

LOG NO: DEC 18 1991 RD.
FILE NO:

GEOCHEMISTRY REPORT

**GOATFELL PROPERTY
FORT STEELE AND NELSON MINING DIVISION
BRITISH COLUMBIA**

OPERATOR/OWNER: GORDON LEASK

**SUB-RECORDER
RECEIVED
DEC 11 1991**
M.R. # _____ \$ _____
VANCOUVER, B.C.

**MTS: 82F/1
LAT: 49°08'N
LONG: 116°12'W**

**by: G.Leask, B.Sc.
November 13, 1991**

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

21,939

TABLE OF CONTENTS

	<u>Page</u>
1.0 Introduction	1
2.0 Location, Access & Physiology	1
3.0 Claim Status	1
4.0 Property History	3
5.0 Geochemical Survey	3
6.0 Statement of Expenditures	5
7.0 Statement of Qualifications	6

LIST OF TABLES

1 Claim Status	3
----------------	---

LIST OF FIGURES

1 Location Map	2
2 Claim Map	4
3 Goatfell Property - Zinc Geochemistry	pocket
4 Goatfell Property - Lead Geochemistry	pocket

APPENDICES

1 Geochemical Analysis	
------------------------	--

1.0 INTRODUCTION

The Goat claims cover a stratiform base metal prospect hosted within the Aldridge Formation. Stratigraphically the prospective base metal horizon is situated 600m above the Lower-Middle Aldridge Formation contact. The property was staked in 1985 to protect a large area of tourmaline alteration located on the railway tracks at Goatfell. Subsequent work uncovered an extensive area of tourmalinite float on the south western portion of the Goat 3 claim. This southern tourmalinite occurrence is geochemically distinct from the occurrence on the railway tracks in that it contains galena and sphalerite within an intensely brecciated tourmalinized matrix.

Work during the 1990 and 1991 field seasons by Barkhor Resources and Kokanee Explorations on the Kidd-Star property, located 8km north of Goatfell, identified bedded Pb-Zn-Ag mineralization 600m above the Lower-Middle Aldridge contact. Structural mapping on the Kidd-Star and Goatfell properties has identified an east-west "corridor" of mineralization with Goatfell being the right lateral offset of the Kidd-Star trend. This corridor is marked by tourmalinite, albite, quartz-chlorite-pyrite alteration, crosscutting gabbro intrusive complexes, minette lamprophyre dykes and sills, pervasive stratiform and vein Pb-Zn-Ag mineralization and graben development.

To date only limited soil geochemistry has been performed along the prospective horizon on the Goatfell property. A significant persistent soil Pb-Zn anomaly exists in the central portion of the Goatfell property at the same stratigraphic level as the Kidd-Star mineralization. The 1991 soil geochemistry program was designed to test the prospective horizon in the vicinity of the southern tourmalinite float occurrence.

2.0 LOCATION, ACCESS & PHYSIOGRAPHY

The Goatfell property is located approximately 10km northwest of Yahk, B.C. (Fig 1). It is approximately centred at latitude 49⁰8'N and longitude 116⁰12'W within NTS map sheet 82F/1. A natural gas pipeline and the Canadian Pacific rail line cross the central portion of the property. In addition, several new forestry access roads cross the property and provide excellent access for the entire claim group. Elevations on the Goatfell property range from approximately 800 - 1450m ASL. Topography ranges from a broad open valley to steep cliff forming ridges. Vegetation is dominated by coniferous with lesser deciduous growth.



G. P. LEASK	
LOCATION MAP	
GOATFELL PROPERTY	
DATE: NOV, 1991	SCALE
NTS: 82F/1	FIGURE: 1

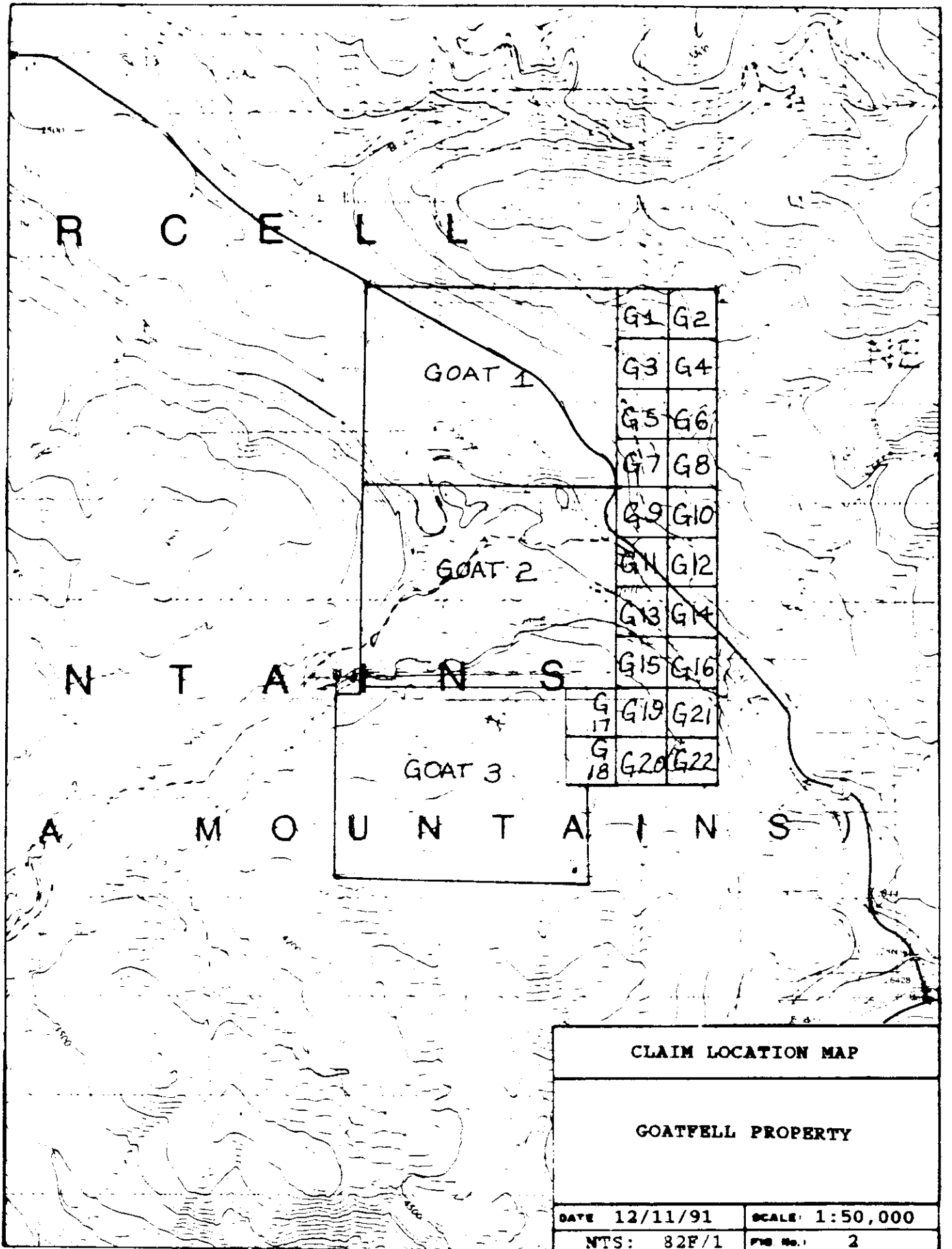
3.0 CLAIM STATUS

<u>Claim Name</u>	<u>Record #</u>	<u># Units</u>	<u>Expiry Date</u>
GOAT 1	4007	20	29 Jan 99
GOAT 2	4008	20	29 Jan 99
GOAT 3	3286	20	07 Feb 99
G1	305687	1	04 Oct 92
G2	305688	1	04 Oct 92
G3	305689	1	04 Oct 92
G4	305690	1	04 Oct 92
G5	305691	1	04 Oct 92
G6	305692	1	04 Oct 92
G7	305693	1	04 Oct 92
G8	305694	1	04 Oct 92
G9	305695	1	04 Oct 92
G10	305696	1	04 Oct 92
G11	305697	1	04 Oct 92
G12	305698	1	04 Oct 92
G13	305699	1	04 Oct 92
G14	305700	1	04 Oct 92
G15	305701	1	05 Oct 92
G16	305702	1	05 Oct 92
G17	305703	1	05 Oct 92
G18	305704	1	05 Oct 92
G19	305769	1	05 Oct 92
G20	305764	1	05 Oct 92
G21	305765	1	05 Oct 92
G22	305766	1	05 Oct 92

4.0 PROPERTY HISTORY

The Goat claims were staked in January of 1985 to protect a large area of tourmaline alteration located on the CPR rail line at Goatfell. Geological mapping during the 1985 field season resulted in the discovery of a zone of tourmalinite breccia in float on the southern portion of the property. In addition two minette dyke/sills were found near the sharp hair pin corner on the rail tracks within the central portion of the property. Geological similarities between Goatfell and the Sullivan mine were recognized and in 1987 the claims were optioned to Chevron Minerals Canada. Four diamond drill holes were drilled during the 1988 and 1989 field seasons with the target stratigraphy being the Sullivan time horizon. The target stratigraphy was not intersected and sulphide mineralization was not encountered. The claims were returned by Chevron to Mr. Leask.

Subsequent exploration on the adjacent Kidd-Star property by Kokanee Explorations and Barkhor Resources discovered a significant zone of stratiform, replacement and vein-like Zn-Pb-Ag mineralization within a stratigraphic interval near the base of the Middle Aldridge formation.



RICE CELL

GOAT 1

GOAT 2

NORTH MOUNTAINS

GOAT 3

AMOUNTAINS

G1	G2	
G3	G4	
G5	G6	
G7	G8	
G9	G10	
G11	G12	
G13	G14	
G15	G16	
G17	G19	G21
G18	G20	G22

CLAIM LOCATION MAP

GOATFELL PROPERTY

DATE 12/11/91

SCALE: 1:50,000

NTS: 82F/1

FIG No.: 2

5.0 GEOCHEMICAL SURVEY

A geochemical survey designed to test the stratigraphic interval 600m above the Sullivan time horizon in the vicinity of the southern tourmalinite occurrence was carried out in the period from October 18 to 28, 1991. In total, 214 soil samples were taken from the 'B' soil horizon using a mattock and placed in kraft bags. The sample bags were air dried then shipped to the Noranda Exploration lab in Vancouver, B.C. for analysis.

The southern grid, lines 00N to 1350N (Figures 3 and 4) constitute the 1991 soil program. The northern geochemical data was obtained from the 1988 Chevron work.

The samples were screend to -35 mesh and then 0.2 g were digested with 3 ml HClO₄/HNO₃ (4:1) at 203°C for 4 hours, diluted to 11 ml with water and analyzed using a Leeman PS3000 ICP unit. The results of the analyses are presented in Appendix 1 and on Figures 3 and 4.

Results of the survey show a Pb-Zn soil anomaly that follows bedding about 600m stratigraphically above the Sullivan Time Horizon for a strike length of 1.2km. It would appear that the tourmaline alteration zone may be the fringes of a footwall breccia pipe associated with stratiform mineralization.

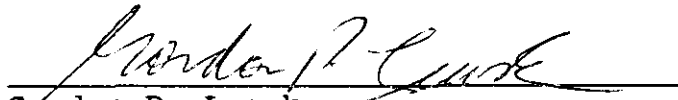
6.0 Statement of Expenditures

Geochemistry:	sampling and grid preparation	
	Gordon Leask	
	7 days @ \$400/day	\$ 2,800.00
Fuel		286.10
Vehicle mileage	3000km @ \$0.30/km	900.00
Lodging	7 days @ \$40/day	280.00
Sample analysis	214 samples @ \$13/sample	2,782.00
Report preparation	2 days @ \$250/day	<u>500.00</u>
	Total	\$ 7,548.10

7.0 STATEMENT OF QUALIFICATIONS

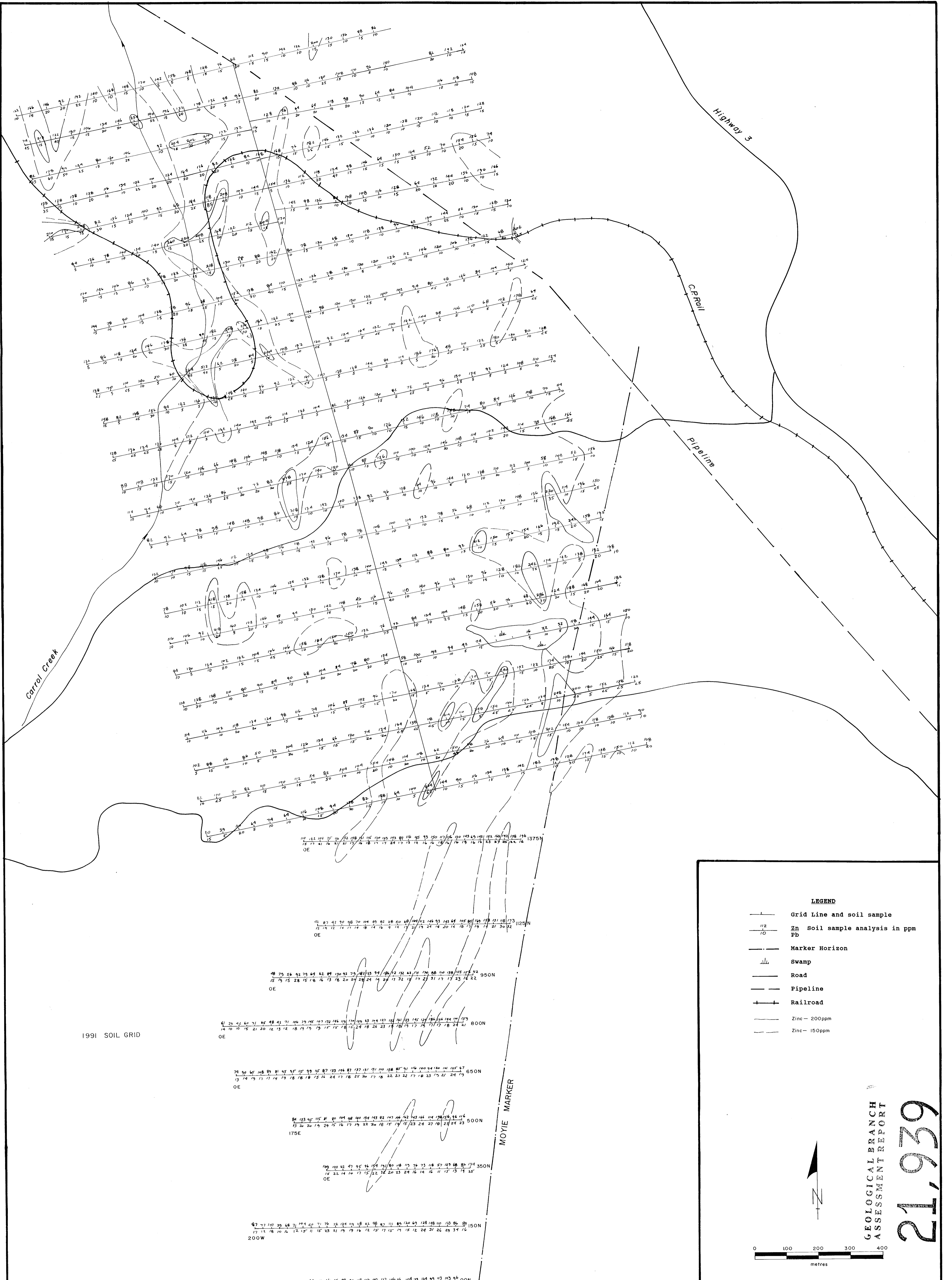
I, Gordon P. Leask, do hereby certify that:

1. I am a geologist with resident at 1940 Chesterfield Avenue, North Vancouver, B.C., V7M 2P5.
2. I am a graduate of the University of British Columbia with a Bachelor of Applied Science degree in Geological Engineering (1985).
3. I have been involved in mining exploration since 1979.


Gordon P. Leask

T.T. No.	SAMPLE No.	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Cu %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cu ppm	Fe %	K %	La ppm	Li ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	Sr ppm	Tl %	V ppm	Zn ppm	0111-012 Pg. 8 of 8
223	1375N-425E	0.2	3.88	6	350	1.2	5	0.27	0.2	54	10	15	22	2.49	0.92	27	26	0.40	359	2	0.09	23	0.07	14	26	0.21	53	117	
224	490	0.2	4.37	2	225	1.0	5	0.16	0.2	34	12	13	18	2.37	0.28	14	27	0.22	531	1	0.24	20	0.23	12	19	0.23	47	156	
225	475	0.2	3.77	6	397	1.0	5	0.22	0.2	45	9	14	17	2.22	0.63	21	26	0.31	523	1	0.16	18	0.09	12	26	0.22	46	130	
226	500	0.2	4.56	3	283	1.3	5	0.23	0.2	54	11	15	19	2.47	0.51	20	28	0.30	679	1	0.20	27	0.11	15	24	0.22	49	143	
227	1375N-525E	0.2	3.39	7	307	1.1	6	0.33	0.2	67	10	14	18	1.99	0.98	33	25	0.41	505	1	0.05	15	0.03	12	25	0.19	49	59	
228	1375N-550E	0.2	3.62	6	273	1.0	5	0.30	0.2	46	12	15	18	2.17	0.48	21	25	0.27	464	2	0.21	20	0.13	12	31	0.22	48	143	
229	575	0.2	4.61	5	353	1.7	5	0.31	0.2	117	16	18	34	2.80	0.76	41	33	0.43	361	1	0.12	33	0.07	19	28	0.22	57	152	
230	600	0.2	5.63	8	371	1.9	5	0.32	0.2	111	18	19	32	3.12	0.72	32	40	0.43	629	2	0.16	40	0.13	23	31	0.24	60	169	
231	625	0.4	4.35	9	328	1.5	5	0.39	0.2	78	15	24	33	2.68	0.77	37	33	0.44	831	2	0.12	29	0.09	21	38	0.23	58	142	
232	1375N-650E	0.2	4.79	5	401	1.3	5	0.37	0.2	65	15	18	26	2.60	0.85	25	33	0.44	1067	1	0.13	32	0.10	18	31	0.22	59	158	
233	1375N-675E	0.2	3.64	5	369	1.0	5	0.37	0.2	61	13	15	20	2.05	0.59	25	30	0.32	730	2	0.19	27	0.17	12	36	0.21	49	196	

Lowest Value :	0.2	2.11	2	177	0.6	5	0.16	0.2	34	4	8	8	1.17	0.21	14	10	0.15	148	1	0.03	6	0.02	5	18	0.13	36	28	L.V.
Highest Value :	0.4	5.72	9	510	3.0	12	0.69	0.2	173	30	24	48	3.55	1.35	69	57	0.59	2047	2	0.29	47	0.37	30	45	0.28	71	196	H.V.
Average Value:	0.22	3.82	3	320	1.2	5	0.29	0.2	67	12	15	21	2.23	0.69	28	27	0.34	653	1	0.12	20	0.08	14	29	0.21	51	106	Avg.
Std Deviation :	0.06	0.64	1	61	0.3	1	0.06	<0.2	24	4	2	6	0.44	0.18	8	6	0.07	362	0	0.04	7	0.05	5	5	0.02	7	34	s.d.



1991 SOIL GRID

1375N
 OE

950N
 OE

BOON
 OE

500N
 175E
 OE

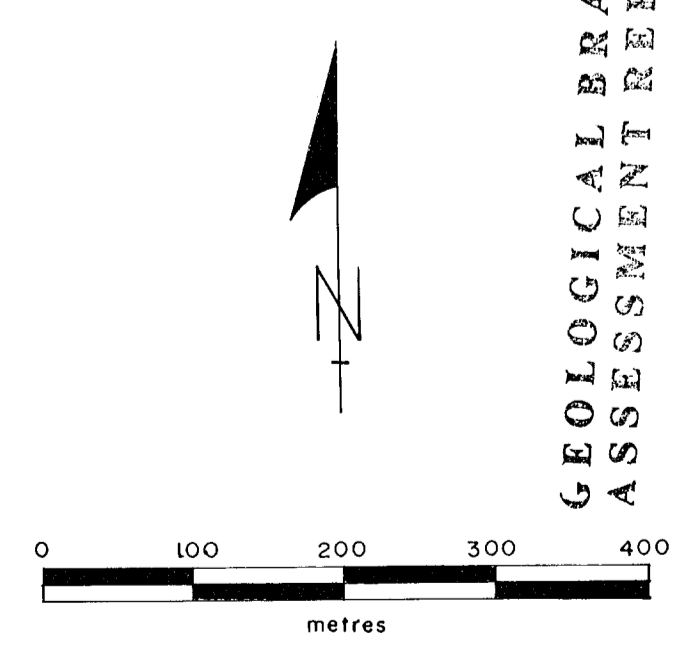
350N
 OE

150N
 200W
 OE

00N
 OE

LEGEND

- Grid Line and soil sample
- Zn Soil sample analysis in ppm
- Pb
- Marker Horizon
- Swamp
- Road
- Pipeline
- Railroad
- Zinc - 200ppm
- Zinc - 150ppm



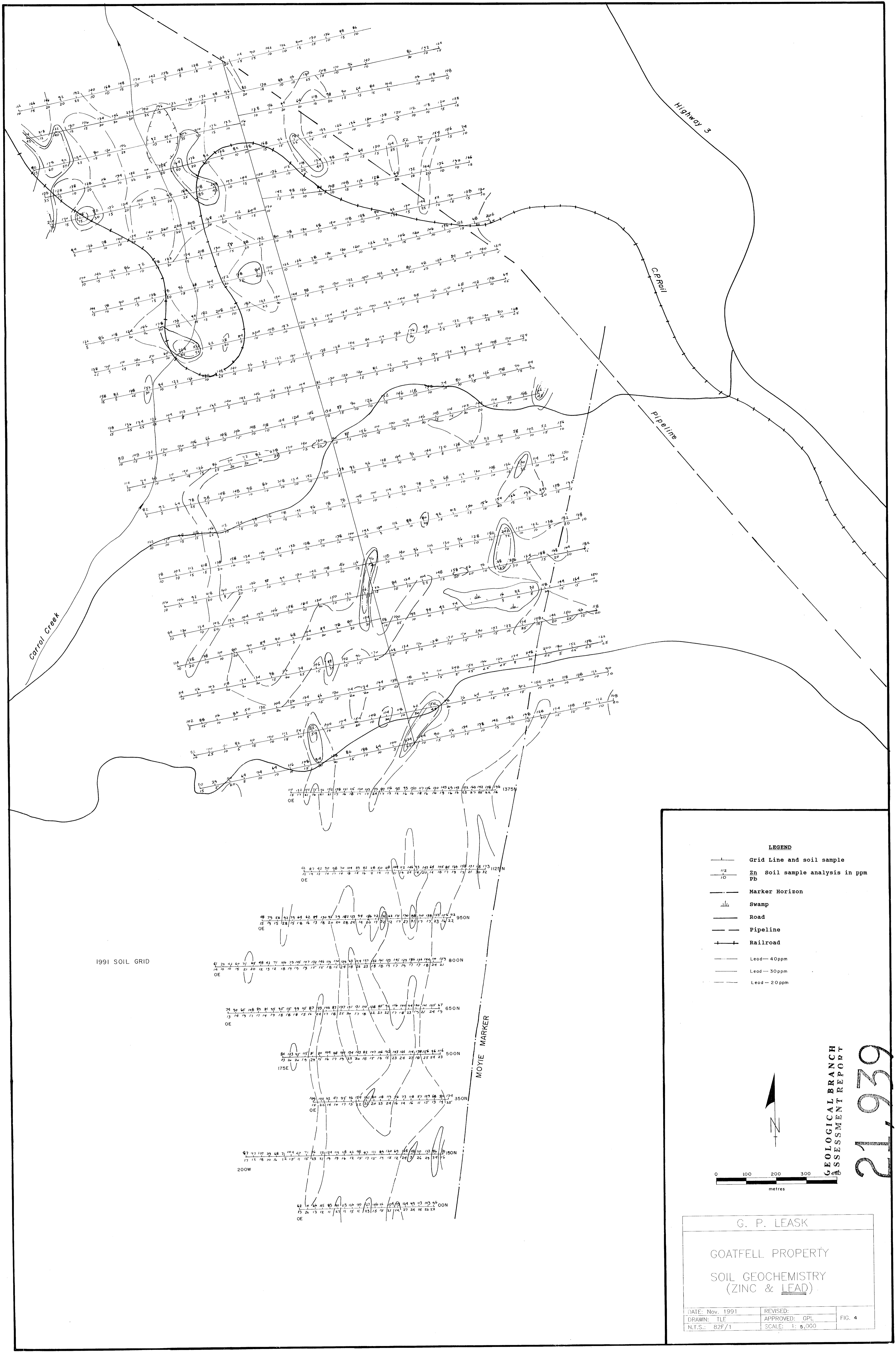
G. P. LEASK

GOATFELL PROPERTY

SOIL GEOCHEMISTRY
 (ZINC & LEAD)

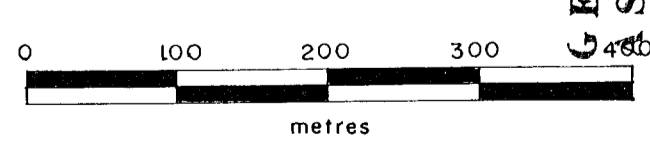
DATE: Nov. 1991	REVISED:	FIG. 3
DRAWN: TLE	APPROVED: GPL	
N.T.S.: 82F/1	SCALE: 1: 5,000	

GEOLOGICAL BRANCH
 ASSESSMENT REPORT
21,939



1991 SOIL GRID

- LEGEND**
- Grid Line and soil sample
 - Zn Soil sample analysis in ppm
 - Pb Soil sample analysis in ppm
 - Marker Horizon
 - Swamp
 - Pipeline
 - Railroad
 - Lead — 40ppm
 - Lead — 30ppm
 - Lead — 20ppm



G. P. LEASK

GOATFELL PROPERTY

SOIL GEOCHEMISTRY
(ZINC & LEAD)

DATE: Nov. 1991	REVISED:	FIG. 4
DRAWN: TLE	APPROVED: GPL	
N.T.S.: 82F/1	SCALE: 1: 5,000	

GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,939