

6303

Assessment Report

GREAT PLAINS DEVELOPMENT
COMPANY OF CANADA, LTD.

177-4185

GEOLOGICAL REPORT
ON THE SUN CLAIM

KINASKAN LAKE AREA
BRITISH COLUMBIA

N.T.S. 104-G-9 EAST

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

NO. _____

Liard Mining Division
57 degrees, 41 minutes North Latitude
130 degrees, 14 minutes West Longitude

D. R. Good
G. L. Garratt
May, 1977

Doug Good
G. L. Garratt

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Figure 1. Sun Claim Location Map	
<i>Map #1</i> Plate 1 Geological Plan	1" = 400'

A. INTRODUCTION

The Sun claim is located on the Klastline Plateau, in the Liard Mining Division, approximately three and one half miles west of Kinaskan Lake at 57 degrees, 41 minutes north latitude and 130 degrees, 14 minutes west longitude (Figure 1).

Access to the property was achieved by helicopter from the Okanagan Helicopter base at Tatogga Lake resort on the Stewart-Cassiar Highway. Return flying time to the claim was approximately 0.3 hours.

During the period of July 30, 1976 to August 5, 1976, a total of six man days were spent geologically mapping the Sun claim in an effort to determine the potential for a porphyry-type copper deposit. Mapping indicated that the claim was underlain by a sequence of volcanic flows, tuffs, and proximal volcanoclastic rocks. One small copper showing was discovered but it is felt that potential for significant mineralization is small.

B. GEOLOGY

1. Regional Setting

The Sun claim is located on the Klastline Plateau which is situated on the northeastern half of the Stikine Arch. The claim is bisected by a regional fault which trends in a northeasterly direction. To the south of the fault lies the relatively down thrown Middle Jurassic sequence of basalts, pillow lavas, fragmentals, and proximal volcanoclastics. To the north lie older Upper Triassic rocks consisting of andesitic flows, pyroclastics, derived volcanoclastic rocks, siltstones, volcanic conglomerate and minor chert and limestone.

2. Local Geology

The area to the north of the main northeasterly flowing drainage was mapped as volcanics and sedimentary rocks of Upper Triassic age by the Geological Survey of Canada.

When mapped by Great Plains, the northern part of the claim was found to be underlain by a sequence of volcanic flows, pyroclastic rocks, and proximal volcanoclastic rocks. Rock units within this sequence are described below in ascending stratigraphic order.

UNIT 1Porphyritic Andesite Flow

This unit is characterized by abundant medium crystalline, plagioclase phenocrysts which lie in a dark green, grey andesitic matrix. The rock contains small stringers of hematite and disseminated hematite grains occur throughout. Minor finely disseminated pyrite and trace of disseminated chalcopyrite were observed.

UNIT 2Andesitic and Lithic Tuffs

The lower band of this unit is a fine to medium crystalline tuff containing fragments of plagioclase in a chloritized microcrystalline andesite matrix. Overlying this are tuffs containing fragments of plagioclase and also fragments of previously consolidated tuff. Minor calcite veins up to 12 centimeters occur at a general trend of 345 degrees.

UNIT 3Andesite

Unit 3 is a medium to dark green dense finely crystalline andesite which has hematite alteration. A major phase of calcite veining in association with brecciation trends approximately 110 degrees to 130 degrees. Some quartz veining was observed in this unit towards the western claim boundary. No mineralization was noted.

UNIT 4Volcanic Conglomerate and Minor Tuff

The lowermost part of this unit consists of a recessive weathering, poorly consolidated tuff which has a large amount of hematitic alteration as pods. Above this tuff occurs a thick, resistant unit of volcanic conglomerate with minor tuff bands. The conglomerate contains large spheroidal boulders which are primarily of coarse volcanoclastic or tuffaceous origin. The matrix is an extrusive andesite with extensive amounts of tuffaceous fragments of variable size. The spheroidal boulders stand out from the matrix due to their hematite and chlorite alteration which often appears to be concentric and results in a maroon or green color. Size of the boulders appears to increase to the west. Minor calcite veining occurs subparallel to the bedding.

UNIT 5Andesitic and Lithic Tuffs; Amygdaloidal and porphyritic Flows

Although variable in lithology, this unit was mapped as one due to the close interrelationships and similar weathering habits of the rock types. It is made up of a relatively resistant sequence of tuffs with interbedded flows. The tuffs are closely related, being andesitic in composition, the lithic tuffs having lithic fragments to several centimeters in addition to the fine plagioclase fragments. The amygdaloidal andesite flow is distinguished by calcite amygdules to three millimeters. It also contains remnants of phenocrysts of augite(?) which have been replaced by hematite. The porphyritic flow contains the same phenocrysts but lacks the calcite amygdules. Minor calcite veining occurs but no mineralization was noted.

UNIT 6Andesite or Dacite

This dense, maroon flow of andesitic or dacitic composition occurs as resistant, cliff-forming outcrops. Occasional small calcite filled amygdules to two millimeters are present. The unit is thrust over Unit 7 and overlies it unconformably.

UNIT 7Arkose, Lithic Tuffs

This unit unconformably underlies Unit 6. It is a well bedded, highly feldspathic volcanoclastic with most of the grains being less than two millimeters. Occasional pebbles of various lithologies to five centimeters occur in the finer matrix. Unit 7 is barren of mineralization.

UNIT 8Andesite and Interbedded Tuffs

The area to the south of the main northeasterly flowing drainage on the claim was mapped as rocks of Middle Jurassic age by the Geological Survey of Canada. It was found that this area was underlain by dense, dark grey, green andesite with interbedded, recessive tuff bands.

3. Structural Geology

An airphoto linear study of the Sun claim area was undertaken in conjunction with the mapping. It was found that three trends of structural lineaments occurred on the property. The most prominent is a very strong northeasterly trend which corresponds to the regional fault which cuts the property. As well, moderate north-south trending and north northwesterly trending lineaments occur.

These structural trends are reflected in the topography and local structure which exist on the claim. The prominent northeasterly structure corresponds to the major drainage which cuts the property. Many of the minor tributaries also follow the trend. Local structural features also exhibit orientation along this trend; in particular, a distinct thrust fault which has thrown Units 1 to 6 over Unit 7 for a length of at least 2000 feet and the general strike orientation of the volcanic and volcanoclastic rocks to the north of this fault.

Recognition of the northerly and the north northwesterly trends was more difficult although some drainage flowed preferentially in these directions. Some, but not all calcite veining trended northwesterly.

4. Alteration

The Sun claim is characterized by variable degrees of chloritic and hematitic alteration. Chlorite is found as the breakdown product of the mafic constituents in the flows and tuffs and is also prevalent in many boulders of the volcanic conglomerate which are completely green and distinctive from the finer matrix. Hematite is equally prevalent and occurs as disseminations, pods, stringers and as replacements of augite phenocrysts in the porphyritic flows. It also alters some of the boulders of the volcanic conglomerate to a distinctive maroon color. No epidote alteration was observed on the property.

5. Mineralization

One small occurrence of copper mineralization was observed on the property. Malachite staining occurs in pods up to 60 cms in diameter over a length of twenty feet. Soft, blue-black veinlets of chalcocite(?) occur in a poorly consolidated tuff band in Unit 4. Mineralization appears to have been caused by fluids migrating along weakness planes parallel to the bedding. No chalcopyrite or disseminated mineralization was observed.

Two grab samples taken from this showing returned assays of 12.13% Cu, 0.60 oz/ton Ag., and 15.65% Cu, 1.04 oz/ton Ag.

Elsewhere on the property, only a trace of disseminated chalcopyrite and minor disseminated pyrite was observed.

C. CONCLUSIONS

1. The Sun claim is underlain by a sequence of volcanic flows, tuffs, and proximal volcanoclastic rocks.

2. The lineament study indicated northeasterly, northerly, and north northwesterly structural trends which were reflected by topography and local structural features on the claim.

3. Despite excellent copper values in two grab samples, geological interpretation suggests that the potential for significant porphyry-type copper mineralization is small.

130° 15'
98
97
96
95
94
57° 40'
91
90
89
88
87
86
130° 15'



L.C.P. 00082



DEVELOPMENT COMPANY
OF CANADA, LTD.
BRITISH COLUMBIA

SUN CLAIM
LOCATION MAP

6303

Scale 1:50,000

APPENDIX I

CERTIFICATE OF ANALYSIS

To: NORCEN ENERGY RESOURCES LIMITED,
 715 - 9th Avenue S.W.,
 Calgary, Alberta T2P 2X7



File No. 12624
 Date January 17, 1977
 Samples Chip

ATTN: D.R. Good

Certificate of
 ASSAY of
 LORING LABORATORIES LTD.

SAMPLE No.	OZ./TON GOLD	OZ./TON SILVER	% Cu
<u>"Chip Samples"</u>			
76-S-1	Trace	.60	12.13
76-S-2	Trace	1.04	15.65
<p>I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES</p>			

Rejects Retained one month.
 Pulp Retained one month
 unless specific arrangements
 made in advance.

E. L. M. [Signature]
 Licensed Assayer of British Columbia

APPENDIX II

STATEMENT OF EXPENDITURES

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Salaries (Field Work)

C. Q. Winter	3 man days @\$60/day	\$ 180.00
D. R. Good	3 man days @60/day	\$ 180.00
Supervision	1 day @\$100/day	<u>\$ 100.00</u>
		\$ 460.00
Helicopter Charter	1 hour @\$330/hr.	\$ 330.00
Accommodations and Meals at Tatogga Lake (2 men)		\$ 150.00
Report Preparation and Drafting		\$ 275.00
Assaying		<u>\$ 15.00</u>
		<u>\$1,230.00</u>

APPENDIX III

STATEMENT OF QUALIFICATIONS

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I, Douglas R. Good, of 262 Silver Hill Crescent, N.W., in the city of Calgary, Alberta, declare

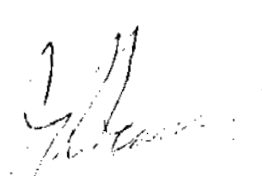
1. that I graduated from the University of Alberta in 1976 with a Bachelor of Science degree majoring in Geology,
2. that I have had three years of summer field experience in mineral exploration, two of which were in British Columbia Cordillera,
3. that I am presently employed by Norcen Energy Resources Limited as a geologist.



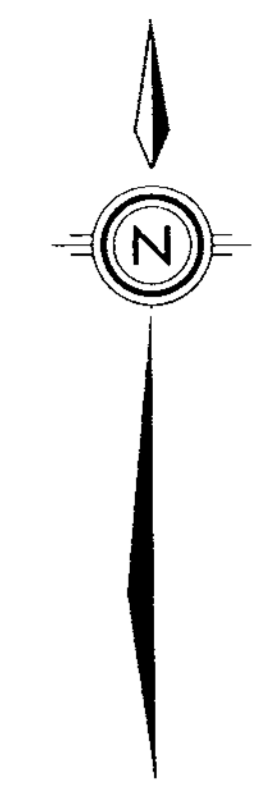
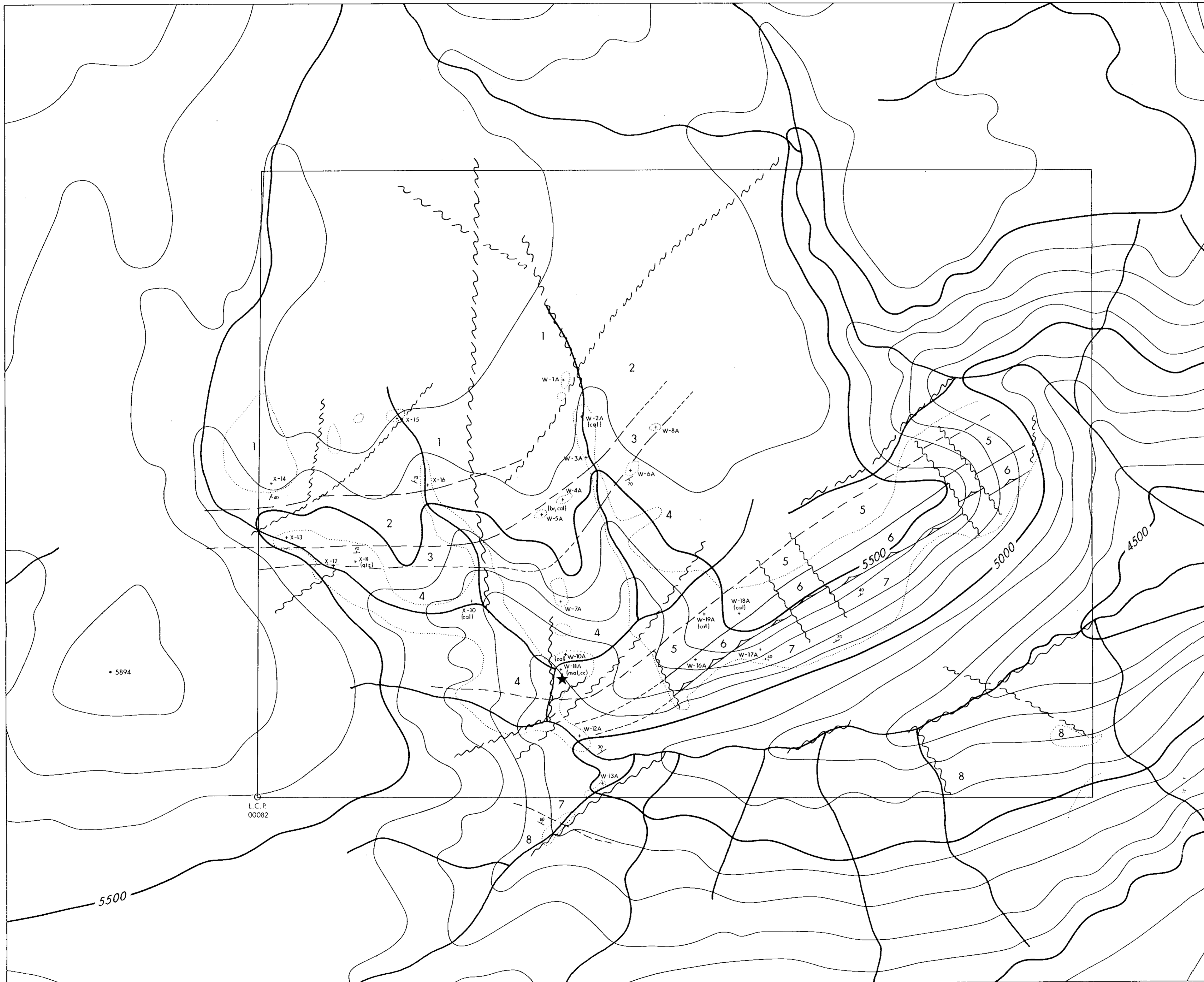
Douglas R. Good
May, 1977

STATEMENT OF QUALIFICATIONS

I, Glen L. Garratt, am a qualified Geologist having graduated from the University of British Columbia in 1972 with a Bachelor of Science degree majoring in Geology. I have worked in the mineral exploration industry in British Columbia since 1969 and am presently employed by Great Plains Development Company of Canada, Ltd., as as geologist.



G. L. Garratt
May, 1977



LEGEND

- 1 Porphyritic Andesite Flow
- 2 Andesitic and Lithic Tuffs
- 3 Andesite
- 4 Volcanic Conglomerate and Minor Tuff
- 5 Andesitic and Lithic Tuffs ; Amygdaloidal and Porphyritic Flows
- 6 Andesite or Dacite
- 7 Arkose and Lithic Tuffs
- 8 Andesite and Interbedded Tuffs

SYMBOLS

- Geological Boundary : definite, probable, possible
- ~ Fault: definite, probable, possible
- Thrust Fault
- Strike and Dip of Bedding
- Outcrop
- + W-3A Sample Location
- ★ Showing
- L.C.P. Legal Corner Post
- Claim Boundary

ABBREVIATIONS

- mal malachite
- cc chalcocite
- cal calcite veining
- qtz quartz veining
- br brecciation

6303
M-1

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD. BRITISH COLUMBIA

SUN CLAIM

GEOLOGY

LIARD M.D.
400
0
400
800
 FEET NTS : 104-G-9

Plate 1

Southern
W. Smith