

DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT

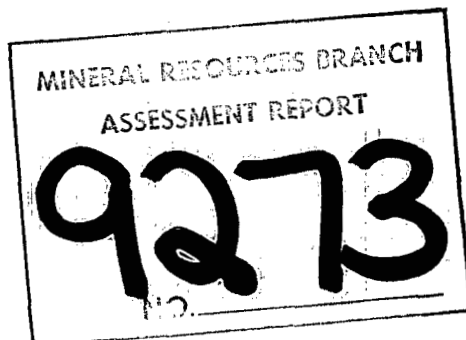
ON THE SER 1 CLAIMS

OMINECA MINING DIVISION

LAT. 57°00'N, LONG. 126°39'W

NTS: 94-E & 94-D

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





Author: D. M. Strain
Date Submitted: 1981 June 10

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Drwg. No. AR. 80-193	Geology of SER 1 Claims	in pocket
Drwg. No. AR. 80-194	Geochemistry of SER 1 Claims	"

I

INTRODUCTION(a) Location and Access

The SER claim group lies within the Swannell Ranges of the Cassiar Mountains, a rather isolated area of north-central B.C.

The claims straddle the boundary between the Toodoggone River and McConnell Creek map sheets, (94-E-2E and 94-D-15E). Serrated Peak lies approximately 4 km to the NE and Fredrickson Peak some 4 km to the SE.

The Omineca Road terminates 25 km to the south and continues as a tractor road to within 7 km south of the property.

Helicopter access is gained from the Sturdee River valley airstrip approximately 35 km to the NW.

(b) Claim Definition

The SER claim group comprises 20 units, with a record number of 2974, and a tag number of 45868. The claims are within the Omineca Mining Division, were recorded July 25, 1980 and are currently owned and operated by Du Pont of Canada Exploration Limited.

(c) Summary of Work Performed

Work completed to date includes 2 person days of geologic mapping and prospecting, and 2 person days of stream sediment sample collection.

Mapping and prospecting were carried out from the NE corner diagonally across to the SW corner of the claims. Geologic features, rock sample locations and mineralization were plotted on a 1:50,000 claim map. A total of 6 grab samples were collected for analysis.



26°45'

57° 00'

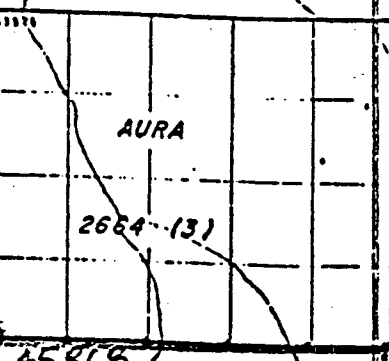
M 94D 15E

1:50 000

Kemess

94 E 2E
94 D 15E

LCP



SER 1
SEX 4S

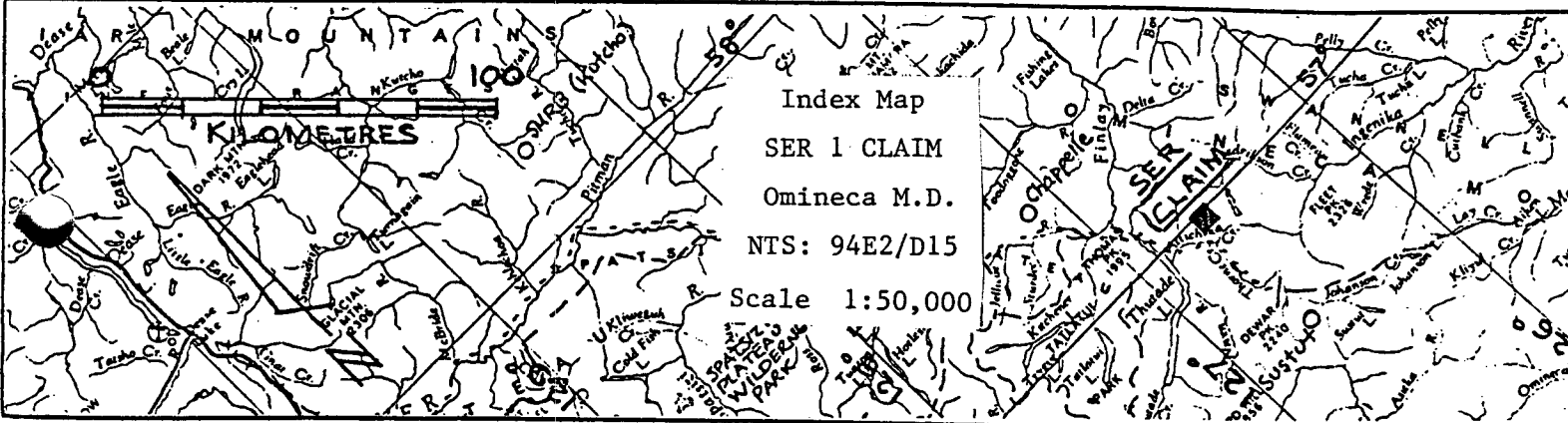
065

BC 2218

Attich

BC 2224

046



Fifty stream sediment samples were collected from the various streams draining the property and subsequently analyzed for gold.

(d) Physiography

In general, the area surrounding the SER claim group is typified by broad U-shaped valleys, undulating slopes or plateau like surfaces, and irregular mountain masses.

The claims lie on the western flank of small mountain mass. To the west topography slopes gently towards Shutade Lake, to the east elevations rise rapidly forming knife-like, serrated ridges.

The western portion of the property covers a gently sloping ridge. To the east the numerous creeks cut deep into the country rocks, imparting a rough, jagged nature to the topography.

Elevation ranges from 1585 m to 2010 m placing the claim group just above tree line. Vegetation is restricted to small shrubs, grasses and moss.

II GEOLOGY

(a) Introduction

The SER claims lie barely within the eastern extremity of the Intermontane belt and are underlain by plutonic rocks of the Omineca batholithic complex.

The claims occupy an area of rather complex geologic environment. In the eastern portion, granitic rocks outcrop in low areas and are heavily iron stained. The intrusive rocks are overlain by contact metamorphosed, intermediate volcanics. These rocks appear to grade upward into interbedded volcanics and cherty to carbonaceous sediments. This sequence is overlain or flanked by chert and rhyolite. Rock types in the western half of the claims include intermediate flows and pyroclastics and green greywackes. (Dwg. AR.80-193).

(b) Lithologyi) Granitic Rocks

Float fragments of fresh granodiorite to dioritic rocks were found scattered here and there throughout the eastern half of the claims. The intrusives found in outcrop tended to be more altered than those found as float. More than 50% of the feldspars have been altered to clay while the mafic constituents appear to be chloritized.

ii) Andesite

The andesitic rocks on the property are dark green and display textural variations. Vesicular andesites were noted near the contact with the cherts. A massive variety is common within the interbedded volcanics and sediments. Float of foliated, porphyritic andesite to dacite with red, hematitic groundmass is common near the western claim boundary.

iii) Cherty to Carbonaceous Mudstones

These rocks occur interbedded with massive andesite in the east-central portion of the claims. The cherty rocks are light green to dark grey colour, hard and banded. The dark bands are somewhat less silicic than the lighter areas and may represent fine clastic material. Black mudstones occur, associated with the cherty sediments, but have no chert component and are less abundant.

iv) Chert

The chert and cherty zones found on the property appear to be restricted to the NE corner. These rocks are light, creamy white to light grey in colour. Locally the chert contains small limy lamina,

resulting in recessive weathering. Although beds of chert were definitely identified, some of these rocks may be felsic volcanics.

v) Greywacke

This rock type is green in colour and composed of dark, angular, chlorite clasts and angular chert clasts in a fine grained matrix.

(c) Structure

The rocks on the property strike in an east-west direction with shallow to moderate (15-50°) dip to the north. A slight swing in the trend direction is apparent between rocks in the south and those to the north. In the south the bedded rocks strike at 100 to 110° whereas in the northern portion, bedded rocks strike slightly north of east (070° to 80°). Dips seem to be steeper in the northern portion of the claims.

(d) Mineralization

Numerous gossan patches occur within the eastern half of the claim group. Pyrite and pyrrhotite mineralization and associated gossan was noted in the NE within chert and/or rhyolite. Identical mineralization was observed within fractured and altered granodiorite and in the andesite. Very minor chalcopyrite and malachite was seen within massive andesite of the interbedded volcanic-sediment sequences.

The pyrite and pyrrhotite occurs in all rocks as fine disseminations to bleby masses.

(e) Conclusions

Intermediate volcanics and intercalated or interbedded sediments are intruded by granitic rocks of probable Lower Jurassic age. The volcanics and associated sediments are in contact with cherts, rhyolites and limestone. The stratigraphic relationship between the

intermediate volcanic package and the cherts is uncertain; one of the two units may have been faulted into its present situation.

Disseminated pyrite and pyrrhotite are common in rocks within the eastern portion of the claims. Minor chalcopyrite and malachite was noted in massive andesites of the interbedded volcanic-sediment sequence. Large, blatant gossans are common in the eastern half of the claims.

III GEOCHEMISTRY

(a) Sample Collection, Preparation and Analysis

A total of 48 stream sediment samples were collected at 200 m intervals along 5 tributary streams draining the claims. Samples were placed in wet strength Kraft sample envelopes. At each sample site specific information about the sample and its environment was recorded on a tag which was removed and filed. A plastic flag was placed at the sample site bearing the same sample number as on the tag and the sample envelope.

The samples were then sent to Min-En Laboratories in North Vancouver for preparation and analysis. The samples were oven dried and sieved to -80 mesh. The -80 mesh fraction was analyzed for Au according to the procedures outlined in Appendix A.

Six rock samples were collected at random locations. The samples were placed in plastic sample bags affixed with a tag bearing the sample number and details of the sample. A plastic flag was placed at the sample site bearing the sample number. The rock samples were sent to Min-En Laboratories in North Vancouver for preparation and analysis. The rock samples were crushed and pulverized to -80 mesh. A portion of the -80 mesh fraction was then analyzed for Au, Cu and Ag according to the guidelines outlined in Appendix A.

(b) Results and Interpretation

Drawing AR 80-194 shows the stream sediment and rock sample locations, sample numbers and results.

Most stream sediment samples reported background values for Au, 5 to 10 ppb. Eight samples showed moderately anomalous values, 15 to 45 ppb Au.

Rock samples reported background Au values with two samples (4919, 4921) anomalous in Cu and Ag. Two other samples (4918 and 4921) showed moderately anomalous Ag values.

IV COST STATEMENT(a) Wages

	<u>Rate</u>	<u>Spec. Dates</u>	<u>No. of Days</u>	<u>Cost</u>
1 Field Geologist	\$ 51.88	Aug.19,20/80	2	\$103.76
1 Jr. Field Asst.	39.18	Aug.19,20/80	2	78.36
1 Technical Asst.	39.18	Jan. 26/ 81	1	39.18
1 Field Geologist	51.88	Febr. 23/81	1	51.88
1 Geologist	172.00	Apr. 2/81	1	<u>172.00</u>
				445.18

(b) Room and Board

Per diem rate of \$49.56 based of 4 person days 198.24

(c) Transportation

General transportation (to/from area)				324.77
Terr Air Charter, ticket #935 (1.35 hours @ \$366.00/hr)				494.10
Terr Air Charter, ticket #936 (0.8 hours @ \$366.00/hr)				292.80
Fuel - 64.5 gallons @ \$3/gal.				<u>193.50</u>
				1305.17

(d) Analytical Services

Min-En Laboratories, invoice #7349 & #7351

5 rock samples, preparation (@2.00 ea.)				10.00
5 rock samples, Au (@4.25 ea.)				21.25
5 rock samples, Cu (@0.25 ea.)				3.75
4 rock samples, Ag (@1.75 ea.)				7.00
34 stream sediments, preparation (@0.60 ea.)				20.40
34 stream sediments, Au (@4.25 ea.)				<u>144.50</u>
				206.90

(e) Report Preparation

	<u>Rate</u>	<u>Spec. Dates</u>	<u>No. of Days</u>	
Drafting	127.00	Apr. 3/81	1.0	127.00
Typing	64.80	Apr. 3/81	1.0	<u>64.80</u>
				191.80

GRAND TOTAL:

\$ 2347.29

V. 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. Between 1980 August 19 and 1981 April 30, I executed a field programme on the SER1 claim on behalf of Du Pont of Canada Exploration Limited.



David M. Strain
1981 April 30

V. QUALIFICATIONS (cont.)

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 a 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 19 and 1981 April 30, I supervised/directed a field program on the SER 1 claim on behalf of Du Pont of Canada Exploration Limited.

Gerald A. Harron

Gerald A. Harron

1981 April 30

*MIN-EN Laboratories Ltd.**Specialists in Mineral Environments*Corner 15th Street and Bewicke
705 WEST 15th STREET
NORTH VANCOUVER, B.C.
CANADAANALYTICAL 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 HNO_3 and HClO_4 mixture.

After pretreatments the samples are digested with Aqua 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.

*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 WORKPROCEDURES FOR Mo, Cu, Cd, Pb, Mn, Ni, Ag, Zn, As, F

Samples are 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 by a jaw crusher and pulverized by ceramic plated pulverizer.

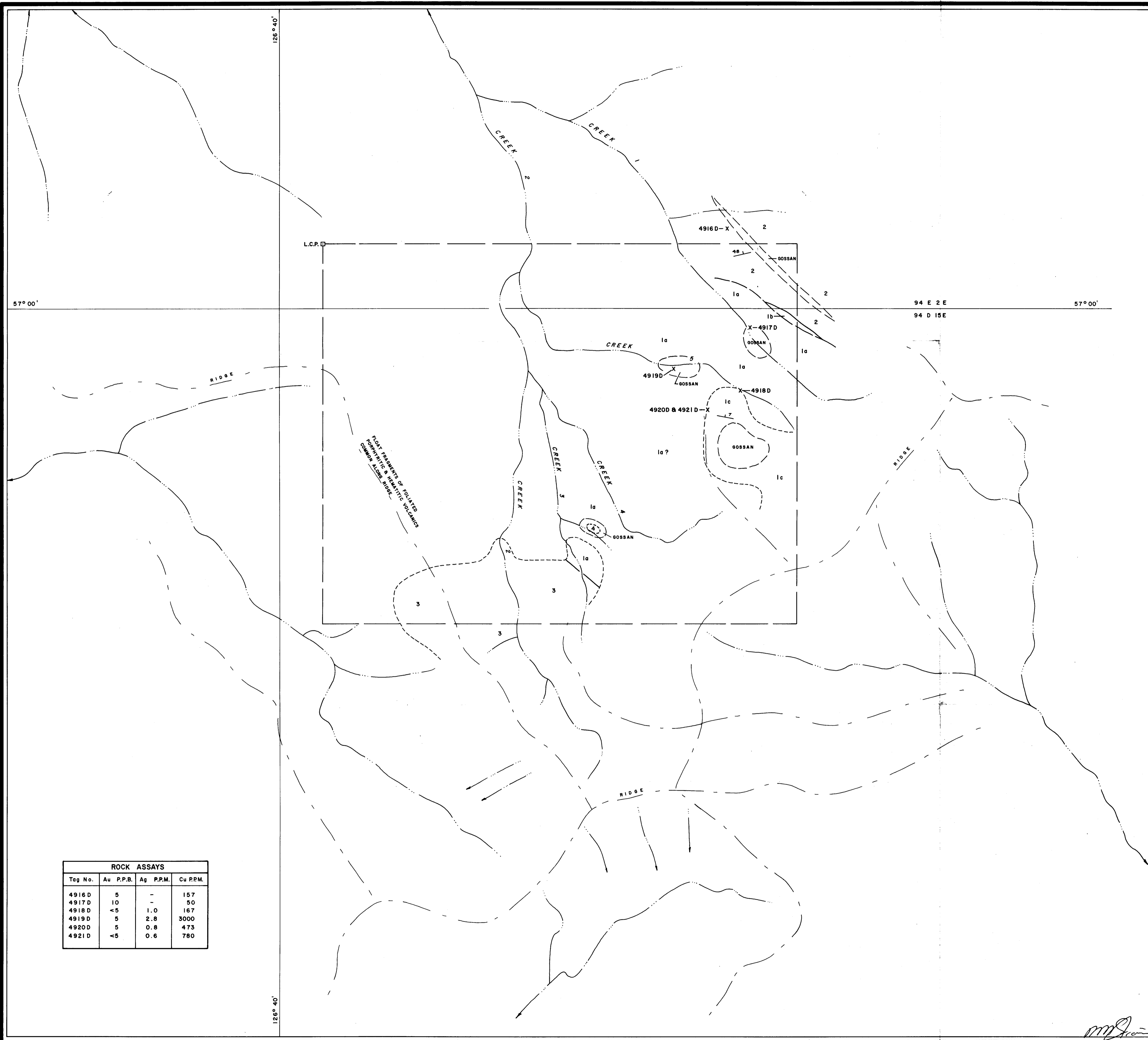
1.0 gram of the samples are digested for 6 hours with HNO_3 and HClO_4 mixture.

After cooling samples are diluted to standard volume. The solutions are analyzed by Atomic Absorption Spectrophotometers.

Copper, Lead, Zinc, Silver, Cadmium, Cobalt, Nickel and Manganese are analysed using the CH_2H_2 -Air flame combination but the Molybdenum determination is carried out by C_2H_2 - N_2O gas mixture directly or indirectly (depending on the sensitivity and detection limit required) on these sample solutions.

For Arsenic analysis a suitable aliquote is taken from the above 1 gram sample solution and the test is carried out by Gutzeit method using $\text{Ag CS}_2\text{N} (\text{C}_2\text{H}_5)_2$ as a reagent. The detection limit obtained is 1.2 ppm.

Fluorine analysis is carried out on a 200 milligram sample. After fusion and suitable dilutions the fluoride ion concentration in rocks or soil samples are measured quantitatively by using fluorine specific ion electrode. Detection limit of this test is 10 ppm F.



- LEGEND**
- NOT NECESSARILY IN CHRONOLOGICAL ORDER.
- 4 ALTERED INTRUSIVE (GRANODIORITE ?)
PERVASIVE ARGILLIC ALTERATION
 - 3 GREYWACKE
 - 2 RHYOLITE & CHERT (HEAVILY FRACTURED)
LOCAL PORPHYRITIC PODS & LIMY LAMINA
 - 1 INTERMEDIATE VOLCANICS :
 - a) MASSIVE
 - b) VESICULAR
 - c) MASSIVE, INTERBEDDED WITH CHERT
& CARBONACEOUS SEDIMENTS

- SYMBOLS**
- OUTCROP
 - CONTACT, OBSERVED
 - CONTACT, APPROXIMATE
 - BEDDING, STRIKE & DIP
 - GOSSAN
 - X-4917D ROCK SAMPLE LOCATION & No.
 - CLAIM LINE & LEGAL CORNER POST

ROCK ASSAYS

Tag No.	Au P.P.B.	Ag P.P.M.	Cu P.P.M.
4916D	5	-	157
4917D	10	-	50
4918D	15	1.0	167
4919D	5	2.8	3000
4920D	5	0.8	473
4921D	15	0.6	780

MINEVAL PROJECT NO. 9273

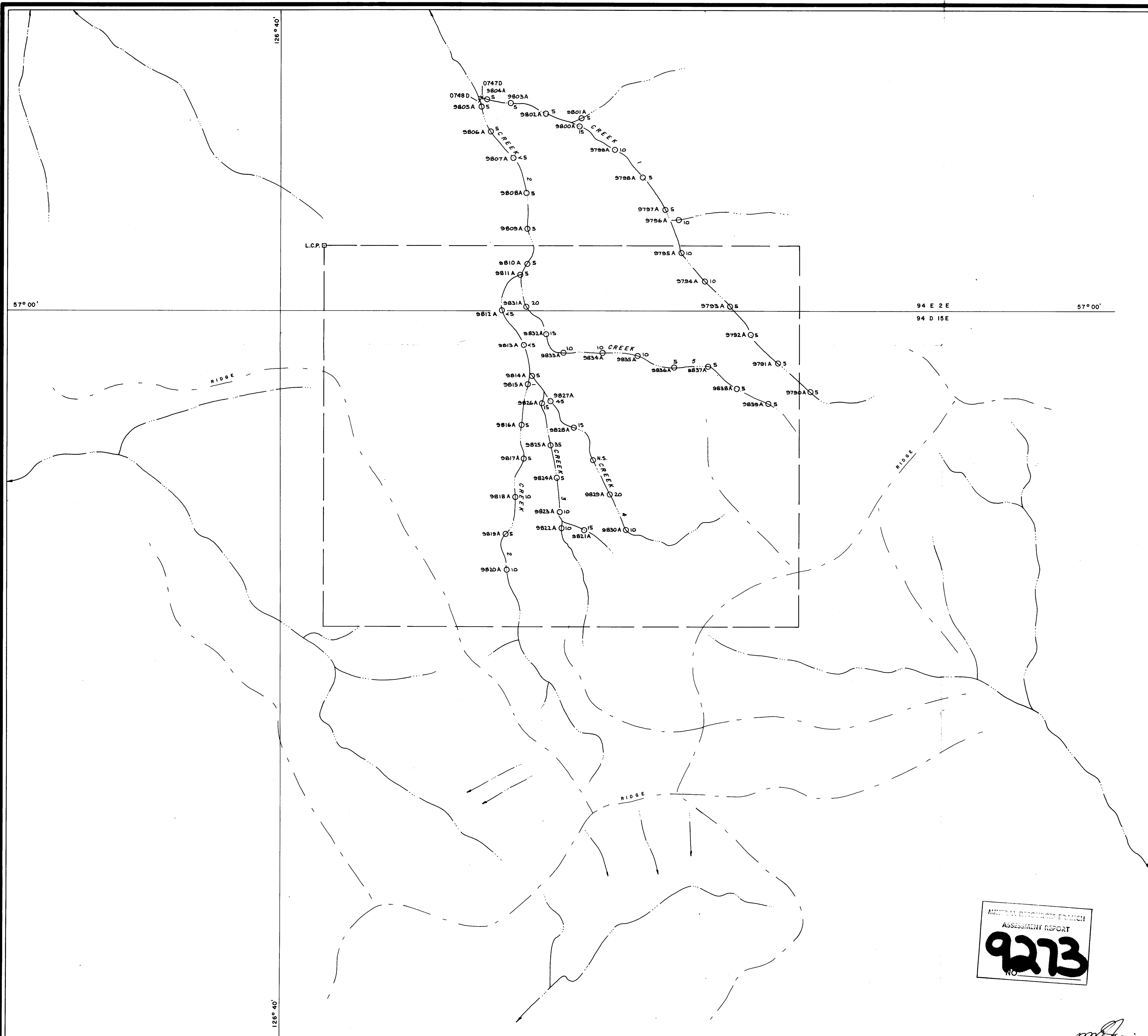
QUIPON EXPLORATION
CANADA

**ARGONAUT PROJECT
SER I CLAIM
GEOLOGY**

CHAPPELLE AREA, BRITISH COLUMBIA

SCALE
1:10,000
1 INCH = 833 FEET

MAPPED BY: D.M.S. REVISED: N.T.S. No.: 94 D 15E & 15E
DATE: 80 08 08, 09 ACCT No.: 347-80
DRAWN BY: K.L.J. DATE: 81, 04, 03 DRWG. No.: AR.80-193



LEGEND

- 9805A O STREAM SEDIMENT SAMPLE LOCATION & No.
- O 5 - 80 MESH VALUE FOR Au IN P.P.B.
- X-0748D ORIGINAL STREAM SEDIMENT SAMPLE LOC. & No.

Tag No.	Mesh	ORIGINAL SAMPLE RESULTS					%H.M.
		Au P.P.B.	As P.P.B.	Pb P.P.M.	Cu P.P.M.	Ag P.P.M.	
0747 D	- 20	15	-	-	-	-	4.14
0748 D	- 20	5	-	-	-	-	12.64
	- 100	3725	11	17	50	0.4	-

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9273
NO.

DUPONT EXPLORATION
CANADA

ARGONAUT PROJECT
SER I CLAIM
GEOCHEMISTRY
Au IN P.P.B.
CHAPPELLE AREA, BRITISH COLUMBIA

SCALE
1:10000
1 INCH = 833 FEET

MAPPED BY: D.M.S. REVISED: N.T.S. No.: 94 D 15E & E2E
DATE: 80 08 08, 09 ACCT No.: 347-60
DRAWN BY: K.L.J. DATE: 81 04 03 DRWG. No.: AR.80-194

mlm