

ASSESSMENT REPORT
CAL 81 - 144
MINING CLAIMS
WATSON LAKE MINING DISTRICT
105 - H - 8 W
61° 23' N; 128° 27' W



090867

090867

W.A. MacLeod

August, 1981

This report has been examined by the Geological Survey Unit and is recommended to the Commissioner to be considered as representing work in the amount of

\$ 19,100.00

~~Resident Geologist or
Resident Mining Engineer~~

~~Considered as representation work under
Section 53 (4) Yukon Quartz Mining Act.~~

Rich Debicki

Oct/16

Commissioner of Yukon Territory

188 1 3 52

765020

FROM: Mining Recorder at Watson Lake

Supervising Mining Recorder at Whitehorse, Y.T.



FOR ACTION ARE:

- NEW APPL'N for PLACER LEASE to PROSPECT: Name: _____
- RENEWAL APPL'N PLACER LEASE to PROSPECT: Name: _____
Lease No.
- AFFIDAVIT of EXPENDITURE on PLACER LEASE. Name: _____
Lease No.
- ASSIGNMENT of PLACER LEASE No.
From: _____ To: _____
- GROUPING APPL'N UNDER SEC. 52(2) PLACER MINING ACT.
Owner: _____
- DIAMOND DRILL LOGS:
Claims: _____ Claim sheet no: _____
- QUARTZ ASSESSMENT REPORT:
Claims: CAL 81-144 Claim sheet no. 105-H-8
Type of report: Biological Submitted by: Shell Canada Resources
Cls. work performed on: CAL 81-144 \$ Req. for ren. application \$ 19,100.00
[Signature]
Signature

REPLY ACTION.

Date Ret.

090867

Signature



Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)



OFFICE DATE STAMP

I (Name)	W. A. MacLeod	Occupation	Geologist
(Postal Address)	111 Parkglen Cr. S.E., Calgary, Alberta T2J 4L9		

MAKE OATH AND SAY, THAT :-

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, work on the following mineral claim(s):
(Here list claims on which work was actually done by number and name)

Cal 81-89 (incl.)

situated at 22 miles N.E. of Mt. Billings
6 miles West of Cantung Road Claim Sheet No. 105-H-8

In the Watson Lake Mining District, to the value of at least \$2,599.43

dollars, since the 30th day of April 19 81

to represent the following mineral claims under the authority of Grouping Certificate No. 2999
(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested.)

YA 56497	Cal 81	2 years	4A 58118 - Cal 145 - 1 YEAR
YA 56498	Cal 82	2 years	4A 58119 - Cal 146 - 1 YEAR
YA 56499	Cal 83	2 years	4A 58120 - Cal 147 - 1 YEAR
YA 56500	Cal 84	2 years	4A 58121 - Cal 148 - 1 YEAR
YA 56501	Cal 85	2 years	4A 58122 - Cal 149 - 1 YEAR
YA 56502	Cal 86	2 years	4A 58123 - Cal 150 - 1 YEAR
YA 56503	Cal 87	2 years	4A 58124 - Cal 151 - 1 YEAR
YA 56504	Cal 88	2 years	
YA 56505	Cal 89	2 years	

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53)

See Attached Report

Sworn before me at Calgary
 this 2nd day of September 19 81

 Notary Public

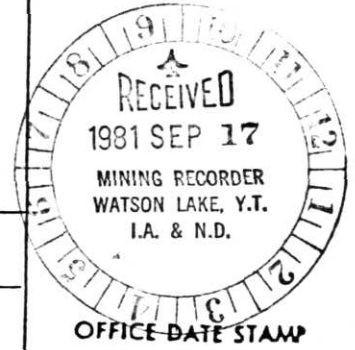
 Applicant.



Department of Indian Affairs and Northern Development
YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)



I (Name)	W. A. MacLeod	Occupation	Geologist
(Postal Address)	111 Parkglen Cr. S.E., Calgary, Alberta T2J 4L9		

MAKE OATH AND SAY, THAT :-

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, work on the following mineral claim(s):
(Here list claims on which work was actually done by number and name)

Cal 90, 91, 94, 97, 100, 101, 105, 110, 112, 114, 118, and 123

situated at 22 miles N.E. of Mt. Billings
6 miles West of Cantung Road Claim Sheet No. 105-H-8

In the Watson Lake Mining District, to the value of at least \$3,606.11

dollars, since the 30th day of April 19 81

to represent the following mineral claims under the authority of Grouping Certificate No. 3000
(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested.)

YA 56506	Cal 90	3 years	YA 56701	Cal 105	3 years
YA 56507	Cal 91	3 years	YA 56940	Cal 110	3 years
YA 56690	Cal 94	3 years	YA 56942	Cal 112	3 years
YA 56693	Cal 97	3 years	YA 56944	Cal 114	3 years
YA 56696	Cal 100	3 years	YA 56948	Cal 118	3 years
YA 56697	Cal 101	3 years	YA 56953	Cal 123	3 years

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53)

See Attached Report

Sworn before me at Calgary
this 2nd day of September 19 81

R. H. Kinnear
Notary Public

[Signature]
Applicant.



Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)



I (Name)	W. A. MacLeod	Occupation	Geologist
(Postal Address)	111 Parkglen Cr. S.E., Calgary, Alberta T2J 4L9		

OFFICE DATE STAMP

MAKE OATH AND SAY, THAT :-

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, work on the following mineral claim(s):
(Here list claims on which work was actually done by number and name)

Cal 92, 95, 98, 102, 108, 119, 124, 128, 129, 133, 138, and 143

situated at 22 miles N.E. of Mt. Billings
6 miles West of Cantung Road Claim Sheet No. 105-H-8

In the Watson Lake Mining District, to the value of at least \$3,606.11

dollars, since the 30th day of April 19 81

to represent the following mineral claims under the authority of Grouping Certificate No. 3001

(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested.)

YA 56508	Cal 92	3 years	YA 56954	Cal 124	3 years
YA 56691	Cal 95	3 years	YA 56958	Cal 128	3 years
YA 56694	Cal 98	3 years	YA 56959	Cal 129	3 years
YA 56698	Cal 102	3 years	YA 56963	Cal 133	3 years
YA 56704	Cal 108	3 years	YA 56968	Cal 138	3 years
YA 56949	Cal 119	3 years	YA 56973	Cal 143	3 years

3. The following is a detailed statement of such works (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53)

See Attached Report

Sworn before me at Calgary

this 2nd day of September 19 81

[Signature]
Notary Public

[Signature]
Applicant,



Department of Indian Affairs and Northern Development
YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)



I (Name)	W. A. MacLeod	Occupation	Geologist
(Postal Address)	111 Parkglen Cr. S.E., Calgary, Alberta T2J 4L9		

OFFICE DATE STAMP

MAKE OATH AND SAY, THAT :-

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, work on the following mineral claim(s):
(Here list claims on which work was actually done by number and name)

Cal 93, 96, 99, 103, 104, 106, 107, 109, 116, 117, 121 & 122

situated at 22 miles N.E. of Mt. Billings
6 miles West of Cantung Road Claim Sheet No. 105-H-8
In the Watson Lake Mining District, to the value of at least \$3,606.11
dollars, since the 30th day of April 19 81,

to represent the following mineral claims under the authority of Grouping Certificate No. 3002
(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested.)

YA 56509	Cal 93	3 years	YA 56703	Cal 107	3 years
YA 56692	Cal 96	3 years	YA 56705	Cal 109	3 years
YA 56695	Cal 99	3 years	YA 56946	Cal 116	3 years
YA 56699	Cal 103	3 years	YA 56947	Cal 117	3 years
YA 56700	Cal 104	3 years	YA 56951	Cal 121	3 years
YA 56702	Cal 106	3 years	YA 56952	Cal 122	3 years

3. The following is a detailed statement of such works (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53)

See Attached Report

Sworn before me at Calgary
this 2nd day of September 19 81

J. H. Kinnear
Notary Public

[Signature]
Applicant.



Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)



I (Name)	W. A. MacLeod	Occupation	Geologist
(Postal Address)	111 Parkglen Cr. S.E., Calgary, Alberta T2J 4L9		

OFFICE DATE STAMP

MAKE OATH AND SAY, THAT :-

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, work on the following mineral claim(s):
(Here list claims on which work was actually done by number and name)

Cal 111, 113, 115, 120, 125-127 (incl.), 130-132 (incl.),
135-137 (incl.), and 140-142 (incl.)

situated at 22 miles N.E. of Mt. Billings
6 miles West of Cantung Road Claim Sheet No. 105-H-8

In the Watson Lake Mining District, to the value of at least \$5,025.47

dollars, since the 30th day of April 19 81

to represent the following mineral claims under the authority of Grouping Certificate No. 3003

(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested.)

YA 56941	Cal 111	3 years	YA 56961	Cal 131	3 years
YA 56943	Cal 113	3 years	YA 56962	Cal 132	3 years
YA 56945	Cal 115	3 years	YA 56965	Cal 135	3 years
YA 56950	Cal 120	3 years	YA 56966	Cal 136	3 years
YA 56955	Cal 125	3 years	YA 56967	Cal 137	3 years
YA 56956	Cal 126	3 years	YA 56970	Cal 140	3 years
YA 56957	Cal 127	3 years	YA 56971	Cal 141	3 years
YA 56960	Cal 130	3 years	YA 56972	Cal 142	3 years

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53)

See Attached Report

Sworn before me at Calgary

this 2nd day of September 19 81

A. H. Kaurach

Notary Public

W. A. MacLeod

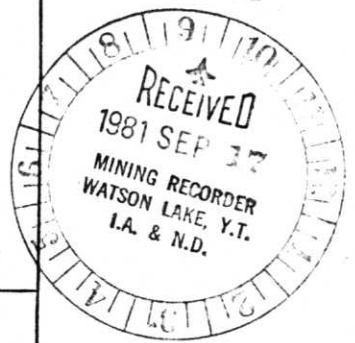
Applicant.



Department of Indian Affairs and Northern Development
YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)



I (Name)	W. A. MacLeod	Occupation	Geologist
(Postal Address)	111 Parkglen Cr. S.E., Calgary, Alberta T2J 4L9		

OFFICE DATE STAMP

MAKE OATH AND SAY, THAT :-

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, work on the following mineral claim(s):
(Here list claims on which work was actually done by number and name)

Cal 134, 139, and 144

situated at 22 miles N.E. of Mt. Billings
6 miles West of Cantung Road Claim Sheet No. 105-H-8
in the Watson Lake Mining District, to the value of at least \$866.49
dollars, since the 30th day of April 19 81

to represent the following mineral claims under the authority of Grouping Certificate No. 3004
(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested.)

YA 56964	Cal 134	^{3rd} 2 years
YA 56969	Cal 139	^{3rd} 2 years
YA 56974	Cal 144	2 years

3. The following is a detailed statement of such works (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53)

See Attached Report

Sworn before me at Calgary
this 2nd day of September 19 81

[Signature]
Notary Public

[Signature]
Applicant.

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Introduction

The Cal 81-144 claims are located in NTS grid 105-H-8-W and were staked by Shell Canada Resources Ltd in September of 1980. The claims comprise two groups adjoining the Cal 1-80 group also owned by Shell.

The Cal 81-144 claims were geologically mapped and prospected in June and July, 1981. In addition to the technical surveys, a 1.5 kilometre portion of four-wheel drive access road was also repaired during the 1981 field season.

The exploration of the Cal group was carried out by Shell Canada Resources as part of our Norquest Project by right of agreement with New Jersey Zinc Exploration Company (Canada) Ltd. The technical surveys were conducted by Shell personnel with the road repair being completed by Grant Stewart Construction Ltd., of Watson Lake, Y.T. All work was initiated and supervised by W.A. MacLeod.

The accompanying plan details the work completed.

1. LOCATION AND ACCESS

The Cal claims are located in an area of rugged, mountainous topography immediately west of the Hyland River Valley approximately 150 kilometres north of Watson Lake, Yukon Territories (Figure 1). Peak elevations are in the order of 2,000 metres above sea level.

The claimed area is partially accessible by unimproved four wheel drive road originating from kilometre 94 on the Cantung Highway. Helicopter support is required to mobilize personnel and equipment to the mountainous areas on the property.

The Town of Watson Lake provides an efficient support base for the program. Most goods and services are available locally. The town is served by the Alaska and Stewart-Cassiar Highways and daily scheduled air connections to Whitehorse and all southern Canadian centres are available.

2. LOGISTICS AND SUPPORT

Shell's crew was based from a tent and trailer camp located on the access road 2.5 kilometres west of the Cantung Highway. The access road was utilized for general support.

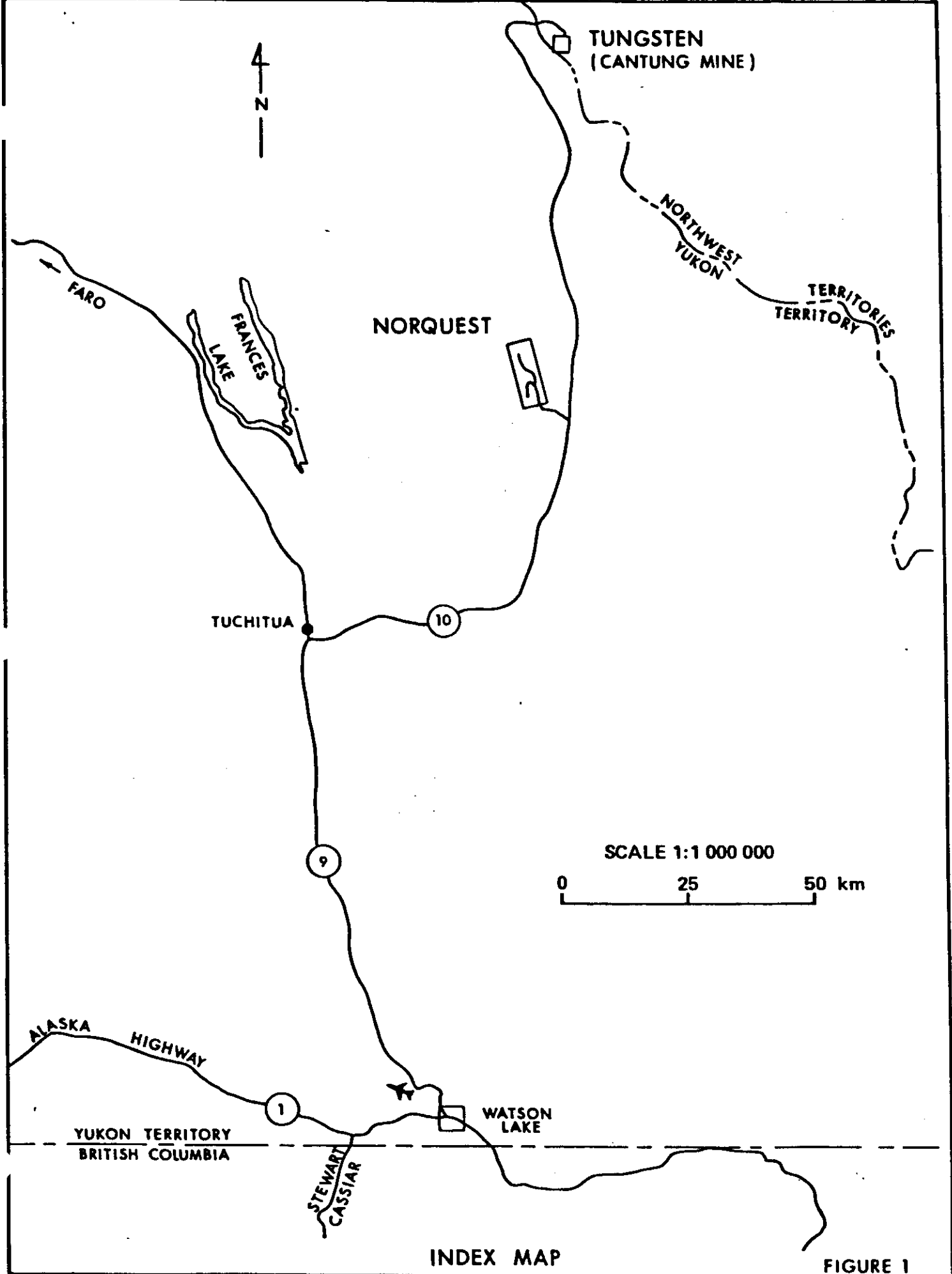
All camp supplies, fuel, etc., were purchased in Watson Lake.

Although the newly repaired road afforded access to portions of the claimed area, helicopter support was generally utilized for crew transport. This expedient saved time, facilitated access to the higher elevations, and lessened the maintenance required on the vehicles.

3. ROAD REPAIR

The access road from kilometre 94 on the Cantung Highway to the Cal claims was bulldozed at the start of the 1981 field season. The work was required to remove slide material and fill washouts. A 1.5 kilometre portion of the road located on the Cal 97-99 claims required a total of 3 hours to repair.

Grant Stewart Construction Ltd., of Watson Lake was contracted to complete the repairs.



INDEX MAP

FIGURE 1

4. GEOLOGY

The Cal claims 81-144 are situated in the Omineca Tectonic Belt and are underlain by sedimentary rocks of the Grit Unit (Roddick and Green, 1961) of Upper Proterozoic (Hadrynian) Age. The sediments were later intruded by portions of the Mount Billings Batholith of Cretaceous (?) Age.

The lowermost sediments (Unit 1) are composed of recrystallized, well bedded sandstones (quartzite) and siltstones (biotite + feldspar quartzites) with minor finer grained clastics (quartz + biotite + feldspar schist). Thin beds (< 1 cm to 10 m.) of limestone and siliceous limestone (marble + diopside + garnet + tremolite) and minor siliceous dolomite (dolomite + diopside + quartz + garnet + actinolite-tremolite) become more common toward the top of the unit. The altered siliceous dolomite is locally mineralized with weakly disseminated to fairly massive pyrrhotite + pyrite (+ sphalerite and galena).

Unit 1 characteristically strikes northwest-southeast to north-south and dips eastwards at 25° to 55°.

The lowermost clastics are overlain by finer grained clastics and pelites of Unit 2. The clastics composed of biotite + quartz + feldspar schists are interlayered with biotite + quartz + muscovite + cordierite + andalusite and staurolite semi pelitic and pelitic schists. A gradation from clastics to semi-pelite to pelite is observable from north to south and west to east.

A thin (20 m to 60 m ?) band of argillite (Unit 4) overlies the schists. It is thinly banded (< 1 cm) alternating white and grey or grey and black and is commonly cherty. Many of the bands pinch out over short distances (> 5 cm).

The uppermost sediments (Unit 6) consist of a thick pelitic (biotite + quartz + muscovite + cordierite (?) + staurolite/andalusite) schist sequence.

Units 2 and 6 are commonly a conspicuous rusty brown colour. The colour appears to be the result of weathering and oxidation of biotite in the pelitic schists.

Contacts between the above sedimentary rock units are not well exposed but appear to be conformable.

The sediments were intruded by portions of the Mount Billings Batholith. Granite, quartz monzonite, pegmatite and minor diorite and prophyry (Units 9 and 11) form small stocks, dykes (< 1 m to 10 m) and sills (< 1 m to 10 m) within the lowermost sediments (Unit 1). The upper sections (Units 2, 6) have been invaded mostly by quartz veins (< 1 m to 5 m).

The structure on the Cal claims is locally simple. Uncommon minor folds and crenulation cleavage are present which may indicate more than one phase of regional deformation.

Some faulting was observed in outcrop but it is not interpreted to be a major deformation style. Significantly, the only measureable fault plane is oriented north-south and dips steeply west. This is identical to the prominent fracture cleavage identified in much of the sedimentary units.

5. MINERALIZATION

Zinc mineralization was located at three localities on the Cal claims. Two of the three showings, the BCYP and Tom occur in bedrock on the Cal 114 and 131 claims respectively. The third, a talus occurrence is located on the Cal 112 claim.

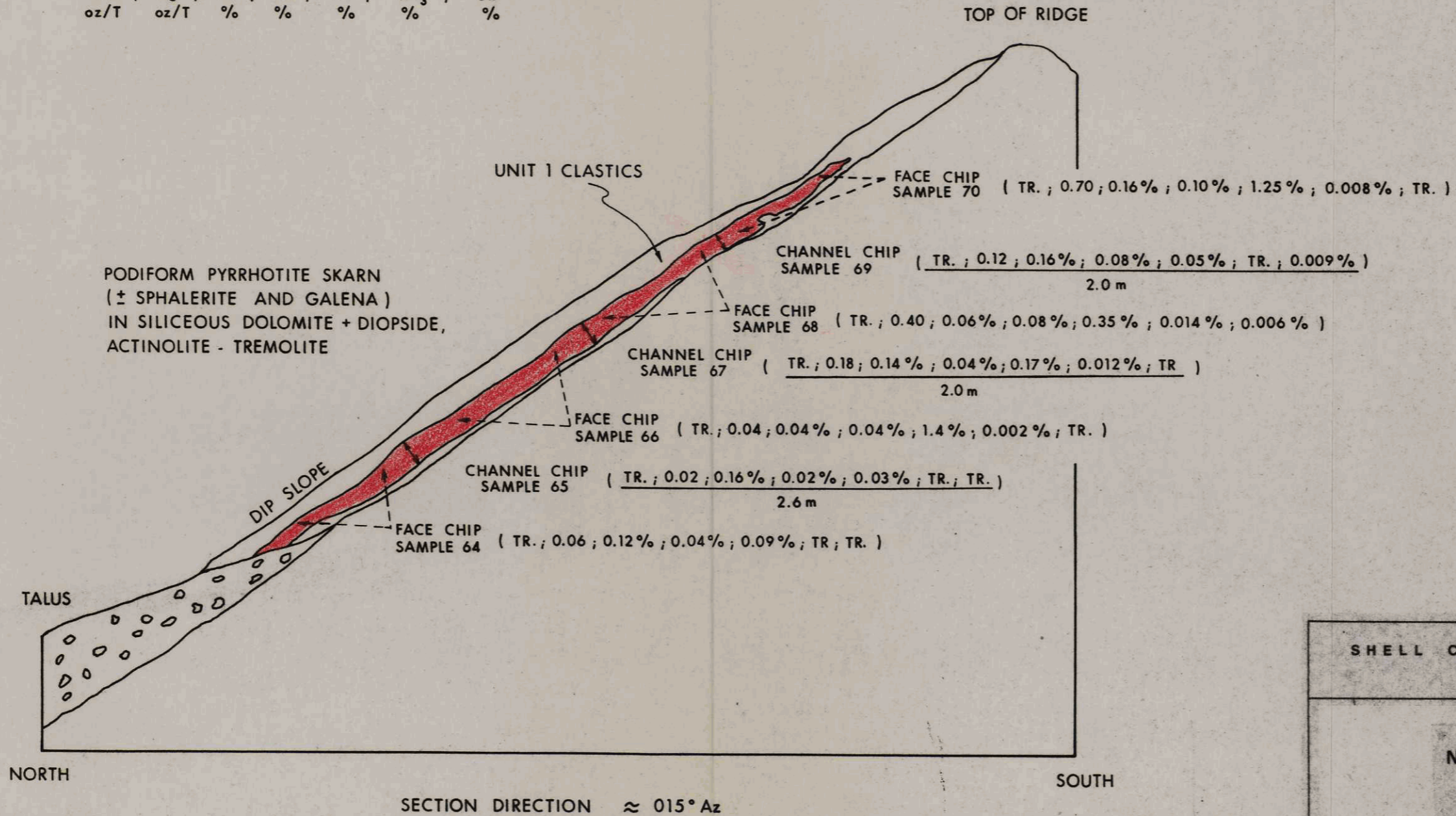
The Tom showing, originally discovered in 1980, consists of a podiform pyrrhotite skarn (siliceous dolomite + diopside + actinolite-tremolite) located near the top of the Unit 1 clastic sequence. Minor sphalerite mineralization is associated with the pyrrhotite. The exposed mineralization occurs in approximate true cross section on a dip slope. The skarn has a minimum downdip extent of 71 metres and an average thickness of 2 metres. The strike extent is not known. The showing has been chip sampled and the results presented in the accompanying sample section (Figure 3).

The BCYP showing is similar to the Tom in mineralogy and stratigraphic position, but is smaller. It is exposed in approximate vertical longitudinal section. The showing has a strike extent of approximately 7 metres and a thickness of 2 metres. A single chip sample was taken across the thickness but the assay results have not as yet been received.

Talus containing sphalerite and galena mineralization in siliceous dolomite (dolomite + diopside) was discovered to the north of the BCYP Showing. The showing is apparently hosted by the upper portion of the Unit 1 clastic sequence.

ASSAYS:

Au ; Ag ; Cu ; Pb ; Zn ; W_{o3} ; Sn
 oz/T oz/T % % % % %



SHELL CANADA RESOURCES LIMITED
 EXPLORATION - MINERALS

3198 A
 NORQUEST PROJECT - YUKON
 TOM SHOWING
 CAL 131
 SAMPLE SECTION
 LOOKING EAST

AUTHOR: W.A. MACLEOD	SCALE: 1:500	DRAWING No.:
DATE: SEPT., 1981	REVISED:	ENCLOSURE No.:
To Accompany		

6. EXPENDITURES

The costs incurred by Shell Canada Resources Ltd., in performing the program described herein are presented as follows:

I) Road Repair			
- Contract Bulldozing			
3 hours Proportioned Costs (per invoice)		\$ 347.37	
- Camp Costs (Operator)			
1 man/day @ \$35.00		\$ <u>35.00</u>	
	Subtotal	\$ 382.37	
	+ 10% Overhead	\$ <u>38.23</u>	
	Total Road Repair		\$ 420.60 (i)
II) Assay Laboratory Costs			
- 7 samples at 7 elements each (per Loring Labs Ltd. Invoice)		\$ 367.50	
	+ 10% Overhead	\$ <u>36.75</u>	
	Total Assay Costs		\$ 404.25 (ii)
III) General Geological Mapping			
- Wages and Benefits			
- W.A. MacLeod (Senior Geologist) July 14 & 15 August 4 & 5 4 days @ \$225.00		\$ 900.00	
- J. Learn (Geologist) June 16, 17, 20-26, 28-30 July 1, 3-5, 7-9, 14 & 15 21 days @ \$124.23		\$2,608.83	
- B. Yamamura (Assistant) July 1, 3-5, 7-9, 14 & 15 9 days @ \$67.40		\$ 606.60	
- A. Durrant (Assistant) June 16, 17, 20-26, 28-30 12 days @ \$125.00		<u>\$1,500.00</u>	
	Total Wages & Benefits	\$5,615.43	

- Helicopter Support

- 20 hours Hughes 500D @ \$375.00/hr (Dates as above) Per Invoice	\$7,500.00
- Fuel consumed 500 gallons JP.4 @ \$2.57 *	<u>\$1,285.00</u>
Total Helicopter Support	\$8,785.00

- Camp Costs

- Shell personnel (Dates as above) 46 man/days @ \$35.00	\$1,610.00
- Airlift Corporation 7 man/days @ \$35.00	\$ 245.00
- Grant Stewart Construction Ltd. 1 man day @ \$35.00	<u>\$ 35.00</u>
Total Camp Costs	\$1,890.00

- Vehicle Rental

- 15 days @ \$670.00/month	\$ 335.00
- Fuel consumed 100 gallons @ \$1.79 *	<u>\$ 179.00</u>
Total Vehicle Rental	\$ 514.00

Subtotal Geological Mapping	\$16,804.43
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+ 10% Overhead	<u>\$ 1,680.44</u>
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Total General Geological Mapping	\$18,484.87 (iii)
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* denotes "on site" fuel costs inclusive of all mobilization costs and barrel rental.

Total costs for road repair and lab costs (i) and (ii) above are specifically assigned to Cal 97, 98 and 99 and Cal 131 respectively.

7. GROUPING

Pursuant to Section 52 of the Yukon Quartz Mining Act, Shell is applying for a total of six claim groups. The applications are under separate cover.

8. CONCLUSIONS AND RECOMMENDATIONS

The Cal claims were found to be underlain by two clastic-pelitic sedimentary sequences of Upper Proterozoic to Lower Cambrian age. The sediments were later intruded and substantially altered by Cretaceous aged granitoids of the Mount Billings Batholith.

Three small lead-zinc-silver occurrences were located as a result of geological mapping and prospecting carried out on the Cal claims. The largest, the Tom showing, located on Cal 131 returned very low assay results. The best assay was 1.25% Zn from a representative face sample. Further evaluation of this occurrence is considered to be unwarranted. Additional work on the BCYP showing (Cal 114) is contingent upon assay results not yet received from a single channel sample taken from this smaller occurrence.

The third occurrence is located in talus and will require a limited followup to determine its bedrock source.

9. REFERENCES

- a) Roots, E.F., Green, L.H., and Roddick, J.A., Blusson, S.L., 1966: Geology of the Frances Lake Map Sheet (105H); Yukon Territory and District of Mackenzie; Geological Survey of Canada; Map 6-1966.
- b) Sinclair, A.J., Wynne-Edwards, H.R., Sutherland Brown, A., 1978: An Analysis of Distribution of Mineral Occurrences in British Columbia; British Columbia Ministry of Mines and Petroleum Resources; Bulletin 68, p.27.

10. QUALIFICATIONS AND SIGNATURES

Mr. J.R.L. Learn, a geologist temporarily employed by Shell Canada Resources Ltd., carried out the geological mapping and prospecting on the Cal 81-144 claims described herein. His qualifications include:

- a) He is a graduate of Brock University, Ontario; Hon. B.Sc.; 1977.
- b) He is a graduate of McGill University, Quebec; M.Sc. (App); 1981.
- c) He has practised his profession since 1977.

I, W.A. MacLeod with business address at 525-3rd Avenue S.W., Calgary, Alberta, T2P 2H5, do hereby certify that I personally supervised the field work and have assessed the data resulting from the geological mapping and sampling on Cal 81-144 mineral claims.

I also certify that:

- a) I am a graduate of the University of Manitoba; B.Sc.; 1970,
- b) I am a Registered Professional Geologist in the Province of Alberta,
- c) I have practiced my profession for twelve years.

Dated at Calgary, Alberta this 1st day of September, 1981.

Signed:

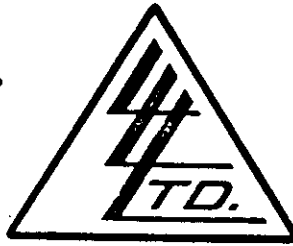


W.A. MacLeod, P. Geol.
Senior Geologist
Minerals Exploration
Shell Canada Resources Limited

APPENDIX A

ASSAY CERTIFICATE

To: SHELL CANADA RESOURCES LIMITED,
 525 - 3rd Avenue S.W.,
 Calgary, Alberta



File No. 21977
 Date August 11, 1981
 Samples Rock
 Control # 3198A

ATTN: Sandy McLeod

Certificate of
ASSAY of
LORING LABORATORIES LTD.

SAMPLE No.	OZ./TON GOLD	OZ./TON SILVER	% Cu	% Pb	% Zn	% WO3	% Sn
<u>"Rock Samples"</u>							
64	Trace	.06	.12	.04	.09	Trace	Trace
65	Trace	.02	.16	.02	.03	Trace	Trace
66	Trace	.04	.04	.04	1.40	.002	Trace
67	Trace	.18	.14	.04	.17	.012	Trace
68	Trace	.40	.06	.08	.35	.014	.006
69	Trace	.12	.16	.08	.05	Trace	.009
70	Trace	.70	.16	.10	1.25	.008	Trace

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.

A. J. [Signature]
 Assayer

APPENDIX B

EXPENDITURE RECEIPTS

57508700

GRANT STEWART CONSTRUCTION LTD.

P.O. BOX 410 - WATSON LAKE, Y.T. - Y0A 1C0

Telephone (403) 536-7472

601H17607


601H184-1k.

July 9, 1981

STATEMENT
No 4423

To: Shell Canada Resources Ltd.
P.O. Box 100, Stn. "A"
Calgary, Alberta
T2P 2H5

Accounts Due When Rendered. A Service Charge Will Be Added On Overdue Accounts.

Date	Details	Charges	Credits	Balance
Re: P.O. PM 79100 - Norquest Project				
June 3,4,&7/81	D60-A Cat - Level Camp Site, Repair Road, Set up Camp - 23 Hours @ 76.00 per hour	\$1,748.00		
	Operator Travel Time - 10 Hours @ 28.00 per hour	\$280.00		
	Operator's Vehicle - 3 Days @ 45.00 per day	\$135.00		\$2,163.00
				

GRANT STEWART CONSTRUCTION LTD.

P.O. BOX 410 - WATSON LAKE, Y.T. - Y0A 1C0

Telephone (403) 536-7472

July 9, 1981

To: Shell Canada Resources Ltd.
P.O. Box 100, Stn. "A"
Calgary, Alberta
T2P 2H5

STATEMENT
Nº 4424

Accounts Due When Rendered. A Service Charge Will Be Added On Overdue Accounts.

Date	Details	Charges	Credits	Balance
June 2&3/81	<p>Re: <u>P.O. FM 79100 - Norquest Project</u></p> <p>#44 Truck - Trip #1409</p> <p>Mobilization of Camp, fuel, building materials, Watson Lake - Cassiar - Norquest, Return to Watson Lake -</p> <p>Hours - Load camp gear, barrels, building supplies - 5½ Hours @ 56.00 per hour</p> <p>Hours - Travel off Highway - 1 Hour @ 72.80 per hour</p> <p>Hours - Unloading - 3 Hours @ 56.00 per hour</p> <p>#25 Truck - Trip #1392</p> <p>Mobilization of D60 Komatsu and Gear Miles - Travel Liard to Norquest and Return</p> <p>Miles - 257 Miles @ 1.95 per mile</p> <p>Hours - Travel to Liard - ½ Hour @ 72.80 per hour</p> <p>Hours - Standby with operator - Wait for and load powder magazines, Loading and Unloading - 5½ Hours @ 56.00 per hour</p>	<p>\$308.00</p> <p>\$72.80</p> <p>\$168.00</p> <p>\$501.15</p> <p>\$36.40</p> <p>\$308.00</p>		



LORING LABORATORIES LTD.

629 BEAVERDAM RD. N.E. CALGARY, ALTA. T2K 4W2

TO SHELL CANADA RESOURCES LIMITED,

INVOICE N^o 21977

525 - 3rd Avenue S.W.,

Calgary, Alberta

DATE August 11, 1981

ATTN: Sandy McLeod

Control # 3198A

Rock SAMPLES

13	Gold & Silver Assays	@	10.75	139.75
5	Silver Assays	@	9.75	48.75
13	Copper Assays	@	5.25	68.25
18	Lead Assays	@	7.50	135.00
11	Tungsten Assays	@	11.00	121.00
11	Tin Assays	@	10.50	115.50
18	Zinc Assays	@	7.50	135.00
			TOTAL	\$ <u>763.25</u>

THIS IS YOUR INVOICE

PLEASE PAY THE AMOUNT SHOWN

TERMS — 30 DAYS



ALC AIRLIFT CORP.

20769 River Road, Maple Ridge, B.C. V2X 1Z8 Tel: (604) 467-6146
 Hangar: Pitt Meadows Airport, B.C. 604 465-8727

CHARTERER:

ADDRESS:

REGISTRATION	BASE	PROJECT	MODEL	OWNER
10-511B	10-511B			
DATE	WEATHER	TYPE SUPPLIED BY	CARRIER	CHARTERER
JUNE 17/81				

PROJECT TIME BROUGHT FWD	DOWN	TOTAL HRS	JOURNEY	PASSENGER	CARGO
39		1.2			
40		3.7			
41		2.9			
42		2.2			
43		4.9			
44		1.6			
45		0.8			
46		3.3			
47		4.9			
48		4.7			
49		4.5			
TOTAL TIME AIRFRAME					
TOTAL TIME ENGINE					

PER TOTAL 35.8 AT AMOUNT 1
 PROJECT TOTAL 115.6 AT

REQUISITIONED BY	CUSTOMER SIGNATURE	PILOT SIGNATURE
	<i>[Signature]</i>	<i>[Signature]</i>
THIS IS YOUR INVOICE		N° 0300



ALC AIRLIFT CORP.

20769 River Road, Maple Ridge, B.C. V2X 1Z8 Tel: (604) 467-6146

Hangar: Pitt Meadows Airport, B.C. (604) 465-8727

CHARTER:

RESOURCES:

DATE:

ORD #:

REGISTRATION:

TYPE:

PROJECT USE:

PILOT:

ENGINE:

WEATHER:

FUEL SUPPLIED:

FEES:

CARRIER:

CHARTERER:

PROJECT DATE	DOWN	TOTAL HRS	JOURNEY	PASSENGERS		CARGO
				NAME	NO.	
20		3.8				
21		1.7				
22		2.4				
23		1.7				
24		4.3				
25		2.0				
26		4.9				
27		3.7				
28						
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TOTAL TIME AIRFRAME					
TOTAL TIME ENGINE					
TOTAL	27.9	AT			
PROJECT TOTAL	70.5	AT			

REQUISITIONED BY: _____ CUSTOMER SIGNATURE:  PILOT SIGNATURE: 

THIS IS YOUR INVOICE

N: 0510



ALC AIRLIFT CORP.

20769 River Road, Maple Ridge, B.C. V2X 1Z8 Tel: (604) 467-6146

Hangar: Pitt Meadows Airport, B.C. (604) 465-8727

CHARTERER: SHELL CANADA RESOURCES
 ADDRESS: _____
 ORDER NO: _____

REGISTRATION	BASE	PROJECT	PILOT	ENGINEER
G-5170	WIRVEST		WIRVEST	
DATE	WEATHER	FUEL SUPPLIED BY	SPECIALS	
JULY 13 / 81		CARRIER	CHARTERER	

PROJECT TIME BROUGHT FWD			JOURNEY	PASSENGERS		CARGO
UP	DOWN	TOTAL HRS.		NAME	NO.	
JUNE 29		3.4				
JUNE 30		4.0				
JULY 1		4.8				
JULY 2		7.1				
JULY 3		5.8				
JULY 4		3.6				
JULY 5		3.8				
JULY 6		8.6				
JULY 7		3.6				
JULY 8		1.8				
JULY 9		2.3				
JULY 10		2.3				
JULY 11		5.4				
JULY 12		3.4				

TOTAL TIME AIRFRAME				
TOTAL TIME ENGINE				

JUNE 29 - JULY 12	55.9	AT	AMOUNT	[]
PROJECT TOTAL	126.4	AT		

REQUISITIONED BY	CUSTOMER SIGNATURE	PILOT SIGNATURE
	<i>[Signature]</i>	<i>[Signature]</i>

THIS IS YOUR INVOICE

Nº 0311

DAY/TIMER

Time-Saver

INVOICE No 007745

YUKON AVIATION PRODUCTS
BOX 243
WATSON LAKE, YUKON Y0A 1C0
Ph. (403) 536-7591

DATE: June 2/81
TERMS: net 30 days

Watson Lake, YT

SHIPPED TO — if other than Invoice to

Shell Canada

YOUR ORDER NO. Sandy McLeod	OUR ORDER NO. 43914	DATE SHIPPED June 3/81	SHIPPED VIA Grant Stewart	NO. CARTONS 30	SALESMAN CH
---------------------------------------	-------------------------------	----------------------------------	-------------------------------------	--------------------------	-----------------------

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
675.0	Gal Av-jet J P-4	All Tax Incl. 2.00	1350.00
225.0	Gal. Reg Gas	1.79	402.75
450.0	Gal. Diesel	1.77	796.50
15	Lined (Deposit) drums	50.00	750.00
15	Unlined drums	40.00	600.00
		TAX	

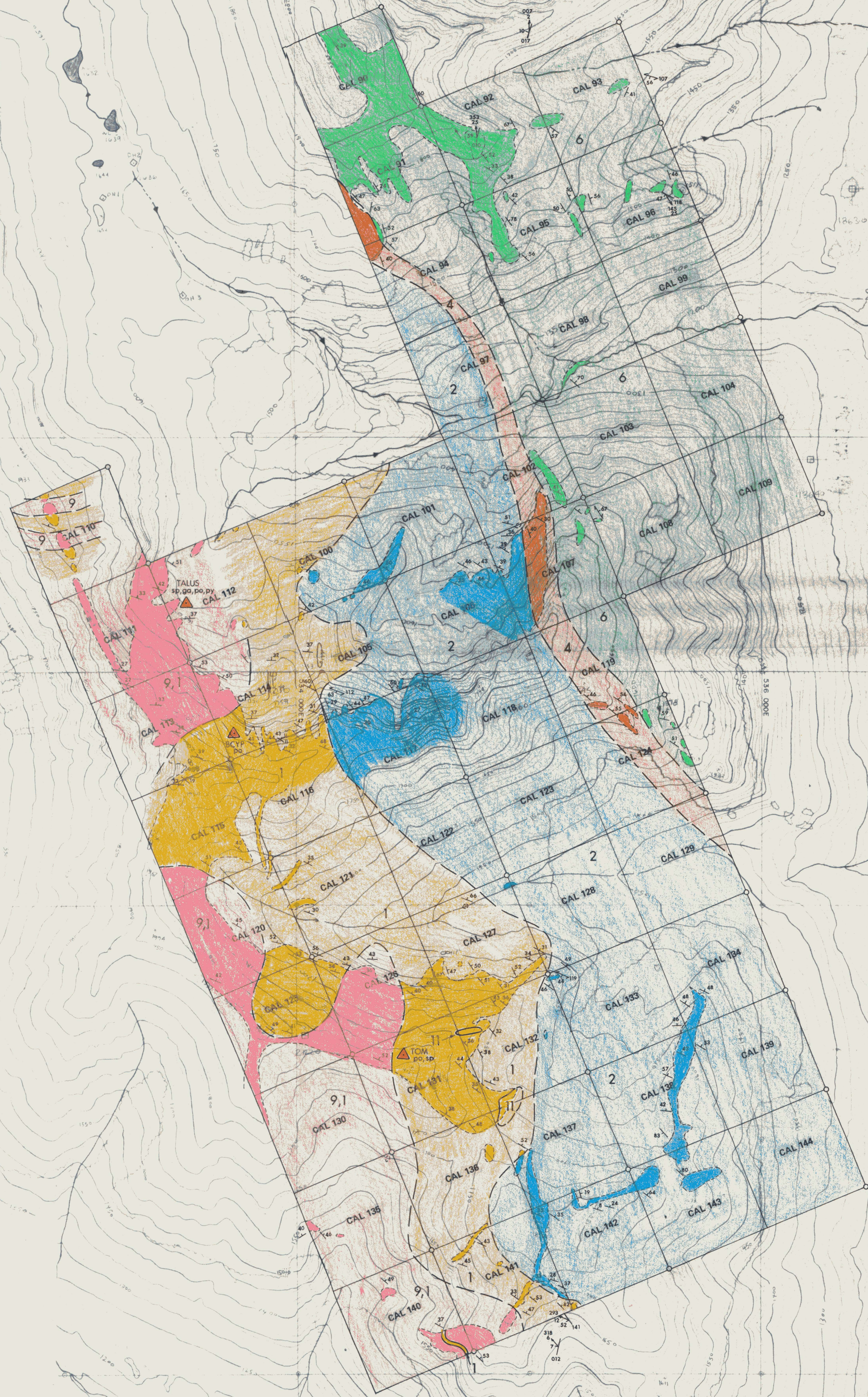
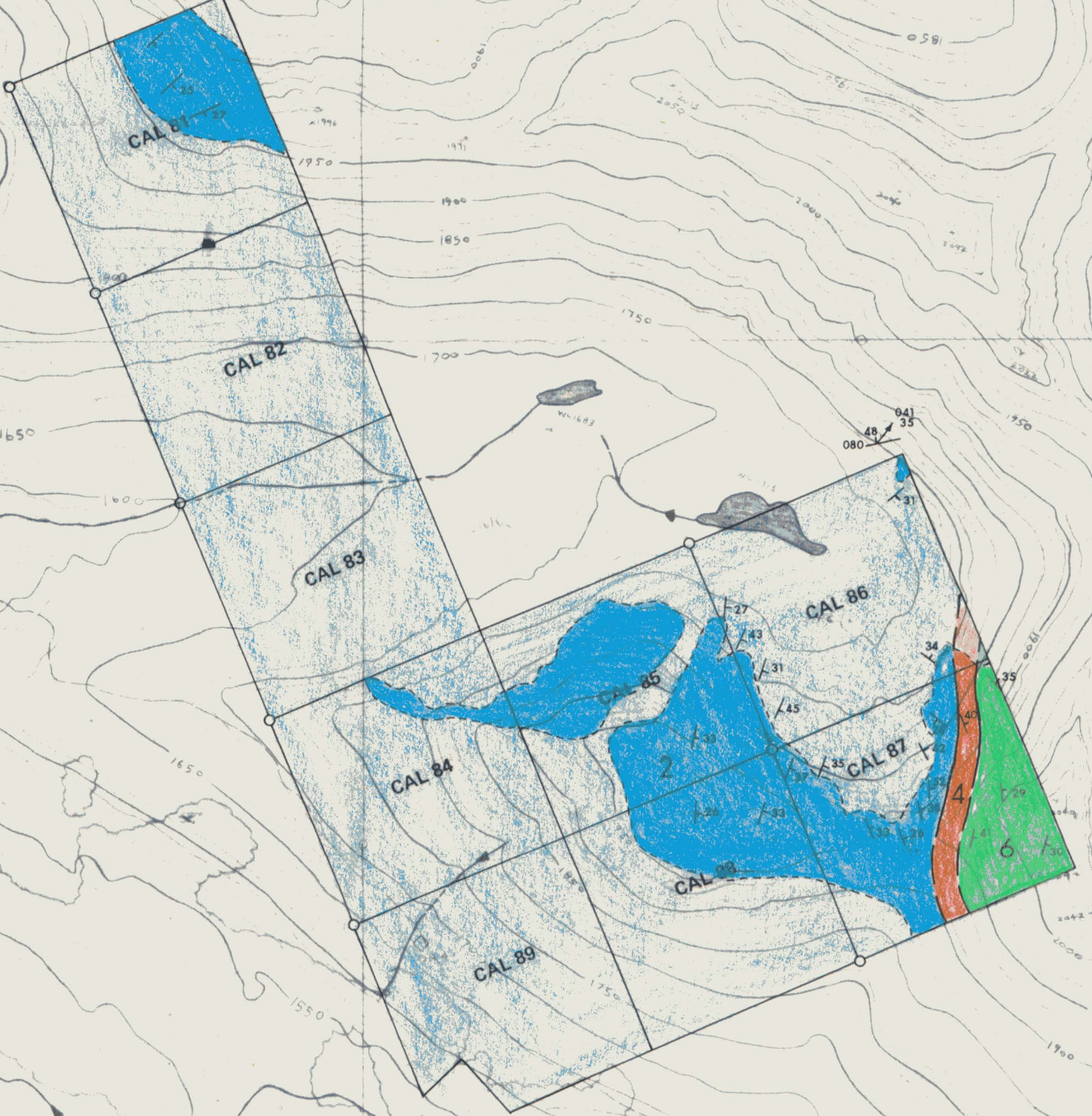
NOTICE
NO CREDIT FOR
DAMAGED DRUMS

[Handwritten Signature]

PLEASE PAY THIS AMOUNT \$

3899.25

PLEASE RETURN DUPLICATE COPY WITH YOUR REMITTANCE OR SHOW INVOICE NUMBER ON YOUR REMITTANCE



- MESOZOIC**
- CRETACEOUS (?)
 - Quartz-feldspar porphyry
 - Granite
 - massive, fine (apfitic) to coarse grained, mostly sills
- HADRYNIAN GRIT UNIT (1)**
- PROTEZOIC**
- Metapelite
 - fine to medium grained schist of variable composition (quartz, biotite, muscovite, ± feldspar, cordierite, andalusite/staurolite, ± garnet, ± chlorite (after biotite))
 - Banded argillite
 - very fine grained, laminated, occasional cherty layers
 - Schists, semi-pelites and pelites
 - fine to medium grained schists
 - very similar to unit 6 but separated by argillite marker
 - Quartzite, biotite quartzite and carbonates
 - well bedded to foliated fine to medium grained rocks showing much interbedding
 - carbonates are mostly marble with some silicates and calc-silicates interbeds
- (1) after Roddick and Green (1961)
- ABBREVIATIONS**
- ky kyanite
 - po pyrrhotite
 - py pyrite
 - sp sphalerite
 - ga galena
- MINERALIZATION**
- MINERALIZATION
 - OUTCROP
 - BEDDING
 - FOLDAXIS (AXIAL PLANE NOT DETERMINED)
 - MINOR FOLD OF BEDDING (AXIAL PLANE AND FOLD AXIS)
 - MINOR FOLD OF CLEAVAGE (AXIAL PLANE AND FOLD AXIS)
 - CRENULATION CLEAVAGE
 - GEOLOGICAL CONTACT; OBSERVED, INFERRED



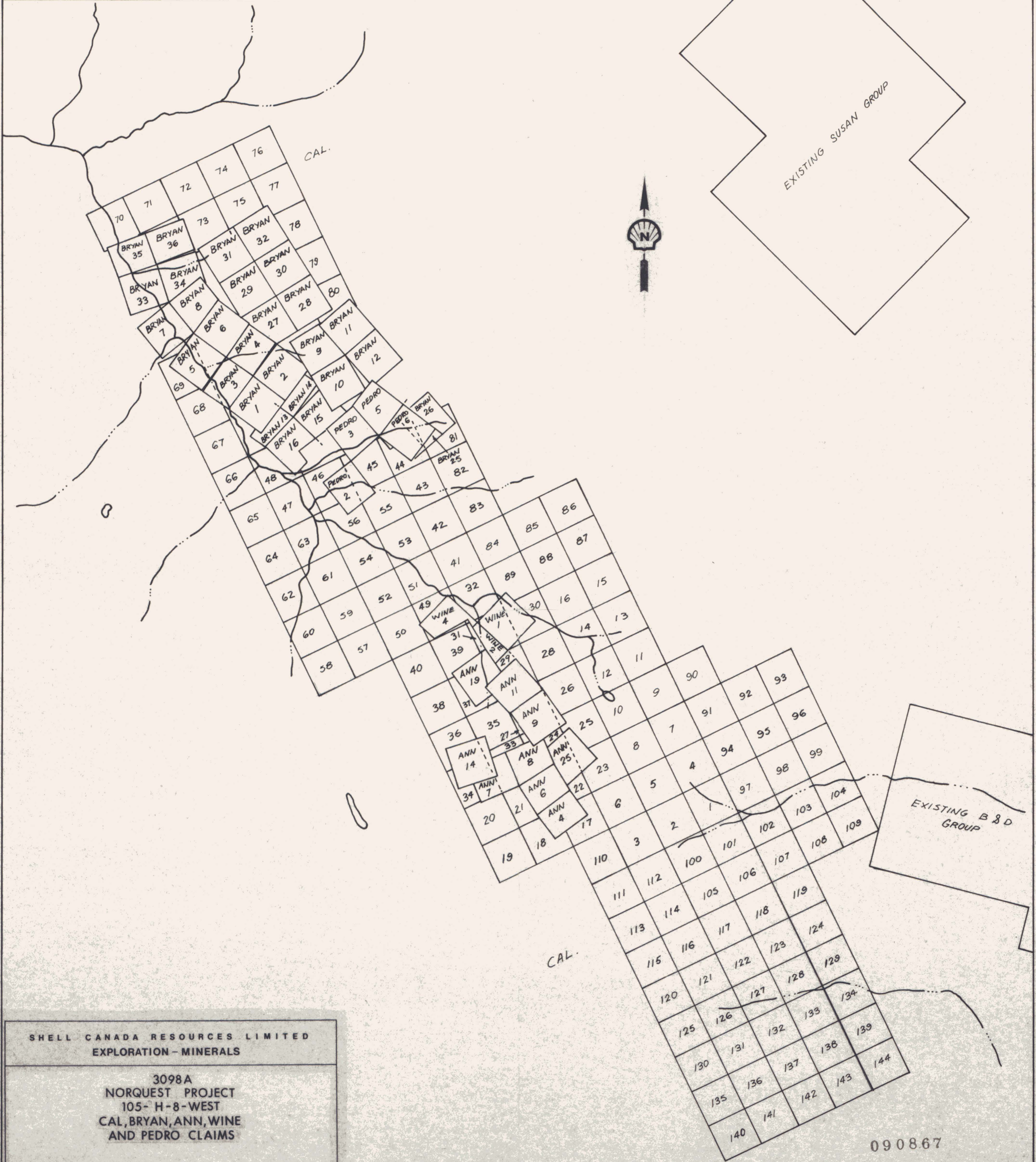
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SHELL CANADA RESOURCES LIMITED
EXPLORATION - MINERALS

3188 A
NORQUEST PROJECT - YUKON
CAL CLAIMS
GENERAL GEOLOGY

AUTHOR: W.A. MACLEOD SCALE: 1:10 000 DRAWING No. 1
DATE: SEPT, 1981 REVISED: ENCLOSURE No. 2



SHELL CANADA RESOURCES LIMITED
EXPLORATION - MINERALS

3098A
NORQUEST PROJECT
105- H-8-WEST
CAL, BRYAN, ANN, WINE
AND PEDRO CLAIMS

AUTHOR: W. M. McLEOD SCALE: 1" = 1/2 MILE DRAWING No.:
DATE: MARCH '81 REVISED: ENCLOSURE No.:
To Accompany

090867