

LOG NO:	APR 02 1993 RD.
ACTION:	
FILE NO:	

REPORT ON THE GAMBIER PROPERTY

VANCOUVER MINING DIVISION, BRITISH COLUMBIA

NTS 92G/11

49°30' north latitude

123°21' west longitude

By

R.M. Durfeld, B.Sc., P.Geo.

J.P. McGoran, B.Sc., P.Geo.

March 1993

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**22,841**

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Figure 1. Location plan for the Gambier Island Copper Prospect. 1:250,000. NTS 92G

## A.) INTRODUCTION

### 1) Location

The Gambier Property, comprised of the MB mineral claim group in the Vancouver Mining Division, is located on the northeast side of Gambier Island, 30 kilometres northwest of the city of Vancouver (Figure 1). More precisely, it is located at 49 degrees and 30 minutes north latitude and 123 degrees and 21 minutes west longitude. (National Topographic System Map 92G/11)

### 2) Access and Physiography

Access to the property to the property for this program was from Horseshoe Bay by Water Taxi and rented power boat. Since this program evaluated three distinct areas, (Copper Cove, Gambier Creek and Gambier Lake) this access was on a daily basis and the boat distance varied from 15 kilometres to Copper Cove to 21 kilometres and the north side of Gambier Island and Gambier Lake. Old skid trails originating from the beach in all three areas provided good walking access to the grids.

The terrain of the property is characterized by precipitous slopes that range from sea level on the coast to 450 metres (1500 feet) in the western claim area.

The vegetation on the Gambier property is characterized as second growth coastal forest of cedar, spruce and fir, with overmature cottonwoods in the poorly drained valley bottoms.

Undergrowth consists of variable salal, devils' club, alder and abundant moss.

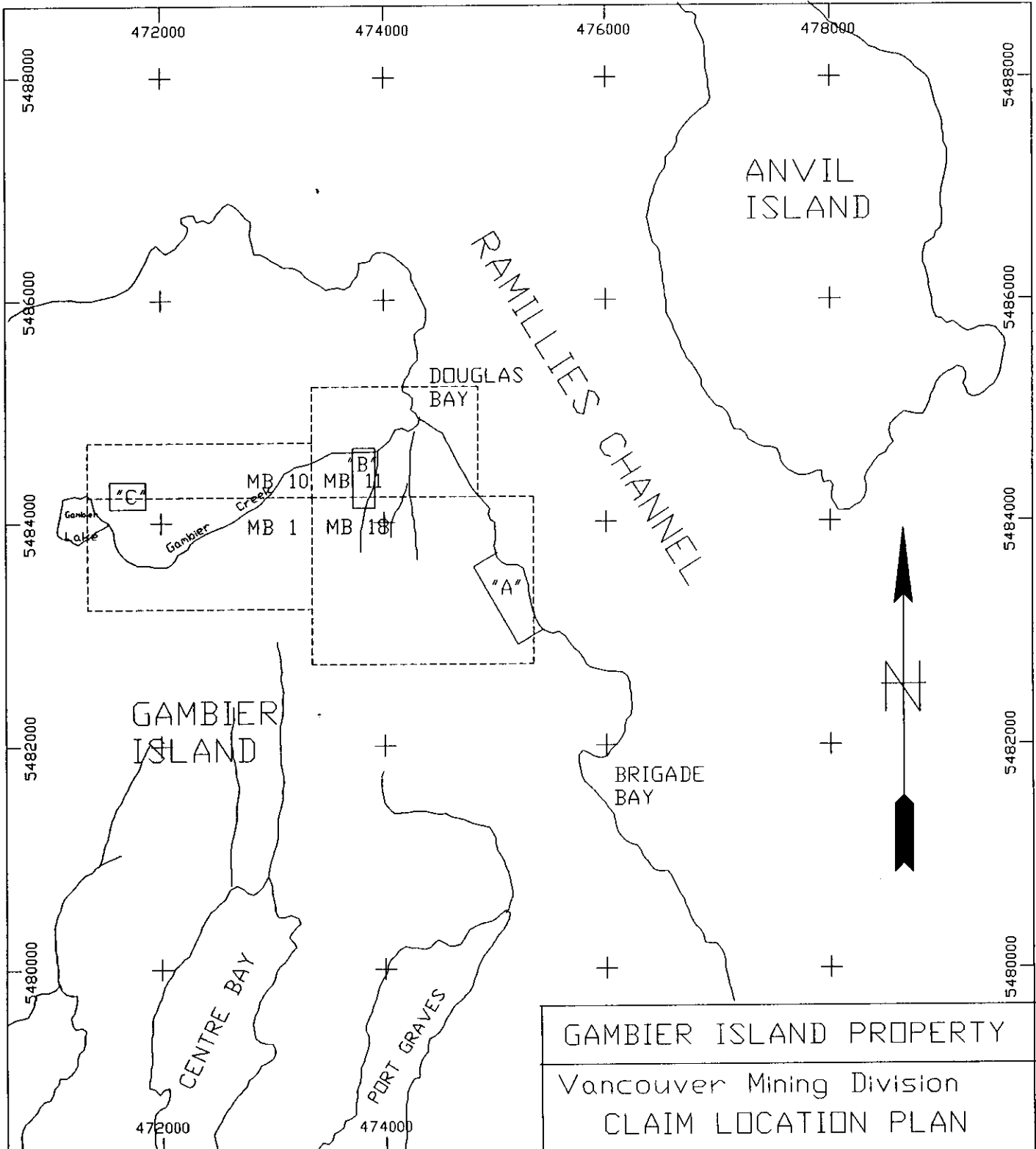
### 3) Ownership

The Gambier property, comprised of four modified grid mineral claims - the GAM mineral claim group, totals 30 claim units and covers 750 hectares. The status of these claims is summarized below and the relative claim locations and the areas worked during the 1992 - 93 program are plotted as figure 2.

CLAIM NAME	NUMBER OF UNITS	TENURE NUMBER	RECORD DATE	YEAR OF EXPIRY
MB 1	8	258252	January 3rd	1994
MB 10	4	258264	March 29th	1995
MB 11	6	258265	March 29th	1995
MB 18	12	258266	March 29th	1995

The year of expiry in the above summary reflects the filing of the work on January 3rd, 1993 and March 25th, 1993 that is documented in this report.

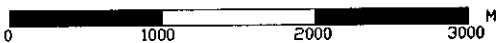
Messrs. J.P. McGoran and R.M. Durfeld are the registered owners of the MB mineral claims.



GAMBIER ISLAND PROPERTY

Vancouver Mining Division  
CLAIM LOCATION PLAN

Scale 1: 50000.0



LEGEND

"C" Outline and name of areas gridded by the 1993 program.

----- Claim Boundaries

Date: MARCH 93

NTS 92G\6&11

FIGURE 2

Tech Work: DURFELD GEOLOGICAL MANAGEMENT

#### 4) History and Previous Work

The first claim staking on Gambier Island in 1905 would have coincided with the exploration and development of the Britannia Mine. The location for this staking is not given.

The next documented work was in the early 1970's, by Gaylord Mines who staked the northeast section of Gambier Island to cover old known copper showings. Gaylord Mines conducted soil sampling, EM 16 and magnetometer surveys over the northeast section of Gambier Island. This work defined anomalies centred at Copper Cove (figure A) and south of Gambier Creek at a point approximately 1 kilometre inland from Douglas Bay (figure B). The Copper Cove Anomaly was tested by a single diamond drill hole that was cored at  $-45^\circ$  for 815 feet (248 metres) and was reported to have assayed 0.117% copper over its entire length. The Gambier Creek anomaly was not tested by diamond drilling at that time. Gaylord Mines permitted the property to lapse.

The property was again staked in February 1978 by 20th Century Energy Corporation. During the period 1978 to 1981, 20th Century conducted extensive exploration in the area of the Gambier Creek anomaly, comprised of a geochemical soil sampling and induced polarization surveys followed by 5,558 metres of diamond drilling. This work defined a 'Porphyry Copper-Molybdenum Deposit' with estimated reserves of:

- 198 million tonnes .24% Cu and .015%  $\text{MoS}_2$ , with a .20% copper equivalent cutoff.



or - 56 million tonnes .36% Cu and .021% MoS<sub>2</sub>, with a .40% copper equivalent cutoff.

In December 1984 and March 1985 the MB 1, MB 10, MB 11 and MB 18 mineral claims were forfeited and relocated by Messrs. R.M. Durfeld and J.P. McGoran.

Work conducted since 1985 on behalf of Durfeld and McGoran has consisted of geochemical (soil silt and rock sampling) and geological mapping surveys peripheral to the Gambier Creek and Copper Cove anomalies and covering much of the present claim group.

#### 5) Work Program

The purpose of this program was to evaluate three distinct targets defined by previous surveys that can be described as:

##### Copper Cove (Figure A)

The geochemical soil and rock surveys in 1987 and 1991 showed strongly anomalous copper, gold, silver, zinc and arsenic values in Zone 1. The objective of this survey was to expand the area of known mineralization to the west.

##### Gambier Creek (Figure B)

A geochemical soil grid in 1986 showed isolated anomalous copper values on line 600 west in an area of low relief. These values were to the east of the mineralized zone defined by 20th Century's work. During this program 900 metres of grid were established and sampled at 25 metre intervals to the west and

east of line 600 west. Prospecting of this area was conducted in conjunction with the soil sampling.

#### Gambier Lake (Figure C)

Geochemical sampling in 1987 showed a float sample in the Gambier Lake area as anomalous in copper. The objective of this survey was to evaluate the area by soil sampling and identify a mineralized source.

This report reviews the geological, prospecting and geochemical surveys conducted on these three areas of the Gambier property during the period December 21st, 1992 to March 12th, 1993 by R.M. Durfeld and J.P. McGoran.

### B.) GEOCHEMICAL SURVEYS

#### 1) Geochemical Sample Collection and Analyses

Soil samples were collected at 25 metre intervals with the aid of a grub-hoe from the top of the B-horizon and placed in Kraft sample bags marked with the relative grid coordinates.

The soils are generally coarse and well drained and as such would be classed as Dystric Brunisols. The top of the B-horizon was generally between 4 and 15 centimetres in depth. However, in the Gambier Creek Area the residual soil was found to be masked by a varved light-grey glacial outwash clay and sample depths of up to 70 centimetres were necessary to get through this clay. Some of the steep outcrop areas lacked well developed soil horizons and resulted in missed samples or rock

chip samples being collected instead.

Rock chip samples consisted of random chips of outcrop.

All the soil and rock samples were shipped to Acme Analytical Laboratories Ltd. at 852 East Hastings Street in Vancouver for analysis.

At the Acme laboratory, the soil samples were dried and sieved. The rock samples were crushed and pulverized. All the samples were then digested and analyzed for 30 element ICP and gold by atomic absorption. The detailed description of the analytical procedures employed at the Acme laboratory along with the geochemical results for the soil and rock samples are given as Appendix II of this report.

## 2) Geochemical Results

Acme Analytical Laboratories supplied the soil and rock sample results on computer disk. Computer plots and statistical analyses were generated from this database. Appendix I, The Rock Assay Report, gives the rock sample number, grid location, geology code and analytical results. The Geological Plan (figure 3) shows rock results for copper with the Geology in the Copper Cove and Gambier Lake areas. All the rock results for copper, molybdenum, silver and gold are given as figures 4 and 5. The soil results for copper, molybdenum, gold, lead, zinc and silver are given as figures 6 to 13. Statistical analysis for the soil samples consisted of calculating the means and standard deviations and drawing the histograms that

are given as appendix I of this report.

The detailed geochemical results are discussed as the individual areas later in this report.

## C.) GEOLOGY

### 1.) Regional Geology

The regional geology of Gambier Island is mapped by J.A. Roddick of the Geological Survey of Canada and is published as Memoir 335 and Open File 611. This mapping shows the southern and western portions of Gambier Island to be underlain by intrusive rocks of granodiorite composition. Volcanic and clastic rocks of the Jurassic to Cretaceous Age Gambier Group underlie the northern portion of Gambier Island. The Gambier Group rocks have a north to northwest strike and steep easterly to northeasterly dips. Ramilles Channel through McNab Creek to the north shows a strong northerly trending regional structure on the east side of Gambier Island.

### 2.) Local Geology

Geological mapping was completed in conjunction with the soil sampling. Outcrop exposures were mapped in the grid area. The geology is given with the rock chip sample locations with results in ppm copper as figure 3 for the Copper Cove and Gambier Lake areas.

## Lithology

Rocks of Jurassic to Cretaceous Gambier Group were the oldest lithology in the Gambier property area. Mapping divides the Gambier Group into: 1) volcanic sediment and pyroclastic rocks comprised of a) feldspar porphyry, b) feldspar-hornblende porphyry, c) volcanic breccia, d) chert, e) fine grained andesite to dacite - in part tuffaceous, f) dark grey to black argillite, g) limestone and 2) massive medium grained andesite.

During Upper Cretaceous to Tertiary time the Gambier Group rocks were intruded by 3) massive medium grained diorite and 4a) quartz porphyry 4b) to quartz feldspar porphyry as dykes and small stocks.

## Structure

Regionally the prominent structural directions on Gambier Island are west-northwest and north-south.

## Alteration

Hydrothermal alteration products in the Gambier property area are mapped as fine hornfels and chlorite, epidote and silicification.

## Mineralization

Due to the heavy rainfall sulphide mineralization is absent from most outcrop exposures and only noted on freshly broken

surfaces. Pyrite occurs as disseminations and blebs in the matrix and on fractures and veins was noted in all lithologies. Locally the pyrite is accompanied by lesser chalcopyrite and malachite.

#### D.) DISCUSSION

The 1992-93 exploration program evaluated three distinct areas on the Gambier property that are discussed herein as the Copper Cove, Gambier Creek and Gambier Lake areas.

##### Copper Cove "A"

The 1991 geochemical soil surveys in the Copper Cove area defined three anomalous copper zones. Geological mapping and rock sampling identified sulphide mineralization in bedrock as the source of these anomalies.

Geological mapping has shown the Copper Cove area to be underlain by Lower Cretaceous age Gambier Group volcanic sediments and pyroclastic rocks intruded by Cretaceous to Tertiary dioritic, quartz porphyry and quartz-feldspar porphyry intrusions. Hydrothermal alteration related to these intrusions is recognized as extensive silicification and associated sulphide mineralization as well as hornfelsing and propylitic alteration.

The location of Gaylord Mines' 1972 drill site was discovered in the creek bed on the east side of Zone I. Although no core

or description of the geology is available, the reported assay results (0.117% copper over 815 feet) suggest Zone I could contain significant mineralization with vertical extent. The 1993 rock sampling in the western extent of Zone I, shows the anomalous copper values in soils to be sourced by mineralized bedrock. Rock sampling as line 9700 east showed low copper values, although several pyritic sections were encountered. The weaker alteration and predominantly pyrite mineralization suggests that zone I is terminated to the west.

The Copper Cove area is seen as a porphyry copper target similar to the deposit outlined in Gambier Creek, 2 kilometers to the northwest. Extensive jointing and faulting of the Gambier Group rocks in this area have produced a favorable host for mineralization.

Additional work as induced polarization surveys in conjunction with additional geological mapping would define targets for diamond drilling.

#### Gambier Creek "B"

During 1986 four soil lines were run in the area of the Gambier Porphyry Copper Prospect in the Gambier Creek area. Lines 1080 west and 840 west, through the centre of the deposit showed strongly anomalous copper and molybdenum values. Line 600 west showed an isolated anomalous copper value in a low lying area devoid of outcrop. Lines 660 west and 540 west were designed to evaluate this anomaly on line 600 west. The soil sampling identified a light grey clay layer of probable glacial origin

as masking this area which by way of deeper sampling it was possible to get through to the residual soil.

The results of the 1993 soil sampling confirmed the anomalous copper in soil zone of the 1986 survey centred on line 600 west and showed a zone of strongly anomalous copper in soil values to extend beyond the proposed extent of the Gambier Porphyry Copper deposit. These results suggest an area of copper/molybdenum mineralization that could significantly increase the reserves of the presently defined deposit. Additional deep soil sampling and diamond drilling in this area is warranted to define the extent of this additional reserve.

#### Gambier Lake "C"

The prospecting and rock sampling of the 1987 survey identified a mineralized float sample in the Gambier Lake grid area.

The geological mapping of the Gambier Lake grid identified a northwesterly trending section of Gambier Group rocks comprised of argillite, limestone and fine grained volcanics overlain by a massive medium grained andesite. The hydrothermal alteration was weak and showed only minor epidote and chlorite with isolated quartz veins. In the area of 25+90 west and 4+25 south small lenses of pyrite and chalcopyrite were noted to parallel the bedding foliation in a the pyritic argillite. Rock sampling of these lenses showed significant copper (to 8190 ppm) with anomalous molybdenum and zinc values. The soil sampling showed this area to coincide with anomalous copper, molybdenum and zinc values.



The economic potential for this area is seen as hosting a volcanogenic massive sulphide deposit, akin to the Britannia deposits, 20 kilometres to the northeast, that are also hosted by Gambier Group rocks. Although this mineralization could be sourced as vein off shoots from the Gambier Creek Porphyry Copper deposit, 1 kilometre to the east, this model is not supported by associated hydrothermal alteration and intrusive activity. Additional rock and soil sampling is necessary to define the full potential of this area.

APPENDIX I

Itemized Cost Statement

Technical Staff

R.M. Durfeld (March 7th to 11th, 1993)  
5 days @ \$ 350/day \$ 1750.00

J.P. McGoran (December 21st and 22nd 1992  
and March 7th to 11th, 1993)  
6 days @ \$ 350/day 2150.00

Assistants

D. Javorsky (December 21st, 1992)  
1 day @ \$ 150/day 150.00

C. McGoran (December 21st, 1992)  
1 day @ \$ 110/day 110.00

Room and Board

13 mandays @ \$50/day 650.00

Radio Rentals

4 days @ \$ 20/day 80.00

Truck Rental - include fuel

6 days @ \$ 45/day 270.00

Water Taxi - December 21, 1992 149.80

Boat Rental - March 8 to 11, 1993 506.86

Field Equipment 210.00

Geochemical Analyses 1196.39

Drafting 750.00

Report Compilation and Copying 600.00

TOTAL COST OF PROGRAM \$ 8573.05

Dated at Williams Lake, British Columbia

this 29th day of March 1993.

  
R.M. Durfeld, B.Sc., P. Geo. (Geologist)

APPENDIX II

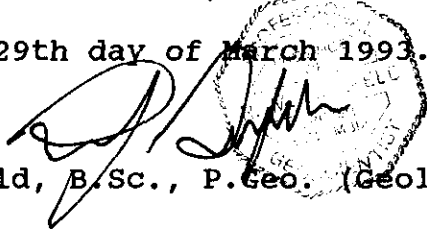
Statement of Qualifications

I Rudolf M. Durfeld, do hereby certify:

- 1.) That I am a consulting geologist with offices at 180 Yorston Street, Williams Lake, B.C.
- 2.) That I am a graduate of the University of British Columbia, B.Sc. Geology 1972, and have practiced my profession with various mining and/ or exploration companies and as an independent geologist since graduation.
- 3.) That I am a Fellow of the Geological Association of Canada (Member No: F3025), a member of the British Columbia and Yukon Chamber of Mines and a member of the Canadian Institute of Mining and Metallurgy.
- 4.) That I am registered as a Professional Geoscientist by the Association of Engineers and Geoscientists of B.C. (No. 18241)
- 5.) That this report is based on my personal knowledge of the property and member of the exploration team that conducted exploration on the Gambier property during the period December 21st, 1992 to March 11th, 1993.

Dated at Williams Lake, British Columbia

this 29th day of March 1993.

  
R.M. Durfeld, B.Sc., P.Geo. (Geologist)

STATEMENT OF QUALIFICATIONS

1, John P. McGoran of 2111 West 34th Avenue, Vancouver, B.C., hereby certify that:

1. I am a graduate of Carleton University (1972) and hold a B.Sc. Degree in Geology.

2. I am a member in good standing of the following associations:

The Association of Professional Engineers and Geoscientists  
Canadian Institute of Mining and Metallurgy  
Geological Association of Canada  
American Institute of Mining Engineers  
Prospectors and Developers Association of Canada.

3. I have been employed in my profession as an exploration geologist, geochemist and consultant for the last forty years.

DATED at Vancouver, British Columbia, this 26<sup>th</sup> day of MARCH/93.

SIGNED;

  
John P. McGoran



APPENDIX III

Geochemical Results

P. 002/005 TO 687-6533 FROM ACME ANALYTICAL MAR-17-1993 13:53



GEOCHEMICAL ANALYSIS CERTIFICATE

J.P. McGoran & Associates File # 93-0440 Page 1  
105 - 455 Granville Street, Vancouver B.C. V6C 1T1 Submitted by: John McGoran

Table with columns: SAMPLE#, No, Cu, Pb, Zn, Ag, Ni, Co, Mn, Fe, As, U, Au, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K, W, Au\*. Rows list various sample IDs (e.g., 97E 104+75N, GA 1, GA 2) and their corresponding concentrations for 31 elements.

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-MNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.  
THIS LEACH IS PARTIAL FOR NM FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.  
ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB  
- SAMPLE TYPE: P1 ROCK P2 TO P3 SOIL P4 SILT AU\* ANALYSIS BY ACID LEACH/AA FROM 10 GN SAMPLE.  
Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: MAR 11 1993 DATE REPORT MAILED: *Mar 17/93* SIGNED BY: *[Signature]* .D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



P. 004/003



TO 687-6533

MAR-17-1993 13:55 FROM ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	S ppm	Al %	Na %	K %	W ppm	At %
660W 3+60S	6	146	10	77	.2	13	17	255	3.54	14	<5	<2	<2	28	.6	4	<2	58	.25	.032	14	19	.39	91	.19	4	3.74	.01	.05	5	
660W 3+90S	5	94	4	49	.1	10	13	306	1.75	3	<5	<2	<2	30	.3	<2	<2	42	.26	.029	4	14	.38	62	.14	2	2.15	.01	.04	<1	
660W 4+20S	15	156	9	73	.2	10	20	411	3.57	6	<5	<2	2	17	1.0	3	<2	55	.15	.153	13	20	.21	38	.19	2	10.50	.01	.03	4	
660W 4+50S	6	76	15	89	.2	10	16	319	4.13	8	<5	<2	2	13	<2	4	<2	74	.12	.065	7	24	.23	40	.22	<2	7.44	<.01	.03	2	
540W 0+00S	2	64	6	59	.2	12	8	268	2.74	<2	<5	<2	<2	51	.2	2	<2	51	.22	.043	6	21	.36	142	.19	<2	4.65	.01	.07	1	
540W 0+30S	25	529	16	130	.4	13	12	375	4.95	<2	<5	<2	<2	32	<2	<2	<2	82	.21	.039	5	23	.33	92	.28	<2	3.00	<.01	.07	<1	
540W 0+60S	37	826	10	116	.3	10	11	434	2.70	2	<5	<2	<2	34	.3	3	2	65	.21	.042	5	17	.39	120	.21	<2	2.34	<.01	.06	<1	
540W 0+90S	28	825	7	68	.2	10	8	282	2.75	3	<5	<2	<2	24	.2	2	<2	53	.19	.052	4	17	.32	71	.19	<2	2.33	<.01	.05	<1	
RE 540W 0+90S	33	943	9	73	.2	8	9	320	3.11	<2	<5	<2	<2	26	.2	<2	<2	60	.21	.059	5	18	.36	82	.21	2	2.78	<.01	.06	<1	
540W 1+20S	12	310	8	67	.2	10	7	158	4.48	8	<5	<2	<2	14	<2	<2	2	93	.10	.033	4	22	.11	67	.29	2	4.09	<.01	.02	1	
540W 1+50S	3	131	12	80	<.1	11	13	608	2.56	8	<5	<2	<2	37	.3	<2	<2	53	.46	.043	5	16	.41	72	.12	2	2.17	.01	.05	1	
540W 1+80S	6	63	12	103	.2	18	20	1362	4.04	7	<5	<2	<2	57	<2	<2	3	94	.38	.057	7	26	.56	105	.23	3	4.44	.01	.09	1	
540W 2+10S	3	100	7	72	.3	19	14	501	3.33	10	<5	<2	<2	46	.4	<2	<2	69	.35	.094	10	26	.53	93	.17	<2	5.93	.01	.08	2	
540W 2+40S	5	34	9	68	<.1	11	9	179	3.62	3	<5	<2	<2	23	.2	4	<2	56	.20	.056	6	24	.23	37	.21	3	7.28	<.01	.03	1	
540W 2+70S	6	95	8	24	.1	6	5	95	1.94	<2	<5	<2	<2	26	<2	<2	<2	43	.21	.017	6	12	.08	39	.14	<2	1.01	<.01	.01	<1	
540W 3+00S	6	135	8	38	.1	9	8	187	2.60	3	<5	<2	<2	27	.2	<2	<2	47	.27	.054	6	16	.27	34	.14	<2	4.03	<.01	.04	1	
540W 3+30S	9	267	8	74	.2	13	25	538	3.82	4	<5	<2	<2	30	.4	<2	<2	54	.27	.047	9	20	.44	62	.19	<2	3.59	<.01	.05	1	
STANDARD C/AU-S	17	62	38	130	6.9	68	32	1031	3.96	42	18	7	36	54	18.6	13	19	55	.50	.087	39	60	.90	187	.09	35	1.88	.07	.14	13	4

Sample type: SOIL. Samples beginning 'RE' are duplicate samples.





P.005'007

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Ng %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	U ppm	Au <sup>g</sup> ppb
GA 1H	1	17	3	45	<.1	10	9	386	3.04	2	5	<2	<2	93	<.2	<2	2	66	.82	.040	6	20	.61	63	.20	<2	1.50	.10	.11	3	<1
GA 3H	1	21	4	53	.1	15	12	466	4.19	3	<5	<2	<2	96	<.2	<2	<2	91	.82	.021	7	23	.63	58	.22	<2	1.60	.08	.09	1	<1
RE GA 1H	1	17	3	46	.1	13	8	389	3.10	<2	<5	<2	<2	94	<.2	<2	<2	67	.82	.040	6	19	.62	62	.20	<2	1.47	.10	.11	2	<1

Sample type: SILT. Samples beginning 'RE' are duplicate samples.

TO 687-6533

FROM ACME ANALYTICAL

MAR-17-1993 13:56

APPENDIX IV

Statistical Analysis

11:36:53

Gambier Soils (Including old values)

03/24/93

#####  
SUMMARY STATISTICS and HISTOGRAM ARITHMETIC VALUES

Variable =	Mo ppm	Unit =	N =	214
Mean =	7.252	Min =	1.000	1st Quartile = 2.000
Std. Dev. =	10.471	Max =	62.000	Median = 3.000
CV % =	144.377	Skewness =	2.653	3rd Quartile = 6.000

```
=====
```

%	cum %	cls int	(# of bins = 24 - bin size = 2.652)
0.00	0.23	-0.326	
40.19	40.23	2.326	***** --> 50
22.90	63.02	4.978	*****
17.29	80.23	7.630	*****
3.74	83.95	10.283	*****
0.93	84.88	12.935	*
0.93	85.81	15.587	*
1.40	87.21	18.239	**
1.87	89.07	20.891	**
0.93	90.00	23.543	*
1.87	91.86	26.196	**
2.34	94.19	28.848	***
0.47	94.65	31.500	*
1.40	96.05	34.152	**
0.00	96.05	36.804	
0.93	96.98	39.457	*
0.47	97.44	42.109	*
0.93	98.37	44.761	*
0.47	98.84	47.413	*
0.00	98.84	50.065	
0.00	98.84	52.717	
0.00	98.84	55.370	
0.47	99.30	58.022	*
0.00	99.30	60.674	
0.47	99.77	63.326	*

-----  
0 1 2 3 4

Each "\*" represents approximately 1.7 observations.

#####

#####

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = SOGAM.PRO

Variable = Mo ppm Unit = N = 214  
N CI = 24

Transform = Logarithmic Number of Populations = 3

# of Missing Observations = 0.

=====

Users Visual Parameter Estimates

Population	Mean	Std Dev	Percentage
1	2.248	- 1.366	70.00
		+ 3.699	
2	6.388	- 4.988	15.00
		+ 8.180	
3	26.716	- 18.093	15.00
		+ 39.447	

=====

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds
1	0.830 6.087
2	3.895 10.475
3	12.253 58.246

#####

12:25:54

Gambier Soils (Including old values)

03/24/93

#####  
SUMMARY STATISTICS and HISTOGRAM ARITHMETIC VALUES

Variable =	Cu ppm	Unit =	N =	214
Mean =	114.584	Min =	11.000	1st Quartile = 24.000
Std. Dev. =	229.206	Max =	2193.000	Median = 38.000
CV % =	200.033	Skewness =	4.960	3rd Quartile = 81.000

```

=====
%   cum %   cls int   (# of bins = 24 - bin size = 94.870)
-----
0.00 0.23  -36.435
66.82 66.74   58.435 ***** --> 83
18.69 85.35  153.304 *****
2.34 87.67  248.174 ***
3.27 90.93  343.043 ****
1.87 92.79  437.913 **
2.34 95.12  532.783 ***
0.47 95.58  627.652 *
1.40 96.98  722.522 **
0.00 96.98  817.391
1.40 98.37  912.261 **
0.47 98.84 1007.130 *
0.00 98.84 1102.000
0.47 99.30 1196.870 *
0.00 99.30 1291.739
0.00 99.30 1386.609
0.00 99.30 1481.478
0.00 99.30 1576.348
0.00 99.30 1671.217
0.00 99.30 1766.087
0.00 99.30 1860.957
0.00 99.30 1955.826
0.00 99.30 2050.696
0.00 99.30 2145.565
0.47 99.77 2240.435 *
-----
0           1           2           3           4

```

Each "\*" represents approximately 1.7 observations.

#####

#####

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = SOGAM.PRO

Variable = Cu ppm Unit = N = 214  
N CI = 24

Transform = Logarithmic Number of Populations = 3

# of Missing Observations = 0.

=====

Users Visual Parameter Estimates

Population	Mean	Std Dev	Percentage
1	24.014	- 18.165	50.00
		+ 31.746	
2	65.364	- 43.419	36.00
		+ 98.399	
3	442.289	- 244.739	14.00
		+ 799.301	

=====

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds
1	13.741 41.967
2	28.842 148.131
3	135.425 1444.489

#####

12:30:44

Gambier Soils (Including old values)

03/24/93

#####  
 SUMMARY STATISTICS and HISTOGRAM ARITHMETIC VALUES

Variable = Pb ppm Unit = N = 214

Mean = 22.664 Min = 2.000 1st Quartile = 10.000  
 Std. Dev. = 28.238 Max = 298.000 Median = 16.000  
 CV % = 124.598 Skewness = 6.051 3rd Quartile = 25.000

```
=====
```

%	cum %	cls int	(# of bins = 24 - bin size = 12.870)
0.00	0.23	-4.435	
18.69	18.84	8.435	*****
47.20	65.81	21.304	***** --> 58
19.63	85.35	34.174	*****
7.48	92.79	47.043	*****
2.80	95.58	59.913	***
1.40	96.98	72.783	**
0.93	97.91	85.652	*
0.00	97.91	98.522	
0.00	97.91	111.391	
0.93	98.84	124.261	*
0.00	98.84	137.130	
0.00	98.84	150.000	
0.00	98.84	162.870	
0.00	98.84	175.739	
0.00	98.84	188.609	
0.47	99.30	201.478	*
0.00	99.30	214.348	
0.00	99.30	227.217	
0.00	99.30	240.087	
0.00	99.30	252.957	
0.00	99.30	265.826	
0.00	99.30	278.696	
0.00	99.30	291.565	
0.47	99.77	304.435	*

```
-----
```

0            1            2            3            4

Each "\*" represents approximately 1.7 observations.

#####

12:34:00

Gambier Soils (Including old values)

03/24/93

#####

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = SOGAM.PRO

Variable = Pb ppm Unit = N = 214  
N CI = 24

Transform = Logarithmic Number of Populations = 3

# of Missing Observations = 0.

=====

Users Visual Parameter Estimates

Population	Mean	Std Dev	Percentage
1	9.281	- 5.862 + 14.693	50.00
2	20.800	- 17.331 + 24.964	35.00
3	46.840	- 28.301 + 77.523	15.00

=====

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds
1	3.702 23.263
2	14.440 29.961
3	17.100 128.305

#####



13:04:45

Gambier Soils (Including old values)

03/24/93

#####  
 SUMMARY STATISTICS and HISTOGRAM ARITHMETIC VALUES

Variable = Zn ppm Unit = N = 214

Mean = 91.626 Min = 10.000 1st Quartile = 53.000  
 Std. Dev. = 73.512 Max = 498.000 Median = 70.000  
 CV % = 80.230 Skewness = 2.762 3rd Quartile = 103.000

```
=====
```

%	cum %	cls int	(# of bins = 24 - bin size = 21.217)
0.00	0.23	-0.609	
1.87	2.09	20.609	**
10.28	12.33	41.826	*****
28.04	40.23	63.043	*****
27.57	67.67	84.261	*****
7.94	75.58	105.478	*****
8.41	83.95	126.696	*****
3.27	87.21	147.913	****
3.27	90.47	169.130	****
0.47	90.93	190.348	*
1.87	92.79	211.565	**
0.47	93.26	232.783	*
1.87	95.12	254.000	**
1.40	96.51	275.217	**
0.00	96.51	296.435	
0.47	96.98	317.652	*
0.93	97.91	338.870	*
0.00	97.91	360.087	
0.47	98.37	381.304	*
0.00	98.37	402.522	
0.00	98.37	423.739	
0.93	99.30	444.957	*
0.00	99.30	466.174	
0.00	99.30	487.391	
0.47	99.77	508.609	*

-----

0 1 2 3 4

Each "\*" represents approximately 1.7 observations.

#####

#####

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = SOGAM.PRO

Variable = Zn ppm Unit = N = 214  
N CI = 24

Transform = Logarithmic Number of Populations = 4

# of Missing Observations = 0.

=====

Users Visual Parameter Estimates

Population	Mean	Std Dev	Percentage
1	21.107	- 13.789 + 32.309	5.00
2	54.872	- 43.155 + 69.769	55.00
3	95.277	- 79.364 + 114.381	25.00
4	212.760	- 145.868 + 310.327	15.00

=====

Default Thresholds.

Standard Deviation Multiplier = 2.0

Pop.	Thresholds
1	9.008 49.456
2	33.940 88.711
3	66.109 137.315
4	100.007 452.637

#####

#####  
 SUMMARY STATISTICS and HISTOGRAM ARITHMETIC VALUES

Variable = Ag ppm Unit = N = 214  
 Mean = 0.175 Min = 0.100 1st Quartile = 0.100  
 Std. Dev. = 0.165 Max = 1.500 Median = 0.100  
 CV % = 94.614 Skewness = 4.430 3rd Quartile = 0.200

```
=====
```

%	cum %	cls int	(# of bins = 24 - bin size = 0.061)
0.00	0.23	0.070	
66.82	66.74	0.130	***** --> 83
0.00	66.74	0.191	
14.95	81.63	0.252	*****
10.28	91.86	0.313	*****
0.00	91.86	0.374	
4.21	96.05	0.435	*****
0.00	96.05	0.496	
1.40	97.44	0.557	**
0.00	97.44	0.617	
0.00	97.44	0.678	
0.93	98.37	0.739	*
0.00	98.37	0.800	
0.00	98.37	0.861	
0.47	98.84	0.922	*
0.00	98.84	0.983	
0.00	98.84	1.043	
0.00	98.84	1.104	
0.00	98.84	1.165	
0.47	99.30	1.226	*
0.00	99.30	1.287	
0.00	99.30	1.348	
0.00	99.30	1.409	
0.00	99.30	1.470	
0.47	99.77	1.530	*

```
-----
```

0            1            2            3            4

Each "\*" represents approximately 1.7 observations.

#####

#####  
 SUMMARY STATISTICS and HISTOGRAM ARITHMETIC VALUES

Variable = Au ppb Unit = N = 214  
 Mean = 2.706 Min = 1.000 1st Quartile = 1.000  
 Std. Dev. = 6.361 Max = 60.000 Median = 1.000  
 CV % = 235.104 Skewness = 7.032 3rd Quartile = 2.000

```
=====
%   cum %   cls int   (# of bins = 24 - bin size = 2.565)
-----
0.00 0.23   -0.283
79.91 79.77   2.283   ***** --> 99
13.08 92.79   4.848   *****
2.34 95.12   7.413   ***
0.93 96.05   9.978   *
0.47 96.51  12.543   *
1.40 97.91  15.109   **
0.00 97.91  17.674
0.00 97.91  20.239
0.00 97.91  22.804
0.00 97.91  25.370
0.47 98.37  27.935   *
0.00 98.37  30.500
0.00 98.37  33.065
0.00 98.37  35.630
0.47 98.84  38.196   *
0.00 98.84  40.761
0.00 98.84  43.326
0.00 98.84  45.891
0.00 98.84  48.457
0.00 98.84  51.022
0.00 98.84  53.587
0.47 99.30  56.152   *
0.00 99.30  58.717
0.47 99.77  61.283   *
=====
                                0         1         2         3         4
```

Each "\*" represents approximately 1.7 observations.

#####

#####

PARAMETER SUMMARY STATISTICS FOR PROBABILITY PLOT ANALYSIS

Data File Name = SOGAM.PRO

Variable = Au ppb Unit = N = 214  
N CI = 24

Transform = Logarithmic Number of Populations = 2

# of Missing Observations = 0.

=====

Users Visual Parameter Estimates

Population	Mean	Std Dev	Percentage
1	1.554	0.805	95.00
		3.002	
2	49.159	37.404	5.00
		64.609	

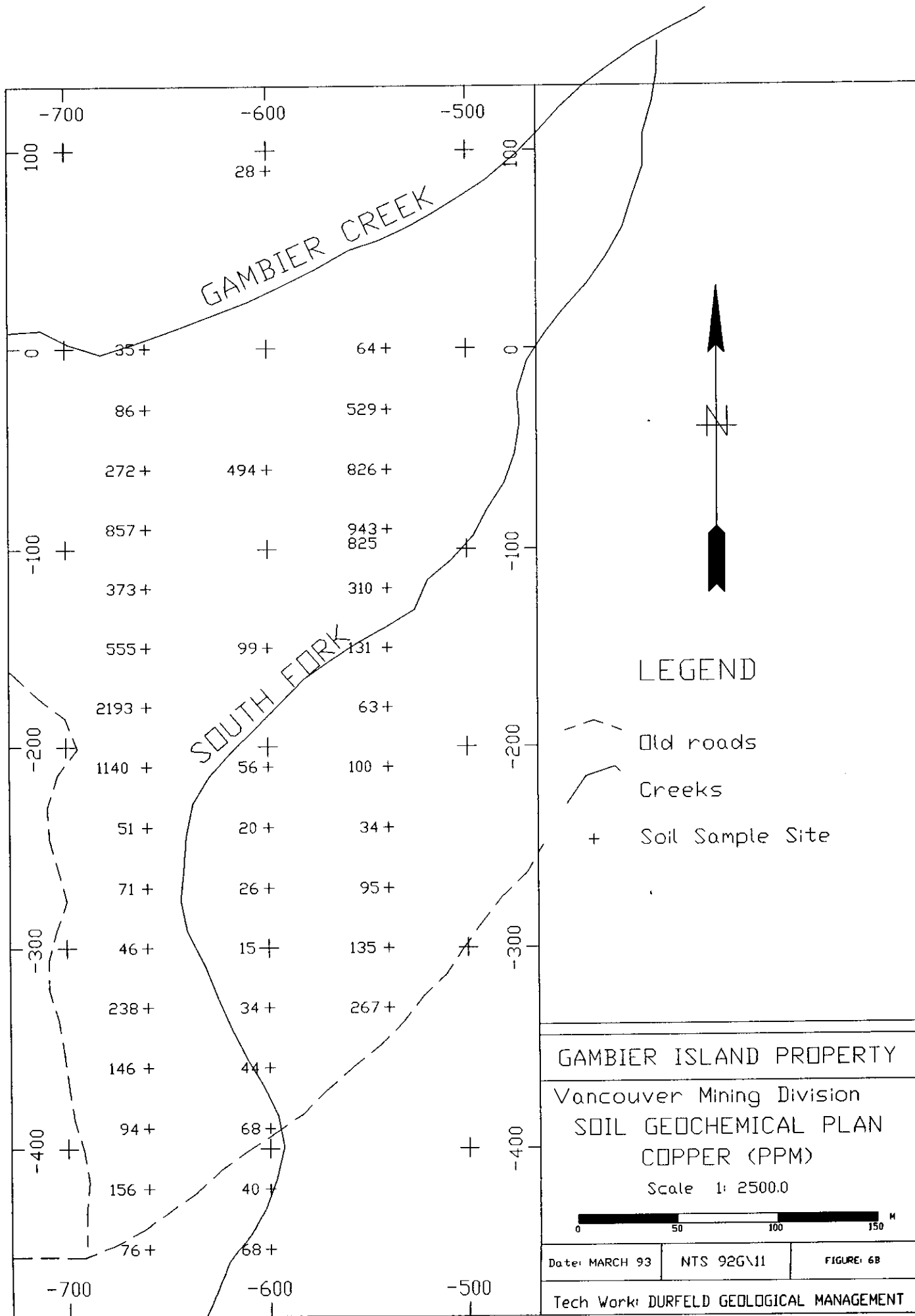
=====

Default Thresholds.

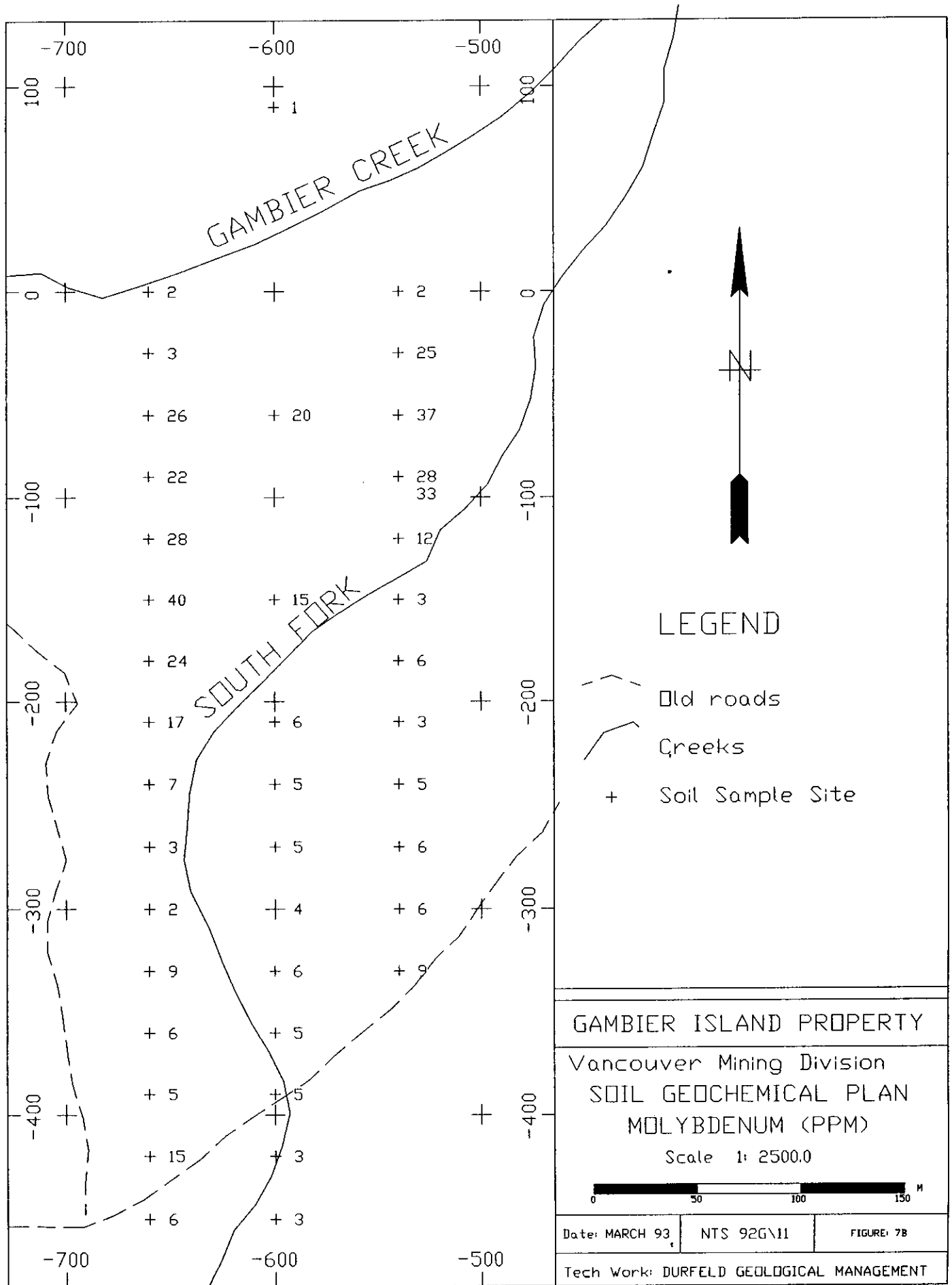
Standard Deviation Multiplier = 2.0

Pop.	Thresholds
1	0.417 5.798
2	28.459 84.915

#####



Contour	-700	-600	-500
100	100 +	28 +	100 +
0	35 +		64 +
	86 +		529 +
	272 +	494 +	826 +
-100	857 +		943 + 825
	373 +		310 +
	555 +	99 +	131 +
-200	2193 +		63 +
	1140 +	56 +	100 +
	51 +	20 +	34 +
	71 +	26 +	95 +
-300	46 +	15 +	135 +
	238 +	34 +	267 +
	146 +	44 +	
-400	94 +	68 +	
	156 +	40 +	
-700	76 +	68 +	



-700

-600

-500

100 +

+ 1

100 +

GAMBIER CREEK

0 +

+ 2

+

+ 2

0 +

+ 3

+ 25

+ 26

+ 20

+ 37

-100 +

+ 22

+

+ 28

-100 +

33

+ 28

+ 12

+ 40

+ 15

+ 3

SOUTH FORK

+ 24

+ 6

-200 +

+ 17

+ 6

+ 3

-200 +

+ 7

+ 5

+ 5

+ 3

+ 5

+ 6

-300 +

+ 2

+ 4

+ 6

-300 +

+ 9

+ 6

+ 9

+ 6

+ 5

-400 +

+ 5

+ 5

-400 +

+ 15

+ 3

-700

-600

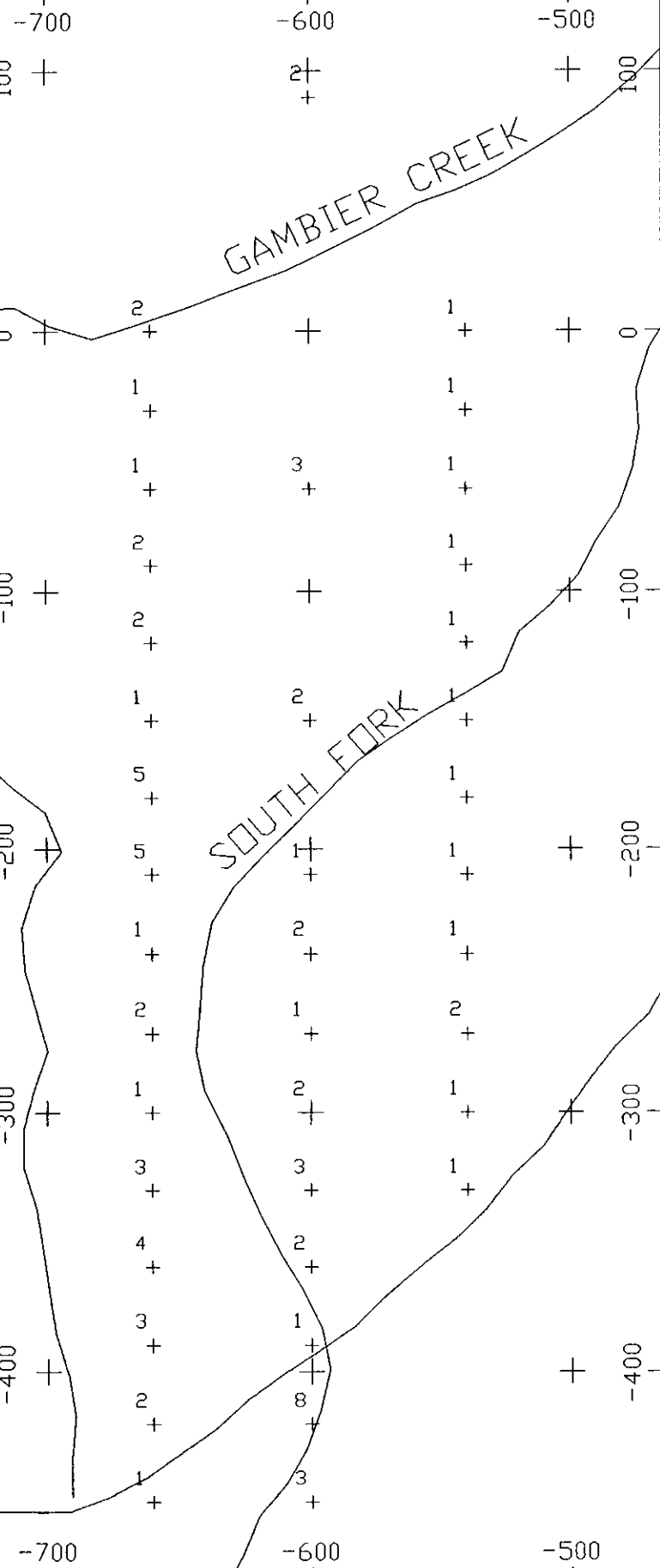
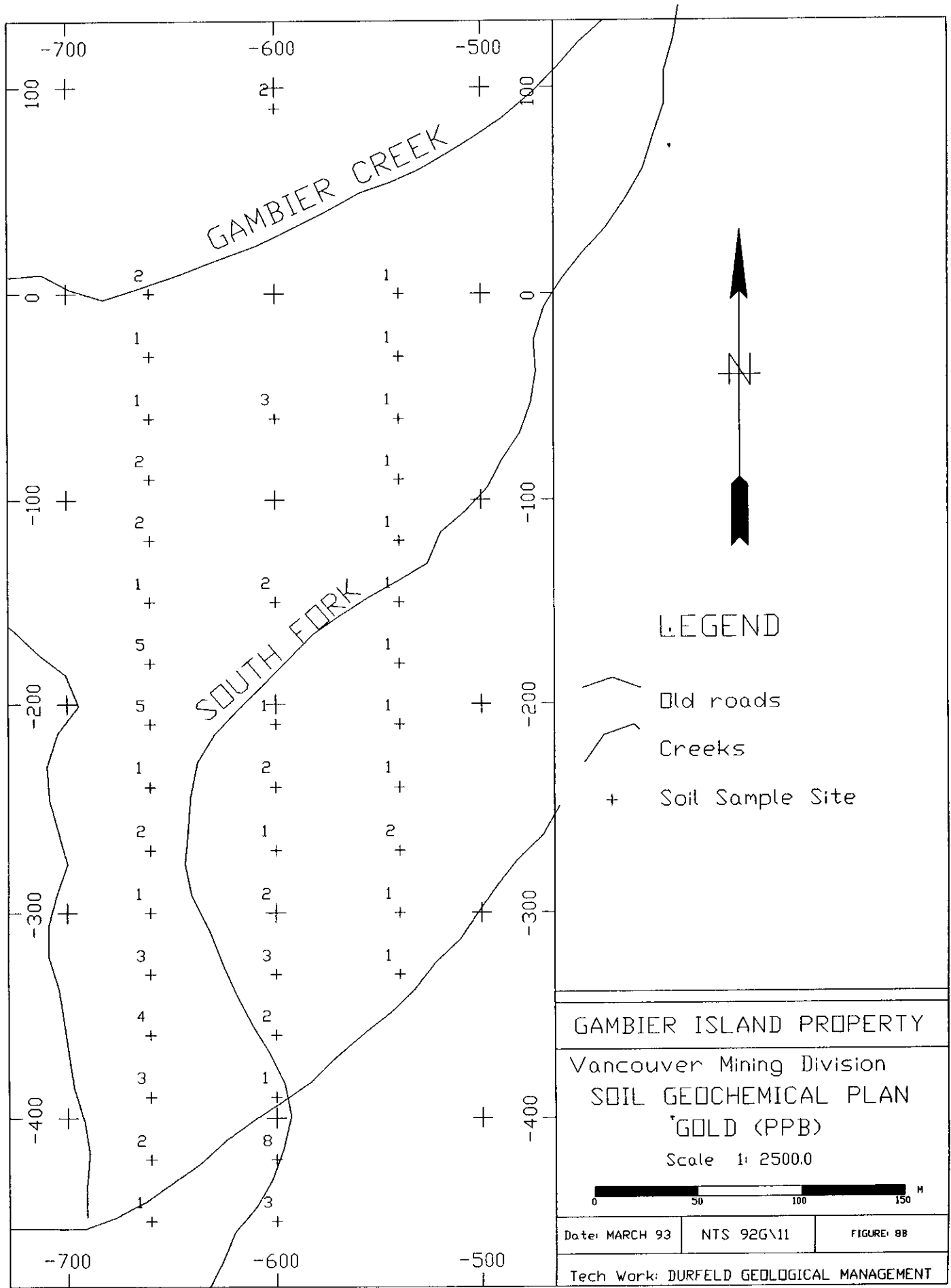
-500

+ 6

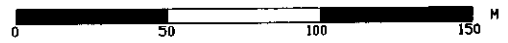
+ 3

+ 6

+ 3



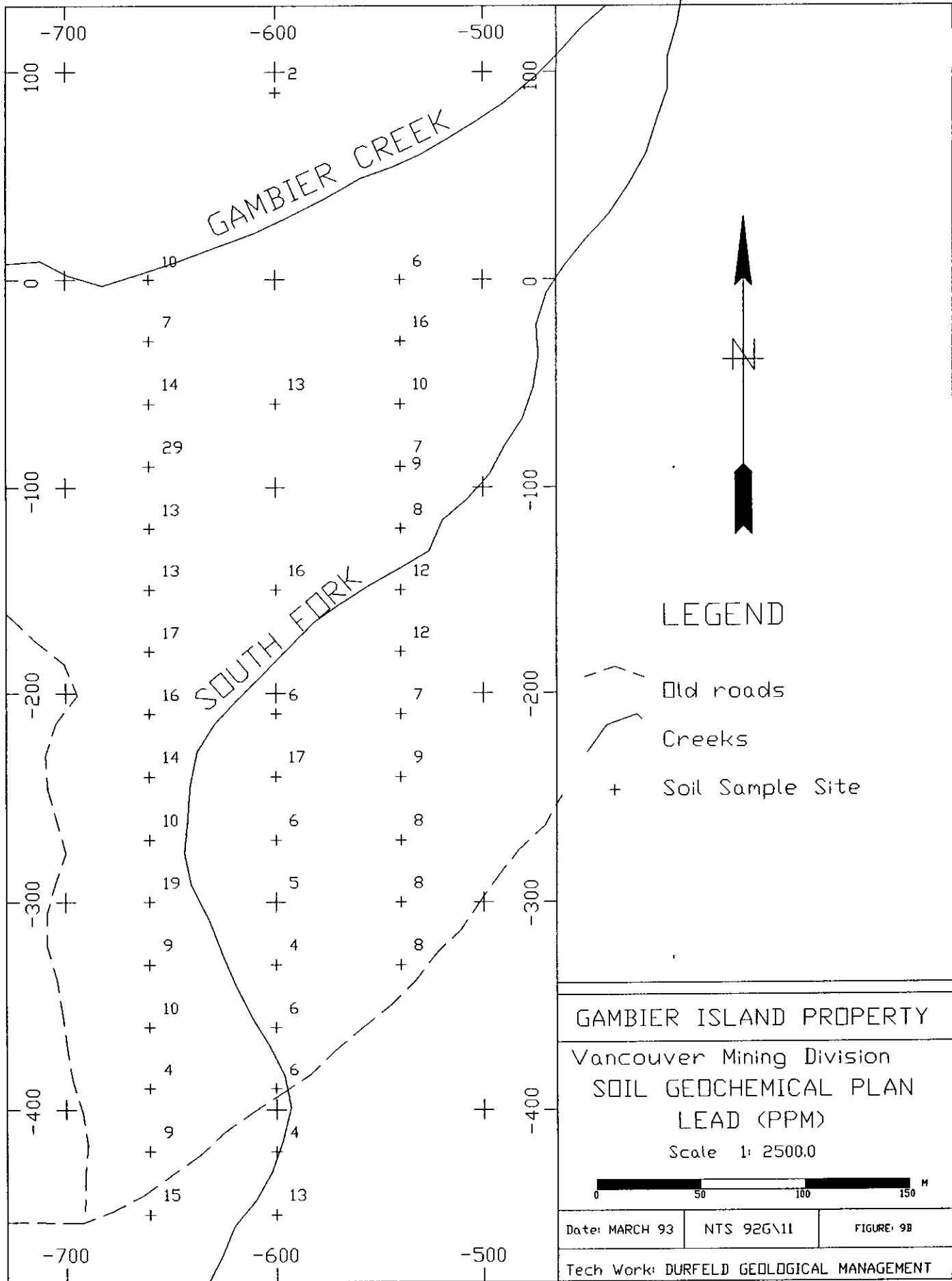
- Old roads
- Creeks
- Soil Sample Site



Date: MARCH 93      NTS 92G\11      FIGURE 8B

Tech Work: DURFELD GEOLOGICAL MANAGEMENT





-700

-600

-500

100 +

+2 +

+ 100

GAMBIER CREEK

10

6

7

16

14

13

10

29

7

-100 +

+9

-100

13

8

13

16

12

SOUTH FORK

17

12

-200 +

16

6

7

-200

14

17

9

10

6

8

-300 +

19

5

8

-300

9

4

8

10

6

-400 +

4

6

6

-400

9

4

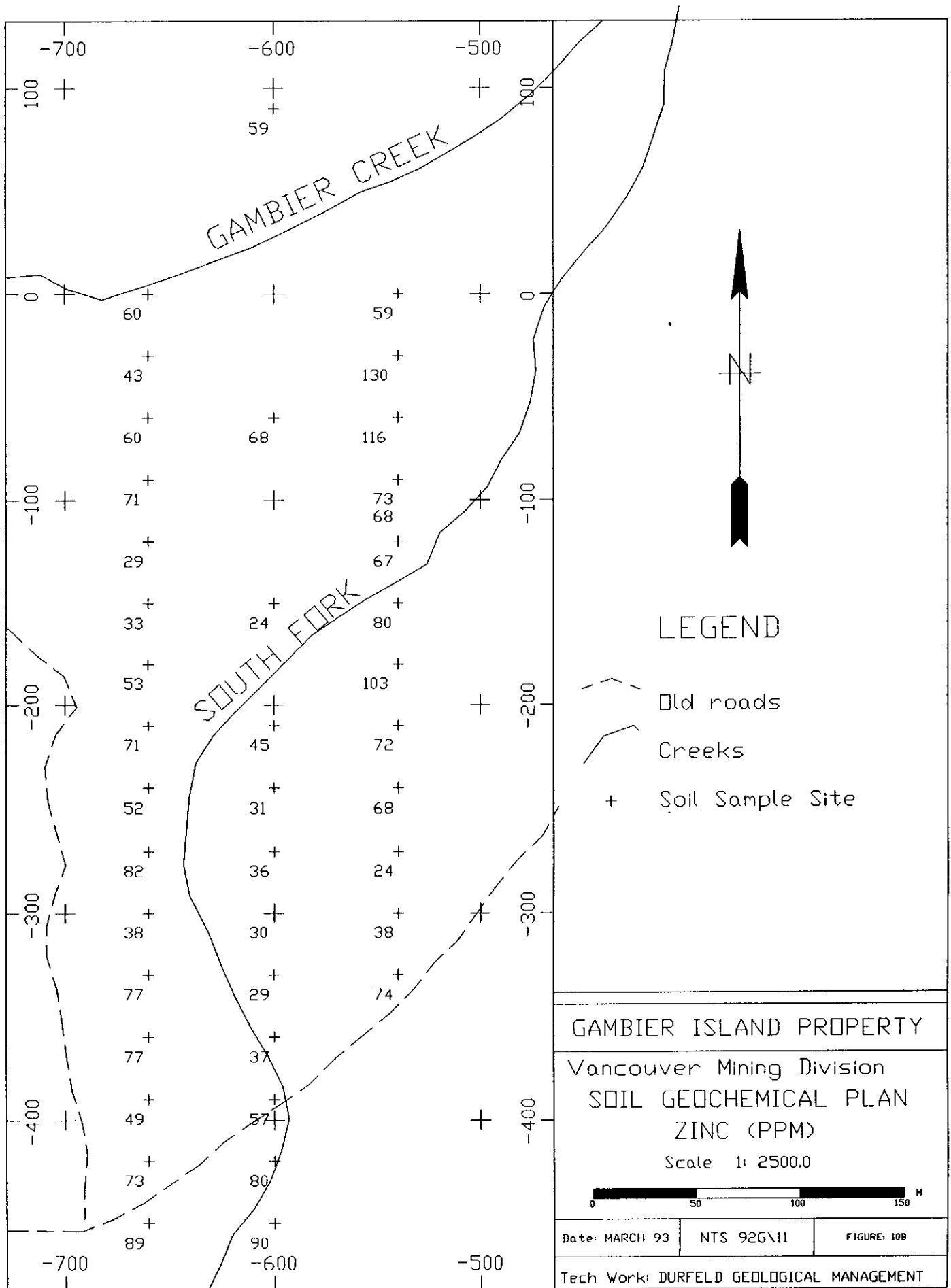
15

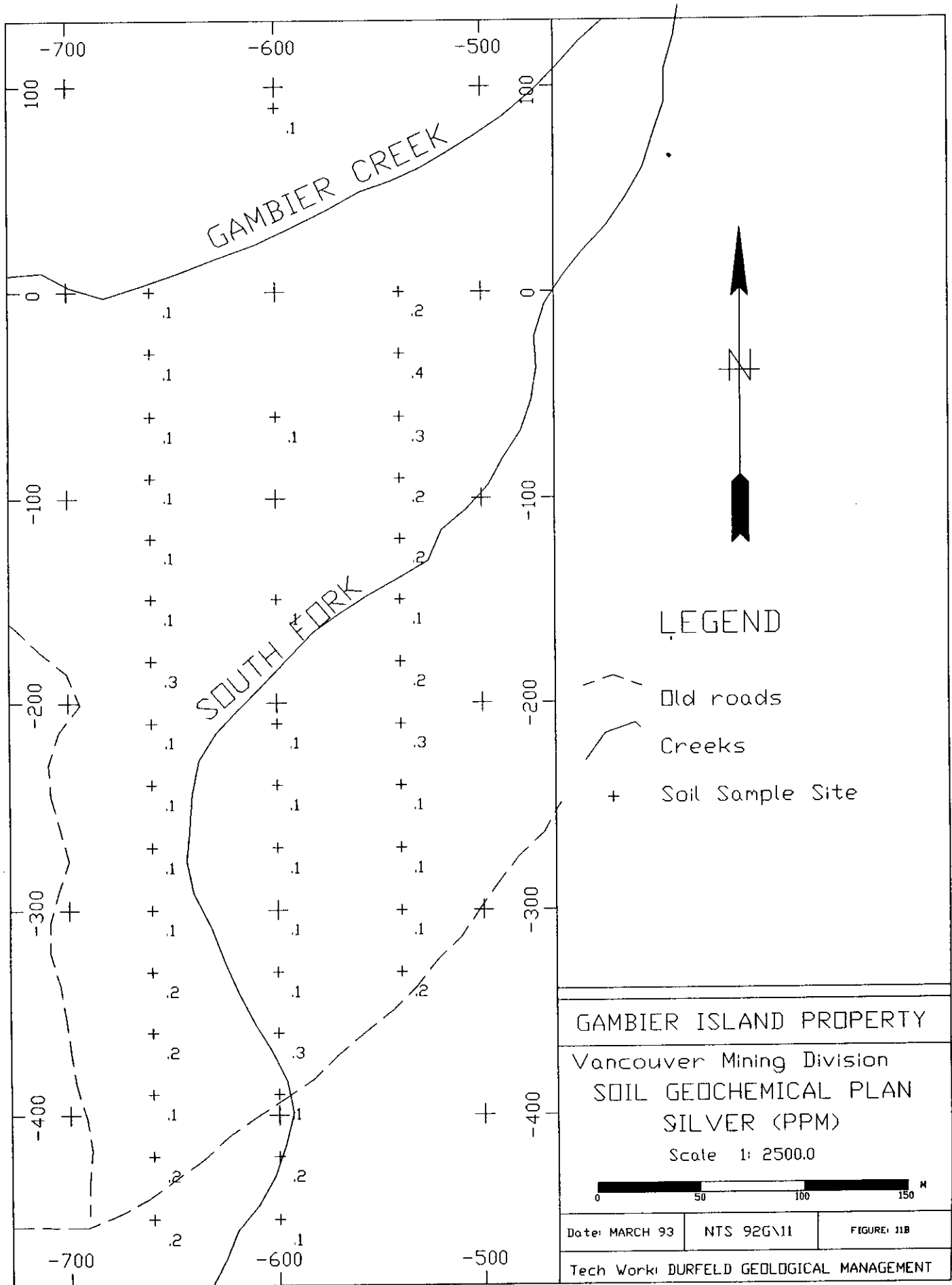
13

-700

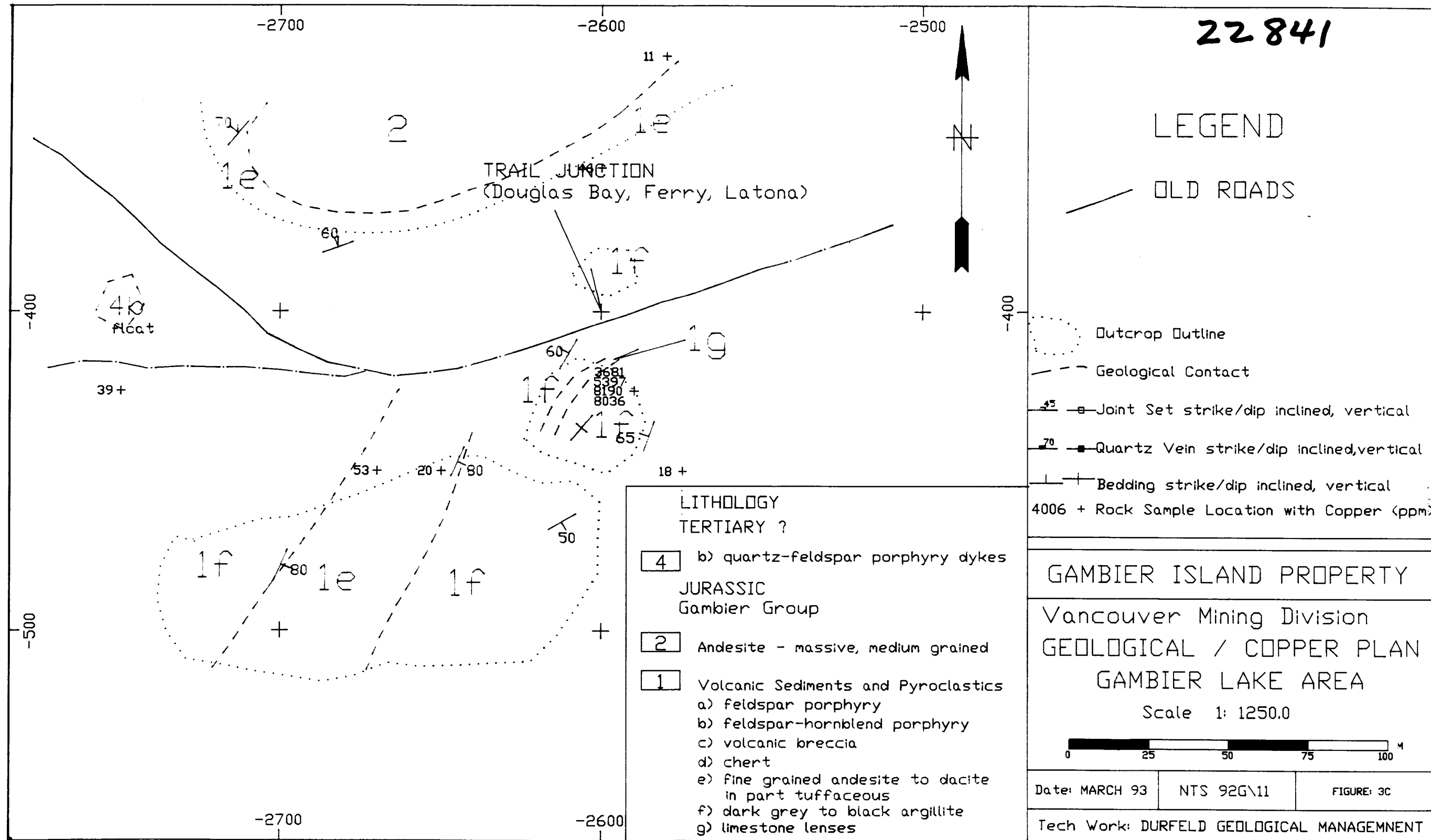
-600

-500



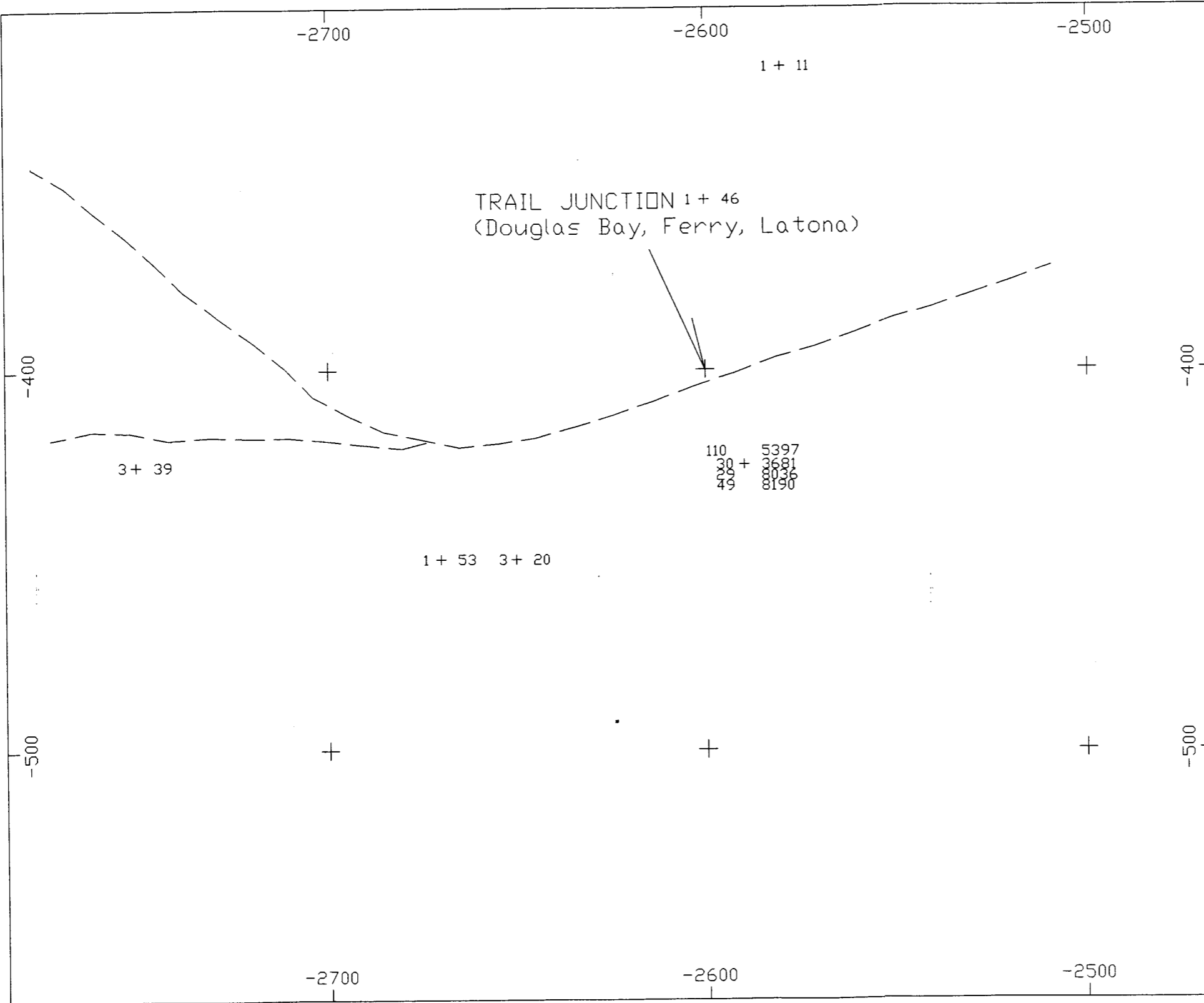


-700	-600	-500
100 +	+ .1	+ .1
0 +	+ .1	+ .2
-100 +	+ .1	+ .4
-200 +	+ .1	+ .3
-300 +	+ .1	+ .2
-400 +	+ .1	+ .2
-700	-600	-500



LITHOLOGY  
TERTIARY ?

- 4 b) quartz-feldspar porphyry dykes
- JURASSIC  
Gambier Group
- 2 Andesite - massive, medium grained
- 1 Volcanic Sediments and Pyroclastics
  - a) feldspar porphyry
  - b) feldspar-hornblend porphyry
  - c) volcanic breccia
  - d) chert
  - e) fine grained andesite to dacite in part tuffaceous
  - f) dark grey to black argillite
  - g) limestone lenses



22841



LEGEND

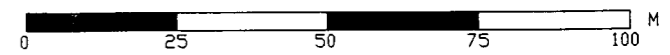
--- OLD ROADS

1+ 18 Rock Sample Site  
molybdenum(ppm)/copper(ppm)

GAMBIER ISLAND PROPERTY

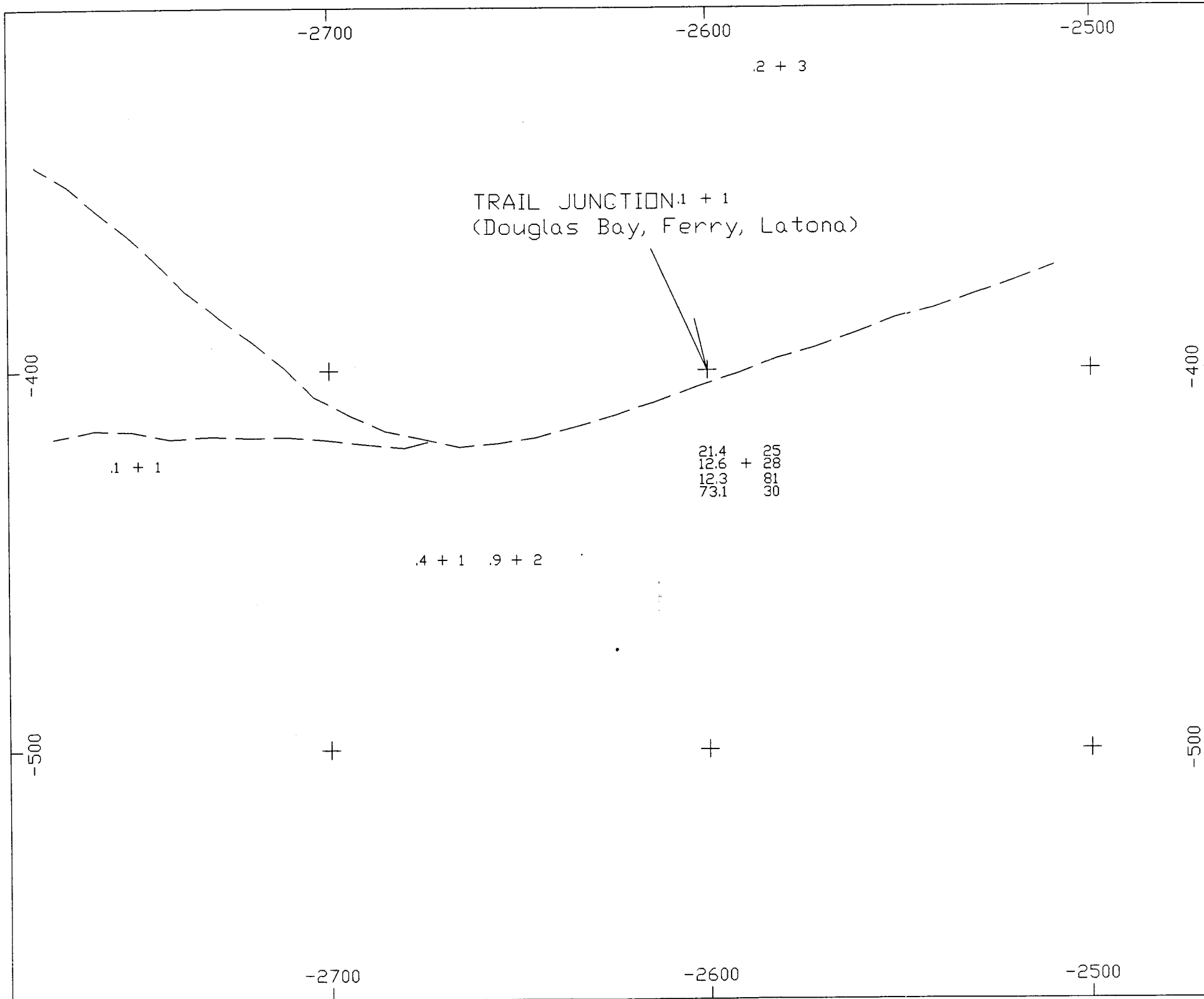
ROCK GEOCHEMICAL PLAN  
GAMBIER LAKE AREA  
COPPER (PPM) / MOLYBDENUM (PPM)

Scale 1: 1250.0



Date: MARCH 93	NTS 92G\11	FIGURE: 4C
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Tech Work: DURFELD GEOLOGICAL MANAGEMNENT



22841



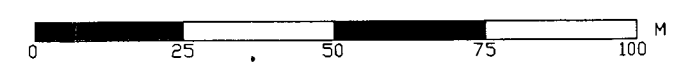
LEGEND

- - - OLD ROADS
- 2 + 1 Rock Sample Site  
Silver (ppm) / Gold (ppb)

GAMBIER ISLAND PROPERTY

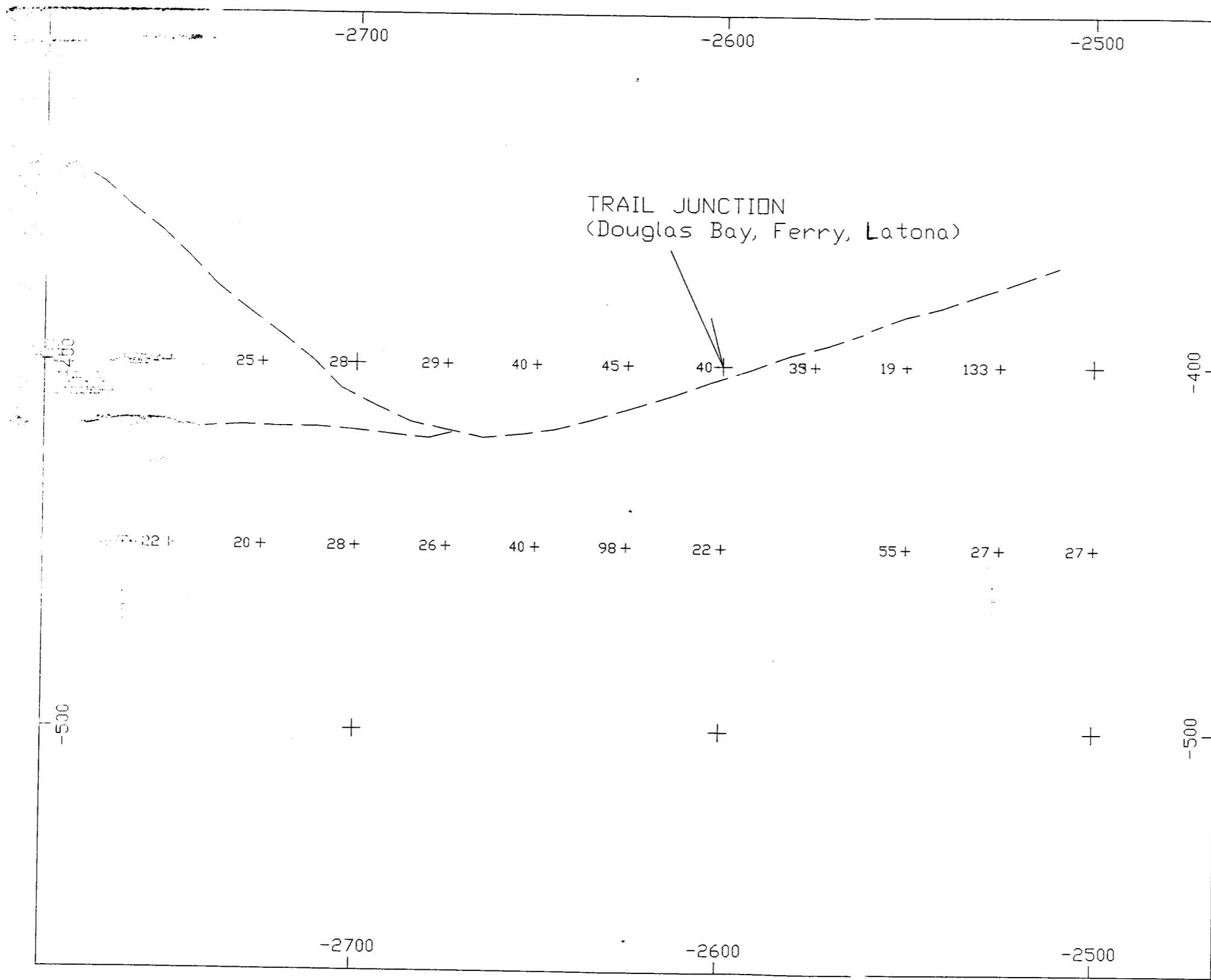
ROCK GEOCHEMICAL PLAN  
GAMBIER LAKE AREA  
GOLD (PPB) / SILVER (PPM)

Scale 1: 1250.0



Date: MARCH 93	NTS 92G\11	FIGURE: 5C
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Tech Work: DURFELD GEOLOGICAL MANAGEMENT



22841

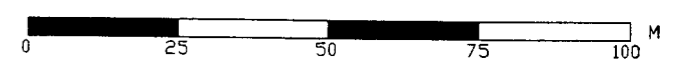


LEGEND

- - - OLD ROADS
- + Soil Sample Site

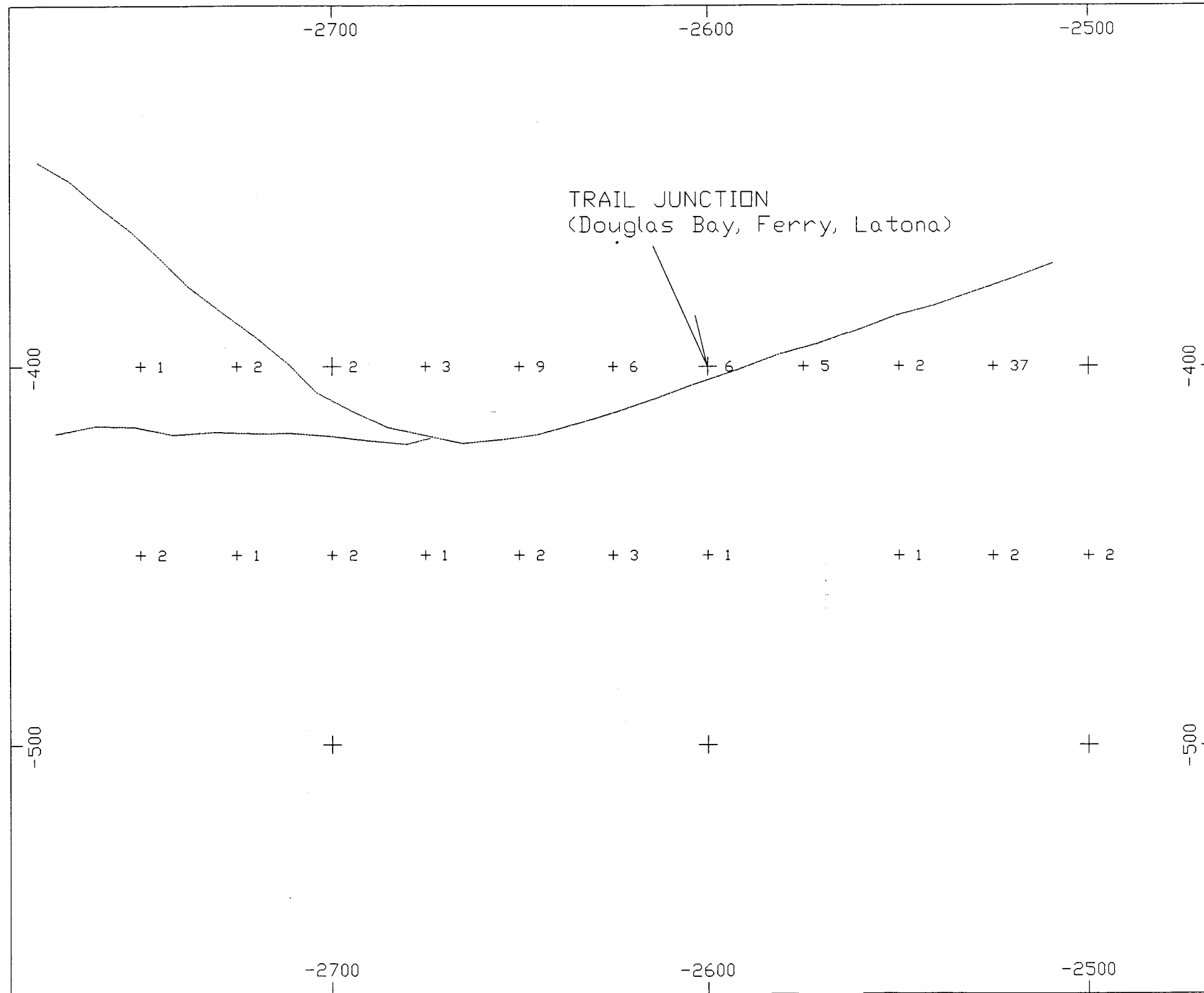
GAMBIER ISLAND PROPERTY

Vancouver Mining Division  
 SOIL GEOCHEMICAL PLAN  
 COPPER (PPM)  
 Scale 1: 1250.0



Date: MARCH 93	NTS 92G\11	FIGURE: 6C
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Tech Work: DURFELD GEOLOGICAL MANAGEMENT



22841



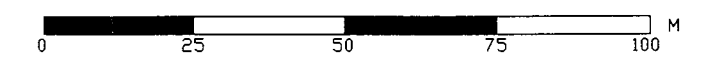
LEGEND

- OLD ROADS
- Soil Sample Site

GAMBIER ISLAND PROPERTY

Vancouver Mining Division  
SOIL GEOCHEMICAL PLAN  
MOLYBDENUM (PPM)

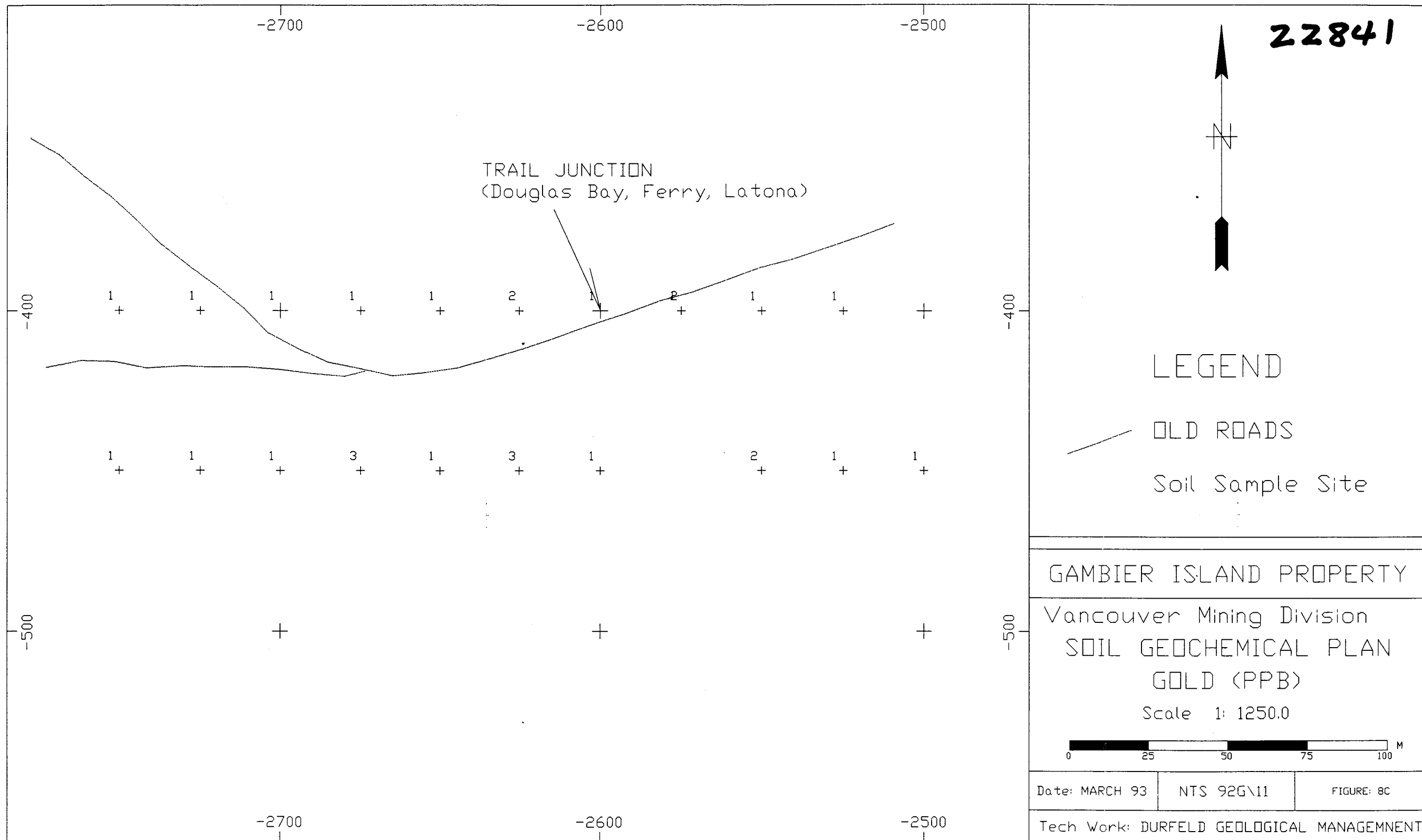
Scale 1: 1250.0

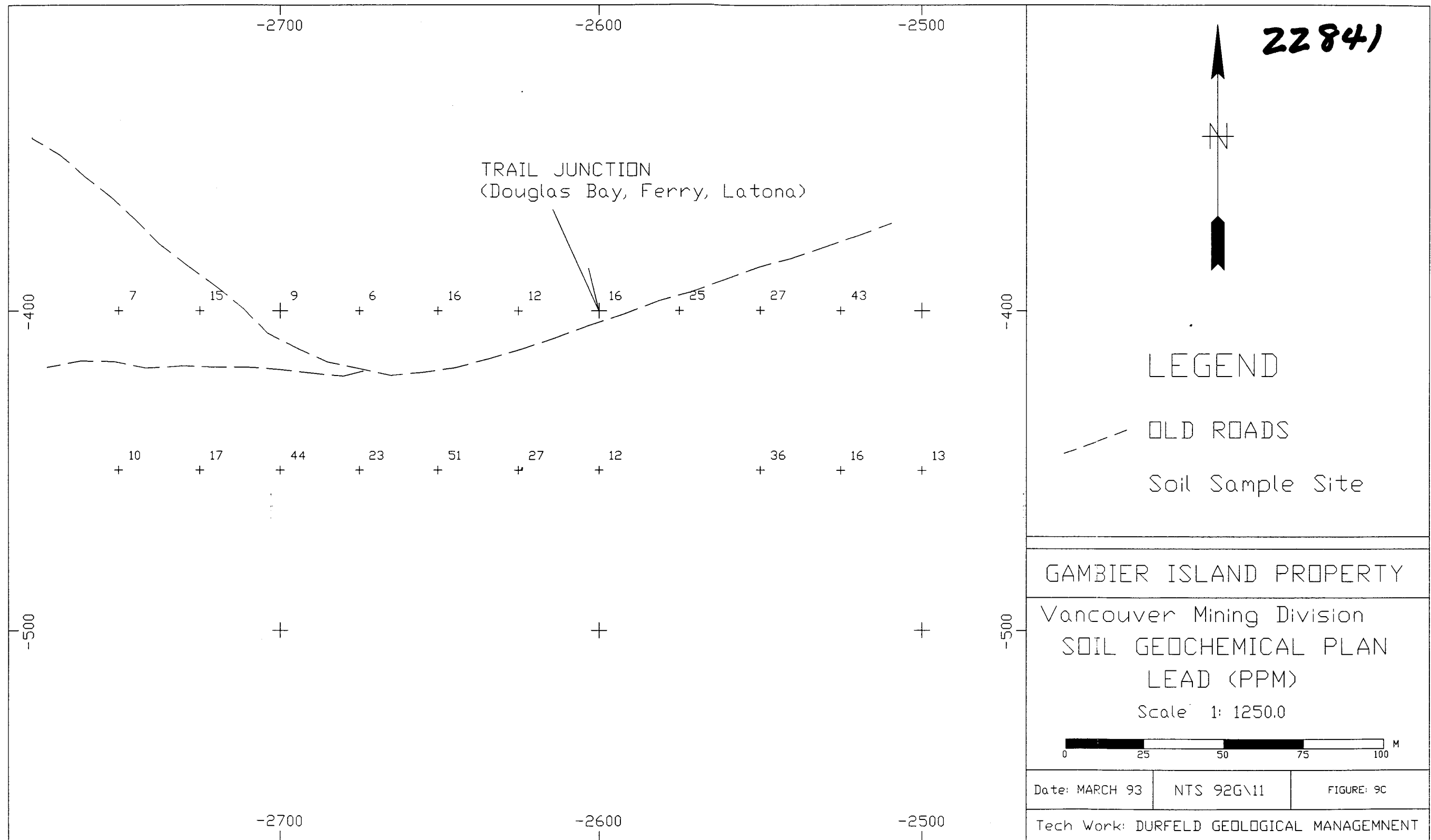


Date: MARCH 93	NTS 92G\11	FIGURE: 7C
----------------	------------	------------

Tech Work: DURFELD GEOLOGICAL MANAGEMENT







-2700

-2600

-2500

-400

-400

-500

-500

-2700

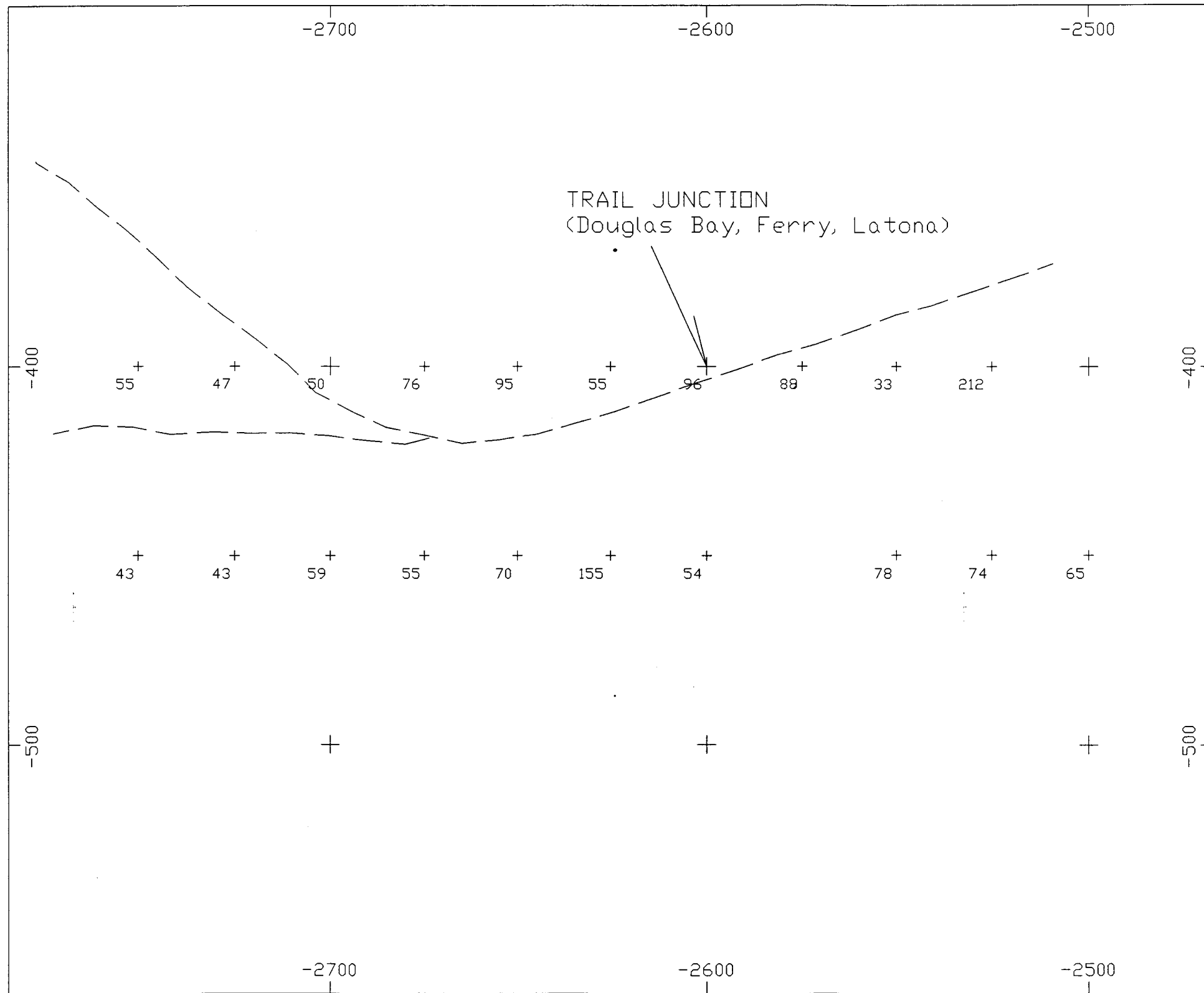
-2600

-2500

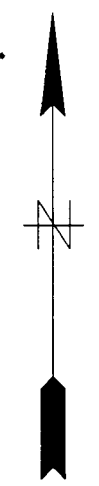
+ 7 + 15 + 9 + 6 + 16 + 12 + 16 + 25 + 27 + 43 +

+ 10 + 17 + 44 + 23 + 51 + 27 + 12 + 36 + 16 + 13 +

+ + +



22841

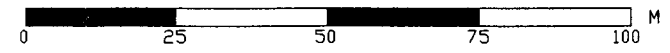


LEGEND

- OLD ROADS
- Soil Sample Site

GAMBIER ISLAND PROPERTY

Vancouver Mining Division  
 SOIL GEOCHEMICAL PLAN  
 ZINC (PPM)  
 Scale 1: 1250.0



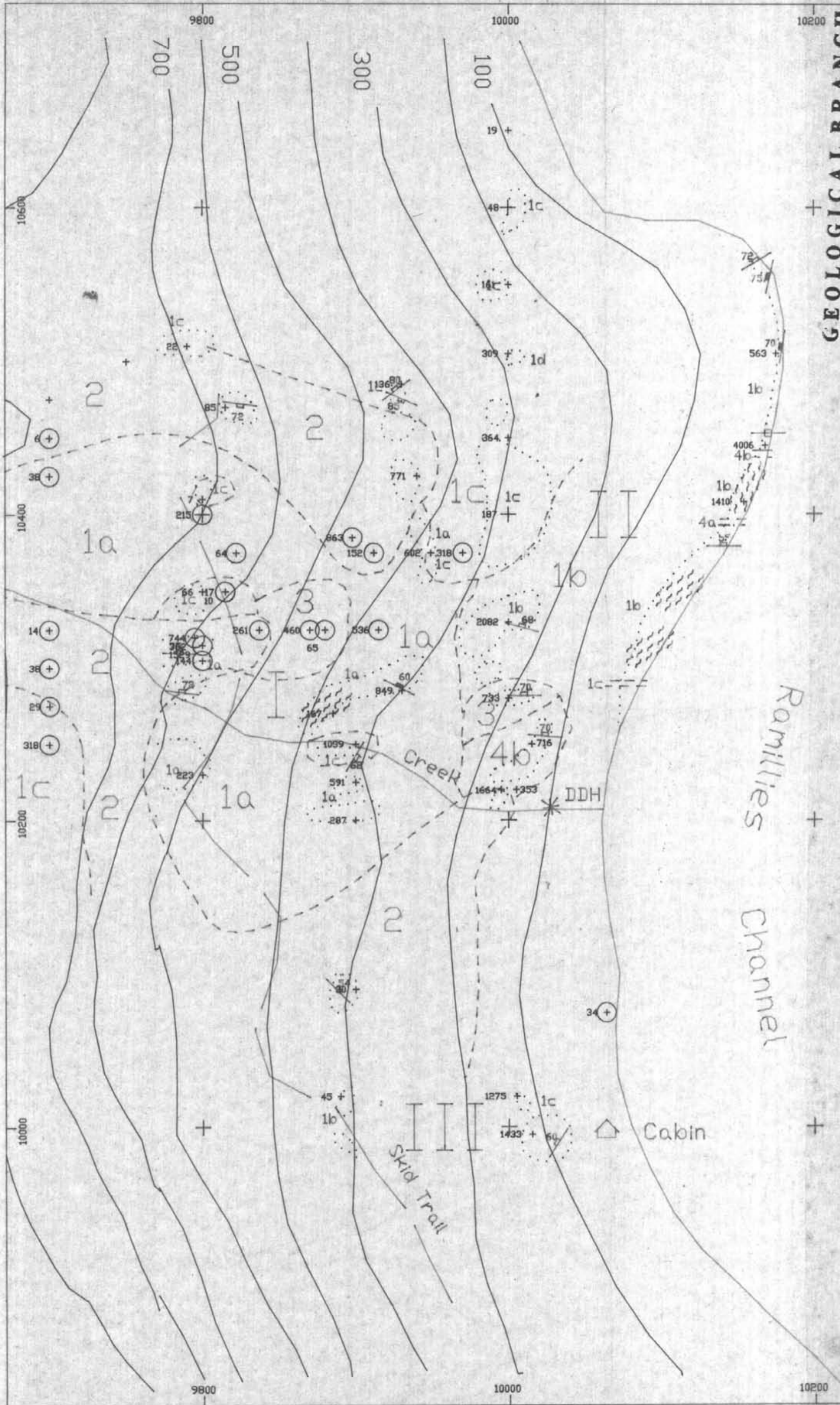
Date: MARCH 93	NTS 92G\11	FIGURE: 10C
----------------	------------	-------------

Tech Work: DURFELD GEOLOGICAL MANAGEMENT



GEOLOGICAL BRANCH  
ASSESSMENT REPORT

222841  
LEGEND

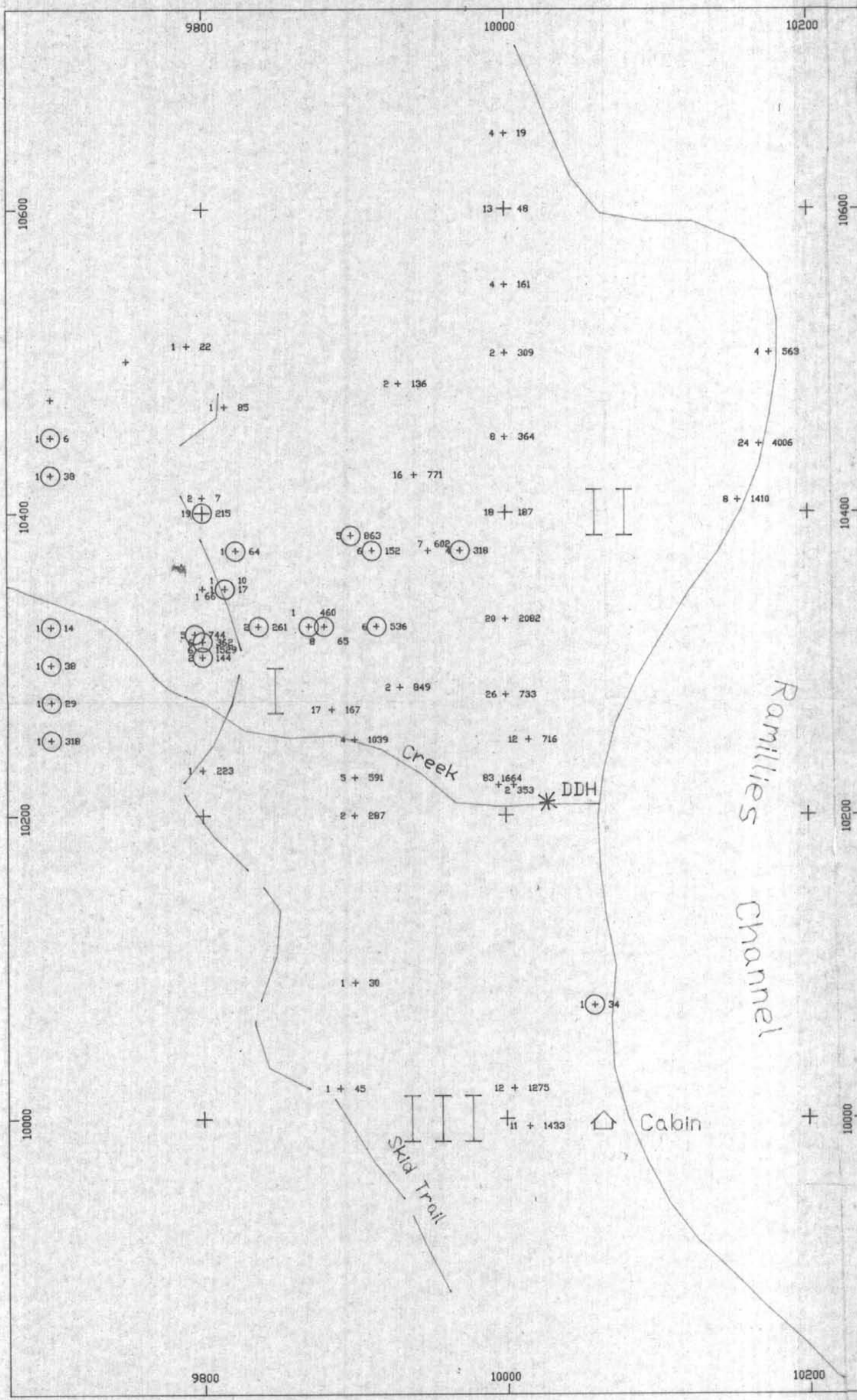


- LITHOLOGY**
- TERTIARY ?
- 4 a) quartz porphyry dykes  
b) quartz-feldspar porphyry dykes
  - 3 Diorite - massive, medium grained, altered
- JURASSIC  
Gambier Group
- 2 Andesite - massive, medium grained
  - 1 Volcanic Sediments and Pyroclastics
    - a) feldspar porphyry
    - b) feldspar-hornblend porphyry
    - c) volcanic breccia
    - d) chert
- SYMBOLS**
- \* Diamond Drill Hole - Gaylord Mines (1972)
  - I Geochemically anomalous zone
  - Outcrop Outline
  - - - Geological Contact
  - ↗ Joint Set strike/dip inclined, vertical
  - ↘ Quartz Vein strike/dip inclined, vertical
  - ▨ Quartz Stockwork or Sheeted Veins
  - 300 Contour Line
  - Skid Trail
  - ~ Creek
  - 4006 + Rock Sample Location with Copper (ppm)
  - ⊕ Rock Sample collected in 1992-93.

GAMBIER ISLAND PROPERTY  
Vancouver Mining Division  
GEOLOGICAL / COPPER PLAN  
COPPER COVE AREA  
Scale 1: 2500.0

0 50 100 150 M

Date: MARCH 93	NTS 92G\11	FIGURE 3A
Tech Work: DURFELD GEOLOGICAL MANAGEMENT		



# LEGEND

- I Geochemically anomalous zone
- 4 + 318 Rock sample location  
Molybdenum (ppm) / Copper (ppm)
- ⊕ Rock Sample Collected in 1992-93
- Skid Trail
- ~ Creek

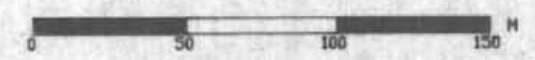
## GEOLOGICAL BRANCH ASSESSMENT REPORT

# 22,841

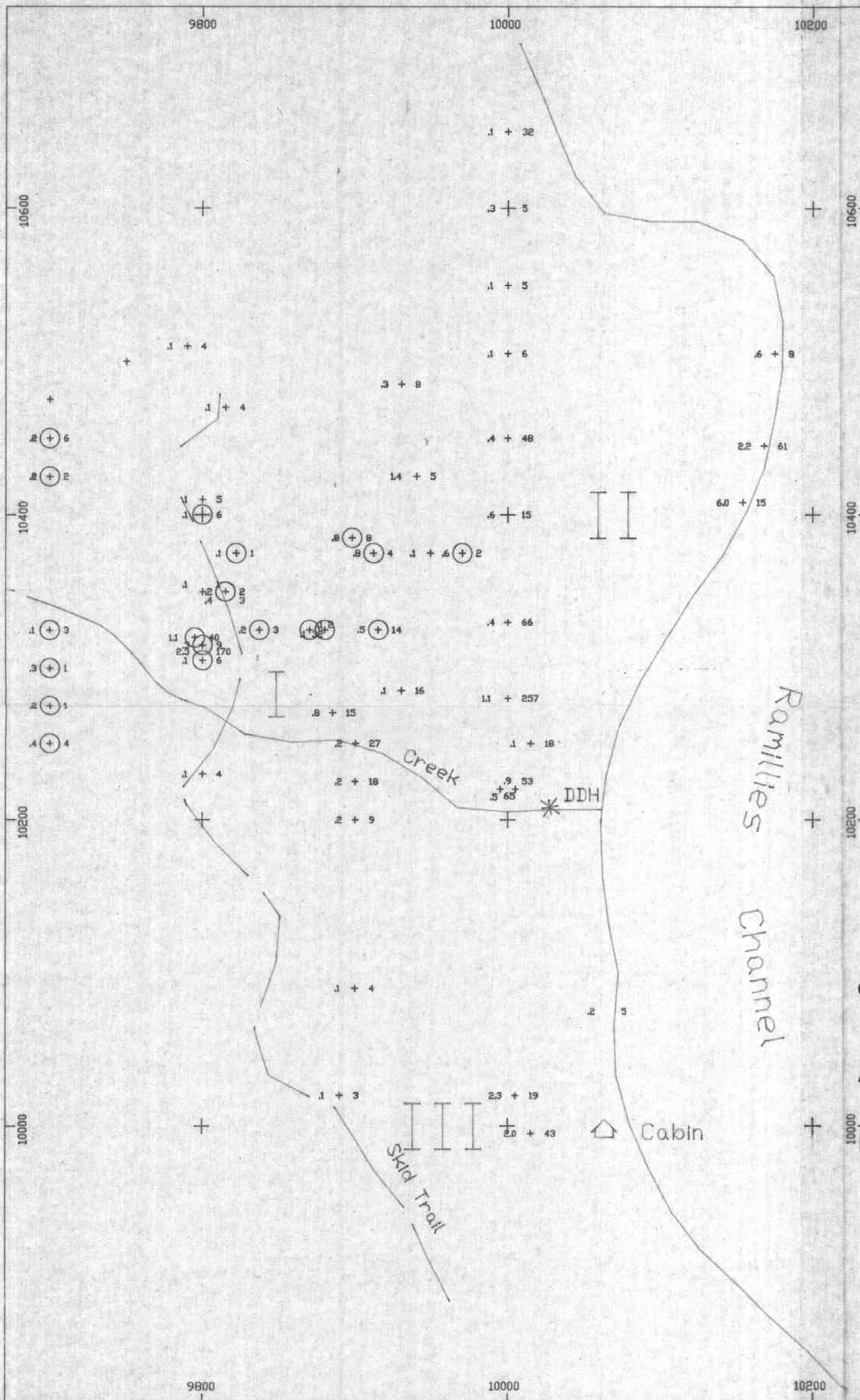
GAMBIER ISLAND PROPERTY

ROCK GEOCHEMICAL PLAN  
COPPER COVE AREA  
COPPER (PPM) / MOLYBDENUM (PPM)

Scale 1: 2500.0



Date: MARCH 93	NTS 92G\11	FIGURE 4A
Tech Work: DURFELD GEOLOGICAL MANAGEMENT		



## LEGEND

- I Geochemically anomalous zone
- 1.4 + 5 Rock sample location  
Silver (ppm) / Gold (ppb)
- ⊕ Rock Sample Collected in 1992-93
- Skid Trail
- ~ Creek

### GEOLOGICAL BRANCH ASSESSMENT REPORT

# 22,841

GAMBIER ISLAND PROPERTY

ROCK GEOCHEMICAL PLAN

COPPER COVE AREA

GOLD (PPB) / SILVER (PPM)

Scale 1: 2500.0

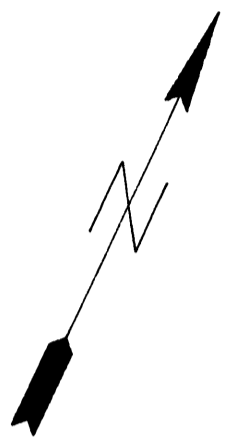
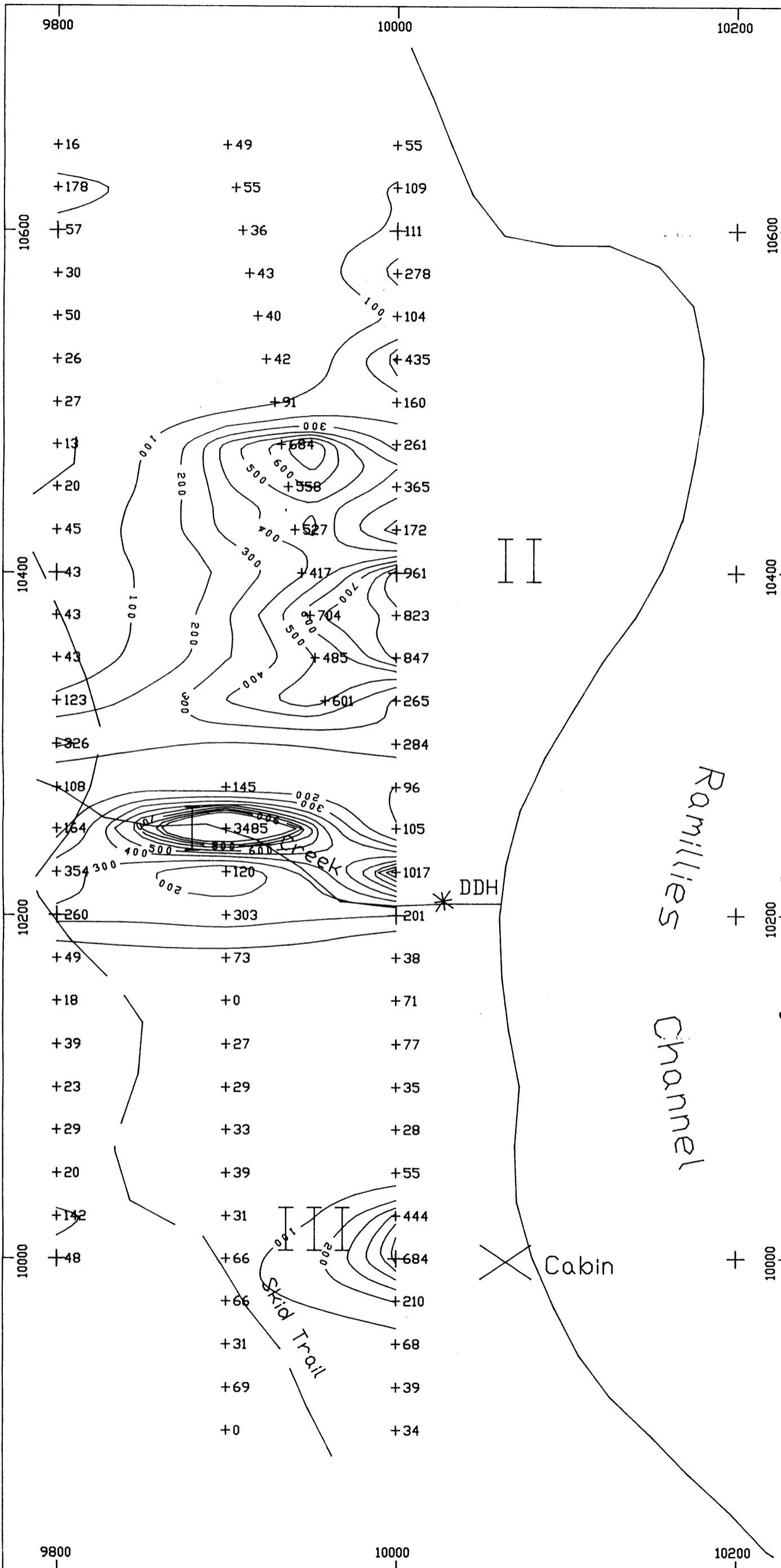


Date: MARCH 93

NTS 92G\11

FIGURE 5A

Tech Work: DURFELD GEOLOGICAL MANAGEMENT



LEGEND

- soil sample location with values in ppm
- contour interval - 100 ppm
- contour minimum - 100 ppm
- contour maximum - 1000 ppm
- III geochemically anomalous zone

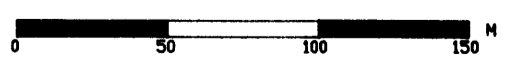
22,841

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

GAMBIER ISLAND PROPERTY

Vancouver Mining Division  
SOIL GEOCHEMICAL PLAN  
CONTOURED COPPER (PPM)

Scale 1: 2500.0



Date: 18 Mar 91	Drawn by: DFD	Figure: 6
technical work: DURFELD GEOLOGICAL MANAGEMENT		



