

DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE ZAPPA CLAIMS

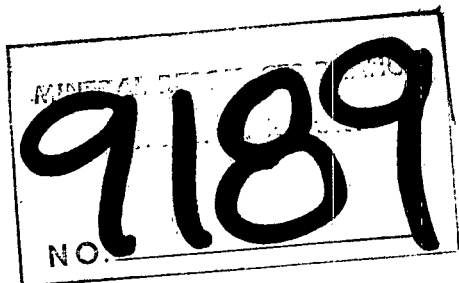
LIARD MINING DIVISION

LAT. 56°40'N, LONG. 130°51'W

NTS: 104-B-10W

OWNER OF CLAIMS: Du Pont of Canada Exploration Limited

OPERATOR: Du Pont of Canada Exploration Limited



Author: D. M. Strain

Date Submitted: 1981 June 8

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Appendix A - Geochemical Analytical Procedure

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Dwg. AR 80-213 Zappa Claim, Geology	In pocket
Dwg. AR 80-214 Zappa Claim, Geochemistry	"

I INTRODUCTION(a) Location and Access

The ZAPPA claim group is located in the north-central portion of the Iskut River map sheet (104-B-10W) between the Iskut River to the north, Snippaker Creek to the east and Snippaker Mountain to the west.

The Stewart-Cassiar Highway lies approximately 50 km to the northeast.

Access to the property is gained by rotary wing aircraft.

(b) Claim Definition

The ZAPPA group was staked as a result of an anomalous 10 kg stream sediment sample which was part of a regional survey conducted over a large portion of the Iskut River map sheet.

The group consists of 20 units within the Liard Mining Division, recorded July 14, 1980. Du Pont of Canada Exploration Limited is the present owner and operator of the claims and views the property as a potential gold prospect.

(c) Summary of Work Performed

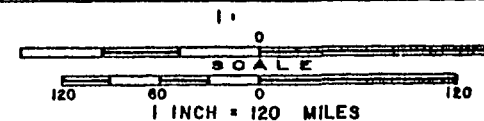
To date work on the property includes 1 person day of stream sediment collection and 1 person day of prospecting.

A total of 8 stream sediment samples were collected from a small creek at 50 m intervals.

Six rock samples were taken across a fault zone at approximately 1 m spacings.

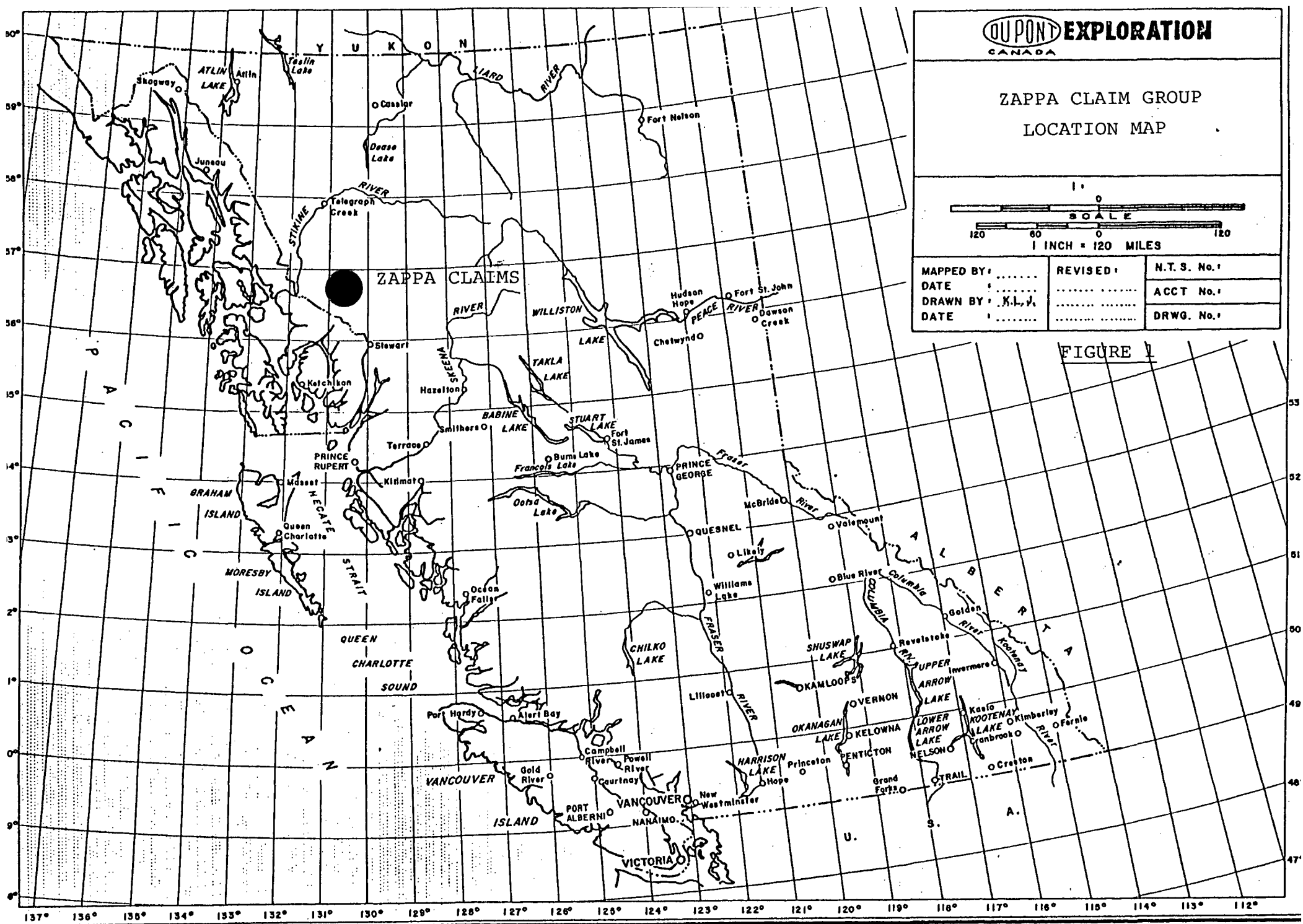
A small area within the claim group was prospected. Rock types and mineralization were noted.

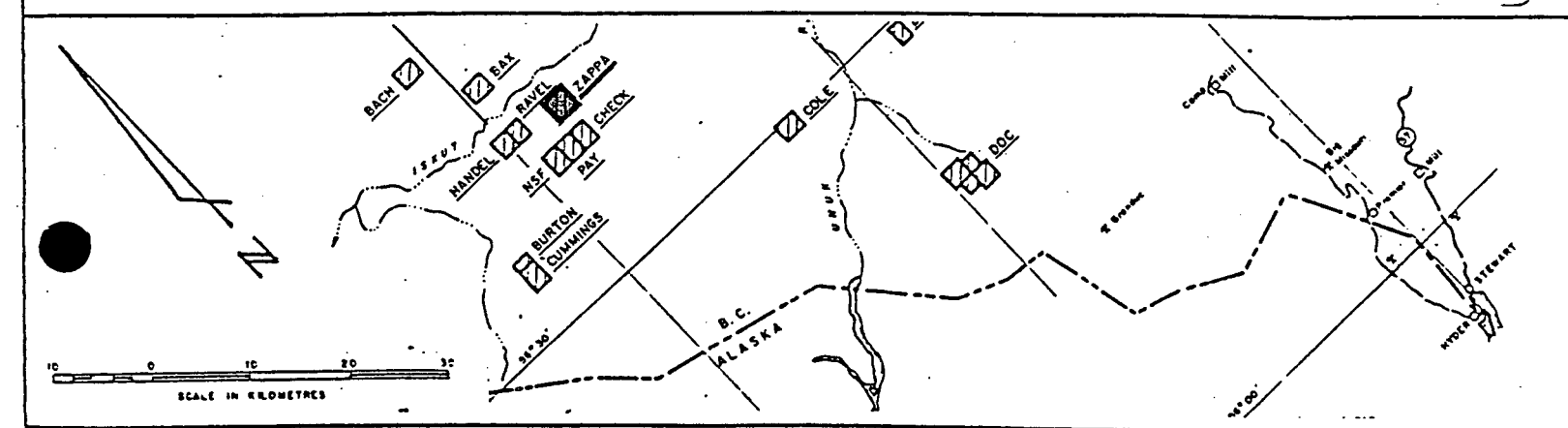
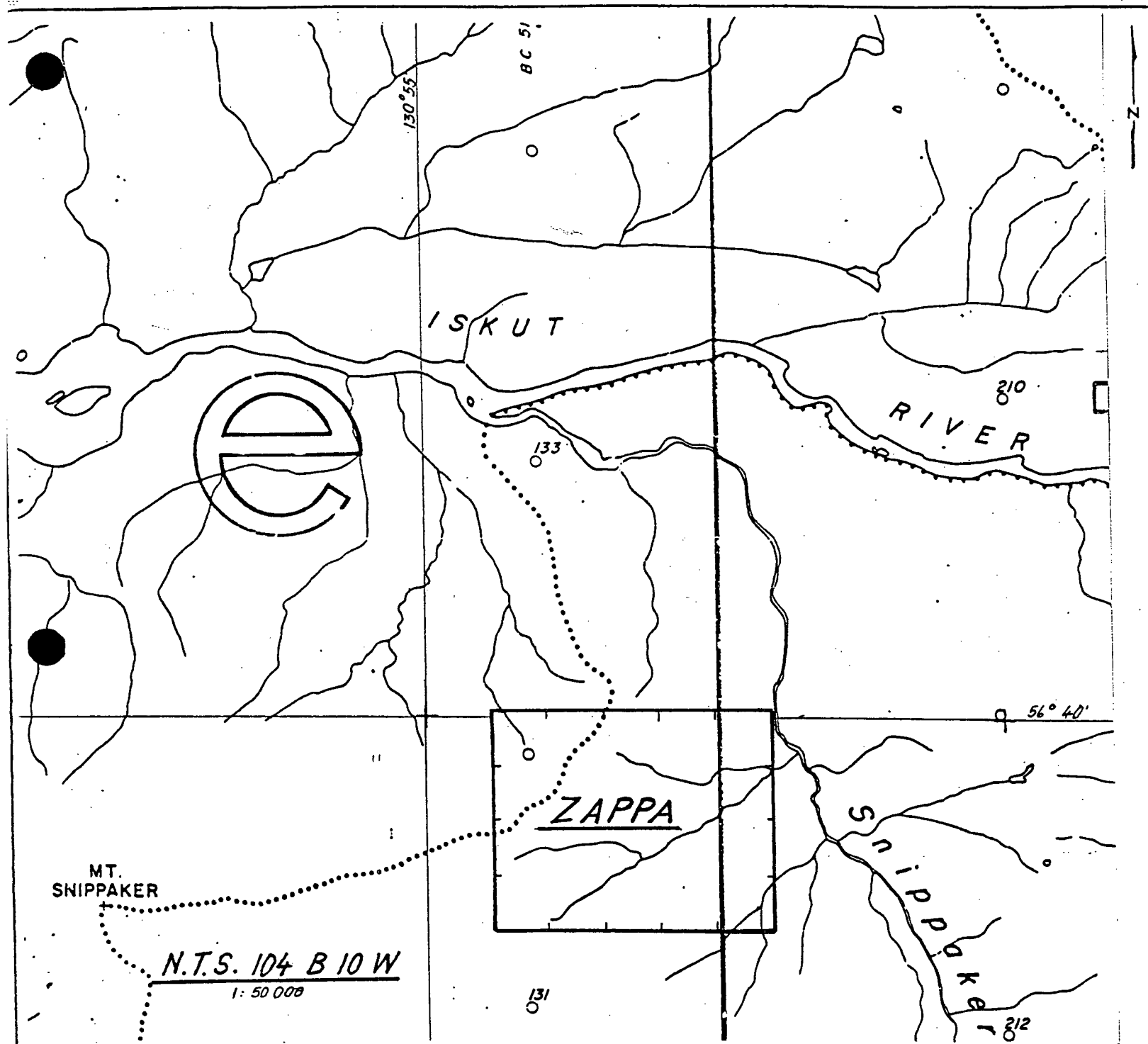
**ZAPPA CLAIM GROUP
LOCATION MAP**



MAPPED BY:	REVISED:	N.T.S. No.:
DATE:	ACCT No.:
DRAWN BY: K.L.V.	DRWG. No.:
DATE:	

FIGURE 1





(d) Physiography and Vegetation

The area surrounding the claim group is well known for its ruggedness. The older rivers such as the Iskut have carved broad valleys through which they meander and fan. Large sand bars are common along the Iskut, Unuk and Jekill Rivers. The valley walls are generally very steep and rise to elevations of 1830 m. Younger creeks and rivers flow rapidly through deep gorges headed almost invariably by glaciers.

The property straddles the rise out of the Iskut River valley and is largely below tree line. Elevations range from 300 to 1220 m.

Vegetation consists of coniferous trees, alders, huckleberry bushes and devils club.

II GEOLOGY

(a) Introduction

The ZAPPA claim group is situated within the Coast Range mountains and is underlain by plutonic rocks of the coast range batholithic complex. Rocks immediately surrounding the property are Triassic volcanics of variable texture and composition and minor intercalated sediments.

Rock types observed on the property are massive, felsic to intermediate volcanics and a slightly altered diorite. No contacts were seen between these two units.

Further prospecting and mapping is required along the small tributaries draining into the main creek. Areas within the claim boundaries where outcrop is abundant should be mapped to determine local trends and as an aid to define geology where outcrop is sparse.

(b) Lithology

The volcanic rocks range in colour from light grey to light green, are very fine grained and massive. Based on colour these rocks are dacitic to andesitic in composition.

Small outcroppings of diorite occur in topographic lows such as stream beds. The diorite is dull grey in colour and is composed of medium grained plagioclase and hornblende. The plagioclase has been slightly altered to clay minerals as revealed by a loss of hardness of the crystals.

(c) Structure

A vertical NNE trending shear zone occurs in the south-central portion of the claims within dacitic volcanic rocks. Intense fracturing over a width of 1 m was observed in the near vertical walls enclosing the main creek on the property. Dimensions along strike could not be determined due to lack of outcrop.

No small scale structures were observed in any of the rocks on the property.

(d) Mineralization

The wall rocks surrounding the shear zone described in section 'c' carries substantial amounts of disseminated pyrite. Heavier concentrations occur within and immediately adjacent to the fracturing, tapering off laterally away from the shear.

Samples were taken across the sheared zone and assayed for Au and Ag.

III GEOCHEMISTRY(a) Sample Collection, Preparation and Analysisi) Sample Collection

One coarse, 10 kg stream sediment sample, 8 1 kg stream sediment samples and 6 rock samples were collected from the ZAPPA claims. Rock samples and the 10 kg stream sediment sample were collected in heavy duty plastic sample bags.

The 1 kg samples were collected in Kraft sample envelopes. At each collection site the specific information pertaining to the sample was recorded on a special information tag. A flag bearing the sample number was secured adjacent to the sample site.

All but one (#5286) of the steam sediment samples were collected from a small, centrally located creek, draining into the main creek from the north (50 m intervals). Sample #5286 was taken from a creek in the southwestern portion of the claims.

Six rock samples were taken at 1 m intervals across a small fault zone exposed in a near vertical rock face.

ii) Preparation

The 10 kg sample was wet sieved at base camp into a -20 +100 mesh coarse fraction and a -100 mesh fine fraction. At the laboratory the coarse fraction was passed through tetrabromethane and a heavy mineral concentrate was obtained.

The 1 kg stream sediment samples were dried and sieved to -80 or -40 mesh.

iii) Analysis

The 10 kg sample was analyzed for Au, Ag and a host of other elements (Dwg. AR 80-214) The 1 kg samples were analyzed for Au, the rocks for Au and Ag.

All samples were processed by Min-En Laboratories in North Vancouver, BC.

An explanation of analytical procedures is included in Appendix A.

(b) Results and Interpretation

All sample locations and results are shown on Dwg. AR 80-214.

Ten kg sample #0141 contained anomalous Au in the coarse fraction (130 ppb) and in the fine fraction (7000 ppb). Anomalous values for As, Sb, Pb, Cu and Ag were also contained in the coarse fraction.

Values in the one kg samples range from 30 ppb Au to 190 ppb Au. Values above 50 ppb are considered significantly anomalous, above 100 ppb in these samples is highly anomalous.

Assay results for the six rock samples taken show background Ag values and minor traces of Au.

The above results indicate the need for further stream sediment geochemistry.

IV COST STATEMENT(a) Wages

	<u>Rate/ day</u>	<u>Spec. dates</u>	<u>No. days</u>	<u>Cost</u>
1 field geol.	\$ 51.88	Jul.17,19/80	1.5	\$ 77.82
1 field geol.	51.88	October/80	1.0	51.88
1 field geol.	51.88	Jan.13, Feb.10	1.0	51.88
1 jr. field asst.	39.18	Jul.17,19/80	1.5	58.77
1 tech.asst.	39.18	November/80	0.5	19.59
1 field geol.	51.88	Apr.16/81	0.5	25.94
				<hr/>
				\$ 285.88

(b) Room and Board

Per diem rate of \$50.41 per person day,
based on 3 person days: \$ 151.23

(c) Transportation

Costs to and from the project area during July, pertinent to these claims, are split amongst claims that had work conducted upon.

A. To/From Project Area - Scheduled Carriers

<u>Date</u>	<u>From/To</u>	<u>Via</u>	<u>No. Persons</u>	
Jul.13/80	Vanc/Stewart	CP/TPA	2 @ \$150.10	\$300.20
Jul.14/80	Vanc/Stewart	CP/TPA	3 @ \$150.10	450.30
Jul.15-16 1980	Whitehorse/ Vanc/Stewart	CP/TPA	1 @ \$301.00	301.00
Jul.16/80	Vanc/Stewart	CP/TPA	1 @ \$150.10	150.10
Jul.21-22 1980	Whitehorse/ Vanc/Stewart	CP/TPA	1 @ \$301.00	301.00
				<u>\$1502.60</u>

ZAPPA portion (3/34 person days) 132.58

Helicopter (Stewart-Camp-Stewart)

Terr-Air Rotary Ltd.

Jul.16 - Inv.#907 (5.5 hours @ #366/hour)	\$2013.00
Jul.28 - Inv.#917 (8.3 hours @ \$366/hour)	3037.80
	<u>\$5050.80</u>

Charter split with another area: \$2525.40

ZAPPA portion of expenses: 222.83

B. To/On Claims

Terr-Air C.T.#909 (1.65 hours)	\$ 603.90
Terr-Air C.T.#910 (0.68 hours) (Billed on invoice no.591)	247.05
	<u>\$ 850.95</u>

Total transportation expenses: \$1206.36

(d) Analytical Services

Min-En Laboratories Invoice #6862

8 stream sediment/soil - prep. (@ \$0.60 each)	\$	4.80
8 stream sediment/soil - Au (@ \$4.25 each)		34.00
6 rock - prep. (@ \$2.50 each)		15.00
6 rock - Au (fire) (@ \$7.50 each)		45.00
6 rock - Ag (@ \$6.50 each)		39.00
		<hr/>
	\$	137.80

(e) Report Preparation

	<u>Rate/ day</u>	<u>Spec. dates</u>	<u>No. days</u>	
Drafting	\$127.00	Apr. 22, 23/81	2	\$ 254.00
Typing	64.80	Apr. 21/81	1	64.80
				<hr/>
				\$ 318.80

(f) Miscellaneous

Cooks wages @ \$86.40/day (July 16-28)	\$1,123.20
ZAPPA portion of expenses (3/34 person days)	<u>99.10</u>
Room and board - pilot & cook, per diem rate of \$50.41	\$1,310.66
ZAPPA portion of expenses:	\$ <u>122.87</u>
Total miscellaneous expenses:	\$ 221.98

GRAND TOTAL	<u>\$2,322.05</u>
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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. On 1980 July 17 and 19, I executed a field programme on the ZAPPA claim on behalf of Du Pont of Canada Exploration Limited.



David M. Strain

V. 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 July 13 and 1981 April 21, I supervised/directed a field programme on the ZAPPA claim 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 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.
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°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 HNO₃ and HClO₄ 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 CH₂H₂-Air flame combination but the Molybdenum determination is carried out by C₂H₂-N₂O 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 Ag CS₂N (C₂H₅)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.

130° 55'



56° 40'

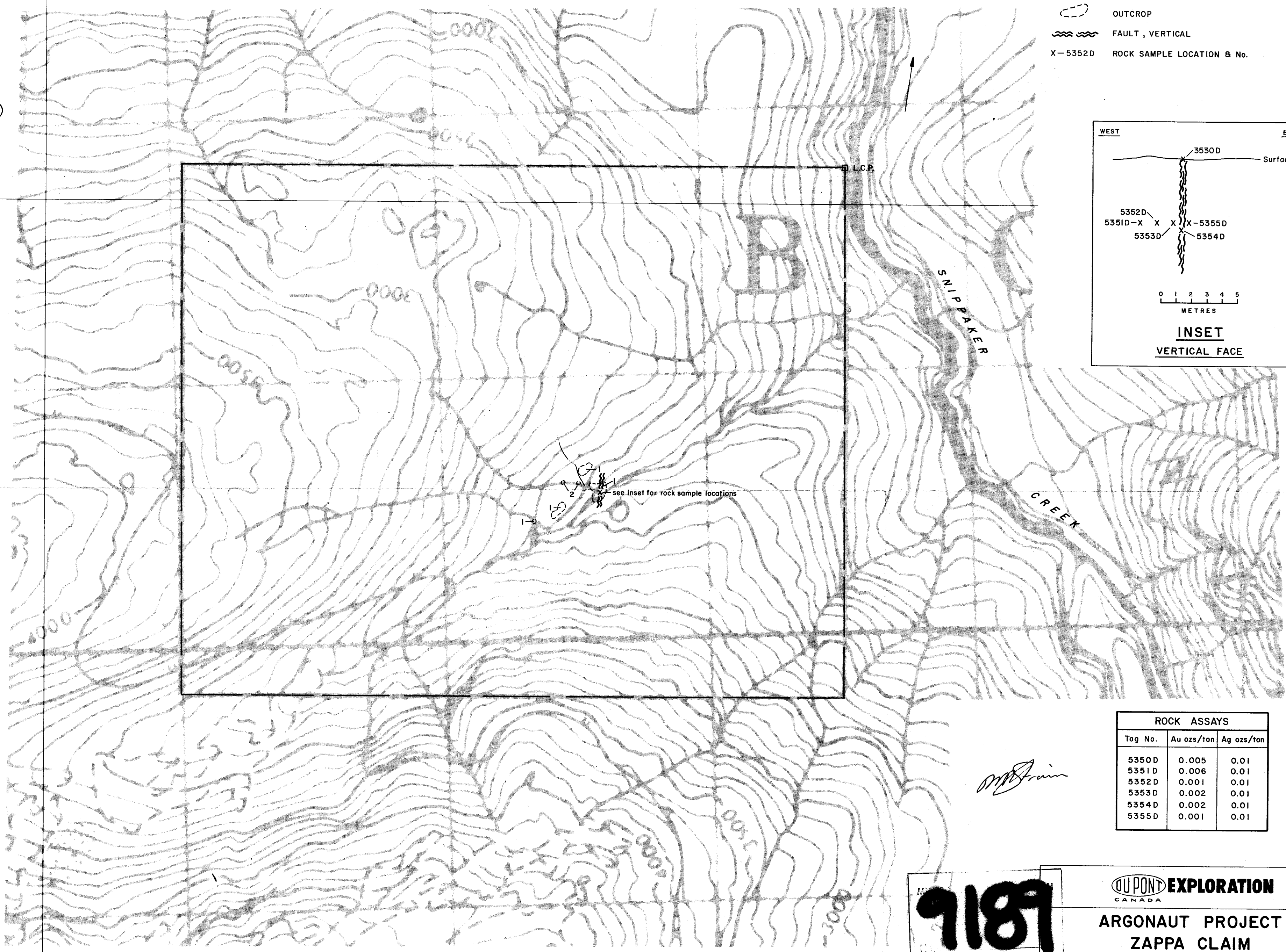
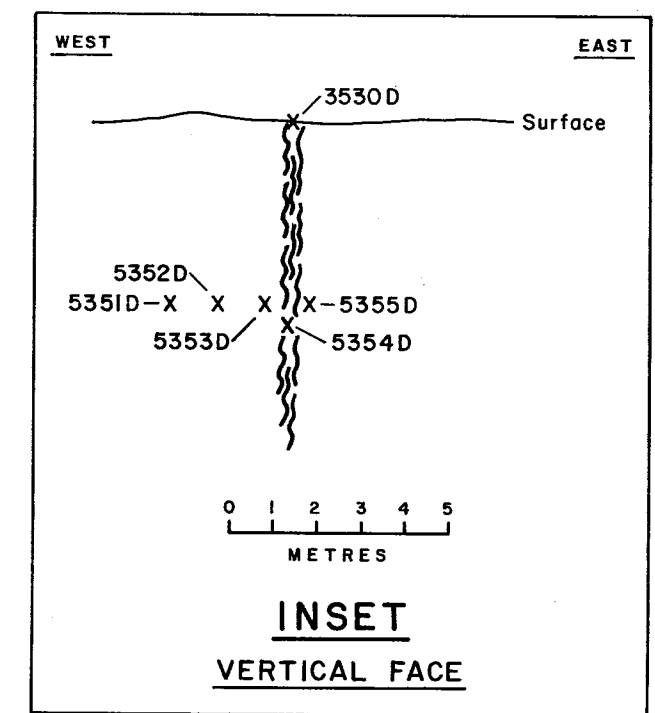
130° 55'

LEGEND

- 2 DIORITE
- 1 MASSIVE, LIGHT GREY TO GREEN VOLCANICS

SYMBOLS

- OUTCROP
- FAULT, VERTICAL
- X-5352D ROCK SAMPLE LOCATION & No.



M. J. ...

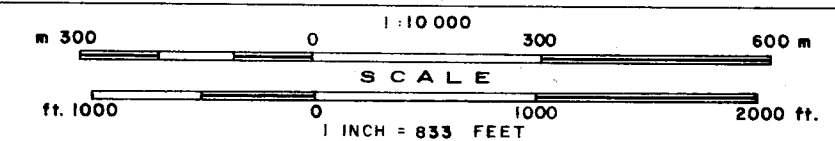
ROCK ASSAYS		
Tag No.	Au ozs/ton	Ag ozs/ton
5350D	0.005	0.01
5351D	0.006	0.01
5352D	0.001	0.01
5353D	0.002	0.01
5354D	0.002	0.01
5355D	0.001	0.01

9187

OUPON EXPLORATION
CANADA

**ARGONAUT PROJECT
ZAPPA CLAIM
GEOLOGY**

ISKUT RIVER AREA, BRITISH COLUMBIA



MAPPED BY: D.M.S.	REVISED:	N.T.S. No.: 104 B 10W
DATE: 80.07.19		ACCT No.: 347-54
DRAWN BY: K.L.J.		DRWG. No.: AR.80-213
DATE: 81.04.22		

130° 55'

130° 55'

56° 40'

Note Regarding Original Sample Results:

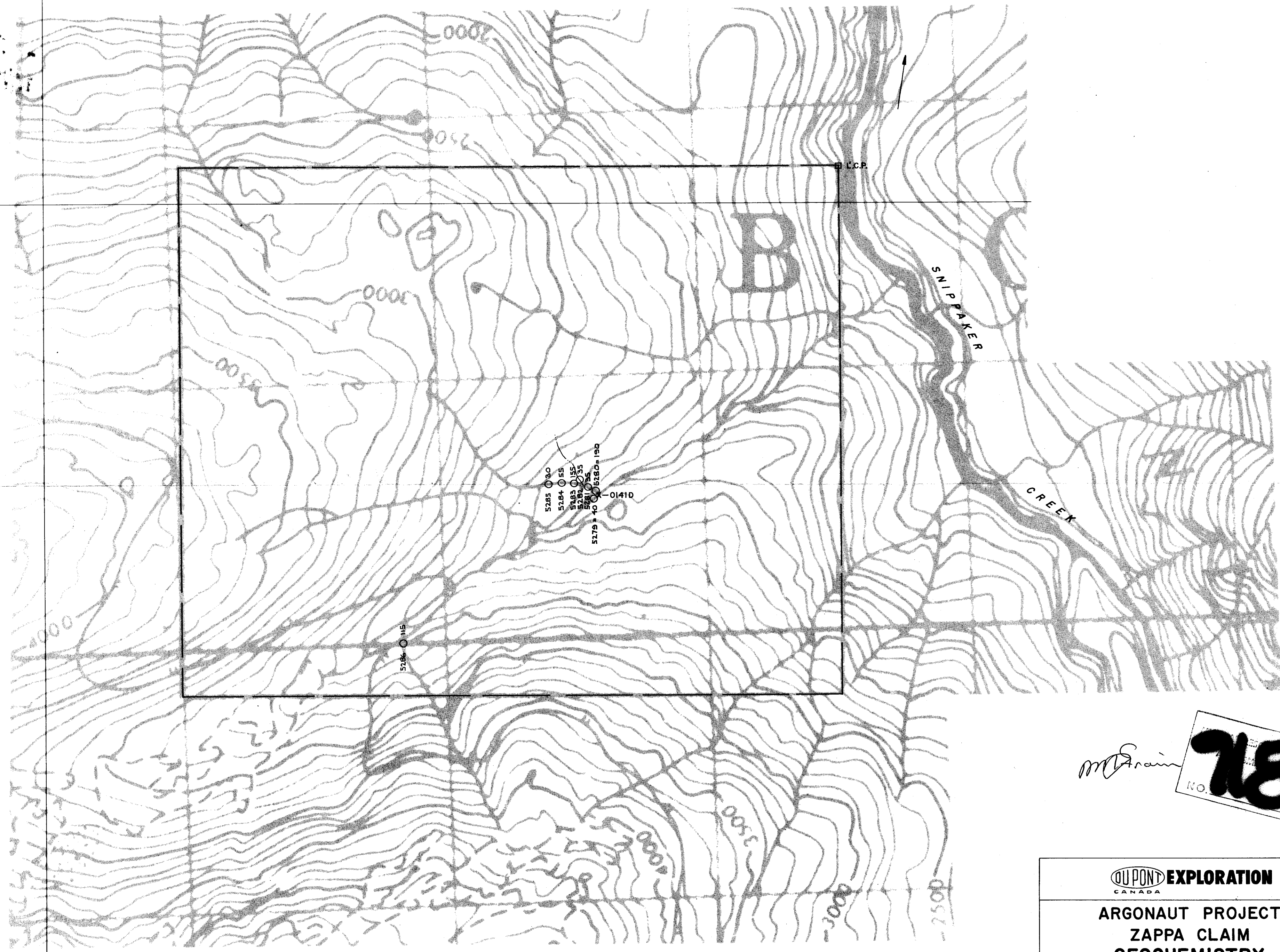
The results of the analysis of the heavy mineral concentrate from the -20 (-20 +100 mesh) fraction are not weighted.

ORIGINAL SAMPLE RESULTS

Tag No.	Mesh	Au P.P.B.	As P.P.M.	Pb P.P.M.	Cu P.P.M.	Ag P.P.M.	W P.P.M.	Sb P.P.M.	Cd P.P.M.	%H.M.
0141 D	- 20	130	176	610	440	7.6	2	140	6.0	4.85
	-100	7000	67	158	-	2.2	6	45	1.6	-

LEGEND

- 5285 ○ STREAM SEDIMENT SAMPLE LOCATION & No. ('D' SERIES)
- 30 -80 MESH VALUE FOR Au IN P.P.B.
- X-0141 D ORIGINAL STREAM SEDIMENT SAMPLE LOC. & No.



M. Grain
 NO. **7189**

DU PONT EXPLORATION
CANADA

**ARGONAUT PROJECT
 ZAPPA CLAIM
 GEOCHEMISTRY
 Au IN P.P.B.
 ISKUT RIVER AREA, BRITISH COLUMBIA**

m 300 0 1:10 000 300 600 m
 SCALE
 ft. 1000 0 1 INCH = 833 FEET 1000 2000 ft.

MAPPED BY: D.M.S.	REVISED:	N.T.S. No.: 104 B 10W
DATE: 80 07 19		ACCT No.: 347-54
DRAWN BY: K.L.J.		DRWG. No.: AR. 80-214
DATE: 81 04 22		