

GEOPHYSICAL REPORT ON THE
NIFTY 8 AND NIFTY 9 MINERAL CLAIMS
SKEENA MINING DIVISION

N.T.S. 93D/9W
52° 35'N, 126° 25'W

Owned by
Diamac Resource Corp.

Operated by
Rio Tinto Canadian Exploration Ltd.

Report by
C.J. Campbell

June 27, 1981

Part 1
of 2

MINERAL RESOURCES BRANCH ASSESSMENT REPORT 9586 NO. _____
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MAPS

L-6717 Location Map

C-6718 Claim Map, June 1981

GP-8866 Magnetometer Survey 1:1000

GP-8867 Pulse Electromagnetic Survey 1:1000

SUMMARY

This report covers the 1981 geophysical programme conducted over the Nifty 8 and 9 mineral claims, located 23km northeast of Hagensborg, British Columbia.

The programme consisted of line-cutting and a magnetometer survey carried out by Riocanex personel as well as a contracted pulse electromangetic survey carried out by Crone Geophysics Ltd.

The contoured magnetometer data assist in tracing the geology of the area although no prominent individual anomalies are in evidence.

The pulse electromagnetic survey failed to indicate a discrete conductor, depth of exploration penetration is felt to be between 100 and 200 metres below surface. Crone Geophysics Ltd. of Mississauga, Ontario will be discussing this aspect of the geophysics in a separate report.

1.2 Claims

The property consists of 169 units in 14 claims located in the Skeena Mining District. The following list and Drawing C-6718 depict the current claim situation.

<u>Claim Name</u>	<u>No. of Units</u>	<u>Anniversary Date</u>	<u>Expiry Date</u>	<u>Record No.</u>
Nifty	18	June 27	1981	389
Nifty 2	12	October 14	1982	2621
Nifty 3	8	August 4	1981	401
Nifty 4	20	August 4	1984	406
Nifty 5	16	October 14	1989	2622
Nifty 6	18	August 4	1988	402
Nifty 7	18	August 4	1981	403
Nifty 8	2	October 14	1989	2623
Nifty 9	2	October 14	1982	2624
Nifty 10	2	October 14	1989	2625
Nifty 11	2	October 14	1982	2626
Keen 1	18	August 4	1982	404
Keen 2	18	August 4	1982	408
Keen 3	15	August 4	1981	405

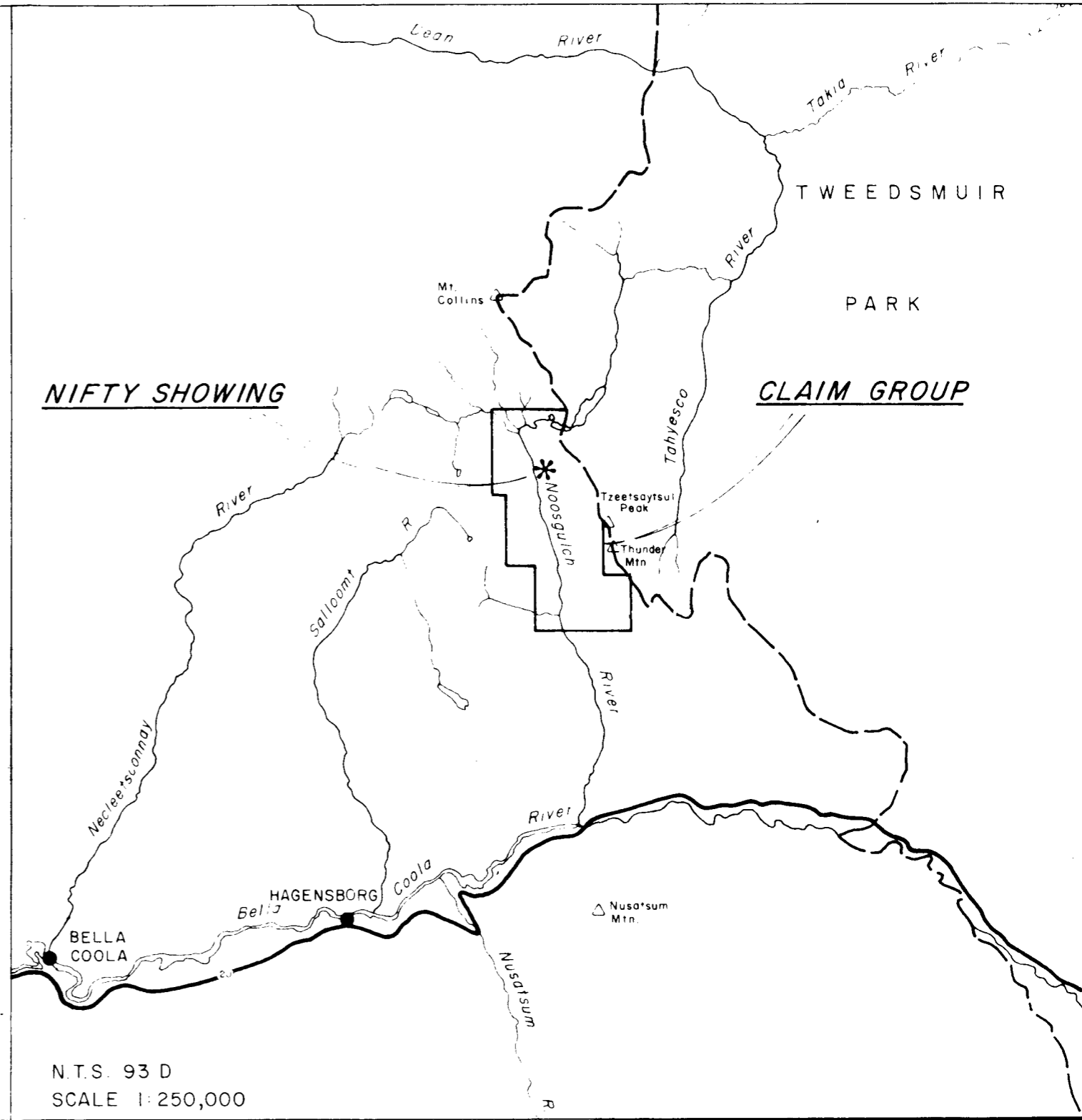
1.3 History

The Nifty showing was found by Consolidated Mining Smelting Company of Canada (now Cominco) prospectors in 1929 or 1930. In 1930 a programme of trenching and stripping was carried out. C. M. & S. returned the property to the prospector in 1931. They are reported to have re-examined the property in the 1950's or 1960's.

The only public records of this early work are brief mentions in the 1930 and 1931 B.C. Minister of Mines Annual Reports. On the property, the trenches, stripping of the main showing and a 9m adit driven beneath the main showing remain visible.

In 1977 United Mineral Services staked the property and optioned it to Pan Ocean Ltd. That summer J.R. Woodcock Consultants Ltd. carried out a preliminary mapping and soil sampling programme on the main showing area (Nifty Showing). In 1978 Pan Ocean Ltd. carried out: a property-wide geological mapping and stream silt sampling programme, a detailed geological mapping and soil sampling programme for a 2km by 1km area around the Nifty showing, diamond drilling of 5 holes on the Nifty showing, and a geological mapping, soil sampling and MaxMin II electromagnetic programme on the Keen claims. Pan Ocean dropped the option after the 1978 field season.

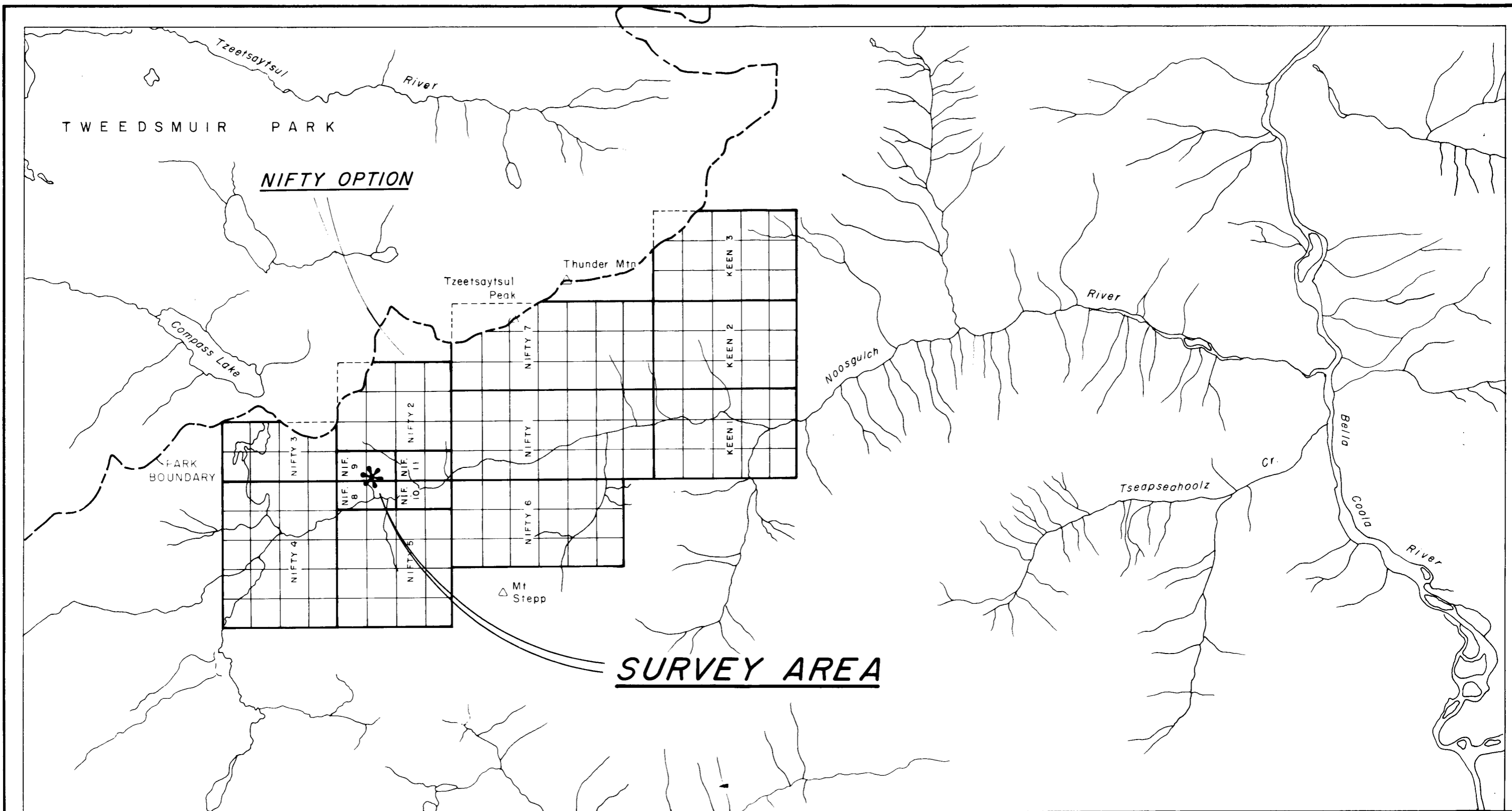
In 1980 Riocanex optioned the property from Dimac Resource Corporation. A programme of detailed geological mapping was carried out on both the Nifty showing and Keen claims. Three short lines of MaxMin II horizontal-loop EM were also run over the Nifty showing. Following this work, a recommendation was made to carry out a surface geophysical programme of magnetics and pulse electromagnetics prior to diamond drilling and a downhole pulse electromagnetics of the Nifty showing itself.



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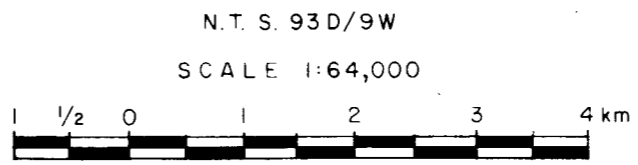
RIO TINTO CANADIAN EXPLORATION LTD.		
NIFTY OPTION		
LOCATION MAP		
DATE JUNE 1981	DRAWN BY CJC/dag	DWG. L 6717



*part 1
of 2*



MINERAL RESOURCES BRANCH
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RIO TINTO CANADIAN EXPLORATION LTD.		
NIFTY OPTION		
CLAIM MAP		
DATE	DRAWN BY	DWG.
JUNE 1981	CJC/dag	C 6718

2. GEOLOGY

2.1 Regional Geology

The regional geology is described in G.S.C. Memoir 372 by A.J. Baer. Baer has indicated that the rocks on the east side of Noosgulch River (see map C-6718), below an elevation of 1600m, are part of an unnamed Triassic greenstone unit composed of massive or poorly layered dark green rocks. The rocks to the west of Noosgulch River and those above 1600m elevation on the east side of Noosgulch River are indicated as being Jurassic Hazelton Group. The Hazelton Group in the Bella Coola map-area is considered to be andestic and basaltic porphyritic flows and agglomerates with subordinate sedimentary units.

During a talk at the 1980 Annual Meeting of the Cordilleran Section of The Geological Association of Canada, G.J. Woodsworth described the rocks underlying the property to be part of the Lower Cretaceous Gambier Group.

Pan Ocean's reports indicate that rocks on both sides of Noosgulch River are part of one sequence, not two dissimilar units as described by Baer. While Riocanex's 1980 study was restricted to two small areas, the rocks seen are not as described by Baer for the Jurassic Hazelton Group or the Triassic greenstone unit. From previous work on the Gambier Group and the 1980 study, Riocanex considers the claims to be underlain by Gambier Group rocks. The rocks seen are similar to those found in the Green Lake pendant at Alta Lake, a recognized occurrence of Gambier Group rocks.

2.2 Property Geology

Property geology was fully described in the report of Riocanex's 1980 work. For ease of reference the geology is shown on the magnetometer survey map.

Geologic mapping of the area immediately around the Nifty showing indicates five geologic units. These units are: a rhyolite tuff to lapilli tuff, overlain by an intermediate (andesitic to dacitic) to acid (rhyolitic) volcanoclastic, with both intruded by andesite dykes, quartz-feldspar porphyry (rhyolite) dykes, and diorite of unknown affinity. Mineralization of interest consists of barite, galena and sphalerite with considerable silver values. The mineralization occurs at or near the top of the rhyolite tuff unit. A stratiform bed of barite is underlain by a zone of rhyolite fragments, barite, galena, sphalerite and pyrite. Stratigraphically beneath the above mineralization occur stringer-like pods of mineralization. Argillic and sericitic alteration of the rhyolite accompanies the mineralization. Faulting has disrupted the geometry of the original stratigraphy.

In 1980 it was concluded that subaqueous exhalative processes deposited the sulphide and sulphate mineralization observed at the Nifty showing.

3. GEOPHYSICS

A short but detailed programme of surface geophysics was carried out over the Nifty claims in May and June 1981. Methods employed included a magnetometer and pulse electromagnetic survey.

Field work was carried out by Riocanex personel as well as a geophysicist from Crone Geophysics Ltd. of Mississauga, Ontario. An attempt to initiate work was made in early May; however, due to abnormally heavy snow-cover, this effort was curtailed after one week and the crew departed to Vancouver. Riocanex personel returned to the Nifty claims in early June to successfully complete the surface programme.

3.1 Geophysical Grid

A 7.5km geophysical grid was established by means of compass and nylon survey-chain. The base-line only was secant-chained in order to position it on a correct horizontal base. It was run at 125° true while traverses departed perpendicularly from it at 035° - 215° true. Traverse interval was 50 and 100 metres while stations were marked every 25 metres along slope. Chainage and clinometer data were reduced using a programmable calculator to arrive at horizontally-adjusted station locations. All geophysical data has been plotted with these slope corrections taken into consideration.

Due to steep topography and fairly dense bush, all traverse lines were fully cut out in order to facilitate geophysical operations.

3.2 Magnetometer Survey

7.5km of magnetics were run utilizing a Scintrex MP-2 Proton Precession Magnetometer (obtained on a rental basis from Scintrex, Toronto). This digital readout magnetometer measures the earth's total magnetic field to an accuracy of ± 1 gamma and is essentially independent of instrument attitude and meteorological variables. Diurnal variations in the earth's magnetic field were accounted for by means of a base-station magnetometer and recorder. A Geometrics G-816 Proton Precession Magnetometer (owned by Riocanex) was mounted in a stationary position near the centre of the survey area. Readings were obtained every 30 seconds throughout the operating day and permanently recorded on paper strip by a MR-10 Digital Base-Station Recorder (obtained on a rental basis from Canadian Mining Geophysics Ltd., Ottawa). In this fashion, an accurate track of the diurnal variation in the area is noted to specific times. The magnetometer operator, after synchronizing his watch to the MR-10's internal clock, ensures that field readings are only obtained at the exact time of a particular base station reading. All traverses were run in a loop-mode in order to verify quality of the MR-10 diurnal corrections; tie-in points were generally repeated with an accuracy of less than ± 5 gammas.

Magnetometer survey results are presented in plan form at a scale of 1:1000 on Dwg. GP-8866. Values plotted are total magnetic field data minus a constant 57000 gamma datum.

Simple statistics performed on the data reveal a mean of 427 gammas and a standard deviation of 124 gammas. An examination of the contoured magnetics shows no particularly significant anomalies.

The general trend is a confirmation of geological strike ($90^{\circ} \pm 20^{\circ}$). One noticeable feature is a thin linear high striking approximately north-south across the west corner of the survey grid. An interpretation of this anomaly indicates a thin, buried dyke-like body, although there is no evidence to support this on the basis of surface geological mapping. A comparison of magnetic contours to geology reveals some correlations between rhyolite/intermediate volcanoclastic contacts and magnetization. Geological mapping to date has indicated only minor differences in the magnetic susceptibility contrast between the two major units of the area.

3.3 Pulse Electromagnetic Survey

A pulse electromagnetic survey was carried out over the Nifty showing by Crone Geophysics Limited of Mississauga, Ontario using their equipment and geophysicist/operator. Riocanex personel assisted this operation.

Results from this work, although currently believed to be completely negative insofar as indicating the presence of a massive sulphide conductor, are to be discussed in a separate report by David Anderson of Crone Geophysics Ltd.

4. CONCLUSIONS

A programme of detailed surface geophysics conducted in May and June, 1981 over the Nifty showing area failed to identify any indications of a significant massive sulphide occurrence, either through magnetic or electromagnetic means. Effective depth penetration of the pulse electromagnetic technique in this case is felt to be on the order of 100 to 200 metres below surface.

5. RECOMMENDATIONS

Despite the disappointing surface geophysical results, a strong recommendation remains for diamond drilling the Nifty showing down-dip as well as employing the borehole pulse electromagnetic apparatus in order to further expand the search for sulphides at depth. This phase of the 1981 Nifty programme will be carried out in August-September, 1981.

6. REFERENCES

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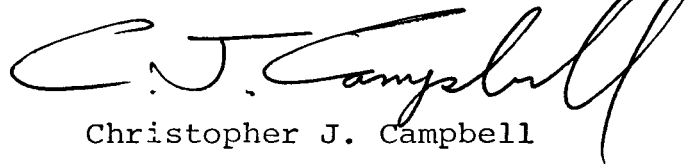
1980: Stratigraphic framework of the Coast Plutonic
Complex, Western British Columbia; in Volcanogenic
Deposits and their Regional Setting in The
Cordilleran Section, The Geological Association of
Canada, Programme and Abstracts 1980.

STATEMENT OF QUALIFICATIONS

Christopher J. Campbell

1. I am a geophysicist residing at 4505 Cove Cliff Road, North Vancouver, British Columbia and am currently employed by Rio Tinto Canadian Exploration Limited of 520-800 West Pender Street, Vancouver, British Columbia as their Regional Geophysicist, Western Canada.
2. I graduated from the University of British Columbia in 1972 with a B.Sc. degree in Geophysics and have practised my profession continuously since that time.
3. I supervised and directed the 1981 geophysical field work for Rio Tinto Canadian Exploration Limited which forms the basis of this report.
4. I am an active member in good standing of the Society of Exploration Geophysicists, the Canadian Society of Exploration Geophysicists as well as the British Columbia Geophysical Society.

RIO TINTO CANADIAN EXPLORATION LIMITED



Christopher J. Campbell

COST STATEMENT

B.C. NIFTY OPTION

GEOPHYSICS AND DIAMOND DRILLING

MAY 4, 1981 THROUGH OCTOBER 14, 1981

GENERAL COSTS

<u>Food & Accommodation</u>	304 days @ \$24.	\$ 7,268
<u>Riocanex Camp Equipment</u>	304 days @ \$3.	912
<u>Repair and Alteration</u> (to tent)		552
<u>Supplies</u> (including airfreight)		2,883
<u>Fuel</u>		1,938

Fixed Wing

VCR TO BELLA COOLA	May 29	\$ 115	
	June 2	495	
	June 9	248	
	June 11	247	
	August 10	460	
	October 27	240	
	Sept. 29	230	
BELLA COOLA TO VCR.	June 16	321	
	October 10	<u>136</u>	2,492

Helicopter

Transwest - May 10-June 14	21.7 Hrs. @ 444.=	\$ 9,643	
Sept. 27-Oct. 14	32.2 Hrs. @ 465 =	<u>15,014</u>	24,657

Rental Equipment

Traeger Radio:

SSB 50C	June 4-19 @ 186/Mo.	=	\$ 99
	Sept. 1-Oct. 14 @ 186/Mo.		270
1 pr. VHF Portable	Sept. 1-Oct 14		
	@ 186/Mo.		270

Rentway Truck:

Blazer 4x4	May 4-9, June 1-19		
	July-Sept. @ 742/Mo.	2,869	
	Oct. 1-14 @ 742/Mo.	<u>346</u>	3,854

TOTAL GENERAL COSTS \$ 44,556

GEOPHYSICS

<u>Salaries and Wages</u> 2 men, 36 man days @ \$63.	\$ 2,268
<u>Benefits</u> @ 20%	454
<u>Rental Equipment</u>	
Scintrex:	
Mag. Mp2 May 15-19 (15 days @ \$19.08)	\$ 286
Cdn. Mining Geophysics:	
Recorder MR 10 June 5-19, (15 days @ \$25.55)	383
Riocanex:	
Mag. G 816 June 5-19, (15 days @ \$8.33)	<u>125</u>
	794
<u>Contract Pulse Electromagnetic Survey</u>	
Crone Geophysics: (June 10-16/81)	
Hi-powered DEEPEM Survey and related expenses	5,240
<u>Report Preparation</u>	600
<u>General Costs</u> 36/239 x \$44,556	<u>6,711</u>
TOTAL GEOPHYSICS	<u>\$ 16,067</u>

DIAMOND DRILLING

<u>Salaries and Wages</u> 7 men, 203 man days @ \$63.	12,789
<u>Benefits</u> @ 20%	2,558
<u>Drilling/Drill Site Preparation</u>	
G&D Drilling Co. Ltd.:	
Core Drilling	\$ 16,387
Moving	6,440
Mobilization	4,000
Materials, mixing mud, other	<u>3,899</u>
	30,726
<u>Report Preparation</u>	500
<u>General Costs</u> 203/239 x \$ 44,556	<u>37,845</u>
TOTAL DRILLING	<u>\$ 84,418</u>
GRAND TOTAL (May 4/81 to Oct. 14/81)	<u>\$100,485</u>

APPORTIONED TO THIS REPORT 35200.00

T.K.

NIFTY OPTION

93D/9W

1. INTRODUCTION

This report covers the 1981 surface geophysical programme carried out by Rio Tinto Canadian Exploration Limited on the Nifty 8 and 9 claims located in the Skeena Mining District.

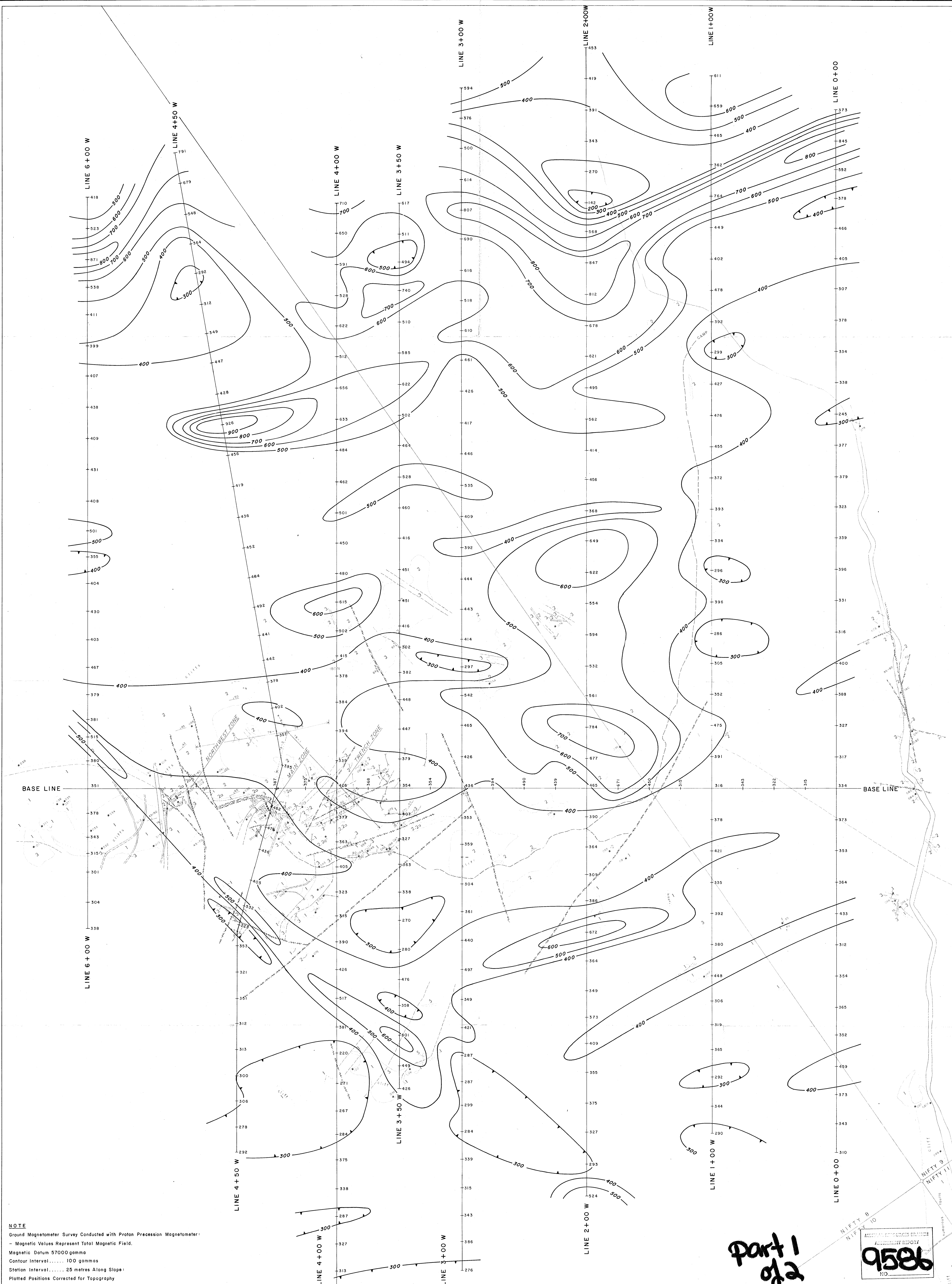
Object of this work was to test the survey area, using magnetics and pulse electromagnetics, for indications of a massive sulphide occurrence.

1.1 Location and Access

The property is located in N.T.S. block 93D/9W. The Nifty showing is centred at U.T.M. co-ordinates: 675080 East, 5828760 North, Zone 9, 23km north-northeast of Hagensborg.

Access to the Nifty showing is via Transwest Helicopters from their base in Hagensborg or from the end of a disused logging road that follows the Noosgulch River to the south boundary of the claims. This logging road branches from Highway 20 just east of the junction of Noosgulch and Bella Coola Rivers. Equipment is most economically transported to the Nifty showing by helicopter from the end of this logging road.

A location map (Map L-6717) is shown on page 2.



NOTE
 Ground Magnetometer Survey Conducted with Proton Precession Magnetometer:
 - Magnetic Values Represent Total Magnetic Field.
 Magnetic Datum 57000 gamma
 Contour Interval..... 100 gammas
 Station Interval..... 25 metres Along Slope
 Plotted Positions Corrected for Topography

- LEGEND -

- Outcrop, assumed
- Geological Contact, assumed
- Fault, assumed
- Trail
- Trench
- Sample location and number Preceded by 8038
- Claim Post

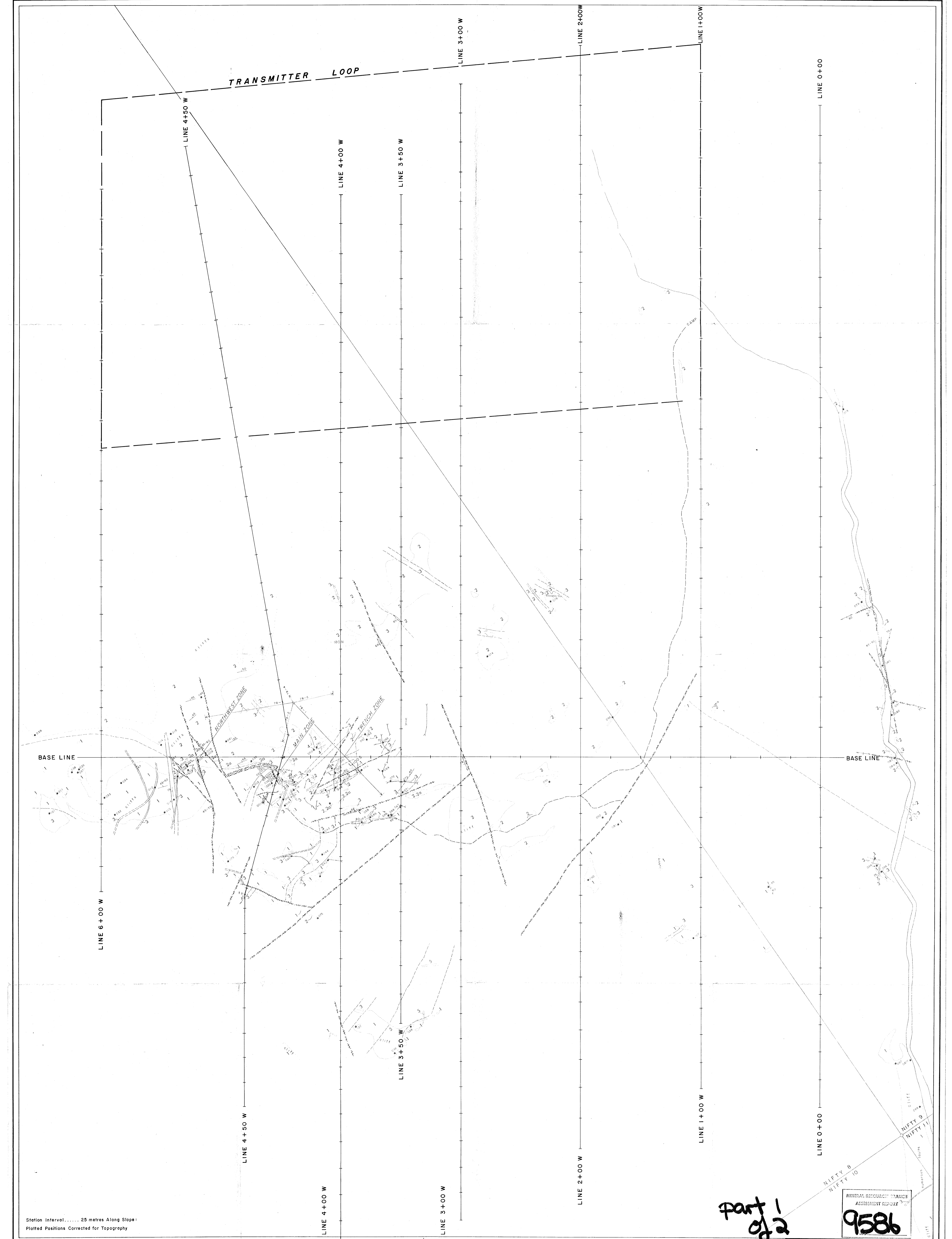
- UNKNOWN AGE
- 5 Diorite
 - 4 Quartz-feldspar porphyry (rhyolite) dykes
 - 3 Andesite dykes
 - LOWER CRETACEOUS, GAMBIER GROUP**
 - 2 Andesite, dacite and minor rhyolite volcaniclastic, 2a, andesite pebble to boulder volcaniclastic
 - 1 Rhyolite tuff and lapilli tuff

N T S 91D 9W
 SCALE 1:1000
 0 20 40 60 80 METRES

Part 1 of 2

ANNUAL REPORTS BRANCH
 ACCOUNT REPORT
9586
 NO.

RIO TINTO CANADIAN EXPLORATION LTD.
 NIFTY OPTION
MAGNETOMETER SURVEY
 DATE: JUNE 1981 | DRAWN BY: CJC/dag | DWG: GP 8866

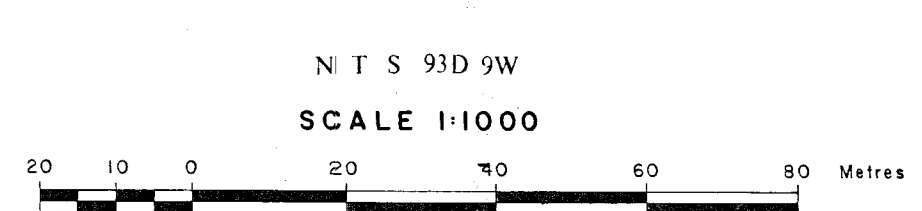


Station Interval..... 25 metres Along Slope
 Plotted Positions Corrected for Topography

- LEGEND -

- Outcrop, assumed
- Geological Contact, assumed
- Fault, assumed
- Trail
- Trench
- Sample location and number
Preceded by 8038

- UNKNOWN AGE
- 5 Diorite
 - 4 Quartz-feldspar porphyry (rhyolite) dykes
 - 3 Andesite dykes
 - LOWER CRETACEOUS, SAMBIER GROUP
 - 2 Andesite, dacite and minor rhyolite volcanoclastic; 2a, andesite pebble to boulder volcanoclastic
 - 1 Rhyolite tuff and lapilli tuff



Part 1 of 2

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RIO TINTO CANADIAN EXPLORATION LTD.
 NIFTY OPTION

PULSE ELECTROMAGNETIC SURVEY

DATE: JUNE 1981 | DRAWN BY: CDC/dag | DWG: GP 8867