

MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

9281  
NO.

DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE SWNL CLAIM

OMINECA MINING DIVISION

LAT.  $57^{\circ}10'$ , LONG.  $126^{\circ}25'$

NTS: 94-E-1W

OWNER OF CLAIMS: Du Pont of Canada Exploration Limited

OPERATOR: Du Pont of Canada Exploration Limited

*L. Eccles*

Author: L. K. Eccles

Date Submitted: 1981 June 10

## TABLE OF CONTENTS

	<u>Page No.</u>
I. INTRODUCTION	1
II. GEOLOGY	2
III. GEOCHEMICAL SURVEY	4
IV. COST STATEMENT	5
V. QUALIFICATIONS	6

### Appendix A - Geochemical Analytical Procedure

## LIST OF FIGURES

	<u>Behind Page</u>
Figure 1 Location Map	1
Figure 1 Index Map	1
Dwg. AR-80-242 SWNL Claim - Geology	In pocket
Dwg. AR-80-243 SWNL Claim - Geochemistry	In pocket

I INTRODUCTION(a) Location

The SWNL claim is located within the Swannell Ranges of North-Central British Columbia, 10 kilometres ESE of Giegerich Peak on the western slope of a north-west trending ridge. The claim is centered by 57°24'N and 127°27'W. ? 094E 08W 1880 metres

Elevations on the property range from 1460 metres in the northwestern corner of the claim to approximately 2130 metres along the eastern boundary. About one-half of the claim exhibits a steep talus slope. Below 1645 metres low shrubs, alpine mosses, and grasses cover the property.

(b) Access

At present access into the property is via helicopter from the Sturdee River airstrip which is located 41 kilometres to the WNW.

Smithers, which represents the major supply center in the region, is situated 260 kilometres south of the Sturdee River airstrip.

(c) Claim Status

The SWNL property consists of one mineral claim entailing 20 units. Pertinent data for the claim is outlined below:

SWNL  
(20 units)

Record No.: 3072  
Tag No.: 45840  
Date Recorded: July 31, 1980

The claim is currently owned and operated by Du Pont of Canada Exploration Limited.

(d) History and Economic Assessment of Property

No evidence was observed in the field to indicate that the claim was previously investigated. No indications of significant economic mineralization were noted during the 1980 field program.

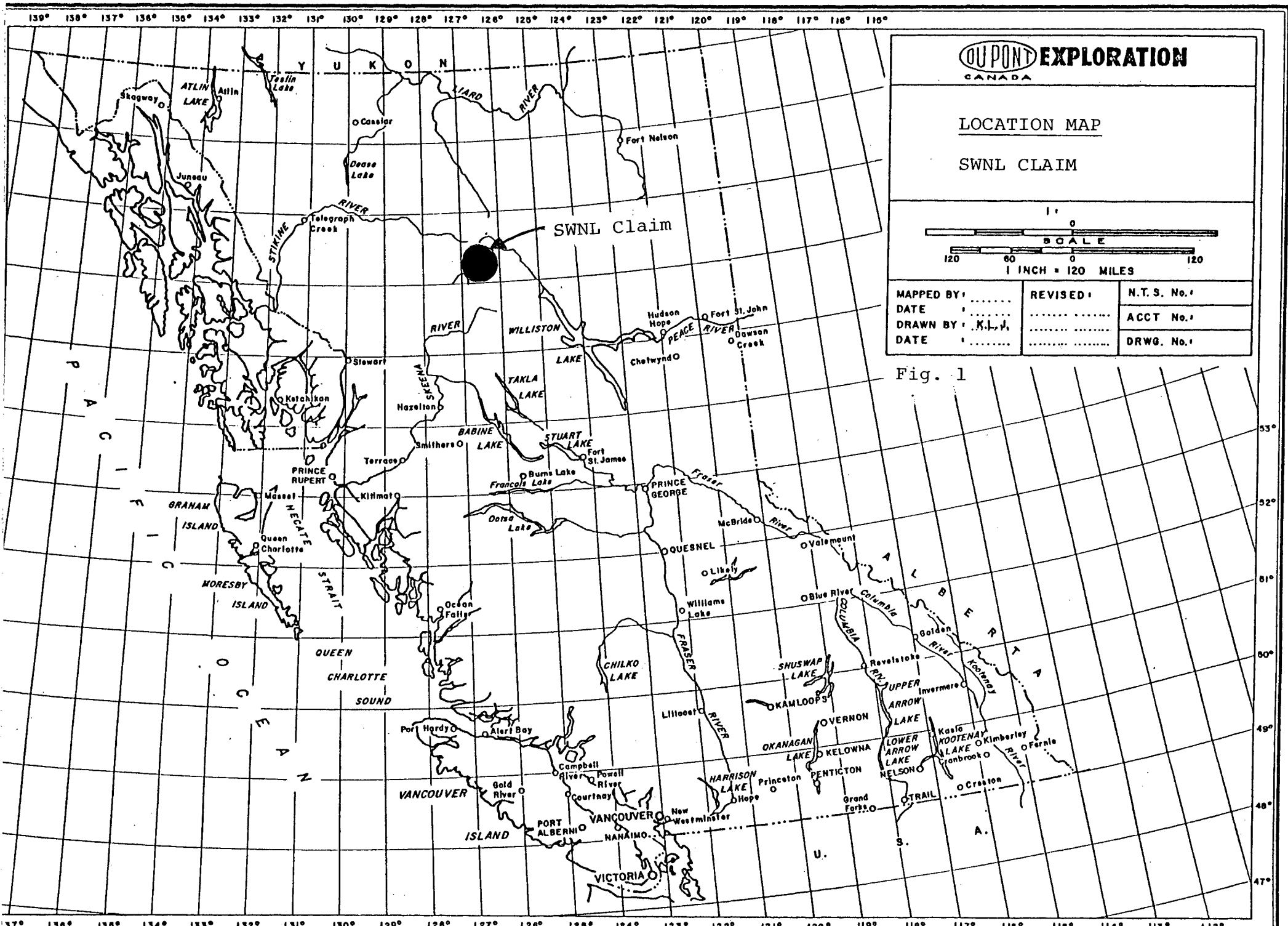
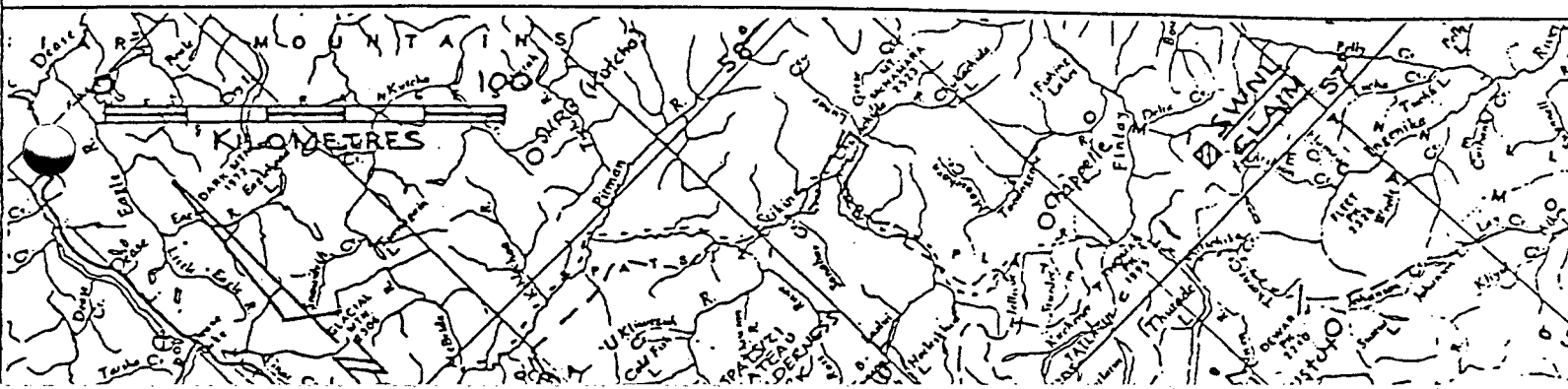
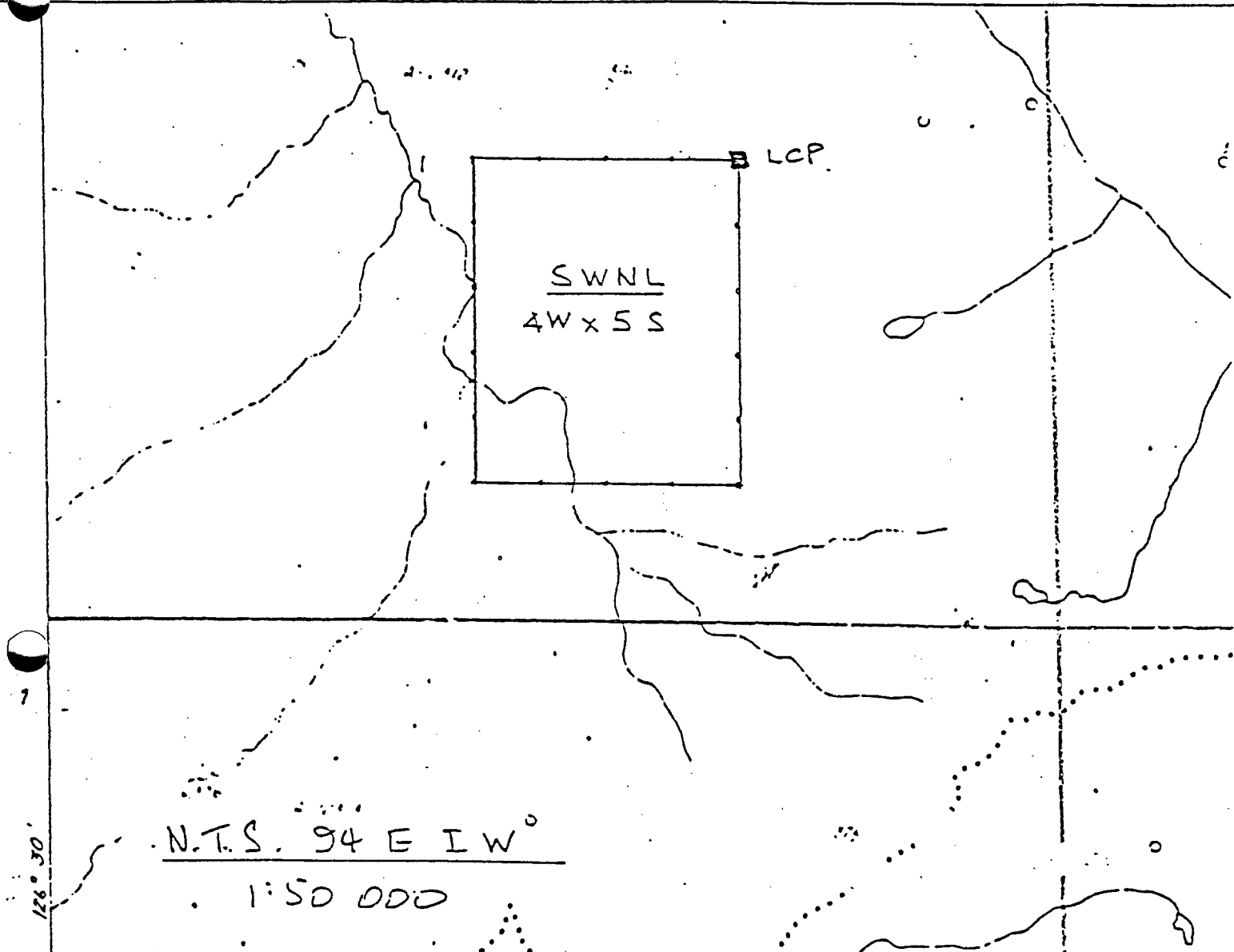


Fig. 2 INDEX MAP

SWNL CLAIM

Lat.  $57^{\circ}10'N$   
Long.  $126^{\circ}25'W$



(e) Summary of Work Performed

On August 20th, 1980 a two-person field crew conducted a preliminary investigation of the property. Work entailed a single north-south sidehill traverse across the property. A total of 27 soil samples were obtained at 100-metre intervals and analysed for Au, Ag, Pb, Zn, Cr, Cu, and Mo. In conjunction with the sampling, reconnaissance geological mapping was conducted within the eastern portion of the property.

II GEOLOGY(a) Regional Geology

The SWNL claim is situated near the contact of the Omineca and Intermontane Belts. To the west of the Swannell and Fishing Ranges northwest striking Upper Palaeozoic to Mid Mesozoic volcanics are intruded by granitic rocks of Jurassic and Cretaceous age.

Upper Triassic Takla Group volcanics occur in a linear fashion between the Swannell and Ingenika Faults and as irregularly distributed occurrences further to the west. The Takla group consists of coarse bladed plagioclase porphyry, augite porphyry, tuff, and agglomerate.

Trending northwesterly from just west of Fredrikson Peak, a belt of Jurassic Toodoggone volcanics consist of felsic tuffs, breccias and flows.

According to GSC Open. File #483, the Swannell and Fishing Ranges, which encompass the SWNL property, are underlain by northwest striking Upper Proterozoic Tsaydiz and Swannell Formations. These units predominantly consist of limestone and phyllites.

(b) Property Geology

A single day reconnaissance mapping traverse was conducted within the eastern segment of the SWNL property.

The eastern area of the claim is underlain by a gritty sandstone. This unit exhibits a schistose character with intense metamorphism. Several quartzite beds, up to one metre in width, are interbedded with the sandstone.

Intense deformation characterizes the sandstone unit, one attitude obtained within the northeast corner of the claim indicated a  $16^{\circ}$  dip North with a ENE strike.

According to GSC Open File #483, a major NNW trending fault occurs within two kilometres of the property.

(c) Mineralization

No significant mineralization was observed on the SWNL claim. Several of the quartzite interbeds reveal a rusty appearance although no mineralization has been noted to date.

(d) Summary

The SWNL claim is underlain by Upper Proterozoic sandstones and interbedded quartzite. A major, regional, NNW trending fault occurs within two kilometres to the west. No significant mineralization has been noted on the property to date.

III GEOCHEMISTRY(a) Procedure

A total of 27 soil samples were obtained from the SWNL claim. These samples were obtained along a single, north-south traverse across the claim at 100-metre intervals. All samples were obtained from a depth of 10 to 20 centimetres (B or C Horizon) and placed in numbered wet strength sample envelopes. The various locations were flagged indicating their respective sample numbers.

The soil samples were shipped to Min-En Laboratories in North Vancouver for preparation and analysis. All samples were sieved to -80 mesh and analysed for Au (ppb), according to the procedure outlined in Appendix A. Subsequent determinations through Rio-canex Laboratory in North Vancouver were performed for Ag (ppm), Cr (ppm), Cu (ppm), Mo (ppm), and Zn (ppm).

(b) Results

Drawing Ar 80-243 denotes the various sample locations and their respective results.

Soil samples were obtained along a single sidehill traverse with the intent of outlining the source of a gold bearing regional stream sediment sample. This sample, #2742, analysed 2450 ppb for the -100 mesh fraction. Follow-up soil samples indicated background values for Au ranging from 45-15 ppb. Concentrations with respect to Mo, Cr, Cu, Pb, and Zn revealed background values.

In summary, the follow-up soil geochemistry failed to outline the source of the auriferous regional stream sediment sample. Further work in the form of stream sediment sampling upstream from site #2742 is required.



IV COST STATEMENT(a) Wages

	<u>Rate</u>	<u>Dates</u>	<u>No. Days</u>	<u>Cost</u>
1 Geologist	\$119.42	Aug. 20/80	1	\$119.42
1 Jr. Field Assistant	46.58	Aug. 20/80	1	46.58
1 Technical Assistant	39.18	Feb. 9, 10/81	2	78.36
1 Geologist	172.00	Apr. 6, 7/81	2	344.00

Total Wages: \$588.94

(b) Room and Board

Per diem rate of \$49.56 based on 2 person days \$ 99.12

Total Room and Board: \$ 99.12

(c) Transportation

General transportation (to/from area)		\$324.77
Terr-Air Charter Ticket #936 ( invoice #490)		
0.8 hrs. @ \$366.00/hr.	\$292.80	
Fuel: 24 gal @ \$3.00/gal	72.00	
	<u>\$364.80</u>	364.80

Total Transportation: \$689.57

(d) Analytical Services

Min-En Laboratory Invoice No. 7349		
27 soil samples; preparation @ \$0.60 ea	\$ 16.20	
27 soil samples; Au @ \$4.25 ea	114.75	
	<u>\$130.95</u>	\$130.95

Riocanex Laboratory		
27 soil samples; Ag, Mo, Cr, Cu, Pb, Zn @ \$4.75 ea	128.25	
	<u>128.25</u>	128.25

Total Analytical Services: \$259.20

(e) Report Preparation

	<u>Rate</u>	<u>Date</u>	<u>No. Days</u>	<u>Cost</u>
Drafting	\$127.00	May 8/81	1.0	\$127.00
Typing	64.80	May 7/80	1.0	64.80

Total Report Preparation: \$191.80

GRAND TOTAL: \$1828.63

QUALIFICATIONS

I, Louise K. Eccles, do hereby certify that:

1. I am a geologist residing at 782 West 22nd Avenue, Vancouver, British Columbia and was employed by Du Pont of Canada Exploration Limited at the time of the programme.
2. I am a graduate of the University of British Columbia with a B.Sc. (Honours) degree in geology.
3. I have practised my profession in geology continuously for the past four years in British Columbia, Ontario, the Yukon and Northwest Territories.
4. Between 1980 July 25 and 1980 August 31, I supervised/directed a field programme on the SWNL property on behalf of Du Pont of Canada Exploration Limited.



Louise K. Eccles

*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 WORK

PROCEDURE 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  $\text{HNO}_3$  and  $\text{HClO}_4$  mixture.

After pretreatments the samples are digested with Aqua Regia solution, and after digestion the samples are taken up with 25%  $\text{HCl}$  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.  
CANADAANALYTICAL 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  $95^{\circ}\text{C}$  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  $\text{HNO}_3$  and  $\text{HClO}_4$  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  $\text{CH}_2\text{H}_2$ -Air flame combination but the Molybdenum determination is carried out by  $\text{C}_2\text{H}_2$ - $\text{N}_2\text{O}$  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  $1.2 \text{ ppm}$ .

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  $10 \text{ ppm F}$ .

57°10'

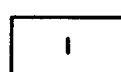
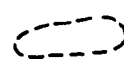
57°10'

126°25'

L.C.P.

**LEGEND**

PROTEROZOIC (?)

SANDSTONE, GRITTY, INTENSELY DEFORMED, SCHISTOSE;  
CONTAINS THIN QUARTZITE INTERBEDS.**SYMBOLS**

AREA OF EXPOSURE/OUTCROP



BEDDING, STRIKE &amp; DIP

— □ CLAIM BOUNDARY &amp; LEGAL CORNER POST

MINERALS BRANCH  
ACCIDENT REPORT

9281

DUPONT EXPLORATION  
CANADA**ARGONAUT PROJECT  
SWNL CLAIM  
GEOLOGY**

CHAPPELLE AREA, BRITISH COLUMBIA

m 300 0 1:10000 500 600 m  
SCALE  
ft 1000 0 1000 2000 ft.  
1 INCH = 833 FEET

MAPPED BY: L.K.E.	REVISED:	N.T.S. No.: 94 E 1W
DATE: 80.08.20		ACCT No.: 347-70
DRAWN BY: K.L.J.		DRWG. No.: AR.80-242
DATE: 81.05.08		

*L. Locks*

126°25'

57° 10'

- ☐ L.C.P.

2743D-X

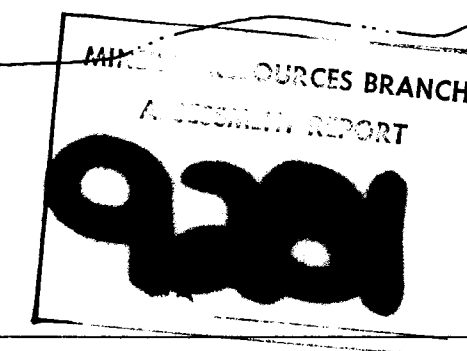
○ SOIL SAMPLE LOCATION & No.

○ -80 MESH VALUE FOR Au IN P.P.B.

X-2743D ORIGINAL STREAM SEDIMENT SAMPLE LOC. & No.

<u>Tag</u>	<u>Mesh</u>	<u>Au</u> P. P. B.	<u>As</u> P. P. M.	<u>Pb</u> P. P. M.	<u>Cu</u> P. P. M.	<u>Ag</u> P. P. M.	<u>%H.M.</u>
2742	- 20 -100	15 2450	4	10	46	0.8	4.36
2743	- 20 -100	25					51.93

126° 25'

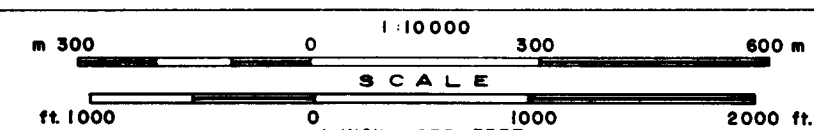


**DU PONT** **EXPLORATION**  
CANADA

ARGONAUT PROJECT

# SWNL CLAIM GEOCHEMISTRY

Au IN P.P.B. & Ag,Cr,Cu,Mo,Pb,Zn IN P.P.M.  
CHAPPELLE AREA, BRITISH COLUMBIA



MAPPED BY :	L.K.E.	REVISED :	N.T.S. No. : 94 E IW
DATE :	80 08 20		ACCT No. : 347- 70
DRAWN BY :	K.L.J.		
DATE :	81 05 08		DRWG. No. : AR.80- 243