

DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE U CLAIM GROUP

LIARD MINING DIVISION

LAT. 58°25'N, LONG. 128°42'W

NTS: 104-I-7E

OWNER OF CLAIMS: Du Pont of Canada Exploration Limited
OPERATOR: Du Pont of Canada Exploration Limited

A handwritten signature in cursive script, appearing to read "D. M. Strain".

Author: D. M. Strain
Date Submitted: JUN 24 1981

TABLE OF CONTENTS

| | <u>Page No.</u> |
|--|-----------------|
| I INTRODUCTION | 1 |
| II GEOLOGY | 2 |
| III GEOCHEMICAL SURVEY | 4 |
| IV COST STATEMENT | 6 |
| V REFERENCES | 7 |
| VI QUALIFICATIONS | 8 & 9 |
| APPENDIX A - Geochemical Analytical Procedures | |

List of Figures

| | | |
|----------|---------------------------------|-------------|
| Figure 1 | Location map | Behind Pg.1 |
| Figure 2 | Location map | " " |
| Figure 3 | Claim map | " " |
| Figure 4 | Geological Index map | |
| Figure 5 | Cross-section through King Mtn. | Behind Pg.2 |
| Figure 6 | Regional Compilation map | " " |
| Figure 7 | Local Geology | " " |

List of Drawings

| | | |
|-----------|-------------------------------|-----------|
| AR 80-150 | Geology of U Claim Group | In pocket |
| AR 80-151 | Geochemistry of U Claim Group | " |

I INTRODUCTION(a) Location and Access

The U claim Group lies in the east-central portion of map sheet 104-I-7E at the headwaters of Faulkner Creek centered at latitude 58°25'N, longitude 128°42'W.

The Stewart-Cassiar Highway provides access to the western part of 104-I. A tractor road runs east from Dease Lake, a small community on the highway, to Wheaton Creek in the Turnagain River Valley. Airstrips at Dease Lake and at the headwaters of Kutcho Creek are both well maintained and provide starting points for rotary wing aircraft.

(b) Claim Definition

The U group consists of 2 blocks-U1 and U2, where U1 consists of 15 units and U2 consists of 20 units. The claims are within the Liard Mining Division, were recorded June 25, 1980 and are currently owned and operated by Du Pont of Canada Exploration Limited.

(c) Previous Work

No previous work has been recorded within the property boundary. Placer mining has been carried out on Faulkner Creek.

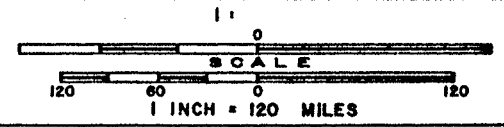
(d) Summary of Work Performed

Work to date on the U claim Group includes 2 person days of geologic mapping and prospecting, and 4 person days of soil and stream sediment sampling. A total of 2 rock samples, 39 soil and 34 stream sediment samples were taken for analysis.

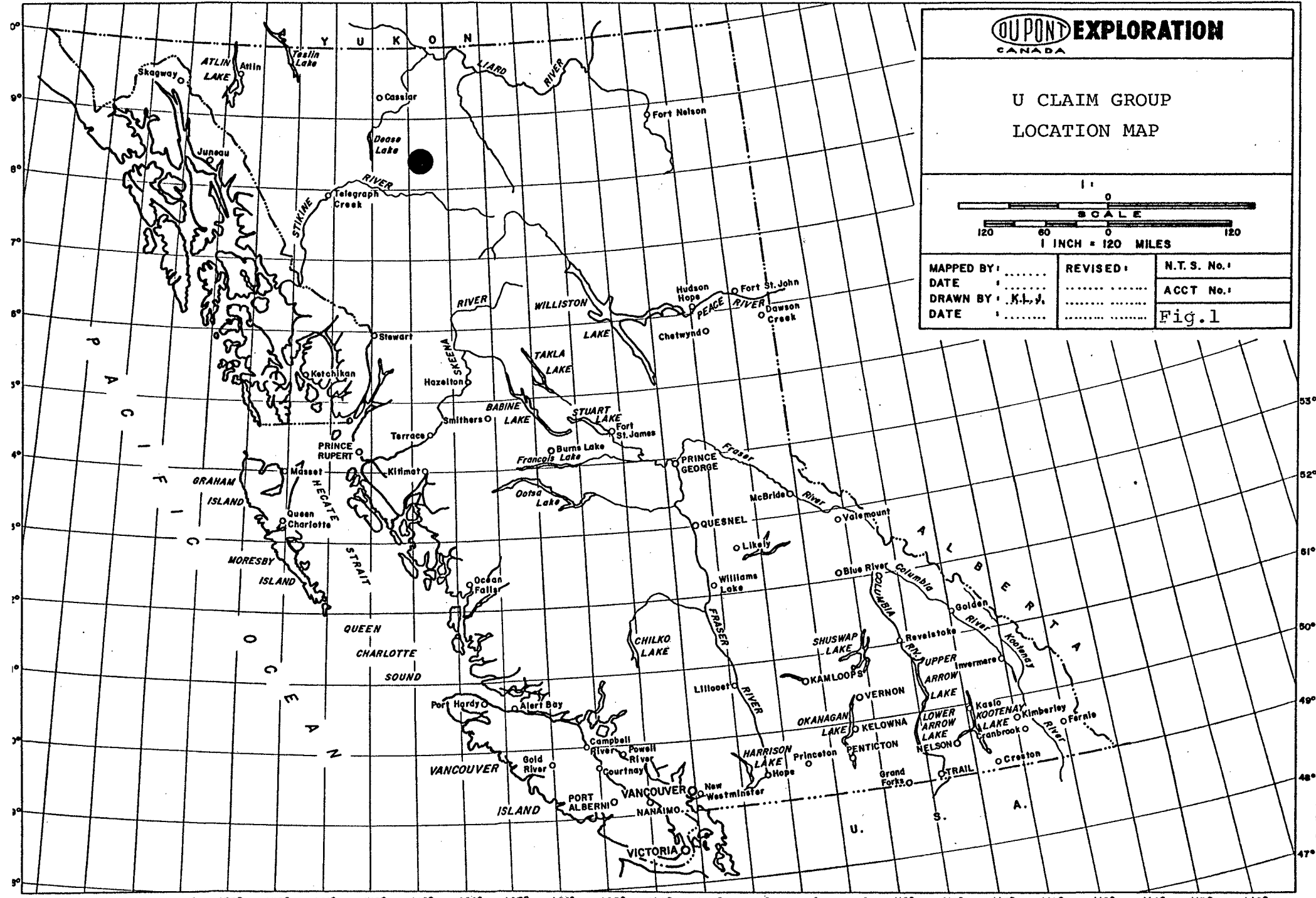
139° 138° 137° 136° 135° 134° 133° 132° 131° 130° 129° 128° 127° 126° 125° 124° 123° 122° 121° 120° 119° 118° 117° 116° 115°



U CLAIM GROUP LOCATION MAP



| | | |
|------------------|----------------|-------------|
| MAPPED BY: | REVISED: | N.T.S. No.: |
| DATE | | ACCT No.: |
| DRAWN BY: K.L.J. | | Fig. 1 |
| DATE | | |

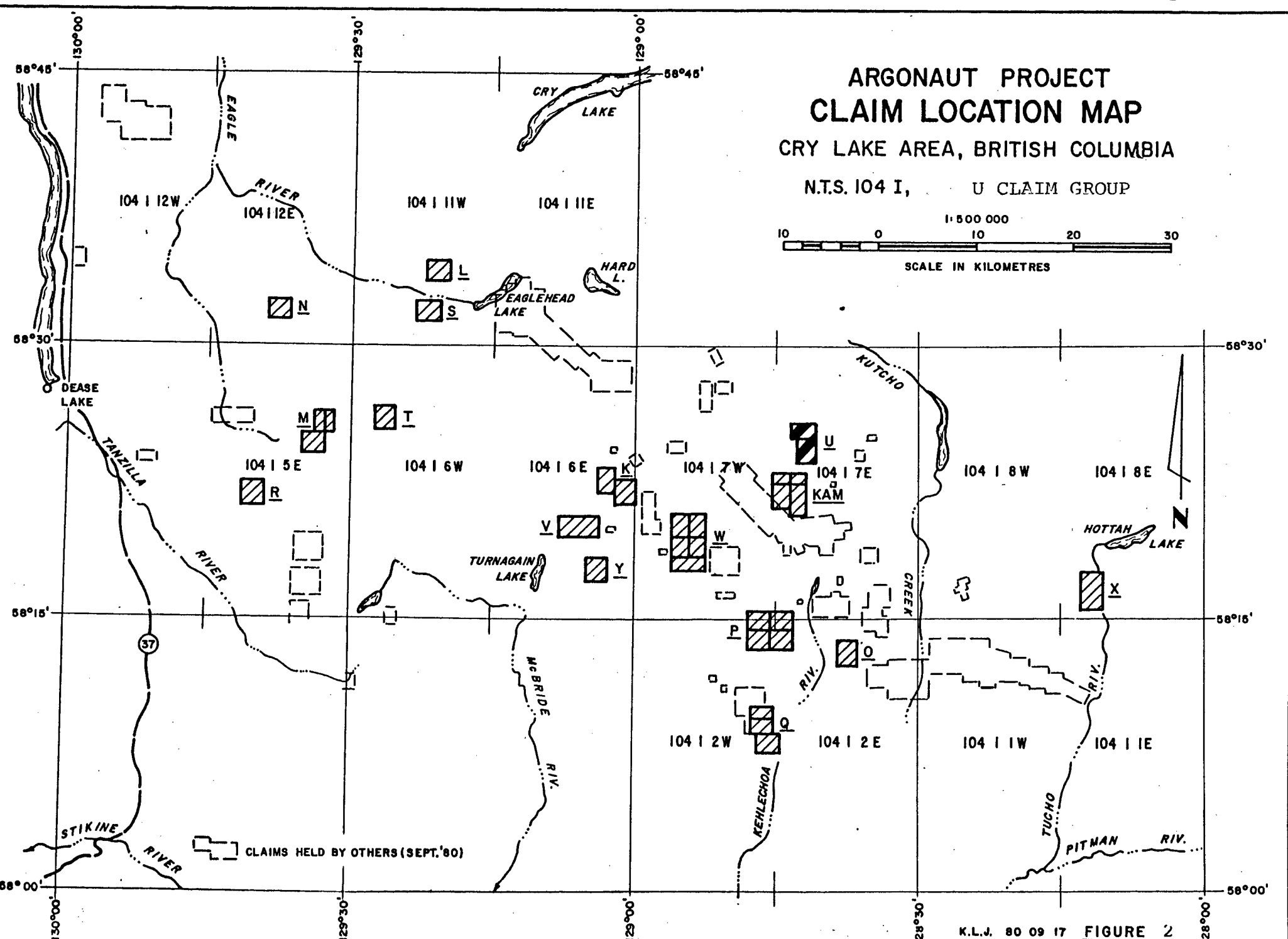
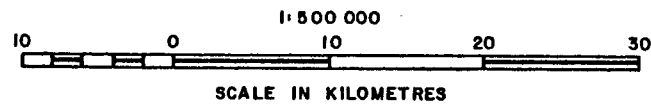


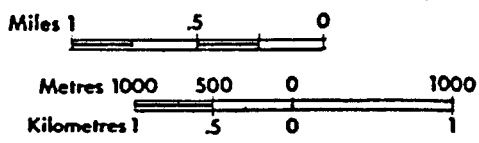
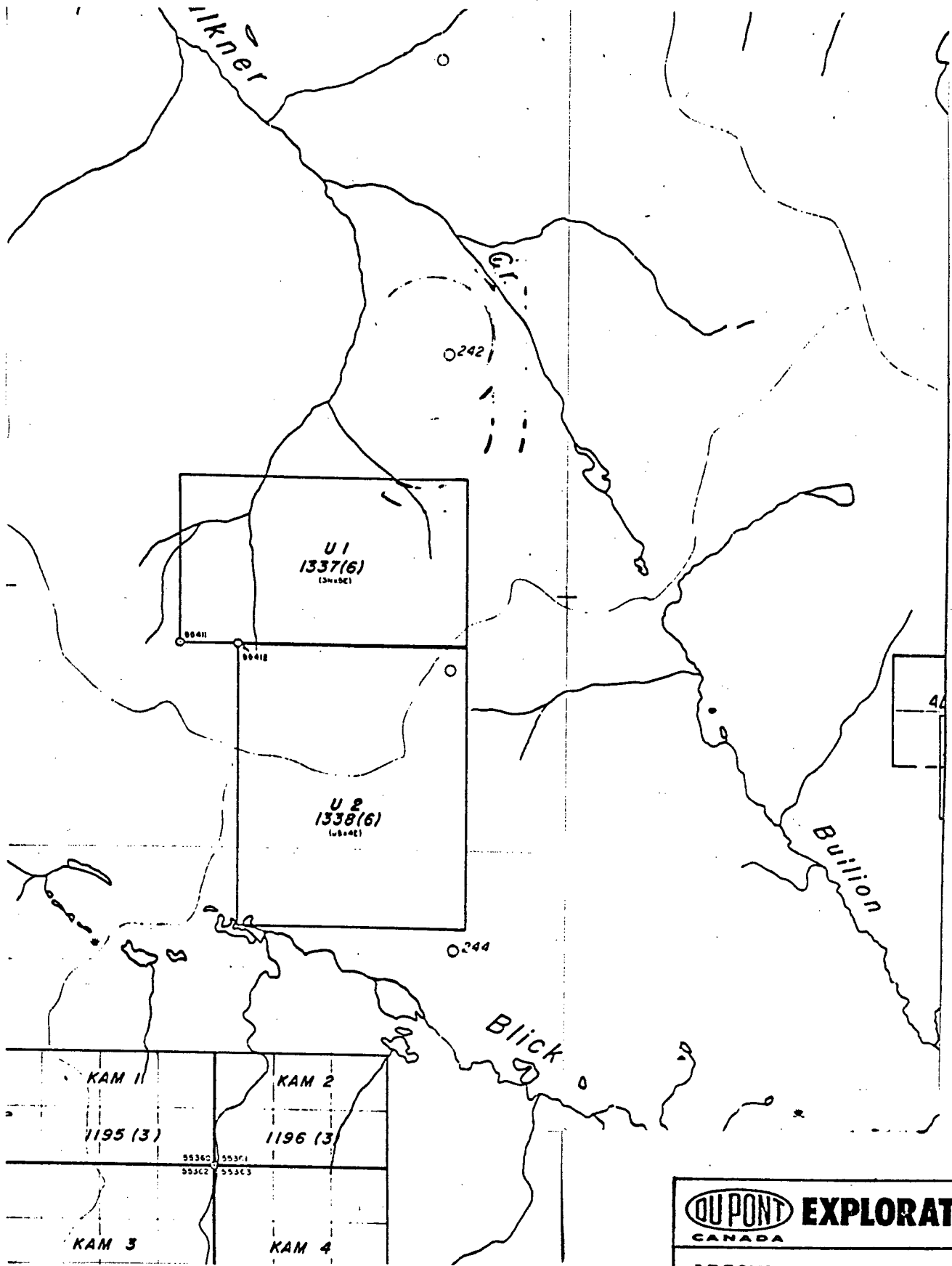
137° 136° 135° 134° 133° 132° 131° 130° 129° 128° 127° 126° 125° 124° 123° 122° 121° 120° 119° 118° 117° 116° 115° 114° 113° 112°

ARGONAUT PROJECT CLAIM LOCATION MAP

CRY LAKE AREA, BRITISH COLUMBIA

N.T.S. 104 I, U CLAIM GROUP





DU PONT EXPLORATION
CANADA

ARGONAUT JOINT VENTURE
Cry Project
U CLAIM GROUP
PROPERTY MAP

Cassiar Range, B.C.
N.T.S. 104-I Fig.3

The area was staked as a result of 2 anomalous stream sediment samples and is viewed as a potential gold prospect.

(e) Physiography & Vegetation

The general area surrounding the U claim Group is typified by broad, shallow valleys, undulating slopes and hills, and jagged peaks. Rivers in the larger valleys are relatively slow moving and are often bordered by swamp.

The claims straddle a small isolated mountain mass and are almost entirely above tree line. Elevation ranges from 1350 m to 1900 m. Above 1500 m vegetation is limited to shrubs, grasses and moss. At elevations below 1500 m willows and alder are common as well as sparse growths of coniferous trees.

II GEOLOGY

(a) Introduction

The U Claim Group is located 15 km northeast of King Mountain on the border of the Hinterland Belt and the Omineca Crystalline Belt, Fig.4. The property is north of the Nahlin Fault which parallels the Teslin Lineament and the King Salmon Fault, Figs. 5 and 6. The Kutcho Fault which is part of the Teslin Fault Zone may in fact pass through the property as Cambro-Ordovician phyllite and limestone to the north are separated from Upper Triassic sediments and volcanics to the south, Fig.7.

(b) Claim Geology

Two distinct rock units were noted on the U Claim Group; a black phyllite slate and a foliated greenstone, Dwg. AR 80-150.

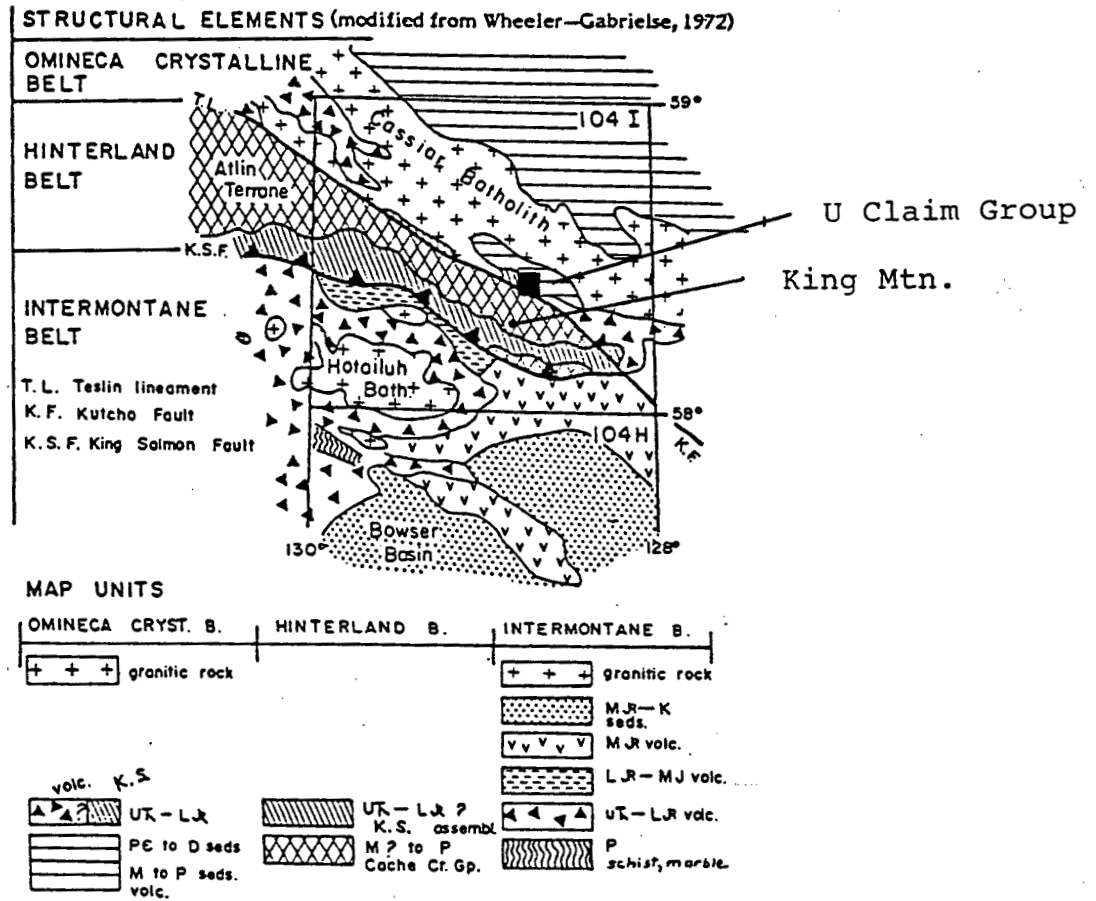


Figure 4 Index map showing general distribution of lithological assemblages and major structural elements in Cry Lake (104I) and northern Spatzizi (104H) map-areas.

From GSC Paper 78-1

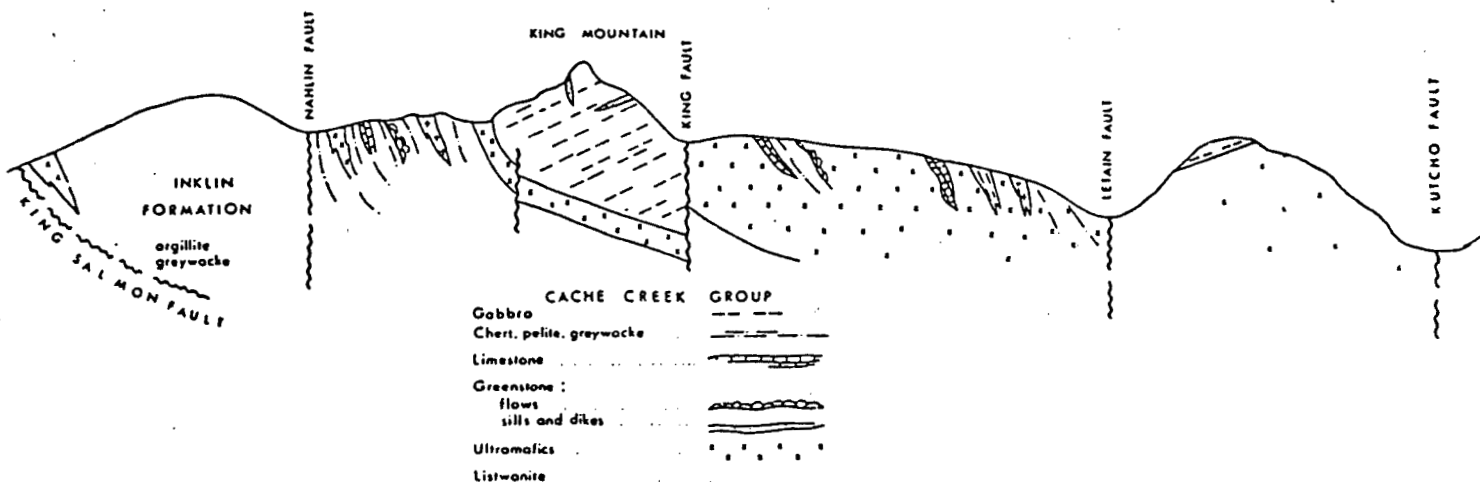


Figure 5 Diagrammatic cross-section through King Mountain (looking west).

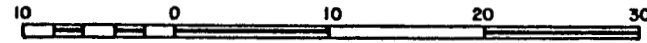
From GSC Paper 80-1

ARGONAUT PROJECT COMPILATION MAP

CRY LAKE AREA, BRITISH COLUMBIA

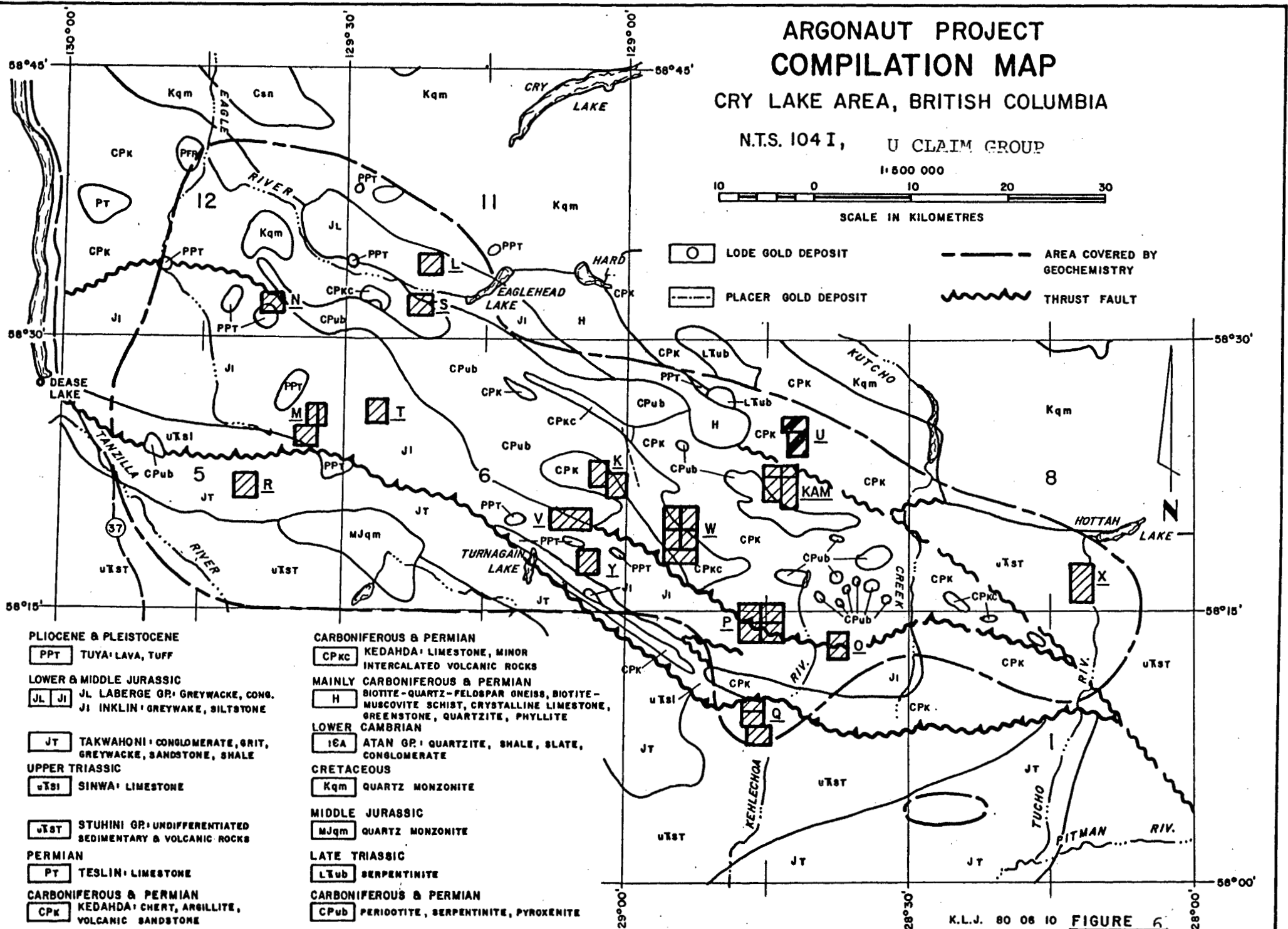
N.T.S. 104 I, U CLAIM GROUP

1:500 000



SCALE IN KILOMETRES

- LODGE GOLD DEPOSIT
- AREA COVERED BY GEOCHEMISTRY
- PLACER GOLD DEPOSIT
- THRUST FAULT



PLIOCENE & PLEISTOCENE

PPT TUYA: LAVA, TUFF

LOWER & MIDDLE JURASSIC

JL Ji JL LABERGE GR: GREYWACKE, CONG.
Ji INKLIN: GREYWACKE, SILTSTONE

JT TAKWAHONI: CONGLOMERATE, GRIT,
GREYWACKE, SANDSTONE, SHALE

UPPER TRIASSIC

uTsl SINWA: LIMESTONE

uTst STUHINI GR: UNDIFFERENTIATED
SEDIMENTARY & VOLCANIC ROCKS

PERMIAN

Pt TESLIN: LIMESTONE

CPk KEDAHDA: CHERT, ARGILLITE,
VOLCANIC SANDSTONE

CARBONIFEROUS & PERMIAN

CPKc KEDAHDA: LIMESTONE, MINOR
INTERCALATED VOLCANIC ROCKS

H MAINLY CARBONIFEROUS & PERMIAN
BIOTITE-QUARTZ-FELDSPAR GNEISS, BIOTITE-
MUSCOVITE SCHIST, CRYSTALLINE LIMESTONE,
GREENSTONE, QUARTZITE, PHYLITE

LOWER CAMBRIAN

lCa ATAN GR: QUARTZITE, SHALE, SLATE,
CONGLOMERATE

CRETACEOUS

Kqm QUARTZ MONZONITE

MIDDLE JURASSIC

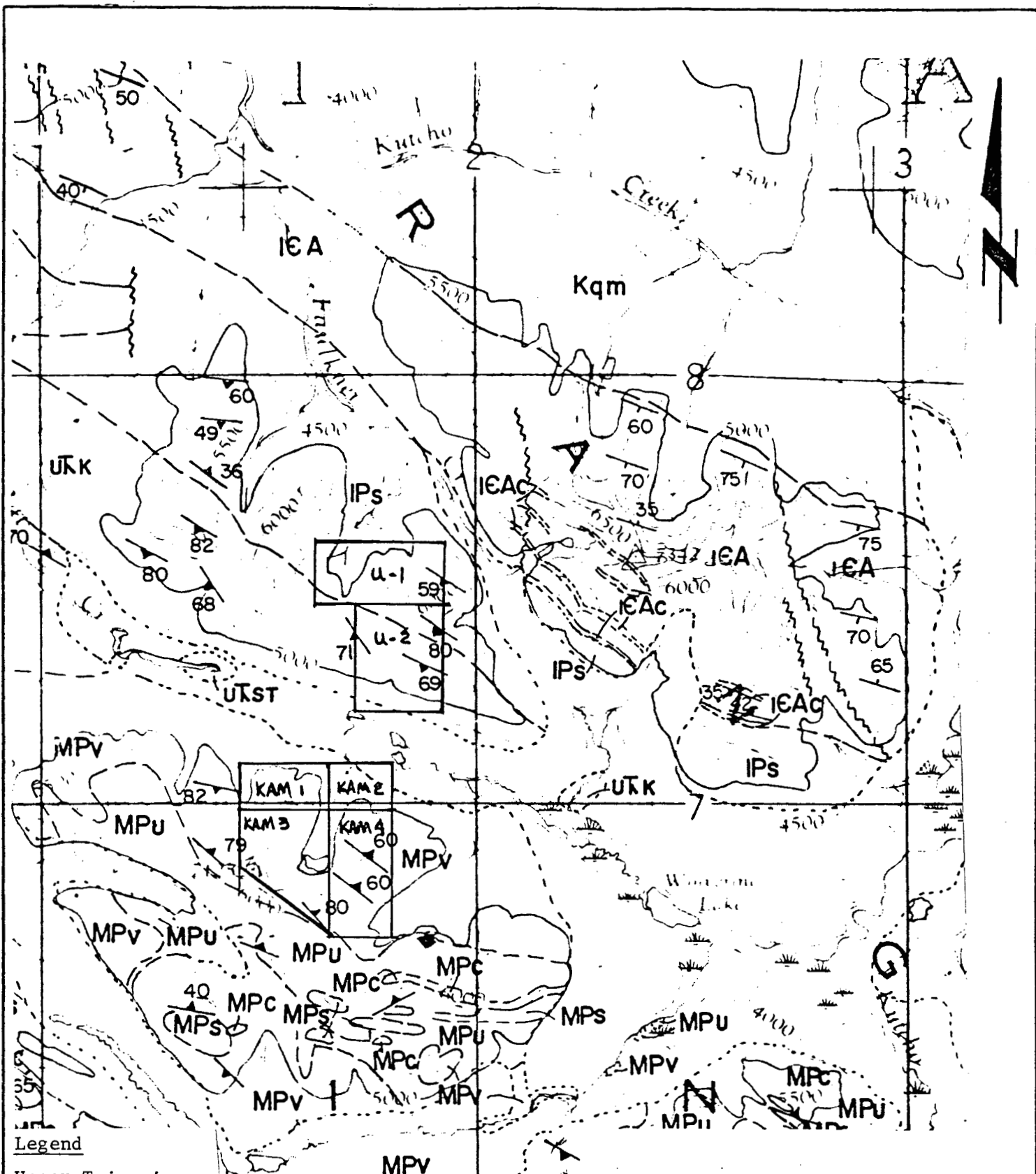
MJqm QUARTZ MONZONITE

LATE TRIASSIC

LTub SERPENTINITE

CARBONIFEROUS & PERMIAN

CPub PERIDOTITE, SERPENTINITE, PYROXENITE

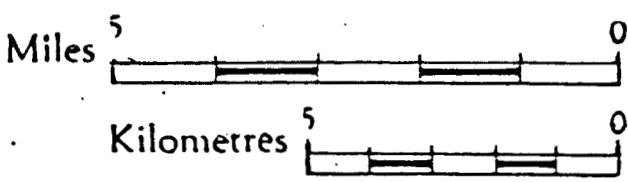


Legend

Upper Triassic-
 UTST - STUHINI GP:
 Undifferentiated
 sedimentary and
 volcanic rocks.

UTK - KUTCHO GP:
 volcanics and
 sediments

Cambro Ordovician
 IPS - Phyllite and
 limestone



DU PONT EXPLORATION
 CANADA

ARGONAUT JOINT VENTURE
 Cry Project
 U CLAIM GROUP
 LOCAL GEOLOGY
 Cassiar Range, B.C.
 N.T.S. 104-I Fig.7

The thinly bedded black phyllite has a generally steep dip and strikes at 300°. Barren quartz carbonate veins are common within this unit and appear to be conformable to bedding. The veins are relatively small with maximum width of 0.5 m and discontinuous length. Spotted slates occur near the contact between black phyllite and greenstone.

The predominantly volcanic unit includes pale to dark olive green foliated rhyolite and basalt, banded iron formation, quartzite and pyritic chert. The trend of foliation is parallel to the bedding of the phyllite and sub-parallel to the contact of the phyllite and the greenstones. The development of sericite, talc and chlorite has contributed to the schistose nature of these rocks.

The banded iron formation in the southeast corner of the U claim is a small lenticular body with a maximum width of 1 m and a traceable length of approximately 50 m. Magnetite and quartz occur as interbedded laminations.

Several small lenses of rhyolite occur near the banded iron formation. These rocks weather creamy white and as a result are easily distinguishable from the surrounding greenstone.

Banded graphitic chert occurs near the western edge of U2 within a large pyritic zone.

(c) Mineralization

Galena is associated with quartz-carbonate veining in highly sericitized rock. The float containing the galena was located immediately south of the phyllite and greenstone contact but may be related to the phyllitic slate north of the contact.

The pyritic zone occurs within dark green, foliated volcanics and has a dimension of approximately 1000 m x 500 m. The distribution of pyrite throughout the zone is not entirely homogeneous but displays local concentrations. Pyrite occurs as well developed cubic euhedra with individual crystals ranging in size from 1 mm to 1 cm.

III GEOCHEMICAL SURVEY

(a) Sample Collection, Preparation and Analysis

Both soils and stream sediment samples were collected from the U Claim Group (Dwg. AR 80-151). Soil samples were collected from depths of about 10 to 20 cm below surface using a mattock with an 8 cm x 13 cm blade to dig through the LH and Ao horizon (where present) to the C detritus or rock grit horizon. Stream sediment samples (silt to sand size alluvium) were collected, ideally, from low energy areas within the stream using a large galvanized scoop. All samples were collected in pre-numbered, wet-strength, soil sample envelopes with special information tags stapled to them. At each station (100 m interval for soils and 200 m interval for stream sediments), the specific information regarding the sample was recorded on the tag, which was then removed and filed. A flag bearing the sample number was placed at all stations.

A total of 34 stream sediment samples and 39 soil samples were collected and sent to Min-En Laboratories in North Vancouver for preparation and analysis. A total of 66 samples were oven dried and sieved to -80 mesh (7 stream sediments sieved to -20 then pulverized). The -80 mesh (and pulverized -20 mesh) fraction was analyzed for Au according to the procedures outlined in Appendix A.

Two rock samples were sent to Min-En Laboratories and assayed for Au and Ag, following standard assay procedures.

(b) Results and Interpretation

Drawing AR 80-151 shows the sample numbers, locations and values obtained for Au. The following table summarizes the results:

| <u>No. of Samples</u> | <u>Element</u> | <u>Range</u> | <u>Units</u> |
|-----------------------|----------------|--------------|--------------|
| 34 (stream) | Au | <5- 35 | ppb |
| 39 (soil) | Au | <5-150 | ppb |

Visual examination of the results suggests values of 5-10 ppb as background, 15 to 20 ppb as threshold and about 30 ppb as anomalous for both soils and stream sediments. On this basis 7 samples report anomalous gold values (5 soils, 2 stream sediments). All of the anomalies occur within foliated greenstone and there is a good correlation between pyritic greenstone and anomalous values in the northeast corner of U2.

IV COST STATEMENT(a) Wages

| | <u>Rate/ day</u> | | <u>No. days</u> | <u>Cost</u> |
|-------------|----------------------|--------------|---------------------|---------------|
| Geologist | \$51.88 | Aug. 6,8/80 | 1.5 | \$ 77.82 |
| Geologist | 51.88 | Dec. 8,12/80 | 5.0 | 259.40 |
| Field asst. | 46.58 | Aug. 6,8/80 | 1.5 | 69.87 |
| Field tech. | 39.18 | Aug. 6,8/80 | 1.5 | 58.77 |
| Field tech. | 39.18 | Dec. 9,10/80 | 2.0 | 78.36 |
| | | | | <u>544.22</u> |

(b) Room and Board

A per diem rate of \$36.70 applies to the 4½ person days for Aug. 6,8/1980 \$ 165.15

(c) Transportation

In support of field work:

| | |
|--------------------------------------|---------------|
| Aug. 6,8/80 - 2.2 hours @ \$365/hour | \$ 803.00 |
| Fuel - 66 gals. @ \$3.00/gal. | <u>198.00</u> |
| | \$1,001.00 |

(d) Analytical Services

| | |
|-----------------------------|--------------|
| 66 soil - Au @ \$ 4.85 each | \$ 320.10 |
| 2 rock - Au @ 10.00 " | 20.00 |
| 1 rock - Cu @ 5.50 " | 5.50 |
| 2 rock - Ag @ 6.50 " | <u>13.00</u> |
| | \$ 358.60 |

(e) Report Preparation

| | <u>Rate/ day</u> | <u>Spec. dates</u> | <u>No. days</u> | |
|----------|----------------------|------------------------|---------------------|---------------|
| Typing | \$ 62.00 | Apr. 1/81 | 1 | \$ 62.00 |
| Drafting | 147.00 | Feb. 9/81 | 1 | <u>147.00</u> |
| | | | | 209.00 |

(f) Miscellaneous

Cook's wages, room and board for pilot and commercial transportation \$ 459.29

GRAND TOTAL

\$2,737.26

V

REFERENCES

Gabrielse, H;

1978: Operation Dease, in Current Research,
Part A; G.S.C. Paper 78-1A, p.1-4

1980: Operation Dease, in Current Research,
Part A; G.S.C. Paper 80-1A, p.347

Gabrielse, H; Souther, J.G.; Roots, E.F.;

1962: Dease Lake, British Columbia; G.S.C.
Map 21-1962.

Kerr, F.A.;

1926: Dease Lake area, Cassiar District, B.C.;
G.S.C., Summary Report 1925, Part A,
p.75A-99A.

1948: Taku River map area, B.C.; G.S.C.,
Memoir 248, 84p.

Monger, J.W.H.;

1969: Stratigraphy and structure of Upper
Paleozoic rocks, northeast Dease Lake
map-area, B.C.; G.S.C., Paper 68-48,
41p.

Monger, J.W.H.; Richards, T.A.; Paterson, I.A.

1978: The Hinterland Belt of the Canadian
Cordillera: new data from northern
and central British Columbia.
Can. Jour. of Earth Sciences, V.15,
p.823-830.

Souther, J.G.;

1971: Geology and mineral deposits of Tulsequah
map-area, B.C.; G.S.C., Memoir 362, 84p.

Tipper, H.W.;

1978: Jurassic biostratigraphy, Cry Lake map-area,
B.C.; Current Research, Part A; G.S.C.,
Paper 78-1A, p.25-27.

VI QUALIFICATIONS

I, David M. Strain, do hereby certify that:

1. I am a geologist residing at #202-330 East 7th Avenue, Vancouver, British Columbia, and employed on a part time basis by Du Pont of Canada Exploration Limited.
2. I am a graduate of Cambrian College of Applied Arts and Technology (Sudbury, Ontario) with a Diploma in Geological Engineering Technology.
3. I am presently enrolled in the Geological Sciences programme at the University of British Columbia endeavoring to obtain a B.Sc. degree in geology.
4. I have practised my profession in geology for the past three years in Ontario and British Columbia.
5. On 1980 August 6, I executed a field programme on the 'U' claims on behalf of Du Pont of Canada Exploration Limited.



David M. Strain

VI QUALIFICATIONS

I, Gerald A. Harron, do hereby certify that:

1. I am a geologist residing at 2810 Sechelt Drive, North Vancouver, British Columbia and employed by Du Pont of Canada Exploration Limited.
2. I am graduate of the University of Western Ontario with a M.Sc. degree in geology.
3. I am a registered Professional Engineer in the Province of Ontario.
4. I have practised my profession in geology continuously for the past 11 years in various provincial jurisdictions in Canada.
5. Between 1980 August 6 and 1981 April 30, I supervised/directed a field programme on the U claims on behalf of Du Pont of Canada Exploration Limited.

Gerald A. Harron

Gerald A. Harron

*MIN-EN Laboratories Ltd.**Specialists in Mineral Environments*

Corner 15th Street and Bewicke

705 WEST 15th STREET

NORTH VANCOUVER, B.C.

CANADA

ANALYTICAL PROCEDURE REPORTS FOR ASSESSMENT WORKPROCEDURE FOR GOLD GEOCHEMICAL ANALYSIS.

Geochemical samples for Gold processed by Min-En Laboratories Ltd., at 705 W. 15th St., North Vancouver Laboratory employing the following procedures.

After drying the samples at 95°C soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed and pulverized by ceramic plated pulverizer.

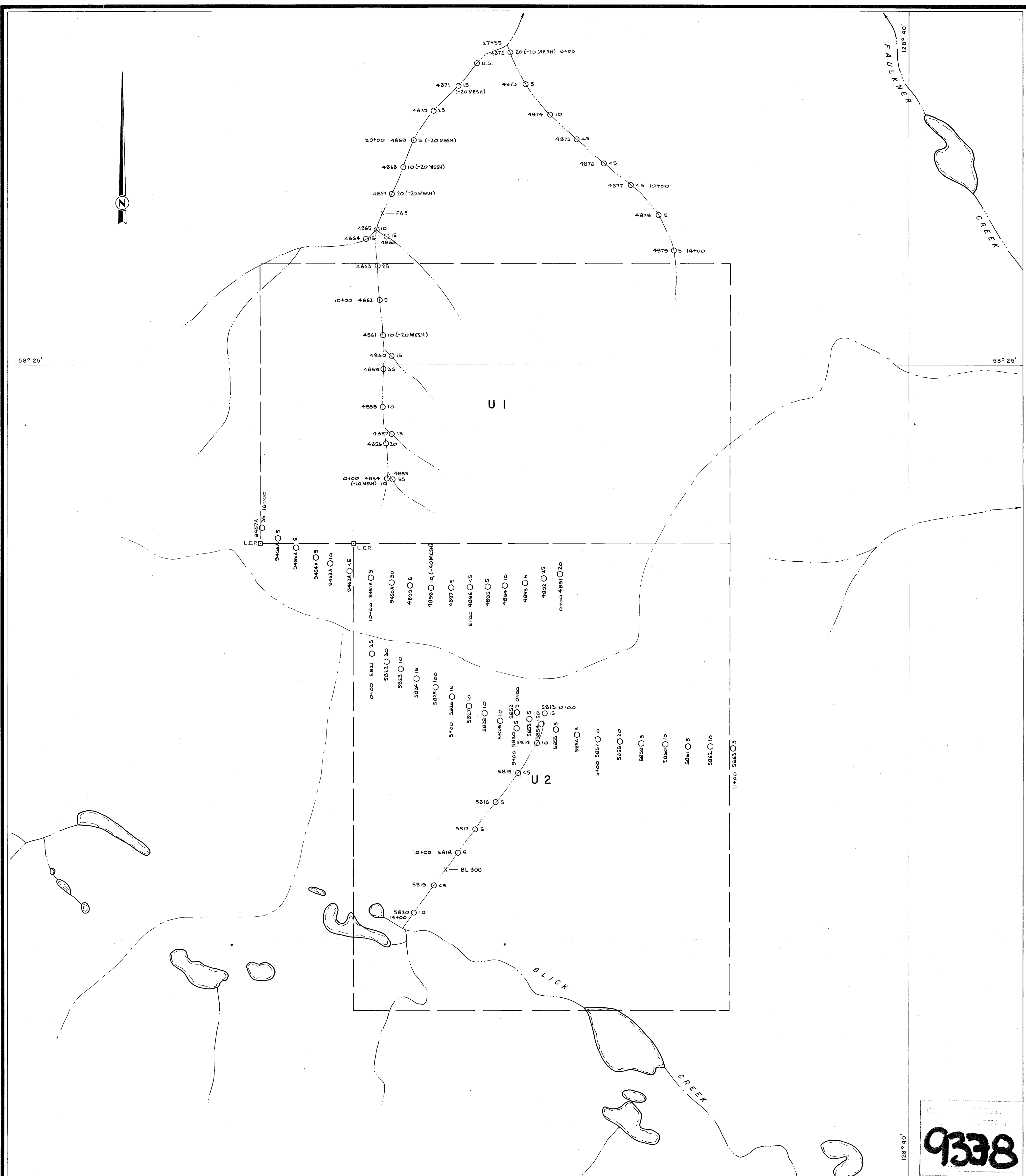
A suitable sample weight 5.0 or 10.0 grams are pre-treated with HNO₃ and HClO₄ mixture.

After pretreatments the samples are digested with Qua Regia solution, and after digestion the samples are taken up with 25% HCl to suitable volume.

At this stage of the procedure copper, silver and zinc can be analysed from suitable aliquote by Atomic Absorption Spectrophotometric procedure.

Further oxidation and treatment of at least 75% of the original sample solutions are made suitable for extraction of gold with Methyl Iso-Butyl Ketone.

With a set of suitable standard solution gold is analysed by Atomic Absorption instruments. The obtained detection limit is 5 ppb.



LEGEND

- 4859 ○ STREAM SEDIMENT SAMPLE LOCATION & No.
- 5821 ○ SOIL SAMPLE LOCATION & No.
- ¹⁰ -80 MESH VALUE FOR Au IN P.P.B. (SILT)
- ²⁵ -80 MESH VALUE FOR Au IN P.P.B. (SOIL)

NOTE: SAMPLE NUMBERS ARE 'D' SERIES EXCEPT WHERE STATED OTHERWISE

"U" CLAIM GROUP

Original Sample Results

| Loc. | Tag | Mesh | Au | Pb | Cu | Ag | Hm | Hg |
|-------|------|------|------------|-----|-----|-----|------|----|
| BL300 | 1595 | -20 | 480 | 144 | 310 | 3.9 | 5.09 | |
| | | -100 | No results | | | | | |
| FA5 | 1599 | -20 | 50 | 90 | 330 | 3.8 | 1.17 | |
| | | -100 | 95 | 28 | 49 | 1.4 | | 80 |

Note Regarding Original Sample Results:

The results of the analysis of the heavy mineral concentrate from the -20 (-20 +100 mesh) fraction are not weighted.

9338

U-PON EXPLORATION
CANADA

ARGONAUT PROJECT
U CLAIMS
GEOCHEMISTRY
Au IN P.P.B.
CRY LAKE AREA, BRITISH COLUMBIA

m 300 0 10000 300 600 m
SCALE
1 INCH = 833 FEET

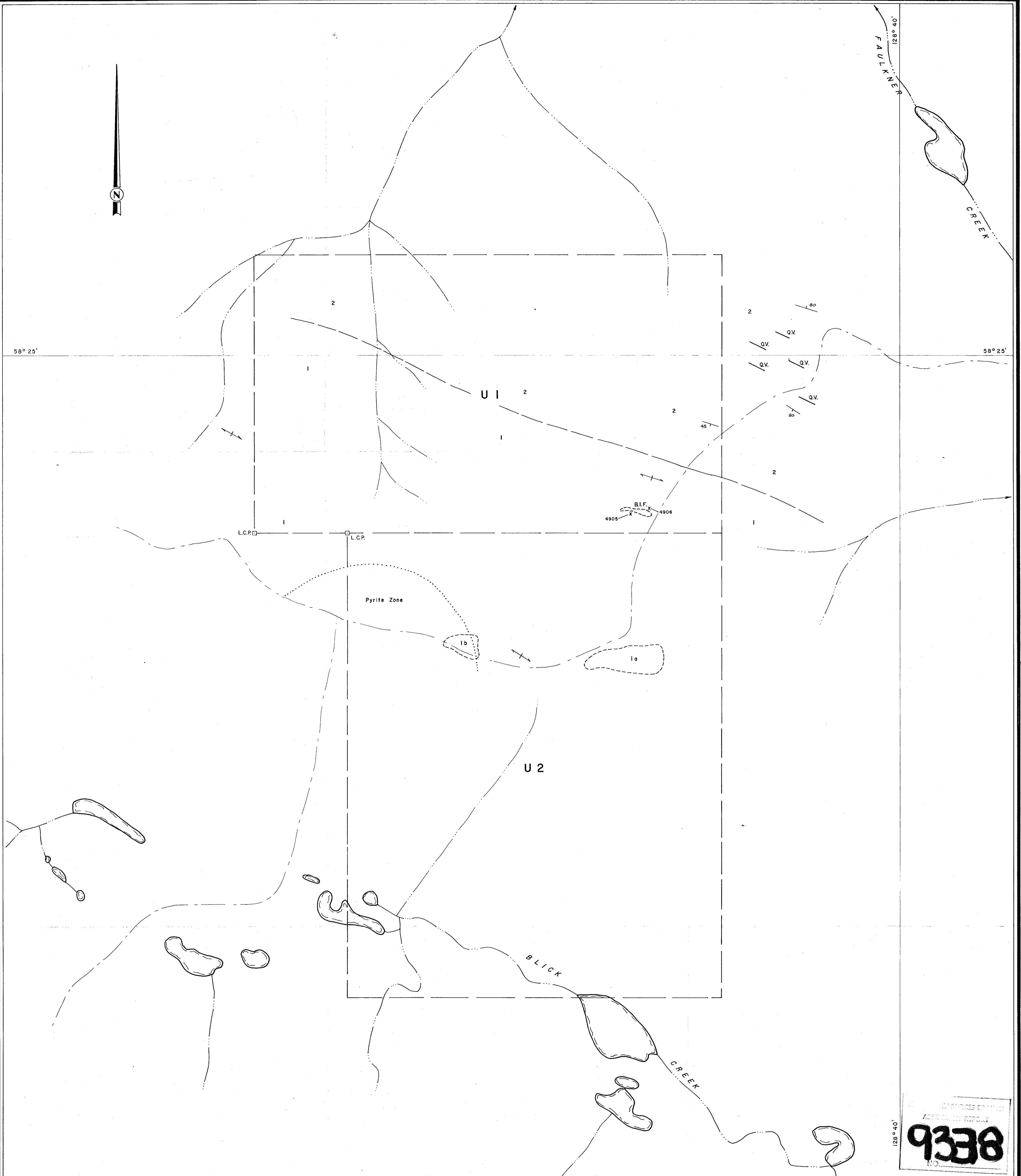
MAPPED BY: D.M.S. REVISION: N.T.S. No. 104 I 7E
DATE: 80 08 06,08 ACCT No. 547-59
DRAWN BY: K.L.J.
DATE: 81 02 09 DRWG. No. AR. 80-151



128° 40'
FAULKNER
CREEK

58° 25'

58° 25'



L.C.P. L.C.P.

Pyrite Zone

1b

B.I.F. 4905 4906

U 2

BLICK

CREEK

LEGEND

- 2 BLACK PHYLLITIC SLATE
- 1 FOLIATED GREENSTONE
 - (a) RHYOLITE
 - (b) BANDED GRAPHITIC CHERT
- B.I.F. BANDED IRON FORMATION

SYMBOLS

- OUTCROP
- CONTACT, OBSERVED
- CONTACT, APPROXIMATE
- EDGE OF PYRITE ZONE
- BEDDING, INCLINED, VERTICAL
- FOLIATION, INCLINED, VERTICAL
- QUARTZ VEIN
- CLAIM BOUNDARY & LEGAL CORNER POST
- RIDGE TOP

| ROCK ASSAYS | | |
|-------------|------------|------------|
| Tag No. | Au ozs/ton | Ag ozs/ton |
| 4905 | 0.001 | 0.06 |
| 4906 | 0.001 | 0.09 |

9338

ARGONAUT PROJECT
U CLAIMS
GEOLOGY
CRY LAKE AREA, BRITISH COLUMBIA

1:10,000 SCALE

1 INCH = 833 FEET

| | | |
|--------------------|----------|-----------------------|
| MAPPED BY: D.M.S. | REVISED: | N.T.S. No.: 104 17E |
| DATE: 80 08 06, 08 | | ACCT No.: 547-39 |
| DRAWN BY: K.L.J. | | DRWG. No.: AR. 80-150 |
| DATE: 81 02 09 | | |

MD