

DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL AND GEOCHEMICAL REPORT

SOB CLAIMS

SKEENA MINING DIVISION

LAT. 56°32'N, LONG. 130°18'W

NTS: 104-B-9W

OWNER OF CLAIMS: Du Pont of Canada Exploration Limited

OPERATOR: Du Pont of Canada Exploration Limited

MINING RESOURCES BRANCH
ASSESSMENT REPORT
9234
NO. _____

L. Eccles

Author: L. Eccles

Date Submitted: 1981 June 8

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I INTRODUCTION(a) Location and Access

The SOB claims are located in northwestern British Columbia within the Skeena Mining Division, NTS 104-B-9W. The property is centered across Mitchell Creek immediately upstream from McTagg Creek. The group is centered by latitude 56°32'N and longitude 130°18'W.

At present access into the property is exclusively via helicopter either from the Stewart-Cassiar Highway 35 kilometres to the northeast or from the town of Stewart 70 kilometres to the SSE. Stewart represents the major Canadian supply centre within the region.

(b) Physiography

The SOB property is situated within the Boundary Ranges of the Coast Mountains. This geographic province consists of a mountainous and glaciated terrain that exhibits relief in excess of 2000 metres. Tree-line varies from 1000-1200 metres above sea level. Below this point particularly within the lower valleys vegetation predominantly consists of a dense growth of spruce. Active glaciation is prevalent in the area particularly in terrain above 1500 metres.

Elevation over the SOB property varies from 630 metres along Mitchell Creek to 1660 metres at the north boundary of the group. Approximately one third of the claim block occurs above tree-line.

(c) Claim Status

The SOB property entails a total of 18 units. Pertinent data for the group is outlined below:

Record No: 2437

Tag No: 64784

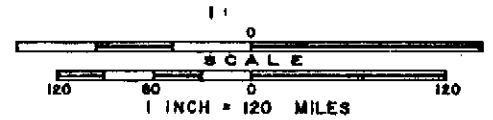
Date Recorded: July 14, 1980

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

DU PONT EXPLORATION
CANADA

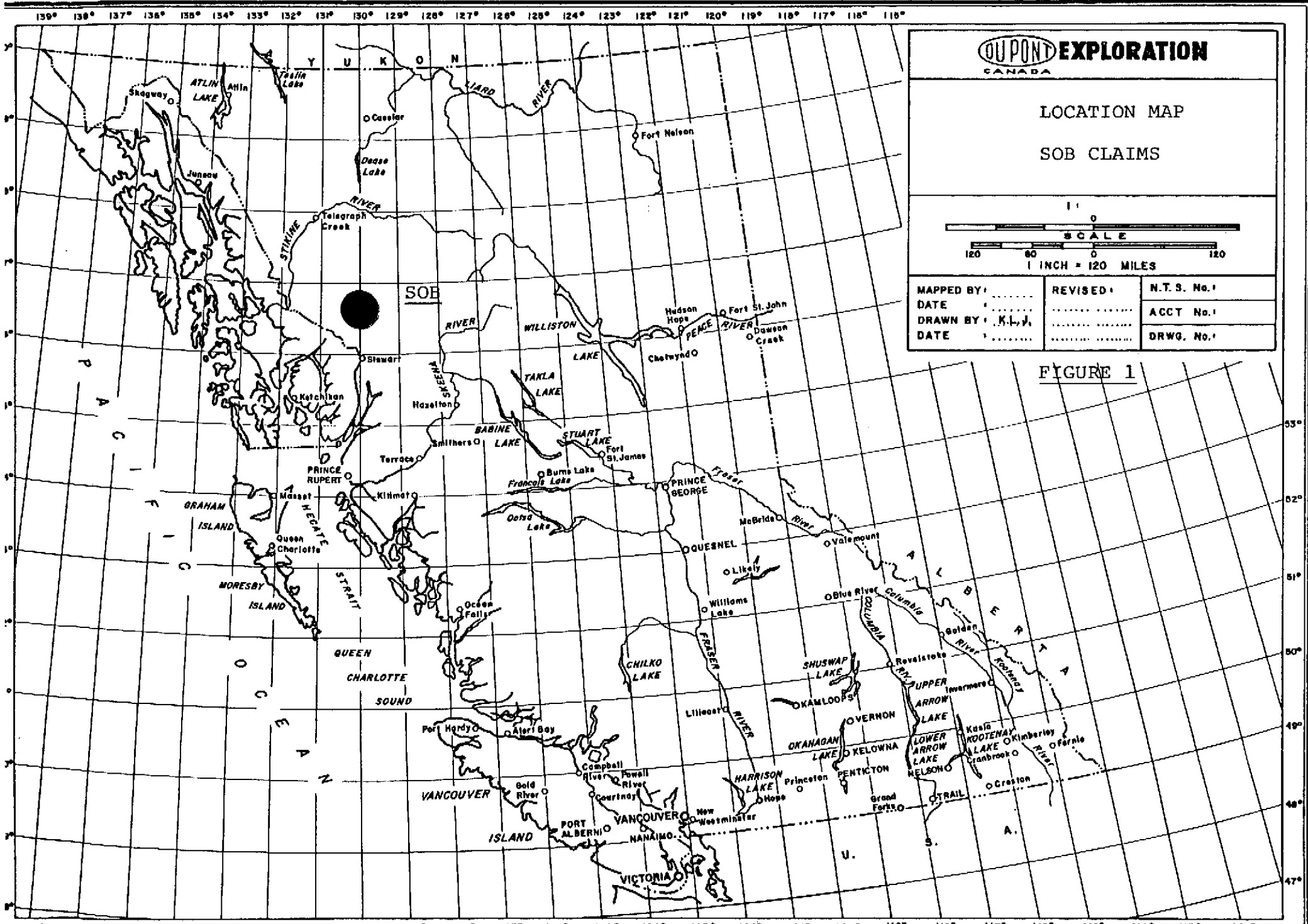
LOCATION MAP

SOB CLAIMS



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

FIGURE 1



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°

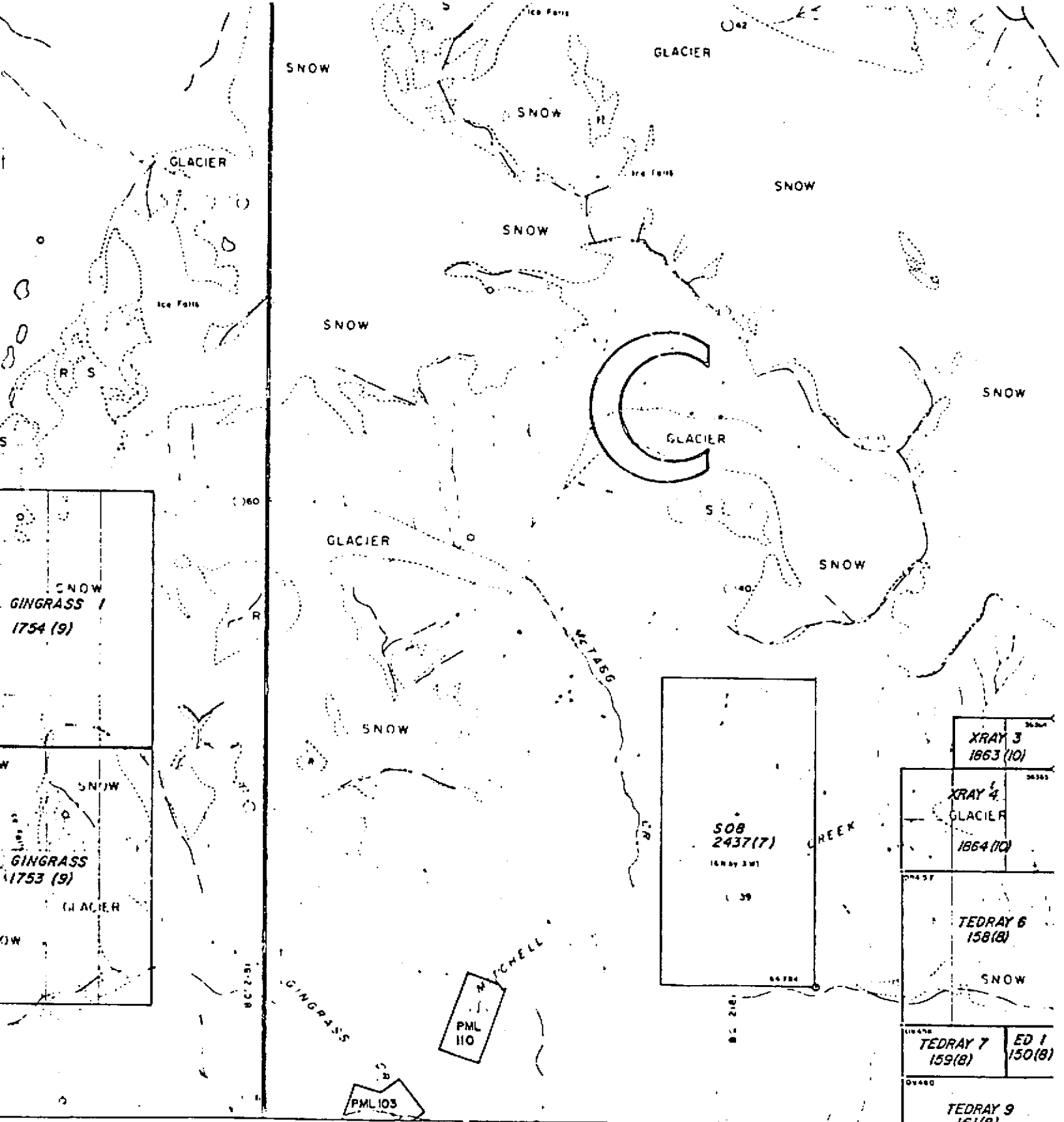


Figure 2 - INDEX MAP

SOB CLAIM

NTS: 104-B-9W
 SCALE: 1:50 000

Claims centered at:

Lat. 56°32'N
 Long. 130°18'W

(d) History and Economic Assessment of Property

No previous assessment work has been filed for the area presently covered by the SOB claims. Immediately to the east and southeast:- Mitchell Glacier and Sulphurets Creek, considerable exploration dating back to at least 1960 has been conducted in search of copper and molybdenum mineralization and most recently precious metals. Granduc Mines Ltd. has conducted the bulk of the evaluation within this area.

Results derived from the 1980 field programme revealed no significant economic mineralization on the property.

(e) Summary of Work

Subsequent to staking the claims, two principal areas within the claim group were investigated. In the northeast a traverse was run along a south draining tributary of Mitchell Creek and a programme of prospecting, geological mapping and stream sediment sampling was conducted. The mapping was performed at a scale of 1:10 000 (Dwg. No. AR 80-177). The length of the traverse was one kilometre. Near the southern boundary of the claims a gossan was investigated. This included mapping and obtaining a rock and soil sample. A total of 4 rock, 1 soil and 6 stream sediment samples were obtained across the property.

II GEOLOGY(a) Regional Geology

The Boundary ranges of the Coast Mountains occur along the contact of the Intermontane and Coast Crystalline geologic provinces. The latter, the bulk of which occurs across the border in the Alaskan panhandle consists of Tertiary and Cretaceous quartz monzonite and quartz diorite. The Intermontane belt within the Unuk River area consists of Carboniferous and Permian schists; Upper Triassic andesite, basalt and clastic sediments and Jurassic clastic sediments and minor volcanics.

Intruding the intermontane belt within this region are a number of intrusives that include Triassic diorite and monzonite, Jurassic quartz diorite and Cretaceous and Tertiary quartz monzonite.

Pliocene - recent aerial volcanism extruded rhyolites, basalts and tuffs within the Edziza Peak, Level Mountain and to a lesser extent Iskut River areas.

(b) Property Geology

The SOB claims, as indicated on GSC map 1418A (1974), are underlain by Middle Jurassic Hazelton Group and Lower Jurassic clastic sediments and tuffs. Within or just off the southeastern corner of the property, a 5 by 2 kilometre plug of Jurassic syenodiorite has apparently been intruded.

Mapping along the main creek draining the north side of the claims, a tributary of Mitchell Creek, was observed to be underlain predominantly by black argillites, greywackes and hornfelsed versions of the same. These sediments are generally black in colour, are well foliated and can vary from being a relatively siliceous and massive unit to that of a fissile slaty and rusty weathering black unit.

Intruding these sediments, particularly at the 900-1100 metre level (along the creek), are a series of andesitic to dacitic dike swarms.

South of Mitchell Creek a small gossan was observed to occur within a suite of porphyritic andesitic to dacitic volcanics. Specifically, the gossan appears to be associated with a breccia zone proximal to a fault.

North of Mitchell Creek in the immediate vicinity of the andesitic-dacitic dikes are several quartz and calcite veins. The white quartz veins are up to 20 cm in thickness, host minor pyrite and are orientated both conformable and oblique to bedding. Slightly upstream from the quartz veins is a 60 cm calcite vein which is orientated parallel to the creek and dips 50°W. Closely associated with both vein types is the presence of a carbonate alteration zone which extends 2 to 10 metres out from the veins.

This carbonate alteration zone exhibits a rusty weathered surface and a light-medium grey fresh surface. It is siliceous and contains finely disseminated pyrite and minor copper staining.

Data obtained to date reveals a general north to NNW strike and a moderate (50-54°) west dip for the sediments. Several fault and shear zones have been observed. The nature and extent is unknown.

(c) Mineralization

Pyrite occurs in minor amounts as disseminations within the 'carbonate alteration' zone, unaltered argillites and the quartz veins. Minor copper staining was observed in one instance within the alteration zone. No other sulphides were observed during the course of the property investigation.

A total of 4 rock samples were obtained and assayed for Au (oz/ton), Ag (oz/ton), Pb and Cu. The results, which are outlined below, revealed background values. No anomalous results were obtained with respect to the elements analyzed.

<u>Samp. #</u>	<u>Rock Type</u>	<u>Au(o/t)</u>	<u>Ag(o/t)</u>	<u>Pb%</u>	<u>Cu%</u>
3478	argillite	0.002	0.01	0.01	0.006
3479	carb.alt'n; q.v.	0.002	0.01	0.01	0.004
3480	carb.alt'n; c.v.	0.001	0.001	0.01	0.004
3481	hornblende porphyry	0.001	0.01	0.01	0.013

(d) Conclusions

The SOB property is underlain by a series of north-south striking and westerly dipping argillites and greywackes. North of Mitchell Creek in the vicinity of an irregular swarm of andesitic-dacitic dikes, a number of quartz and calcite veins are noted to outcrop. A zone of 'carbonate alteration' appears to be related to the veining. Assays obtained from veins and the carbonate altered unit returned only background values in gold, silver, copper and lead. No significant mineralization has been observed on the property to date.

III GEOCHEMISTRY(a) Procedure

Six stream sediment, one soil and four rock samples were obtained from the SOB property. The four rock samples, of which the -100 mesh fraction was used, was assayed for Au, Ag, Pb, and Cu. Results are discussed under 'Mineralization'. The stream sediment samples were obtained from a south draining tributary of Mitchell Creek. A total of six samples were obtained along a traverse length of one kilometre. A lone soil sample was taken from a gossan zone, south of Mitchell Creek. The sample was derived approximately 15 cm below surface within the B horizon(?). Both stream sediment samples and the soil sample were deposited in wet strength sample bags and shipped to Min-En Laboratories in North Vancouver, BC for preparation and analysis. A -80 mesh fraction was obtained and geochemically analyzed for Au(ppb), Ag(ppm), Pb(ppm) and Cu(ppm). The specific procedure with respect to preparation and analysis is outlined in Appendix A.

(i) Results

Drawing AR 80-178 denotes the various sample locations and their respective results. In regard to the four elements analyzed for the stream sediments, similar trends are observed. Respective concentrations increase upstream to the vicinity of the quartz and calcite veining above which background values prevail. This is best illustrated below:

	<u>Downstream Point</u>	<u>Anomalous Zone</u>	<u>Above Veining</u>
Au (ppb)	5	25	5-10
Ag (ppm)	2.0	3.7	1.1
Pb (ppm)	40	46	23
Cu (ppm)	163	350	76

The soil obtained within the gossan zone south of Mitchell Creek (#5431) analyzed 5 ppb Au, 2.2 ppm Ag, 56 ppm Pb and 195 ppm Cu.

In conclusion the geochemistry conducted to date within the SOB property indicates a weakly anomalous Au-Ag-Cu-(Pb) zone in the vicinity of the quartz/calcite veins and the andesitic-dacitic dikes. Visual examination of that zone has not collaborated the geochemical results to date.

IV COST STATEMENT

(a) Wages

	<u>Rate/ day</u>	<u>Dates</u>	<u>No.days</u>	<u>Cost</u>
1 geologist	\$102.37	Jul.24/80	1	\$ 102.37
1 jr. field asst.	39.18	Jul.24/80	1	39.18
1 tech.asst.	39.18	November/80	1	39.18
1 geologist	146.92	Mar.10-12/81	3	440.76
				<u>\$ 621.49</u>

(b) Room and Board

The per diem rate of \$50.41 applies to 2 person days for July 24, 1980. \$ 100.82

(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 1980	Van/Stewart	CP/TPA	2 @ \$150.10	\$ 300.20
Jul.14	Van/Stewart	CP/TPA	3 @ \$150.10	450.30
Jul.15- 16/80	Whitehorse/ Van/Stewart	CP/TPA	1 @ \$301.00	301.00
Jul.16	Van/Stewart	CP/TPA	1 @ \$150.10	150.10
Jul.21- 22/80	Whitehorse/ Van/Stewart	CP/TPA	1 @ \$301.00	<u>301.00</u>
				\$1,502.60
				<u>\$ 88.39</u>

SOB portion (2/34 person days)

Transportation (cont.)

Helicopter (Stewart-Camp-Stewart)

Terr-Air Rotary Limited

July 16/80 - Invoice #907 - (5.5 hrs @ \$366/hr)	\$2,013.00
July 28/80 - Invoice #917 - (8.3 hrs @ \$366/hr)	3,037.80
	<hr/>
	\$5,050.00

Charter split with another area:	\$2,525.40
SOB Claim portion of expenses:	\$ 148.55

B. To/On Claims

Terr-Air charter ticket #913 (1.03 hrs) (Billed on invoice no.591)	\$ 376.98
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Total transportation exp.	<hr/> <hr/>
	\$ 613.92

(d) Analytical Services

Min-En Laboratories invoice #6862

4 rock - Au, Ag (@ \$7.50 each)	\$ 30.00
4 rock - Preparation (@ \$2.50 each)	10.00
4 rock - Pb, Zn (@ \$11.00 each)	44.00
4 rock - Ag (@ \$6.50 each)	26.00
6 stream sed./1 soil Preparation (@ \$0.60 each)	4.20
6 stream sed./1 soil, Au (@ \$4.25 each)	4.25
6 stream sed./1 soil, Pb (@ \$1.75 each)	12.25
6 stream sed./1 soil, Cu (@ \$0.75 each)	5.25
6 stream sed./1 soil, Ag (@ \$0.75 each)	5.25
	<hr/>
	\$ 166.70

(e) Report Preparation

	<u>Rate</u>	<u>Dates</u>	<u>No.days</u>	
Drafting	\$127.00	Mar.12-13 1981	2	\$ 254.00
Typing	64.80	Mar.16-17 1981	2	129.60
				<hr/>
				\$ 383.60

(f) Miscellaneous

Cooks wages @ \$86.40/day (July 16-28)	\$1,123.20
SOB portion of expenses (2/34 person days)	66.07
Room and Board: - Pilot and Cook	
Per diem rate of \$50.41	\$1,310.66
SOB portion of expenses:	77.09
TOTAL MISC.	<u>\$ 143.16</u>
GRAND TOTAL	<u><u>\$2,029.69</u></u>

V. 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 13 - August 31, I directed/supervised a field programme on the SOB property on behalf of Du Pont of Canada Exploration Limited.



Louise K. Eccles

APPENDIX A*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 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.

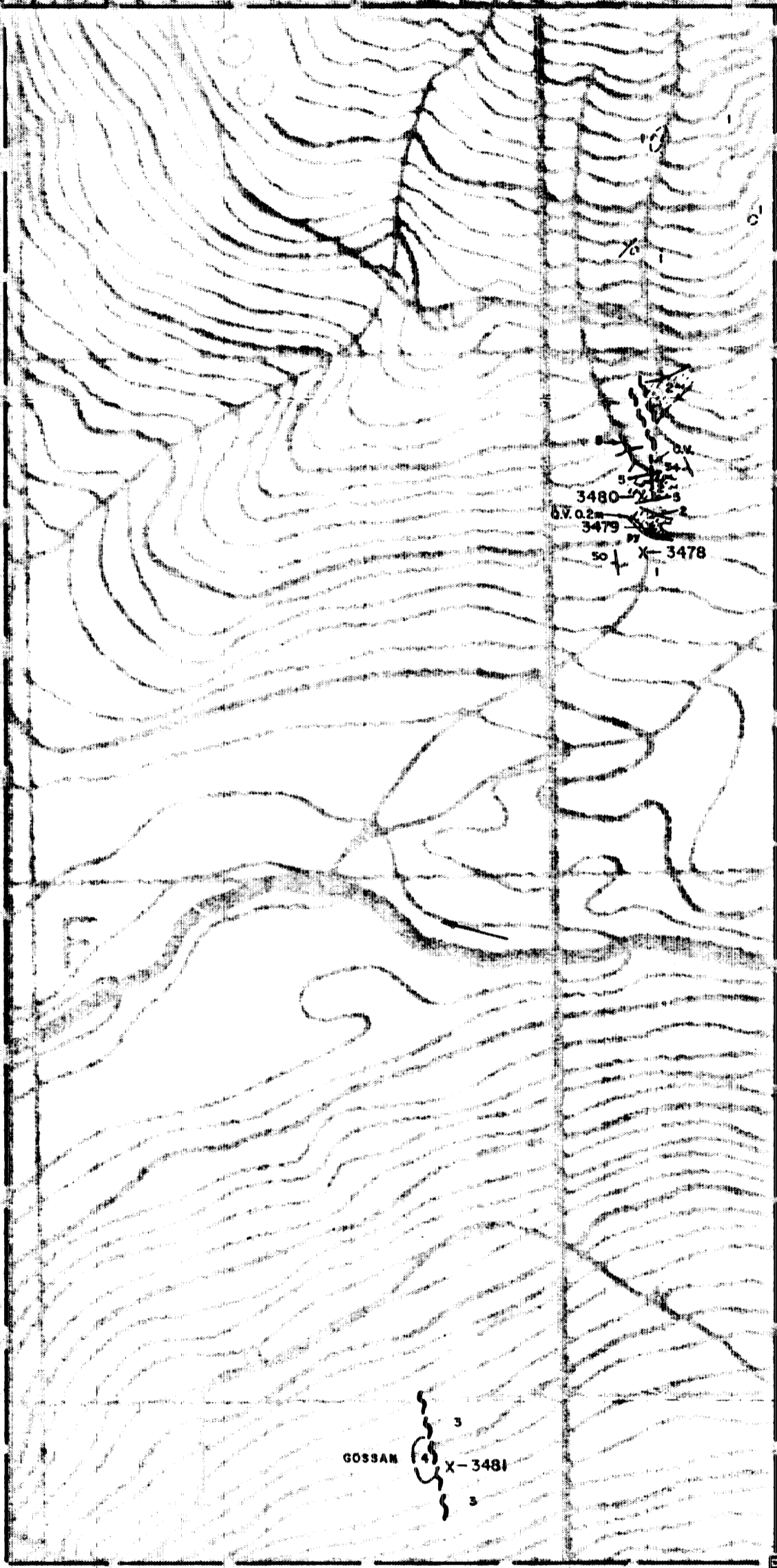
For Arsenic analysis a suitable aliquote is taken from the above 1 gram sample solution and the test is carried out by Gutzeit method using $\text{Ag}_2\text{CS}_2\text{N}(\text{C}_2\text{H}_5)_2$ as a reagent. The detection limit obtained is 1.2 ppm.

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.

130° 20'

McTAGG
CREEK

CREEK



GOSSAN

3480
3479
X-3478

GOSSAN
X-3481

L.C.P.

LEGEND

- 5 ANDESITE - DACITE DYKES
- 4 HORNBLLENDE PORPHYRY
- 3 PORPHYRITIC DACITE - ANDESITE
- CARBONATE ALTERED ARGILLITES
- 1 ARGILLITE, GREYWACKE

SYMBOLS

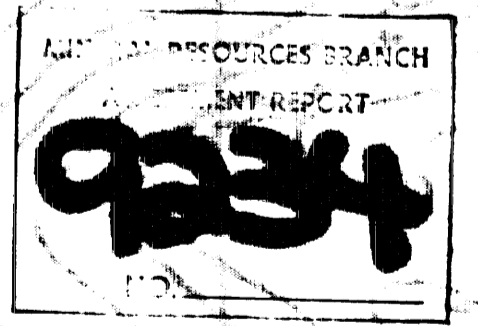
- OUTCROP
- CONTACT
- ~ FAULT
- ²⁵ BEDDING, STIKE & DIP
- DYKE
- o.v.----- QUARTZ VEIN
- c.v.----- CALCITE VEIN
- X-3480 ROCK SAMPLE LOCATION & NUMBER
- GOSSAN
- CLAIM BOUNDARY & LEGAL CORNER POST

ROCK ASSAYS				
Tag No.	Au ozs/ton	Ag ozs/ton	Cu %	Pb %
3478 D	0.002	0.01	0.006	0.01
3479 D	0.002	0.01	0.004	0.01
3480 D	0.001	0.01	0.004	0.01
3481 D	0.001	0.01	0.013	0.01

MITCHELL
CREEK

CREEK

CREEK



L. Keeles

ARGONAUT PROJECT
SOB CLAIM
GEOLOGY ①

ISKUT RIVER AREA, BRITISH COLUMBIA

0 1000 300 600 m

SCALE

0 1000 2000 ft.

1 INCH = 833 FEET

MAPPED BY: L.K.E.	REVISED:	N.T.S. No.: 104 B 9W
DATE: 80 07 24		ACCT No.: 347-59
DRAWN BY: K.L.J.		DRWG. No.: AR. 80-177
DATE: 81 03 26		

130° 20'

56° 30'

56° 30'

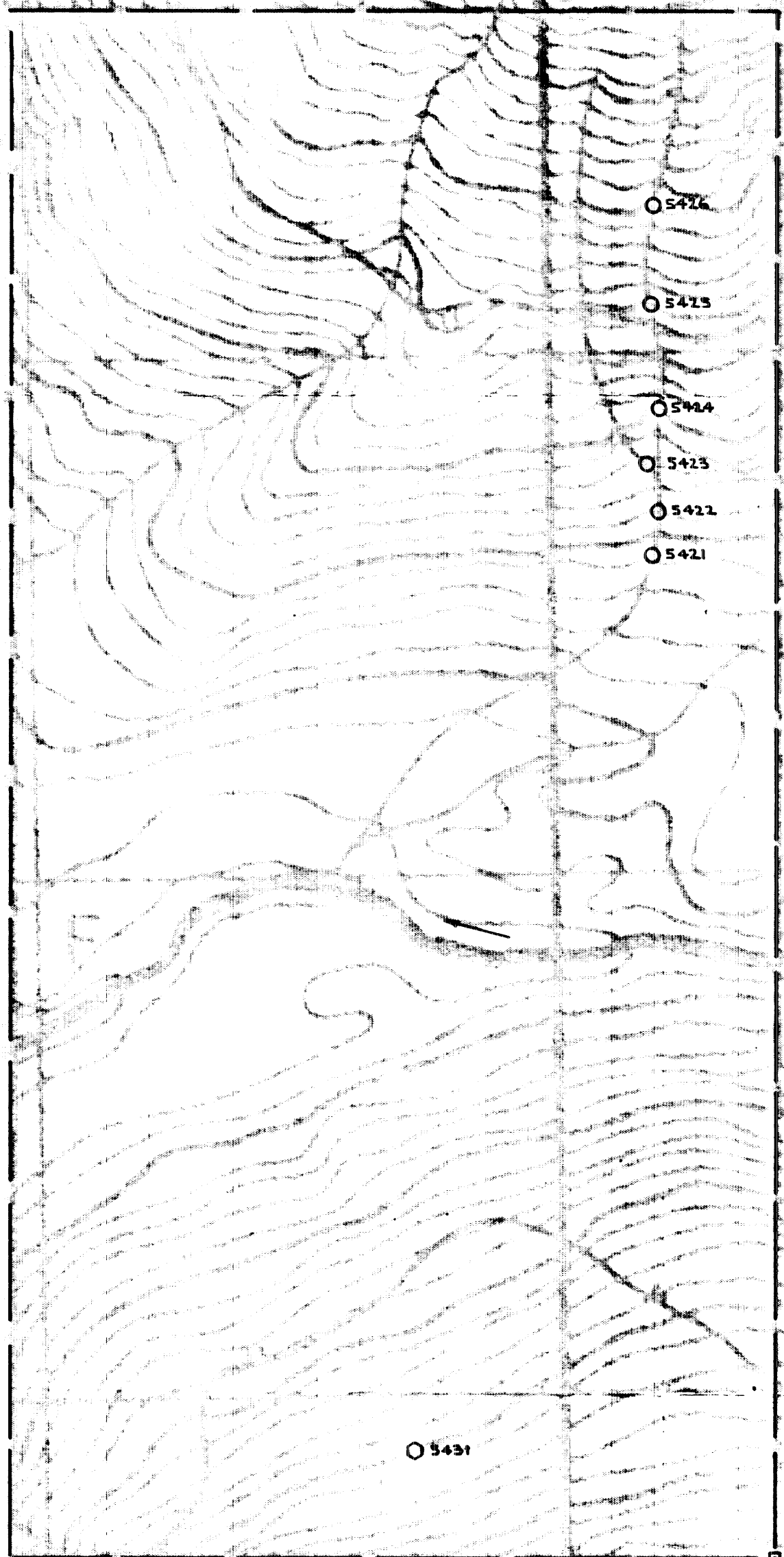
130° 20'

McTAGG

1708R - X
1709L

CREEK

1224L - X
1225R



L.C.P.

LEGEND

- 5424 ○ STREAM SEDIMENT SAMPLE LOCATION & No. ('D' SERIES)
- 5431 ○ SOIL SAMPLE LOCATION & No. ('D' SERIES)
- X - 1226 ORIGINAL STREAM SEDIMENT SAMPLE LOCATION & No.

ORIGINAL SAMPLE RESULTS

Tag	Mesh	Au P.P.B.	Ag P.P.M.	Pb P.P.M.	Cu P.P.M.	Zn P.P.M.	Zn.M.
1224	- 20	25					0.11
	-100	5	35	28	95	1.4	0.11
1225	- 20	700					7.26
	-100	800	82	94	1000	3.3	
1226	- 20	25					2.16
	-100	20	18	21	129	0.9	
1708	- 20	150					2.29
	-100	15	15	24	66	0.7	
1709	- 20	15					1.78
	-100	15	4	12	55	0.8	
710	- 20	20					3.28
	-100	10	18	22	140	0.9	
1711	- 20	900					9.77
	-100	1550	51	119	1030	3.5	
1707	- 20	180					5.15
	-100	230	74	85	920	3.3	

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.

X-1710

MITCHELL

1711

CREEK

CREEK

1226



X-1707

5431

MINERAL RESOURCES BRANCH
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NO.

FOLLOW-UP SAMPLE RESULTS

Creek Samples -80 Mesh

Tag	Au P.P.B.	Pb P.P.M.	Cu P.P.M.	Ag P.P.M.
5421	5	40	163	2.0
5422	5	39	263	2.4
5423	15	43	210	2.2
5424	25	46	350	3.7
5425	5	31	100	1.0
5426	10	23	76	1.1
5427	5	40	174	2.3
5428	<5	27	120	1.8
5429	5	23	119	2.0
5430	10	22	93	1.7

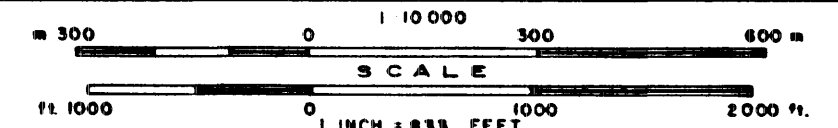
FOLLOW-UP SOIL SAMPLE

Tag	Au P.P.B.	Pb P.P.M.	Cu P.P.M.	Ag P.P.M.
5431	5	56	195	2.2

EXPLORATION
CANADA

ARGONAUT PROJECT
SOB CLAIM
GEOCHEMISTRY ②

Au IN PPB. & Ag, Cu, Pb IN PPM.
ISKUT RIVER AREA, BRITISH COLUMBIA



MAPPED BY: L.K.E.	REVISED:	N.T.S. No.: 104 B 9W
DATE: 80.07.24		ACCT No.: 347-59
DRAWN BY: K.L.J.		DRWG. No.: AR.80-178
DATE: 81.03.26		

L. Keckler

130° 20'

56° 30'