

DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE BIG CLAIM

LILLOOET MINING DIVISION

LAT. 52°1.5'N, LONG. 122°39.5'W

NTS: 92-O-2E

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

Author: F. M. Smith
Date Submitted: 1981 June 8

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Dwg. AR 80-168 Geochemistry Map	"

I

INTRODUCTION(a) Location

The BIG claim is located approximately 20 km north-northeast of Goldbridge, B.C., on Big Sheep Mountain at the headwaters of Noaxe Creek. The centre of the claim is located at approximately 52°1.5'N latitude and 122°39.5'W longitude.

Elevation on the claim ranges from 1800 metres to 2300 metres. About 90% of the claim is above tree line and the remainder is sparsely covered with low shrubs and pine trees.

(b) Access

Access to the BIG claim is most convenient by rotary wing aircraft from Goldbridge, B.C. A dry weather trail comes within 2 km east of the claim. Access to this trail is gained from the road along Yalakom River, 15 km to the east.

(c) Claim Definition

The BIG claim represents 20 contiguous units with record numbers, tag numbers and record dates as listed below:

<u>Claim(units)</u>	<u>Record No.</u>	<u>Tag No.</u>	<u>Record Date</u>
BIG (20)	1367	62586	June 11, 1980

The current owner and operator of the claim is Du Pont of Canada Exploration Limited. The claim was staked to facilitate work on an auriferous geochemical anomaly.

(d) Economic Assesement of the Property

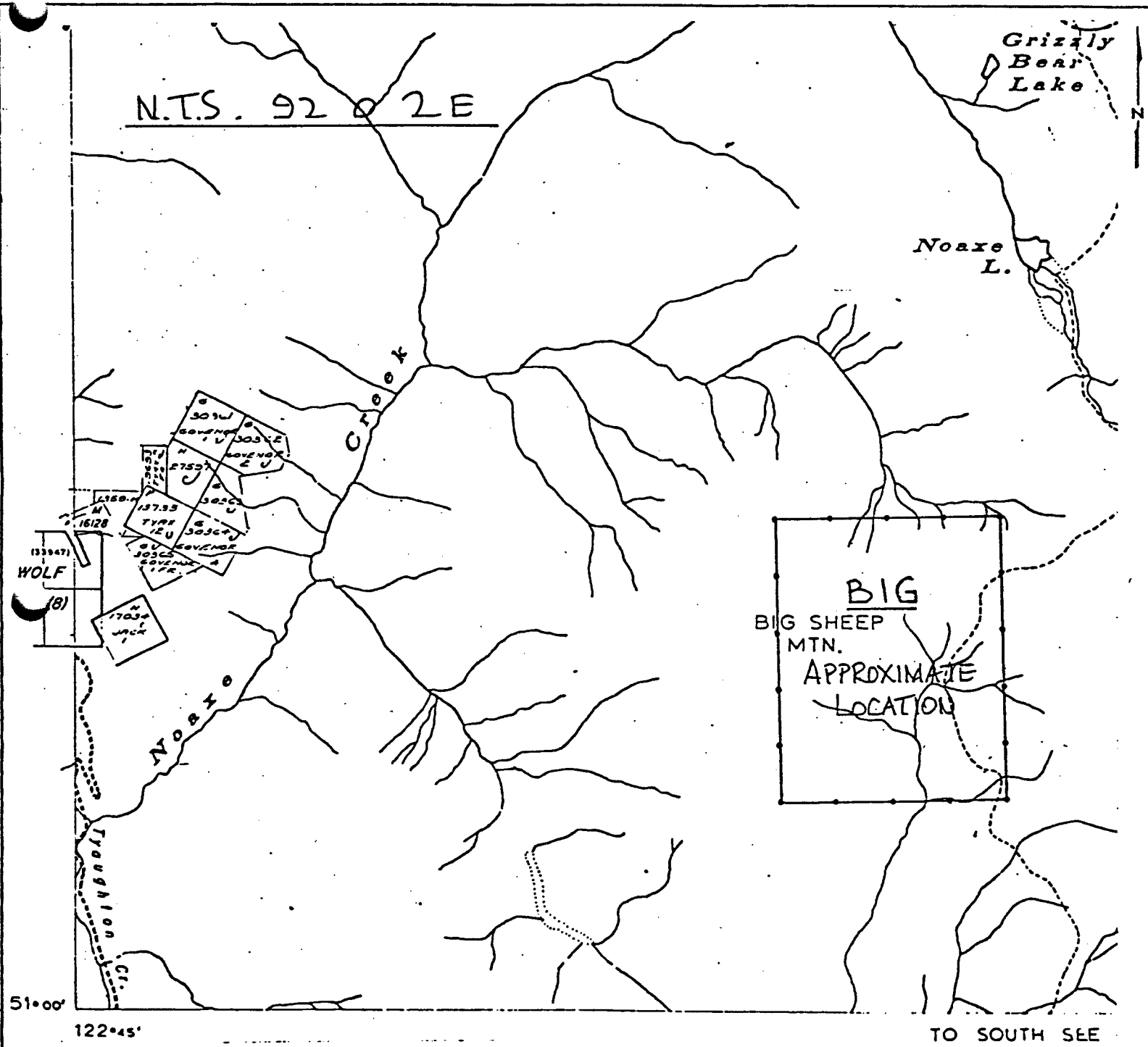
There has been no extensive previous exploration on the property, to the writers knowledge. No significant economic mineralization was noted during the course of the present investigation.

Figure 1 - Index Map

BIG Claim

Lillooet M.D.

NTS: 92-0-2E



LOCATION MAP

Show nearest town and access road 10 20 30 40 km

(e) Summary of Work Performed

A total of 38 soil samples, 18 stream sediment samples and 15 rock samples were collected from the BIG claim.

Geological mapping was done using aerial photographs and topographic maps for control. Mapping was done at a scale of 1:10 000.

II GEOLOGY(a) Introduction

The claim is located in the extreme western margin of the southern Intermontane Belt fringing the Coast Crystalline Belt. According to published maps the property is underlain by Middle Triassic Bridge River Group argillites and cherts, Upper Cretaceous Kingsvale Group sedimentary rocks and Eocene felsite and feldspar porphyries. The distribution of rock types is shown on Dwg. AR 80-167.

(b) Lithologyi) Granodiorite-Diorite

This unit is a medium to coarse grained, grey to black and white speckled rock containing variable amounts of quartz and orthoclase feldspar. Granodiorite occurs as small stocks and opophyses intruding older sedimentary rocks. Disseminated pyrite is common and usually less than 5% of rock volume. Kaolinized feldspars is common although in patches. All micas have been completely sericitized, imparting a sparkle to most weathered surfaces. Chilled margins were observed along the southern contact with argillite.

ii) Andesite

Andesite is medium green to dark green with medium to coarse grained feldspar phenocrysts in a fine grained to massive groundmass.

Magnetite is quite common, although not abundant. Black hornblende phenocrysts occur in most of the andesite, frequently very fine grained. Andesite also occurs as 10 cm wide dykes cutting granodiorite in the western area of the claim. This unit, where porphyritic, may be analogous to the Eocene feldspar porphyries reported on published maps.

iii) Rhyolite

This unit is white to tan with an aphanitic matrix, 1 mm kaolinized feldspar phenocrysts and 1-2 mm colourless quartz eyes. Feldspar phenocrysts are pervasive and quartz eyes are less common. Pyrite and limonite (after pyrite) are common and locally amount to 10% of the rock volume. Tuffaceous and/or fragmental rhyolite is common in the central portion of the claim. Dykes and pods of hornblende and plagioclase porphyry andesite are common throughout the rhyolite. No attitude of the rhyolite was obtainable due to the lack of flow textures, blocky nature and poor exposure.

iv) Sandstone-Conglomerate

Underlying the rhyolite in the eastern portion of the claim is a brown sandstone - conglomerate unit. This unit consists of intercalated buff to dark brown sandstone and grey to brown pebble conglomerate in approximately equal amounts. No visible signs of contact metamorphism was observed in this unit and no obvious bedding attitudes were obtained.

v) Argillite-Chert

This unit is a dark grey to black, fine grained thinly bedded graphitic rock striking 015° and dipping 45° northwest. Minor thin beds of dark green tuff occur within the unit. South-

east of the granodiorite-argillite contact minor grey quartz float was observed. A narrow grey quartz-carbonate vein (<1 m) was observed southeast of the float, cutting the argillite. Rock samples were sent for geochemical analysis reporting only background values for Au and Ag.

(c) Structure

From the data available it was noted that the argillite-chert unit strikes at 015° and dips approximately 45° northwest. Attitudes of other units could not be determined in the field. Deformation of country rock by intrusion of the granodiorite did not appear to have occurred, although minor contact metamorphism of the argillite did occur.

(d) Mineralization

Disseminated pyrite is common in the granodiorite and rhyolite. Minor quartz veining was evident with blackish sulphides. Several rock samples containing quartz and sulphides were analyzed for Au and Ag but reported only background values.

(e) Conclusions

The claim is underlain by andesites and rhyolitic volcanic rocks of probable Eocene age. These are underlain by Triassic to Cretaceous sedimentary rocks of argillite, chert sandstone and conglomerate. Intrusive into the sedimentary rocks is a granodiorite-diorite body of probable Upper Cretaceous age. This granodiorite is cut by several andesite dykes of similar composition to the andesitic volcanic rocks.

Kaolin and sericite alteration of the intrusive is pervasive. Minor quartz veining occurs within the argillite-chert. Pervasive disseminated pyrite occurs in the granodiorite and rhyolite.

No mineralization of economic significance was noted during the course of the present investigation.

III GEOCHEMISTRY

(a) Sample Collection, Preparation and Analysis

A total of 38 soil samples were collected from depths of 10 to 20 cm using a mattock with an 8 cm x 13 cm blade to dig to the B or C horizon. All samples were placed in a labelled wet-strength Kraft paper envelope and a plastic flag was fixed at the site bearing the identical number as the sample envelope. Descriptive data about the sample was recorded on prepared data sheets and filed.

A total of 18 stream sediment samples were collected at 100 m intervals. Samples were placed in numbered wet-strength sample envelopes. Collection sites were marked with a plastic flag bearing the identical number on the sample envelope. Specific data pertaining to the sample was recorded on special information tags.

A total of 15 rock samples were taken at random localities. Rocks were placed in plastic sample bags. Sample sites were identified with plastic flags bearing the identical number as the sample bag.

Soil, stream sediment and rock samples were sent to Min-En Laboratories in North Vancouver for preparation and analysis. Soil and stream sediment samples were oven dried and sieved to -80 mesh. The -80 mesh fraction was analyzed for Au, Cu, Pb, Zn, Cu and Ag according to the procedures outlined in Appendix A. Rock samples were crushed, split, pulverized and sieved to -80 mesh. The -80 mesh fraction was then analyzed for Au, Cu, Pb, Zn, Ag according to the procedures outlined in Appendix A.

(b) Results and Interpretation

Drawing AR 80-168 shows the sample locations, sample number and results of the soil and stream sediment samples.

i) Stream Sediment Samples

Stream sediment samples reported only background values for Au, (less than 10 ppb). Lead values range from 13 ppm to 50 ppm, all within background range. Copper values range from 13 ppm to 39 ppm, all within background levels. Zinc values range from 37 ppm to 297 ppm with values greater than 80 ppm considered anomalous. Sample Nos. 4871A, 4692B, 4693B, 4694B, 4695B, 4696B and 4697B have the following respective values, 119 ppm, 153 ppm, 144 ppm, 230 ppm, 228 ppm, 111 ppm and 297 ppm.

Silver samples all reported background values of 1.0 ppm or less. Samples with 1.0 ppm Ag had corresponding high Zn values.

ii) Soil Samples

Gold values in soils range from less than 5 ppb to 2500 ppb with values greater than 75 ppb considered anomalous. Sample Nos. 4859A, 4862A and 4865B had values of 360 ppb, 300 ppb and 600 ppb respectively. Sample No. 4860A had a value of 2500 ppb Au. Lead values range from 10 ppm to 452 ppm with values greater than 60 considered anomalous. Copper values range from 1 ppm to 130 ppm with values greater than 40 considered anomalous. Zinc values range from 27 ppm to 2110 ppm with values greater than 80 ppm considered anomalous. Silver values range from 0.2 ppm to 5.4 ppm with values greater than 1.2 ppm considered anomalous. Sample Nos. 4859A, 4860A, 4863A and 4674B had values of 5.2 ppm, 3.4 ppm, 5.4 ppm and 3.1 ppm respectively.

Generally soil samples with anomalous Au values had anomalous Pb, Zn and Ag values but low Cu values.

iii) Rock Samples

Rock samples all reported background values for Au, Ag, Pb, Zn and Cu. Background metal values were within the same limits as background values in soil samples.

In conclusion, stream sediment and soil samples indicate the presence of base and precious metal mineralization although no significant economic mineralization was observed during the present investigation.

IV COST STATEMENT

(a) Wages

	<u>Rate/ day</u>	<u>Spec. dates</u>	<u>No. days</u>	<u>Cost</u>
1 sampler	\$ 38.11	Aug.23/80	1	\$ 38.11
1 jr. field asst.	46.58	Aug.23/80	1	46.58
1 sr. geol.	180.44	Aug.23/80	1	180.44
1 sr. field geol.	76.24	Aug.23/80	1	76.24
1 field tech.	39.18	February/81	0.5	19.59
				<u>\$ 360.96</u>

(b) Room and Board

Per diem rate of \$38.15 - based on 4 person days: \$ 152.60

(c) Transportation

Helicopter

Terr-Air charter ticket #1136 (0.8 hours @ \$426/hour): \$ 340.80

Billed on invoice no.513

(d) Analytical Services

Min-En Laboratories invoice no.7471

56 soil & stream sed. - prep. (@ \$0.60 ea.)	\$	33.60
56 soil & stream sed. - Au (@ \$4.25 each)		238.00
56 soil & stream sed. - Cu,Pb,Zn,Ag (@ \$4 ea)		224.00
15 rock - prep. (@ \$2.00 each)		30.00
15 rock - Au,Cu,Pb,Zn,Ag (@ \$8.25 each)		123.75
		<hr/>
		649.35

(e) Report Preparation

	<u>Rate/ day</u>	<u>Spec. dates</u>	<u>No. days</u>	
Drafting	\$127.00	Mar.30,31/81	2	\$ 254.00
Typing	64.80	Mar.30,31/81	2	129.60
Compilation	141.04	Mar.30,31/81	2	282.08
				<hr/>
				\$ 665.68

(f) Miscellaneous

Room and board - pilot @ \$38.15/day	\$	38.15
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GRAND TOTAL		<u>\$2,207.54</u>
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V. STATEMENT OF QUALIFICATIONS

I, F. Marshall Smith, do hereby certify that:

1. I am a geologist residing at 6580 Mayflower Drive, Richmond, BC and employed by Du Pont of Canada Exploration Limited.
2. I am a graduate of University of Toronto with a B.Sc. in geology.
3. I am a registered Professional Engineer of the Province of British Columbia, Member of the Association of Exploration Geochemists and Fellow of the Geological Association of Canada.
4. I have practised my profession continuously for the last 13 years in Canada.
5. Between 1980 August 23 and 1981 January 30, I supervised/directed a field programme on the Big Claim on behalf of Du Pont of Canada Exploration Limited.



*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 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.

MIN-EN Laboratories Ltd.

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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.

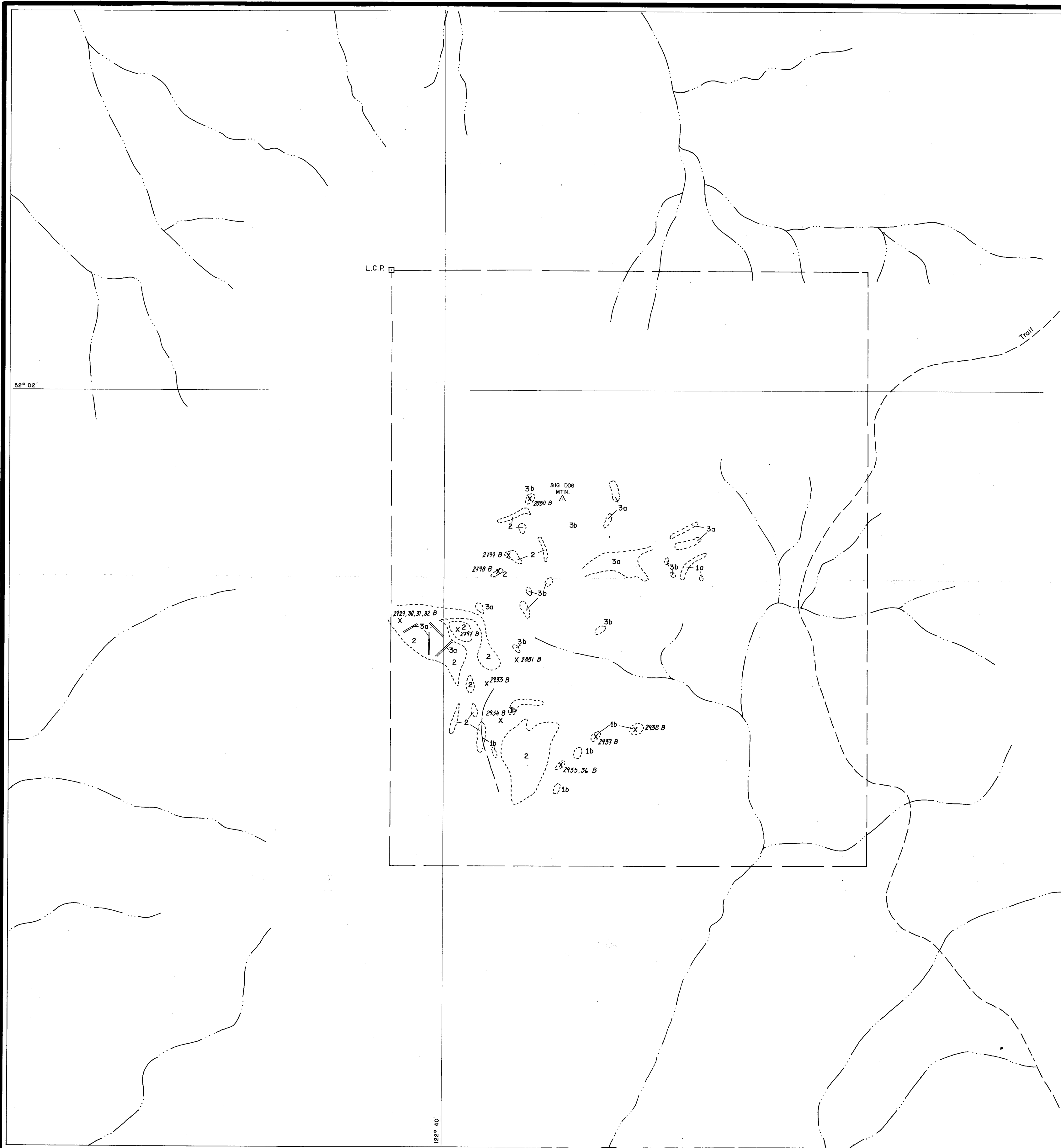
A suitable sample weight 5.0 or 10.0 grams are pre-treated with HNO_3 and HClO_4 mixture.

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.



LEGEND

- 3a 3b a. ANDESITE, b. Rhyolite
- 2 GRANODIORITE - DIORITE
- 1a 1b a. SANDSTONE - CONGLOMERATE
b. ARGILLITE - CHERT

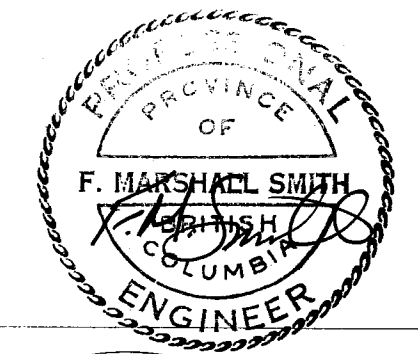
SYMBOLS

- AREA OF PATCHY OUTCROP
- GEOLOGIC CONTACT
- DYKE
- STRIKE AND DIP OF BEDDING
- ROCK SAMPLE LOCATION AND NUMBER
- CLAIM BOUNDARY AND LEGAL CORNER POST

ROCK SAMPLE RESULTS

Tag #	Mesh	Au (PPB)	Pb (PPM)	Zn (PPM)	Cu (PPM)	Ag (PPM)
2797B	- 80	25	13	25	6	0.7
2798B	"	5	22	36	28	1.6
2799B	"	20	12	41	12	0.5
2850B	"	5	21	19	19	2.7
2851B	- 80	5	15	83	46	0.4
2929B	"	5	9	26	29	0.2
2930B	"	5	6	11	20	0.2
2931B	"	<5	6	10	10	0.1
2932B	- 80	5	8	20	33	0.1
2933B	"	<5	35	33	13	0.6
2934B	"	10	32	33	12	1.2
2935B	"	<5	11	6	8	0.3
2936B	"	5	31	40	11	0.7
2937B	- 80	<5	23	34	4	0.6
2938B	"	5	7	6	5	0.1

MINERAL RESOURCES BRANCH
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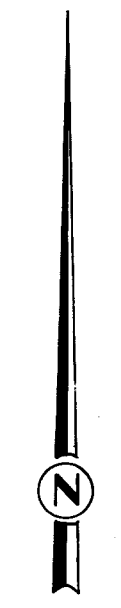
DU PONT EXPLORATION
CANADA

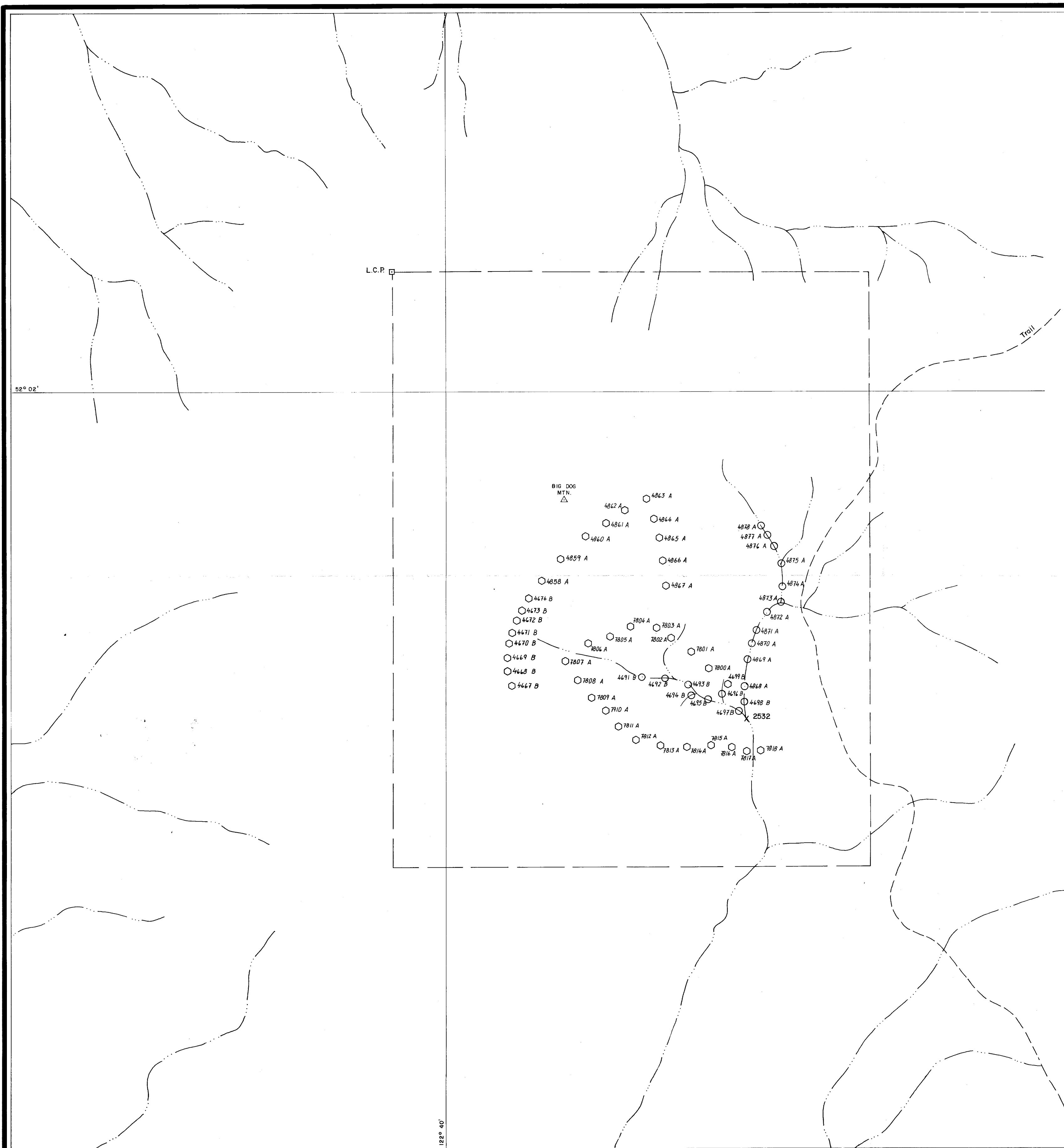
**ARGONAUT PROJECT
BIG CLAIM
GEOLOGY**

TASEKO LAKE AREA, BRITISH COLUMBIA

SCALE
1" = 833 FEET

MAPPED BY: F.M.S. REVISED: N.T.S. No.: 92 0 2E
DATE: 80 08 23 ACCT No.: 347 - 18
DRAWN BY: C.H.K.
DATE: 81 03 13 DRWG. No.: AR. 80-167





LEGEND

- 4875 A STREAM SEDIMENT SAMPLE LOCATION AND NUMBER
- 7801 A SOIL SAMPLE LOCATION & NUMBER
- X 2532 ORIGINAL STREAM SEDIMENT SAMPLE LOCATION AND NUMBER

ORIGINAL STREAM SEDIMENT SAMPLE RESULTS

Tag	Mesh	Au (PPB)	As (PPM)	Sb (PPM)	Pb (PPM)	Cu (PPM)	Ag (PPM)	ZHM
2532	- 20	10			17	22	0.9	11.77
	-100	800		45		32	1.0	

STREAM SEDIMENT SAMPLE RESULTS

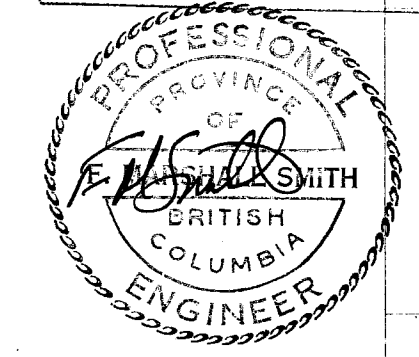
Tag #	Mesh	Au (PPB)	Pb (PPM)	Zn (PPM)	Cu (PPM)	Ag (PPM)
4869A	- 80	5	27	62	23	0.8
4870A	"	10	18	37	17	0.6
4871A	"	5	34	119	30	0.8
4872A	"	10	27	39	13	0.2
4873A	- 80	10	34	55	22	0.4
4874A	"	5	35	40	14	0.3
4875A	"	5	36	54	21	0.8
4876A	"	5	31	55	22	0.6
4877A	- 80	10	29	46	16	0.3
4878A	"	5	28	47	16	0.4
4879A	"	<5	13	51	25	0.8
4892B	"	<5	50	153	39	1.0
4693B	- 80	10	43	144	33	0.9
4694B	"	5	33	230	17	1.0
4695B	"	5	30	228	23	0.6
4696B	"	<5	24	111	17	0.7
4697B	- 80	5	38	297	23	1.0
4698B	-100	5	31	51	24	0.6
4699B						

SOIL SAMPLE RESULTS

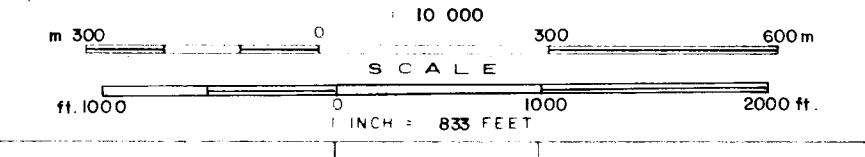
Tag #	Mesh	Au (PPB)	Pb (PPM)	Zn (PPM)	Cu (PPM)	Ag (PPM)
4667B	- 80	<5	25	66	19	0.2
4668B	"	5	41	139	77	1.2
4669B	"	5	35	78	37	0.7
4670B	"	10	56	143	28	0.6
4671B	- 80	10	57	172	25	0.7
4672B	"	20	38	156	14	0.4
4673B	"	75	86	203	103	1.4
4674B	"	75	209	266	130	3.1
4858A	- 80	85	333	530	110	2.7
4859A	"	360	452	880	42	5.2
4860A	"	2500	227	420	28	3.4
4861A	"	85	45	392	27	2.4
4862A	- 80	300	181	995	18	2.2
4863A	"	20	252	1020	16	5.4
4864A	"	5	51	2110	8	0.4
4865A	"	600	117	665	16	1.5
4866A	- 80	10	39	138	17	0.6
4867A	"	5	41	214	16	0.6
4868A	- 20	<5	24	26	26	0.6
7800A	- 80	10	20	110	15	0.8
7801A	"	15	39	304	18	1.6
7802A	"	10	27	134	16	0.6
7803A	"	15	23	152	13	0.5
7804A	- 80	<5	65	420	16	0.9
7805A	"	5	349	495	82	2.3
7806A	"	5	66	188	39	0.9
7807A	"	10	48	136	32	0.9
7808A	- 80	10	19	56	14	0.6
7809A	"	15	34	126	53	1.4
7810A	- 20	10	33	108	57	1.4
7811A	- 80	5	20	74	2	0.6
7812A	"	15	20	63	8	0.8
7813A	"	10	10	58	7	0.5
7814A	"	5	16	60	3	0.6
7815A	- 80	5	12	27	1	0.4
7816A	"	5	12	49	3	0.6
7817A	"	5	20	83	15	0.8
7818A	"	10	34	73	24	1.4

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.

MINERAL RESOURCES
7254
 NO.



DU PONT EXPLORATION
 CANADA
 ARGONAUT PROJECT
 BIG CLAIM
GEOCHEMISTRY
 Au IN P.P.B. & Pb, Zn, Cu, Ag IN P.P.M.
 TASEKO LAKE AREA, BRITISH COLUMBIA



MAPPED BY	F.M.S.	REVISED	NTS No. 92 0 2E
DATE	80 08 23		ACCT No. 347 - 18
DRAWN BY	C.H.K.		DRWG No. AR. 80-168
DATE	81 03 13		

