GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,075

DU PONT OF CANADA EXPLORATION LIMITED

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT

ON THE BILL CLAIMS

LIARD MINING DIVISION

LAT. 57°45'N, LONG. 127°45'W

NTS: 94-E-13

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

Authors: H.J. Copland
T.J. Drown

Date Submitted: 1983 February

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SUMMARY

The BILL claims are located 135 km southeast of Dease Lake, British Columbia. The claims are owned by Cominco Ltd. and were operated in 1982 by Du Pont of Canada Exploration Limited. Work in 1982 included detail soil geochemistry and trenching over a large auriferous soil anomaly. Trenching and sampling has confirmed the gold-arsenic soil anomaly and has shown that the rocks underlying these soils do not contain anomalous quantities of gold, arsenic or silver.

INTRODUCTION

During July 1982 assessment work consisting of detail soil geochemistry and trenching was performed on the BILL claims, located in north-central British Columbia. The purpose of this year's programme was to detail areas of auriferous soil anomalies and attempt to reach the bedrock source of these anomalies.

LOCATION AND ACCESS

The BILL 1, 2 and 3 claims are located 135 km southeast of Dease Lake, British Columbia within the Liard Mining Division, NTS 94E/13 (Lat. 57°45'N, Long. 127°45'W).

Access to the claims is via helicopter from the Sturdee Valley airstrip which lies 70 kilometres to the southeast. The major supply centre for the area is Smithers which lies 260 km south of the Sturdee Valley airstrip. See Figures 1 and 2.

TOPOGRAPHY AND VEGETATION

The BILL claims are situated in the Stiking Ranges where elevation ranges from 1500 to 2000 metres above sea level. The majority of the claim lies above tree line which averages 1500 metres in elevation. Above this elevation, small stands of shrubs and grasses dominate.

PROPERTY DEFINITION

The BILL claims consist of three claims totalling 43 units. See Figure 3.

Claim Name	No. of Units	Record No.
BILL 1	15	1199
BILL 2	12	1200
BILL 3	16	1201

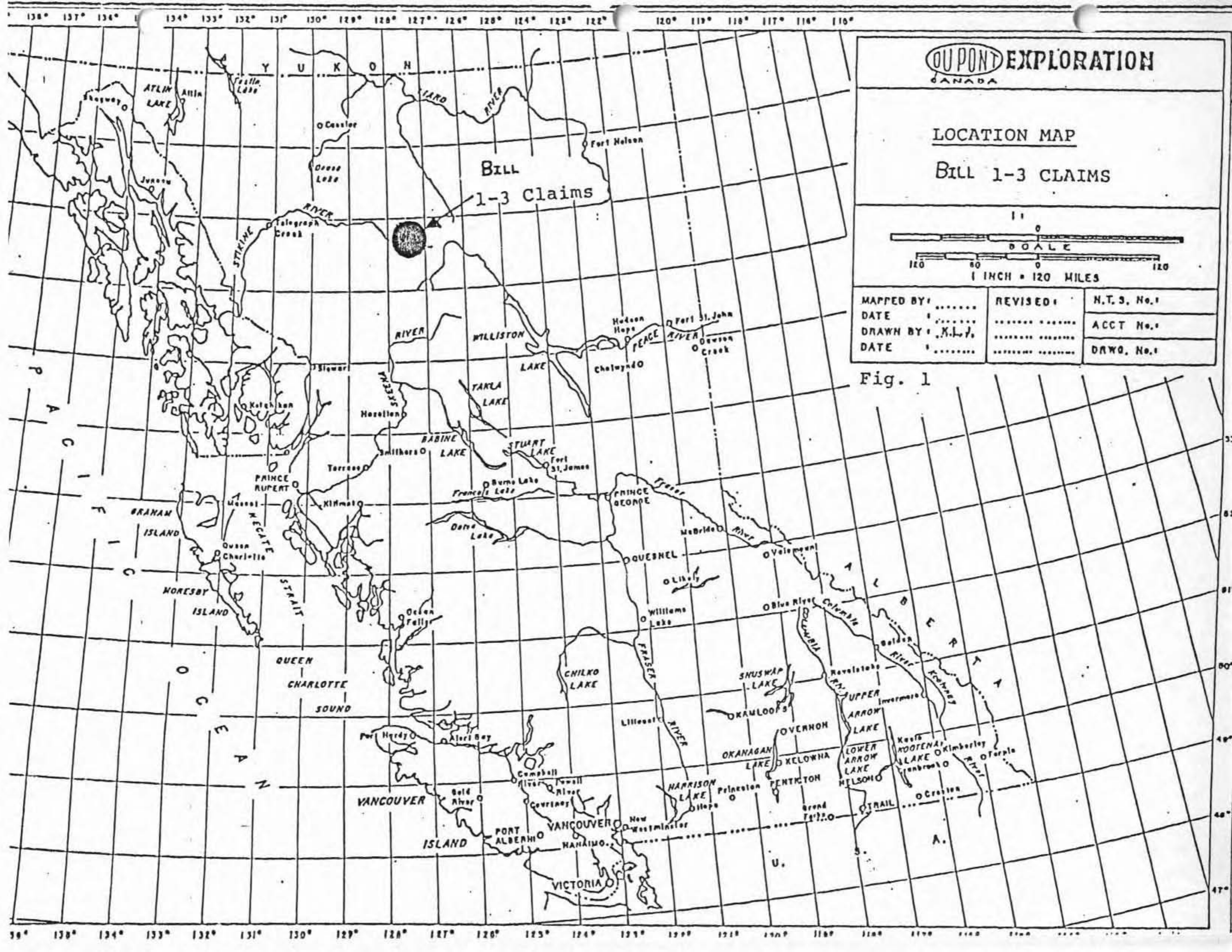
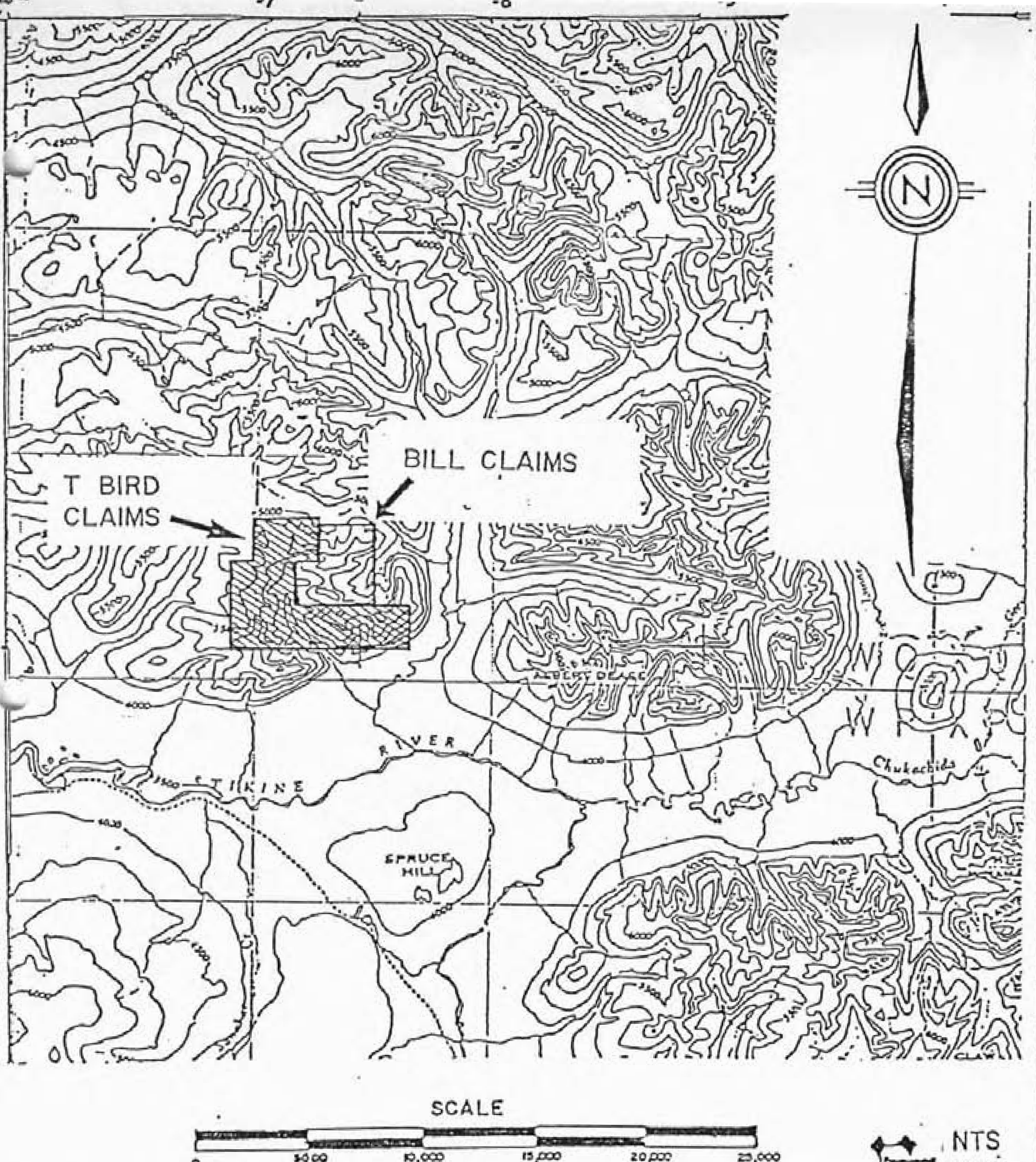

DUPONT EXPLORATION
CANADA
LOCATION MAP
BILL 1-3 CLAIMS
SCALE
1 INCH = 120 MILES
MAPPED BY:
DATE
DRAWN BY: K.L.J.
DATE
REVISED:
N.T.S. No.:
ACCT No.:
DRWG. No.:
BILL
1-3 Claims
YUKON
ALBERTA
PACIFIC OCEAN
U.S.A.
Fort Nelson
Cassiar
Telegraph Creek
Atlin
Juneau
Stewart
Hazelton
Smithers
Terrace
Prince Rupert
Kitimat
Prince George
Quesnel
Williams Lake
Kamloops
Vernon
Kelowna
Penticton
Nelson
Trail
Creston
Cranbrook
Kimberley
Revelstoke
Golden
Invermere
Fort St. John
Dawson Creek
Chetwynd
Fort St. James
Burns Lake
Valemount
McBride
Blue River
Likely
Lillooet
Hope
Princeton
Port Hardy
Alert Bay
Campbell River
Powell River
Courtenay
Port Alberni
Nanaimo
Vancouver
New Westminster
Victoria
Ocean Falls
Queen Charlotte
Graham Island
Moresby Island
Vancouver Island
Queen Charlotte Sound
Hecate Strait
Williston Lake
Takla Lake
Babine Lake
Stuart Lake
Chilko Lake
Shuswap Lake
Okanagan Lake
Harrison Lake
Upper Arrow Lake
Lower Arrow Lake
Kootenay Lake
Stikine River
Peace River
Fraser River
Skeena River
Liard River
Columbia River
Kootenay River

Fig. 1



...wn by:		Traced by:	
...T	Date	Revised by	Date

TOODOGGONE RIVER

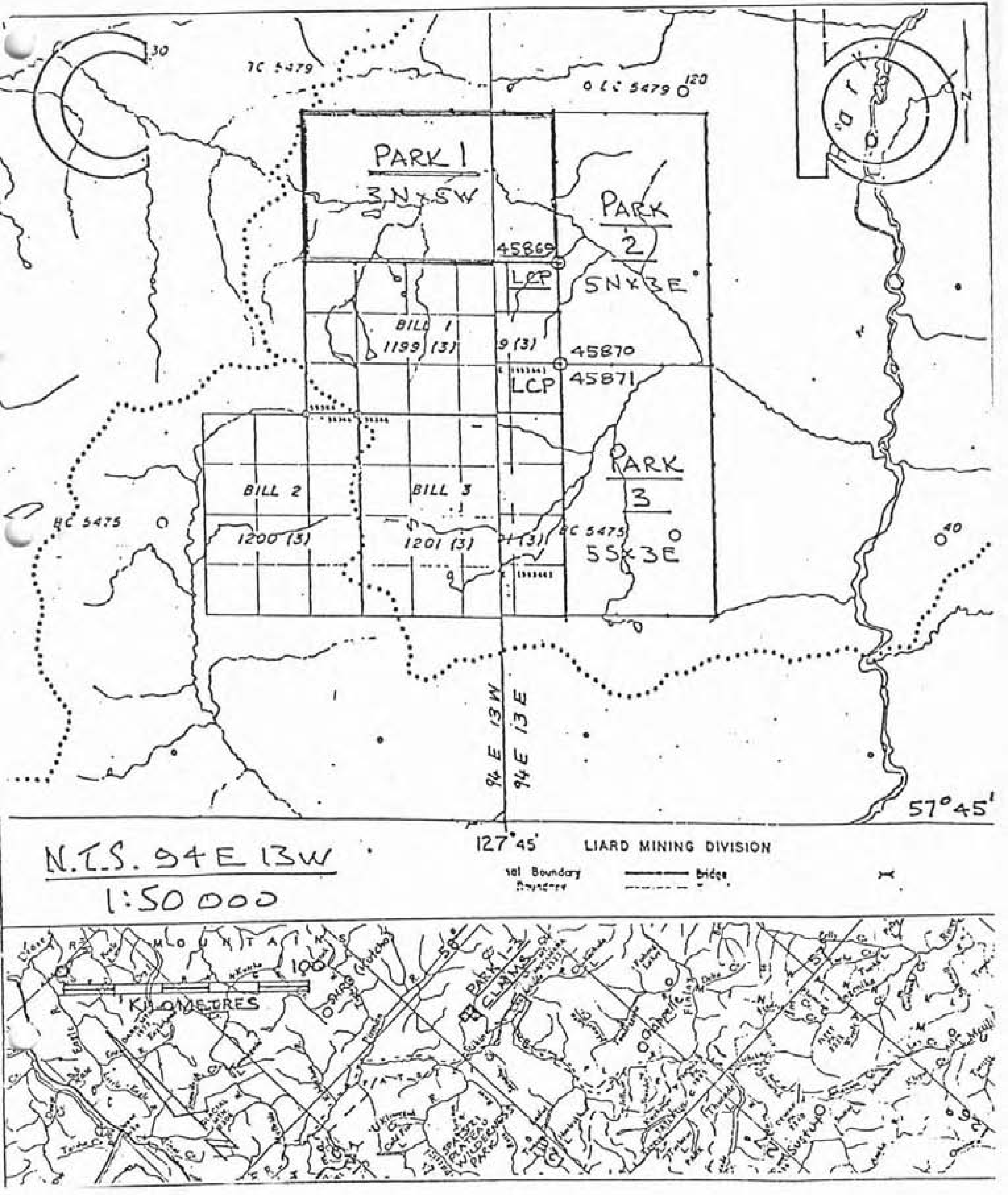
LOCATION MAP

BILL CLAIMS, T BIRD CLAIMS

Scale: 1:250,000	Date: March, 1982	Figure: 2

Fig 3

Bill Claims



PREVIOUS WORK

Cominco Ltd. conducted an extensive programme in the summer of 1981. During the period June 17 to August 26, detail geological mapping on a scale 1:5000 was conducted over most of the BILL 2 & 3 claims. In addition to this, an extensive soil and rock grid was placed over the area and six trenches put in at various locations. The grid was surveyed in with a transit and wooden pickets placed every 100 metres. This grid was used for subsequent surveys.

PERSONNEL

1982 July 25 to August:

H. Copland (Geologist)
J. Peter (Sr. Geological Assistant)
B. Yamamura (Jr. Geological Assistant)

1982 July 28 to August 2:

B. Dieter (Blaster)
B. Richard (Blaster's Assistant)

GEOLOGY

Regional Geology

The BILL claims lie on the eastern edge of the Intermontane Belt near the fault boundary with rocks of the Omineca Crystalline Belt. The claims are underlain by a sequence of low grade metamorphosed volcanic and sedimentary rocks. Dolomitic rocks found in the middle of the sequence containing conodonts and crinoids suggest a Mississippian age for these rocks (Thorstad 1980).

These metamorphic rocks are intruded by Jurassic quartz monzonite and diorite to the north and east of the property. To the south of the claims, Lower Jurassic Toodoggone volcanic rocks and the Upper Triassic Takla Formation volcanic rocks dominate.

Small zones of Takla Formation and Hazelton Formation (Lower Jurassic crop out five kilometres west of the claims. See Figure 4, Regional Geology.

Detail Geology (from Sharp, 1981)

The sedimentary and volcanic rocks underlying the claim group have been regionally metamorphosed to lower greenschist grade

FIGURE 4

Figure 23.2. Geologic sketch map showing distribution and major structural elements of Upper Paleozoic rocks and relations to other rocks in the northwest Toodoggone map area.

(after Thorstad, 1980)

and have been subjected to at least two phases of folding. Shearing has transformed most of the volcanic and sedimentary rocks into schist and phyllite but numerous textures have been preserved allowing one to classify them according to original rock type. The volcanic rocks are mainly tuffaceous except for some massive or locally pillowed basalt. The sedimentary rocks are weakly to moderately carbonaceous siliceous siltstone, often associated with crinoidal limestone, and are found as layers or lenses intercalated with intermediate to felsic tuffs. Calcareous sandstone and quartzite band represent a volcaniclastic stage of sedimentation which is locally gradational into carbonatized dacite to rhyolite tuff. A more distinctive sequence of sedimentary rocks made up of pelite and greywacke structurally overlies the volcanic stratigraphy and does not appear to be derived from erosion of the volcanic pile.

The extremely intercalated nature of the volcanic-sedimentary rocks as well as hydrothermal alteration and structural deformation makes mapping and correlation of lithologies difficult. To simplify mapping, nine basic rock categories were defined and each category was subdivided based on lithology, texture or composition.

Basalt (unit 1) forms the base of the volcanic pile and is overlain by a dominantly andesite tuff sequence; (unit 2, up to 110 m thick). A dacite crystal tuff horizon (unit 3, up to 125 m thick) contains intercalated rhyolite tuff to tuffite beds (unit 4, 1-5 m thick); minor beds of chemical or fine clastic sedimentary rocks (unit 5, 2-20 m thick); and abundant beds of carbonatized volcanic-sedimentary rocks (unit 6, 2-10 m thick). This sequence, often over 100 m, composed of 1-2 m thick dacite and andesite tuff beds, are highly variable in their dacite: andesite ratio and have been designated as a separate map unit (unit 7, 1-250 m thick) and subdivided as being dacite - or andesite-rich. Quartz veins (unit 8), 5 to 50 cm thick, are commonly found with sericitized or carbonatized rocks and usually carry specs to 1 cm thick veinlets or arsenopyrite or pyrite. Intrusive rocks are not abundant and generally occur as narrow (less than 1 m) dykes of rhyolite, and gabbro; a foliated diorite plug (75 m wide) is exposed in the centre of the Bill claims.

Arsenopyrite is the most important metallic mineral. It occurs as fracture fillings in quartz veins and in hydrothermally altered tuffs and tuffites. Some 50 cm patches carry up to 15% arsenopyrite but the average abundance in such zones is commonly less than 2%, often showing in only trace amounts. Pyrite is scattered throughout the altered tuffs and tuffites, usually making up less than 1% of the rock, and is probably a primary sulphide precipitated on the sea floor when the rocks accumulated.

Structural Geology (From Sharp, 1981)

Nearly all the rocks on the claim group exhibit some degree of foliation. The more massive basaltic rocks and the more competent siliceous siltstone lenses show much weaker foliation than do the altered felsic tuff and tuffites which are often highly sheared. Kink bands in the sheared felsic tuff indicates two periods of deformation. The rocks in the central part of the claims have been domed to form a NE-SW trending doubly plunging anticlinal fold. A syncline is evident in the southern portion of the claims. Prominent scarps have been produced by NW and NE trending high angle faults. Thrust faulting has displaced some of the western rocks toward the east in T-Bird 1.

Mineralization

Mineralization observed in the trenches was limited to minor pervasive pyrite in quartz pods and in one location, throughout a phyllitic andesite. Small fragments of quartz containing minor pyrite and arsenopyrite were observed in talus, but the source of these could not be traced. Sharp (1981) reports that quartz veins and pods occurring in the carbonatized volcanic rocks contain minor amounts of auriferous arsenopyrite.

GEOCHEMISTRY

Procedure

The geochemical survey consisted of collecting 112 soil samples along grid lines 3+00S, 3+50S, 4+00S, etc. to 6+00S. Samples were collected every 20 metres along these lines between 2+00W and 5+00W inclusive. The samples were taken at a depth of 15-30 cm in the B soil horizon. Where the sample location was in talus, talus fines were collected. The samples were placed in kraft soil bags and the sample location marked by flagging bearing the grid location and sample number. In addition to the grid soils, 163 soil samples were collected from the 11 trench locations. Details regarding trenching will be discussed later.

Rock samples including 49 trench chips and 3 grab samples were also collected on the property. All samples were shipped to and analyzed by Min-En Laboratories Ltd., North Vancouver, B.C. The soils were dried and sieved to -80 mesh and tested for Cu, Pb, Zn, Ag, As and Au. The rock samples were ground to -100 mesh assayed for Au, Ag and As and geochemically analyzed for Cu, Pb, Zn, Ag, Hg, As, Au and Sb. For details on analyzing procedures, see Appendix I.

Results

The geochemical data was analyzed using the method described by Lepeltier (1969). Four sets of data were graphed for each of the elements gold (Figure 5) and arsenic (Figure 6):

a. 1981 soil results over entire BILL property (See Cominco Dwg. #B81-2)

b. 1982 grid soil results (Dwg. No. B.82-7, 8 & 9)

c. 1982 trench soil results (Dwg. No. B.82-5)

d. 1982 trench rock geochemistry (Dwg. No. B.82-5)

The procedure for graphing these curves is summarized in the appendix. Table #1 summarizes the results.

In addition, Au, Ag and As soil results over the grid area have been plotted and contoured (see Dwg. Nos. B.82-7, 8 & 9). These drawings reveal a high auriferous anomaly in the central portion of the grid. This zone corresponds to that established by Cominco in 1981. The zone extends down slope to the south off the grid area. Arsenic correlates well with the gold anomaly. It is anomalous (>1000 ppm) over numerous downslope trending zones. The highest zone of arsenic values (>5000 ppm) lies slightly uphill of the zone of highest gold values (>5000 ppb). Silver, although not producing any high values, appears to follow the Au-As trends.

Graphically, the results show the problem of high values in soils and very low values in the underlying rocks. Graph #1 (Au) shows an almost identical distribution of gold in soils on the surface and at depth in the trenches. There is a slight enrichment with depth at the higher end of the range. Arsenic shows a marked increase with depth in the soils. Being more mobile than gold, the arsenic may have been leached from the upper soil zone.

In both cases, the anomalous grid area stands well above the general trend over the entire claim area. Rocks in this zone show similar values as the general soil trend, but much lower values than the soils that cover them. Soils average 7 times higher in gold and 2.5 times higher in arsenic than the underlying strata. Base metals, copper lead and zinc, in soils are insignificant over the grid area.

TRENCHING

Eleven trenches were blasted and hand mucked in an attempt to expose fresh bedrock. The trenches were placed over zones of

FIGURE 5.

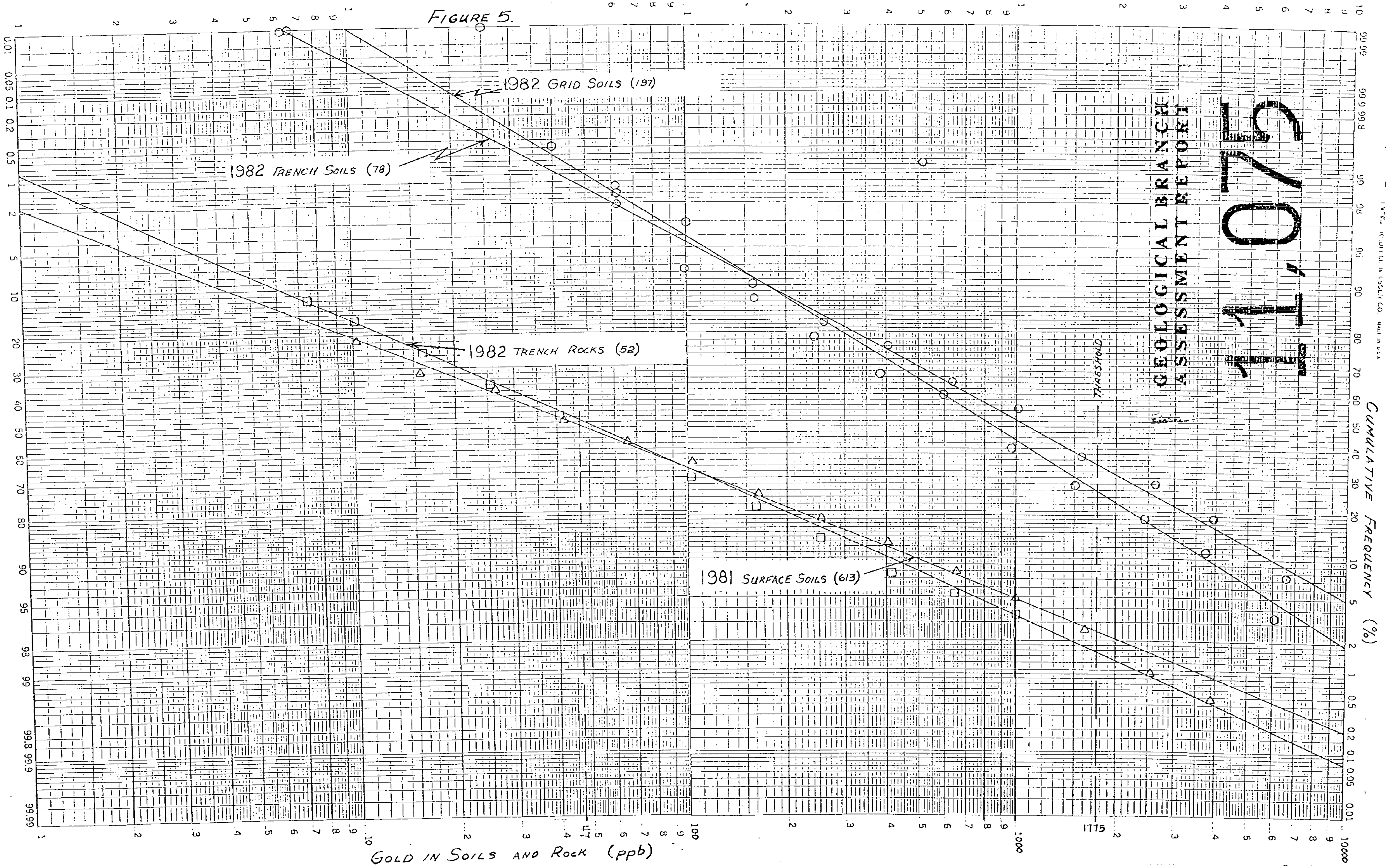
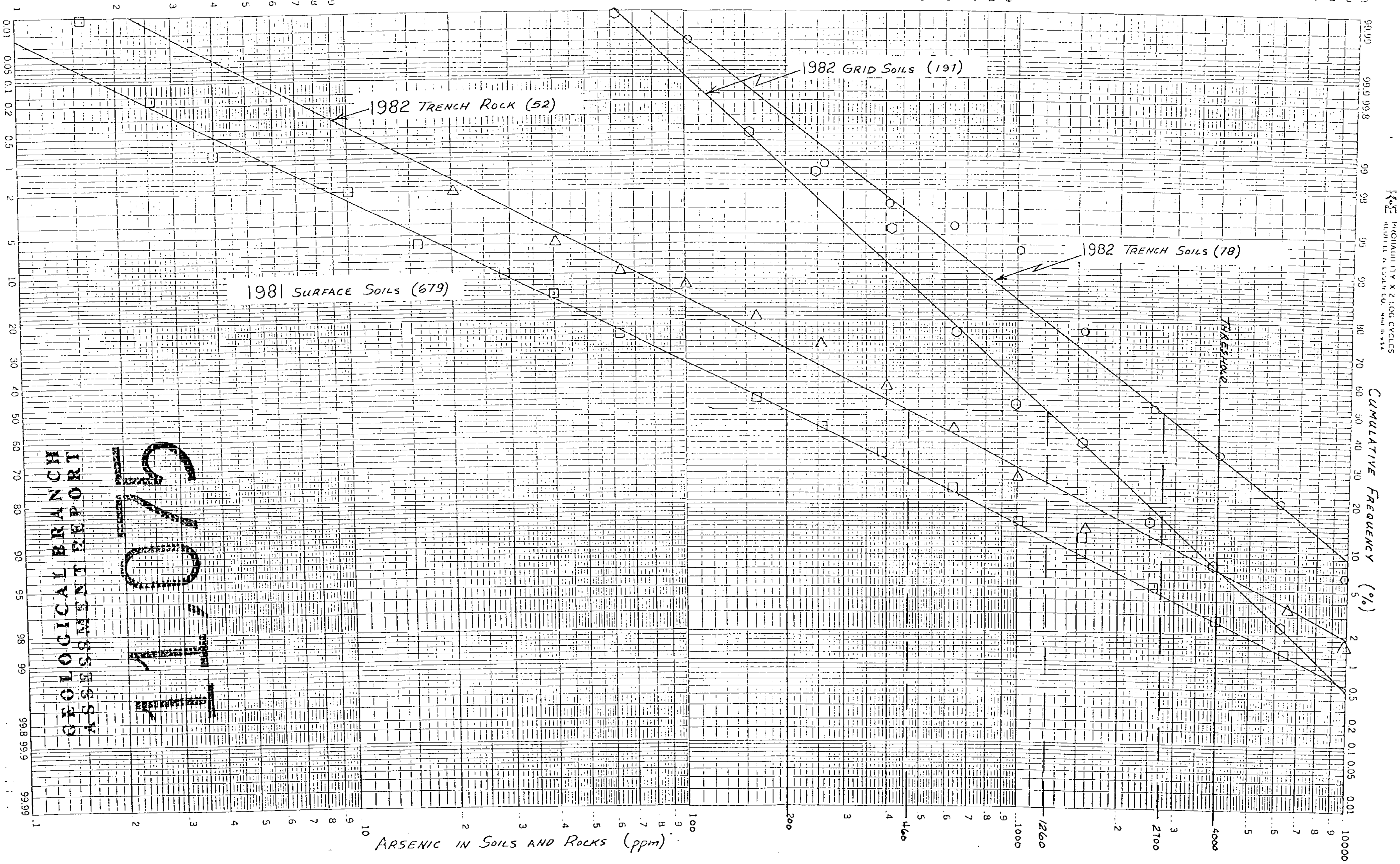

1982 GRID SOILS (197)
1982 TRENCH SOILS (78)
1982 TRENCH ROCKS (52)
1981 SURFACE SOILS (613)
THRESHOLD
1775
CUMULATIVE FREQUENCY (%)
GOLD IN SOILS AND ROCK (ppb)
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,075

FIGURE 6



1982 GRID SOILS (191)
1982 TRENCH ROCK (52)
1982 TRENCH SOILS (78)
1981 SURFACE SOILS (679)
THRESHOLD
CUMULATIVE FREQUENCY (%)
ARSENIC IN SOILS AND ROCKS (ppm)
460
1260
2700
4000
10000
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11075

TABLE 1

Results of Lognormal Geochemical Plots

	Au (ppb)				As (ppm)			
	1981 General	1982 Grid	1982 Trenches	1982 Rocks	1981 General	1982 Grid	1982 Trenches	1982 Rocks
Background (50%)	47	800	1000	47	200	1260	7100	500
Threshold (97.5%)	1775	8000	>10,000	1150	4000	6200	>10,000	8000
Deviation (16-84%)	7-300	250-2600	250-4000	9-240	43-900	56-2800	1255-6600	130-1500
# Samples	613	197	78	52	679	197	78	52

auriferous soil anomalies (>1000 ppb). Soil samples were taken every two metres along the trench line before blasting and after every mucking out procedure. Where rock was encountered it was sampled over two metre chip intervals.

A problem of obtaining fresh bedrock was encountered in each trench. Soils range in thickness from one metre to greater than two metres even on the steeper slopes. The rock below this soil is highly fragmented and has a large amount of soil mixed in with it. The fragmental nature of the rock probably extends to a greater depth. Drawing No. B.82-5 shows trench locations and the Au/As/Ag values in soils and rock obtained from each. It is clear that a high amount of enhancement has taken place in the soils. The source of this enhancement is not understood at the present time.

Small quartz pods generally white and barren but locally pyritiferous were observed in several trenches. Assay values from these pods show no promising results. The source of these pods as discussed by Sharp (1981) is probably sweat zones emplaced during metamorphism of the volcanic rocks.

GEOPHYSICS

A limited geophysical survey was conducted over the northeast corner of the BILL 2 mineral claim. The survey was done to determine if any definitive geophysical response could be obtained over an area of interesting gold-arsenic geochemical values. The work was conducted by Glen E. White Geophysical Consulting and Services Ltd. from 1982 September 18 to 1982 September 24. Some 4.8 km of magnetometer and VLF-electromagnetometer surveying was conducted. An induced polarization survey was terminated at 3.2 km due to a mechanical breakdown of the transmitter. Details of the survey including equipment specifications can be found in Glen E. White's report, accompanying this report.

Discussion of Results (as per Glen E. White)

The following discussion of results and conclusions are taken directly from White's report.

Figure 6 has been prepared from the Cominco geochemical data and is a plot of the arsenic values across this test survey area. The geochemical data shows a pronounced anomaly of 3000 to 4000 ppm arsenic associated with up to 4650 ppb gold.

Correlation of the geochemical values with the induced polarization chargeability data indicates that this anomaly is reflected by low order chargeability values of 6 to 7 milliseconds. The lowest values obtained were in the order of 1.5

milliseconds which could be considered a background response. A strong anomaly of 26 milliseconds was obtained in the southwest corner of the grid. This is an area of low resistivity (see Figure 5) but does not appear to have any significant geochemical values. Thus, this response may possibly be due to a graphite-bearing phyllite. The apparent resistivity data shows high values which indicate shallow overburden conditions over resistive rock units.

The VLF-EM unit gave a well-defined conductor which trends north to north-northwest. This anomaly appears to show the closest correlation with the geochemical anomalies and would suggest that the arsenopyrite is possibly following a complex pattern of intersecting zones of structural weakness.

The magnetometer survey was conducted on a reconnaissance basis with a course sensitivity of 50 gammas. The responses were moderate; however, several linears are suggested which may relate to fault zones. It is interesting that the geochemical anomaly occurs between the two western linears. This may indicate the arsenopyrite is controlled by oblique dilatent fissures between the two linears.

Conclusion and Recommendations (as per Glen E. White)

A limited test program of geophysical surveying was conducted over a small portion of the BILL claims to test an area of auriferous arsenopyrite for any definitive response patterns.

The induced polarization chargeability data appears to be giving a general response on the limited survey. However, on a regional basis, the area of anomalous values may appear specific. A strong response of 26 ms indicates a good chargeable source to the southwest of the survey grid. The VLF-EM and magnetometer surveys suggested a conductive zone and magnetic low linears which appeared to be more closely related to the strong arsenic geochemical values.

Thus, a suggested exploration approach would be to contuct 1 gamma sensitivity magnetometer and VLF-EM surveys to correlate with the geochemical data followed by an induced polarization survey or a deep penetrating time domain pulse electromagnetometer survey over specific areas once a geological-geophysical model has been developed.

CONCLUSIONS AND RECOMMENDATIONS

The large auriferous soil anomaly detected in 1981 has been confirmed and detailed over an area approximately 300 metres x 300 metres. The attempts to find the bedrock source of this gold anomaly through trenching has failed. Rock immediately underlying the anomalous area contains insignificnt amounts of precious metals. Gold, arsenic and silver anomalies correspond quite well even though silver values are low. The anomalous zone as determined previously seems to be associated with the carbonatized volcanic rocks. Soil profiles in the trenches reveal an increase in arsenic with depth, whereas gold remains the same.

It is doubtful that the source of gold in the soils will be located without drilling. It is recommended that further geophysical surveys be conducted to better define drilling targets. These surveys should include a 1 gamma sensitivity magnetometer and VLF-EM surveys followed by an induced polarization survey or a deep penetrating time domain pulse electromagnetometer survey over specific areas where minor geophysical responses have been detected.

It is also recommended that a limited diamond drilling program be undertaken in the areas of coincident Au-As geochemical and geophysical anomalies.

H. J. Copland
Geologist
1982 October

T. J. Drown
Geologist
1983 February

HJC&TJD/krl

COST STATEMENT

1. Wages

	Rate/day	Spec. Dates	#Days	Cost
1 Jr. Field Ass't	$60.35	Jul.25-Aug.2	9	$ 543.15
1 Sr. Field Ass't	76.24	" "	9	686.16
1 Geologist (field)	78.34	" "	9	705.06
1 Geologist (office)	78.34	26,27,30,31 Aug 1,2,3, Sept.	7	548.38
				$2,482.75

2. Camp Supplies, food, sundry $ 777.08

3. Transportation

Rotary Wing - ALC Airlift Corporation

July 25 Ticket No. 1016, 5.0 hrs @ $425/hr+$500 fuel	$ 2,625.00
July 27 Ticket No. 681, 3.5 hrs @ $425/hr+$350 fuel	1,837.50
Aug. 02 Ticket No. 682, 4.1 hrs @ $425/hr+$410 fuel	2,152.50
Aug. 06 Ticket No. 682, 2.0 hrs @ $425/hr+$200 fuel	1,050.00

Rotary Wing - Frontier Helicopters

Sept. 19 Ticket #20430, 3.7 hrs @ $475/hr+$203.50 fuel	$ 1,961.00
Sept. 22 Ticket #20432, 2.0 hrs @ $475/hr+$110.00 fuel	1,060.00
Sept. 24 Ticket #20433, 3.4 hrs @ $475/hr+$187.00 fuel	1,802.00
	$12,488.00

Fixed Wing - Central Mountain Air Services

July 25, Invoice No. 293	$ 876.58
July 28, Invoice No. 325	488.70
Sept. 19, INvoice Nos. 652, 653	1,466.25
Sept. 24, Invoice Nos. 608, 609	1,502.50
	$ 4,334.03

Air Fare

Vancouver-Smithers 3 @ $130.68	$ 392.04
Smithers-Sturdee Valley: 3 @ $80.00	240.00
	$ 632.04

4. Blasting and Trenching

a. Wages

Wages	Rate/day	Spec. Dates	#Days	Cost
1 Blaster w equip	$275	Jul.27-Aug.2	7	$ 1,925.00
2 Blaster's helper	$200	Jul.27-Aug.2	7	1,400.00
				$ 3,325.00

b. Supplies

Powder, B-line, caps, etc.
Bema Industries Invoice No. 7037 — $ 2,486.90

5. Analytical Services

Min-En Laboratories, Invoice Nos. 975A, 1233A

197 soil - prep. @ $0.85 ea	$ 167.45
197 soil - Cu, Pb, Zn, Ag, As, Au @ $12.70 ea	2,501.90
52 rock - prep @ $2.75 ea.	143.00
52 rock - Cu, Pb, Zn, Ag, Hg, As, Au, Sb @ $20.95 ea.	1,089.40
52 rock - Assays, Au, Ag, As	1,378.00
	$ 5,279.75

6. Geophysical Surveys

Glen White Geophysical Consulting and Services — $10,673.78

7. Radio (rental of SBX-11 portable radio telephone)
Spilsbury Communications, Invoice No. 24548 — $ 253.34

8. Freight (PWA, Loomis Courier) — $ 250.00

9. Report Preparation (Drafting, typing, supplies) — $ 350.00

TOTAL: $43,332.67

TJD/krl

REFERENCES

Lepeltier, C., 1969; A Simplified Statistical Treatment of Geochemical Data by Graphical Representation, Econ. Geology, Vol. 64, pp. 538-550.

Sharp, R. J., 1981; Assessment Report, 1981 Geological, Geochemical and Trenching Report on the BILL 1, 2, 3 and T-Bird 1, 2, 3, 4, 5, 6 Mineral Claims, Cominco Ltd., 8p.

Thorstad, L., 1980; Upper Paleozoic volcanic and volcaniclastic rocks in northwest Toodoggone map area, British Columbia; in Current Research, Part B, Geological Survey of Canada, Paper 80-1B, pp. 207-211.

White, Glen E., 1982; Geophysical Report, Du Pont of Canada Exploration Limited, on Induced Polarization, Magnetometer and VLF-EM on the on the BILL 1 and 2 claims.

QUALIFICATIONS

I, Thomas J. Drown, do hereby certify that:

1. I am a geologist residing at 407 Cardiff Way, Port Moody, British Columbia and employed by Du Pont of Canada Exploration Limited.

2. I am a graduate of the University of British Columbia with a B.Sc. degree in honours geology.

3. I have practised my profession in geology for approximately eight years in various jurisdictions in Canada.

4. Between 1982 July 25 and 1982 September 3, I supervised/directed a field program on the BILL claims on behalf of Du Pont of Canada Exploration Limited.

Thomas J. Drown

Thomas J. Drown
1983 February 10

QUALIFICATIONS

I, Hugh J. Copland Jr., do hereby certify that:

1. I am a geologist residing at 5250 Ash Street, Vancouver, British Columbia and employed by Du Pont of Canada Exploration Limited.

2. I am a graduate of the University of British Columbia with a B.Sc. (Honours) degree in Geology and McMaster University with a B.Eng. (Mechanical).

3. I have practised my profession in geology for the past three years in British Columbia and the Yukon Territory.

4. In the summer of 1982, I participated in the field programme described in this report on behalf of Du Pont of Canada Exploration Limited.

H. J. Copland

H. J. Copland
1982 October

APPENDICES

HONE 980-5814

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

PROCEDURES 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 Gutzit method using Ag $CS_2N(C_2H_5)_2$ as a reagent. The detection limit obtained is 1. 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.

IIONE 980-5814

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 pretreated 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.

APPENDIX B

Calculation of Probability Graphs

(According to Lepeltier, 1969)

Procedure:

1. Geochemical data is assumed to follow a lognormal distribution.

2. Calculation of class interval

   $\text{Log(interval)} = \frac{\log R}{n}$ where R: Range of values
   N: No points in curve

   This log interval is then recalculated as a ppb (or ppm) interval.

3. Cumulated frequencies are calculated from highest to lowest values and plotted on probability x log paper. A lognormal distribution should plot as a straight line. Two slopes represent a skewness in the population.

4. Analysis of graph: The following terms have been designated by Lepeltier.

   a. Background (b): For a perfect lognormal distribution, this is also the geometric mean and occurs at a 50% value.

   b. Deviation (s): Standard deviation is defined as 68.3% of the population falling between (b-s) and (b+s) and is graphically represented by the 16% and 84% ordinates.

   c. Threshold (t): Is a function of the background and deviation $\log t = \log b + 2S$ and is represented by the 2.5% ordinate.

   Following is a sample calculation for arsenic (1981 soils):

   Total population: 679

   Range (R) 5 - 10,000 ppm

   Number of points desired on graph (n): 20

   Log interval: $\frac{\log R}{n} = 0.2$

APPENDIX B (continued)

Log Interval	Interval (ppm)	Frequency	%	Cumulative (%)
0.0-0.2	0-1.58	0	-	-
0.2-0.4	1.58-2.51	1	0.15	100.00
0.4-0.6	2.51-3.98	4	0.59	99.85
0.6-0.8	3.98-6.3	8	1.18	99.26
0.8-1.0	6.3-10.0	9	1.33	98.08
1.0-1.2	10.0-15.8	15	2.21	96.75
1.2-1.4	15.8-25	29	4.27	94.54
1.4-1.6	25-40	28	4.12	90.27
1.6-1.8	40-63	68	10.01	86.15
1.8-2.0	63-100	75	11.05	76.14
2.0-2.2	100-158	64	9.43	65.09
2.2-2.4	158-251	80	11.78	55.66
2.4-2.6	251-398	65	9.57	43.88
2.6-2.8	398-630	74	10.90	34.31
2.8-3.0	630-1000	50	7.36	23.41
3.0-3.2	1000-1585	43	6.33	16.05
3.2-3.4	1585-2510	31	4.57	9.72
3.4-3.6	2510-3980	17	2.50	5.15
3.6-3.8	3980-6310	9	1.33	2.65
3.8-4.0	6310-10000	7	1.03	1.32
>4.0	>10000	2	0.29	0.29
	TOTAL:	679		

HJC/krl

OCT 22 1982

GEOPHYSICAL REPORT

DUPONT OF CANADA EXPLORATIONS LTD.
On
INDUCED POLARIZATION, MAGNETOMETER
And VLF-EM

Bill 1 and 2 claims, Stikine River area,
Liard Mining Division.

N.T.S. 94 E/13, Lat. 57°45'N, Long. 127°45'W

AUTHOR: Glen E. White, P. Eng.

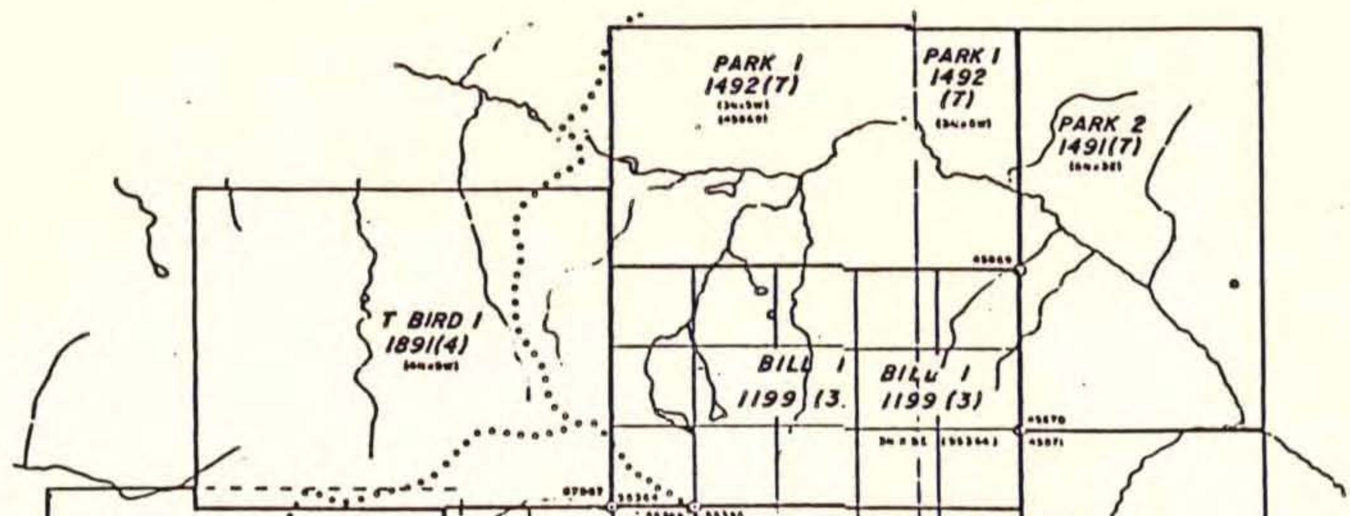
DATE OF WORK: September 18-24/82

DATE OF REPORT: October 14, 1982

C O N T E N T S

PAGE

ILLUSTRATIONS



LIARD MINING DIVISION

94 E/13

1:50,000

DUPONT OF CANADA EXPLORATIONS LTD.

— BILL CLAIMS —

LOCATION AND CLAIMS MAP

Glen E. White geophysical consulting & services ltd

FIG. 1

INTRODUCTION

This survey was conducted as a limited test program to determine if any definitive geophysical responses could be obtained over an area of interesting gold-arsenic geochemical values.

The work was conducted from a late season fly camp from September 18-24, 1982. Some 4.8 km of magnetometer and VLF-electromagnetometer surveying were conducted. The induced polarization survey was terminated at 3.2 km due to a transmitter failure.

PROPERTY

The survey was conducted near the northeast corner of the Bill 2 mineral claims as illustrated on Figure 1. The Bill 1 and 2 claims are record numbers 1199 and 1200 respectively.

LOCATION AND ACCESS

The Bill claims are located some 10 km northwest of the junction of the Stikine and Chukachida Rivers in the Stikine Mountain Range. The area is approximately 135 km southeast of Dease Lake at Latitude 57°45'N, Longitude 127°45'W, N.T.S. 94 E/13

Access is by helicopter.

GENERAL GEOLOGY

A detailed description of the Bill and T-Bird mineral claims can be found in a geological-geochemical and trenching assessment report dated March 1982 by R. I. Sharp on behalf of Cominco Ltd.

Mr. Sharp reports that: "The Bill claims are underlain by an assemblage of metamorphosed volcanic and sedimentary rocks. Thorstad (1980) suggests a Mississippian age for these rocks. Upper Triassic rocks of the Takla Formation and lower Jurassic rocks of the Hazelton Formation lie to the west and east of the claims. Lower Jurassic quartz monzonite and granodiorite underlie a large area to the north, east and south of the claims." He reports that "auriferous arsenopyrite occurs as late stage fracture fillings, as quartz veins and pods, or along sericitized (± silicified) fractures in carbonatized felsic tuff and tuffite."

SURVEY SPECIFICATIONS

The Magnetometer Survey

The magnetometer survey was conducted using a scintrex MF-2 Fluxgate magnetometer. This instrument measures the vertical component of the earth's magnetic field to an accuracy of 10 gammas. Corrections for diurnal variation were made by tying into previously established base stations at intervals not exceeding one and one half hours . Readings were taken at 25 m intervals along the traverse lines.

V.L.F. Electromagnetometer Survey

This survey was conducted using a Geonics EM-16 V.L.F. Electromagnetometer. This instrument acts as a receiver only. It utilizes the primary electromagnetic fields generated by VLF marine communication stations. These stations operate at a frequency between 15-25 KHZ, and have a vertical antenna-current resulting in a horizontal primary field. Thus, this VLF - EM measures the dip-angle of the secondary field induced in a conductor.

For maximum coupling, a transmitter station located in the same direction as the geological strike should be selected, since the direction of the horizontal electromagnetic field is perpendicular to the direction of the transmitting station.

Readings were taken at 25 m intervals and the data filtered in the field by the operator as described by D.C. Fraser, Geophysics Vol. 34, No. 6 (December 1969). The advantage of this method is that it removes the dc and attenuates long spatical wave lengths to increase resolution of local anomalies, and phase shifts the dip-angle data by 90 degrees so that cross-overs and inflections will be transformed into peaks to yield contourable quantities.

INDUCED POLARIZATION

The equipment used on this survey was the Huntec pulse-type unit and Mark III receiver. Power was obtained from a Briggs and Stratton moter coupled to a 2.5 KW 400 cycle, three phase generator, providing a maximum of 2.5 KW D.C. to the ground. The cycling rate is 1.5 seconds "current on" and 0.5 seconds "current off", the pulse reversing continuously in polarity. Power was transmitted to the ground through two potential electrodes, P_1 and P_2, which were deployed in the three electrode array with an "a" spacing of 50 m and separations of n = 2.

The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through electrodes C_1 and C_2, the primary voltage (V_p) appearing between electrodes P_1 and P_2 during the "current on" part of the cycle. A cycle time of 4 seconds was used with a duty ratio of 2.2 - 1, T_p .20 ms and T_d 60 ms.

The apparent chargeability (M') in milliseconds, is calculated by T_p $(M_1 + 2M_2 + 4M_3 + 8M_4) = M'$, where T_p is the basic integrating time in tenths of seconds. M_1, M_2, M_3 and M_4 are the chargeability effects at various times on the voltage decay curve following switch off of the transmitter, measured as a percentage of the primary voltage, V_p recorded during the "current on" time. By the use of these factors, one can gain an estimate of the decay curve in terms of chargeability for the given time T_p. This gives a quantitative value to the data measured.

The apparent resistivity, in ohm-metres, is proportional to the ratio of the primary voltage to the measured current, the proportionality factor depending on the geometry of the electrode array used. The chargeability and resistivity obtained are called "apparent" as they are values which that portion of the earth sampled by the array would have if it were homogeneous. As the earth sample is usually inhomogeneous, the calculated apparent chargeability and apparent resistivity are functions of the actual chargeabilities and resistivities of the rocks sampled and of the geometry of the rocks.

DISCUSSION OF RESULTS

Figure 6 has been prepared from the Cominco geochemical data and is a plot of the arsenic values across this test survey area. The geochemical data shows a pronounced anomaly of 3000 to 4000 ppm arsenic associated with up to 4650 ppb gold.

Correlation of the geochemical values with the induced polarization chargeability data indicates that this anomaly is reflected by low order chargeability values of 6 to 7 milliseconds. The lowest values obtained were in the order of 1.5 milliseconds which could be considered a background response. A strong anomaly of 26 milliseconds was obtained in the south-west corner of the grid. This is an area of low resistivity (see Figure 5) but does not appear to have any significant geochemical values. Thus, this response may possibly be due to a graphite-bearing phyllite. The apparent resistivity data shows high values which indicate shallow overburden conditions over resistive rock units.

The VLF-EM unit gave a well-defined conductor which trends north to north-northwest. This anomaly appears to show the closest correlation with the geochemical anomalies and would suggest that the arsenopyrite is possibly following a complex pattern of intersecting zones of structural weakness..

The magnetometer survey was conducted on a reconnaissance basis with a course sensitivity of 50 gammas. The responses were moderate; however, several linears are suggested which may relate to fault zones. It is interesting that the geochemical anomaly occurs between the two western linears. This may indicate the arsenopyrite is controlled by oblique dilatent fissures between the two linears.

CONCLUSION AND RECOMMENDATIONS

A limited test program of geophysical surveying was conducted over a small portion of the Bill claims to test an area of auriferous arsenopyrite for any definitive response patterns.

The induced polarization chargeability data appears to be giving a general response on the limited survey. However, on a regional basis, the area of anomalous values may appear specific. A strong response of 26 ms indicates a good chargeable source to the southwest of the survey grid. The VLF-EM and magnetometer surveys suggested a conductive zone and magnetic low linears which appeared to be more closely related to the strong arsenic geochemical values.

Thus, a suggested exploration approach would be to conduct 1 gamma sensitivity magnetometer and VLF-EM surveys to correlate with the geochemical data followed by an induced polarization survey or a deep penetrating time domain pulse electromagnetometer survey over specific areas once a geological-geophysical model has been developed.

Respectfully submitted,

Glen E. White, B.Sc., P. Eng.
Consulting Geophysicist

A P P E N D I X

Instrument Specifications

MAGNETOMETER

A. Instrument

(a) Type - Fluxgate

(b) Make - Scintrex MF-2

B. Specifications

(a) Measurement - Vertical Magnetic Field

(b) Range - ± 100 K gammas in 5 ranges

(c) Sensitivity - Maximum 20 gammas per scale division

(d) Accuracy - ± 10 gammas

C. Survey Procedures

(a) Method - One and one half hour loops

(b) Corrections - (i) Base

(ii) Diurnal

(c) Station relationship - each station read for intensity of vertical magnetic field.

APPENDIX

Instrument Specifications

ELECTROMAGNETOMETER

A. Instrument

(a) Type - Geonics VLF - EM
(b) Make - Ronka EM 16

B. Specifications

Measurement -

(i) Utilizes primary fields generated by VLF marine communication stations measures the vertical field components in terns of horizontal field present.

(ii) Frequency range 15-25 KHZ

(iii) Range of measurement - in phase ± 150% or ± 90°
- quadrature ± 40%

(iv) Method of reading - null detection by earphone, real and quadrature from mechanical dials.

(v) Accuracy - ± 1% resolution

C. Survey Procedures

Method (a) Select closest VLF station perpendicular to traverse lines.
(b) In-phase dial measures degree of tilt from vertical position.
(c) Quadrature dial calibrated in percent - null.
(d) Station plot - plot values read at station surveyed.
(e) Manually filter dip-angle data.

INSTRUMENT SPECIFICATIONS

INDUCED POLARIZATION SYSTEM

A. Instruments

(a) Type - pulse

(b) Make - Huntec

(c) Serial No. - transmitter #107 - receiver #3016

B. Specifications

(a) Size and Power - 2.5 KW

(b) Sensitivity - 300 x 10.5 volts

(c) Power Sources - 2.5 KW 400 cycle - three-phase generator

(d) Power - 8 H.P. Briggs and Stratton @ 3000 R.P.M.

(e) Timing - electronic, remote and direct.

(f) Readings - (i) ampls (ii) volts primary and secondary

(g) Calculate (i) Resistivity - ohm-meters (ohm-feet)
(ii) Chargeability - milliseconds

C. Survey Procedures

(a) Method - power supplied to mobile probe along TW 18 stranded wire from stationary set-up

(b) Configuration - Pole-dipole (three electrode array) Plot point midway between C_1 and P_1

D. Presentation

Contour Maps (i) Chargeability - milliseconds
(ii) Resistivity - ohm-meters (ohm-feet)

STATEMENT OF QUALIFICATIONS

NAME:	WHITE, Glen E., P.Eng.
PROFESSION:	Geophysicist
EDUCATION:	B.Sc. Geophysicist - Geology University of British Columbia.
PROFESSIONAL ASSOCIATIONS:	Registered Professional Engineer, Province of British Columbia.
	Associate member of Society of Exploration Geophysicists.
	Past President of B.C. Society of Mining Geophysicists.
EXPERIENCE:	Pre-Graduate experience in Geology - Geochemistry - Geophysics with Anaconda American Brass.
	Two years Mining Geophysicist with Sulmac Exploration Ltd. and Airborne Geophysics with Spartan Air Services Ltd.
	One year Mining Geophysicist and Technical Sales Manager in the Pacific north-west for W.P. McGill and Associates.
	Two years Mining Geophysicist and supervisor Airborne and Ground Geophysical Divisions with Geo-X Surveys Ltd.
	Two years Chief Geophysicist Tri-Con Exploration Surveys Ltd.
	Twelve years Consulting Geophysicist.
	Active experience in all Geologic provinces of Canada.

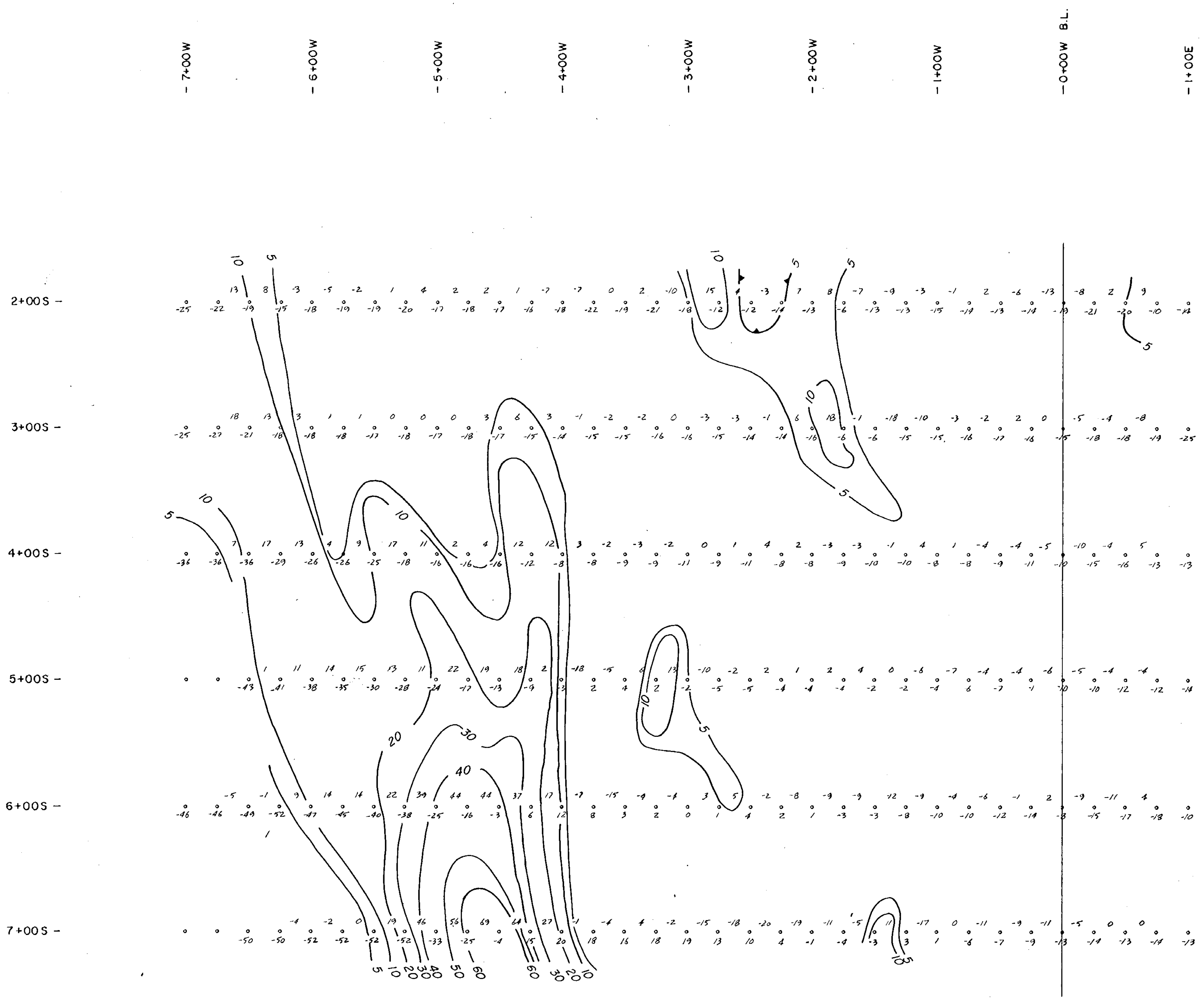
COST BREAKDOWN

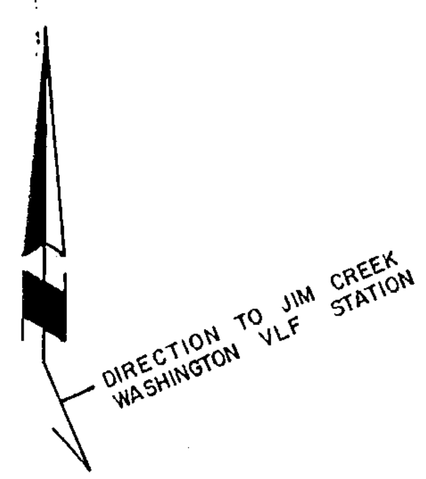
Personnel	Date	Wages	Total
R. Hamilton	Sept.18-24/82	$275/day	$1650.00
I. Clarke	" "	175/day	1050.00
S. Tompson	" "	170/day	1020.00
M. Kilby	" "	170/day	1020.00

Meals and accomodations	1440.00
Instrument Lease: I. P.	1350.00
Mag. and EM	300.00
Materials and office	270.00
Drafting, interpretation and reports	975.00
Airfares	1045.40
Airfreight	553.38
Total	$10,673.78

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,075

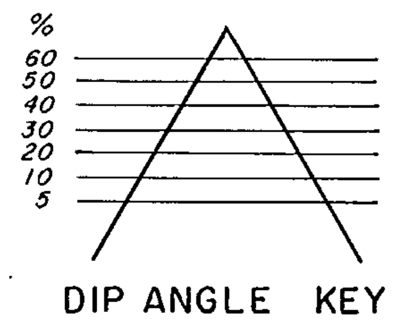




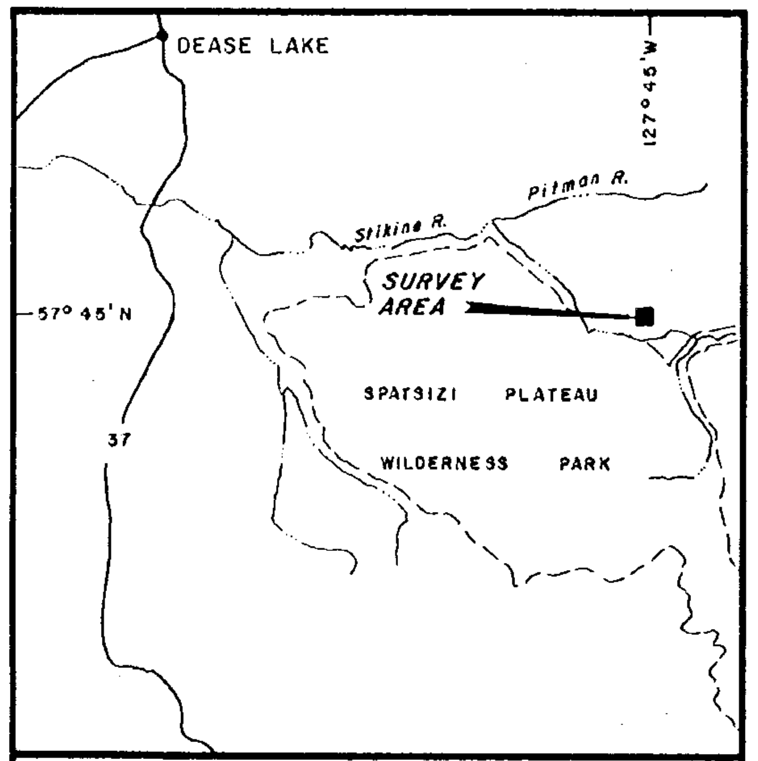
LEGEND:

° GRID STATION, FRAZER FILTERED VALUE - % / DIP ANGLE VALUE - %

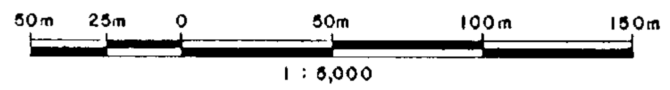
INSTRUMENT: GEONICS EM-16 VLF-ELECTROMAGNETOMETER



N.T.S. 94E/13



LOCATION MAP
1 : 2,000,000



To Accompany Geophysical Report
The Bill Claims
Date
By GLEN E. WHITE - B.Sc. GEOPHYSICIST

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA GLEN E. WHITE

DUPONT OF CANADA EXPLORATIONS LTD.
— BILL CLAIMS —
LIARD MINING DIVISION — BRITISH COLUMBIA

VLF-EM SURVEY
FRAZER FILTERED DIP ANGLE - %

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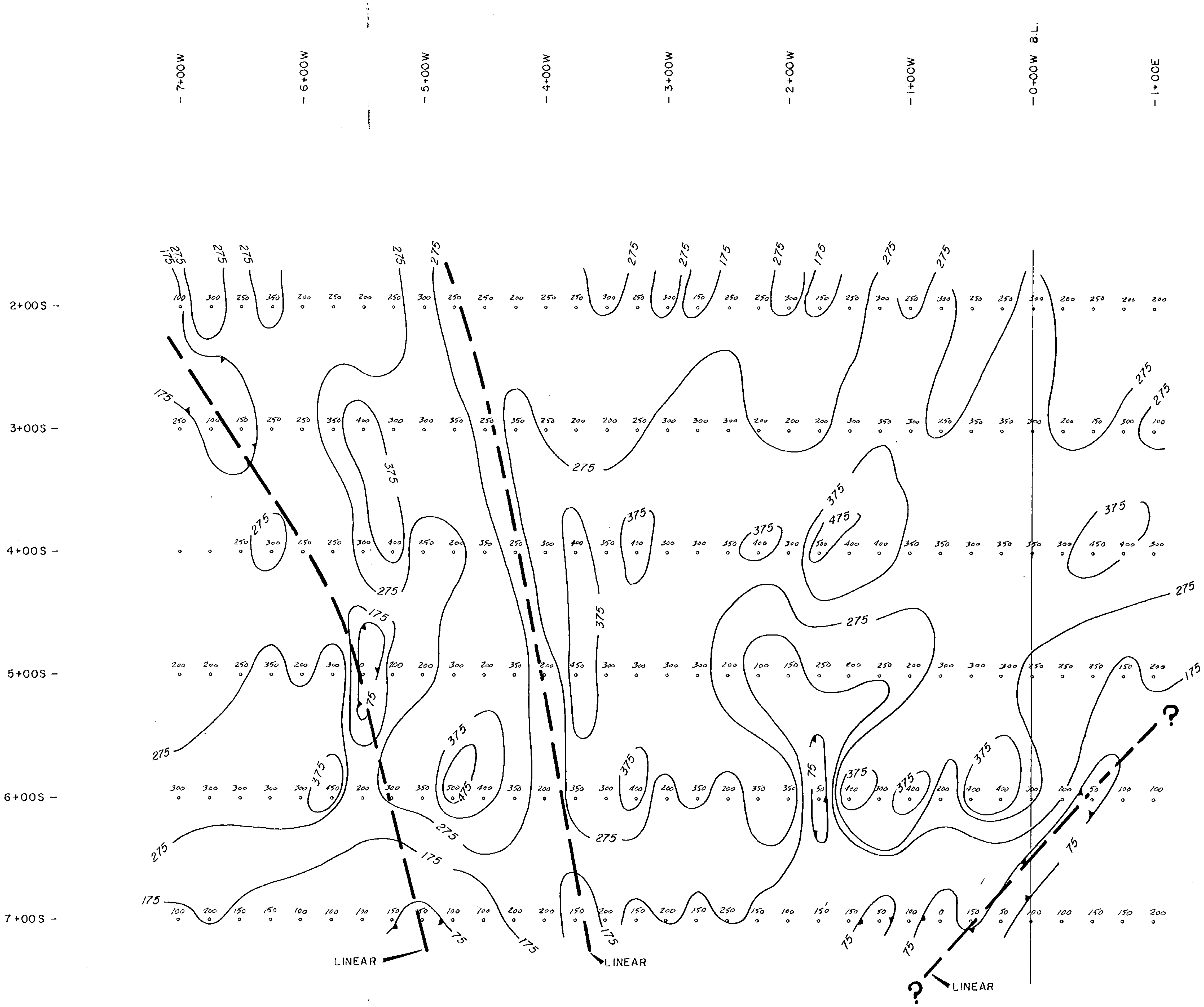
Drawn By	FINELINE DRAFTING LTD.
Checked By	G.E.W.
Date	OCT. / 82
Fig No	3

VANCAL 7134

GEOLOGICAL BRANCH
ASSESSMENT REPORT

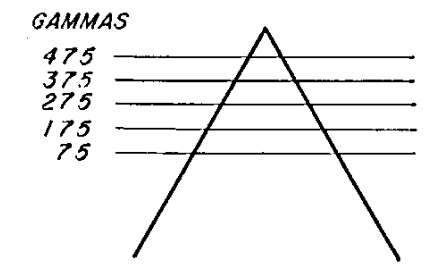
11,075



LEGEND:

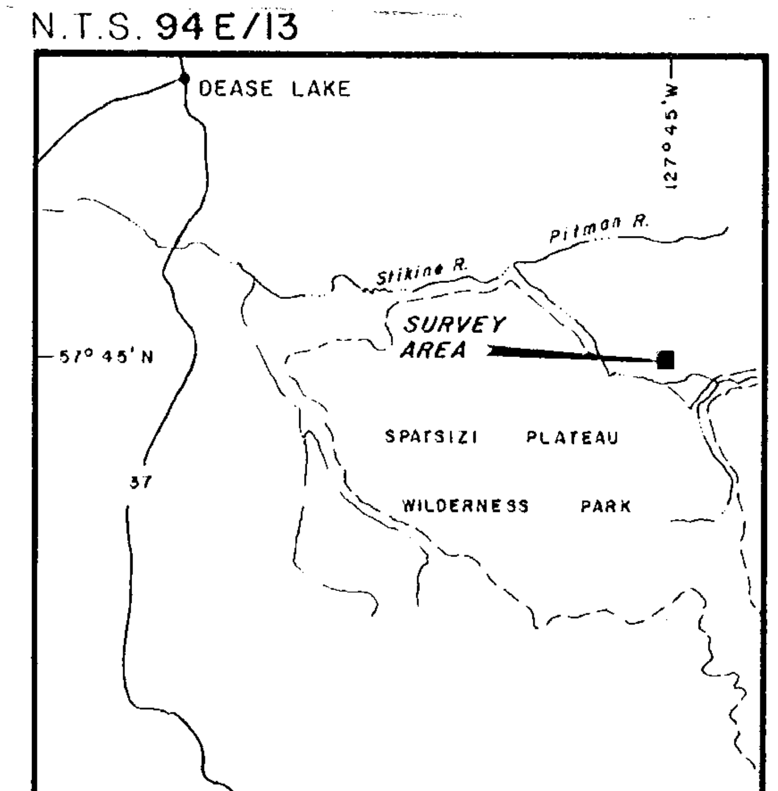
∘200 GRID STATION, MAGNETIC INTENSITY VALUE - GAMMAS

INSTRUMENT: SCINTREX MF-2 FLUXGATE MAGNETOMETER



MAGNETIC INTENSITY KEY

N.T.S. 94 E/13



LOCATION MAP
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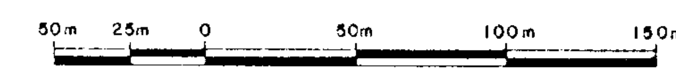

1 : 5,000

DUPONT OF CANADA EXPLORATIONS LTD.
— BILL CLAIMS —
LIARD MINING DIVISION — BRITISH COLUMBIA

MAGNETOMETER SURVEY
VERTICAL MAGNETIC INTENSITY - GAMMAS

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Interpreted By	G.E.W.
Drawn By	FINELINE DRAFTING LTD.
Checked By	G.E.W.
Date	OCT / 82
Fig. No.	2

To Accompany Geophysical Report on The BILL CLAIMS
Date
By GLEN E. WHITE - B.Sc.
GEOPHYSICIST

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — GLEN E. WHITE

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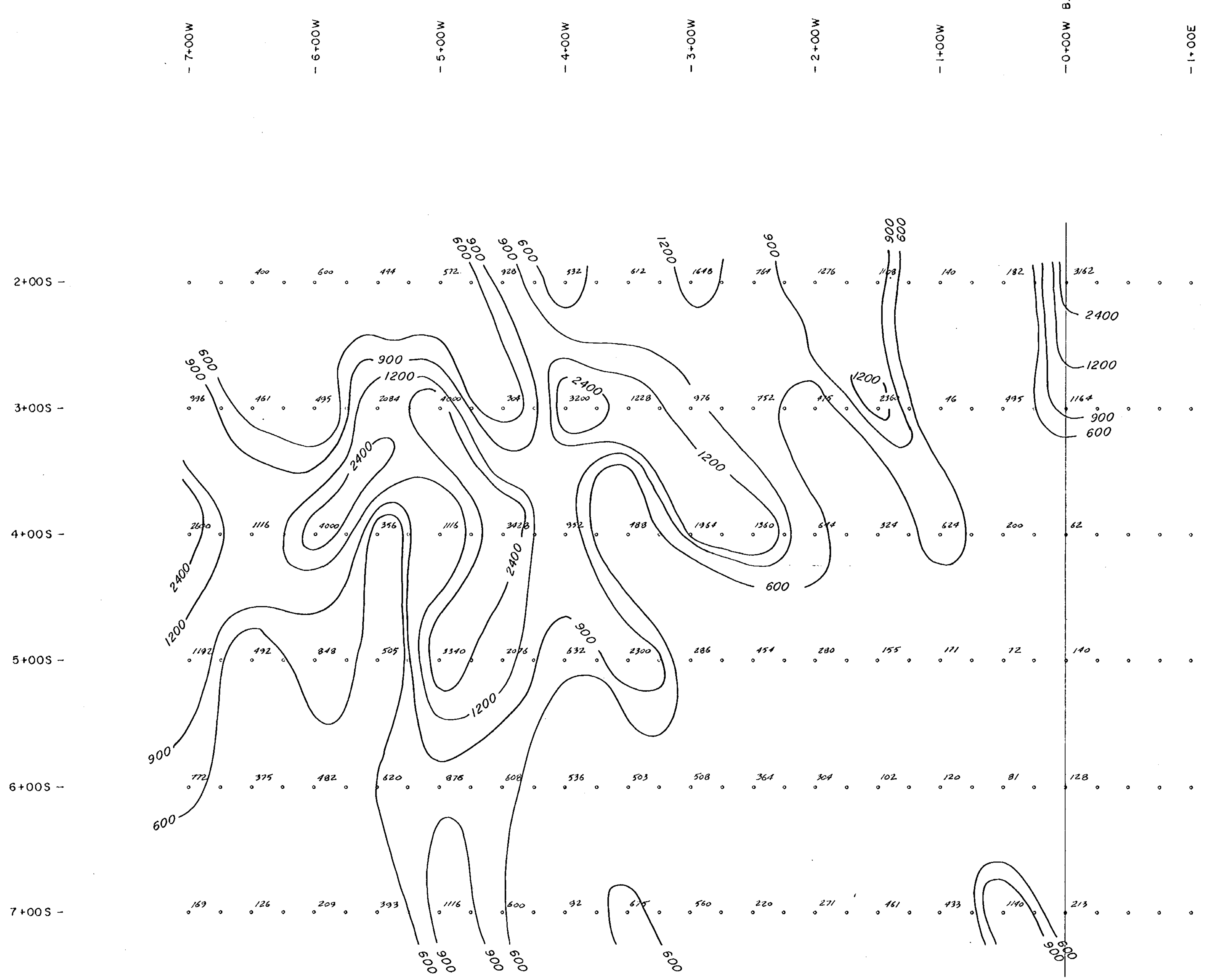
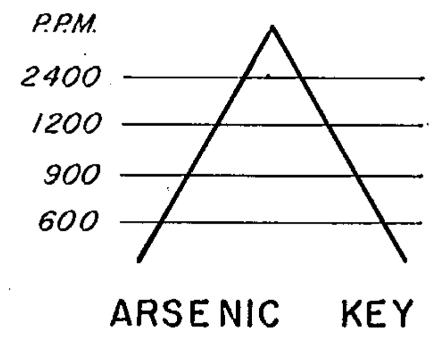


LEGEND:

∘ 3162 GRID STATION , ARSENIC VALUE - P.P.M.



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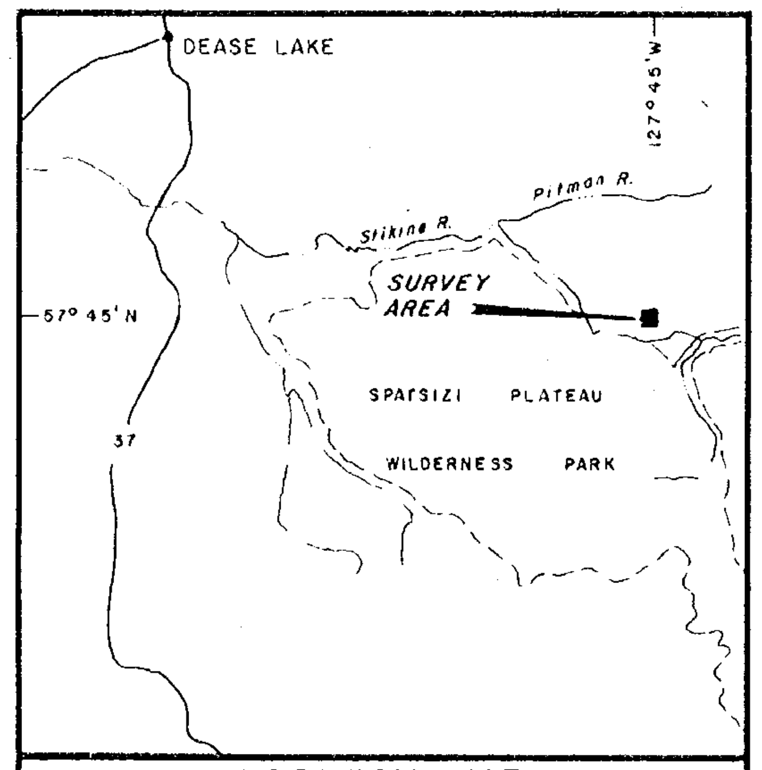

LOCATION MAP

1 : 2,000,000

50m 25m 0 50m 100m 150m

1 : 5,000

DUPONT OF CANADA EXPLORATIONS LTD.

— BILL CLAIMS —

LIARD MINING DIVISION – BRITISH COLUMBIA

GEOCHEMICAL MAP

— ARSENIC - P.P.M. —

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Date	OCT / 82
Fig. No.	6

To Accompany Geophysical Report On The Bill Claims
Date
By GLEN E. WHITE - B.Sc.

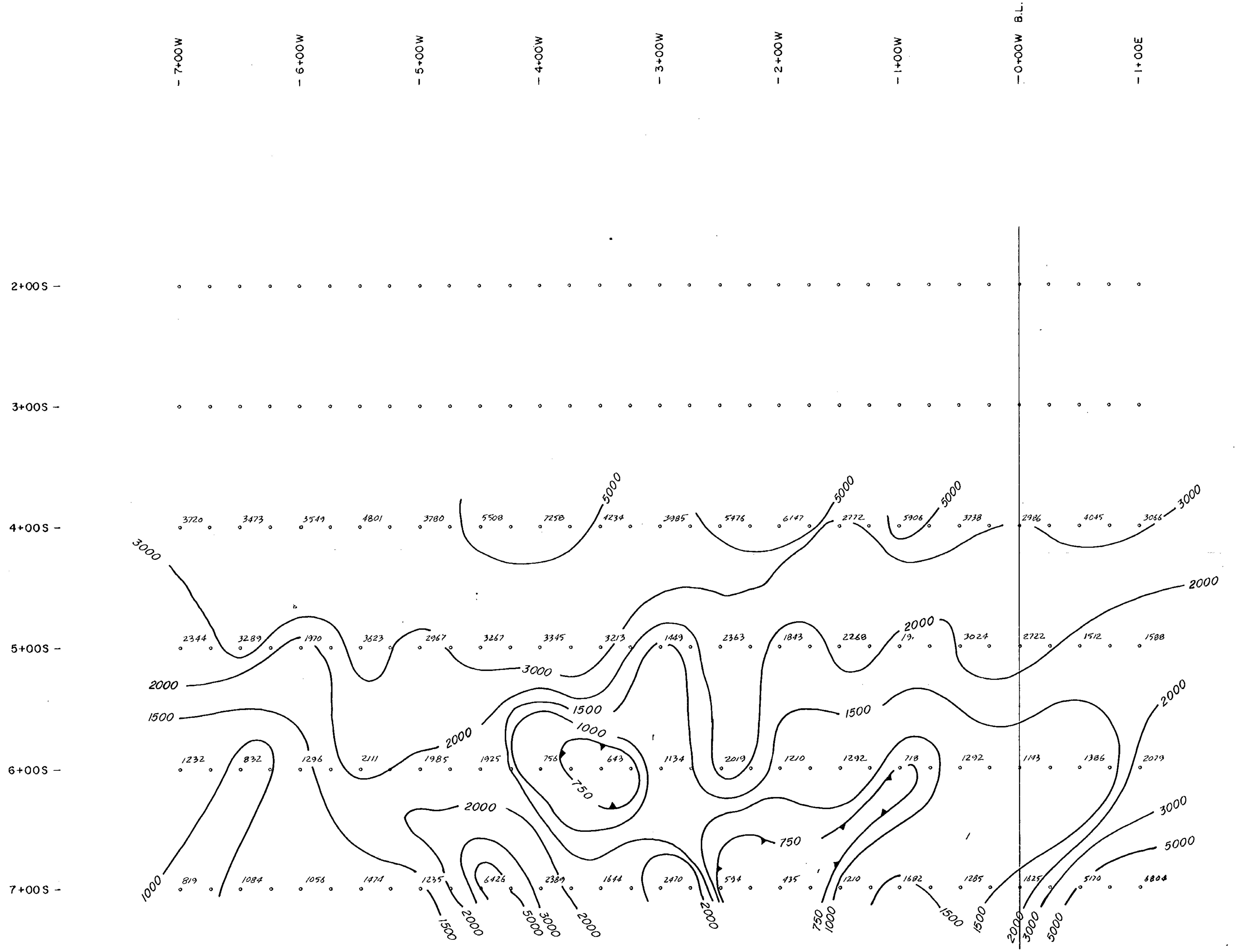
PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — GLEN E. WHITE

GEOPHYSICIST

VANCAL 7134

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,075



LEGEND:

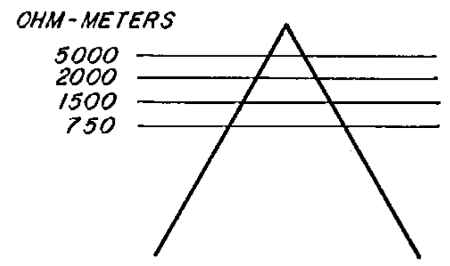
°5014 GRID STATION, RESISTIVITY VALUE – OHM-METERS

INSTRUMENT: HUNTEC 2.5 Kw TIME DOMAIN

a = 100 m , n = 2

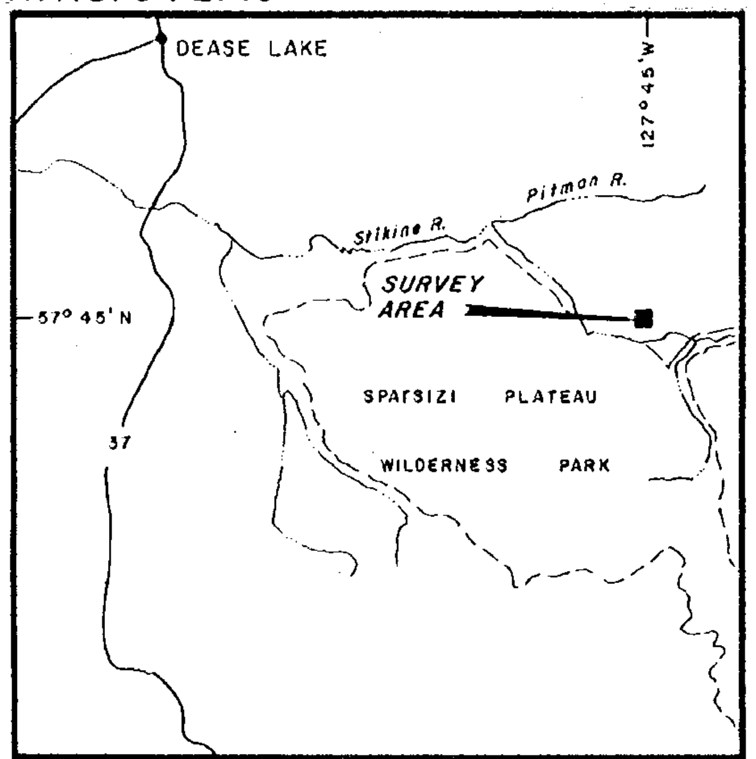
C_2 ← I → C_1 P_2 ← V → P_1

POLE DIPOLE



RESISTIVITY KEY

N.T.S. 94 E/13



LOCATION MAP

1 : 2,000,000

50m 25m 0 50m 100m 150m

1 : 5,000

DUPONT OF CANADA EXPLORATIONS LTD.

— BILL CLAIMS —

LIARD MINING DIVISION — BRITISH COLUMBIA

INDUCED POLARIZATION SURVEY
RESISTIVITY – OHM-METERS

Glen E. White geophysical consulting & services ltd.

Interpreted By	G.E.W.
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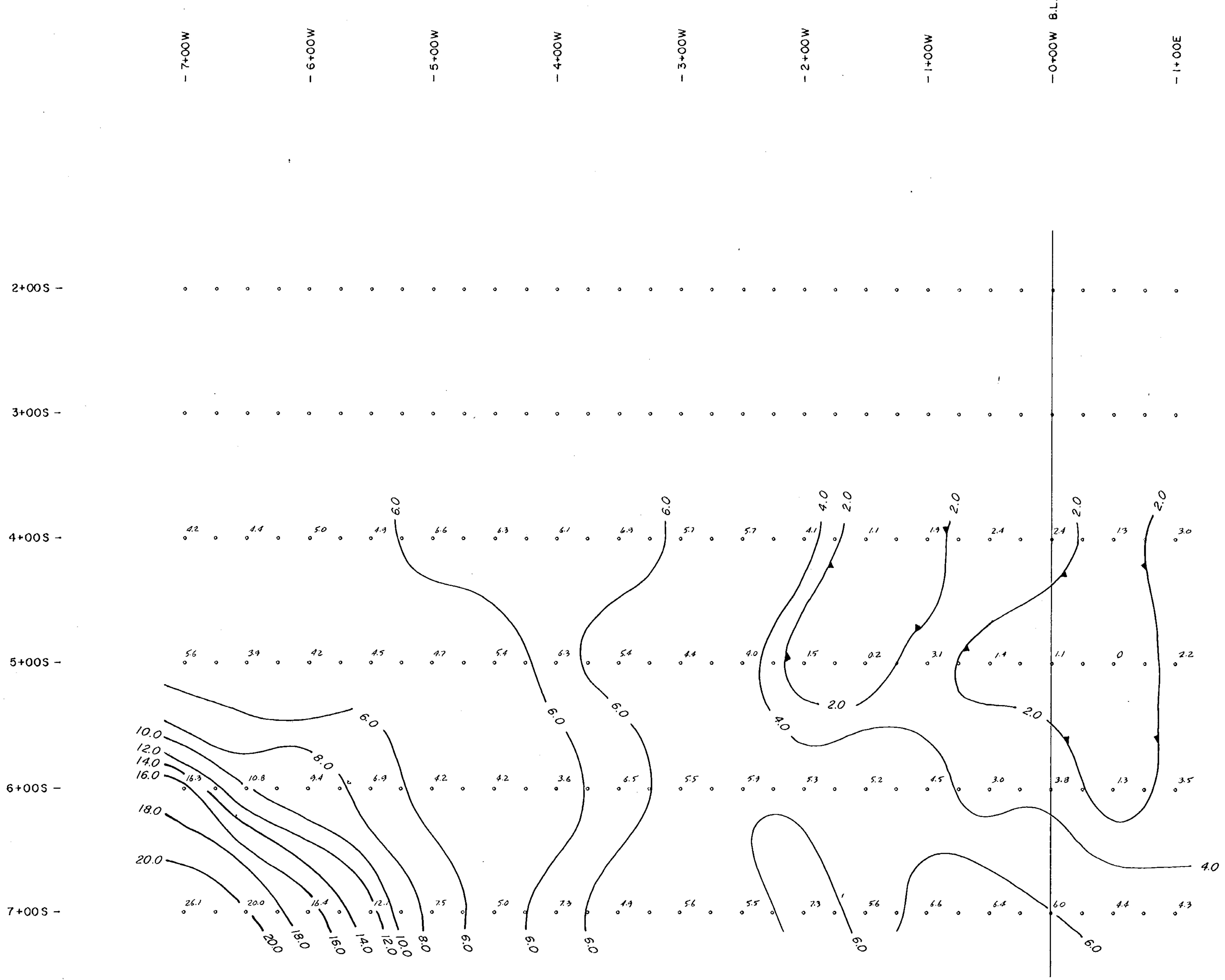
Date	OCT. / 82
Fig. No	5

To Accompany Geophysical Report
The Bill CLAIMS
Date
By GLEN E. WHITE - B.Sc.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA GLEN E. WHITE

GEOPHYSICIST

VANCAL 7134

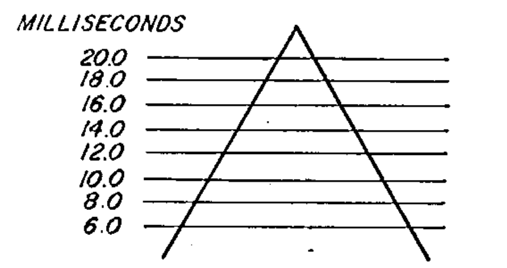


LEGEND:

° 3.0 GRID STATION, CHARGEABILITY VALUE - MILLISECONDS

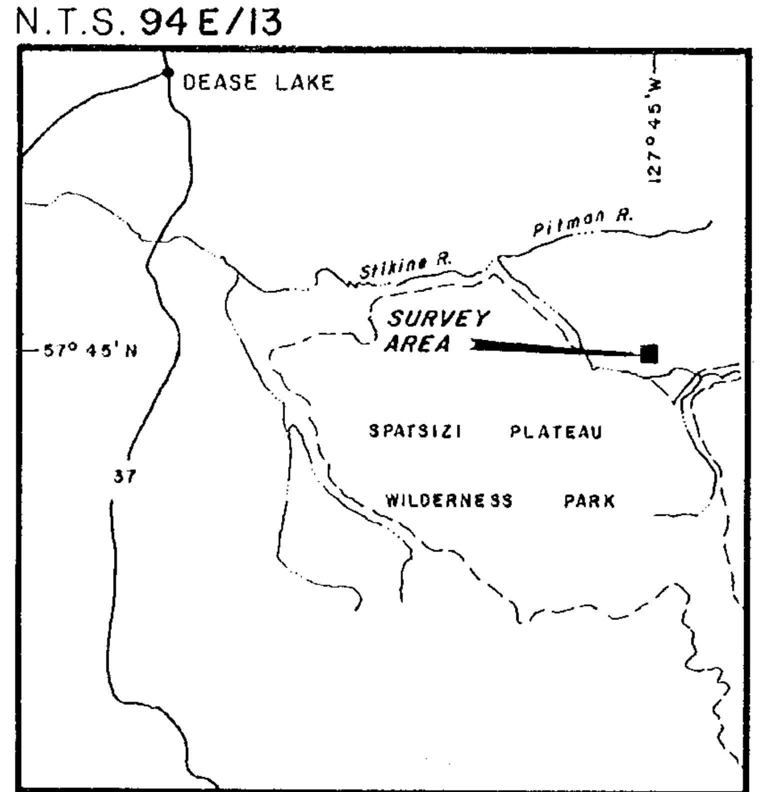
INSTRUMENT: HUNTEC 2.5 Kw TIME DOMAIN
a = 100 m , n = 2

POLE DIPOLE



CHARGEABILITY KEY

N.T.S. 94 E/13



LOCATION MAP
1 : 2,000,000

50m 25m 0 50m 100m 150m
1 : 5,000

DUPONT OF CANADA EXPLORATIONS LTD.
— BILL CLAIMS —
LIARD MINING DIVISION — BRITISH COLUMBIA

INDUCED POLARIZATION SURVEY
CHARGEABILITY — MILLISECONDS

To Accompany Geophysical Report on The Bill Claims
Date
By GLEN E. WHITE - B.Sc. GEOPHYSICIST

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA GLEN E. WHITE

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Checked By	G.E.W.
Date	OCT. / 82
Fig No	4

VANCAL 7134

1200 W
1100 W
1000 W
900 W
800 W
700 W
600 W
500 W
400 W
300 W
200 W
100 W
BASE LINE
L 450 S
L 500 S
L 550 S
L 600 S
L 700 S
L 800 S
L 900 S
L 1000 S
L 1100 S
L 1200 S
5A
5E
3B
TRENCH 1
TRENCH 2
3B
2C
TRENCH LAID OUT
BUT NOT BLASTED
TRENCH 3
2C
LEGEND
6 CARBONATIZED VOLCANIC ROCKS (TALUS)
6G GOSSANOUS CARBONATIZED VOLCANIC ROCKS (TALUS)
5A LIMESTONE
5E CARBONACEOUS SILTSTONE
3B DACITE FELDSPAR CRYSTAL TUFF
2C SHEARED PORPHYRITIC ANDESITE
QTZ WHITE BARREN QUARTZ FRAGMENTS IN TALUS
OUTCROP
EDGE OF TALUS WITH SLOPE DIRECTION
CONTACT
TRENCH
NOTE: FOR FULL GEOLOGICAL LEGEND SEE COMINCO GEOLOGY - PLATE B.81-1 (FEB. 1982)
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,075
NW SHEET
NE SHEET
SW SHEET
SE SHEET
SHEET INDEX
DUPONT EXPLORATION
CANADA
BILL PROJECT
GEOLOGY
STIKINE RIVER AREA, BRITISH COLUMBIA
1 : 1000
m 30 20 10 0 30 60 m
SCALE
1 INCH = 83.3 FEET
MAPPED BY : T.J.D., H.J.C.
DATE : AUG.'82
DRAWN BY : K.L.J.
DATE : 83 01 17
REVISED :
N.T.S. No. : 94 E 13 W
ACCT No. : 361-00
DRWG. No. : B.82-4

LEGEND

6	CARBONATIZED VOLCANIC ROCKS (TALUS)
6G	GOSSANOUS CARBONATIZED VOLCANIC ROCKS (TALUS)
5A	LIMESTONE
5E	CARBONACEOUS SILTSTONE
3B	DACITE FELDSPAR CRYSTAL TUFF
2C	SHEARED PORPHYRITIC ANDESITE
QTZ	WHITE BARREN QUARTZ FRAGMENTS IN TALUS
	OUTCROP
	EDGE OF TALUS WITH SLOPE DIRECTION
	CONTACT
	TRENCH

NOTE : FOR FULL GEOLOGICAL LEGEND SEE COMINCO GEOLOGY - PLATE B.81-1 (FEB. 1982)

GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,075

NW SHEET	NE SHEET
SW SHEET	SE SHEET

SHEET INDEX

DUPONT CANADA EXPLORATION

BILL PROJECT

GEOLOGY

STIKINE RIVER AREA, BRITISH COLUMBIA

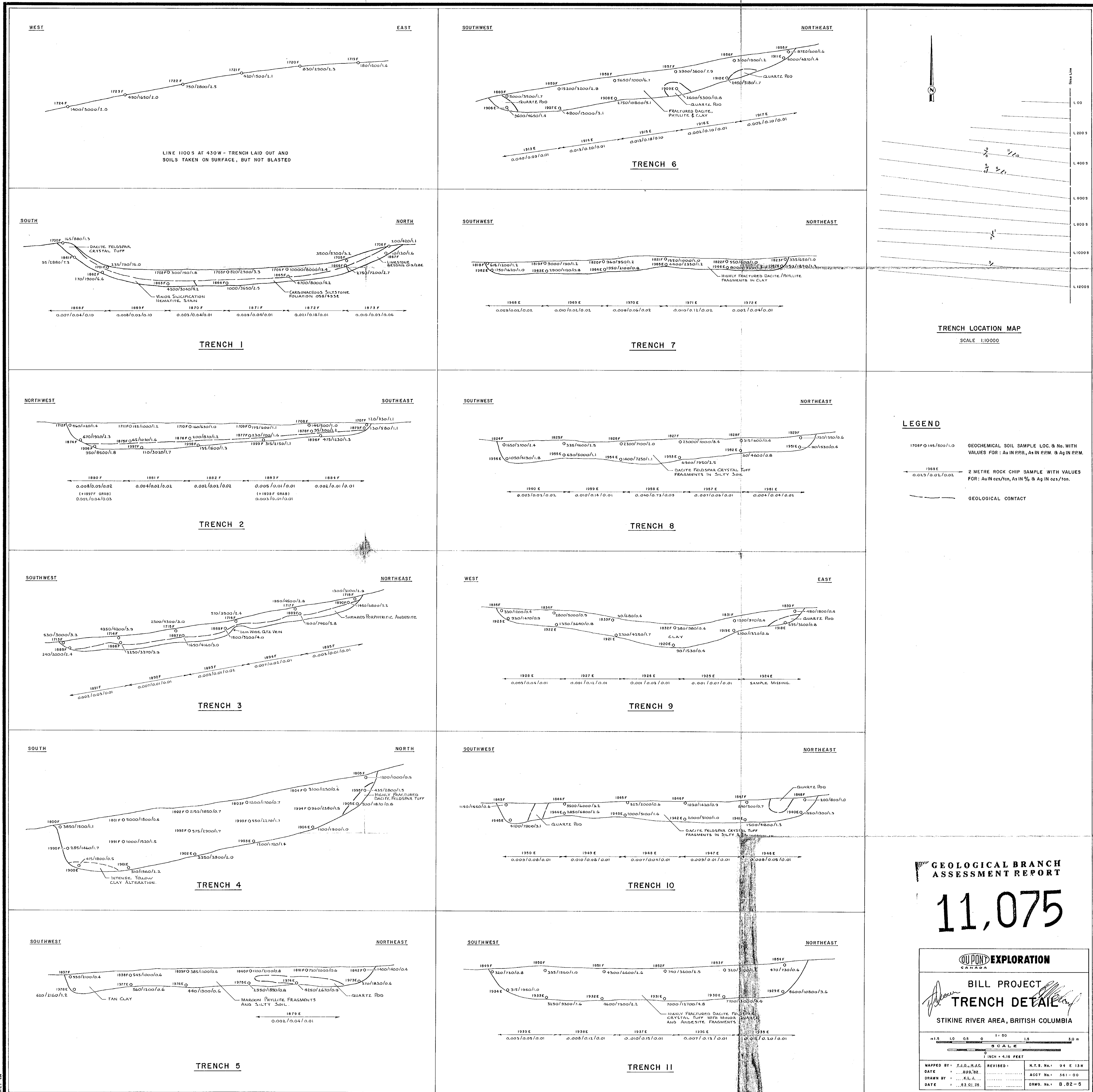
1 : 1000

m 30 20 10 0 30 60 m

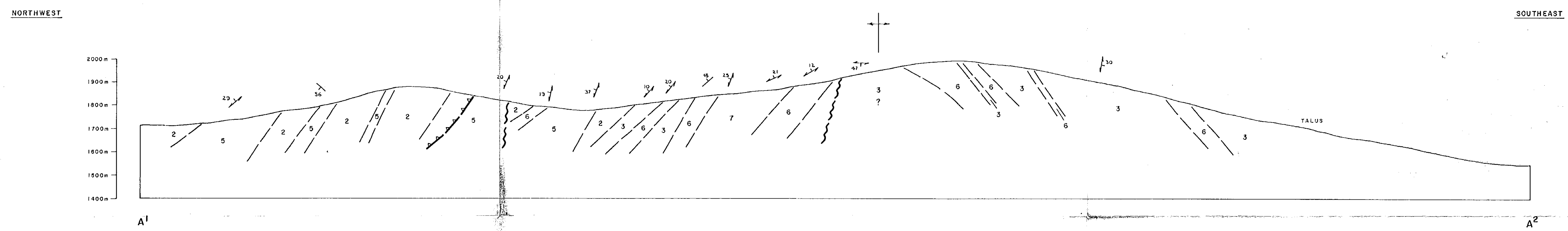
SCALE

1 INCH = 83.3' FEET

MAPPED BY : T.J.D., H.J.C.	REVISED :	N.T.S. No. : 94 E 13 W
DATE : AUG.'82		ACCT No. : 361 - 00
DRAWN BY : K.L.J.		DRWG. No. : B.82-3
DATE : 83 01 14		

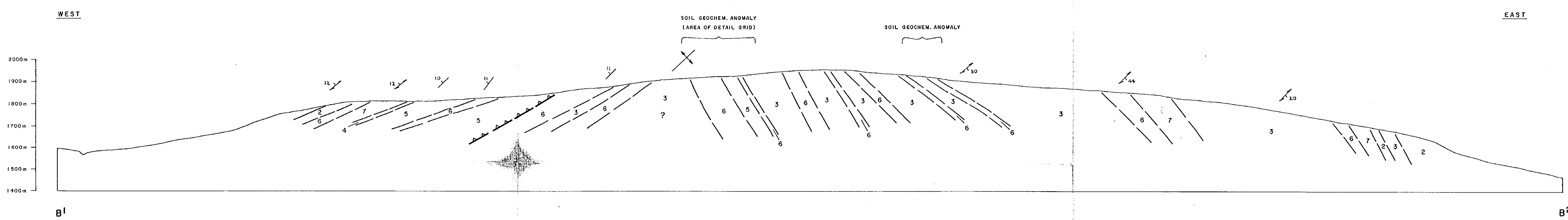


LINE 1100S AT 430W - TRENCH LAID OUT AND SOILS TAKEN ON SURFACE, BUT NOT BLASTED
TRENCH 1
TRENCH 2
TRENCH 3
TRENCH 4
TRENCH 5
TRENCH 6
TRENCH 7
TRENCH 8
TRENCH 9
TRENCH 10
TRENCH 11
TRENCH LOCATION MAP
SCALE 1:10000
LEGEND
1708F O 145/500/1.0 GEOCHEMICAL SOIL SAMPLE LOC. & No. WITH VALUES FOR: Au IN P.P.B., As IN P.P.M. & Ag IN P.P.M.
1968E 0.023/0.02/0.02 2 METRE ROCK CHIP SAMPLE WITH VALUES FOR: Au IN ozs/ton, As IN % & Ag IN ozs/ton.
GEOLOGICAL CONTACT
GEOLOGICAL BRANCH ASSESSMENT REPORT
11,075
DUPONT EXPLORATION CANADA
BILL PROJECT
TRENCH DETAIL
STIKINE RIVER AREA, BRITISH COLUMBIA
SCALE 1:50
1 INCH = 4.16 FEET
N.T.S. No. 94 E 13W
ACCT No. 361-00
DRWG. No. B.82-5



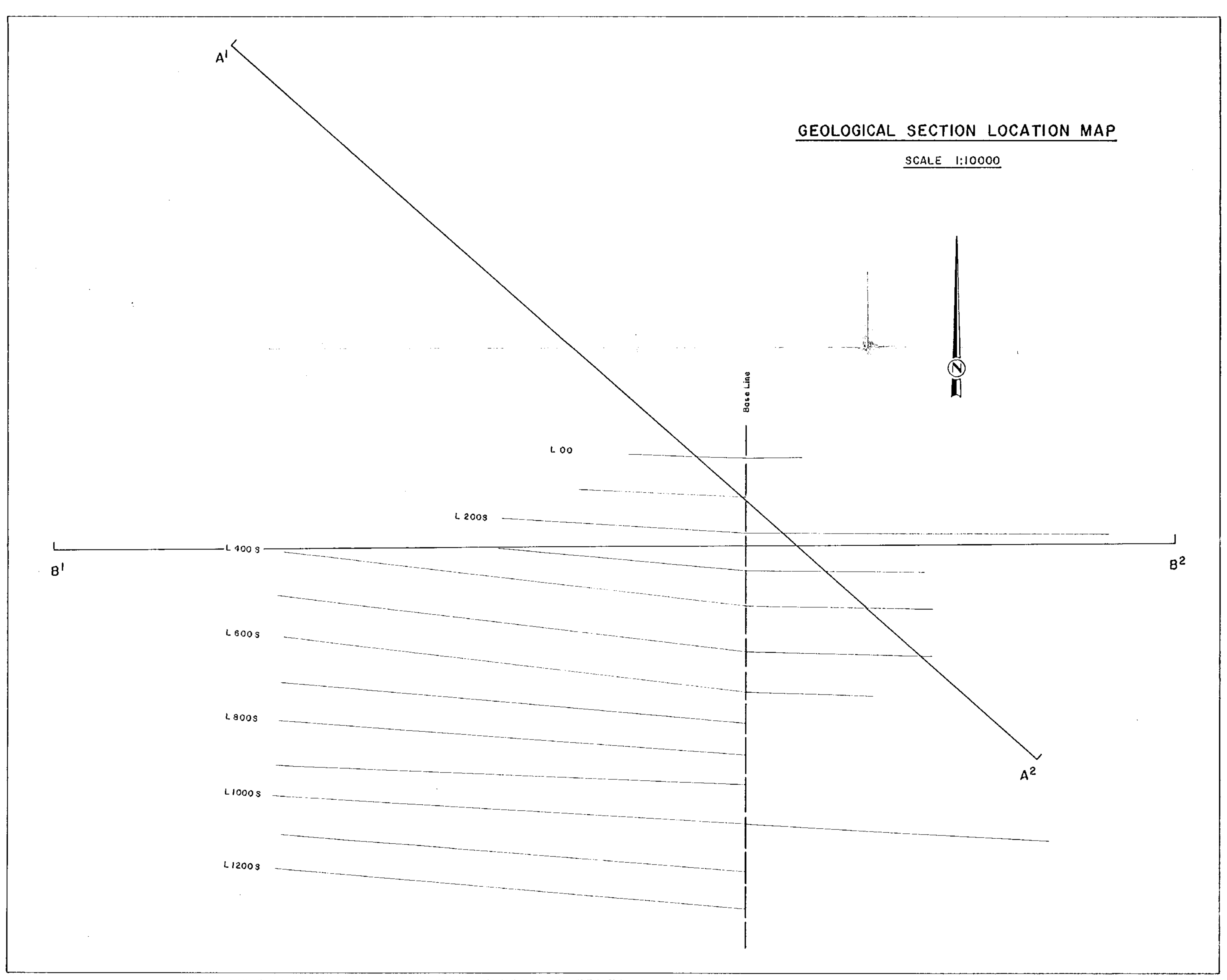
SECTION A1 - A2

BEARING 130°



SECTION B1 - B2

BEARING 090°



LEGEND

	BEDDING ATTITUDE
	FOLIATION ATTITUDE
	ANTICLINE
	CONTACT
	FAULT
	THRUST FAULT

NOTE: FOR GEOLOGICAL LEGEND SEE COMINCO GEOLOGY PLATE B81-1 (DOX. DRWG No. B.82-10)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

11,075

DUPONT EXPLORATION
CANADA

BILL PROJECT

GEOLOGICAL SECTIONS

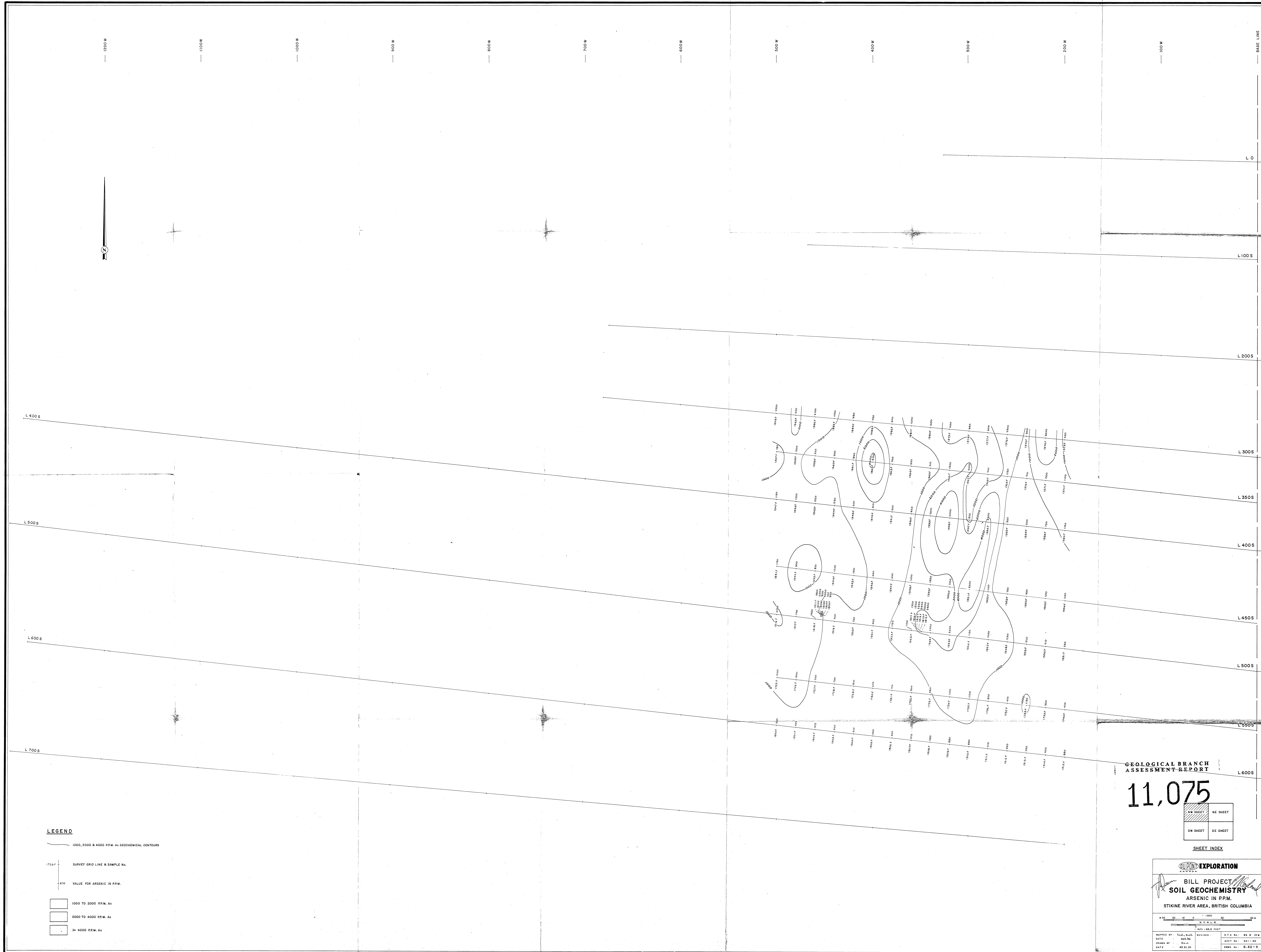
STIKINE RIVER AREA, BRITISH COLUMBIA

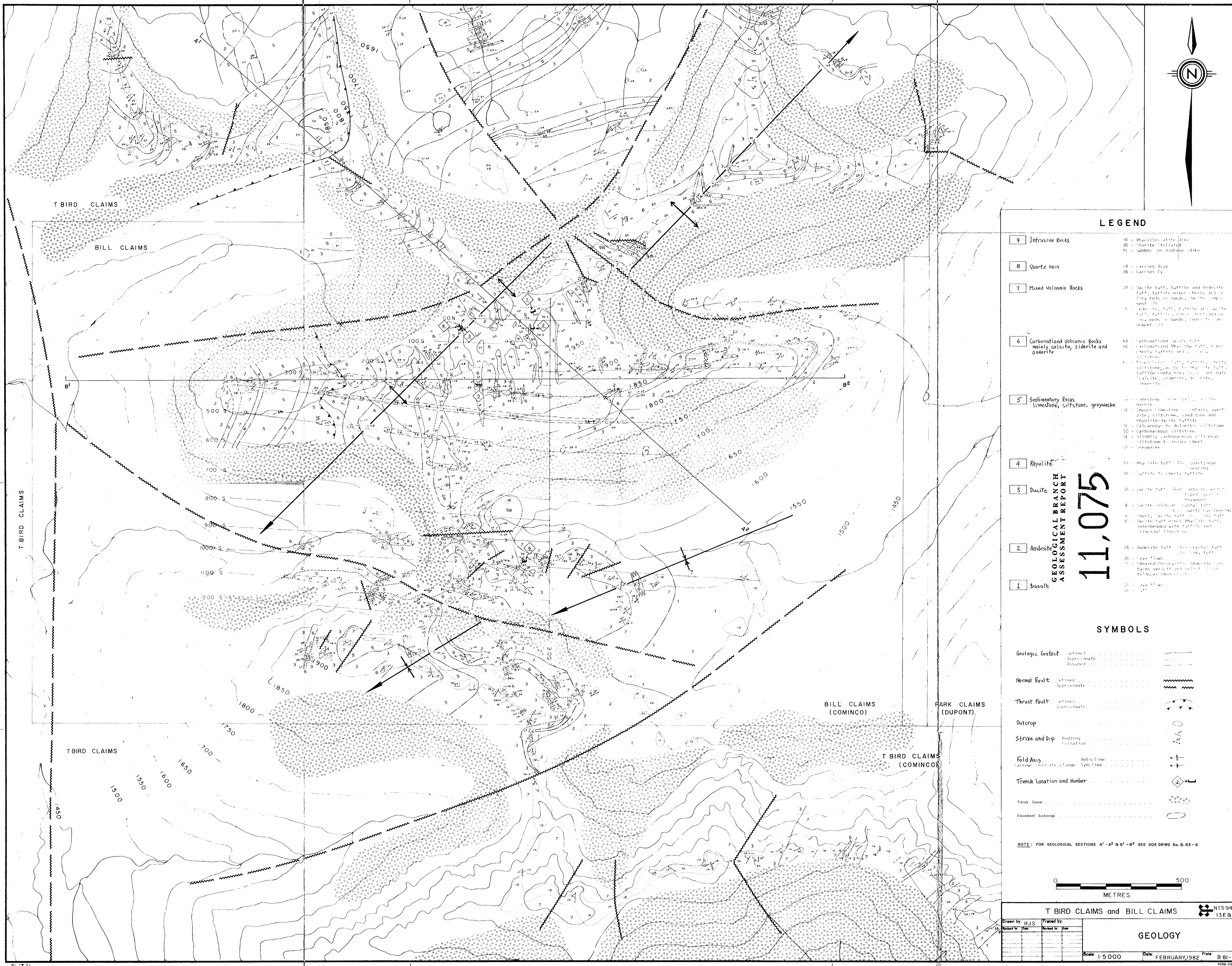
HORIZONTAL SCALE 1:5000
VERTICAL SCALE 1:10000

MAPPED BY: T.J.D., H.J.C.	REVISED:	N.T.S. No.: 94 E 13W
DATE: AUG.'82		ACCT No.: 361-00
DRAWN BY: K.L.J.		DRWG. No.: B.82-6
DATE: 83 01 27		

1200 W
1100 W
1000 W
900 W
800 W
700 W
600 W
500 W
400 W
300 W
200 W
100 W
BASE LINE
L 0
L 100 S
L 200 S
L 300 S
L 350 S
L 400 S
L 450 S
L 500 S
L 550 S
L 600 S
L 700 S
N
LEGEND
500 & 1000 P.P.B. Au GEOCHEMICAL CONTOURS
5000 P.P.B. Au GEOCHEMICAL CONTOUR
1729 F
SURVEY GRID LINE & SAMPLE No.
2450
VALUE FOR GOLD IN P.P.B.
500 TO 1000 P.P.B. Au
1000 TO 5000 P.P.B. Au
> 5000 P.P.B. Au
11,075
GEOLOGICAL BRANCH
ASSESSMENT REPORT
NW SHEET
NE SHEET
SW SHEET
SE SHEET
SHEET INDEX
DU PONT CANADA EXPLORATION
BILL PROJECT
SOIL GEOCHEMISTRY
GOLD IN P.P.B.
STIKINE RIVER AREA, BRITISH COLUMBIA
1 : 1000
m 30 20 10 0 30 60 m
SCALE
1 INCH = 83.3 FEET
MAPPED BY : T.J.D., H.J.C.
DATE : AUG.'82
DRAWN BY : K.L.J.
DATE : 83 01 18
REVISED :
N.T.S. No.: 94 E 13 W
ACCT No.: 361 - 00
DRWG. No.: B.82-7


1200 W
1100 W
1000 W
900 W
800 W
700 W
600 W
500 W
400 W
300 W
200 W
100 W
BASE LINE
L 0
L 100 S
L 200 S
L 300 S
L 350 S
L 400 S
L 450 S
L 500 S
L 550 S
L 600 S
L 700 S
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,075
NW SHEET
NE SHEET
SW SHEET
SE SHEET
SHEET INDEX
LEGEND
0.9, 1.4 & 1.9 Ag GEOCHEMICAL CONTOURS
1729 F
SURVEY GRID LINE & SAMPLE No.
0.6
VALUE FOR SILVER IN P.P.M.
0.9 TO 1.4 P.P.M. Ag
1.4 TO 1.9 P.P.M. Ag
> 1.9 P.P.M. Ag
DUPONT CANADA EXPLORATION
BILL PROJECT
SOIL GEOCHEMISTRY
SILVER IN P.P.M.
STIKINE RIVER AREA, BRITISH COLUMBIA
1 : 1000
m 30 20 10 0 30 60 m
SCALE
0
1 INCH = 83.3 FEET
MAPPED BY : T.J.D., H.J.C.
DATE : AUG.'82
DRAWN BY : K.L.J.
DATE : 83 01 19
REVISED :
N.T.S. No. : 94 E 13 W
ACCT No. : 361 - 00
DRWG. No. : B.82-8


1200 W
1100 W
1000 W
900 W
800 W
700 W
600 W
500 W
400 W
300 W
200 W
100 W
BASE LINE
L 0
L 100 S
L 200 S
L 300 S
L 350 S
L 400 S
L 450 S
L 500 S
L 550 S
L 600 S
L 500 S
L 600 S
L 700 S
N
GEOLOGICAL BRANCH
ASSESSMENT REPORT
11,075
NW SHEET
NE SHEET
SW SHEET
SE SHEET
SHEET INDEX
LEGEND
1000, 2000 & 4000 P.P.M. As GEOCHEMICAL CONTOURS
1729 F
SURVEY GRID LINE & SAMPLE No.
870
VALUE FOR ARSENIC IN P.P.M.
1000 TO 2000 P.P.M. As
2000 TO 4000 P.P.M. As
> 4000 P.P.M. As
DUPONT CANADA EXPLORATION
BILL PROJECT
SOIL GEOCHEMISTRY
ARSENIC IN P.P.M.
STIKINE RIVER AREA, BRITISH COLUMBIA
1 : 1000
m 30 20 10 0 30 60 m
SCALE
1 INCH = 83.3 FEET
MAPPED BY : T.J.D., H.J.C.
DATE : AUG.'82
DRAWN BY : K.L.J.
DATE : 83 01 20
REVISED :
N.T.S. No. : 94 E 13 W
ACCT No. : 361 - 00
DRWG. No. : B.82 - 9



DOX DRWG No. B.82-10