

LOG NO: 1219

RD.

FILE NO:

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

REPORT ON CONTOUR SOIL GEOCHEMISTRY

HALL PROPERTY

HALL 4 CLAIM

NELSON MINING DIVISION

Creston Area
N.T.S. 82F/1

51170

- Assessment Report -

LAT: 49°17'N

LONG: 116°25'W

OWNER

Cominco Ltd.
Kootenay Exploration
1051 Industrial Road #2,
Cranbrook, B.C.
V1C 1K7

Work performed from July 5 to August 5, 1988

Report by: D. Anderson
Submitted: December, 1988

SUBSENDER
DEC 13 1988
M.R. # _____
VANCOUVER, B.C.

18,122

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

REPORT ON CONTOUR SOIL GEOCHEMISTRY

HALL 4 CLAIM

NELSON MINING DIVISION

December, 1988

D. Anderson

1.00 INTRODUCTION

1.10 Location, Physiography, Vegetation, and Access

The Hall property is centered about 22 km north of Creston, B.C. There are 116 claim units in all, covering portions of the headwaters of Arrow, Hall, and Bohan creeks. Hall 4 occurs in the upper reaches of Hall creek, a fairly steep-sided V-shaped valley with a generally thick covering of mature spruce and balsam. Access is gained from Kitchener, B.C. up the main Goat River road then turning west at 11 km, proceeding up the Hall creek logging road access.

1.20 Property Definition

The Hall 4 claim (18 units) was staked in 1987 to cover Pb, Zn potential within the upper, Middle part of the Aldridge Formation. The current owner and operator, Cominco Ltd., is believed to be the first to explore this area for mineral potential.

1.30 Objective of Work

The objective of this preliminary work was to begin evaluation of this ground for Pb and or Zn by conducting soil sampling across the strike of the east-dipping sediments.

2.00 GEOCHEMISTRY

2.10 Sampling Procedure

A total of 64 soil samples were collected on four contour lines, two lines on each side of Hall creek. The samples were spaced at 100 m intervals with soils collected from the B horizon at a depth of 10 to 25 cm.

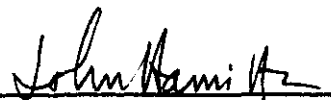
2.20 Analytical Procedure

All samples were shipped to Acme Analytical Laboratories Ltd. in Vancouver, B.C. for ICP 30-element analysis. ICP analysis includes: a -100 mesh, 0.500 gram sample is digested with 3 ml 3-1-2 HCl-HNO₃-H₂O at 95°C for one hour and is diluted to 10 ml with water. The leach is partial for elements bonded in rock forming silicate minerals and total for elements within sulfidic minerals. This analysis is considered quantitatively accurate for base metals of interest - Cu, Pb, and Zn.

3.00 CONCLUSIONS

Some selective logging was done about 10 years previous on the west end of the two southern lines, some soil disturbance did take place. The Pb results show two separate, elevated to anomalous values of 73 and 162 ppm. The Pb threshold is considered to be 100 ppm. There are however no anomalous values for Zn in this survey using a regionally developed threshold of 200 ppm. No mineralization has been located in outcrop but north-trending, discontinuous, locally limonitic quartz veins are known to occur within the Aldridge sediments in this area.

Report by: 
D. ANDERSON
Senior Geologist

Endorsed by: 
J.M. HAMILTON
Manager, Exploration
Western Canada

DA/lrm

xc: Mining Recorder (2 copies) 
Western District Exploration
Kootenay Exploration

EXHIBIT "A"
 STATEMENT OF EXPENDITURES
 For a Contour Soil Geochemistry Program
 On the Hall 4 claim
 Nelson M.D.

SALARIES:

D. Anderson - Supervision, report preparation 2 days @ \$275/day	\$ 550.00
F. Colonna - Sample collection, report prep. 5 days @ \$ 80/day	400.00
G. Colombo - Sample collection 3 days @ \$80/day	240.00


ANALYSES:

Acme Analytical Laboratories, Vancouver 64 samples @ \$7.10/sample	454.40
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TRANSPORTATION: 1 4X4 truck - 4 days @ \$40/day	160.00
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DOMICILE	<u>50.00</u>
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TOTAL =	\$1,854.40 *****
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 D. ANDERSON
 Senior Geologist

IN THE MATTER OF THE
B.C. MINERAL ACT
AND
IN THE MATTER OF A CONTOUR SOIL GEOCHEMISTRY PROGRAM
CARRIED OUT ON THE HALL 4 CLAIM
CRESTON AREA

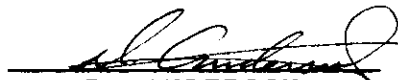
in the Nelson Mining Division of
the Province of British Columbia

More Particularly N.T.S. 82F/1

A F F I D A V I T

I, D. Anderson, of the City of Cranbrook, in the Province of British Columbia, make Oath and say:

1. That I am employed as a Geologist by Cominco Ltd. and as such, have a personal knowledge of the facts to which I hereinafter depose:
2. That annexed hereto and marked as Exhibit "A" to this my Affidavit is a true copy of expenditures incurred on a contour soil geochemistry program, on the Hall 4 Mineral Claim.
3. That the said expenditures were incurred between the 5th day of July, 1988 and the 5th day of August, 1988 for the purpose of mineral exploration.


D. ANDERSON
Senior Geologist

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

AUTHOR'S QUALIFICATIONS


As author of this report I, D. Anderson certify that:

I am employed by Cominco Ltd. as a geologist active in mineral exploration.

I am a graduate of the University of British Columbia with a degree of Bachelor of Applied Science.

I have been continuously engaged in geology and mineral exploration for 19 years.

I am a member of the Association of Professional Engineers of British Columbia.


D. ANDERSON, P.Eng.
Senior Geologist

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 1ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER. THIS LEACH IS PARTIAL FOR ME, FE, SE, CR, P, LA, CE, MG, BA, Y, B, W AND LIMITED FOR NA, K AND AL. AN DETECTION LIMIT BY ICP IS 3 PPM. - SAMPLE TYPE: SOIL

DATE RECEIVED: JUL 11 1988

DATE REPORT MAILED: July 27/88

ASSAYER: C. Leung D. TOYE OR C. LEONG, CERTIFIED B.C. ASSAYERS

KOOTENAY EXPLORATION PROJECT VEX-832-640-W708 File # 88-2816 Page 1

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	V	Sr	Zr	ST	Ca	SO	OL	V	Cr	P	La	Ce	Mg	Ba	Ti	B	Al	Na	K	W
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	
PC 88 141	1	17	23	95	.1	18	8	581	2.52	15	5	ND	4	6	1	2	2	25	.06	.076	12	11	.22	118	.06	3	3.34	.04	.04	1
PC 88 142	1	16	20	95	.1	17	11	493	3.01	19	5	ND	5	5	1	2	4	29	.04	.053	12	12	.27	114	.06	3	4.58	.03	.04	1
PC 88 143	1	23	18	56	.1	16	7	213	3.28	16	5	ND	6	4	1	2	2	30	.02	.028	29	11	.07	46	.01	4	1.07	.01	.05	1
PC 88 144	1	27	37	69	.3	21	17	1119	3.11	19	7	ND	3	13	1	2	2	31	.07	.035	27	11	.53	110	.02	3	2.19	.01	.06	1
PC 88 145	1	23	24	95	.1	24	18	794	3.05	38	5	ND	4	6	1	2	2	38	.04	.032	21	13	.33	120	.02	5	2.06	.01	.08	1
PC 88 146	1	17	14	56	.1	12	6	242	2.97	28	5	ND	7	5	1	2	2	25	.03	.023	35	9	.32	95	.01	2	1.31	.01	.05	1
PC 88 147	1	18	30	91	.1	22	9	645	2.16	28	5	ND	5	8	1	2	2	22	.06	.039	24	9	.36	118	.01	7	2.30	.01	.07	1
PC 88 148	1	15	29	108	.2	22	10	838	2.93	36	5	ND	6	7	1	2	2	28	.06	.104	8	12	.27	84	.09	5	5.03	.02	.04	1
PC 88 149	1	19	34	99	.1	23	11	576	3.24	60	5	ND	4	6	1	3	3	29	.04	.044	15	14	.38	87	.04	3	3.00	.03	.05	1
PC 88 150	2	33	36	95	.2	20	14	388	2.81	43	5	ND	1	23	1	2	2	16	.36	.066	18	11	.45	74	.02	5	1.88	.02	.07	1
PC 88 160	1	47	39	81	.4	28	7	238	3.52	81	5	ND	1	14	1	2	2	28	.18	.038	24	12	.24	81	.05	6	2.52	.03	.07	1
PC 88 161	1	14	31	38	.5	9	5	182	3.02	25	5	ND	3	7	1	2	2	28	.11	.096	9	13	.28	35	.08	3	4.08	.01	.03	1
PC 88 162	1	29	37	82	.5	17	11	2511	3.23	26	5	ND	1	15	1	2	3	38	.28	.049	28	18	.38	134	.03	6	2.96	.02	.06	1
PC 88 163	1	16	27	56	.1	11	12	316	2.95	16	5	ND	4	7	1	2	3	19	.08	.078	13	13	.28	57	.07	10	3.14	.03	.02	1
PC 88 164	1	18	37	38	.1	12	5	94	3.72	42	5	ND	6	8	1	2	2	27	.06	.024	15	14	.18	65	.03	3	2.68	.03	.06	2
PC 88 165	1	25	35	57	.3	23	8	422	3.35	42	6	ND	4	8	1	2	2	25	.05	.026	23	16	.33	199	.02	3	2.44	.01	.09	1
PC 88 166	1	18	14	55	.1	7	4	182	2.94	11	5	ND	4	4	1	2	3	26	.03	.034	14	18	.22	58	.04	2	3.44	.01	.04	1
PC 88 167	1	13	18	45	.2	7	4	294	2.48	6	5	ND	3	4	1	2	2	35	.03	.024	17	9	.16	65	.04	4	2.95	.02	.03	1
PC 88 168	1	35	22	55	.3	22	12	575	3.69	21	3	ND	3	10	1	2	2	37	.13	.037	38	23	.66	89	.02	4	2.77	.01	.08	1
PC 88 169	1	26	39	73	.1	14	7	448	3.93	28	5	ND	1	6	1	4	2	33	.04	.078	18	16	.33	54	.04	4	2.84	.04	.05	2
PC 88 170	1	13	14	52	.1	18	6	768	2.53	16	5	ND	1	24	1	2	2	25	.07	.024	18	6	.17	128	.02	5	3.98	.01	.04	2
PC 88 171	1	16	16	51	.1	18	5	272	3.01	16	5	ND	2	18	1	2	2	37	.14	.024	19	7	.16	66	.03	4	4.08	.01	.06	1
PC 88 172	1	23	35	65	.2	16	14	1776	3.67	21	5	ND	2	24	1	2	2	34	.37	.036	16	11	.42	96	.02	3	1.81	.03	.03	1
PC 88 173	1	48	19	55	.4	26	14	1104	5.88	43	5	ND	1	18	1	2	2	76	.31	.044	24	21	.71	129	.02	4	3.07	.02	.05	1
PC 88 174	1	38	18	73	.3	18	5	435	3.84	11	6	ND	3	13	1	2	2	42	.19	.188	7	9	.24	96	.14	5	4.67	.02	.06	2
PC 88 175	1	35	14	76	.3	12	9	1181	4.96	9	5	ND	1	11	1	2	2	184	.15	.048	11	12	.54	98	.09	7	1.76	.03	.05	1
PC 88 177	1	53	17	71	.1	19	12	382	4.76	17	5	ND	6	6	1	2	2	77	.06	.078	21	13	.88	65	.02	6	2.33	.01	.05	1
STD C	17	37	38	132	6.6	68	28	1853	4.86	42	28	6	36	47	17	28	18	54	.49	.089	38	33	.91	175	.06	38	1.98	.05	.13	11

KOOTENAY EXPLORATION PROJECT VEX-832-640-W708 FILE # 88-2816

SAMPLE#	Mo	Cu	Pb	Zn	Ag	K1	Co	Mn	Fe	As	S	Mo	Tb	Rr	Ce	Sm	Pr	Y	Ca	P	La	Cr	Hg	Ba	Y1	B	Al	Mg	K	V
PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM
GC 88 175	1	15	19	189	.1	17	13	1870	3.70	12	5	ND	1	17	1	2	2	21	.14	.092	10	13	.22	235	.02	3	1.48	.01	.09	1
GC 88 176	1	12	16	90	.1	27	11	3746	2.73	9	5	ND	2	15	1	2	2	22	.12	.086	19	13	.26	236	.04	2	1.47	.01	.06	1
GC 88 177	1	21	20	86	.1	34	11	1380	2.91	32	5	ND	5	10	1	2	2	26	.08	.056	16	14	.37	172	.06	3	3.04	.01	.06	1
GC 88 178	1	36	25	129	.1	28	13	1335	3.17	10	5	ND	10	7	1	2	2	25	.05	.066	10	12	.32	140	.05	3	3.40	.02	.07	1
GC 88 179	1	40	25	65	.3	23	11	800	3.46	7	5	ND	1	14	1	2	2	39	.06	.061	26	13	.56	134	.03	2	2.16	.02	.07	1
GC 88 180	1	14	20	111	.1	16	10	5541	2.73	12	5	ND	1	13	1	2	2	37	.10	.055	12	12	.42	265	.06	7	2.55	.01	.04	1
GC 88 181	1	21	20	93	.1	24	10	514	3.33	21	5	ND	6	7	1	2	2	35	.05	.036	21	10	.60	125	.03	5	2.49	.01	.07	1
GC 88 182	1	13	29	70	.3	20	8	1295	2.67	20	5	ND	3	16	1	2	2	33	.16	.059	7	12	.18	114	.01	6	4.62	.03	.05	1
GC 88 183	1	29	36	125	.2	22	13	435	2.80	19	5	ND	3	7	1	2	2	28	.05	.063	8	14	.26	93	.01	6	5.21	.02	.06	1
GC 88 184	1	15	24	60	.1	11	7	716	2.36	20	5	ND	1	12	1	2	2	33	.11	.030	22	11	.22	114	.02	5	1.40	.01	.06	1
GC 88 185	1	22	22	72	.1	17	10	361	3.80	60	5	ND	5	7	1	2	2	26	.05	.037	23	11	.40	63	.02	2	1.79	.01	.04	1
GC 88 186	1	10	32	104	.1	23	9	556	3.63	60	5	ND	4	7	1	2	2	34	.09	.041	16	15	.44	124	.01	5	1.20	.01	.06	1
GC 88 187	1	12	24	124	.1	24	11	930	2.99	7	5	ND	4	7	1	2	2	32	.06	.053	14	15	.49	110	.07	4	3.59	.01	.06	1
GC 88 188	1	19	21	65	.1	10	6	1054	2.59	10	6	ND	3	10	1	2	2	16	.11	.027	27	7	.16	131	.01	3	1.15	.01	.07	1
GC 88 189	1	5	10	57	.1	6	3	1110	1.60	13	5	ND	1	13	1	2	2	16	.15	.034	25	6	.14	124	.01	2	.65	.01	.00	1
GC 88 197	2	36	43	370	.2	20	16	477	3.60	70	5	ND	1	7	1	2	2	15	.09	.053	20	11	.10	57	.02	6	1.80	.01	.04	1
GC 88 198	2	17	31	59	.2	12	5	155	3.89	34	5	ND	6	3	1	2	2	21	.01	.033	31	13	.61	34	.01	4	1.73	.01	.06	1
GC 88 199	6	96	40	82	.3	7	4	80	11.72	176	5	ND	6	4	1	0	2	20	.04	.150	22	9	.96	22	.02	5	.91	.01	.03	1
GC 88 200	2	25	24	144	.2	13	8	1326	4.01	30	5	ND	2	7	1	2	2	15	.07	.063	20	13	.29	74	.04	6	2.22	.01	.05	1
GC 88 201	1	30	21	60	.2	9	6	167	2.66	14	5	ND	2	7	1	2	2	39	.09	.023	25	12	.39	79	.03	2	1.35	.01	.07	2
GC 88 202	1	19	39	47	.1	11	6	125	2.93	31	5	ND	1	3	1	2	2	13	.02	.026	29	10	.30	36	.01	4	1.49	.01	.06	2
GC 88 203	1	12	35	56	.4	9	3	134	4.07	24	5	ND	4	5	1	2	2	36	.05	.029	23	13	.39	63	.01	2	1.62	.01	.06	1
GC 88 204	1	21	20	27	.2	6	8	204	1.77	3	5	ND	1	6	1	2	2	17	.04	.033	10	7	.11	57	.02	3	2.29	.02	.04	1
GC 88 205	1	21	22	35	.2	11	21	973	3.80	11	3	ND	1	9	1	2	2	65	.11	.030	17	13	.29	73	.12	4	2.07	.02	.04	1
GC 88 206	1	23	29	72	.1	10	11	592	3.70	32	5	ND	4	7	1	2	2	23	.07	.116	13	21	.32	60	.00	4	4.83	.03	.06	1
GC 88 207	1	34	26	60	.1	13	11	1090	4.80	12	3	ND	1	9	1	2	2	69	.13	.035	19	17	.57	70	.06	3	1.86	.02	.07	1
GC 88 208	1	50	162	46	1.0	22	17	2130	3.66	39	5	ND	1	10	1	2	2	37	.19	.040	20	20	.49	84	.02	3	2.12	.01	.09	1
GC 88 209	1	13	16	20	.3	8	4	110	2.46	16	5	ND	3	3	1	2	2	22	.01	.020	15	6	.19	24	.01	4	1.24	.01	.04	1
GC 88 210	1	13	20	34	.2	9	4	280	3.36	21	5	ND	3	6	1	2	2	33	.06	.033	26	8	.17	49	.05	4	1.81	.01	.05	1
GC 88 211	1	21	26	70	.5	15	7	592	2.95	16	6	ND	6	6	1	2	4	31	.04	.044	7	13	.29	77	.10	7	5.29	.03	.06	1
GC 88 212	1	16	16	61	.4	12	6	383	3.80	25	6	ND	5	5	1	2	2	35	.04	.033	19	11	.22	42	.03	7	1.49	.01	.07	1
GC 88 213	1	18	25	54	.9	11	9	1074	3.22	15	5	ND	3	5	1	2	2	60	.04	.044	13	12	.20	83	.06	2	3.82	.02	.07	1
GC 88 214	1	11	21	29	.4	6	3	186	4.83	10	5	ND	7	6	1	2	2	40	.03	.073	8	13	.13	31	.11	3	4.69	.01	.09	1
GC 88 215	1	73	20	41	.9	13	9	1413	2.87	13	6	ND	4	7	1	2	2	61	.05	.062	5	9	.21	39	.13	5	5.15	.02	.06	1
GC 88 216	1	29	73	92	.7	15	8	622	3.69	243	5	ND	2	5	1	2	2	70	.03	.034	11	16	.25	50	.04	3	2.22	.02	.06	1
GC 88 217	1	11	34	35	.1	6	3	196	3.13	89	5	ND	2	4	1	2	2	50	.02	.030	16	11	.13	34	.10	4	1.97	.03	.03	1
STD C	10	59	45	129	7.2	60	29	1067	4.13	42	22	6	60	40	10	10	19	57	.40	.091	30	57	.93	177	.06	36	1.96	.05	.13	11

T 8 T 55

ASSESSMENT BEFORE
GEOCHEMISTRY BRANCH



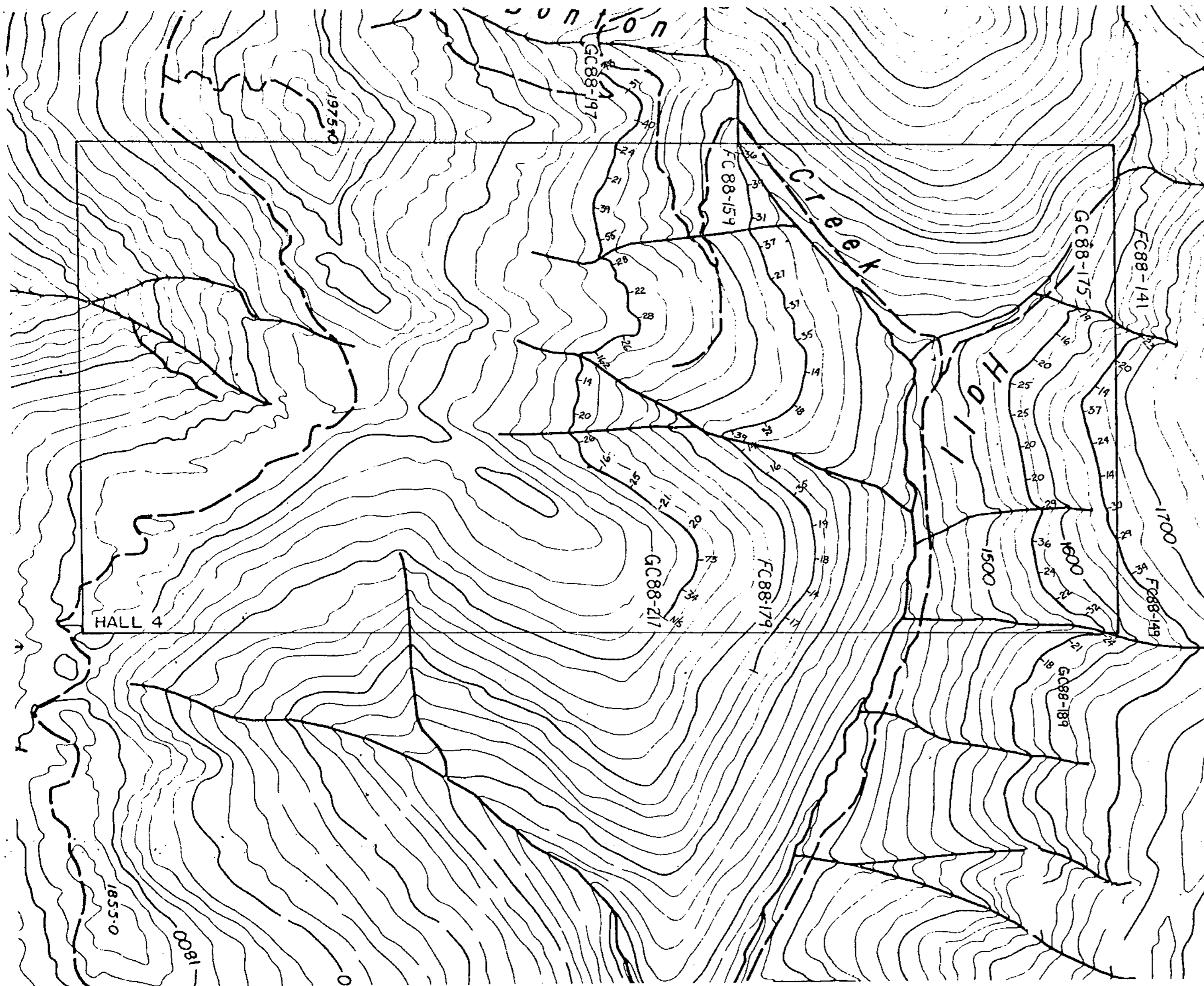
HALL PROPERTY



Drawn by: F.M.C.	Traced by:		
Revised by	Date	Revised by	Date

HALL 4 CLAIM GEOCHEMISTRY

Scale: 1:250,000 Date: DEC. 1988 Plate: 1



GEOLOGICAL BRANCH ASSESSMENT REPORT 500

1 Km

18,122

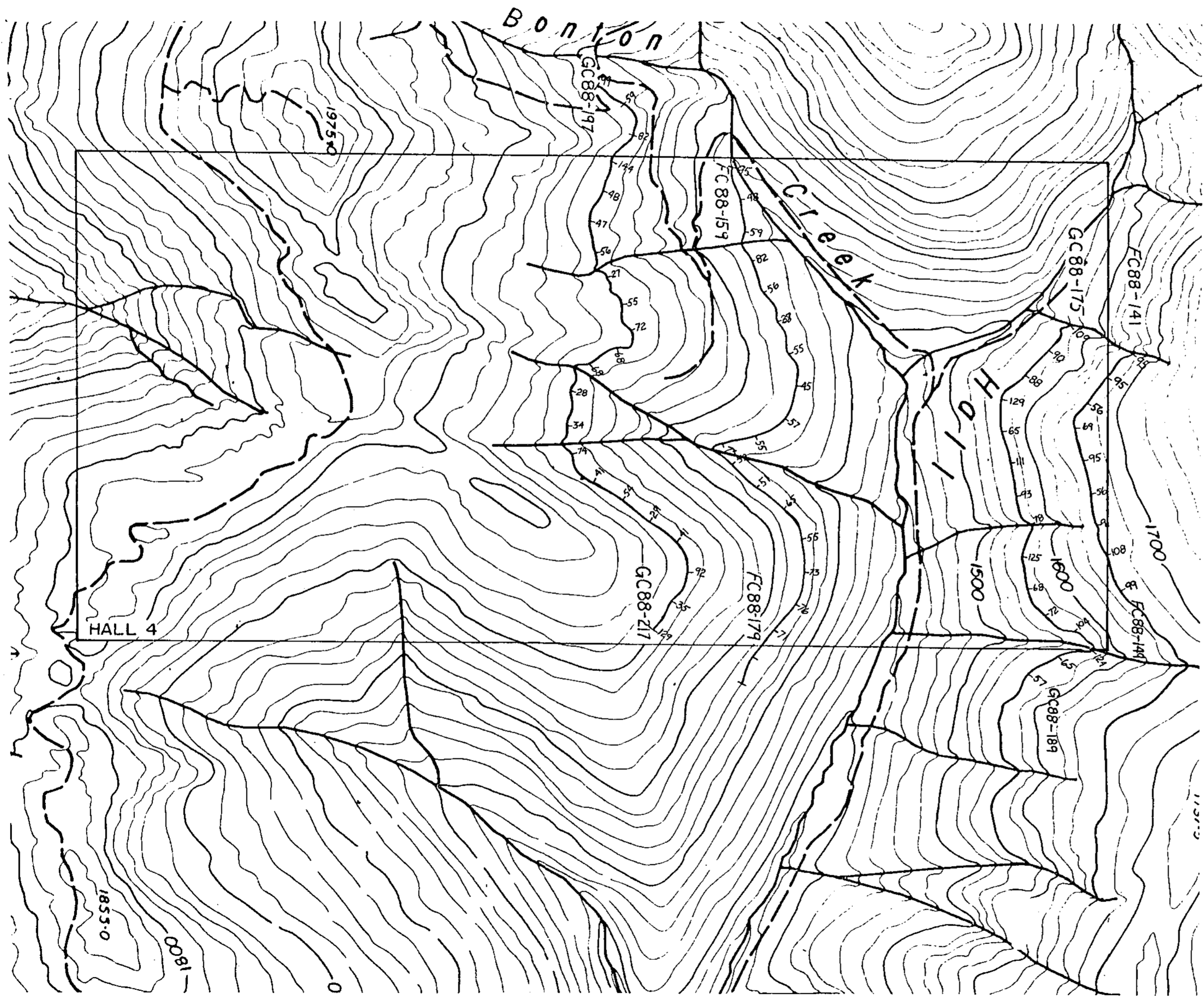
HALL 4 CLAIM



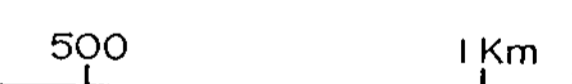
Drawn by: FMC	Traced by:
Revised by: Date	Revised by: Date

SOIL GEO-CHEMISTRY
LEAD VALUES (ppm)

Scale: 1:10,000 Date: OCT, 1988 Plate: 2:A



GEOLOGICAL BRANCH
ASSESSMENT REPORT



18,122

HALL 4 CLAIM



Drawn by: <i>FMC</i>	Traced by:
Revised by: _____	Revised by: _____
_____	_____
_____	_____
_____	_____

SOIL GEO-CHEMISTRY
ZINC VALUES (ppm)

Scale: 1:10,000 Date: OCT, 1988 Plate: 2:B