

87-580-16251  
6/28

ASSESSMENT REPORT ON THE  
TREATY 2 AND STAN 1-4 CLAIMS  
TREATY CREEK AREA NTS 104B/9E  
SKEENA MINING DIVISION  
LATITUDE 56° 30' N  
LONGITUDE 130° 05' W  
10'

FILMED

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**16,251**

(OWNER: ) Catear Resources Ltd.  
(OPERATOR: ) ~~Bighorn Development Corporation~~  
AUTHOR: E. Horne  
DATE: August 30, 1987

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- MAP A Stan and Treaty Claims, combined Stan & Treaty Groups  
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APPENDICES

- APPENDIX A Analytical Results
- APPENDIX B Rock Sample Descriptions  
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- APPENDIX C Itemized Cost Statement

## 1.0 EXECUTIVE SUMMARY

This Assessment Report is submitted to the Department of Energy Mines and Petroleum Resources of British Columbia for application of assessment work credit for the work performed on the Treaty 2 and Stan 1 to 4 Claims. The work was completed under the direction of E.R. Kruchkowski Consulting Ltd. from the 16th to the 18th of June 1987. The field program consisted of prospecting, geological mapping, rock geochemical sampling and stream silt sampling for the purpose of outlining gold and silver mineralization targets for subsequent more detailed work programs. The area of the Stan and Treaty claims is underlain by Middle Jurassic sediments of the Salmon River Formation and some volcanic breccia and conglomerate of the Betty Creek Formation. A deposit in the general vicinity called the Treaty Silver Lead Zinc is described in Assessment Report 8767.

The results of the work to date indicate that some anomalous silver values occur on the western section of the Stan 2 Claim. Further more detailed prospecting and sampling should be done during the Fall of 1987 on both the Stan 1 and 2 Claims. A sample from a piece of float ST1-GR-4F on the Stan 1 Claim contained values of 625 Ppb gold, 3.3 Ppm silver. The source of this float could not be located on the claim group.

## 2.0 INTRODUCTION

### 2.1 Location and Access

The Treaty 2 and Stan 1 to 4 twenty unit claims comprising the Stan Group are located in the Treaty Creek area, NTS 104B/9 of the Skeena Mining Division. Approximate latitude  $56^{\circ}39'$  north and  $130^{\circ}09'$  west. The claims comprising 100 units are approximately 90 km north of Stewart, British Columbia, see Figures 1 & 2.

Access to the claims was by Bell 206 Jet Ranger Helicopter from Stewart, B.C. to a camp in the vicinity of Brucejack Lake. Daily access to the claims was accomplished by Helicopter from the camp which is approximately 25 km south south-west of the claim.

### 2.2 Physiography and Topography

The property is located in steep terrain typical of the coast range of British Columbia, the elevations vary abruptly from 1,676 metres A.M.S.L. (5,500 feet) to fast running streams restricted to canyon valleys at 884 metres A.M.S.L. (2,900 feet). The south portion of the claim group occupies predominantly alpine terrain with some icefields and permanent snow. The north portion is predominantly forested with steep slopes and canyon walls along the major drainage patterns.

### 2.3 History and Ownership

The Stan Group of Claims comprise one hundred (100) units as follows:

<u>CLAIM</u>	<u>RECORD NUMBER</u>	<u>ANNIVERSARY DATE</u>	<u>NUMBER OF UNITS</u>
Stan 1	5419	25th June 1986	20
Stan 2	5420	25th June 1986	20
Stan 3	5421	25th June 1986	20
Stan 4	5422	25th June 1986	20
Treaty 2	5413	25th June 1986	20

The claims were staked by E. Kruchkowski and transferred to Catear Resources Ltd. (FMC 279758) by Bill of Sale dated May 1st, 1987. The claims were subsequently grouped into the Stan Group in August 1987.

#### 2.4 Summary of Work Done, Procedures & Personnel Used

The field work consisted of geological prospecting for gossan zones, quartz veins, pyrite and other sulphide mineralization. Other work included geological mapping for the following:

- favourable host rocks and mineralization
- bedrock attitude, folding and schistosity
- shear zone or fault data
- strong lineamentation.

Stream silt sampling and rock geochemical sampling was done for the purpose of establishing target zones for more detailed geological follow up work to be done in the Fall of 1987.

The rock geochemical sampling was done in zones that exhibited the following:

- rusty zones/gossan
- silicification or sericitization
- pyrite or other sulphide mineralization.

Silt sampling was done on most of the major drainage basins for purposes of establishing background data and targeting precious metal source areas. All of the samples were geochemically analysed for gold and silver by Loring Laboratories Ltd. of 629 Beaverdam Road N.E., Calgary, Alberta T2K 4W2. The analytical results and summarized laboratory procedures used are included in Appendix A. The rock type descriptions are summarized in Appendix B. The rock geochemical samples varied from 0.5 to 1.0 kilograms in size.

### 3.0 DETAILED TECHNICAL DATA & INTERPRETATION

#### 3.1 Previous Work

Previous work in the vicinity of the claims was done on the Treaty deposit (Ag,Pb,Zn) located to the south of the claim group. Some of the work done on the Treaty deposit is documented in Assessment Report 8767. A point form summary of this work is as follows:

- Prospecting failed to locate the area of Pb-Zn veins reported by the B.C. Department of Mines Survey.
- No further work was recommended on the Treaty Claim 2006.

#### 3.2 General Geology

The Stan Group occupies an area predominantly containing Middle Jurassic Salmon River Formation argillite, sandstone and calcarenites. Volcanic rocks of the Middle Jurassic Betty Creek Formation are known to occupy the western third of the Stan 2 Claim. Field work on these volcanics established the following rock types:

- Dacitic porphyry (crystal tuff)
- Dacitic - andesitic agglomerate
- Dark green - mauve andesitic volcanics
- Felsic/silicified bands and lenses.

The locality of volcanic and sedimentary rocks is illustrated on geological Map A (1:10,000 scale) which is included with this report.

Heavy snow cover and steep terrain restricted the geological mapping progress, areas covered are those generally located at lower elevations. Whenever possible the outcrops were outlined, lithologically classified, and plotted on Map A. All measured structural data is also included on the aforementioned map which illustrates the data for both the Stan and Treaty Groups.

For purposes of reference Figures 3, 4 and 5 also illustrate regional geological data, the latter data is from the B.C. Ministry of Energy, Mines and Petroleum Resources, Bulletin 63 and is included only to provide a more comprehensive geological overview.

Structural features on the property include the following:

- A lineament and fault zone trending Az035 located approximately 200 metres east of Stan 1 to 4 LCP.
- Drag folding associated with the above mentioned fault zone.
- Contorted folding and thrust faulting in the vicinity of the Middle Jurassic contact between the Salmon River and Betty Creek Formations.
- A strong lineament trending Az 035 running through the northeast corner of the Stan 1 Claim.
- A strong lineament trending Az 305 running through the southeast corner of the Stan 3 Claim. Possible displacement of this trend by the previously mentioned Az 035 trend is postulated.



The field silt sampling procedures were as follows:

- A standard size gold pan was covered by fly screen ( < 1.0 mm opening).
- Using a gardening trowel, a sample from the stream was put onto the screen and washed until the minus 1.0 mm size accumulated on the pan bottom. This procedure was repeated until sufficient sample was obtained.
- Using the gardening trowel, the sample was put into a standard kraft paper soil sample bag (13 x 90 cm) and labelled.

The labelling used was standardized as follows. Silt samples were labelled with the claim number and sequential sample number, example S2-1 (Stan 2 sample 1). The rock samples were labelled with the claim number, an "R" for rock and sequential sample number, ie SR2-1. The rock samples were subsequently tagged with a series number for laboratory transmittal. The analyses sheet (Appendix A) indicates both numbers whenever applicable.

The personnel used, time and location of operations were as follows:

- E. Kruckowski/D. Marlatt - June 11th & 12th mobilization  
& June 16th & 18th Stan 1,3                      Four (4) days
- E. Horne/D. Lund - June 11th & 12th mobilization &  
June 16th & 18th Stan 2, 3 & 4                      Four (4) days each
- S. Stannus/J. Campbell - June 11th & 12th mobilization &  
June 17th & 18th Stan 1 & Treaty 2                      Four (4) days each
- C. Campbell (Cook/Expediter) - June 11th to 18th  
only Four (4) days charged

### 3.3 Prospecting & Geological Results

The Prospecting was done with the objective of locating and sampling areas or zones that might contain appreciable values of precious metals (primarily gold and silver). Potential target zones included were as follows:

- gossan zones and zones of rusty limonitic, blue/black manganese or whitish zinc sulphide weathered zones.
- quartz veins, stockworks and intense silicification.
- quartz carbonate veins, stockworks or alteration.
- sulphide mineralization (pyrite or other).
- milonitic zones, quartz sericite alteration zones and cataclasite.

The total areas prospected and mapped is distributed approximately as follows:

<u>Claim</u>	<u>Prospecting</u>	<u>Geologically Mapped</u>
Stan 1	1.25 km <sup>2</sup>	2.5 line km
Stan 2	1.25 km <sup>2</sup>	2.5 line km
Stan 3	1.25 km <sup>2</sup>	2.5 line km
Stan 4	0.25 km <sup>2</sup>	NIL
Treaty 2	<u>0.50 km<sup>2</sup></u>	<u>NIL</u>
	4.50 km <sup>2</sup>	7.5 line km

The geological mapping and prospecting (sampling) results are plotted on Geological Map A and Geochemical Map B.

All geological structural data obtained is plotted on Geological Map A.

The geological and prospecting work to date has determined that the rusty zones within argillitic and sandstone bearing sequences, do not appear to carry appreciable precious metal values whereas silicified and quartz rich pyritic zones within the volcanics or associated with volcanic float do contain precious metal values of a significantly higher magnitude.

### 3.4 Economic Geology

No significant in place gold or silver mineralization has been located, thus far, on the claim group. The rock and stream silt results to date indicate that two anomalous areas occur as follows:

- Anomalous gold in float samples ST1-GR-4F (625 Ppb) and SR1-1 (75Ppb)  
Both of these samples occur in the vicinity of a Az 035 lineament that runs through the northeast corner of the Stan 1 Claim. A silt sample ST1-GS-5 (35 Ppb) is located next to ST1-GR-4F.
  
- Anomalous silver and slightly anomalous gold occurs in bedrock and stream silts along the west margin of the Stan 2 Claim within volcanics that have some siliceous pyritic zones. Samples from this locality include the following:

<u>Sample</u>	<u>Ppb Au</u>	<u>Ppm Ag</u>
SR2-01	15	4.9
SR2-02	15	6.1
SR2-03	30	2.1
SR2-04	35	16.3
SR2-05	25	0.9
SR2-06	20	0.5
SR2-07	20	0.7
S2-1	35	2.0

Further more detailed work is recommended on both of the above mentioned areas. The work should include intensive prospecting, some geological mapping and further rock geochemical and stream silt sampling. Favourable areas not prospected to date occur along strike on the ridges both to the north and south of the Stan 2 Claim anomalous areas; and the area around ST1-GR-4F. Deep snow cover in both of these areas also seriously hampered geological efforts.

### 3.5 Silt Geochemical Results

The results of the stream silt geochemical sampling are plotted on geochemical Map B (1:10,000 scale). Of the 17 sample population the range of variability is nil to 35 Ppb Au and 0.2 to 2.0 Ppm Ag. The percentile breakdown is as follows:

<u>Au Ppb</u>		<u>Ag Ppm</u>	
Nil to 0.5	82.3%	0.2 to 0.6	88.2%
+0.5 to 15	5.9%	0.7 to 1.0	5.9%
+15 to 25	NIL	+1.0 to 2.0	5.9%
+25 to 35	11.8%		
	<u>100 %</u>		<u>100 %</u>

The two gold samples with 35 Ppb occur in the following locations:

- sample SR2-04 on drainage in the vicinity of the west margin of the Stan 2 Claim, within the rock geochemical anomalous area discussed in section 3.6 of this report.
- sample ST1-GS-5 on drainage proximal to anomalous float sample ST1-GR-4F in the vicinity of the Az 035 lineament between samples ST1-GR-4F and SR1-1.

The two slightly anomalous silver values S2-1 (2.0 Ppm) and S2-02 (1.0 Ppm) are located in drainage from the volcanics along the west margin on the Stan 2 Claim, again within the rock geochemical area discussed in section 3.6 of this report.

### 3.6 Rock Geochemical Results

The results of the rock geochemical sampling are plotted on Geochemical Map B. The range of variability for gold is 10 Ppb (sample TR2-1) to 625 Ppb (float sample ST1-GR-4F). The variability for silver is 0.3 Ppm (sample SR2-08) to 16.3 Ppm (sample SR2-04). Preliminary review of the results indicates the following:

- Two anomalous gold float samples ST1-GR-4F (625 Ppb) and SR1-1 (75 Ppb) which are located in the vicinity of lineament trending Az 035. These samples may be related to source rocks along this trend; if not, attempts should still be made to locate the source rock.
- From a limited population of 12 samples (excluding the two aforementioned float samples). The range of gold values is 10 to 35 Ppb which may be significant in light of the lower values obtained from silt sampling (nil to 35 Ppb).
- Significant in place silver values occur at sample location SR2-04 (16.3 Ppm). This sample over a width of approximately a 6.0 metre zone of silicified limonitic pyrite bearing volcanics occurs along the west boundary of the Stan 2 Claim. Other samples in the area have 6.1, 5.3 & 2.0 Ppm Ag.
- The volcanic rocks also were noted to contain slightly higher gold background values; the sampling population is not sufficiently large enough to substantiate this statement. However, indications are that more detailed sampling will confirm the above conclusion.

Of a total sample population of 14 rock samples the percentile breakdown is as follows:

<u>Gold Ppb</u>		<u>Silver Ppm</u>	
Nil to 5	No Samples	0.3 to 0.6	14.3%
+5 to 15	21.4%	0.7 to 1.0	28.6%
+15 to 25	50.0%	+1.0 to 2.5	21.4%
+25 to 50	14.3%	+2.5 to 16.3	35.7%
+35 to 625	<u>14.3%</u>		
	100 %		<u>100 %</u>

The preliminary conclusions one can obtain from the above data set is that the background values for gold is in the 15-25 Ppb range. The values for

silver would appear to indicate that the sampling population is biased towards higher silver and gold values. In the case of silver over 50% of the samples give better than 1.0 Ppm and more than one third have greater than 2.5 Ppm. The majority of the anomalous silver values occur in the volcanics in the vicinity of the Stan 2 mineral claim. This area should be intensely prospected for precious metal concentrations. Also of interest is the higher silver concentrations along the lineament running Az 035 from which float samples St1-Gr-4F and SRI-1 were collected. The gold and silver values from the sedimentary rusty argillitic sequences are lower; varying from 0.3 to 1.9 Ppm silver. These lower values are not reflected in the gold values.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

##### 4.1 Conclusions

Rock geochemical sampling and stream silt sampling has indicated two zones that require further more detailed sampling, prospecting and geological study; these are:

- The volcanic rocks occupying the western third of the Stan 2 Claim.
- The area in the vicinity of sample location ST1-GR-4F and the lineament (Creek Trend) between ST1-GR-4F and SR1-1 on the Stan 1 Claim. Other lineaments should also be more extensively investigated.

Prospecting and silt geochemical sampling should also be done on portions of the claim group not done during this reported field program due to access problems and heavy snow conditions.

##### 4.2 Recommendations

Further work should be done in the Fall when the snow cover is at a minimum.

The work should include the following:

- More detailed rock geochemical sampling and prospecting concentrated on the Stan 1 and 2 Claims.
- Geological mapping on a scale of 1:5,000 on the Stan 1 and 2 Claims. (most favourable portions).
- VLF-EM over portions of the Stan 1 and 2 Claims.
- Silt geochemical sampling on all of the drainage available on the Stan 1 and 2 Claims.
- Some soil geochemical sampling in areas devoid of outcrop.

5.0 STATEMENT OF QUALIFICATIONS AND CERTIFICATION

5.1 Statement of Qualifications (Author)

I, Emmet J. Horne of the City of Calgary in the Province of Alberta certify the following:

- I am a geologist residing at 608, 920 - 9th Avenue S.W., Calgary, Alberta.
- I am a graduate geologist of the University of Saskatchewan (Saskatoon) 1967 and one post graduate year in 1970. I have practiced my profession continually since then.
- I am a member of the Canadian Institute of Mining and Metallurgy and have an application for membership with The Association of Professional Engineers, Geologists and Geophysicists of Alberta as a professional geologist.
- Previous employers and positions are:
  - . Saskatchewan Department of Mineral Resources
  - . Ontario Department of Mines (Senior Geologist)
  - . Noranda Mines Geco Division (Staff Geologist)
  - . Scurry Rainbow Oil Ltd. (Senior Geologist)
  - . Scurry Rainbow Bolivia Ltda. (Project Geologist, Supervisor)
  - . Iron Ore Company of Canada Ltd. (Senior Geologist, Supervisor)
  - . Syncrude Canada Ltd. (Senior Geologist, Supervisor)
  - . Aurun Mines Ltd. (Senior Geologist)

Since 1983 I have been employed as a contract geologist. I have worked in Canada, South America and in the U.S.A.

  
\_\_\_\_\_  
Emmet J. Horne

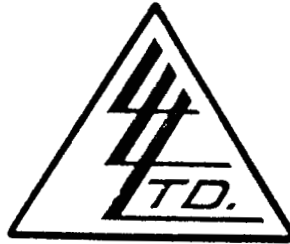


## 6.0 REFERENCES

- Grove, E.W., 1971  
Geology and Mineral Deposits of the Stewart Area, B.C. British Columbia  
Department of Mines and Petroleum Resources Bulletin No. 58.
- Grove, E.W., 1983  
Geology and Mineral Deposits of the Unuk River - Salmon River - Anyox  
Map Area, B.C. Ministry of Energy Mines and Petroleum Resources,  
Bulletin No. 63.
- \_\_\_\_\_, 1985  
British Columbia Mineral Exploration Review B.C. Ministry of Energy  
Mines and Petroleum Resources Information Circular 1986-1.
- Assessment Report 8767 B.C. Ministry of Energy, Mines and Petroleum  
Resources files.

APPENDIX A  
ANALYTICAL RESULTS

To: BIG HORN DEVELOPMENT CORPORATION  
 # 400, 255 - 17th Avenue S.W.  
 Calgary, Alberta - T2S 2T8  
 Attn: Mr. Ed. Kruchkowski



File No. 29982  
 Date July 9th, 1987  
 Samples Rock

Certificate of  
 ASSAY of  
 LORING LABORATORIES LTD.

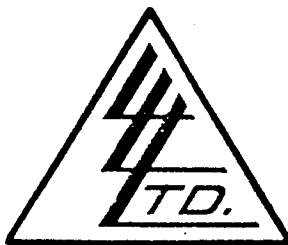
Page 2

SAMPLE No.	Au ppb	Ag ppm	
<b>GEOCHEMICAL ANALYSES</b>			
18001	EK-1	+1000	+ 30
18002	EK-2	+1000	+ 30
18003	CGR-01	830	24.3
18004	CGR-02	270	5.3
18005	CGR-03	30	2.1
18006	CGR-04	10	5.4
18007	CGR-07	25	+ 30
18008	C39-GR-1	10	+ 30
18009	C38-GR-2	Nil	20.0
18010	C38-GR-3	5	2.8
18011	CR-36-1	15	3.1
18012	CR-36-2	20	1.6
18013	CR-36-3	10	1.2
18014	SR2-01	15	4.9
18015	SR2-02	15	6.1
18016	SR2-03	30	2.1
18017	SR2-04	35	16.3
18018	SR2-05	25	.9
18019	SR2-06	20	.5
			OTHER
			STAN
<p><b>I Hereby Certify</b> THAT THE ABOVE RESULTS ARE THOSE          ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .</p>			

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

*D. Enley*  
 Assayer

To: BIG HORN DEVELOPMENT COEPORATION  
 #400, 255 - 17th Avenue S.W.  
 Calgary, Alberta - T2S 2T8  
 Attn: Mr. Ed. Kruchkowski



File No. 29982  
 Date July 9th, 1987  
 Samples Rock

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Page 3

SAMPLE No.	Au ppb	Ag ppm
<b>GEOCHEMICAL ANALYSES</b>		
18020 SR2-07	20	.7
18021 SR2-08	25	.3
18022 SR3-01	25	.7
18023 SR3-02	20	1.9
18024 SR3-03	25	1.1
18025 ST1-GR-4F	625	3.3
18026 SR1-1	75	2.9
18027 TR7-02	10	.7
18028 TR7-05	5	.5
18029 TR7-1	15	1.2
18030 TR7-2	5	.8
18031 TR7-06	5	.7
18032 TR7-8	5	.6
18033 TR7-9	Nil	.5
18034 TR7-10	Nil	.5
18035 TR7-11	20	.8
18036 TR4-1	Nil	.4
18037 TR3-04	15	.3
18038 TR3-1	180	4.2

STAN

TREATY

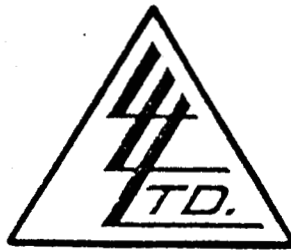
**I** **Hereby Certify** THAT THE ABOVE RESULTS ARE THOSE  
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .

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

*D. Zaleski*

Assayer

To: BIG HORN DEVELOPMENT CORPORATION  
 #400, 255 - 17th Avenue S.W.  
 Calgary, Alberta - T2S 2T8  
 Attn: Mr. Ed. Kruchkowski



File No. 29982  
 Date July 9th, 1987  
 Samples Rock

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Page 4

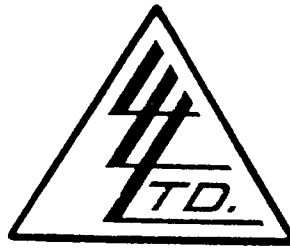
SAMPLE No.	Au ppb	Ag ppm	
<b><u>GEOCHEMICAL ANALYSES</u></b>			
18039 TR2-1	10	.7	STAN
18040 TR6-01	15	.7	TREATY
18041 TR5-1	Nil	1.0	
18042 TR5-2	Nil	.6	
18043 TR5-3	15	.6	
18044 TR5-4	15	.6	
18045 TR5-5	15	.6	
18046 TR5-6	Nil	.9	
18047 TR5-7	Nil	.8	
18048 TR5-8	40	.6	
<p><b>I Hereby Certify</b> THAT THE ABOVE RESULTS ARE THOSE          ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .</p>			

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

*D. Zales*

Assayer

To: BIG HORN DEVELOPMENT CORPORATION  
#400, 255 - 17th Avenue S.W.  
Calgary, Alberta - T2S 2T8  
Attn: Mr. Ed. Kruchkowski



File No. 29982  
Date July 9th, 1987  
Samples Silt

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Page 5

SAMPLE No.	Au ppb	Ag ppm	
<u>GEOCHEMICAL ANALYSES</u>			
CG-01	25	+ 30	
CG-02	15	+ 30	
CGS-03	20	2.0	
CG-04	15	.6	
CG-05	105	.9	
CG-06	50	.6	
CG-07	30	.7	
CG-08	25	6.2	
C-36-1	85	.5	
C-38-GS-2	90	.6	
C-38-GS-3	130	.5	
C-38-GS-4	50	.3	
C-39-GS-1	+1000	1.5	OTHER
S2-1	35	2.0	STAN
S2-2	Nil	1.0	
S2-3	Nil	.6	
S3-01	Nil	.6	
S3-02	Nil	.4	
S3-03	Nil	.3	

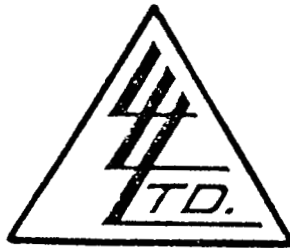
**I Hereby Certify** THAT THE ABOVE RESULTS ARE THOSE  
ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .

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

*D. Enckes*

Assaver

To: BIG HORN DEVELOPMENT CORPORATION  
 #400, 255 - 17th Avenue S.W.  
 Calgary, Alberta - T2S 2T8  
 Attn: Mr. Ed. Kruchkowski



File No. 29982  
 Date July 9th, 1987  
 Samples Silt

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Page 6

SAMPLE No.	Au ppb	Ag ppm
<u>GEOCHEMICAL ANALYSES</u>		
S3-04	Nil	.4
S3-05	Nil	.5
S3-06	Nil	.5
S4-02	Nil	.5
S4-03	5	.6
S4-04	5	.6
S4-05	15	.6
T2-01	5	.6
T3-01	5	.8
T3-02	10	.6
T3-03	5	.5
T3-04	10	.6
T3-07	40	.5
T4-01	870	.9
T4-02	165	.9
T4-03	50	.6
T4-04	25	.7
T4-05	85	.5
T5-01	25	.9

STAN

TREATY

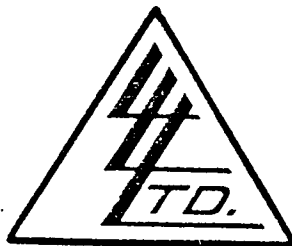
I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE  
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .

Rejects Retained one month.

Pulps Retained one month  
 unless specific arrangements  
 made in advance.

*D. Zwick*

To: BIG HORN DEVELOPMENT CORPORATION  
 #400, 255 - 1 7th Avenue S.W.  
 Calgary, Alberta - T2S 2T8  
 Attn: Mr. Ed. Kruckowski



File No. 29982  
 Date July 9th, 1987  
 Samples Silt

Certificate of  
 ASSAY of

LORING LABORATORIES LTD.

Page 7

SAMPLE No.	Au ppb	Ag ppm	
<u>GEOCHEMICAL ANALYSES</u>			
T5-02	25	.4	
T5-03	5	.6	
T5-04	10	.4	
5-05	10	1.1	
T5-06	70	.7	
T6-01	5	.4	
T6-02	15	.8	
T6-03	5	.3	
T6-04	5	.3	
T6-05	5	.3	
T6-06	Nil	.2	
T7-03	Nil	.4	
T7-04	+1000	3.8	
T7-05	65	.3	
T7-06	30	.5	TREATY
ST1-GS-05	35	.4	STAN
ST1-GS-06	Nil	.6	
ST1-GS-07	Nil	.2	

I Hereby Certify THAT THE ABOVE RESULTS ARE THOSE  
 ASSAYS MADE BY ME UPON THE HEREIN DESCRIBED SAMPLES . . . .

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

*D. Zuber*



APPENDIX B

ROCK SAMPLE DESCRIPTIONS  
(GEOCHEMICAL ANALYSES)

DESCRIPTION OF ROCK SAMPLES

<u>SAMPLE</u>	<u>LABORATORY NO.</u>	<u>CLAIM</u>	<u>DESCRIPTION</u>	<u>GEOCHEMICAL ANALYSIS</u>		
				<u>Ppb Au</u>	<u>Ppm Ag</u>	<u>Ox/Ton Au</u>
TR2-1	18039	Treaty 2	Limonitic argillite, orange stain 2.0 metres, highly fractured	10	0.7	--
SR3-01	18022	Stan 3	Rusty limonitic argillite, reddish orange stain, highly fractured, minor 5-15% quartz carbonate stringers & stockwork samples over 1.0 metres	25	0.7	--
SR3-02	18023	Stan 3		20	1.9	--
SR3-03	18024	Stan 3		25	1.1	--
ST1-GR-4F	18025	Stan 1	Float - Pyrite & quartz carbonate	625	3.3	--
SR1-1	18026	Stan 1	Float - pyrite & quartz carbonate	75	2.9	--
SR2-01	18014	Stan 2	Unaltered felsic intermediate volcanic 1.0 metre chip sample 2% pyrite & limonite	15	4.9	--
SR2-02	18015	Stan 2	5% Pyrite & in silicified intermediate volcanic breccia, sample 1.0 metres chip	15	6.1	--
SR2-03	18016	Stan 2	Limonitic alteration on silicified intermediate 1.0 metre wide chip 10% pyrite	30	2.1	--
SR2-04	18017	Stan 2	6.0 metre wide zone in volcanics silicified, limonitic & 2% Ag	35	16.3	--
SR2-05	18018	Stan 2	3.0 metre & 4.0 metre limonitic silicified zone ~ 2% pyrite	25	0.9	--
SR2-06	18019	Stan 2	Quartz stockwork & pyrite in volcanics sample 1.0 metres chip	20	0.5	--

<u>SAMPLE</u>	<u>LABORATORY NO.</u>	<u>CLAIM</u>	<u>DESCRIPTION</u>	<u>GEOCHEMICAL ANALYSIS</u>		
				<u>Ppb Au</u>	<u>Ppm Ag</u>	<u>Oz/Ton Au</u>
SR2-07	18020	Stan 2	Quartz silicified zone & 2-5% pyrite in intermediate volcanics, 1.0 metre chip	20	0.7	--
SR2-08	18021	Stan 2	Quartz carbonate minor fracture fill in sandstone, sample over 10.0 mm.	25	0.3	--

APPENDIX C  
ITEMIZED COST STATEMENT

C. ITEMIZED COST STATEMENT

C.1 Supervision and Wages

Personnel are charged at 50% of rate for organization, mobilization and demobilization from the 11th to 18th of June 1987 (four days) and 50% of rate for field work from the 16th to the 18th of June 1987 (four days). The other 50% is charged to the Treaty 3 to Treaty 7 Claims.

The rates are as follows:

<u>Name</u>	<u>Title</u>	<u>Daily Rate</u>	<u>Days Worked</u>	<u>Percent Charged</u>	
E.R. Kruchkowski	Chief Geologist	\$300	8	50%	\$1,200.00
E.J. Horne	Senior Geologist	\$250	8	50%	1,000.00
J. Campbell	Prospector	\$125	8	50%	500.00
S. Stannus	Prospector	\$125	8	50%	500.00
D. Marlatt	Junior Assistant	\$ 80	8	50%	320.00
D. Lund	Junior Assistant	\$ 80	8	50%	320.00
C. Campbell	Cook/Expediter	\$100	8	50%	400.00
G. Sinden	Geophysical technician/ Prospector	\$120	2	50%	120.00
					<u>\$4,360.00</u>
Consultant Overhead on salaries 10%					436.00
					<u>\$4,796.00</u>

C.2 Transportation

Airfair charged at 25% remainder to be split on Treaty 3 to 7 Claims and other projects.

<u>Personnel</u>	<u>Destinations</u>	<u>Full Rate</u>	<u>Percent Charged</u>	
E. Kruchkowski	Calgary/Terrace	\$1,328.00	25%	332.00
E. Horne	and return			
S. Stannus	Vancouver/Prince	661.60	25%	165.40
D. Lund	George return			
	<u>Meet Truck</u>			
G. Sinden	Calgary/Terrace	664.00	25%	166.00
	and return			

Truck transportation (field equipment and expenses)  
 4 x 4 truck & trailer rental @ \$66.00/day - 2 days @ 50% 66.00  
 Meals and accommodation (expense accounts)  
 four (4) personnel, two days Total \$262.90 @ 50% 131.45  
\$860.85

C.3 Helicopter Rental(206B)

Charged at 50% remainder charged to Treaty 3 to 7 Claims.

Stewart, B.C. to Brucejack Camp slinging loads and personnel

Fuelled 9.5 hours @ \$522.70/hour

Total charge \$4,965.70 @ 50% 2,482.85

Field work 14th to 18th June, 1987

1.7 hours (fueled) total charge \$835.55 @ 50% 417.77

1.1 hours (fueled) total charge \$540.65 @ 50% 270.33

1.5 hours (fueled) total charge \$795.00 @ 50% 397.50

2.8 hours (fueled) total charge \$1,445.50 @ 50% 722.75

1.7 hours (fueled) total charge \$901.00 @ 50% 450.50

(includes demobilization cost)

Note: Rate differential due to use of camp Jet 'B'  
fuel instead of contractor fuel.

\$4,741.70

C.4 Food, Accommodation and Supplies

Camp and equipment rental

2 days @ \$50/day 100.00

Groceries, field equipment, consumables

Field cost 15 man days @ \$68.09 1,021.35

Hotel accommodation, meals, supplies,

consumables 14 man days @ \$22.72 man days 318.08

\$1,439.43

C.5 Laboratory Analyses

16 silt samples @ \$11.30 for gold and silver  
geochemical analysis including preparation 180.80

14 rock samples @ \$13.00 for gold and silver  
geochemical analysis including preparation 182.00

\$ 362.80

C.6 Report Preparation

Base map frame s-ot enlargement 50.00

Drafting of Maps and Figures 250.00

Typing, printing and review 100.00

Report, compilation and writing

1 geologist, 3 days @ \$250.00/day 750.00

\$1,150.00

GRAND TOTAL \$13,350.78

C.7 Apportionment of Costs for the Stan Group of Claims is as follows:

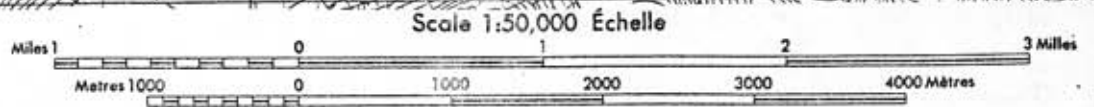
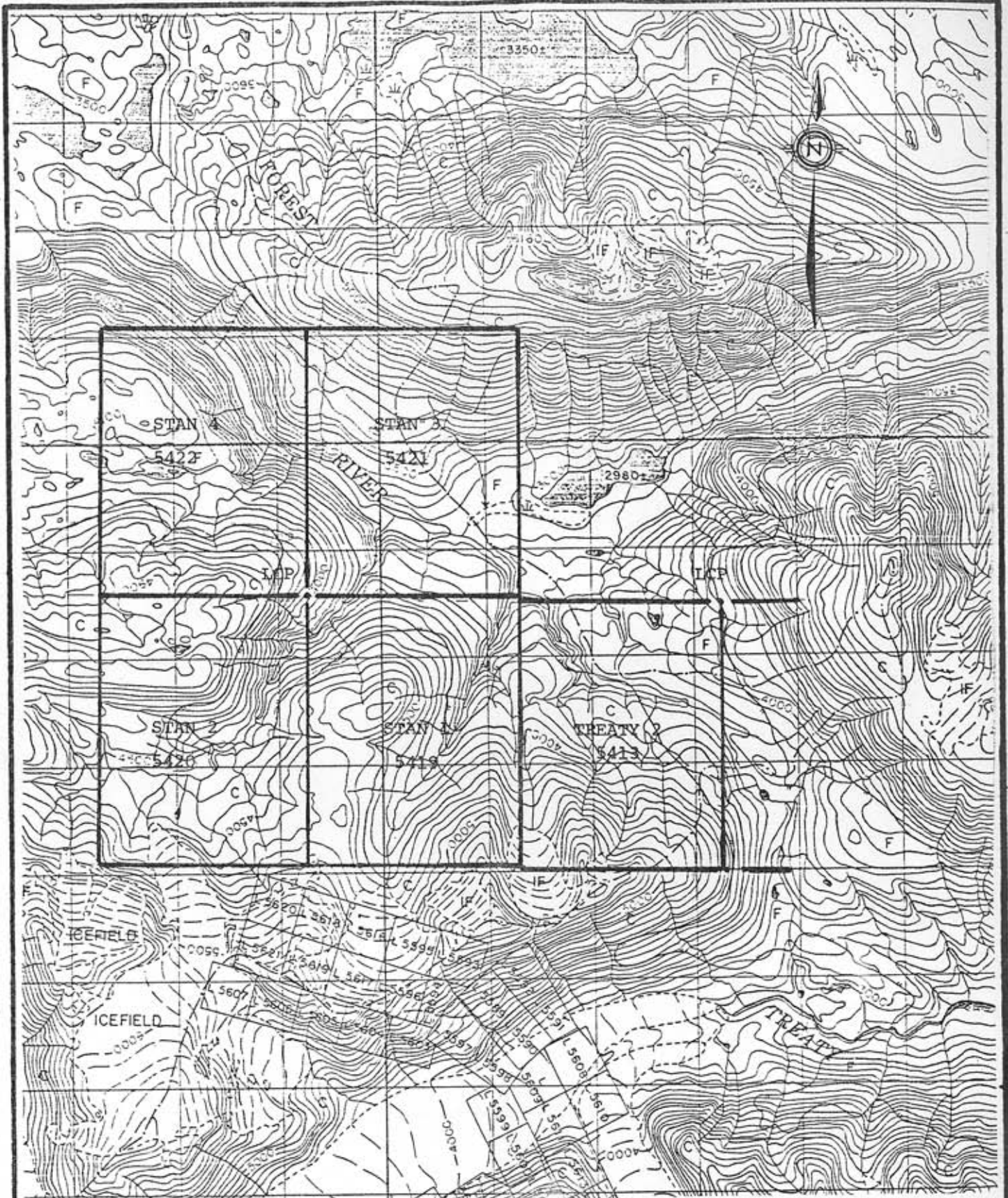
<u>Claim</u>	<u>Record No.</u>	<u>Number of Units</u>	<u>Apportionment</u>
Stan 1	5419	20	2,000
Stan 2	5420	20	2,000
Stan 3	5421	20	2,000
Stan 4	5422	20	2,000
Treaty 2	5413	20	2,000
100 Units @ \$100.00			\$10,000.00
To be credited to owner's PAC Account			
\$ 3,350.78		say	3,350.00

FIGURES

1-5







<p>TREATY CREEK AREA SKEENA MINING DIVISION</p>	<p>NTS 104B/9</p>
<p>CLAIM LOCATION MAP</p>	<p>Figure 2</p>



FROM: Geology of the Unuk River-Salmon River-Anyox Map Area Bulletin 63.  
 British Columbia Ministry of Mines & Petroleum Resources

BIGHORN DEVELOPMENT  
 CORPORATION

NTS 104B/9  
 1:100,000

GENERAL GEOLOGY

FIGURE 3

MESOZOIC

**MIDDLE JURASSIC**

**SALMON RIVER FORMATION**

16 SILTSTONE, GREYWACKE, SANDSTONE, SOME CALCARENITE, MINOR LIMESTONE, ARGILLITE, CONLOMERATE, LITTORAL DEPOSITS

15 RHYOLITE, RHYOLITE BRECCIA; CRYSTAL AND LITHIC TUFF

**BETTY CREEK FORMATION**

14 PILLOW LAVA, BROKEN PILLOW BRECCIA (a); ANDESITIC AND BASALTIC FLOWS (b)

13 GREEN, RED, PURPLE, AND BLACK VOLCANIC BRECCIA, CONLOMERATE, SANDSTONE, AND SILTSTONE (a); CRYSTAL AND LITHIC TUFF (b); SILTSTONE (c); MINOR CHERT AND LIMESTONE [INCLUDES SOME LAVA (+14)] (d)

**LOWER JURASSIC**

**UNUK RIVER FORMATION**

12 GREEN, RED, AND PURPLE VOLCANIC BRECCIA, CONGLOMERATE, SANDSTONE, AND SILTSTONE (a); CRYSTAL AND LITHIC TUFF (b); SANDSTONE (c); CONGLOMERATE (d); LIMESTONE (e); CHERT (f); MINOR COAL (g)

11 PILLOW LAVA (a); VOLCANIC FLOWS (b)

**SYMBOLS**

ADIT .....	
ANTICLINE (NORMAL, OVERTURNED) .....	
BEDDING (HORIZONTAL, INCLINED, VERTICAL, CONTORTED) .....	
BOUNDARY MONUMENT .....	
CONTOURS (INTERVAL 1,000 FEET) .....	
FAULT (DEFINED, APPROXIMATE) .....	
FAULT (THRUST) .....	
FAULT MOVEMENT (APPARENT) .....	
FOLD AXES, MINERAL LINEATION (HORIZONTAL, INCLINED) .....	
FOSSIL LOCALITY .....	
GEOLOGICAL CONTACT (DEFINED, APPROXIMATE) .....	
GLACIAL STRIAE .....	
GRAVEL, SAND, OR MUD .....	
HEIGHT IN FEET ABOVE MEAN SEA LEVEL .....	
INTERNATIONAL BOUNDARY .....	
JOINT SYSTEM (INCLINED, VERTICAL) .....	
MARSH .....	
MINING PROPERTY .....	

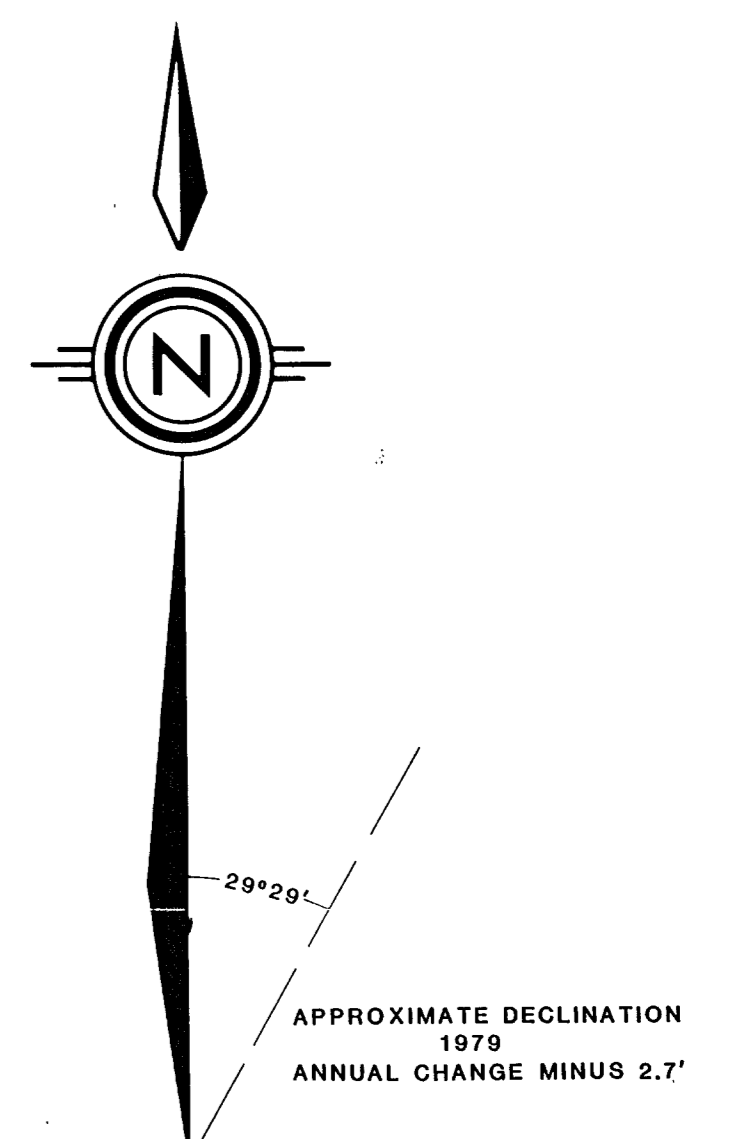
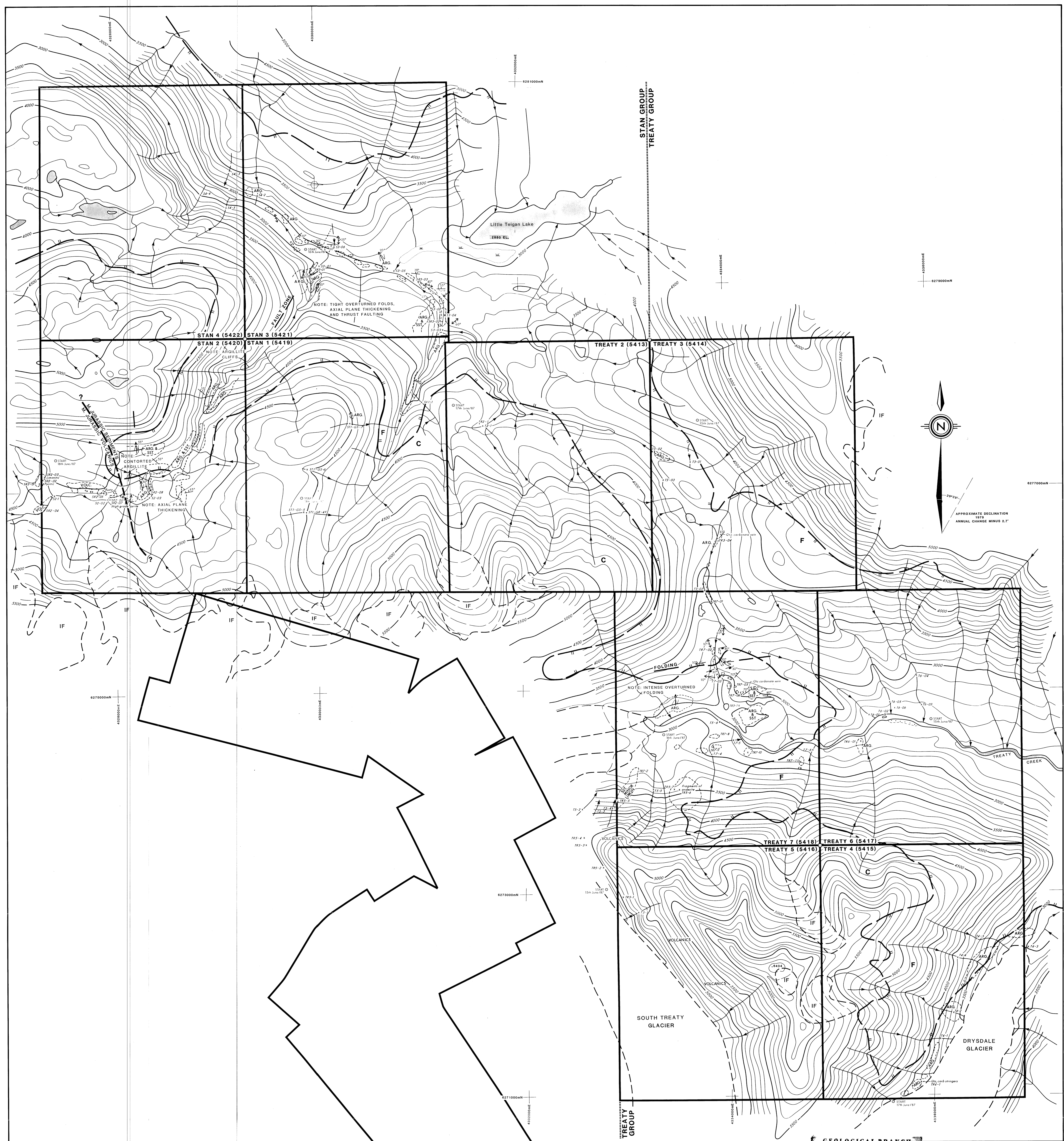
FROM: Geology of the Unuk River-Salmon River-Anyox Map Area Bulletin 63,  
British Columbia Ministry of Mines & Petroleum Resources

BIGHORN DEVELOPMENT CORPORATION	NTS 104B/9
TABLE OF FORMATIONS	FIGURE 4



FROM: Major Geological Structures and Mineral Deposits Geology and Mineral Deposits of the Unuk River-Salmon River-Anyox Area Bulletin No. 63.

BIGHORN DEVELOPMENT CORPORATION	NTS 104B/9 1:250,000
REGIONAL STRUCTURES	FIGURE 5



- TOPOGRAPHIC & CLAIM FEATURES**
- Icefield
  - Outcrop
  - Wooded Area (F-Forested C-Clear)
  - Marsh
  - Direction of Flow
  - Claim Boundary & LCP
  - Sample Site & Number
  - Gravel Bar
  - Contour (feet) Interval-100'

- GEOLOGICAL FEATURES**
- Strike & Dip (Joint)
  - Strike & Dip (Bedding)
  - Strike & Dip (Foliation)
  - Folding & Axial Plunge
  - Contact Zone
  - Shear Zone (Fault)

- STRATIGRAPHY**
- MIDDLE JURASSIC (SALMON RIVER FORMATION)
    - ARG Argillite
    - ARG S Argillite & Sandstone
  - MIDDLE JURASSIC (BETTY CREEK FORMATION)
    - VOIC Volcanics

**16,251**

BELT CHAIN & DIMENSION DISTANCES  
 CO-ORDINATES UTM GRID  
 MAP BASE: ENLARGEMENT FROM 1:50,000 TOPOGRAPHIC  
 0 100 200 300 400 METERS

**BIGHORN DEVELOPMENT CORPORATION**

STAN and TREATY CLAIMS  
 COMBINED STAN and TREATY GROUPS

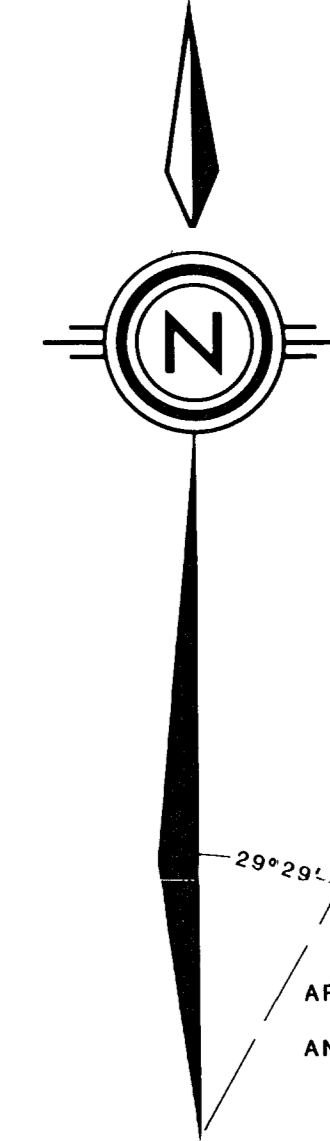
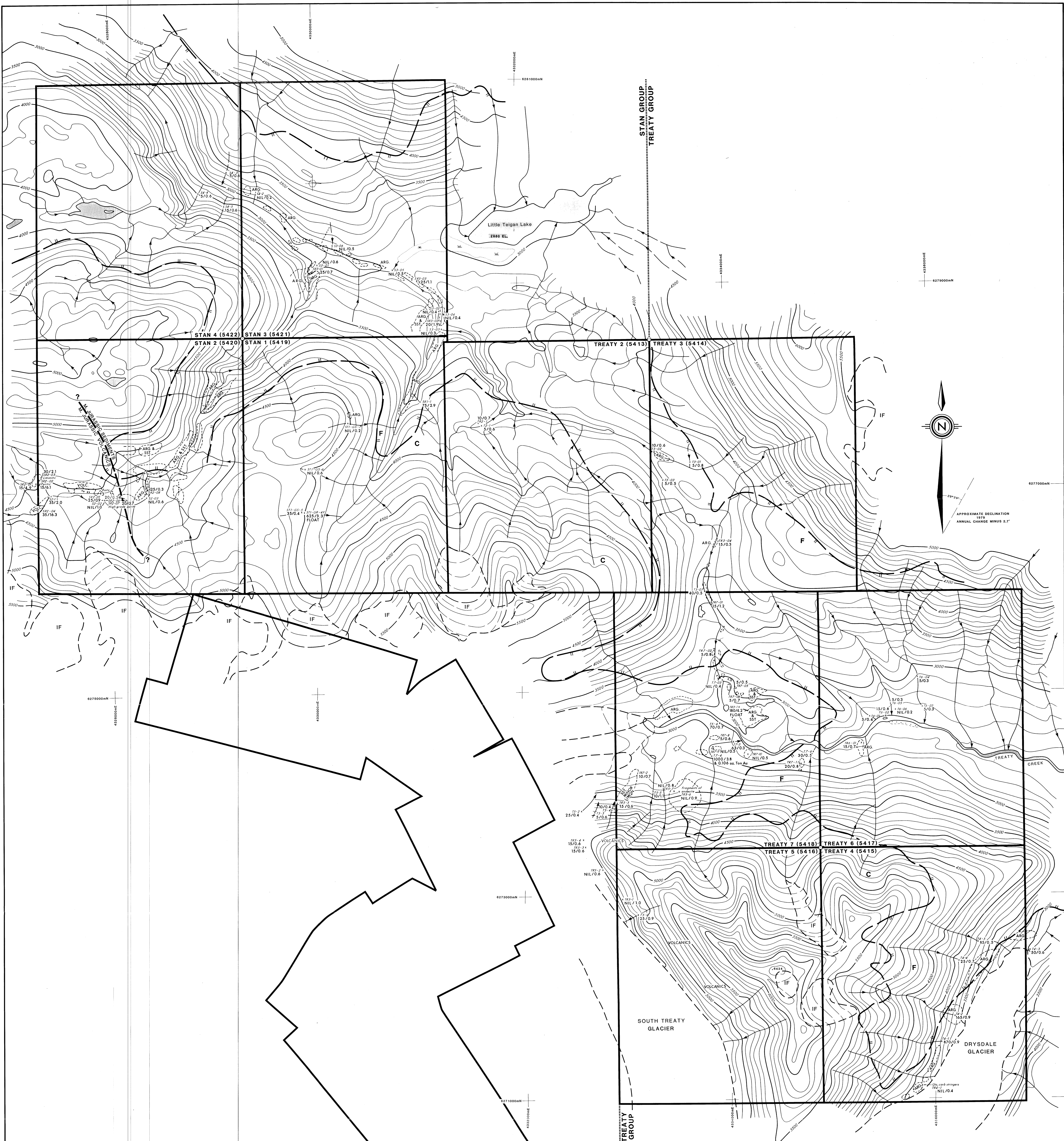
**GEOLOGICAL MAP  
 NTS 104B/9**

SKEENA MINING DIVISION

Scale: 1:10,000 C.I.: 100' By: E.H. & E.K.  
 Date: August 1987 Revised: Figure: MAP A

162510-0

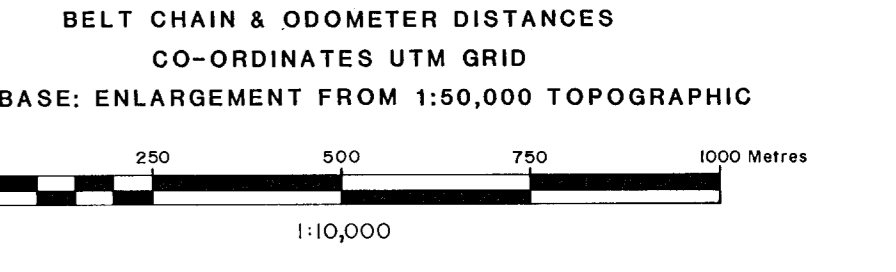
162510-0



- TOPOGRAPHIC & CLAIM FEATURES**
- Icefield
  - Outcrop
  - Wooded Area (F-Forested C-Clear)
  - Marsh
  - Direction of Flow
  - Claim Boundary & LCP
  - Sample Site & Number
  - Gravel Bar
  - Contour (feet) Interval-100'
  - Results - Ppb Au/Ppm Ag

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

**16,251**



**BIGHORN DEVELOPMENT CORPORATION**  
STAN and TREATY CLAIMS  
COMBINED STAN and TREATY GROUPS  
**GEOCHEMICAL MAP**  
(ROCK and SILT SAMPLES)  
**NTS 104B/9**  
SKEENA MINING DIVISION

Scale: 1:10,000 C.I.: 100' By: E.H. & E.K.  
Date: August 1987 Revised: Figure: MAP B

GEOCHEMICAL ANALYSIS 25/02 Results - Ppb Au/Ppm Ag

16251 (2) (b)