light grey to white weathering, and silty limestone - light grey weathering.
-  Fault
-  Fault - showing direction of movement
-  Contact - observed, inferred
-  Strike and dip
-  Plunging syncline
-  Overturned syncline

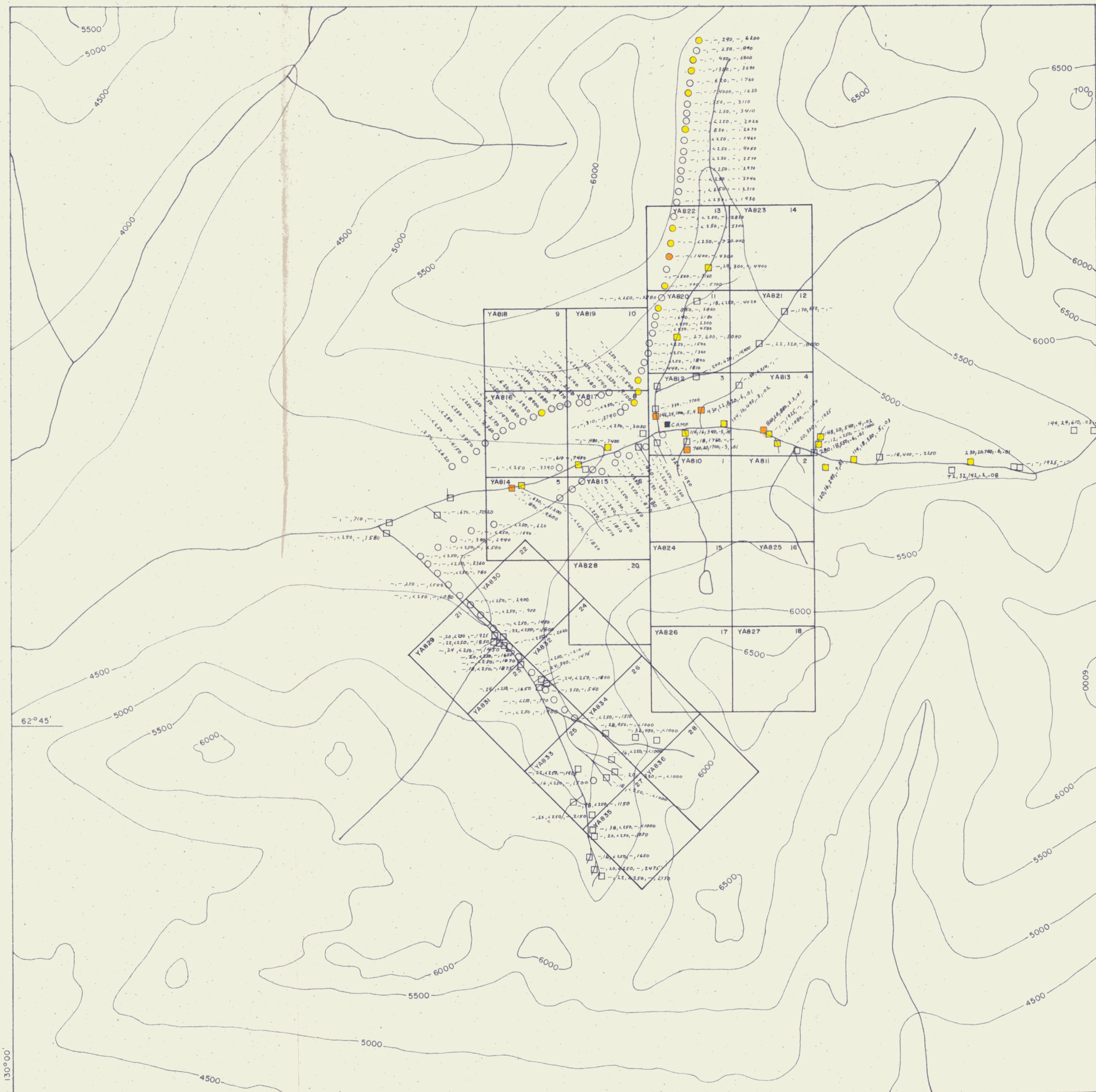
ROCK CLAIMS



Drawn by: APM	Traced by: J.M.
Revised by: _____	Revised by: _____
_____	_____
_____	_____

GEOLOGY

Scale: 1" = 1/4 mile Date: JULY, 1977 Plate: 2



Legend

SAMPLE TYPES

- Stream silt sample (Cu, Pb, Zn, Ag, Ba)
- Soil sample

THRESHOLDS

	Cu	Pb	Zn	Ag	Ba
□	100	30	1,500	1.2	5,000
○	200	80	800	2.2	5,500

ANOMALIES

- Weakly anomalous (1 element)
- Moderately anomalous (2 elements)
- Strongly anomalous (at least 3 elements)

Note: (-, -, 600, -, 2000) indicates analysis for Zn, Ba only.

ROOK CLAIMS				
Drawn by: APM	Traced by: <i>[Signature]</i>			GEOCHEMISTRY
Revised by: _____	Date: _____	Revised by: _____	Date: _____	
Scale: 1" = 1/4 mile				Date: JULY, 1977
				Plate: 3