

DU PONT OF CANADA EXPLORATION LIMITED

ASSESSMENT REPORT OF GEOLOGICAL AND GEOCHEMICAL
WORK PERFORMED ON THE

HANDEL-RAVEL-CHOPIN CLAIMS

IN 1981

LIARD MINING DISTRICT

LAT. 56°40', LONG. 131°59'

NTS: 104-B-10W/11E

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

By,

J. A. Korenic

1982 May 5

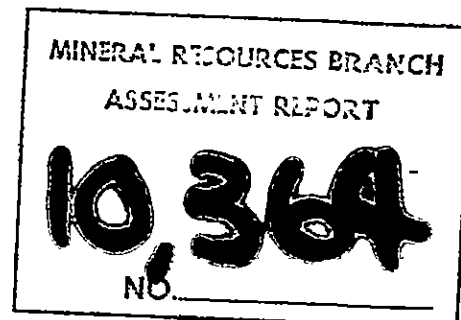


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10,304

HANDEL-RAVEL-CHOPIN I & II CLAIMSI. INTRODUCTION1. Location and Access

The Iskut River area is situated in Northwestern British Columbia approximately 90 kilometres north of the town of Stewart and 55 kilometres south-west of the Stewart-Cassiar Highway.

The HANDEL, RAVEL and CHOPIN I & II claims are situated south and east of the Iskut River and Bronson Creek, across a northwest trending ridge of Snippaker Mountain. The claims occur within the Liard Mining Division, NTS 104-B-10W & 11E and are centred by latitude 56°40'N and longitude 130°59'W.

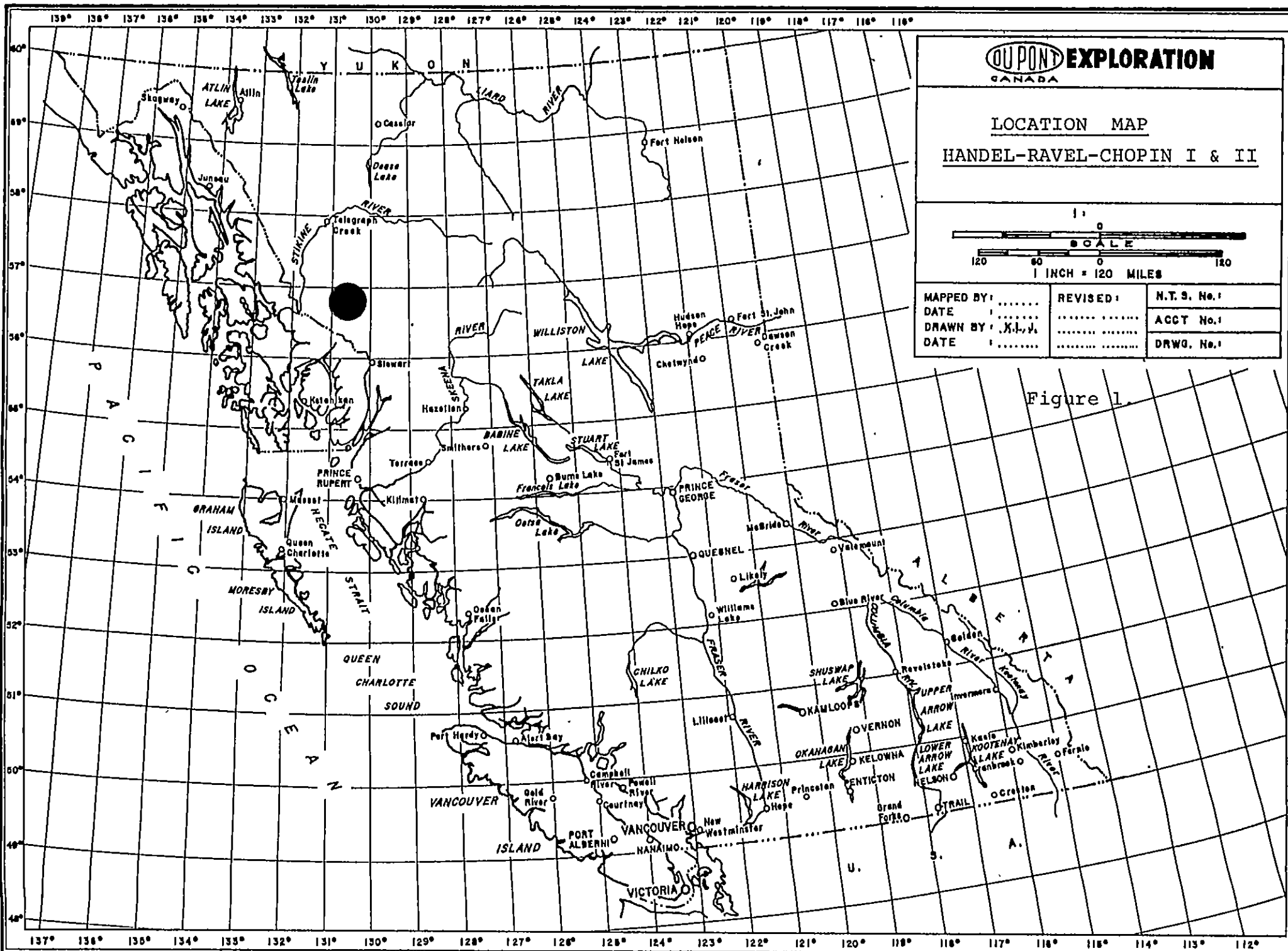
Access into the property is by means of helicopter from the Snippaker Creek airstrip (camp) (15 kilometres to the southeast). Fixed wing service into the airstrip was conducted from either Iskut (145 kilometres to the northeast), Terrace (260 kilometres to the southeast) or Wrangell, Alaska (100 kilometres to the west).

2. Physiography

The Iskut River area claims are 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 and is commonly marked by a thick, intertwined growth of one to two metre tall stunted spruce. Below this point, particularly within the lower valleys, vegetation predominantly consists of a dense growth of conifers. Devil's Club is widely distributed at lower elevations, such as the Iskut River valley. Access within these treed areas proved difficult.

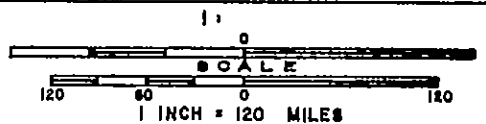
Active glaciation is prevalent in the district. These occur as caps over areas of higher elevation, notably above 1500 metres, and as impressive valley glaciers.

Relief over the HANDEL-RAVEL-CHOPIN I & II claims is extreme ranging from 150 metres above sea level along the Iskut River valley floor to 2010 metres at



DUPONT EXPLORATION
CANADA

LOCATION MAP
HANDEL-RAVEL-CHOPIN I & II



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

Figure 1

Snippaker Mountain. South of the Snippaker Mountain ridge, into the Bronson Creek valley, the property exhibits a relatively uniform moderate-steep south slope. Bronson Creek tributaries which drain this slope have eroded a series of deep ravines. Such features proved to obstruct side hill traverses.

The north face which comprises the HANDEL claim and most of the RAVEL and CHOPIN exhibit a precipitous face which has been deeply incised by approximately six stream channels. The foot of each gully is characterized by the development of extensive alluvial fans. Such debris are piled up to a height of at least 200 metres above the valley floor. Many of the gullies are at least in part accessible. The remainder of the north face requires the use of ropes.

Tree-line across the back (south) slope occurs at 1100-1200 metres above sea-level whereas on the north side it occurs at the base of or across the inactive portion of the fans. Vegetation immediately beneath tree-line consists of a thick, intertwined growth of stunted spruce. Lower, within the Bronson Creek and Iskut River Valleys, spruce, alders and a dense growth of devils club are prevalent.

3. Claim Status

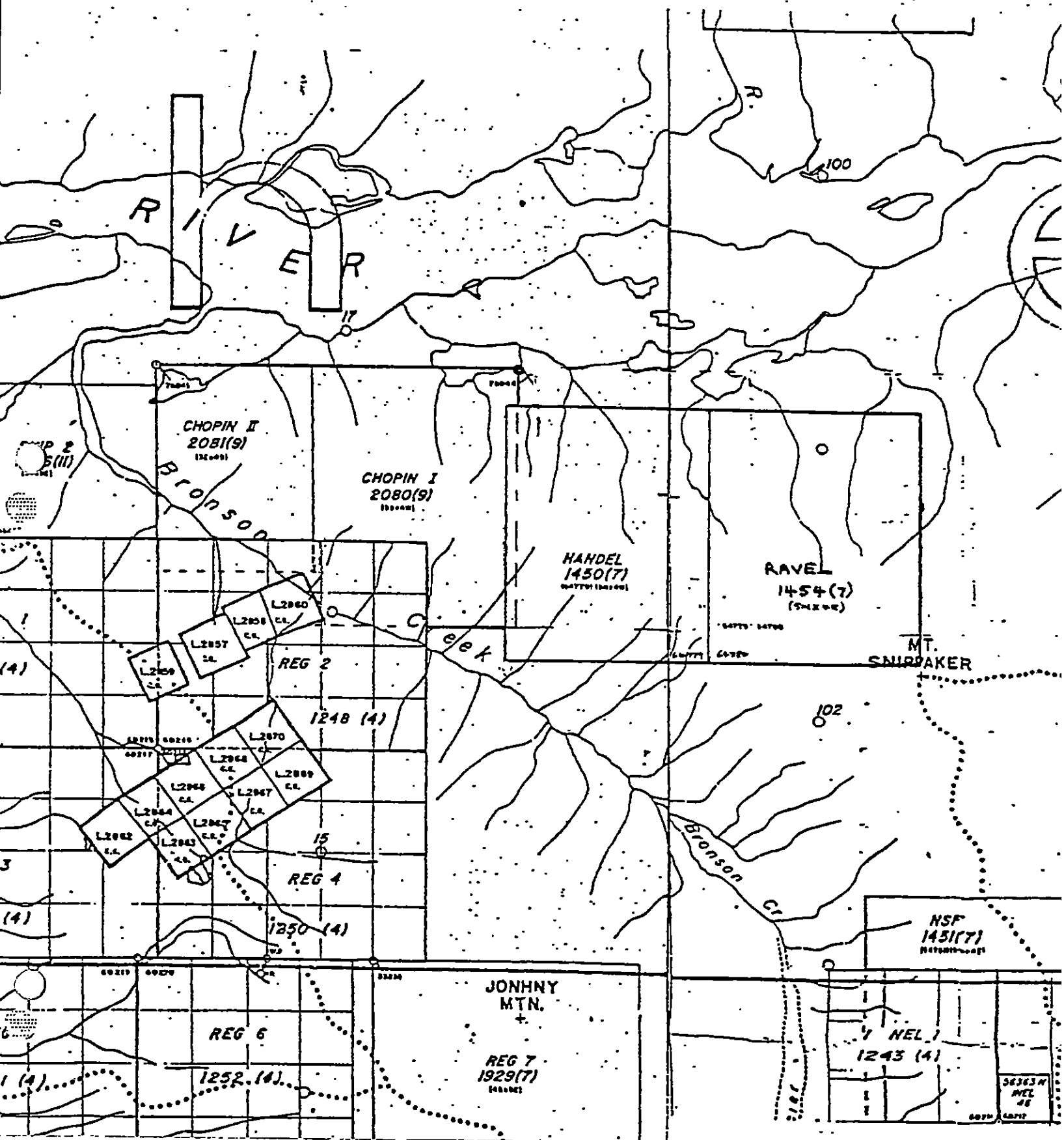
The HANDEL-RAVEL-CHOPIN I & II property consists of four adjoining mineral claims entailing a total of 72 units. Pertinent data for each claim is outlined below.

HANDEL (20 units):	Record No.	: 1450
	Tag No.	: 64779
	Date Recorded:	1980 07 14
	Expiry Date	: 1982 07 14
RAVEL (20 units):	Record No.	: 1454
	Tag No.	: 64780
	Date Recorded:	1980 07 14
	Expiry Date	: 1982 07 14
CHOPIN I (20 units):	Record No.	: 2080
	Tag No.	: 76044
	Date Recorded:	1981 09 09
	Expiry Date	: 1982 09 09

INDEX MAP : HANDEL - RAVEL - CHOPIN I&II Claims.

Figure: 2.

NTS: 104B/10W & 11E
Scale: 1: 50,000



CHOPIN II (12 units): Record No. : 2081
 Tag No. : 76045
 Date Recorded: 1981 09 09
 Expiry Date : 1982 09 09

The original HANDEL and RAVEL claims were staked on the basis of anomalous gold, silver and lead within Heavy Mineral Concentrates obtained during a reconnaissance programme in May-June 1980. The CHOPIN claims were staked on the basis of the discovery of a galena-sphalerite bearing quartz vein showing and the extensive pyritization of the country rocks which in part, have revealed relatively low grade gold mineralization.

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

4. Property History and Economic Assessment

Prior to 1980, no known mineral exploration appears to have been conducted in the immediate vicinity of the HANDEL-RAVEL-CHOPIN property.

The HANDEL-RAVEL claims were staked on the basis of anomalous Au-Ag-Pb concentrations obtained during a regional stream sediment survey conducted in May-June 1980. The evaluation programme undertaken in that year revealed the presence of several sphalerite-galena-chalcopyrite and precious metal bearing quartz veins hosted by andesite and argillite. Such occurrences were principally restricted to float within the various gullies at the base of the north face of Snippaker Mountain.

The investigation in 1981 located the source of the mineralized float (main showing) to be on the north face at about the 1100 metre level. Results from across this area revealed significant values in silver-lead-gold-(zinc).

The economic potential of the property is dependent upon the extent, nature and attitude of this zone and to a lesser degree other known showings. These factors have yet to be determined.

5. Summary of Work

During the period 1981 July 30 - August 18, a total of 34 man-days of work was performed on the

HANDEL-RAVEL claims. Three man-days were spent on the CHOPIN I & II claims subsequent to its staking.

The 1981 property evaluation programme entailed the following:

- (1) Two climbers, Kim Poehnel and Herb Blauer sampled several precipitous showings on the HANDEL-RAVEL- CHOPIN I & II claims.
- (2) The ridge, south slope and the foot of the north face were mapped.
- (3) Two side-hill soil sampling traverses were conducted near the southern boundary of the HANDEL-RAVEL claims.

The geological mapping was performed at a scale of 1:10 000 (Dwg. AR.80-185). A total of 9 stream sediment, 69 soil and 76 rock samples were analyzed/assayed. Of these, 57 rock, 4 stream sediments and 52 soil samples were collected within the claims.

II. GEOLOGY

1. Regional

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 Alaska Panhandle consists of Tertiary to Triassic foliated quartz diorite, granodiorite and migmatite associated with amphibolite gneiss, discontinuous screens of schist and lenses of marble.

Immediately east of this crystalline complex are large, unfoliated batholiths of younger, Tertiary to Cretaceous quartz monzonite to quartz diorite.

Such plutons intrude and underlie about a third of the Iskut River area. One such batholith located immediately east of McLymont Creek and Snippaker Mountain is 55 by 20 kilometres in extent.

Carboniferous-Permian greenstone, limestone, shale, schists and gneisses underlie the western part of the district particularly in the vicinity of the Craig and Iskut Rivers (downstream from Bronson Creek).

Upper Triassic andesitic and clastic sedimentary rocks underlie much of the area, particularly east of Bronson Creek and as a wedge in the Unuk and South Unuk River areas. Mid-late Jurassic breccia, tuff, conglomerate, sandstone and greywacke, in part belonging to the Hazelton Group occurs as a peninsular like occurrence east of Snippaker Creek and more prominently east of Harrymel Creek and the South Unuk River. The edge of the Bowser Basin sedimentary package is situated 20-40 kilometres further to the east.

Recent volcanism entailing the extrusion of basalt, cinders and ash is evident along the Iskut Canyon; an east tributary of Snippaker Creek and at Hoodoo Mountain. The latter consists of an impressive 1550 metre ice-capped volcano.

2. Property

The HANDEL-RAVEL-CHOPIN I & II claims are indicated on GSC map 1418A (1974) as being underlain by a sequence of Upper Triassic andesitic volcanic and clastic sedimentary rocks. The western margin of CHOPIN II is shown to contain the eastern margin of the Bronson Creek stock.

Geological mapping on the property in 1981 was concentrated along the northwest ridge of Snippaker Mountain, the south slope and to a lesser degree, along several ravines on the north face. In addition, two climbers worked on the precipitous north face and located the source of mineralized float first located the previous season.

The property is underlain by a thick sequence of volcanoclastics. Specifically the assemblage consists of grey and green volcanic wackes that lower in the pile (?), contain andesitic flows and tuffs and argillite as interbeds. Along the ridge, particularly east of a prominent 'saddle' these wackes contain interbeds of a 'rusty' wacke and agglomerates.

Considerable variation in the attitude of the various lithologies is evident across the property. Two prominent attitudes are noted. As shown on Dwg. No. 81-23, the lithologies along the ridge and south slope may be interpreted as exhibiting broad gentle folding, thereby displaying quite an undulating

strike. An overall east-west strike with a south dip however, does appear to predominate. This easterly strike is also displayed within the East Ravine. Rocks within Gap Ravine and '648' Creek reveal a north to NNE strike. Particularly with the latter creek tight isoclinal folding was noted. Overall, particularly due to the lack of attitude determinations across the north face correlation between various lithologies has not been possible. However taking into account the presence of andesite interbeds within Gap Ravine, 648 Creek and the East Ravine and its scarcity on the ridge and south slope, a general east-west strike and moderately steep south dip may be the case.

Strikingly evident on an airphoto is a major structural lineament that can be traced from the Iskut River, across Snippaker Ridge and through to the southwest side of Bronson Creek. It is interpreted to trend 040° and exhibit a vertical-steep SW attitude. On Snippaker ridge this lineament is shown as a gap or narrow ravine which in the immediate vicinity is gossanous and pyritic. The best Au-Ag-Pb-Zn mineralization which is discussed in the subsequent section occurs east and in close proximity to this lineament.

The following is a brief description of various lithologies encountered to date.

. Mafic Dyke (Unit 5)

The only occurrence is located 350 metres ESE of the LCP (HANDEL-RAVEL). The dyke varies from being 2-20 metres in width and display sharp, distinct contacts and strikes SSE with a 85° E dip. Considerable epidote and chlorite is associated.

. Andesite (Unit 4)

This unit occurs most notably as 5-110 metre wide beds within a volcanoclastic sequence in the ravines at the base of the north face. This unit is generally medium to dark green in colour, fine to medium grained and contains minor pyrite and pyrrhotite disseminations. Although in general it is quite massive in appearance, the unit occasionally exhibits a tuffaceous nature.

. White Tuff (Unit 2a)

Of minor extent this unit occurs as narrow relatively thin tuff beds, just east of the 'gap' and more notably just inside the south boundary within HANDEL. Within the latter, the tuff is white to grey in colour, siliceous, strikes east-west, averages four metres in width and is interbedded within a sequence of mudstone and wacke.

. Argillite (Mudstone) (Unit 2b)

The unit is black in colour, thinly bedded and locally reveals considerable folding particularly within the East ravine. Float within the various ravines indicated that at least in part, the precipitous north slope is underlain by argillite.

. Volcanic Wackes - Grey & Green (Unit 2)

The lithologic unit is the most prevalent across the property. It is grey to green in colour, medium grained - containing up to 5 mm volcanic fragments, and is occasionally limy ('648 Creek'). The rocks generally exhibit a buff brown weathered surface and a massive appearance although occasionally, the unit exhibits a tuffaceous nature. Trace pyrite are occasionally disseminated.

. Rusty Wackes/Agglomerates (Unit 1)

This unit is restricted to the ridge, east of the major lineament and above the 1400 metre level. It appears to and may indeed reflect the upper most portion of the volcanoclastic assemblage. The wackes are rusty in colour and grade into an agglomerate. These fragments are commonly poorly sorted, varying from 50 by 20 cm in size in the east to 5 cm to the west. The fragments are layered subparallel to bedding and consist of dacitic composition although locally are cherty and actually further west are argillaceous in composition with minor quartz pebbles. Interbedded within the agglomerates and rusty wackes are several argillaceous beds and notably, 800 metres northwest of Snippaker Mountain, several chert horizons. Such chert beds are up to 50 cm thick

3. Mineralization

In 1980, a number of mineralized float samples were obtained from several alluvial fans. The expected source of the float was a precipitous north facing slope. 'Grab' samples (float) returned the following values:

<u>Sample #</u>	<u>Au(o/t)</u>	<u>Ag(o/t)</u>	<u>Cu(%)</u>	<u>Pb(%)</u>	<u>Zn(%)</u>
6255	1.270	0.95	0.078	0.76	0.80
6840A	0.048	21.45	0.030	21.40	13.90

Exploration in 1981 was formulated with the intent of determining the source of these mineralized float samples. Owing to the precipitous nature of the north face, two climbers were contracted to investigate several gossanous areas. Significant mineralization was observed and sampled. Minor chalcopyrite-pyrite-sphalerite-galena mineralization was also noted in the East Ravine, the Snippaker Ridge at the 975 metre level and the lower portion of the south slope.

Numerous chip and grab samples were obtained immediately east of the lineament between 880-1020 metres. It is in this area, designated as A-D, F-H and Main Zone, that the climbers encountered massive sphalerite-galena (pyrite-chalcopyrite) mineralization associated with a pale yellow gossan.

The nature and attitude of the mineralized sections are still unknown. Chip sampling obtained in 1981 revealed substantial dimensions to the mineralization, occasionally 10-12 metres. Unfortunately, it is not known whether these intervals represent true width or a downdip segment. The mineralization consists of pyrite-galena-sphalerite and lesser chalcopyrite either massive or associated with a series of quartz veins. In large part, the mineralization appears to be hosted by a bleached and altered wacke. Although the mineralization appears to be a 'vein-type', two possible attitudes may be the case:

1. East-west set, steeply dipping into the mountain
2. A series of steeply dipping en echelon veins that trend NNE.

Data such as the presence of NNE trending veins in CHOPIN I (#9534C) and HANDEL-RAVEL (#9535C) would tend to suggest the latter, although no such veins have been noted on the ridge east of the lineament. Detailed mapping by climber-geologists would be required to resolve the attitude of the main showing.

The following is a compilation of the samples obtained in the vicinity of the main showing:

<u>Sample</u>	<u>Cu</u> %	<u>Pb</u> %	<u>Zn</u> %	<u>Ag</u> oz/T	<u>Au</u> oz/T	<u>Type</u>
9506C		0.32	0.53	0.56	.020	1 m chip above vein
9507		1.84	1.80	2.12	.134	Vein sample
9508		1.41	2.90	1.73	.088	>1 m chip across vein
9509		0.06	0.17	0.06	.002	1 m chip
9510		0.29	0.25	0.29	.052	Chip
9511		3.02	3.39	2.49	.011	10 m chip
9512		0.10	0.10	0.08	.002	Grab
9513		24.20	0.14	21.10	.335	Grab
9514		0.16	0.15	0.27	.003	Grab
9515		0.16	0.21	0.24	.009	8 m chip
9516		7.05	0.41	6.30	.182	Vert: 10 m chip
9517		0.86	4.09	1.09	.036	Grab
9518C		4.31	0.31	4.02	.059	3 m chip
9530C		0.74	1.68	0.76	.219	Grab
9531		31.90	11.95	25.20	.302	Grab
9532C		3.63	0.96	2.74	.161	Chip
9536	0.021	2.08		2.19	.068	1 m vein
9537	0.013	0.27		0.51	.010	3 m across
9538		69.20	0.68	55.10	.042	Grab
9539	0.019	11.85	3.76	9.10	.144	Grab
9540	0.020	11.50	3.06	9.28	.180	Chip across 6m
9541	0.004	0.61	0.47	0.48	.004	Grab
9542	.026	1.48	3.13	1.49	.270	Grab
9543	.006	7.15	0.04	8.65	.839	Grab
9545	.011	0.14	1.15	0.76	.217	Chip (horiz) over 7 m
9547	.014	0.76	0.33	5.40	.040	Grab
9548	.052	24.40	1.34	17.75	.281	Grab
9549	.011	2.78	0.36	2.91	.378	Chip (horiz) across 12 m
9550	.002	0.01		0.01	.002	

<u>Sample</u>	<u>Cu</u> %	<u>Pb</u> %	<u>Zn</u> %	<u>Ag</u> oz/T	<u>Au</u> oz/T	<u>Type</u>
9551	.043	5.74	0.46	5.22	.111	Chip over 7m
9552	.076	29.60	1.75	21.50	.161	Grab
9553C		4.48	0.46	3.75	.375	Chip across 30 m(?)

It may be noted from the list that Ag:Pb ratios are relatively consistent averaging 1.2:1. Of the 31 samples obtained, only one revealed a ratio of greater than 2:1 (#9547C, 7.1:1). No similar relationship can be demonstrated with respect to gold with either that of Cu, Ag (or Pb). However, gold values are clearly greater in the vicinity of the main showing as compared to stations A, B, C, D or F & H.

Along the East Ravine (#9591C-9593C) a series of minor chalcopyrite-bearing 5-10 cm quartz veins striking northwest and dipping 56°S returned 0.745% Cu with 0.51 o/t Ag (Grab; 9591C). No other significant values were obtained.

On the south slope several barren quartz veins approximately 1 cm in width were observed. Trace chalcopyrite was noted in a 12 cm vein. No significant assays were obtained.

The western end of the north face in the vicinity of the CHOPIN I & II boundary was sampled by the two climbers. The area is underlain by pyritized (5-10%) andesite and volcanic wacke. Pyrite occurs as disseminations and more commonly along fractures and to a lesser degree within narrow, 1 cm carbonate veins. Minor quartz veinlets (9564C) have been noted to host trace galena. The limited work conducted in the western area reveals considerable low grade Au-Ag (-Cu) mineralization. One sample, 9561C, taken across a 7 metre chip interval assayed 0.046% Cu, 0.90 o/t Ag and 0.036 o/t Au. The galena bearing veinlet described above contained 0.017 % Cu, 1.64% Pb, 2.14 o/t Ag and 0.190 o/t Au. Note that the Ag:Pb ratio is 1.3:1 similar to that of the main showing 2500 metres to the east.

In summary, significant Pb-Zn-Au-Ag mineralization have been encountered across the precipitous slopes within the HANDEL claim. The nature and geometry of this mineralization is unclear. Sulphide bearing

quartz veins elsewhere on the property would suggest that the mineralization may occur as NNE trending pods or veins. The lineament immediately east of the showing may prove to be significant.

III. GEOCHEMISTRY

1. Procedure

A total of 52 soil and 3 stream sediments were obtained along two contour lines (elevations: 1125 and 1225 metres) across the southwest corner of the HANDEL claim. Eighteen samples (including one stream sediment) were obtained 300-600 metres south of the LCP at elevations of 975 and 1090 metres. In addition, four stream sediments were obtained from a southwest draining tributary of Bronson Creek (south of the HANDEL claim) and one sample (#2620C) was obtained on CHOPIN I above the north slope at an elevation of approximately 1050 metres. The soil samples were obtained at intervals of 25 metres.

The stream sediment samples were placed in numbered wet-strength sample envelopes and their various locations were flagged indicating their respective numbers. The soil samples were collected from depths of 10-20 cm, thereby obtaining a B or C horizon sample. As in the case of the stream sediment procedure, the locations were flagged and the sample deposited in a Kraft envelope.

The various rock samples that were obtained, were deposited in plastic bags. At the laboratory, the samples were crushed, split, pulverized and sieved to -100 mesh. Fifty-seven samples were assayed for Au (o/t) and Ag (o/t) and most of these were also assayed for Cu (%), Pb (%) and Zn (%).

The stream sediment, soil and rock samples were shipped to Min-En Laboratories in North Vancouver for preparation and analysis. The stream sediment and soil samples were sieved to -80 mesh and analyzed for Cu (ppm), Pb (ppm), Zn (ppm), Ag (ppm) and Au (ppb). Such determinations were also applied for the -20+80 mesh fraction with respect to samples 10838C-10844C and 10736C. Sample 7774D was prepared to a -40 mesh fraction and analyzed.

2. Results

Drawing AR.81-24 denotes the various sample locations and their respective results.

Stream sediment results from the southwest slope of Snippaker Mountain indicates the presence of several weak-moderately anomalous gold and silver values (7768D: 70 ppb Au; 3.4 ppm Ag). In part, the soil samples further define these concentrations.

The soil geochemistry indicates a zone of 40-180 ppb Au across a distance of 175 metres (upper line: 7750D-7757D). Eighty metres downhill these values dwindle to about 30 ppb (#10306C, 10308C & 10310C). Elsewhere anomalous gold bearing samples occur as spot highs. Across the main gold bearing section, three consecutive samples contained 2.4, 4.0 and 3.2 ppm Ag (#7755D-7757D). Lead appears to exhibit a corresponding relationship with silver. The overall ratio is 24:1 (Pb:Ag). Anomalous copper and zinc concentrations, although commonly associated with significant values in silver and gold, are overall more erratic.

The soil geochemistry appears to indicate that its source may be similar in nature to the mineralization further north at the 'main' showing. The affinity of lead with silver, the partial independence of gold and also copper and zinc postulates such a situation.

Unfortunately no outcrop has been mapped in the vicinity of the anomalous gold and/or silver geochemistry.

IV. CONCLUSIONS

Exploration in 1981 encountered significant Pb-Zn-Au-Ag mineralization across the north cliffs of the HANDEL claim. The extent, nature and attitude of the mineralization has yet to be determined.

Numerous small gossanous zones visible from the helicopter have yet to be examined. Such occurrences have been spotted across the north face for a distance of about 2000-2500 metres. Unfortunately most of this area is accessible only to climbers.

Original HM samples from tributaries of Bronson Creek revealed anomalous gold concentrations emanating from the southwest slope of Snippaker Mountain. Limited follow-up in regards to soils and to a lesser degree, stream sediments, returned weak-moderately anomalous Au and Ag values. The relationship of these elements with Pb (Cu-Zn) suspects a mode of occurrence similar to that at the north face. This has yet to be confirmed.

V. PERSONNEL

During the period 1981 July 28 to August 19, the following personnel work on the HANDEL-RAVEL-CHOPIN I & II claims:

Supervisors:	J. A. Korenic J. M. Kowalchuk
Field Geologists:	M. Davies J. Dupas G. Price
Field Assistants:	C. Hamilton L. Harland J. Kurtenaker P. Soares
Climbers:	H. Bleuer K. Poehnel

VI. COST STATEMENT1. Personnel

. HANDEL-RAVEL (Prior to Aug. 16)

* Note: Aug. 15th location of CHOPIN I & II claims completed.

2 Supervisors, 3 man-days	\$ 467.19
3 Field Geologists, 6 man-days	359.97
4 Field Assistants, 7 man-days	367.62
2 Climbers, 20 man-days	<u>4,000.00</u>
	\$5,194.78

. HANDEL-RAVEL-CHOPIN I & II (After Aug. 16)

1 Supervisor, 1 man-day	\$ 146.92
2 Field Geologists, 1 1/4 man-days	70.94
2 Climbers, 2 1/2 man-days	<u>500.00</u>
	\$ 717.86

2. Room and Board

. HANDEL-RAVEL (Prior to Aug. 16)

Per diem rate of \$55.46, 36 man-days \$1,996.56

. HANDEL-RAVEL-CHOPIN I & II (After Aug. 16)

Per diem rate of \$55.46, 4 3/4 man-days 263.44

\$2,260.00

3. Transportation

Costs to and from the project area (Sections A & B) during the months of July, August and September pertinent to these claims are split amongst claims that had work conducted upon.

A. To/From Project Area - scheduled carriers: crew departed during the period Aug. 22 - Sept. 18 from either Snippaker airstrip, Wrangell, Alaska, Stewart, Terrace or Smithers.

Total Airfares:	\$ 3,198.18
. HANDEL-RAVEL Portion (Prior to Aug.16) (36/185 man-days):	\$ 622.35
. HANDEL-RAVEL-CHOPIN I & II Portion (4 3/4/185 man-days):	\$ 82.12
B. To/From Project Area - Chartered	
July 23, TPA, Inv.#67473, (4/14 of invoice)=	\$ 4,994.00
July 24, Air North, Inv.#9824=	4,012.11
July 25, Viking Helicopters Ltd., Report #009263 (3.3 hrs @ \$480/hr)=	1,584.00
Aug. 28, Viking Helicopters Ltd., Report #13339 (1.25 hrs)=	600.00
Aug. 29, Viking Helicopters Ltd., Report #13341 (1.0 hrs)=	480.00
Sept. 7, Viking Helicopters Ltd., Report #010321 (1.5 hrs)=	720.00
Sept. 11, Viking Helicopters Ltd., Report 010327 (1.5 hrs)=	720.00
Sept. 7 & 11, Du Pont Twin Otter (DOX) @ \$660/hr	<u>2,450.00</u>
	\$15,560.11
. HANDEL-RAVEL Portion (36/185 days)	\$ 3,027.91
. HANDEL-RAVEL-CHOPIN I & II portion (4 3/4/185 days):	<u>399.52</u>
	\$ 3,427.43
C. To/On Claims	
. HANDEL-RAVEL (Prior to Aug. 16) Viking Helicopters Ltd., Report #	
July 29, #9267 (0:50 @ \$480/hr)	\$ 400.00
Aug. 1, #9272 (0:40)	320.00
Aug. 2, #9274 (1:00)	480.00
Aug. 3, #9276 (0:30)	240.00
Aug. 4, #9277 (0:30)	240.00
Aug. 6, #9280 (2:25)	1,160.00
Aug. 7, #9281 (1:40)	800.00
Aug. 8, #9283 (1:00)	480.00
Aug. 9, #9284 (1:05)	520.00
Aug. 10, #9288 (3:00)	1,440.00

Aug. 11, #9291 (1:10)	\$ 560.00
Aug. 12, #9294 (0:35)	280.00
Aug. 13, #9296 (0:55)	<u>440.00</u>
	7,360.00

. HANDEL-RAVEL-CHOPIN I & II (After Aug. 16)

Aug. 18, #13325 (1:50)	\$ 880.00
Aug. 19, #13326 (1:10)	<u>560.00</u>
	\$1,440.00

Total Transportation:

. HANDEL-RAVEL (Pre Aug. 16)	\$11,010.26
. HANDEL-RAVEL-CHOPIN I & II (Post Aug. 16)	\$ 1,921.64

4. Analytical Services

Min-En Laboratories, North Vancouver, BC
Invoice #'s 8742, 8803, 8844 & 8892

. HANDEL-RAVEL (Pre Aug. 16)

55 soil/stm sediments, -preparation (@ 85¢ ea.)	\$ 46.75
55 soil/stm seds (-80 mesh): Cu,Pb,Zn, Au, Ag (@ \$9.70 ea)	533.50
41 rock samples, -preparation (@ \$2.75 ea)	112.75
41 rock, Assay: Au, Ag (@ \$16.50 ea)	676.50
22 rock, Assay: Cu (@ \$6.50 ea)	143.00
38 rock, Assay: Pb (@ \$7.00 ea)	266.00
36 rock, Assay: Zn (@ \$7.50 ea)	<u>270.00</u>
	\$2,048.50

. HANDEL-RAVEL-CHOPIN I & II (Post Aug.16)

1 stm sed - preparation (@ 85¢ ea)	\$.85
1 stm sed - Cu,Pb,Zn,Au,Ag (@ \$9.70 ea)	9.70
16 rock - preparation (@ \$2.75 ea)	44.00
16 rock - Assay: Au,Ag (@ \$16.50 ea)	264.00
16 rock - Assay: Cu (@ \$6.50 ea)	104.00
7 rock - Assay: Pb (@ \$7.00 ea)	49.00
7 rock - Assay: Zn (@ \$7.50 ea)	<u>52.50</u>
	\$ 524.05

Total Analytical Services: \$2,572.55

5. Report Preparation

Preparation/Compilation, 5 1/2 days	\$ 808.06
Drafting, 6.5 days	\$1,044.75
Typing, 2.0 days	<u>120.00</u>

Total Report Preparation: \$1,972.81

6. Miscellaneous

a. Cook's wages @ \$88.10/day (July 24 - Sept. 11)	\$4,405.00
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. HANDEL-RAVEL portion (36/185 man-days)	\$ 857.19
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. HANDEL-RAVEL-CHOPIN portion (4 3/4 /185 man-days)	\$ 113.10
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b. Room and Board: Cook & Pilot	
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-Per diem rate of \$55.46 (50 days)	\$5,546.00
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. HANDEL-RAVEL portion (36/185 man-days)	\$1,079.22
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. HANDEL-RAVEL-CHOPIN I & II portion (4 3/4 /185 man-days)	\$142.40
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Total Miscellaneous:

. HANDEL-RAVEL:	\$1,936.41
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. HANDEL-RAVEL-CHOPIN I & II:	\$ 255.50
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Totals

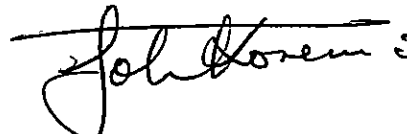
HANDEL-RAVEL (Pre August 16):	\$21,329.32
HANDEL-RAVEL-CHOPIN I & II (Post Aug. 16):	<u>5,655.30</u>
(Including 'Report Preparation Section')	

GRAND TOTAL: \$26,984.62

VII. QUALIFICATIONS

I, John A. Korenic, do hereby certify that:

1. I am a geologist residing at 11758 Wildwood Crescent, Pitt Meadows, British Columbia and employed by Du Pont of Canada Exploration Limited.
2. I am a graduate of the University of Calgary with a B.Sc. degree in geology (1975).
3. I am a Fellow of the Geological Association of Canada.
4. I am a Member of the Canadian Institute of Mining and Metallurgy.
5. I have practised my profession in geology continuously for the past 7 years in the Yukon, British Columbia and various other provinces in Canada.
6. Between 1982 July 28 and 1982 August 19, I supervised/directed a field programme on the HANDEL-RAVEL-CHOPIN I & II claims on behalf of Du Pont of Canada Exploration Limited.



John A. Korenic
1982 May

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 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.

*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.

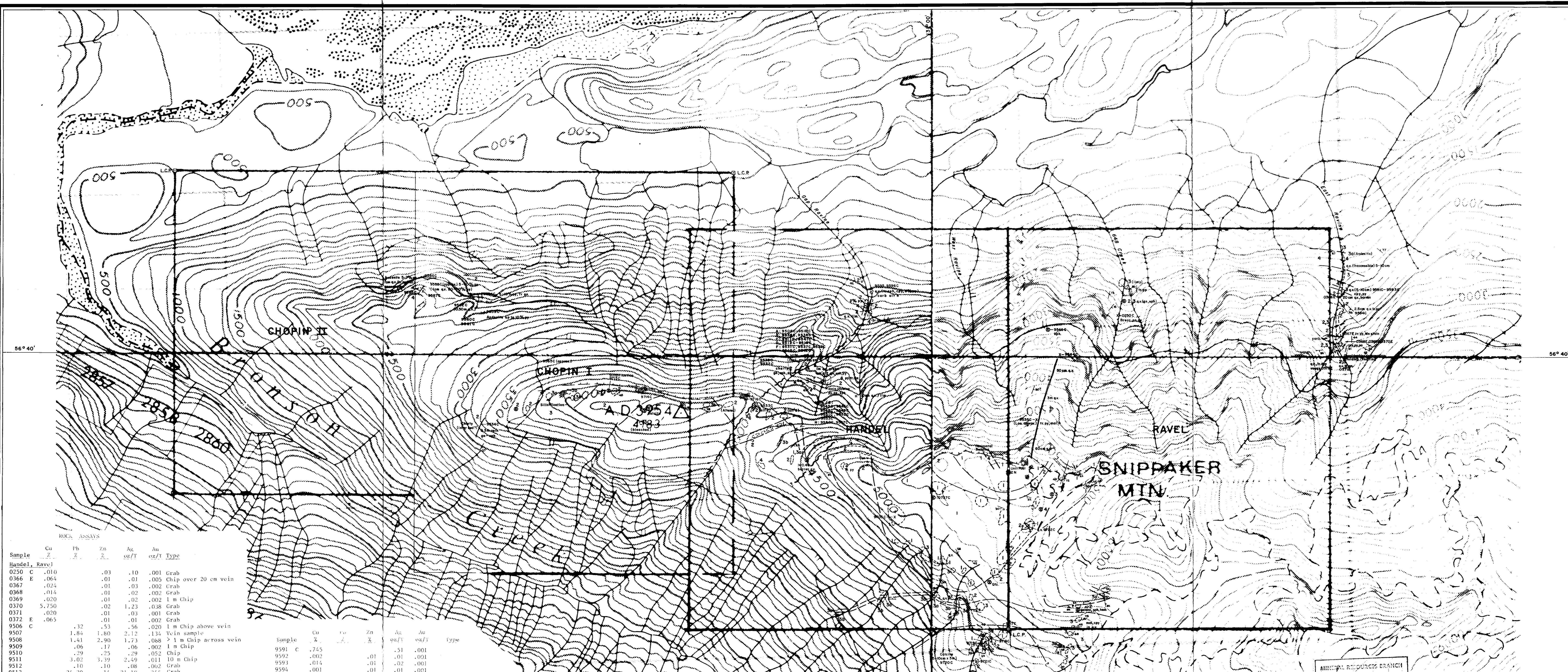
1.0 gram of the samples are digested for 6 hours with HNO_3 and HClO_4 mixture.

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.



ROCK ASSAYS

Sample	Cu %	Pb %	Zn %	Ag oz/T	Au oz/T	Type
Handel, Ravel						
0250 C	.010		.03	.10	.001	Grab
0366 E	.064	.01	.01	.005	.005	Chip over 20 cm vein
0367	.024	.01	.03	.002	.002	Grab
0368	.014	.01	.02	.002	.002	Grab
0369	.020	.01	.02	.002	.002	1 m Chip
0370	5.750	.01	1.23	.038	.038	Grab
0371	.020	.01	.03	.001	.001	Grab
0372 E	.065	.01	.01	.002	.002	Grab
9506 C	.32	.53	.56	.020	.020	1 m Chip above vein
9507	1.84	1.80	2.12	.134	.134	Vein sample
9508	1.41	2.90	1.73	.088	.088	> 1 m Chip across vein
9509	.06	.17	.06	.002	.002	1 m Chip
9510	.29	.25	.29	.052	.052	Chip
9511	1.02	3.39	2.59	.011	.011	10 m Chip
9512	.10	.10	.08	.002	.002	Grab
9513	24.20	.14	21.10	.355	.355	Grab
9514	.16	.13	.27	.003	.003	Grab
9515	.16	.21	.24	.009	.009	8 m Chip
9516	7.05	.41	6.30	.182	.182	Vert: 10 m chip
9517	.86	4.09	1.09	.036	.036	Grab
9518 C	4.31	.31	4.02	.059	.059	3 m Chip
9530 C	.74	1.68	.76	.219	.219	Grab (Chopin)
9531	31.90	11.95	25.20	.302	.302	Grab (Chopin)
9532	3.63	.96	2.74	.161	.161	Chip
9533	.07	.19	.004	.004	.004	Grab
9534	.020	4.97	11.40	3.53	.026	Grab (Chopin)
9535	.152	.05	.7	.062	.062	Chip between 1300 to 1930 m
9536	.021	2.08	2.19	.068	.068	1 m Vein
9537	.013	.27	.51	.010	.010	3 m Across
9538	69.20	.68	55.10	.042	.042	Grab
9539	.019	11.85	3.76	.115	.004	Float
9540	.020	11.50	3.06	9.28	.180	Chip across 6 m
9541	.004	.61	.47	.48	.004	Grab
9542	.026	1.48	3.13	1.49	.270	Grab
9543	.006	7.15	.04	8.65	.839	Grab
9544	.003	.12	.01	.10	.002	Grab
9545	.011	.14	1.15	.76	.217	Chip (horiz.) over 7 m
9546	.014	.81	33.80	1.15	.004	Float
9547	.020	.76	.33	5.40	.040	Grab
9548	.052	24.40	1.34	17.75	.281	Grab
9549	.011	2.78	.36	2.91	.378	Chip (horiz.) across 12 m
9550	.002	.01	.01	.002	.002	Grab
9551	.043	5.74	.46	5.22	.111	Chip over 7 m
9552	.076	29.60	1.75	21.50	.161	Grab
9553 C	4.48	4.46	3.75	.375	.375	Chip across 30 m

Sample	Cu %	Pb %	Zn %	Ag oz/T	Au oz/T	Type
9591 C	.745			.51	.001	Grab
9592	.002		.01	.01	.001	Grab
9593	.014		.01	.02	.001	Grab
9594	.001		.01	.01	.001	Grab
9595	.008		.01	.02	.001	Grab
9596 C	.010		.01	.03	.001	Grab
9702 C	.007		.01	.01	.001	Grab
9703	.006		.01	.01	.002	Grab
9713	.011	.01	.01	.10	.001	Grab (Chopin)
9714	.019	.01	.01	.11	.001	Grab (Chopin)
9715	4.750	.01	.01	1.29	.007	Float (Chopin)
9716	.013	.01	.01	.03	.001	Grab
9717	.011	.01	.01	.02	.001	Grab
9718	.013	.01	.01	.01	.001	Grab
9719	.012	.01	.01	.03	.001	Chip over 1 m
9720	.007	.01	.01	.01	.001	Grab
9721	.014	.01	.01	.01	.001	Grab
9722	.004	.01	.01	.06	.001	Grab
9723	.002	.01	.01	.01	.002	Grab
9724	.004	.03	.10	.13	.028	Float
10737 C	.004	.01	.01	.01	.001	Float, qtz.

- LEGEND**
- 5 MAFIC DYKE
 - 4 ANDESITE FLOWS
 - 3 BLACK ARGILLITE & WHITE TUFF
a) TUFF b) BLACK MUDSTONES
 - 2 GREEN & GREY WACKS
 - 1 RUSTY WACKS & AGGLOMERATES

- SYMBOLS**
- OUTCROP
 - CONTACT
 - FAULT
 - BEDDING; STRIKE & DIP
 - FOLIATION; STRIKE & DIP
 - JOINTING; STRIKE & DIP
 - QUARTZ VEIN; STRIKE & DIP
 - ANTICLINE
 - ROCK SAMPLE
 - VEIN
 - GOSSAN
 - FLOAT
 - CLIFF
 - UNIT POST
 - LEGAL CORNER POST & CLAIM BOY
 - SHEAR ZONE

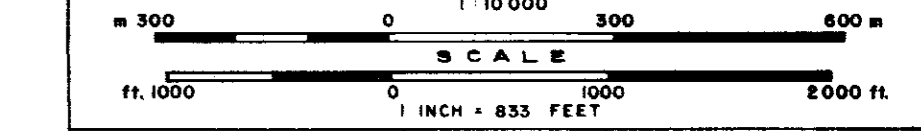
- ABBREVIATIONS**
- brec BRECCIA
 - carb CARBONATE
 - cpy CHALCOPYRITE
 - gn GALENA
 - hem HEMATITE
 - mal MALACHITE
 - mn MANGANESE
 - py PYRRHOTITE
 - py PYRITE
 - qtz QUARTZ
 - q.v. QUARTZ VEIN
 - sph SPHALERITE
 - tr TRACE

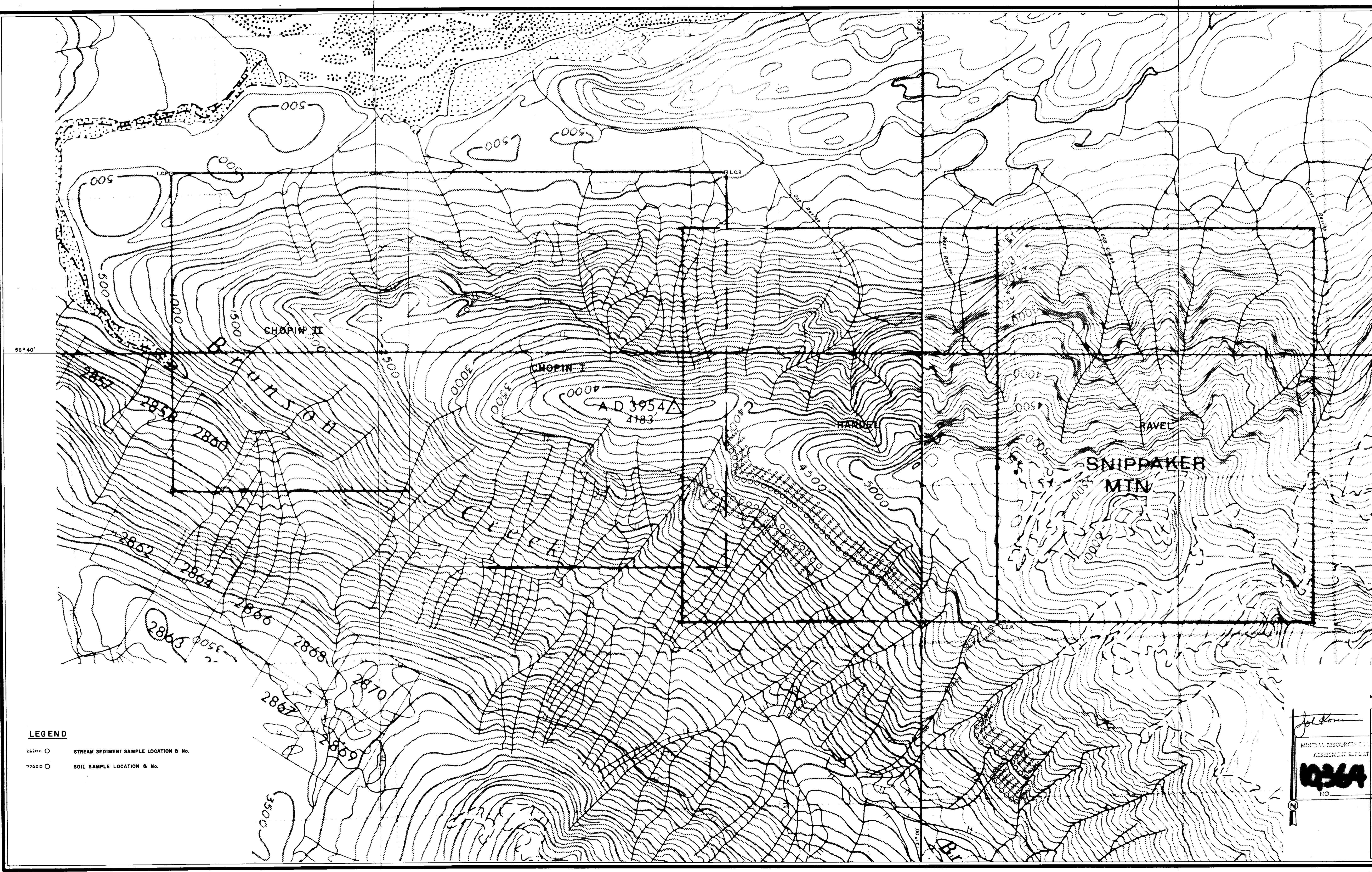
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
4364

Johnston
DUPONT EXPLORATION
CANADA

**ARGONAUT PROJECT
CHOPIN, HANDEL & RAVEL CLAIMS
GEOLOGY**
ISKUT RIVER AREA, BRITISH COLUMBIA

MAPPED BY: JAX, JMK	REVISED:	N.T.S. No. 104 B IOW B IIE
DATE: AUG '81	ACCT No. 347-56, 57 & 80	
DRAWN BY: K.L.G.	DATE: SE 03, 80	DRWG. No. AR. 81-25





1981 Sample No.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb
7750	152	110	394	4.1	180
7751	46	33	138	1.1	50
7752	74	41	172	1.4	75
7753	138	26	116	1.5	105
7754	74	40	152	1.2	50
7755	172	74	356	2.4	50
7756	218	70	231	4.0	40
7757	68	51	178	3.2	75
7758	176	35	258	1.8	5
7759	28	12	80	0.9	15
7760	78	26	133	1.1	5
7761	72	41	189	1.7	40
7762	170	120	337	5.1	75
7763	92	32	138	1.2	15
7764	36	21	99	0.9	10
7765	34	26	117	1.1	5
7766	233	55	162	1.5	5
7767	135	57	240	1.5	5
7768	172	48	216	1.4	70
7769	112	56	190	2.4	50
7770	114	25	141	2.2	30
7771	92	23	130	1.1	10
7772	98	20	119	1.8	15
7773	116	26	147	2.4	5
7774	132	55	168	3.8	5
7775	32	27	110	1.2	5
7940	90	41	132	1.8	10
7941	188	33	84	2.3	5
7942	110	33	122	1.4	5
7943	56	34	117	1.1	<5
7944	116	51	127	1.8	10
7945	26	39	60	1.0	5
7946	60	29	101	1.6	5
7947	94	29	108	1.4	5
7948	82	41	88	1.6	<5
7949	92	26	104	1.6	10
10286	60	52	133	1.5	5
10287	78	58	132	1.4	10
10288	148	60	130	2.8	20
10289	161	76	195	4.4	10
10290	162	110	256	3.2	10
10291	92	79	143	2.1	5
10292	135	9	39	0.9	5
10293	151	92	258	5.4	70
10294	38	32	48	1.8	5
10295	39	11	67	0.9	15
10296	46	34	98	1.6	20
10297	196	40	245	3.0	5
10298	28	28	72	4.8	40
10299	98	38	343	1.8	20
10300	44	23	112	1.3	5
10301	62	33	158	1.4	5
10304	63	25	174	1.4	10
10305	32	45	235	1.6	15
10306	154	87	680	2.1	30
10307	107	31	198	2.3	5
10308	126	80	650	1.8	30
10309	40	32	170	0.6	15
10310	104	57	286	1.4	30
10311	78	48	253	1.8	5
10312	43	29	112	1.2	5
10313	65	28	86	1.6	5
10314	31	28	106	1.4	5
10315	36	40	90	1.3	10
10316	35	26	125	0.5	5
10838	56	42	76	3.6	5
10839	57	41	97	2.7	5
10840	63	64	81	3.2	5
10841	50	31	86	2.1	10
10842	34	12	41	2.1	10
10843	106	30	97	4.7	25
10844	186	115	253	2.8	5
10301	78	30	126	1.6	5
Soil					
-20+80 Mesh					
10838 C	62	43	78	3.7	20
10839	47	31	89	2.8	5
10840	71	34	93	2.6	5
10841	48	13	77	2.2	5
10842	18	20	25	2.0	5
10843	83	19	73	6.9	<5
10844 C	105	37	159	1.5	<5
* -40 Mesh					
Stream Sediment					
-80 Mesh					
7845	92	146	1.2	5	
7846	152	145	1.7	10	
7847	143	130	1.6	45	
7848	115	178	1.8	5	
10736 C	80	135	2.4	5	
2620	98	350	1.2	25	
-20+80 Mesh					
10736 C	76	152	2.1	5	

LEGEND
 2620 C O STREAM SEDIMENT SAMPLE LOCATION & No.
 7762 D O SOIL SAMPLE LOCATION & No.

NOTE: FOR 1980 GEOCHEMISTRY DATA SEE DRWG AR.80-186

ARGONAUT PROJECT
CHOPIN, HANDEL & RAVEL CLAIMS
GEOCHEMISTRY
 Au IN PPB. & Ag, Cu, Pb, Zn IN PPM.
 ISKUT RIVER AREA, BRITISH COLUMBIA

CUOPON EXPLORATION CANADA

MINERAL RESOURCES DEPT. ASSESSMENT REPORT

NO. 10364

SCALE: 1" = 833 FEET

MAPPED BY: J.A.K./J.M. REVISED: N.T.S. No. 104 B 10W 11E
 DATE: AUG. 91 ACCT No. 347-56, 57 & 80
 DRAWN BY: K.L.A. DATE: 02.02.92 DRWG. No. AR.81-24