46-977-15488

PART (2) OF (3)

APPENDICES I-IV TO ACCOMPANY REPORT:

GEOLOGICAL, GEOPHYSICAL AND GEOCHEMICAL SURVEYS AND DIAMOND DRILLING

ECSTALL PROJECT

(RED 1-6,10,13 AND 15, BLUE 1-4, GREEN 1,
MARIPOSITE 1,2 CLAIMS AND SKINNY FR.)

SKEENA MINING DIVISION

NTS 103H/13E, 14W
53°~~52'~~ 50' N, 129°~~30'~~ 31' W

Owner: KIDD CREEK MINES LTD.,
C. GRAF (MARIPOSITE 1,2 Claims only)

Operator: FALCONBRIDGE LIMITED

January, 1987

F.R. Hassard, P.Eng
J. Pattison
J. Uher

APPENDIX I

PERSONNEL AND MAJOR SUPPLIERS

PERSONNEL

NAME	POSITION	DATES ON PROPERTY
FALCONBRIDGE LIMITED		
F.R. Hassard	geologist	May 8,June 1,2,23-July 3,20-30, Aug. 11-14, Sept. 4-22, 1986
J. Pattison	geologist	May 30-July 17, July 24-Sept. 22, 1986
L. Uher	geologist	May 8, May 27-July 28, Aug. 6-Sept. 22, 1986
T. Chambers	cook	June 1-July 13, July 20-Aug. 24, 1986
G. Thomassen	prospector	May 27-June 12, 1986
B. Anderson	assistant	May 27-June 12, 1986
A. Freid	assistant	July 29-Aug. 10, 1986
M. Gerencser	assistant	May 27-July 13, July 20-Aug. 27, 1986
S. Mravunac	assistant	May 30-July 17, July 24-Aug. 18, 1986
MARTINSONS LINECUTTING & STAKING LTD.		
F. Martinson	linecutter	June 4-23, 1986
J. Dorian	linecutter	June 4-23, 1986
M. Nabess	linecutter	June 4-23, 1986
W. Asure	linecutter	June 4-23, 1986
DELTA GEOSCIENCE LTD.		
G.A. Hendrickson	geophysicist	July 5-23, 1986
T. Huttemann	geophysicist	July 5-28, 1986
S. Cosman	geophysicist	July 5-28, 1986
E. Hards	geophysicist	July 5-28, 1986
F. BOISVENU DIAMOND DRILLING LTD.		
R. James	foreman	Sept. 4-22, 1986
L. James	driller	Sept. 4-22, 1986
E. Durette	driller	Sept. 4-22, 1986
A. Cockerill	helper	Sept. 4-22, 1986
D. Green	helper	Sept. 4-22, 1986
B. Leggee	cook	Sept. 4-22, 1986

MAJOR SUPPLIERS

FIXED-WING AIRCRAFT

Canadian Pacific Airlines Ltd.
Vancouver, Prince Rupert and Terrace, B.C.

North Coast Air Services Ltd.
Prince Rupert, B.C.

Pacific Western Airlines Ltd.
Vancouver, B.C.

Trans Provincial Airlines Ltd.
Prince Rupert, B.C.

HELICOPTERS

Okanagan Helicopters Ltd.
Terrace, B.C.

BARGE TRANSPORTATION

Wainwright Marine Services Ltd.
Prince Rupert, B.C.

GROCERIES

Overwaitea Foods Ltd.
Prince Rupert and Terrace, B.C.

ANALYTICAL SERVICES

Bondar-Clegg & Company Ltd.
North Vancouver, B.C.

X-Ray Assay Laboratories Limited
Don Mills, Ont.

FUEL

Chevron Canada Limited
Prince Rupert, B.C.

APPENDIX II

WHOLE ROCK ANALYSES

WHOLE ROCK ANALYSES

All analyses were performed by X-Ray Assay Laboratories Ltd. of Don Mills, Ontario. Major oxides plus Rb, Sr, Y, Zr, Nb and Ba were determined by X-ray fluorescence. Major oxides are reported as weight percent and all iron is expressed as Fe_2O_3. Gold is reported in parts per billion and the remaining elements in parts per million. Trace and rare earth elements were analyzed as follows:

ELEMENT	METHOD	DETECTION LIMIT	
Au	NA	10	ppb
Au	FA,DCP	1	ppb
V	DCP	10	ppm
Cr	NA	2	ppm
Mn	DCP	2	ppm
Co	NA	1	ppm
Ni	DCP	1	ppm
Cu	DCP	0.5	ppm
Zn	DCP	0.5	ppm
Ge	DCP	10	ppm
As	NA	2	ppm
Se	NA	3	ppm
Mo	NA	5	ppm
Ag	DCP	0.5	ppm
Cd	DCP	0.2	ppm
Cs	NA	0.5	ppm
La	NA	0.5	ppm
Ce	NA	3	ppm
Nd	NA	5	ppm
Sm	NA	0.1	ppm
Eu	NA	0.2	ppm
Yb	NA	0.2	ppm
Lu	NA	0.05	ppm
Hf	NA	1	ppm
Pb	DCP	2	ppm

AA = Atomic absorbtion
DCP = Plasma emission
FA = Fire assay
NA = Neutron activation
N.A.= Not analyzed
LOI = Loss on ignition

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20701	AB20702	AB20703	AB20704	AB20705	AB20706
SIO2	59.50	61.40	51.00	66.10	62.10	63.80
AL2O3	17.60	10.40	16.20	16.10	15.00	16.60
FE2O3	8.00	13.60	8.31	5.42	6.31	5.39
MNO	0.16	N.A.	0.18	0.14	N.A.	N.A.
MGO	1.66	2.90	8.86	0.39	4.54	1.79
CAO	2.68	0.10	5.92	5.01	4.07	5.42
NA2O	5.20	0.26	2.55	4.35	4.75	3.33
K2O	0.55	2.55	1.36	0.94	0.18	1.04
TIO2	0.28	0.30	0.59	0.18	0.40	0.39
P2O5	0.13	0.05	0.06	0.06	0.07	0.11
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	2.31	8.62	3.08	1.24	1.77	2.31
TOTAL	98.07	100.18	98.11	99.92	99.19	100.18
AU	< 10.00	20.00	20.00	< 10.00	< 10.00	10.00
V	20.00	50.00	260.00	10.00	140.00	90.00
CR	49.00	100.00	490.00	83.00	250.00	94.00
MN	N.A.	290.00	N.A.	N.A.	820.00	730.00
CO	4.00	6.00	32.00	2.00	18.00	11.00
NI	4.00	8.00	100.00	7.00	66.00	8.00
CU	190.00	37.00	85.00	26.00	7.00	130.00
ZN	280.00	680.00	180.00	45.00	76.00	82.00
GE	10.00	< 10.00	< 10.00	< 10.00	< 10.00	10.00
AS	21.00	130.00	10.00	3.00	< 2.00	6.00
SE	9.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CD	< 0.20	2.00	< 0.20	< 0.20	< 0.20	< 0.20
CS	< 1.50	1.60	< 1.80	< 1.30	< 1.70	1.80
LA	38.60	9.80	5.60	42.00	11.70	20.10
CE	66.00	20.00	15.00	70.00	24.00	30.00
ND	21.00	9.00	5.00	27.00	10.00	12.00
SM	6.10	3.00	2.20	5.90	3.20	2.70
EU	0.80	0.50	0.70	0.80	0.80	0.80
YB	4.10	2.80	2.30	4.00	2.90	1.40
LU	0.82	0.53	0.42	0.75	0.52	0.27
HF	5.00	3.00	2.00	6.00	3.00	2.00
PB	70.00	30.00	22.00	12.00	4.00	8.00
RB	10.00	60.00	30.00	30.00	10.00	30.00
SR	380.00	< 10.00	130.00	720.00	130.00	600.00
Y	40.00	30.00	10.00	40.00	20.00	20.00
ZR	190.00	80.00	20.00	210.00	60.00	50.00
NB	30.00	< 10.00	10.00	20.00	10.00	10.00
BA	7570.00	1640.00	4390.00	620.00	130.00	580.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20707	AB20708	AB20709	AB20710	AB20711	AB20712
SIO2	69.20	61.80	81.00	95.70	62.30	89.80
AL2O3	13.90	14.30	8.76	1.94	17.50	3.75
FE2O3	5.16	7.16	2.92	0.51	5.25	1.30
MNO	N.A.	0.16	N.A.	N.A.	N.A.	N.A.
MGO	2.14	6.59	0.29	0.19	2.50	1.11
CAO	0.50	1.01	0.60	0.04	3.46	0.40
NA2O	0.58	1.10	0.32	0.02	3.40	0.39
K2O	3.24	1.46	2.42	0.40	1.71	0.58
TIO2	0.42	0.56	0.63	0.10	0.43	0.13
P2O5	0.10	0.09	0.07	0.02	0.12	0.03
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	4.47	5.24	2.23	0.62	2.62	0.85
TOTAL	99.71	99.47	99.24	99.54	99.29	98.34
AU	< 10.00	10.00	10.00	< 10.00	< 10.00	10.00
V	80.00	190.00	100.00	50.00	100.00	60.00
CR	140.00	110.00	230.00	190.00	82.00	140.00
MN	420.00	N.A.	150.00	66.00	860.00	250.00
CO	8.00	8.00	9.00	1.00	10.00	4.00
NI	10.00	15.00	21.00	10.00	8.00	55.00
CU	20.00	9.50	20.00	5.50	17.00	23.00
ZN	55.00	200.00	14.00	9.50	81.00	54.00
GE	< 10.00	< 10.00	< 10.00	10.00	< 10.00	10.00
AS	13.00	12.00	< 2.00	< 2.00	3.00	< 2.00
SE	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	1.00	< 0.50	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	1.50	1.50	< 0.90	0.70	2.20	0.80
LA	11.30	8.90	14.80	2.10	18.40	5.10
CE	22.00	19.00	27.00	3.00	30.00	8.00
ND	13.00	9.00	11.00	< 5.00	14.00	< 5.00
SM	3.40	3.10	2.30	0.30	2.60	0.90
EU	0.40	0.60	0.40	< 0.20	0.60	0.40
YB	3.50	2.80	1.50	0.40	1.20	0.60
LU	0.64	0.53	0.30	0.08	0.22	0.12
HF	3.00	3.00	3.00	< 1.00	2.00	1.00
PB	74.00	52.00	12.00	< 2.00	4.00	< 2.00
RB	70.00	30.00	80.00	< 10.00	80.00	40.00
SR	50.00	50.00	20.00	60.00	390.00	90.00
Y	30.00	20.00	20.00	< 10.00	10.00	< 10.00
ZR	80.00	70.00	60.00	< 10.00	50.00	< 10.00
NB	20.00	20.00	10.00	10.00	< 10.00	20.00
BA	1160.00	640.00	2040.00	6050.00	760.00	9120.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20713	AB20714	AB20715	AB20716	AB20717	AB20718
SIO2	90.30	75.30	76.70	33.10	70.90	62.00
AL2O3	4.33	12.20	12.90	19.20	11.90	18.30
FE2O3	1.08	2.36	1.53	13.70	4.04	5.33
MNO	N.A.	N.A.	N.A.	0.20	N.A.	N.A.
MGO	0.97	0.93	0.63	12.70	2.33	2.26
CAO	0.36	1.54	0.14	5.21	4.97	3.90
NA2O	0.09	4.81	0.56	1.65	1.02	4.38
K2O	1.41	1.08	3.53	0.91	1.58	1.30
TIO2	0.22	0.28	0.44	1.17	0.26	0.38
P2O5	0.12	0.21	0.04	0.12	0.05	0.21
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	0.70	1.24	2.62	8.85	2.08	1.85
TOTAL	99.58	99.94	99.09	96.81	99.13	99.91
AU	< 10.00	< 10.00	20.00	< 10.00	< 10.00	< 10.00
V	90.00	40.00	290.00	250.00	10.00	100.00
CR	220.00	120.00	190.00	660.00	100.00	86.00
MN	360.00	420.00	80.00	N.A.	830.00	590.00
CO	11.00	4.00	1.00	48.00	3.00	12.00
NI	43.00	11.00	7.00	240.00	14.00	13.00
CU	27.00	7.00	9.00	24.00	1.00	40.00
ZN	63.00	61.00	37.00	210.00	75.00	50.00
GE	< 10.00	10.00	10.00	10.00	< 10.00	< 10.00
AS	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
SE	< 3.00	< 3.00	< 3.00	4.00	< 3.00	< 3.00
MO	7.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	0.50	< 0.50	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	0.90	1.60	< 1.10	2.40	< 0.90	< 1.40
LA	10.10	19.50	9.50	4.40	18.30	48.50
CE	23.00	35.00	16.00	12.00	42.00	70.00
ND	11.00	15.00	7.00	< 5.00	21.00	26.00
SM	2.20	3.80	1.70	2.20	6.00	4.80
EU	0.60	0.40	0.40	0.90	0.80	1.00
YB	1.10	3.00	0.80	1.30	6.80	2.70
LU	0.21	0.60	0.15	0.22	1.29	0.51
HF	1.00	5.00	1.00	1.00	6.00	4.00
PB	< 2.00	4.00	24.00	4.00	< 2.00	6.00
RB	50.00	30.00	70.00	30.00	50.00	50.00
SR	10.00	390.00	80.00	140.00	120.00	400.00
Y	10.00	60.00	< 10.00	10.00	80.00	< 10.00
ZR	20.00	140.00	10.00	20.00	170.00	110.00
NB	10.00	10.00	10.00	20.00	20.00	10.00
BA	860.00	1310.00	1730.00	690.00	370.00	920.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20719	AB20720	AB20721	AB20722	AB20723	AB20724
SIO2	48.30	45.90	93.70	50.50	47.10	98.00
AL2O3	24.80	16.70	2.31	14.70	16.60	0.30
FE2O3	6.87	10.00	1.16	12.40	10.70	0.28
MNO	N.A.	N.A.	N.A.	0.19	0.28	N.A.
MGO	0.75	5.74	0.89	4.22	7.67	0.02
CAO	5.00	6.48	0.15	9.00	10.60	0.09
NA2O	4.07	3.48	0.09	3.31	2.91	0.04
K2O	3.22	1.62	0.33	0.54	0.33	0.06
TIO2	1.37	1.01	0.14	2.59	1.55	0.06
P2O5	0.18	0.17	0.03	0.57	0.17	0.02
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	4.62	7.62	0.93	0.93	1.08	0.39
TOTAL	99.18	98.72	99.73	98.95	98.99	99.26
AU	< 10.00	40.00	30.00	10.00	10.00	10.00
V	560.00	310.00	70.00	350.00	290.00	< 10.00
CR	370.00	380.00	160.00	220.00	300.00	180.00
MN	58.00	750.00	220.00	N.A.	N.A.	20.00
CO	57.00	29.00	5.00	29.00	44.00	1.00
NI	200.00	86.00	13.00	110.00	120.00	8.00
CU	120.00	69.00	55.00	24.00	25.00	1.00
ZN	120.00	120.00	39.00	100.00	83.00	2.50
GE	10.00	10.00	10.00	< 10.00	20.00	10.00
AS	26.00	4.00	< 2.00	< 2.00	< 2.00	< 2.00
SE	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00
MO	21.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	3.10	3.30	1.00	< 1.70	< 1.70	< 0.50
LA	10.60	5.90	7.40	24.60	7.70	2.70
CE	14.00	20.00	19.00	54.00	22.00	6.00
ND	11.00	10.00	5.00	32.00	15.00	< 5.00
SM	3.50	2.80	1.50	8.20	4.10	0.30
EU	1.40	1.00	0.20	1.50	1.10	< 0.20
YB	2.70	2.60	0.70	4.40	2.80	0.20
LU	0.61	0.51	0.14	0.73	0.50	< 0.05
HF	3.00	2.00	1.00	6.00	4.00	1.00
PB	6.00	6.00	4.00	4.00	8.00	6.00
RB	90.00	50.00	20.00	10.00	< 10.00	< 10.00
SR	450.00	120.00	20.00	300.00	410.00	< 10.00
Y	20.00	30.00	< 10.00	40.00	20.00	10.00
ZR	70.00	60.00	20.00	270.00	100.00	40.00
NB	10.00	< 10.00	10.00	20.00	30.00	< 10.00
BA	540.00	250.00	870.00	130.00	280.00	120.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20725	AB20726	AB20727	AB20728	AB20730	AB20733
SIO2	63.50	54.90	48.60	81.10	19.00	75.20
AL2O3	14.20	15.70	18.40	6.57	2.38	10.70
FE2O3	9.05	7.91	10.80	5.09	50.50	4.12
MNO	N.A.	N.A.	0.18	N.A.	N.A.	N.A.
MGO	1.06	3.81	7.49	0.51	0.13	0.75
CAO	0.08	4.59	3.10	0.08	0.23	0.20
NA2O	0.72	2.24	0.96	0.22	0.34	1.57
K2O	3.56	2.67	2.50	1.80	0.41	2.17
TIO2	0.49	0.63	0.91	0.24	0.09	0.44
P2O5	0.06	0.08	0.11	0.04	0.02	0.06
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	6.24	6.00	6.93	3.39	26.93	3.00
TOTAL	98.95	98.53	99.98	99.04	100.03	98.21
AU	40.00	30.00	< 10.00	60.00	70.00	40.00
V	270.00	270.00	310.00	120.00	20.00	190.00
CR	820.00	60.00	71.00	330.00	130.00	490.00
MN	84.00	810.00	N.A.	58.00	26.00	64.00
CO	20.00	24.00	33.00	14.00	23.00	17.00
NI	77.00	35.00	31.00	53.00	< 1.00	65.00
CU	49.00	93.00	26.00	130.00	330.00	72.00
ZN	23.00	60.00	100.00	74.00	1200.00	53.00
GE	10.00	< 10.00	< 10.00	< 10.00	< 10.00	< 10.00
AS	130.00	21.00	16.00	59.00	280.00	110.00
SE	3.00	< 3.00	< 3.00	< 3.00	75.00	< 3.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	4.50	0.50
CD	< 0.20	< 0.20	< 0.20	< 0.20	4.00	< 0.20
CS	< 1.60	< 1.50	2.50	< 1.10	2.10	2.40
LA	2.70	3.30	5.80	3.40	4.30	3.50
CE	8.00	12.00	16.00	8.00	7.00	6.00
ND	< 5.00	< 5.00	9.00	< 5.00	5.00	< 5.00
SM	0.90	1.30	2.50	1.20	1.00	0.80
EU	< 0.20	0.60	0.80	0.50	0.30	0.60
YB	0.70	1.50	2.20	1.20	0.60	0.90
LU	0.13	0.30	0.36	0.20	0.07	0.14
HF	1.00	1.00	2.00	< 1.00	1.00	< 1.00
PB	18.00	10.00	< 2.00	22.00	46.00	4.00
RB	110.00	70.00	60.00	90.00	< 10.00	60.00
SR	30.00	40.00	50.00	10.00	< 10.00	90.00
Y	< 10.00	10.00	20.00	< 10.00	< 10.00	10.00
ZR	10.00	50.00	40.00	< 10.00	< 10.00	< 10.00
NB	10.00	10.00	20.00	10.00	10.00	10.00
BA	7930.00	450.00	540.00	870.00	370.00	8570.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20734	AB20735	AB20736	AB20737	AB20739	AB20740
SIO2	62.90	51.10	59.20	71.60	59.80	74.30
AL2O3	16.90	16.30	7.21	14.50	15.20	13.40
FE2O3	5.27	9.59	20.30	3.06	7.96	2.13
MNO	N.A.	0.15	N.A.	N.A.	0.14	N.A.
MGO	2.07	4.59	0.19	0.88	3.41	0.56
CAO	1.22	6.00	0.09	0.48	5.89	1.62
NA2O	4.41	4.52	0.77	0.52	1.77	6.19
K2O	2.85	2.31	1.71	4.03	1.12	0.47
TIO2	0.46	1.32	0.21	0.49	0.70	0.26
P2O5	0.19	0.58	0.02	0.25	0.12	0.05
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	2.46	3.23	10.70	3.39	2.70	1.16
TOTAL	98.74	99.70	100.40	99.20	98.81	100.14
AU	20.00	< 10.00	40.00	< 10.00	20.00	10.00
V	120.00	220.00	120.00	340.00	130.00	10.00
CR	72.00	96.00	240.00	320.00	140.00	85.00
MN	740.00	N.A.	40.00	140.00	N.A.	210.00
CO	12.00	28.00	26.00	13.00	15.00	2.00
NI	14.00	51.00	65.00	27.00	15.00	5.00
CU	100.00	130.00	27.00	150.00	60.00	61.00
ZN	78.00	160.00	36.00	61.00	130.00	63.00
GE	< 10.00	< 10.00	10.00	10.00	10.00	< 10.00
AS	13.00	< 2.00	120.00	< 2.00	2.00	< 2.00
SE	< 3.00	< 3.00	< 3.00	5.00	< 3.00	5.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	0.50	< 0.50	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	1.00	< 0.20	< 0.20
CS	3.00	< 2.40	< 1.70	2.60	< 1.90	< 2.40
LA	41.00	35.70	0.70	9.00	11.60	< 0.50
CE	56.00	57.00	< 3.00	16.00	30.00	21.00
ND	15.00	28.00	< 5.00	9.00	16.00	8.00
SM	4.00	5.40	0.20	1.80	3.90	< 0.10
EU	< 0.60	1.50	0.30	0.50	1.40	1.00
YB	1.70	1.30	0.70	1.40	4.20	0.80
LU	0.42	0.23	0.12	0.25	0.80	0.27
HF	3.00	4.00	< 1.00	1.00	2.00	2.00
PB	8.00	2.00	< 2.00	28.00	6.00	6.00
RB	130.00	50.00	70.00	100.00	40.00	20.00
SR	240.00	1030.00	10.00	60.00	260.00	210.00
Y	20.00	10.00	< 10.00	< 10.00	40.00	30.00
ZR	110.00	140.00	< 10.00	40.00	60.00	90.00
NB	20.00	30.00	20.00	10.00	10.00	10.00
BA	1190.00	1020.00	550.00	2010.00	610.00	330.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20741	AB20742	AB20743	AB20744	AB20745	AB20746
SIO2	55.80	39.20	61.00	68.70	64.10	64.50
AL2O3	16.80	12.70	13.30	13.40	16.20	12.20
FE2O3	9.38	11.10	11.90	6.01	5.70	10.40
MNO	N.A.	0.57	N.A.	N.A.	N.A.	N.A.
MGO	6.25	7.55	0.73	1.80	2.77	0.74
CAO	2.66	13.90	0.43	2.98	3.82	< 0.01
NA2O	2.86	0.86	0.27	3.94	4.08	0.22
K2O	1.13	0.10	3.40	1.00	1.27	2.99
TIO2	0.84	1.76	0.50	0.37	0.43	0.46
P2O5	0.12	0.24	0.06	0.07	0.12	0.01
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	3.77	5.16	7.54	1.47	1.62	6.62
TOTAL	99.61	93.14	99.13	99.74	100.11	98.14
AU	< 10.00	1400.00	110.00	< 10.00	< 10.00	20.00
V	190.00	360.00	110.00	30.00	80.00	110.00
CR	110.00	210.00	170.00	120.00	120.00	240.00
MN	840.00	N.A.	100.00	500.00	580.00	88.00
CO	21.00	15.00	33.00	15.00	12.00	12.00
NI	25.00	29.00	11.00	47.00	7.00	21.00
CU	63.00	4900.00	230.00	180.00	180.00	19.00
ZN	190.00	2400.00	55.00	75.00	72.00	90.00
GE	< 10.00	120.00	< 10.00	< 10.00	< 10.00	20.00
AS	3.00	1800.00	79.00	2.00	< 2.00	98.00
SE	< 3.00	10.00	26.00	< 3.00	< 3.00	7.00
MO	6.00	20.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	70.00	3.00	< 0.50	< 0.50	< 0.50
CD	< 0.20	4.40	< 0.20	< 0.20	< 0.20	< 0.20
CS	< 2.20	< 4.40	2.00	2.30	< 2.00	2.60
LA	10.90	21.00	9.30	13.70	15.90	1.40
CE	24.00	32.00	24.00	31.00	27.00	< 3.00
ND	15.00	15.00	6.00	13.00	13.00	< 5.00
SM	3.80	4.80	3.10	4.00	2.50	0.30
EU	1.00	1.30	0.50	1.10	0.90	< 0.20
YB	3.50	3.30	3.70	3.30	1.00	1.60
LU	0.66	0.49	0.67	0.64	0.19	0.34
HF	3.00	4.00	4.00	3.00	2.00	2.00
PB	4.00	1000.00	26.00	6.00	4.00	16.00
RB	60.00	< 10.00	80.00	< 10.00	60.00	70.00
SR	230.00	490.00	30.00	170.00	330.00	< 10.00
Y	30.00	< 10.00	20.00	10.00	< 10.00	10.00
ZR	70.00	130.00	90.00	70.00	60.00	40.00
NB	20.00	30.00	10.00	10.00	20.00	20.00
BA	590.00	48200.00	13000.00	560.00	600.00	19400.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20747	AB20748	AB20749	AB20750	AB20751	AB20752
SIO2	53.30	48.10	68.00	67.90	65.00	74.70
AL2O3	16.40	16.50	9.19	16.20	13.70	13.50
FE2O3	10.40	8.04	11.70	2.71	8.19	2.42
MNO	0.17	0.27	N.A.	N.A.	N.A.	N.A.
MGO	6.44	8.76	0.36	0.98	0.98	0.61
CAO	7.38	14.90	0.25	0.25	1.16	1.36
NA2O	2.71	1.29	0.37	1.46	1.98	4.40
K2O	0.52	0.80	2.56	3.20	2.34	1.36
TIO2	0.84	0.50	0.38	0.29	0.66	0.11
P2O5	0.12	0.07	0.01	0.06	0.16	0.06
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	1.85	1.24	6.85	2.77	5.08	1.54
TOTAL	100.13	100.47	99.67	95.82	99.25	100.06
AU	< 10.00	< 10.00	50.00	190.00	< 10.00	20.00
V	340.00	230.00	80.00	90.00	100.00	< 10.00
CR	150.00	420.00	170.00	100.00	140.00	88.00
MN	N.A.	N.A.	60.00	54.00	160.00	640.00
CO	31.00	40.00	18.00	7.00	8.00	2.00
NI	43.00	130.00	12.00	8.00	9.00	3.00
CU	130.00	10.00	340.00	15000.00	40.00	20.00
ZN	98.00	210.00	150.00	46.00	77.00	220.00
GE	< 10.00	< 10.00	10.00	< 10.00	< 10.00	< 10.00
AS	< 2.00	< 2.00	57.00	4.00	10.00	< 2.00
SE	< 3.00	< 3.00	7.00	61.00	< 3.00	< 3.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	1.50	2.00	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	1.20	< 0.20	< 0.20
CS	15400.00	< 2.00	1.80	3.60	< 1.60	< 1.70
LA	7.60	4.40	4.50	7.90	11.70	29.70
CE	17.00	11.00	8.00	16.00	23.00	44.00
ND	9.00	11.00	5.00	8.00	11.00	16.00
SM	2.50	1.60	1.40	1.90	3.60	3.00
EU	1.10	< 0.30	0.30	< 0.30	0.80	0.70
YB	2.60	1.80	1.40	2.20	3.20	1.10
LU	0.45	0.31	0.27	0.40	0.59	0.24
HF	2.00	< 1.00	2.00	2.00	4.00	3.00
PB	4.00	< 2.00	30.00	< 2.00	38.00	4.00
RB	30.00	30.00	40.00	100.00	40.00	60.00
SR	290.00	150.00	10.00	100.00	100.00	160.00
Y	10.00	30.00	< 10.00	< 10.00	20.00	20.00
ZR	20.00	< 10.00	20.00	40.00	100.00	80.00
NB	20.00	10.00	20.00	10.00	20.00	20.00
BA	190.00	480.00	2070.00	870.00	970.00	580.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20927	AB20929	AB20930	AB20931	AB20932	AB20933
SIO2	38.70	43.20	55.10	49.00	42.80	48.90
AL2O3	1.57	17.60	14.60	14.90	15.00	16.40
FE2O3	26.00	14.30	8.60	9.47	24.70	8.13
MNO	N.A.	0.24	N.A.	N.A.	N.A.	N.A.
MGO	0.47	5.76	5.82	9.46	0.95	0.56
CAO	16.10	8.87	5.31	5.50	1.71	9.94
NA2O	0.10	2.48	0.87	2.72	1.91	4.46
K2O	0.35	1.26	1.86	0.08	2.66	1.18
TIO2	0.08	0.96	1.02	1.07	1.21	1.02
P2O5	2.22	0.32	0.23	0.13	0.11	0.08
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	13.16	3.70	5.00	6.08	8.85	4.54
TOTAL	98.75	98.69	98.41	98.41	99.90	95.21
AU	10.00	< 10.00	< 10.00	< 10.00	< 10.00	10.00
V	890.00	340.00	660.00	260.00	380.00	310.00
CR	260.00	110.00	430.00	380.00	160.00	180.00
MN	520.00	N.A.	460.00	800.00	180.00	850.00
CO	15.00	33.00	31.00	36.00	1.00	7.00
NI	170.00	21.00	170.00	140.00	15.00	41.00
CU	350.00	24.00	77.00	26.00	74.00	87.00
ZN	590.00	180.00	230.00	110.00	360.00	38.00
GE	10.00	10.00	20.00	10.00	10.00	< 10.00
AS	20.00	2.00	< 2.00	< 2.00	81.00	2.00
SE	30.00	< 3.00	17.00	< 3.00	16.00	12.00
MO	10.00	< 5.00	19.00	< 5.00	6.00	6.00
AG	1.50	< 0.50	< 0.50	< 0.50	< 0.50	0.50
CD	4.80	0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	< 0.80	1.40	1.00	< 0.50	< 0.50	1.50
LA	44.80	10.90	16.20	3.30	4.20	8.40
CE	42.00	46.00	47.00	21.00	9.00	24.00
ND	24.00	9.00	18.00	5.00	8.00	5.00
SM	5.70	5.00	4.00	2.40	1.10	2.60
EU	1.20	0.60	1.30	1.00	0.30	< 0.20
YB	4.60	3.90	3.00	2.60	0.50	2.30
LU	0.74	0.56	0.53	0.40	0.12	0.43
HF	< 1.00	1.00	2.00	1.00	2.00	1.00
PB	30.00	4.00	< 2.00	< 2.00	8.00	12.00
RB	< 10.00	40.00	70.00	20.00	80.00	40.00
SR	60.00	320.00	100.00	80.00	110.00	230.00
Y	50.00	20.00	20.00	10.00	< 10.00	30.00
ZR	20.00	20.00	80.00	60.00	40.00	40.00
NB	20.00	20.00	20.00	20.00	30.00	< 10.00
BA	350.00	280.00	2190.00	120.00	1040.00	1220.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20889	AB20890	AB20891	AB20893	AB20894	AB20895
SIO2	N.A.	77.50	76.50	89.50	60.50	71.70
AL2O3	N.A.	9.46	6.59	3.87	13.60	15.80
FE2O3	N.A.	3.81	7.86	0.93	6.79	2.11
MNO	N.A.	N.A.	N.A.	0.01	0.30	0.04
MGO	N.A.	2.28	0.38	0.59	5.32	1.86
CAO	N.A.	0.88	0.69	0.22	6.68	1.20
NA2O	N.A.	1.05	0.15	0.44	3.59	2.19
K2O	N.A.	1.56	1.70	0.83	1.39	3.25
TIO2	N.A.	0.48	0.24	0.18	0.61	0.10
P2O5	N.A.	0.08	0.03	0.03	0.11	0.03
CR2O3	N.A.	N.A.	N.A.	0.03	0.01	0.02
LOI	N.A.	1.62	4.54	1.16	0.85	2.00
TOTAL	N.A.	98.72	98.68	97.79	99.75	100.30
AU	N.A.	< 10.00	150.00	10.00	< 10.00	< 10.00
V	N.A.	130.00	170.00	110.00	140.00	10.00
CR	N.A.	280.00	1100.00	270.00	140.00	180.00
MN	N.A.	300.00	140.00	36.00	2200.00	220.00
CO	N.A.	6.00	33.00	3.00	19.00	1.00
NI	N.A.	31.00	160.00	21.00	23.00	4.00
CU	N.A.	57.00	50.00	31.00	13.00	9.50
ZN	N.A.	53.00	130.00	43.00	80.00	60.00
GE	N.A.	< 10.00	10.00	< 10.00	< 10.00	10.00
AS	N.A.	< 2.00	250.00	6.00	< 2.00	< 2.00
SE	N.A.	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00
MO	N.A.	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	N.A.	< 0.50	2.50	1.50	< 0.50	< 0.50
CD	N.A.	< 0.20	0.60	0.20	< 0.20	< 0.20
CS	N.A.	1.90	< 0.50	0.80	1.10	1.40
LA	N.A.	14.00	2.10	9.40	10.70	16.60
CE	N.A.	32.00	9.00	22.00	46.00	76.00
ND	N.A.	15.00	< 5.00	8.00	7.00	16.00
SM	N.A.	3.30	0.60	1.80	3.50	6.40
EU	N.A.	0.70	< 0.20	0.20	0.70	< 0.20
YB	N.A.	2.00	0.50	0.50	4.30	8.30
LU	N.A.	0.37	0.10	0.15	0.66	1.38
HF	N.A.	4.00	< 1.00	1.00	2.00	3.00
PB	N.A.	12.00	18.00	< 2.00	2.00	8.00
RB	N.A.	80.00	70.00	30.00	60.00	100.00
SR	N.A.	30.00	10.00	130.00	270.00	40.00
Y	N.A.	< 10.00	< 10.00	< 10.00	30.00	100.00
ZR	N.A.	90.00	10.00	< 10.00	90.00	50.00
NB	N.A.	10.00	10.00	30.00	20.00	10.00
BA	N.A.	3150.00	380.00	11550.00	710.00	770.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20753	AB20754	AB20755	AB20760	AB20761	AB20762
SIO2	N.A.	N.A.	N.A.	62.50	47.60	72.90
AL2O3	N.A.	N.A.	N.A.	17.60	16.60	10.50
FE2O3	N.A.	N.A.	N.A.	4.99	11.50	5.28
MNO	N.A.	N.A.	N.A.	N.A.	0.25	N.A.
MGO	N.A.	N.A.	N.A.	2.95	5.94	3.01
CAO	N.A.	N.A.	N.A.	3.93	8.32	0.35
NA2O	N.A.	N.A.	N.A.	4.31	3.08	0.35
K2O	N.A.	N.A.	N.A.	1.32	0.91	2.23
TIO2	N.A.	N.A.	N.A.	0.44	2.24	0.29
P2O5	N.A.	N.A.	N.A.	0.12	0.36	0.06
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	N.A.	N.A.	N.A.	1.54	1.54	3.85
TOTAL	N.A.	N.A.	N.A.	99.70	98.34	98.82
AU	1700.00	350.00	400.00	< 10.00	< 10.00	10.00
V	< 10.00	< 10.00	290.00	90.00	310.00	80.00
CR	150.00	120.00	100.00	130.00	380.00	180.00
MN	20.00	46.00	70.00	640.00	N.A.	410.00
CO	260.00	2.00	140.00	10.00	31.00	4.00
NI	9.00	50.00	7.00	9.00	100.00	3.00
CU	31000.00	1300.00	2200.00	67.00	16.00	6.00
ZN	2200.00	15000.00	540.00	70.00	98.00	120.00
GE	< 10.00	< 10.00	< 10.00	10.00	< 10.00	20.00
AS	250.00	290.00	71.00	< 2.00	< 2.00	16.00
SE	180.00	57.00	63.00	< 3.00	< 3.00	< 3.00
MO	< 5.00	20.00	6.00	< 5.00	< 5.00	< 5.00
AG	60.00	16.00	49.00	< 0.50	< 0.50	< 0.50
CD	7.60	33.00	1.00	< 0.20	< 0.20	< 0.20
CS	< 2.10	< 2.20	< 1.90	< 1.90	< 1.60	< 0.90
LA	< 0.50	1.40	9.30	18.30	14.20	9.60
CE	< 3.00	< 3.00	20.00	28.00	36.00	22.00
ND	< 5.00	< 5.00	< 5.00	13.00	22.00	11.00
SM	< 0.10	< 0.10	2.40	2.60	5.90	3.40
EU	< 0.20	< 0.20	0.50	0.60	2.00	0.50
YB	< 0.20	< 0.20	2.60	1.60	3.70	3.30
LU	< 0.05	< 0.05	0.44	0.34	0.65	0.60
HF	< 1.00	< 1.00	< 1.00	3.00	6.00	3.00
PB	880.00	340.00	260.00	10.00	4.00	8.00
RB	N.A.	N.A.	N.A.	50.00	40.00	60.00
SR	N.A.	N.A.	N.A.	440.00	420.00	20.00
Y	N.A.	N.A.	N.A.	10.00	30.00	20.00
ZR	N.A.	N.A.	N.A.	70.00	220.00	70.00
NB	N.A.	N.A.	N.A.	20.00	20.00	10.00
BA	N.A.	N.A.	N.A.	680.00	280.00	740.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20763	AB20764	AB20765	AB20768	AB20771	AB20773
SIO2	25.60	49.80	63.90	56.50	73.00	48.30
AL2O3	2.22	14.80	16.10	13.10	12.80	14.70
FE2O3	46.00	10.40	5.28	8.80	3.76	11.20
MNO	N.A.	0.27	N.A.	N.A.	N.A.	0.20
MGO	1.25	6.30	2.18	8.45	0.87	9.62
CAO	0.07	11.90	3.28	4.48	2.68	6.86
NA2O	0.13	2.12	4.43	2.60	4.26	3.30
K2O	0.31	1.37	1.41	0.34	0.80	0.72
TIO2	0.13	0.94	0.59	0.55	0.31	0.79
P2O5	0.02	0.09	0.12	0.09	0.10	0.08
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	24.54	1.16	1.08	3.39	0.47	2.93
TOTAL	100.27	99.15	98.37	98.30	99.05	98.70
AU	40.00	< 10.00	< 10.00	< 10.00	< 10.00	< 10.00
V	40.00	330.00	110.00	200.00	30.00	290.00
CR	240.00	110.00	170.00	370.00	230.00	110.00
MN	160.00	N.A.	460.00	990.00	460.00	N.A.
CO	53.00	32.00	10.00	45.00	4.00	41.00
NI	7.00	41.00	6.00	110.00	6.00	42.00
CU	2.00	27.00	22.00	9.50	9.50	99.00
ZN	51.00	290.00	53.00	210.00	40.00	84.00
GE	10.00	10.00	10.00	10.00	10.00	< 10.00
AS	99.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
SE	39.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	2.00	< 1.70	2.30	1.50	< 1.10	4.30
LA	0.50	8.20	10.90	5.00	17.80	4.90
CE	< 3.00	19.00	24.00	11.00	36.00	14.00
ND	< 5.00	9.00	15.00	5.00	15.00	8.00
SM	0.20	3.00	4.50	1.50	4.60	2.20
EU	< 0.20	1.10	0.80	0.50	1.20	0.60
YB	0.60	2.20	3.70	1.50	5.00	2.00
LU	0.10	0.39	0.72	0.24	0.89	0.35
HF	< 1.00	3.00	4.00	1.00	6.00	3.00
PB	< 2.00	< 2.00	2.00	< 2.00	< 2.00	< 2.00
RB	< 10.00	20.00	40.00	30.00	30.00	40.00
SR	< 10.00	230.00	730.00	110.00	130.00	90.00
Y	< 10.00	20.00	30.00	20.00	30.00	< 10.00
ZR	< 10.00	30.00	100.00	< 10.00	160.00	50.00
NB	30.00	10.00	20.00	10.00	20.00	30.00
BA	230.00	750.00	1030.00	190.00	490.00	140.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20774	AB20775	AB20776	AB20777	AB20778	AB20779
SIO2	15.10	76.70	62.30	56.10	64.70	44.70
AL2O3	9.63	8.47	17.50	14.50	14.10	14.70
FE2O3	46.40	6.22	5.10	7.54	7.27	8.17
MNO	N.A.	N.A.	N.A.	0.17	N.A.	N.A.
MGO	0.38	0.20	2.76	6.02	0.68	8.53
CAO	0.09	0.05	3.93	7.28	1.37	11.90
NA2O	0.35	0.24	3.94	4.72	1.67	2.42
K2O	2.96	2.37	1.49	0.25	3.26	0.97
TIO2	0.37	0.22	0.41	0.57	0.51	0.89
P2O5	0.02	0.02	0.10	0.10	0.03	0.19
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	24.93	4.24	1.70	1.08	5.00	6.70
TOTAL	100.23	98.72	99.23	98.33	98.59	99.17
AU	70.00	40.00	< 10.00	< 10.00	10.00	< 10.00
V	20.00	< 10.00	80.00	290.00	240.00	220.00
CR	140.00	220.00	130.00	220.00	260.00	350.00
MN	32.00	46.00	770.00	N.A.	160.00	990.00
CO	20.00	1.00	8.00	28.00	27.00	31.00
NI	4.00	4.00	5.00	430.00	39.00	130.00
CU	270.00	79.00	22.00	23.00	71.00	110.00
ZN	14.00	1200.00	71.00	79.00	160.00	71.00
GE	< 10.00	10.00	10.00	10.00	20.00	< 10.00
AS	99.00	37.00	< 2.00	< 2.00	18.00	< 2.00
SE	31.00	3.00	< 3.00	< 3.00	< 3.00	< 3.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	2.50	1.00	< 0.50	< 0.50	1.50	< 0.50
CD	< 0.20	4.00	0.20	0.40	1.80	< 0.20
CS	< 1.70	1.00	< 1.10	< 1.70	< 1.40	1.70
LA	9.80	3.80	16.90	5.90	2.80	11.80
CE	21.00	10.00	27.00	12.00	9.00	22.00
ND	11.00	< 5.00	12.00	9.00	6.00	11.00
SM	2.90	1.20	2.60	2.00	1.30	3.10
EU	0.60	0.40	0.80	0.70	0.20	1.20
YB	2.70	2.50	1.20	1.90	1.50	1.80
LU	0.51	0.48	0.26	0.37	0.20	0.32
HF	3.00	2.00	2.00	1.00	1.00	2.00
PB	40.00	16.00	4.00	< 2.00	72.00	2.00
RB	50.00	50.00	40.00	10.00	60.00	30.00
SR	< 10.00	< 10.00	390.00	220.00	40.00	220.00
Y	< 10.00	< 10.00	10.00	20.00	< 10.00	20.00
ZR	50.00	50.00	60.00	30.00	< 10.00	60.00
NB	20.00	10.00	20.00	10.00	20.00	10.00
BA	820.00	730.00	570.00	70.00	2000.00	240.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20780	AB20781	AB20782	AB20783	AB20784	AB20787
SIO2	83.80	51.30	55.30	64.10	54.60	N.A.
AL2O3	7.05	18.50	15.60	12.90	25.20	N.A.
FE2O3	2.15	11.90	11.40	8.11	0.52	N.A.
MNO	N.A.	N.A.	0.21	N.A.	N.A.	N.A.
MGO	0.47	5.16	6.85	2.16	1.62	N.A.
CAO	0.42	0.86	0.58	3.27	1.89	N.A.
NA2O	1.72	0.74	0.58	3.21	5.37	N.A.
K2O	1.45	3.00	1.86	0.84	4.12	N.A.
TIO2	0.35	0.91	0.73	0.67	2.04	N.A.
P2O5	0.06	0.12	0.10	0.11	0.05	N.A.
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	1.31	6.62	6.16	3.46	2.77	N.A.
TOTAL	98.78	99.11	99.37	98.83	98.18	N.A.
AU	< 10.00	< 10.00	10.00	< 10.00	< 10.00	N.A.
V	70.00	350.00	280.00	170.00	320.00	N.A.
CR	270.00	140.00	180.00	200.00	350.00	N.A.
MN	84.00	790.00	N.A.	640.00	110.00	N.A.
CO	4.00	30.00	21.00	23.00	1.00	N.A.
NI	11.00	37.00	47.00	46.00	6.00	N.A.
CU	30.00	520.00	610.00	72.00	9.50	N.A.
ZN	39.00	130.00	320.00	93.00	22.00	N.A.
GE	< 10.00	< 10.00	< 10.00	10.00	10.00	N.A.
AS	< 2.00	12.00	8.00	9.00	< 2.00	N.A.
SE	< 3.00	8.00	5.00	< 3.00	< 3.00	N.A.
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	N.A.
AG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	N.A.
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	N.A.
CS	< 0.90	< 1.50	2.40	< 1.40	2.80	N.A.
LA	7.80	8.00	7.20	10.70	23.70	N.A.
CE	14.00	18.00	15.00	20.00	47.00	N.A.
ND	6.00	12.00	10.00	11.00	25.00	N.A.
SM	1.70	2.90	2.30	3.20	4.90	N.A.
EU	0.30	0.70	0.80	0.80	1.60	N.A.
YB	1.30	2.50	2.00	2.90	2.10	N.A.
LU	0.24	0.46	0.37	0.51	0.42	N.A.
HF	3.00	2.00	1.00	2.00	5.00	N.A.
PB	4.00	30.00	20.00	4.00	< 2.00	N.A.
RB	60.00	50.00	40.00	40.00	150.00	N.A.
SR	50.00	40.00	30.00	130.00	550.00	N.A.
Y	< 10.00	20.00	20.00	20.00	30.00	N.A.
ZR	100.00	40.00	20.00	40.00	180.00	N.A.
NB	30.00	20.00	10.00	10.00	30.00	N.A.
BA	1670.00	920.00	680.00	350.00	3880.00	N.A.

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20788	AB20789	AB20790	AB20791	AB20792	AB20793
SIO2	72.80	44.10	66.90	60.60	69.70	45.70
AL2O3	15.40	16.90	16.20	22.70	14.70	15.90
FE2O3	2.87	8.55	4.15	1.82	3.97	10.90
MNO	0.02	0.15	0.03	0.03	0.03	0.18
MGO	0.45	7.62	1.68	1.18	0.99	10.50
CAO	0.60	10.50	2.98	1.41	0.85	8.35
NA2O	0.51	1.17	5.74	8.28	7.98	2.82
K2O	3.87	0.18	0.30	1.98	0.37	0.28
TIO2	0.57	0.86	0.32	0.14	0.29	0.74
P2O5	0.11	0.07	0.09	0.09	0.04	0.12
CR2O3	0.04	0.04	0.01	< 0.01	0.01	0.07
LOI	2.77	8.77	1.62	1.77	1.08	3.46
TOTAL	100.01	98.91	100.02	100.01	100.01	99.02
AU	N.A.	< 10.00	N.A.	N.A.	N.A.	N.A.
V	N.A.	190.00	N.A.	N.A.	N.A.	N.A.
CR	N.A.	360.00	N.A.	N.A.	N.A.	N.A.
MN	N.A.	840.00	N.A.	N.A.	N.A.	N.A.
CO	N.A.	28.00	N.A.	N.A.	N.A.	N.A.
NI	N.A.	99.00	N.A.	N.A.	N.A.	N.A.
CU	N.A.	47.00	N.A.	N.A.	N.A.	N.A.
ZN	N.A.	110.00	N.A.	N.A.	N.A.	N.A.
GE	N.A.	< 10.00	N.A.	N.A.	N.A.	N.A.
AS	N.A.	12.00	N.A.	N.A.	N.A.	N.A.
SE	N.A.	< 3.00	N.A.	N.A.	N.A.	N.A.
MO	N.A.	< 5.00	N.A.	N.A.	N.A.	N.A.
AG	N.A.	< 0.50	N.A.	N.A.	N.A.	N.A.
CD	N.A.	0.60	N.A.	N.A.	N.A.	N.A.
CS	N.A.	< 0.80	N.A.	N.A.	N.A.	N.A.
LA	N.A.	2.30	N.A.	N.A.	N.A.	N.A.
CE	N.A.	13.00	N.A.	N.A.	N.A.	N.A.
ND	N.A.	< 5.00	N.A.	N.A.	N.A.	N.A.
SM	N.A.	1.50	N.A.	N.A.	N.A.	N.A.
EU	N.A.	0.40	N.A.	N.A.	N.A.	N.A.
YB	N.A.	1.60	N.A.	N.A.	N.A.	N.A.
LU	N.A.	0.29	N.A.	N.A.	N.A.	N.A.
HF	N.A.	1.00	N.A.	N.A.	N.A.	N.A.
PB	N.A.	4.00	N.A.	N.A.	N.A.	N.A.
RB	90.00	20.00	10.00	50.00	10.00	20.00
SR	70.00	180.00	340.00	230.00	110.00	210.00
Y	< 10.00	10.00	10.00	< 10.00	60.00	10.00
ZR	40.00	30.00	110.00	140.00	720.00	20.00
NB	10.00	20.00	10.00	20.00	40.00	10.00
BA	2070.00	110.00	190.00	1820.00	370.00	120.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20794	AB20795	AB20796	AB20797	AB20798	AB20799
SIO2	59.00	49.40	61.20	27.60	52.20	55.10
AL2O3	16.40	16.60	17.70	8.92	15.30	19.00
FE2O3	8.85	9.68	6.01	8.53	8.00	8.21
MNO	0.07	0.19	0.01	0.43	0.12	0.07
MGO	3.45	8.64	1.43	8.87	4.17	6.01
CAO	0.61	6.77	0.63	16.60	6.40	1.22
NA2O	0.43	3.16	0.33	0.52	1.58	2.11
K2O	4.33	1.06	5.67	2.03	3.08	2.86
TIO2	0.74	0.73	1.42	0.67	0.57	0.55
P2O5	0.08	0.17	0.14	0.16	0.08	0.11
CR2O3	0.01	0.02	0.04	0.13	0.04	0.01
LOI	5.77	3.08	4.85	23.77	4.39	5.08
TOTAL	99.74	99.50	99.43	98.23	95.93	100.33
AU	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
V	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CR	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
MN	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CO	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
NI	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CU	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
ZN	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
AS	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
SE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
MO	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
AG	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CD	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CS	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LA	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
ND	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
SM	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
EU	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
YB	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LU	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
HF	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
PB	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
RB	110.00	40.00	130.00	80.00	100.00	80.00
SR	30.00	210.00	30.00	180.00	80.00	130.00
Y	20.00	20.00	20.00	20.00	< 10.00	20.00
ZR	10.00	30.00	110.00	50.00	10.00	30.00
NB	20.00	20.00	30.00	20.00	10.00	10.00
BA	2850.00	670.00	5630.00	290.00	530.00	1080.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20800	AB20801	AB20802	AB20803	AB20804	AB20805
SIO2	63.00	65.00	63.60	62.30	49.60	76.10
AL2O3	15.80	16.50	16.70	15.70	17.30	14.10
FE2O3	9.01	4.38	4.80	6.53	9.49	2.28
MNO	0.14	0.05	0.07	0.11	0.18	N.A.
MGO	3.93	1.18	2.12	3.54	7.21	1.56
CAO	1.86	3.96	2.57	4.07	9.50	0.89
NA2O	0.28	4.80	3.73	3.76	3.71	1.94
K2O	1.89	1.44	2.44	1.14	0.53	0.63
TIO2	0.67	0.54	0.74	0.64	0.75	0.42
P2O5	0.12	0.17	0.18	0.16	0.10	0.06
CR2O3	0.01	0.01	0.01	0.01	0.02	N.A.
LOI	3.70	1.93	2.70	2.00	1.39	1.54
TOTAL	100.41	99.96	99.66	99.96	99.78	99.52
AU	10.00	N.A.	N.A.	N.A.	N.A.	310.00
V	280.00	N.A.	N.A.	N.A.	N.A.	70.00
CR	110.00	N.A.	N.A.	N.A.	N.A.	150.00
MN	860.00	N.A.	N.A.	N.A.	N.A.	98.00
CO	18.00	N.A.	N.A.	N.A.	N.A.	3.00
NI	42.00	N.A.	N.A.	N.A.	N.A.	8.00
CU	37.00	N.A.	N.A.	N.A.	N.A.	8400.00
ZN	230.00	N.A.	N.A.	N.A.	N.A.	33.00
GE	10.00	N.A.	N.A.	N.A.	N.A.	< 10.00
AS	< 2.00	N.A.	N.A.	N.A.	N.A.	< 2.00
SE	< 3.00	N.A.	N.A.	N.A.	N.A.	32.00
MO	< 5.00	N.A.	N.A.	N.A.	N.A.	< 5.00
AG	< 0.50	N.A.	N.A.	N.A.	N.A.	1.50
CD	0.40	N.A.	N.A.	N.A.	N.A.	< 0.20
CS	1.30	N.A.	N.A.	N.A.	N.A.	2.90
LA	5.20	N.A.	N.A.	N.A.	N.A.	16.80
CE	20.00	N.A.	N.A.	N.A.	N.A.	36.00
ND	< 5.00	N.A.	N.A.	N.A.	N.A.	17.00
SM	1.50	N.A.	N.A.	N.A.	N.A.	4.70
EU	0.40	N.A.	N.A.	N.A.	N.A.	0.40
YB	1.50	N.A.	N.A.	N.A.	N.A.	4.70
LU	0.29	N.A.	N.A.	N.A.	N.A.	0.90
HF	1.00	N.A.	N.A.	N.A.	N.A.	4.00
PB	4.00	N.A.	N.A.	N.A.	N.A.	< 2.00
RB	80.00	50.00	90.00	20.00	10.00	< 10.00
SR	60.00	660.00	460.00	250.00	400.00	130.00
Y	10.00	30.00	20.00	40.00	10.00	10.00
ZR	50.00	80.00	120.00	170.00	40.00	90.00
NB	20.00	10.00	10.00	20.00	20.00	10.00
BA	960.00	1760.00	770.00	290.00	140.00	320.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20806	AB20807	AB20808	AB20809	AB20810	AB20811
SIO2	49.00	46.40	76.60	71.00	52.00	53.20
AL2O3	17.70	16.00	13.20	13.40	16.80	17.20
FE2O3	9.98	9.48	1.58	4.31	10.20	9.97
MNO	N.A.	0.26	N.A.	N.A.	0.17	0.20
MGO	2.90	9.37	0.73	1.41	8.65	5.63
CAO	5.87	12.20	0.39	1.34	5.14	6.16
NA2O	5.64	1.21	1.39	4.28	3.22	5.61
K2O	1.57	0.12	3.32	1.22	0.45	0.23
TIO2	0.80	1.72	0.35	0.48	0.61	0.81
P2O5	0.14	0.20	0.03	0.05	0.07	0.09
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	6.47	2.62	2.08	2.46	2.93	1.08
TOTAL	100.07	99.58	99.67	99.96	100.24	100.18
AU	< 10.00	< 10.00	< 10.00	< 10.00	< 10.00	< 10.00
V	220.00	290.00	40.00	60.00	290.00	360.00
CR	50.00	420.00	260.00	180.00	240.00	71.00
MN	650.00	N.A.	120.00	340.00	N.A.	N.A.
CO	34.00	42.00	3.00	7.00	26.00	29.00
NI	22.00	170.00	37.00	7.00	62.00	28.00
CU	180.00	25.00	16.00	130.00	120.00	37.00
ZN	65.00	96.00	99.00	61.00	130.00	130.00
GE	< 10.00	< 10.00	< 10.00	< 10.00	< 10.00	< 10.00
AS	2.00	2.00	< 2.00	< 2.00	< 2.00	< 2.00
SE	14.00	< 3.00	< 3.00	12.00	< 3.00	< 4.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	< 2.20	2.40	< 1.10	< 1.70	2.60	4.10
LA	10.40	7.00	9.80	14.60	4.60	4.50
CE	19.00	25.00	24.00	33.00	13.00	14.00
ND	9.00	14.00	8.00	19.00	8.00	8.00
SM	2.70	4.60	2.60	4.20	1.90	2.10
EU	0.70	1.00	0.50	0.70	0.90	0.80
YB	2.50	3.00	4.00	4.00	2.30	2.50
LU	0.42	0.55	0.79	0.78	0.43	0.53
HF	3.00	4.00	5.00	4.00	3.00	1.00
PB	8.00	8.00	22.00	< 2.00	4.00	2.00
RB	50.00	< 10.00	90.00	30.00	20.00	10.00
SR	160.00	90.00	< 10.00	50.00	130.00	150.00
Y	30.00	50.00	20.00	40.00	30.00	30.00
ZR	50.00	130.00	110.00	100.00	30.00	30.00
NB	20.00	10.00	20.00	< 10.00	< 10.00	20.00
BA	700.00	60.00	660.00	820.00	170.00	120.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20812	AB20813	AB20814	AB20815	AB20816	AB20817
SIO2	50.90	45.30	67.60	81.30	53.60	77.00
AL2O3	24.90	14.50	12.30	11.50	16.90	12.30
FE2O3	4.88	10.60	7.52	0.48	8.60	1.78
MNO	N.A.	0.16	N.A.	N.A.	0.16	0.04
MGO	1.55	13.40	4.23	0.46	6.56	0.80
CAO	2.77	7.76	0.31	0.41	6.12	2.07
NA2O	5.24	2.21	0.57	1.30	4.27	1.62
K2O	3.78	0.16	2.28	2.66	0.31	2.20
TIO2	1.29	0.89	0.36	0.07	0.99	0.07
P2O5	0.36	0.15	0.08	0.03	0.08	0.04
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	0.01
LOI	3.70	3.85	4.62	1.70	2.54	1.70
TOTAL	99.37	98.98	99.87	99.91	100.13	99.63
AU	< 10.00	< 10.00	50.00	< 10.00	10.00	N.A.
V	530.00	270.00	50.00	20.00	360.00	N.A.
CR	350.00	850.00	110.00	160.00	100.00	N.A.
MN	110.00	N.A.	740.00	60.00	N.A.	N.A.
CO	31.00	58.00	11.00	1.00	20.00	N.A.
NI	110.00	270.00	7.00	6.00	27.00	N.A.
CU	170.00	4.00	430.00	10.00	69.00	N.A.
ZN	50.00	89.00	250.00	20.00	61.00	N.A.
GE	10.00	10.00	10.00	10.00	< 10.00	N.A.
AS	2.00	< 2.00	14.00	< 2.00	< 2.00	N.A.
SE	8.00	< 4.00	< 3.00	< 3.00	< 4.00	N.A.
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	N.A.
AG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	N.A.
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	N.A.
CS	< 2.40	< 2.00	1.40	1.50	< 2.20	N.A.
LA	11.90	10.30	12.70	10.20	5.10	N.A.
CE	22.00	25.00	28.00	23.00	14.00	N.A.
ND	17.00	13.00	14.00	10.00	9.00	N.A.
SM	3.20	3.10	4.30	3.80	2.10	N.A.
EU	0.60	0.70	1.00	0.40	1.10	N.A.
YB	2.00	1.80	4.60	5.70	2.70	N.A.
LU	0.40	0.30	0.89	1.11	0.47	N.A.
HF	3.00	1.00	3.00	3.00	3.00	N.A.
PB	4.00	< 2.00	2.00	2.00	10.00	N.A.
RB	110.00	10.00	60.00	60.00	10.00	70.00
SR	220.00	200.00	< 10.00	10.00	200.00	20.00
Y	20.00	10.00	30.00	90.00	20.00	60.00
ZR	70.00	30.00	90.00	40.00	40.00	40.00
NB	10.00	10.00	20.00	10.00	20.00	10.00
BA	1630.00	120.00	570.00	990.00	150.00	870.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20818	AB20819	AB20820	AB20821	AB20822	AB20824
SIO2	73.30	52.80	54.60	50.30	46.10	36.50
AL2O3	12.70	16.30	13.30	16.30	15.50	6.88
FE2O3	4.90	11.50	14.70	10.10	13.10	36.20
MNO	N.A.	N.A.	0.17	0.21	0.20	N.A.
MGO	1.33	7.48	7.34	7.63	12.60	0.79
CAO	0.24	2.43	2.65	8.25	5.31	5.64
NA2O	1.38	2.34	1.09	4.37	1.78	0.19
K2O	3.05	0.47	0.47	0.31	0.31	0.01
TIO2	0.08	0.78	0.98	0.57	0.60	0.22
P2O5	0.04	0.08	0.10	0.08	0.03	0.03
CR2O3	N.A.	N.A.	N.A.	N.A.	0.05	N.A.
LOI	2.93	5.85	4.24	1.16	4.16	13.80
TOTAL	99.95	100.03	99.64	99.28	99.74	100.26
AU	10.00	< 10.00	10.00	< 10.00	N.A.	80.00
V	40.00	340.00	280.00	310.00	N.A.	110.00
CR	180.00	160.00	140.00	130.00	N.A.	170.00
MN	230.00	500.00	N.A.	N.A.	N.A.	410.00
CO	28.00	32.00	21.00	34.00	N.A.	310.00
NI	6.00	33.00	12.00	51.00	N.A.	48.00
CU	570.00	650.00	210.00	13.00	N.A.	2900.00
ZN	66.00	55.00	1000.00	130.00	N.A.	36.00
GE	< 10.00	< 10.00	10.00	< 10.00	N.A.	< 10.00
AS	< 2.00	< 2.00	< 2.00	< 2.00	N.A.	7.00
SE	11.00	16.00	8.00	< 3.00	N.A.	110.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	N.A.	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	N.A.	0.50
CD	< 0.20	< 0.20	3.00	< 0.20	N.A.	< 0.20
CS	1.90	< 2.00	< 1.70	< 2.20	N.A.	< 1.10
LA	24.70	6.40	7.30	5.30	N.A.	5.50
CE	54.00	14.00	15.00	13.00	N.A.	11.00
ND	28.00	8.00	9.00	11.00	N.A.	6.00
SM	7.80	2.40	2.80	1.90	N.A.	2.00
EU	0.70	0.60	0.80	0.80	N.A.	0.70
YB	5.50	2.70	2.80	1.70	N.A.	2.00
LU	1.02	0.49	0.51	0.37	N.A.	0.37
HF	3.00	1.00	2.00	< 1.00	N.A.	1.00
PB	8.00	< 2.00	2.00	2.00	N.A.	< 2.00
RB	70.00	< 10.00	< 10.00	30.00	20.00	< 10.00
SR	20.00	110.00	< 10.00	230.00	10.00	110.00
Y	60.00	< 10.00	< 10.00	20.00	20.00	< 10.00
ZR	50.00	20.00	40.00	10.00	20.00	< 10.00
NB	30.00	20.00	30.00	< 10.00	< 10.00	20.00
BA	1050.00	230.00	220.00	150.00	180.00	100.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20846	AB20847	AB20848	AB20849	AB20850	AB20851
SIO2	42.50	49.50	49.50	48.00	49.20	N.A.
AL2O3	18.00	18.90	18.40	17.80	17.50	N.A.
FE2O3	12.70	10.40	9.68	10.60	10.40	N.A.
MNO	0.20	0.15	0.18	0.18	0.26	N.A.
MGO	8.99	7.21	5.65	6.43	6.05	N.A.
CAO	11.50	2.95	10.10	9.44	9.53	N.A.
NA2O	1.87	3.38	3.11	3.90	3.02	N.A.
K2O	0.34	2.50	0.68	0.20	0.29	N.A.
TIO2	0.90	0.88	0.88	0.80	0.86	N.A.
P2O5	0.12	0.07	0.15	0.09	0.13	N.A.
CR2O3	< 0.01	< 0.01	0.01	0.01	0.01	N.A.
LOI	2.23	2.31	1.54	1.62	3.08	N.A.
TOTAL	99.36	98.26	99.88	99.07	100.33	N.A.
AU	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
V	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CR	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
MN	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CO	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
NI	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CU	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
ZN	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
AS	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
SE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
MO	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
AG	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CD	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CS	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LA	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
ND	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
SM	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
EU	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
YB	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LU	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
HF	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
PB	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
RB	30.00	50.00	20.00	20.00	20.00	N.A.
SR	270.00	220.00	330.00	300.00	310.00	N.A.
Y	20.00	20.00	20.00	10.00	30.00	N.A.
ZR	40.00	40.00	60.00	20.00	50.00	N.A.
NB	20.00	30.00	20.00	10.00	20.00	N.A.
BA	120.00	720.00	290.00	70.00	120.00	N.A.

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20852	AB20853	AB20854	AB20855	AB20856	AB20857
SIO2	59.50	75.00	56.20	48.60	76.30	74.70
AL2O3	17.70	13.90	17.80	17.80	14.20	14.40
FE2O3	8.15	1.82	9.14	10.60	1.19	2.13
MNO	N.A.	N.A.	N.A.	0.27	N.A.	N.A.
MGO	3.68	0.32	4.41	8.99	0.25	0.23
CAO	2.74	1.09	3.27	4.58	1.53	1.19
NA2O	3.32	4.87	4.50	2.33	3.51	4.60
K2O	1.29	1.23	0.46	0.47	1.70	1.27
TIO2	0.59	0.11	0.94	0.87	0.09	0.11
P2O5	0.11	0.08	0.11	0.40	0.08	0.09
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	3.23	1.54	3.08	4.77	1.16	1.39
TOTAL	100.32	99.96	99.91	99.68	100.01	100.11
AU	< 10.00	< 10.00	< 10.00	10.00	< 10.00	< 10.00
V	150.00	10.00	220.00	250.00	< 10.00	< 10.00
CR	70.00	68.00	100.00	66.00	79.00	72.00
MN	940.00	110.00	830.00	N.A.	140.00	440.00
CO	15.00	5.00	25.00	29.00	1.00	2.00
NI	8.00	9.00	20.00	19.00	7.00	9.00
CU	0.50	61.00	140.00	38.00	2.00	6.50
ZN	63.00	17.00	86.00	130.00	21.00	53.00
GE	< 10.00	10.00	< 10.00	< 10.00	< 10.00	< 10.00
AS	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
SE	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	< 1.40	1.20	2.50	2.00	< 0.90	1.40
LA	15.20	18.70	6.50	93.30	25.50	26.10
CE	28.00	33.00	17.00	131.00	45.00	44.00
ND	14.00	14.00	10.00	50.00	18.00	19.00
SM	3.60	2.80	2.70	9.00	3.70	3.80
EU	1.20	0.40	0.90	1.40	0.50	0.60
YB	2.60	0.50	2.50	2.50	0.60	0.80
LU	0.39	0.11	0.45	0.42	0.11	0.17
HF	4.00	3.00	2.00	3.00	3.00	3.00
PB	4.00	8.00	8.00	4.00	10.00	8.00
RB	60.00	40.00	20.00	40.00	40.00	50.00
SR	250.00	280.00	210.00	330.00	160.00	170.00
Y	20.00	< 10.00	30.00	20.00	10.00	< 10.00
ZR	100.00	60.00	70.00	130.00	70.00	80.00
NB	20.00	20.00	30.00	40.00	10.00	30.00
BA	430.00	1620.00	240.00	350.00	550.00	450.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20858	AB20860	AB20861	AB20862	AB20863	AB20864
SIO2	78.80	47.80	77.30	73.90	59.80	69.00
AL2O3	8.48	6.51	12.90	14.60	18.10	19.90
FE2O3	4.69	31.00	2.46	2.39	9.84	1.07
MNO	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
MGO	1.06	1.29	0.20	0.27	2.07	0.29
CAO	0.66	0.39	0.19	1.19	0.10	0.09
NA2O	0.18	0.49	0.46	4.53	0.83	0.84
K2O	2.26	1.51	3.32	1.70	3.84	4.96
TIO2	0.37	0.34	0.58	0.12	0.95	0.83
P2O5	0.29	0.04	0.08	0.09	0.11	0.07
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	2.93	10.77	2.62	1.16	4.47	2.85
TOTAL	99.72	100.14	100.11	99.95	100.11	99.90
AU	< 10.00	10.00	20.00	10.00	10.00	< 10.00
V	2900.00	150.00	120.00	< 10.00	260.00	210.00
CR	420.00	190.00	88.00	61.00	52.00	48.00
MN	140.00	210.00	48.00	300.00	510.00	38.00
CO	4.00	72.00	3.00	3.00	4.00	2.00
NI	43.00	380.00	7.00	7.00	4.00	6.00
CU	84.00	1200.00	5.50	44.00	15.00	< 0.50
ZN	510.00	240.00	12.00	34.00	140.00	16.00
GE	< 10.00	< 10.00	< 10.00	< 10.00	< 10.00	10.00
AS	< 2.00	11.00	15.00	< 2.00	< 2.00	7.00
SE	86.00	18.00	< 3.00	< 3.00	< 3.00	< 3.00
MO	51.00	13.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	2.50	< 0.50	< 0.50	< 0.50	< 0.50
CD	4.60	2.00	< 0.20	< 0.20	< 0.20	< 0.20
CS	2.50	< 1.50	1.70	< 1.00	3.30	2.10
LA	46.60	8.30	8.30	19.10	8.60	7.50
CE	47.00	11.00	14.00	30.00	18.00	14.00
ND	40.00	9.00	7.00	13.00	6.00	9.00
SM	8.80	1.50	1.80	2.40	1.90	1.80
EU	1.20	0.20	0.50	0.40	0.40	0.40
YB	6.50	0.90	1.60	0.60	2.30	2.00
LU	1.17	0.13	0.31	0.13	0.43	0.37
HF	4.00	1.00	3.00	3.00	3.00	3.00
PB	2.00	< 2.00	22.00	4.00	10.00	16.00
RB	60.00	< 10.00	100.00	60.00	150.00	160.00
SR	30.00	10.00	40.00	180.00	40.00	80.00
Y	100.00	< 10.00	30.00	10.00	10.00	10.00
ZR	140.00	10.00	70.00	80.00	60.00	90.00
NB	10.00	20.00	20.00	20.00	20.00	10.00
BA	1380.00	770.00	490.00	600.00	510.00	530.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20865	AB20866	AB20867	AB20868	AB20869	AB20870
SIO2	75.60	79.10	N.A.	85.10	63.30	67.50
AL2O3	15.20	13.40	N.A.	8.56	18.40	15.00
FE2O3	1.54	1.99	N.A.	0.57	4.61	5.71
MNO	N.A.	N.A.	N.A.	N.A.	N.A.	0.04
MGO	0.16	0.34	N.A.	0.19	1.89	1.76
CAO	0.09	0.12	N.A.	1.09	0.08	0.41
NA2O	0.66	0.75	N.A.	2.67	0.42	0.73
K2O	3.69	2.34	N.A.	0.66	4.77	4.02
TIO2	0.65	0.11	N.A.	0.18	0.81	0.49
P2O5	0.09	0.06	N.A.	0.04	0.07	0.17
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	2.54	1.93	N.A.	0.54	5.47	3.54
TOTAL	100.22	100.14	N.A.	99.60	99.81	99.37
AU	< 10.00	< 10.00	N.A.	< 10.00	< 10.00	N.A.
V	150.00	< 10.00	N.A.	20.00	210.00	N.A.
CR	65.00	58.00	N.A.	220.00	93.00	N.A.
MN	28.00	200.00	N.A.	50.00	270.00	N.A.
CO	2.00	1.00	N.A.	1.00	13.00	N.A.
NI	6.00	6.00	N.A.	9.00	9.00	N.A.
CU	3.00	< 0.50	N.A.	13.00	72.00	N.A.
ZN	13.00	32.00	N.A.	10.00	370.00	N.A.
GE	< 10.00	< 10.00	N.A.	< 10.00	< 10.00	N.A.
AS	7.00	< 2.00	N.A.	< 2.00	< 2.00	N.A.
SE	< 3.00	< 3.00	N.A.	< 3.00	4.00	N.A.
MO	< 5.00	< 5.00	N.A.	< 5.00	< 5.00	N.A.
AG	< 0.50	< 0.50	N.A.	< 0.50	< 0.50	N.A.
CD	< 0.20	< 0.20	N.A.	< 0.20	1.00	N.A.
CS	3.00	1.40	N.A.	< 1.30	3.00	N.A.
LA	8.90	29.00	N.A.	2.30	11.70	N.A.
CE	18.00	46.00	N.A.	12.00	27.00	N.A.
ND	10.00	14.00	N.A.	< 5.00	13.00	N.A.
SM	2.60	3.10	N.A.	1.50	3.30	N.A.
EU	0.80	0.50	N.A.	< 0.30	0.60	N.A.
YB	2.00	0.90	N.A.	5.90	2.20	N.A.
LU	0.38	0.18	N.A.	1.03	0.38	N.A.
HF	2.00	3.00	N.A.	4.00	3.00	N.A.
PB	18.00	8.00	N.A.	< 2.00	130.00	N.A.
RB	100.00	70.00	N.A.	30.00	160.00	150.00
SR	50.00	60.00	N.A.	80.00	50.00	40.00
Y	20.00	< 10.00	N.A.	60.00	20.00	20.00
ZR	60.00	60.00	N.A.	100.00	80.00	110.00
NB	20.00	10.00	N.A.	10.00	10.00	10.00
BA	430.00	570.00	N.A.	350.00	610.00	1980.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20871	AB20872	AB20873	AB20874	AB20875	AB20876
SIO2	68.80	65.60	62.60	61.20	65.10	74.50
AL2O3	15.70	16.10	17.20	18.20	13.10	14.60
FE2O3	3.25	4.43	5.34	6.78	6.90	2.67
MNO	0.03	0.01	0.03	0.01	N.A.	0.15
MGO	1.42	0.95	2.07	0.52	1.11	0.90
CAO	1.13	1.26	0.75	0.17	0.45	0.89
NA2O	7.08	0.16	0.48	0.43	0.50	0.80
K2O	0.41	4.94	5.35	5.13	4.96	2.67
TIO2	0.36	0.81	0.56	0.80	1.14	0.12
P2O5	0.11	0.24	0.05	0.15	0.21	0.06
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	1.62	4.39	4.62	6.00	5.16	2.39
TOTAL	99.91	98.89	99.05	99.39	98.63	99.75
AU	N.A.	N.A.	4.00	14.00	30.00	< 10.00
V	N.A.	N.A.	N.A.	N.A.	160.00	< 10.00
CR	N.A.	N.A.	N.A.	N.A.	400.00	110.00
MN	N.A.	N.A.	N.A.	N.A.	74.00	N.A.
CO	N.A.	N.A.	N.A.	N.A.	22.00	2.00
NI	N.A.	N.A.	N.A.	N.A.	92.00	12.00
CU	N.A.	N.A.	200.00	180.00	29.00	4.50
ZN	N.A.	N.A.	23.00	1300.00	60.00	77.00
GE	N.A.	N.A.	N.A.	N.A.	< 10.00	< 10.00
AS	N.A.	N.A.	N.A.	N.A.	12.00	< 2.00
SE	N.A.	N.A.	N.A.	N.A.	< 3.00	< 3.00
MO	N.A.	N.A.	N.A.	N.A.	< 5.00	< 5.00
AG	N.A.	N.A.	1.00	5.00	1.00	< 0.50
CD	N.A.	N.A.	N.A.	N.A.	< 0.20	< 0.20
CS	N.A.	N.A.	N.A.	N.A.	1.90	1.30
LA	N.A.	N.A.	N.A.	N.A.	20.60	36.30
CE	N.A.	N.A.	N.A.	N.A.	32.00	61.00
ND	N.A.	N.A.	N.A.	N.A.	14.00	22.00
SM	N.A.	N.A.	N.A.	N.A.	3.20	3.80
EU	N.A.	N.A.	N.A.	N.A.	0.80	0.80
YB	N.A.	N.A.	N.A.	N.A.	1.80	1.30
LU	N.A.	N.A.	N.A.	N.A.	0.35	0.22
HF	N.A.	N.A.	N.A.	N.A.	3.00	3.00
PB	N.A.	N.A.	< 2.00	870.00	20.00	8.00
RB	30.00	160.00	150.00	170.00	110.00	90.00
SR	240.00	60.00	< 10.00	50.00	70.00	110.00
Y	50.00	20.00	20.00	< 10.00	20.00	20.00
ZR	510.00	170.00	< 10.00	80.00	100.00	90.00
NB	30.00	20.00	10.00	< 10.00	20.00	20.00
BA	310.00	2250.00	3370.00	700.00	4450.00	740.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20877	AB20878	AB20879	AB20880	AB20881	AB20882
SIO2	64.10	77.90	76.80	46.40	46.90	73.30
AL2O3	15.90	14.30	13.50	24.00	16.00	16.30
FE2O3	5.44	1.08	1.44	15.60	6.67	2.17
MNO	N.A.	N.A.	0.05	0.17	0.16	0.04
MGO	1.74	0.14	0.13	1.79	4.14	0.32
CAO	2.07	0.16	0.90	0.70	6.79	1.19
NA2O	5.17	0.56	4.78	0.35	2.61	1.38
K2O	1.34	3.19	1.37	4.81	3.77	1.89
TIO2	0.72	0.14	0.09	1.12	0.53	0.14
P2O5	0.24	0.05	0.08	0.24	0.06	0.09
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	3.16	2.08	1.08	3.70	11.23	2.93
TOTAL	99.88	99.60	100.22	98.88	98.86	99.75
AU	< 10.00	< 10.00	N.A.	< 10.00	< 10.00	N.A.
V	60.00	< 10.00	N.A.	180.00	260.00	N.A.
CR	130.00	89.00	N.A.	86.00	270.00	N.A.
MN	270.00	88.00	N.A.	N.A.	N.A.	N.A.
CO	6.00	< 1.00	N.A.	17.00	27.00	N.A.
NI	7.00	5.00	N.A.	51.00	69.00	N.A.
CU	29.00	1.50	N.A.	41.00	83.00	N.A.
ZN	100.00	13.00	N.A.	140.00	73.00	N.A.
GE	< 10.00	10.00	N.A.	10.00	10.00	N.A.
AS	< 2.00	< 2.00	N.A.	< 2.00	39.00	N.A.
SE	< 3.00	< 3.00	N.A.	< 3.00	< 3.00	N.A.
MO	< 5.00	< 5.00	N.A.	< 5.00	< 5.00	N.A.
AG	< 0.50	< 0.50	N.A.	< 0.50	< 0.50	N.A.
CD	< 0.20	< 0.20	N.A.	< 0.20	< 0.20	N.A.
CS	2.50	1.40	N.A.	2.00	0.90	N.A.
LA	52.90	13.10	N.A.	45.10	2.60	N.A.
CE	81.00	19.00	N.A.	127.00	14.00	N.A.
ND	33.00	7.00	N.A.	22.00	< 5.00	N.A.
SM	6.60	1.20	N.A.	7.20	1.30	N.A.
EU	2.40	0.40	N.A.	1.50	0.50	N.A.
YB	2.40	0.80	N.A.	3.90	1.70	N.A.
LU	0.57	0.22	N.A.	0.67	0.26	N.A.
HF	5.00	4.00	N.A.	5.00	< 1.00	N.A.
PB	10.00	10.00	N.A.	8.00	< 2.00	N.A.
RB	50.00	100.00	50.00	110.00	80.00	70.00
SR	340.00	110.00	150.00	130.00	190.00	260.00
Y	20.00	< 10.00	< 10.00	20.00	20.00	30.00
ZR	170.00	80.00	60.00	190.00	20.00	90.00
NB	30.00	10.00	20.00	40.00	20.00	10.00
BA	680.00	510.00	460.00	5340.00	810.00	930.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20883	AB20884	AB20885	AB20886	AB20887	AB20888
SIO2	77.30	78.40	65.00	47.40	42.70	94.10
AL2O3	15.30	13.80	15.20	16.90	13.70	2.01
FE2O3	0.64	2.18	5.35	8.81	13.40	0.49
MNO	0.02	N.A.	N.A.	N.A.	0.18	N.A.
MGO	0.13	0.12	3.13	6.82	5.77	0.11
CAO	0.43	0.10	1.47	4.88	9.98	1.82
NA2O	0.83	0.35	3.99	4.14	4.76	0.09
K2O	2.88	2.75	1.17	1.04	1.50	0.12
TIO2	0.13	0.13	0.61	1.88	2.10	0.08
P2O5	0.06	0.07	0.14	0.51	1.09	0.09
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	2.16	1.85	3.08	5.93	3.62	0.39
TOTAL	99.88	99.75	99.14	98.31	98.80	99.30
AU	N.A.	10.00	10.00	< 10.00	< 10.00	< 10.00
V	N.A.	< 10.00	110.00	240.00	250.00	10.00
CR	N.A.	140.00	110.00	71.00	150.00	300.00
MN	N.A.	200.00	330.00	750.00	N.A.	410.00
CO	N.A.	2.00	9.00	22.00	36.00	4.00
NI	N.A.	5.00	4.00	30.00	66.00	22.00
CU	N.A.	4.00	43.00	33.00	98.00	18.00
ZN	N.A.	15.00	60.00	89.00	300.00	7.50
GE	N.A.	10.00	< 10.00	< 10.00	< 10.00	< 10.00
AS	N.A.	< 2.00	< 2.00	< 2.00	< 2.00	3.00
SE	N.A.	< 3.00	< 3.00	< 3.00	< 3.00	< 3.00
MO	N.A.	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	N.A.	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CD	N.A.	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	N.A.	0.90	1.70	< 1.50	1.50	0.50
LA	N.A.	21.60	9.40	35.70	114.00	6.80
CE	N.A.	53.00	25.00	56.00	167.00	17.00
ND	N.A.	11.00	12.00	25.00	68.00	7.00
SM	N.A.	2.30	2.90	5.80	11.70	1.30
EU	N.A.	0.30	0.50	1.20	1.40	0.20
YB	N.A.	1.10	2.20	2.40	1.80	0.70
LU	N.A.	0.23	0.43	0.43	0.29	0.12
HF	N.A.	2.00	2.00	5.00	6.00	< 1.00
PB	N.A.	10.00	< 2.00	< 2.00	10.00	< 2.00
RB	100.00	80.00	30.00	40.00	40.00	10.00
SR	140.00	40.00	180.00	360.00	1940.00	10.00
Y	< 10.00	10.00	20.00	30.00	10.00	10.00
ZR	100.00	70.00	40.00	190.00	200.00	10.00
NB	10.00	10.00	10.00	50.00	60.00	10.00
BA	570.00	370.00	330.00	310.00	630.00	410.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20896	AB20897	AB20898	AB20899	AB20900	AB20901
SIO2	65.60	71.50	85.80	58.20	88.40	47.60
AL2O3	16.20	11.70	1.97	16.80	3.71	15.10
FE2O3	4.47	6.71	6.79	7.44	2.75	11.40
MNO	0.03	0.03	0.01	0.09	0.02	0.18
MGO	1.51	1.27	0.05	4.08	0.40	7.01
CAO	0.62	0.97	0.16	1.95	0.22	9.19
NA2O	4.48	0.56	0.05	2.19	0.26	3.91
K2O	5.46	3.17	0.57	2.93	1.17	0.33
TIO2	0.23	0.48	0.11	0.67	0.19	2.23
P2O5	0.05	0.09	0.02	0.12	0.02	0.29
CR2O3	0.01	0.04	0.04	0.03	0.35	0.06
LOI	1.08	3.70	3.46	5.47	1.70	1.47
TOTAL	99.74	100.22	99.04	99.97	99.19	98.77
AU	< 10.00	N.A.	N.A.	N.A.	60.00	< 10.00
V	20.00	N.A.	N.A.	N.A.	90.00	310.00
CR	120.00	N.A.	N.A.	N.A.	N.A.	520.00
MN	150.00	N.A.	N.A.	N.A.	72.00	1200.00
CO	4.00	N.A.	N.A.	N.A.	21.00	55.00
NI	8.00	N.A.	N.A.	N.A.	110.00	240.00
CU	4.00	N.A.	N.A.	N.A.	22.00	35.00
ZN	150.00	N.A.	N.A.	N.A.	65.00	120.00
GE	< 10.00	N.A.	N.A.	N.A.	< 10.00	< 10.00
AS	< 2.00	N.A.	N.A.	N.A.	230.00	< 2.00
SE	< 4.00	N.A.	N.A.	N.A.	3.00	< 3.00
MO	< 5.00	N.A.	N.A.	N.A.	< 5.00	< 5.00
AG	< 0.50	N.A.	N.A.	N.A.	2.00	< 0.50
CD	< 0.20	N.A.	N.A.	N.A.	< 0.20	< 0.20
CS	1.60	N.A.	N.A.	N.A.	0.90	< 1.10
LA	74.10	N.A.	N.A.	N.A.	0.90	12.50
CE	230.00	N.A.	N.A.	N.A.	5.00	66.00
ND	40.00	N.A.	N.A.	N.A.	< 5.00	17.00
SM	13.60	N.A.	N.A.	N.A.	0.20	5.90
EU	0.80	N.A.	N.A.	N.A.	< 0.20	1.10
YB	11.90	N.A.	N.A.	N.A.	0.30	3.60
LU	1.87	N.A.	N.A.	N.A.	< 0.05	0.53
HF	19.00	N.A.	N.A.	N.A.	< 1.00	4.00
PB	12.00	N.A.	N.A.	N.A.	110.00	2.00
RB	90.00	100.00	40.00	110.00	50.00	20.00
SR	170.00	40.00	< 10.00	120.00	< 10.00	240.00
Y	130.00	< 10.00	< 10.00	10.00	< 10.00	20.00
ZR	840.00	110.00	< 10.00	30.00	< 10.00	220.00
NB	200.00	20.00	20.00	10.00	< 10.00	10.00
BA	670.00	900.00	950.00	1340.00	1270.00	100.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20902	AB20903	AB20905	AB20906	AB20907	AB20908
SIO2	79.60	36.90	72.40	68.30	69.80	92.50
AL2O3	9.46	12.70	10.90	11.90	15.60	3.26
FE2O3	2.55	28.70	6.62	6.53	3.57	0.82
MNO	0.01	0.04	0.01	0.10	0.01	0.01
MGO	0.57	1.43	0.75	4.00	0.82	0.17
CAO	0.28	0.51	0.25	0.97	0.27	0.17
NA2O	0.28	1.05	0.47	2.14	0.89	0.09
K2O	2.86	3.75	3.57	2.21	4.79	0.85
TIO2	0.54	1.12	0.37	0.56	0.48	0.18
P2O5	0.13	0.04	0.05	0.10	0.02	0.02
CR2O3	0.02	0.02	0.21	0.03	0.07	0.03
LOI	2.23	13.39	4.24	2.85	4.00	1.08
TOTAL	98.53	99.65	99.84	99.69	100.32	99.18
AU	10.00	10.00	< 10.00	N.A.	N.A.	70.00
V	70.00	110.00	210.00	N.A.	N.A.	50.00
CR	210.00	220.00	N.A.	N.A.	N.A.	230.00
MN	58.00	240.00	64.00	N.A.	N.A.	34.00
CO	2.00	28.00	40.00	N.A.	N.A.	2.00
NI	7.00	89.00	240.00	N.A.	N.A.	12.00
CU	6.50	99.00	120.00	N.A.	N.A.	8.00
ZN	29.00	120.00	97.00	N.A.	N.A.	66.00
GE	< 10.00	< 10.00	< 10.00	N.A.	N.A.	< 10.00
AS	76.00	150.00	2.00	N.A.	N.A.	36.00
SE	< 3.00	10.00	3.00	N.A.	N.A.	< 3.00
MO	< 5.00	< 5.00	< 5.00	N.A.	N.A.	< 5.00
AG	< 0.50	2.00	2.00	N.A.	N.A.	3.00
CD	< 0.20	< 0.20	< 0.20	N.A.	N.A.	< 0.20
CS	1.00	1.50	1.50	N.A.	N.A.	< 0.50
LA	12.00	22.70	2.70	N.A.	N.A.	6.10
CE	32.00	46.00	10.00	N.A.	N.A.	12.00
ND	7.00	9.00	< 5.00	N.A.	N.A.	< 5.00
SM	1.30	2.30	0.90	N.A.	N.A.	0.70
EU	0.30	0.40	0.20	N.A.	N.A.	0.20
YB	0.80	1.00	0.90	N.A.	N.A.	0.50
LU	0.17	0.18	0.18	N.A.	N.A.	0.10
HF	3.00	3.00	1.00	N.A.	N.A.	< 1.00
PB	12.00	14.00	6.00	N.A.	N.A.	2.00
RB	90.00	80.00	90.00	100.00	150.00	40.00
SR	< 10.00	30.00	< 10.00	110.00	50.00	< 10.00
Y	10.00	< 10.00	10.00	30.00	10.00	< 10.00
ZR	120.00	180.00	10.00	100.00	< 10.00	< 10.00
NB	30.00	50.00	10.00	10.00	10.00	10.00
BA	4790.00	4580.00	1920.00	2060.00	900.00	5360.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20909	AB20910	AB20911	AB20912	AB20913	AB20914
SIO2	55.10	74.10	75.00	50.90	53.60	56.30
AL2O3	17.60	15.20	13.60	18.40	19.20	17.30
FE2O3	8.64	0.61	0.73	9.00	12.50	7.87
MNO	0.17	0.02	0.03	0.26	0.10	0.21
MGO	5.87	0.91	0.35	4.25	2.92	2.40
CAO	3.91	0.70	0.54	9.91	2.77	11.00
NA2O	2.84	2.07	5.64	2.54	2.48	1.49
K2O	2.61	3.55	3.29	0.43	1.82	0.60
TIO2	0.63	0.51	0.09	0.87	0.91	0.64
P2O5	0.09	0.06	0.02	0.12	0.07	0.12
CR2O3	0.09	0.02	0.01	0.04	0.07	0.02
LOI	2.46	1.93	0.62	2.93	3.85	2.54
TOTAL	100.01	99.68	99.92	99.65	100.29	100.49
AU	N.A.	N.A.	< 10.00	< 10.00	N.A.	N.A.
V	N.A.	N.A.	10.00	300.00	N.A.	N.A.
CR	N.A.	N.A.	170.00	350.00	N.A.	N.A.
MN	N.A.	N.A.	130.00	1400.00	N.A.	N.A.
CO	N.A.	N.A.	2.00	22.00	N.A.	N.A.
NI	N.A.	N.A.	3.00	18.00	N.A.	N.A.
CU	N.A.	N.A.	3.50	54.00	N.A.	N.A.
ZN	N.A.	N.A.	56.00	150.00	N.A.	N.A.
GE	N.A.	N.A.	< 10.00	10.00	N.A.	N.A.
AS	N.A.	N.A.	< 2.00	12.00	N.A.	N.A.
SE	N.A.	N.A.	< 3.00	< 3.00	N.A.	N.A.
MO	N.A.	N.A.	< 5.00	< 5.00	N.A.	N.A.
AG	N.A.	N.A.	< 0.50	< 0.50	N.A.	N.A.
CD	N.A.	N.A.	< 0.20	< 0.20	N.A.	N.A.
CS	N.A.	N.A.	0.80	< 1.00	N.A.	N.A.
LA	N.A.	N.A.	17.00	8.20	N.A.	N.A.
CE	N.A.	N.A.	54.00	35.00	N.A.	N.A.
ND	N.A.	N.A.	13.00	7.00	N.A.	N.A.
SM	N.A.	N.A.	4.60	2.80	N.A.	N.A.
EU	N.A.	N.A.	< 0.30	0.80	N.A.	N.A.
YB	N.A.	N.A.	5.90	2.30	N.A.	N.A.
LU	N.A.	N.A.	1.03	0.38	N.A.	N.A.
HF	N.A.	N.A.	6.00	1.00	N.A.	N.A.
PB	N.A.	N.A.	18.00	10.00	N.A.	N.A.
RB	80.00	110.00	100.00	< 10.00	50.00	40.00
SR	120.00	100.00	580.00	270.00	190.00	190.00
Y	20.00	10.00	50.00	10.00	30.00	10.00
ZR	10.00	90.00	140.00	40.00	40.00	40.00
NB	20.00	10.00	70.00	20.00	40.00	20.00
BA	230.00	450.00	170.00	150.00	630.00	350.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20915	AB20916	AB20917	AB20918	AB20919	AB20920
SIO2	54.00	65.30	55.90	48.60	52.50	56.50
AL2O3	18.20	16.20	23.50	17.80	17.10	17.80
FE2O3	8.93	5.39	3.27	10.40	11.10	11.00
MNO	0.14	0.04	0.03	0.18	0.18	0.02
MGO	2.00	1.12	2.43	7.84	4.89	0.94
CAO	6.84	1.99	0.69	6.37	3.64	0.26
NA2O	4.19	3.35	3.15	3.87	4.89	1.60
K2O	1.17	2.92	5.83	1.14	1.35	4.66
TIO2	1.10	0.52	0.61	0.72	1.02	0.62
P2O5	0.17	0.10	0.10	0.10	0.11	0.09
CR2O3	0.02	0.01	< 0.01	< 0.01	< 0.01	0.05
LOI	3.31	3.54	3.77	2.39	2.77	6.62
TOTAL	100.07	100.48	99.29	99.41	99.56	100.16
AU	< 10.00	10.00	< 10.00	N.A.	N.A.	N.A.
V	280.00	70.00	40.00	N.A.	N.A.	N.A.
CR	250.00	150.00	94.00	N.A.	N.A.	N.A.
MN	960.00	280.00	140.00	N.A.	N.A.	N.A.
CO	17.00	1.00	4.00	N.A.	N.A.	N.A.
NI	16.00	2.00	6.00	N.A.	N.A.	N.A.
CU	86.00	8.00	30.00	N.A.	N.A.	N.A.
ZN	98.00	27.00	63.00	N.A.	N.A.	N.A.
GE	10.00	10.00	10.00	N.A.	N.A.	N.A.
AS	10.00	< 2.00	4.00	N.A.	N.A.	N.A.
SE	< 3.00	< 3.00	4.00	N.A.	N.A.	N.A.
MO	< 5.00	< 5.00	11.00	N.A.	N.A.	N.A.
AG	< 0.50	< 0.50	< 0.50	N.A.	N.A.	N.A.
CD	< 0.20	< 0.20	< 0.20	N.A.	N.A.	N.A.
CS	1.80	1.20	1.80	N.A.	N.A.	N.A.
LA	10.70	15.90	23.10	N.A.	N.A.	N.A.
CE	45.00	43.00	64.00	N.A.	N.A.	N.A.
ND	9.00	12.00	9.00	N.A.	N.A.	N.A.
SM	3.80	2.50	2.90	N.A.	N.A.	N.A.
EU	1.60	0.40	0.60	N.A.	N.A.	N.A.
YB	3.30	1.50	3.20	N.A.	N.A.	N.A.
LU	0.59	0.32	0.64	N.A.	N.A.	N.A.
HF	1.00	3.00	10.00	N.A.	N.A.	N.A.
PB	6.00	10.00	6.00	N.A.	N.A.	N.A.
RB	40.00	70.00	150.00	40.00	60.00	150.00
SR	220.00	220.00	130.00	230.00	230.00	40.00
Y	50.00	20.00	30.00	10.00	20.00	10.00
ZR	70.00	120.00	380.00	20.00	30.00	30.00
NB	20.00	20.00	30.00	20.00	20.00	10.00
BA	460.00	900.00	7280.00	330.00	1030.00	800.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20921	AB20922	AB20923	AB20924	AB20925	AB20926
SIO2	52.80	73.50	67.10	63.00	50.10	55.70
AL2O3	14.50	11.60	17.60	14.80	15.70	5.08
FE2O3	10.00	4.11	3.66	7.35	8.40	24.40
MNO	0.18	0.03	0.03	0.10	N.A.	N.A.
MGO	13.70	0.50	1.52	4.91	11.80	0.15
CAO	0.23	0.77	0.39	0.89	7.07	0.17
NA2O	0.99	0.49	0.91	1.00	2.33	0.38
K2O	0.24	3.41	4.77	2.95	0.50	1.41
TIO2	0.56	0.49	0.62	0.56	0.78	0.24
P2O5	0.05	0.08	0.07	0.08	0.09	0.02
CR2O3	0.11	0.22	0.03	0.09	N.A.	N.A.
LOI	6.77	3.00	3.31	4.47	3.16	12.85
TOTAL	100.13	98.20	100.01	100.19	99.93	100.40
AU	< 10.00	N.A.	N.A.	N.A.	< 10.00	78.00
V	260.00	N.A.	N.A.	N.A.	270.00	70.00
CR	850.00	N.A.	N.A.	N.A.	430.00	370.00
MN	970.00	N.A.	N.A.	N.A.	880.00	30.00
CO	51.00	N.A.	N.A.	N.A.	37.00	210.00
NI	200.00	N.A.	N.A.	N.A.	110.00	92.00
CU	15.00	N.A.	N.A.	N.A.	39.00	21.00
ZN	96.00	N.A.	N.A.	N.A.	86.00	2200.00
GE	10.00	N.A.	N.A.	N.A.	10.00	10.00
AS	< 2.00	N.A.	N.A.	N.A.	< 2.00	310.00
SE	< 3.00	N.A.	N.A.	N.A.	< 3.00	< 3.00
MO	< 5.00	N.A.	N.A.	N.A.	< 5.00	510.00
AG	< 0.50	N.A.	N.A.	N.A.	< 0.50	1.00
CD	< 0.20	N.A.	N.A.	N.A.	< 0.20	39.00
CS	< 1.00	N.A.	N.A.	N.A.	< 0.50	1.70
LA	3.40	N.A.	N.A.	N.A.	3.20	5.40
CE	12.00	N.A.	N.A.	N.A.	17.00	10.00
ND	< 5.00	N.A.	N.A.	N.A.	< 5.00	< 5.00
SM	1.10	N.A.	N.A.	N.A.	1.80	0.70
EU	0.30	N.A.	N.A.	N.A.	0.70	0.30
YB	0.80	N.A.	N.A.	N.A.	2.10	0.70
LU	0.16	N.A.	N.A.	N.A.	0.32	0.13
HF	1.00	N.A.	N.A.	N.A.	1.00	1.00
PB	2.00	N.A.	N.A.	N.A.	< 2.00	12.00
RB	< 10.00	110.00	150.00	110.00	30.00	70.00
SR	10.00	70.00	40.00	50.00	150.00	< 10.00
Y	10.00	10.00	30.00	10.00	20.00	< 10.00
ZR	10.00	< 10.00	110.00	< 10.00	10.00	10.00
NB	10.00	10.00	10.00	10.00	20.00	< 10.00
BA	210.00	1920.00	910.00	520.00	160.00	370.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20934	AB20935	AB20936	AB20937	AB20938	AB20939
SIO2	74.30	73.30	51.20	46.20	61.30	44.80
AL2O3	14.50	14.10	16.60	16.40	9.12	3.19
FE2O3	2.40	2.62	11.30	11.30	14.30	38.70
MNO	N.A.	N.A.	0.20	0.21	N.A.	N.A.
MGO	0.36	0.47	6.09	7.46	0.65	0.29
CAO	1.06	0.93	7.18	11.70	1.41	0.59
NA2O	2.14	4.85	3.07	2.85	1.32	0.66
K2O	2.93	1.98	0.24	0.37	2.05	0.45
TIO2	0.11	0.12	0.87	1.41	0.32	0.16
P2O5	0.09	0.14	0.05	0.16	0.05	0.04
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	0.02
LOI	2.54	1.39	3.16	2.16	9.08	11.39
TOTAL	100.43	99.90	99.96	100.22	99.60	100.29
AU	< 10.00	< 10.00	< 10.00	< 10.00	73.00	130.00
V	10.00	< 10.00	270.00	250.00	140.00	50.00
CR	190.00	180.00	220.00	390.00	250.00	220.00
MN	76.00	180.00	N.A.	N.A.	210.00	120.00
CO	2.00	1.00	35.00	47.00	18.00	56.00
NI	23.00	2.00	30.00	200.00	51.00	85.00
CU	11.00	19.00	62.00	68.00	700.00	830.00
ZN	220.00	41.00	110.00	98.00	510.00	410.00
GE	< 10.00	10.00	20.00	< 10.00	< 10.00	< 10.00
AS	< 2.00	< 2.00	< 2.00	< 2.00	190.00	94.00
SE	4.00	< 3.00	< 3.00	< 4.00	4.00	4.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	5.50	4.50
CD	1.40	< 0.20	< 0.20	< 0.20	0.80	1.20
CS	0.80	0.80	< 1.00	< 2.00	1.70	< 0.50
LA	20.40	22.40	4.10	6.40	2.80	3.00
CE	59.00	64.00	20.00	19.00	13.00	7.00
ND	14.00	15.00	< 5.00	10.00	< 5.00	< 5.00
SM	3.40	3.60	1.90	3.40	0.90	0.70
EU	0.70	0.50	0.70	1.00	0.40	0.40
YB	0.70	0.80	2.50	2.40	1.40	0.70
LU	0.18	0.13	0.39	0.39	0.25	0.12
HF	3.00	2.00	1.00	2.00	< 1.00	< 1.00
PB	2.00	2.00	< 2.00	< 2.00	210.00	80.00
RB	60.00	60.00	20.00	20.00	< 10.00	< 10.00
SR	100.00	100.00	160.00	370.00	40.00	< 10.00
Y	< 10.00	< 10.00	30.00	20.00	< 10.00	< 10.00
ZR	90.00	80.00	30.00	100.00	< 10.00	< 10.00
NB	10.00	10.00	20.00	20.00	30.00	20.00
BA	1020.00	750.00	120.00	110.00	3810.00	1070.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20940	AB20941	AB20942	AB20943	AB20944	AB20945
SIO2	66.40	59.10	76.20	82.00	63.40	76.10
AL2O3	10.80	15.00	8.10	5.52	14.50	6.42
FE2O3	11.70	8.21	5.32	5.67	7.15	8.21
MNO	N.A.	0.10	N.A.	N.A.	N.A.	N.A.
MGO	0.95	5.43	1.36	0.61	4.37	0.47
CAO	0.67	2.02	0.69	0.51	1.48	0.28
NA2O	1.25	3.78	0.71	0.69	2.35	0.93
K2O	2.50	1.46	2.06	1.33	2.41	1.54
TIO2	0.38	0.59	0.48	0.23	0.51	0.26
P2O5	0.06	0.09	0.13	0.04	0.09	0.04
CR2O3	N.A.	0.04	N.A.	0.17	N.A.	N.A.
LOI	4.31	3.54	3.93	2.08	3.62	5.08
TOTAL	99.02	99.36	98.98	98.85	99.88	99.33
AU	44.00	N.A.	39.00	12.00	17.00	53.00
V	190.00	N.A.	80.00	120.00	220.00	110.00
CR	230.00	N.A.	150.00	N.A.	420.00	450.00
MN	160.00	N.A.	130.00	92.00	770.00	68.00
CO	15.00	N.A.	12.00	22.00	30.00	18.00
NI	63.00	N.A.	27.00	120.00	110.00	65.00
CU	360.00	N.A.	290.00	140.00	93.00	52.00
ZN	670.00	N.A.	1200.00	430.00	130.00	230.00
GE	< 10.00	N.A.	< 10.00	< 10.00	< 10.00	< 10.00
AS	44.00	N.A.	110.00	6.00	39.00	160.00
SE	4.00	N.A.	5.00	< 3.00	3.00	4.00
MO	< 5.00	N.A.	< 5.00	< 5.00	< 5.00	< 5.00
AG	2.50	N.A.	3.50	< 0.50	< 0.50	< 0.50
CD	2.80	N.A.	4.40	0.80	< 0.20	0.40
CS	2.20	N.A.	2.90	< 1.30	3.20	< 1.20
LA	4.70	N.A.	17.60	3.90	6.00	4.40
CE	10.00	N.A.	31.00	6.00	13.00	8.00
ND	< 5.00	N.A.	15.00	< 5.00	7.00	5.00
SM	1.40	N.A.	3.10	1.10	1.60	1.20
EU	< 0.20	N.A.	0.60	0.40	0.60	< 0.20
YB	1.50	N.A.	1.60	1.40	1.50	1.40
LU	0.25	N.A.	0.29	0.25	0.28	0.24
HF	1.00	N.A.	2.00	< 1.00	2.00	1.00
PB	120.00	N.A.	440.00	44.00	22.00	46.00
RB	90.00	70.00	80.00	70.00	90.00	80.00
SR	20.00	100.00	< 10.00	< 10.00	50.00	< 10.00
Y	10.00	< 10.00	< 10.00	< 10.00	20.00	10.00
ZR	< 10.00	20.00	50.00	< 10.00	10.00	< 10.00
NB	< 10.00	30.00	40.00	10.00	20.00	20.00
BA	3800.00	1230.00	3200.00	2560.00	540.00	530.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20946	AB20947	AB20948	AB20949	AB20950	AB20951
SIO2	52.00	57.00	74.30	54.70	57.30	72.90
AL2O3	14.60	17.30	13.80	17.90	18.00	13.60
FE2O3	8.91	6.15	1.79	8.47	7.40	1.94
MNO	0.20	0.16	N.A.	0.29	0.24	N.A.
MGO	6.42	3.03	0.50	2.36	2.74	0.42
CAO	9.87	6.55	3.44	7.88	6.90	2.47
NA2O	2.02	3.30	2.06	0.89	0.94	3.04
K2O	1.53	2.33	2.03	2.02	2.25	2.30
TIO2	0.47	0.50	0.12	0.59	0.60	0.13
P2O5	0.06	0.18	0.07	0.18	0.19	0.07
CR2O3	0.07	N.A.	N.A.	< 0.01	< 0.01	N.A.
LOI	3.00	3.54	2.00	3.77	3.23	2.62
TOTAL	99.15	100.04	100.11	99.06	99.80	99.49
AU	N.A.	< 10.00	< 1.00	N.A.	N.A.	< 10.00
V	N.A.	150.00	10.00	N.A.	N.A.	< 10.00
CR	N.A.	86.00	70.00	N.A.	N.A.	80.00
MN	N.A.	N.A.	400.00	N.A.	N.A.	380.00
CO	N.A.	13.00	1.00	N.A.	N.A.	2.00
NI	N.A.	14.00	6.00	N.A.	N.A.	4.00
CU	N.A.	11.00	10.00	N.A.	N.A.	8.50
ZN	N.A.	87.00	33.00	N.A.	N.A.	50.00
GE	N.A.	< 10.00	< 10.00	N.A.	N.A.	< 10.00
AS	N.A.	2.00	< 2.00	N.A.	N.A.	< 2.00
SE	N.A.	< 3.00	< 3.00	N.A.	N.A.	< 3.00
MO	N.A.	< 5.00	< 5.00	N.A.	N.A.	< 5.00
AG	N.A.	< 0.50	< 0.50	N.A.	N.A.	< 0.50
CD	N.A.	0.20	< 0.20	N.A.	N.A.	< 0.20
CS	N.A.	3.60	1.10	N.A.	N.A.	2.20
LA	N.A.	37.00	34.50	N.A.	N.A.	31.20
CE	N.A.	55.00	54.00	N.A.	N.A.	46.00
ND	N.A.	20.00	19.00	N.A.	N.A.	17.00
SM	N.A.	4.40	3.60	N.A.	N.A.	3.10
EU	N.A.	0.80	1.00	N.A.	N.A.	0.60
YB	N.A.	2.20	1.00	N.A.	N.A.	1.10
LU	N.A.	0.46	0.19	N.A.	N.A.	0.21
HF	N.A.	3.00	3.00	N.A.	N.A.	3.00
PB	N.A.	8.00	10.00	N.A.	N.A.	8.00
RB	40.00	90.00	80.00	70.00	90.00	80.00
SR	80.00	290.00	220.00	140.00	110.00	110.00
Y	< 10.00	20.00	20.00	40.00	10.00	10.00
ZR	10.00	70.00	100.00	70.00	70.00	80.00
NB	20.00	20.00	< 10.00	20.00	10.00	10.00
BA	830.00	1290.00	710.00	620.00	630.00	560.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20952	AB20953	AB20954	AB20955	AB20956	AB20968
SIO2	54.30	61.90	74.40	59.00	61.70	51.10
AL2O3	18.10	17.40	13.80	18.50	14.90	16.40
FE2O3	7.05	7.70	3.38	8.91	7.57	8.97
MNO	0.15	0.04	N.A.	0.13	N.A.	0.16
MGO	2.67	1.09	0.34	1.69	4.93	8.00
CAO	7.67	0.54	0.22	4.32	1.52	7.31
NA2O	0.77	1.29	0.92	1.21	0.91	3.49
K2O	4.00	4.02	3.25	2.80	2.56	0.61
TIO2	0.59	0.84	0.36	0.87	0.59	0.61
P2O5	0.20	0.14	0.11	0.14	0.19	0.05
CR2O3	< 0.01	0.01	N.A.	< 0.01	N.A.	0.04
LOI	4.93	4.77	2.93	2.62	4.39	2.39
TOTAL	100.43	99.74	99.71	100.19	99.26	99.13
AU	N.A.	N.A.	< 10.00	N.A.	14.00	N.A.
V	N.A.	N.A.	140.00	N.A.	290.00	N.A.
CR	N.A.	N.A.	110.00	N.A.	300.00	N.A.
MN	N.A.	N.A.	80.00	N.A.	670.00	N.A.
CO	N.A.	N.A.	10.00	N.A.	22.00	N.A.
NI	N.A.	N.A.	15.00	N.A.	73.00	N.A.
CU	N.A.	N.A.	25.00	N.A.	120.00	N.A.
ZN	N.A.	N.A.	410.00	N.A.	380.00	N.A.
GE	N.A.	N.A.	10.00	N.A.	10.00	N.A.
AS	N.A.	N.A.	22.00	N.A.	150.00	N.A.
SE	N.A.	N.A.	< 3.00	N.A.	5.00	N.A.
MO	N.A.	N.A.	< 5.00	N.A.	< 5.00	N.A.
AG	N.A.	N.A.	< 0.50	N.A.	< 0.50	N.A.
CD	N.A.	N.A.	1.80	N.A.	2.00	N.A.
CS	N.A.	N.A.	1.90	N.A.	3.20	N.A.
LA	N.A.	N.A.	18.50	N.A.	20.00	N.A.
CE	N.A.	N.A.	30.00	N.A.	32.00	N.A.
ND	N.A.	N.A.	11.00	N.A.	14.00	N.A.
SM	N.A.	N.A.	2.70	N.A.	3.40	N.A.
EU	N.A.	N.A.	0.60	N.A.	0.70	N.A.
YB	N.A.	N.A.	1.70	N.A.	1.60	N.A.
LU	N.A.	N.A.	0.36	N.A.	0.33	N.A.
HF	N.A.	N.A.	3.00	N.A.	3.00	N.A.
PB	N.A.	N.A.	18.00	N.A.	40.00	N.A.
RB	150.00	140.00	90.00	120.00	80.00	40.00
SR	100.00	40.00	50.00	80.00	30.00	250.00
Y	10.00	30.00	20.00	20.00	20.00	20.00
ZR	80.00	70.00	80.00	90.00	60.00	30.00
NB	20.00	20.00	20.00	20.00	< 10.00	10.00
BA	690.00	490.00	550.00	470.00	2560.00	170.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20969	AB20970	AB20971	AB20972	AB20973	AB20974
SIO2	50.10	54.10	75.50	63.10	79.00	47.60
AL2O3	14.90	22.90	14.40	11.90	11.90	15.10
FE2O3	9.03	4.54	3.01	12.70	0.87	9.71
MNO	0.18	N.A.	N.A.	N.A.	N.A.	0.20
MGO	9.27	2.07	1.12	3.04	0.40	11.60
CAO	8.47	6.19	1.50	0.61	1.69	8.12
NA2O	2.78	4.52	2.19	1.26	3.82	2.60
K2O	0.95	1.40	0.72	2.32	1.11	0.34
TIO2	0.49	0.71	0.48	0.42	0.07	0.66
P2O5	0.05	0.12	0.03	0.06	0.02	0.08
CR2O3	0.06	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	3.23	2.39	1.31	3.93	1.08	2.93
TOTAL	99.51	98.94	100.26	99.34	99.96	98.94
AU	N.A.	40.00	80.00	40.00	10.00	< 10.00
V	N.A.	50.00	60.00	90.00	10.00	260.00
CR	N.A.	100.00	220.00	240.00	150.00	450.00
MN	N.A.	320.00	140.00	520.00	110.00	N.A.
CO	N.A.	9.00	11.00	12.00	2.00	52.00
NI	N.A.	6.00	8.00	11.00	5.00	150.00
CU	N.A.	1100.00	1500.00	1700.00	68.00	34.00
ZN	N.A.	56.00	58.00	77.00	29.00	90.00
GE	N.A.	< 10.00	< 10.00	10.00	< 10.00	10.00
AS	N.A.	< 2.00	2.00	< 2.00	< 2.00	< 2.00
SE	N.A.	3.00	< 3.00	3.00	< 3.00	< 3.00
MO	N.A.	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	N.A.	< 0.50	1.00	1.50	0.50	< 0.50
CD	N.A.	< 0.20	0.20	< 0.20	< 0.20	< 0.20
CS	N.A.	2.40	1.80	3.70	2.10	< 1.20
LA	N.A.	30.90	16.80	7.90	15.70	5.10
CE	N.A.	64.00	33.00	14.00	34.00	27.00
ND	N.A.	34.00	15.00	8.00	17.00	5.00
SM	N.A.	9.30	4.30	1.30	5.30	1.80
EU	N.A.	1.80	0.70	0.30	0.40	0.80
YB	N.A.	8.70	4.60	3.00	6.80	1.70
LU	N.A.	1.61	0.84	0.51	1.24	0.24
HF	N.A.	7.00	4.00	3.00	4.00	< 1.00
PB	N.A.	4.00	10.00	< 2.00	< 2.00	< 2.00
RB	40.00	80.00	40.00	< 10.00	40.00	20.00
SR	120.00	320.00	140.00	10.00	120.00	130.00
Y	< 10.00	100.00	60.00	< 10.00	70.00	10.00
ZR	< 10.00	170.00	110.00	100.00	70.00	40.00
NB	10.00	10.00	< 10.00	20.00	20.00	20.00
BA	230.00	560.00	670.00	650.00	370.00	90.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20975	AB20976	AB20977	AB20979	AB20980	AB20981
SIO2	70.00	47.00	73.40	49.20	N.A.	58.10
AL2O3	14.20	18.70	14.10	18.00	N.A.	16.30
FE2O3	2.95	11.80	1.55	9.13	N.A.	6.47
MNO	N.A.	N.A.	N.A.	N.A.	N.A.	0.17
MGO	2.93	6.97	1.96	4.57	N.A.	2.87
CAO	1.56	5.52	1.17	8.14	N.A.	5.22
NA2O	2.64	2.13	3.21	1.14	N.A.	1.05
K2O	2.57	3.17	2.43	3.55	N.A.	3.87
TIO2	0.52	1.12	0.39	0.66	N.A.	0.59
P2O5	0.07	0.12	0.07	0.11	N.A.	0.09
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	1.93	2.77	1.85	4.24	N.A.	4.24
TOTAL	99.37	99.30	100.13	98.74	N.A.	98.97
AU	60.00	< 10.00	150.00	< 10.00	N.A.	< 10.00
V	130.00	220.00	70.00	320.00	N.A.	300.00
CR	210.00	65.00	200.00	550.00	N.A.	450.00
MN	350.00	970.00	180.00	880.00	N.A.	N.A.
CO	7.00	27.00	4.00	62.00	N.A.	42.00
NI	8.00	3.00	7.00	160.00	N.A.	95.00
CU	800.00	260.00	1300.00	110.00	N.A.	140.00
ZN	74.00	110.00	32.00	120.00	N.A.	81.00
GE	< 10.00	10.00	< 10.00	10.00	N.A.	10.00
AS	< 2.00	< 2.00	< 2.00	4.00	N.A.	2.00
SE	< 3.00	6.00	< 3.00	< 3.00	N.A.	< 3.00
MO	5.00	5.00	19.00	< 5.00	N.A.	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	N.A.	< 0.50
CD	< 0.20	0.40	< 0.20	< 0.20	N.A.	< 0.20
CS	1.70	6.70	1.10	2.40	N.A.	< 1.00
LA	2.50	8.10	5.30	6.80	N.A.	3.90
CE	17.00	36.00	32.00	31.00	N.A.	22.00
ND	< 5.00	8.00	5.00	6.00	N.A.	5.00
SM	1.20	3.00	2.30	2.20	N.A.	1.70
EU	0.40	1.10	< 0.40	0.40	N.A.	0.60
YB	1.60	2.90	3.90	1.30	N.A.	2.10
LU	0.25	0.46	0.69	0.18	N.A.	0.30
HF	1.00	2.00	3.00	1.00	N.A.	1.00
PB	10.00	4.00	4.00	< 2.00	N.A.	< 2.00
RB	80.00	110.00	< 10.00	110.00	N.A.	110.00
SR	90.00	380.00	110.00	100.00	N.A.	80.00
Y	10.00	20.00	10.00	< 10.00	N.A.	50.00
ZR	50.00	40.00	100.00	20.00	N.A.	30.00
NB	20.00	10.00	10.00	10.00	N.A.	20.00
BA	1240.00	220.00	620.00	350.00	N.A.	410.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20983	AB20984	AB20985	AB20986	AB20987	AB20988
SIO2	53.30	53.30	53.30	50.60	53.70	50.00
AL2O3	15.40	12.30	15.10	17.70	19.50	15.90
FE2O3	7.96	9.20	9.48	10.40	10.10	9.09
MNO	0.47	0.32	0.38	0.36	N.A.	0.34
MGO	7.42	6.17	6.61	7.60	3.85	6.24
CAO	3.96	7.13	5.12	4.65	0.45	7.84
NA2O	2.96	1.53	0.64	1.14	2.92	0.81
K2O	1.89	1.62	2.70	2.12	3.27	2.44
TIO2	0.57	0.46	0.60	0.73	0.59	0.57
P2O5	0.08	0.08	0.11	0.12	0.06	0.06
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	4.85	6.47	5.54	4.47	4.54	5.39
TOTAL	98.86	98.58	99.58	99.89	98.98	98.68
AU	< 10.00	20.00	20.00	< 10.00	10.00	< 10.00
V	290.00	210.00	230.00	290.00	350.00	310.00
CR	380.00	410.00	400.00	640.00	500.00	790.00
MN	N.A.	N.A.	N.A.	N.A.	590.00	N.A.
CO	27.00	43.00	28.00	43.00	46.00	44.00
NI	76.00	130.00	90.00	180.00	110.00	150.00
CU	87.00	130.00	87.00	68.00	180.00	110.00
ZN	99.00	95.00	130.00	120.00	110.00	87.00
GE	< 10.00	10.00	10.00	10.00	10.00	< 10.00
AS	9.00	17.00	5.00	< 2.00	5.00	2.00
SE	< 3.00	< 3.00	< 3.00	5.00	< 3.00	< 3.00
MO	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	1.70	< 1.10	< 0.90	1.80	1.70	1.60
LA	4.30	5.10	7.80	7.90	3.10	3.30
CE	20.00	23.00	28.00	36.00	18.00	18.00
ND	< 5.00	< 5.00	5.00	7.00	< 5.00	< 5.00
SM	1.60	1.80	2.30	2.60	1.50	1.40
EU	0.60	0.40	0.50	0.60	< 0.40	0.30
YB	1.90	1.90	1.70	2.20	2.30	1.70
LU	0.33	0.37	0.30	0.35	0.40	0.28
HF	1.00	< 1.00	< 1.00	< 1.00	1.00	< 1.00
PB	< 2.00	< 2.00	4.00	< 2.00	< 2.00	< 2.00
RB	80.00	60.00	100.00	90.00	110.00	80.00
SR	90.00	90.00	40.00	80.00	70.00	100.00
Y	10.00	10.00	20.00	10.00	20.00	< 10.00
ZR	20.00	10.00	30.00	40.00	10.00	10.00
NB	20.00	10.00	20.00	20.00	10.00	10.00
BA	330.00	1000.00	630.00	670.00	790.00	920.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20989	AB20990	AB20991	AB20992	AB20993	AB20994
SIO2	49.60	51.50	53.80	49.30	44.20	55.70
AL2O3	14.60	15.40	15.30	16.50	18.50	16.30
FE2O3	8.75	8.73	6.57	8.98	15.80	5.88
MNO	0.24	0.22	N.A.	0.23	0.54	N.A.
MGO	9.79	7.71	4.55	8.50	5.92	3.89
CAO	9.72	8.35	7.27	9.12	7.24	6.11
NA2O	1.03	2.56	4.28	3.17	0.73	5.66
K2O	0.72	0.82	1.46	0.66	2.04	0.38
TIO2	0.53	0.60	0.96	0.46	0.45	0.82
P2O5	0.07	0.07	0.28	0.05	0.07	0.25
CR2O3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
LOI	4.39	3.93	4.93	2.54	3.62	5.00
TOTAL	99.44	99.89	99.40	99.51	99.11	99.99
AU	10.00	< 10.00	< 10.00	< 10.00	10.00	< 10.00
V	280.00	300.00	200.00	300.00	300.00	160.00
CR	700.00	480.00	200.00	420.00	180.00	140.00
MN	N.A.	N.A.	830.00	N.A.	N.A.	760.00
CO	41.00	37.00	25.00	44.00	43.00	20.00
NI	150.00	110.00	72.00	94.00	65.00	45.00
CU	100.00	68.00	27.00	21.00	160.00	40.00
ZN	97.00	89.00	100.00	98.00	130.00	95.00
GE	< 10.00	10.00	< 10.00	10.00	10.00	10.00
AS	3.00	2.00	2.00	< 2.00	2.00	< 3.00
SE	< 31.00	< 3.00	< 3.00	< 3.00	< 3.00	< 11.00
MO	39.00	< 5.00	< 5.00	< 5.00	< 5.00	8.00
AG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
CD	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
CS	< 1.10	2.00	3.60	< 1.20	2.60	< 3.30
LA	3.70	3.20	11.90	2.00	3.10	15.90
CE	19.00	20.00	51.00	12.00	15.00	30.00
ND	< 5.00	< 5.00	8.00	< 5.00	< 5.00	8.00
SM	1.40	1.50	3.70	1.10	1.40	3.10
EU	0.60	< 36.00	1.00	0.40	0.40	< 1.10
YB	1.70	1.90	1.30	1.50	2.20	1.20
LU	0.32	0.33	0.19	0.24	0.32	0.26
HF	< 1.00	< 1.00	2.00	1.00	< 1.00	3.00
PB	< 2.00	< 2.00	2.00	< 2.00	< 2.00	< 2.00
RB	40.00	50.00	70.00	30.00	90.00	< 10.00
SR	190.00	140.00	530.00	150.00	130.00	790.00
Y	10.00	10.00	20.00	N.A.	20.00	< 10.00
ZR	< 10.00	< 10.00	60.00	N.A.	< 10.00	70.00
NB	10.00	10.00	20.00	N.A.	10.00	10.00
BA	310.00	410.00	330.00	210.00	820.00	460.00

FALCONBRIDGE LIMITED-WHOLE ROCK DATABASE

ECSTALL RIVER PROPERTY

SAMP NO.->	AB20995	AD01051	AD01052
SIO2	43.20	49.80	46.80
AL2O3	16.40	18.50	16.30
FE2O3	9.85	10.30	9.26
MNO	0.15	0.14	0.17
MGO	6.90	2.06	8.95
CAO	11.40	8.04	9.53
NA2O	1.27	6.19	3.31
K2O	2.15	0.54	0.33
TIO2	1.45	1.72	1.68
P2O5	0.17	0.91	0.20
CR2O3	N.A.	< 0.01	0.06
LOI	5.39	2.16	2.23
TOTAL	98.33	100.36	98.82
AU	< 10.00	N.A.	N.A.
V	260.00	N.A.	N.A.
CR	290.00	N.A.	N.A.
MN	N.A.	N.A.	N.A.
CO	46.00	N.A.	N.A.
NI	110.00	N.A.	N.A.
CU	75.00	N.A.	N.A.
ZN	120.00	N.A.	N.A.
GE	< 10.00	N.A.	N.A.
AS	< 2.00	N.A.	N.A.
SE	< 3.00	N.A.	N.A.
MO	< 5.00	N.A.	N.A.
AG	< 0.50	N.A.	N.A.
CD	< 0.20	N.A.	N.A.
CS	1.90	N.A.	N.A.
LA	7.30	N.A.	N.A.
CE	43.00	N.A.	N.A.
ND	8.00	N.A.	N.A.
SM	3.80	N.A.	N.A.
EU	1.20	N.A.	N.A.
YB	2.60	N.A.	N.A.
LU	0.43	N.A.	N.A.
HF	2.00	N.A.	N.A.
PB	< 2.00	N.A.	N.A.
RB	< 10.00	20.00	10.00
SR	190.00	640.00	420.00
Y	10.00	50.00	30.00
ZR	90.00	190.00	130.00
NB	20.00	50.00	10.00
BA	400.00	280.00	260.00

APPENDIX III

GEOCHEMICAL ANALYTICAL

DATA SHEETS

(ROCK AND DRILL CORE SAMPLES)

ROCK GEOCHEMICAL ANALYSES

The analyses were performed by Bondar-Clegg & Company Ltd. and Acme Analytical Laboratories Ltd. of Vancouver, British Columbia. The analytical techniques used and their lower detection limits are listed below.

ELEMENT	METHOD	DETECTION LIMIT	
Cu	AA	1	ppm
Cu*	ICP	1	ppm
Pb	AA	2	ppm
Pb*	ICP	2	ppm
Zn	AA	1	ppm
Zn*	ICP	1	ppm
Ag	AA	0.2	ppm
Ag*	ICP	0.1	ppm
Au	AA,FA	5	ppb
Au*	AA,FA	2	ppb

AA = Atomic absorbtion

FA = Fire assay

ICP = Inductively coupled plasma emmision spectroscopy

N.A.= Not analyzed

* = Analyzed by Acme Laboratories Ltd.

** = Element has been assayed for, see Appendix

FALCONBRIDGE LIMITED

ROCK GEOCHEMICAL ANALYSES

SAMPLE #	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)
AB20729*	5231	2594	24246**	19.3	140
AB20731*	83	6	74	0.6	5
AB20732*	332	310	821	2.0	12
AB20738	320	11	1840	2.4	40
AB20756	340	21	1220	2.3	60
AB20757	380	38	600	3.1	65
AB20758	400	22	316	2.3	20
AB20766	360	6	310	1.5	<5
AB20767	400	4	49	0.4	<5
AB20769	4600	2	85	2.7	55
AB20770	8700	2	47	4.8	75
AB20772	900	7	42	0.2	10
AB20785	70	7	25	<0.2	<5
AB20786	157	22	143	0.7	<5
AB20787	8000	37	2800	16.0	<5
AB20823	140	18	52	0.5	<5
AB20825	>20000**	101	5300	>50.0**	2400
AB20826	5320	4	224	3.5	15
AB20827	150	280	88	1.0	<5
AB20828	69	11	90	0.3	<5
AB20829	51	21	85	0.2	<5
AB20830	58	46	220	0.4	<5
AB20831	31	56	200	5.6	25
AB20832	36	10	148	1.2	<5
AB20833	183	>10000**	24	>50.0**	55
AB20834	90	2	32	0.4	**
AB20835	103	2	52	0.5	**
AB20836	138	3	82	0.6	**
AB20837	102	2	64	0.7	**
AB20838	154	<2	48	0.7	**
AB20839	86	<2	29	0.3	**
AB20840	65	<2	104	0.2	**
AB20841	117	350	42	1.4	**

FALCONBRIDGE LIMITED

ROCK GEOCHEMICAL ANALYSES

SAMPLE #	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	Au (ppb)
AB20842	1565	43	50	1.0	30
AB20843	73	20	9800	0.8	25
AB20844	55	5	104	0.5	<5
AB20845	45	13	107	0.4	<5
AB20859*	784	24	386	2.1	7
AB20892	87	12	63	3.0	20
AB20904	81	35	68	1.8	15
AB20928	645	50	610	2.6	10
AB20957	138	127	192	2.1	70
AB20958	90	53	148	1.0	50
AB20959	212	162	325	2.4	110
AB20960	70	220	264	1.8	110
AB20961	126	14	90	0.6	35
AB20962	100	17	94	0.6	35
AB20963	162	402	450	2.0	45
AB20964	114	207	440	1.4	45
AB20965	172	32	136	0.6	20
AB20966	162	77	140	1.2	55
AB20967	73	13	74	0.6	<5
AB20978	1880	<2	30	1.0	**
AB20982	156	<2	72	0.4	**
AB20996	86	<2	60	1.0	**
AB20997	85	<2	50	1.8	**
AB20998	142	<2	74	0.6	**
AB20999	95	<2	60	0.8	**
AB21000	112	<2	80	0.5	**

FALCONBRIDGE LIMITED

ASSAY RESULTS

SAMPLE #	Cu (%)	Pb (%)	Zn (%)	Ag (o/t)	Au (o/t)
AB20729*	N.A.	N.A.	2.57	N.A.	N.A.
AB20825	8.80	N.A.	N.A.	4.17	N.A.
AB20833	N.A.	7.80	N.A.	6.24	N.A.
AB20834	N.A.	N.A.	N.A.	N.A.	< 0.002
AB20835	N.A.	N.A.	N.A.	N.A.	0.002
AB20836	N.A.	N.A.	N.A.	N.A.	0.004
AB20837	N.A.	N.A.	N.A.	N.A.	< 0.002
AB20838	N.A.	N.A.	N.A.	N.A.	< 0.002
AB20839	N.A.	N.A.	N.A.	N.A.	0.002
AB20840	N.A.	N.A.	N.A.	N.A.	< 0.002
AB20978	N.A.	N.A.	N.A.	N.A.	0.009
AB20982	N.A.	N.A.	N.A.	N.A.	0.002
AB20996	N.A.	N.A.	N.A.	N.A.	0.002
AB20997	N.A.	N.A.	N.A.	N.A.	< 0.002
AB20998	N.A.	N.A.	N.A.	N.A.	0.002
AB20999	N.A.	N.A.	N.A.	N.A.	< 0.002
AB21000	N.A.	N.A.	N.A.	N.A.	0.004

All samples except AB20729 were assayed by Bondar-Clegg and Company of Vancouver. Sample AB20729 was assayed by Acme Laboratories of Vancouver.

o/t = ounces per ton
N.A. = not analyzed

APPENDIX IV

AIRBORNE ELECTROMAGNETIC/MAGNETIC SURVEY

QUESTOR SURVEYS LIMITED

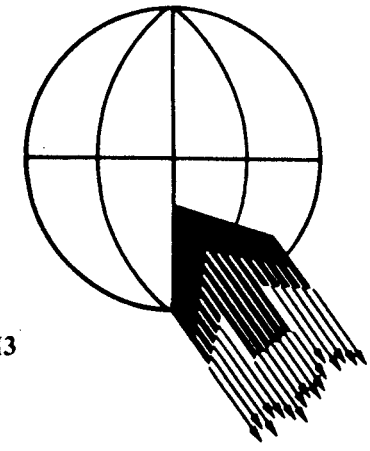
AIRBORNE ELECTROMAGNETIC/MAGNETIC SURVEY

KIDD CREEK MINES LTD.

ECSTALL RIVER AREA

BRITISH COLUMBIA

FILE NO. 27H42 FEBRUARY 1986



Questor Surveys Limited, 6380 Viscount Road, Mississauga, Ontario L4V 1H3

CONTENTS

1. INTRODUCTION

This report details the operation and interpretation of a helicopter-borne INPUT electromagnetic and magnetic survey. The survey was commissioned by Kidd Creek Mines Limited of Vancouver, British Columbia on October 25, 1985. It consists of a single block situated in the Douglas Channel Area of British Columbia, approximately 63 kilometres west of Kitimat along the Ecstall River. An outline of the survey area is provided on a location map at the end of the report.

The electromagnetic system utilized for the survey was the Barringer/Questor MK VI INPUT system with receiver and transmitter specifications as described in Appendix A.

The survey helicopter (C-GLMC) arrived in Terrace, British Columbia on December 7, 1985. The survey commenced on the following day and was completed December 9, 1985. In total, 174 line kilometres was flown for the survey. One control line required to level the magnetic data accounted for 10 kilometres of this total.

The main field operations were conducted from Terrace, British Columbia. Fuel was also trucked to an arranged refuelling point along Highway 16 in the vicinity of where the Scotia River meets the Skeena River. The field operation was overseen by Grant Hendrickson of Kidd Creek Mines Limited.

2. SURVEY OPERATIONS

2a. Survey Procedure

During the survey, the aircraft maintained a terrain clearance as close to 122 metres as possible, with the receiver coil (bird) at approximately 55 metres above the ground surface. In areas of substantial topographic relief and tall trees, the helicopter height may exceed 122 metres for safety reasons. The height of the bird above the ground is also influenced by the aircraft's air speed (see figure A1 in Appendix A), which was maintained at an average of 40 to 70 knots, while on survey.

The survey traverse lines for the survey area were flown in the following manner:

BLOCK	LINE DIRECTION	SPACING BETWEEN LINES
A	East-West	200 metres

Whenever possible, the traverse lines were flown in alternate flight directions (i.e., east then west) facilitating the interpretation of dipping conductors.

The details of each production flight are documented on the flight logs by the equipment technician. The logs include the survey times, line numbers and fiducial intervals, as well as a record of equipment irregularities and atmospheric conditions. One may refer to these logs in order to relate the flight path film to the geophysical data.

2b. Production

The following table summarizes the production during the survey operations:

Date	Flight No.	Production Kilometrage Flown	Hours Flown	Comments
1985				
Dec 8	56	33	2.3	Little production - area mostly covered in fog; waited in survey area until 3:30 pm
Dec 8	57		0.8	ferry back to Terrace
Dec 9	58	approx. 75	3.1	
Dec 9	58	approx. 75	2.0	Refuelled at Highway 16/ Scotia River

The survey duration was limited to a couple of days, primarily because of other previous commitments by Questor and partly because the survey was on a cost plus basis.

Jet fuel was trucked to a clearing at Highway 16 and Scotia River, which reduced the ferry distance for refuelling the helicopter between flights 58 and 59.

The first day of survey was hampered by thick ground fog which covered most of the low areas in the survey. Flight lines 10010 to 10100 where the only lines clear enough to navigate that day. The next day, the remaining portion of the survey was flown with some difficulty in navigating, particularly along the west side of the survey area which was covered by deep snow and some fog.

2c. Equipment

The survey equipment and aircraft used for the survey are summarized in Appendices A and B, respectively. Briefly, the following equipment was utilized for the survey:

a) Bell 205A-1 Helicopter (Canadian Registration C-GLMC):

b) Barringer/Questor Mark VI INPUT E.M. System;

c) Geometrics Model 803 Proton Precession Magnetometer (± 1 nT sensitivity);

d) Sonotek Acquisition System;

e) RMS GR33 Analogue Recorder;

f) Geocam 35mm. frame camera;

g) Sperry Radar Altimeter (± 3 percent accuracy, in units of feet);

h) Digidata Digital Recorder;

The equipment, such as the INPUT system, magnetometer and radar altimeter were regularly calibrated at the beginning and end of each survey flight as well as in mid-flight, whenever necessary. Details of the calibration procedures are given in Appendix C.

The continuous chart speed of the RMS recorder was set at 10 cm/min. The firing of the frame camera was snychronized with each sub-fiducial interval, which is every 2 seconds.

2d. Survey Personnel

The survey crew was made up of the following experienced Questor employees:

Geophysicist	Dan Martyn
Pilot	Bob Masson (Trans Canada)
Navigator	Bill Smith
Operator	Dab Makos
Engineer	John Caza (Trans Canada)

2e. Magnetic Diurnal

Diurnal variations in the earth's magnetic field had been recorded to an accuracy of ±1 nT using a Geometrics Model 826 Proton Precession Magnetometer. It was monitored periodically during the day for severe diurnal changes (magnetic storms). A variation of 20 nT over a 5 minute time period was considered to be a magnetic storm. During such an event, the survey would normally have been discontinued or postponed and the survey data would have been scrubbed.

The base station was set up at the Sandman Inn in Terrace, British Columbia.

One control line was flown across the survey block at approximately right angles to the traverse line directions. A computer process has calculated the intersection positions (fiducials of the control and traverse lines), and has tabulated the magnetic values and gradients. The differences were analyzed

and a correction was applied, where required, to the magnetic field in the form of a linear sloping datum along the traverse line.

2f. Recovery

The flight path of the aircraft is recorded by a strip camera on black and white, 125 ASA, 35mm. film. The film is exposed continuously during the survey flight at a rate of 4mm. per second. The aperture setting on the camera can be manually adjusted by the operator during flight, assuring the proper exposure of the film. The camera is fitted with a wide angle 18mm lens.

Recovery of the flight path is performed by comparing the negative of the film to the topographic features on the recovery mosaic. Coincident features are picked and plotted on the mosaic. They are annotated with a fiducial number (timing mark) which is printed on the film. Wherever possible, points are picked at an average interval of one per kilometre or one point per major fiducial interval, which translates to one point every 20 seconds. The picked points will not necessarily fall on major fiducial numbers, but on the final presentation, only the first and last major fiducial number on a map sheet line are indicated. By interpolation, the remaining major fiducials are marked as ticks along the flight line.

Portions of flown flight lines were omitted from the survey, particularly in the southwest corner of the block because they were unrecoverable. Topographic features in these areas

were obscured by either a ground fog or a thick layer of snow. The unrecoverable portions of flight lines have been appropriately subtracted from the total line kilometrage for the survey.

The completed flight path is accurately digitized on a flat-bed digitizer at Questor using the picked point co-ordinates. The recovery is then routinely verified by a computer programme 'speed check', which flags any abnormalities in the distance per fiducial unit between picked points on a traverse line. As a final check, the rough magnetic contour maps are examined for contour irregularities that could be attributed to recovery errors.

3. DATA PRESENTATION

3a. Map Compilation

In preparation for the survey, all necessary topographic maps and air photographs were secured from N.A.P.L. and prepared for navigation and flight path recovery purposes by Questor Surveys Limited.

The photo mosaic used in the field for the flight strips and flight path recovery was photographically enlarged to 1:20,000 and 1:10,000, respectively, from an uncontrolled, photographic mosaic, which was constructed from 1978, 1:35,000 photographs. The final data presentation is on an unscreened cronaflex photomosaic base map which is at a scale of 1:20,000. The flight path and electromagnetic and magnetic data were computer processed and plotted at Questor Surveys Limited.

3b. Products

The following products have been supplied:

i) one blank photo mosaic base mylar at a scale of 1:10,000;

ii) one composite mylar with photomosaic, flight path, electromagnetic results, magnetic information at a scale of 1:10,000;

iii) one overlay with contour magnetic data at a scale of 1:10,000;

iv) one composite mylar with photomosaic, flight path, electromagnetic results and interpretation at a scale of 1:10,000;

v) the original RMS analogue records of the geophysical data,

v) the original RMS analogue records of the geophysical data, fully labelled with line numbers and anomaly letters, plus one print and a microfilm negative of the same;

vi) the operator's flight logs;

vii) one roll of magnetic base station records;

viii) three rolls of flight path film;

ix) one white print of the combined flight path, INPUT data, magnetic contours and interpretation on photo base (iii) and (iv) at a scale of 1:10,000 (in the map pocket of each report)

x) four reports covering operations and interpretation for the survey;

xi) one stacked profile of the E.M. channel 1 amplitudes at a reduced scale (provided in each report);

xii) one Applicon colour plot of the contour magnetic data at a scale of 1:20,000.

4. GEOLOGICAL PERSPECTIVE

The survey area mainly contains an assemblage of Permian metasedimentary rocks known as the Hawkesbury Island formation. They are well foliated, fine to medium grained and consist of combinations of plagioclase, hornblende and biotite, yielding various types of amphibolite and schist. Also, in minor quantities are layers of chlorite schist, chlorite-quartz schist, argillite, graphitic schists, quartzite, greywacke, conglomerate and schistose skarn. The main trend of the geology in the vicinity of the Ecstall Mine is about N15°W and are steeply dipping to the northeast. The grade of metamorphism appears to be the staurolite-quartz and kyanite-muscovite-quartz grades of the almandine-amphibolite subfacies. The Hawkesbury Island formation grades into a quartz diorite at Johnston Lake and at the west boundary (about 2.5 km. west of the Ecstall Mine) the unit displays a sharp contact with granodiorite which in turn, grades into a quartz diorite.

The Ecstall Mine is situated in the survey area, approximately 3 km. west of Johnston Lake on Red Gulch Creek, a minor tributary of the Ecstall River. The mineral deposit is a massive sulphide replacement of predominantly schist rocks belonging to the Hawkesbury Island formation. The most abundant mineral in the deposit is pyrite. It is in the form of closely packed cubic crystals separated from each other by thin gangue layers. Interstilial among the pyrite crystals are minor amounts of sphalerite, marcasite, galena and chalcopyrite.

The main reference material used for the above geological summary was by J.A. Roddick, 1970, Douglas Channel-Hecate Strait Map-Area, British Columbia, Paper 70-41, GSC.

5. GENERAL INPUT INTERPRETATION

All interpreted natural E.M. anomalies have been selected. They have been plotted as to their flight line locations and anomaly-type classification. No E.M. responses attributed to cultural sources were found in the survey area.

An anomaly listing, at the back of this report summarizes all selected anomalous responses in numerical sequence. The listing includes the following specifications for each anomaly: anomaly number, fiducial location, anomaly type, channel classification, amplitude of channels one to six in parts-per-million, conductivity-thickness product in siemens, associated magnetic peak location, intensity of magnetic anomaly in nT and altitude of aircraft above the ground surface in metres. The anomaly label is comprised of four elements, for example:

ANOMALY 10200A

1 - first digit signifies the block (BLOCK A);

020 - next three digits signify the flight line number (line 20), control lines are differentiated by having a number 9 in the first position;

0 - fifth digit indicates the number of flight attempts;

A - a letter is assigned to each anomaly, which corresponds to the anomaly's sequential order along the flight line. Natural anomalies are in capital letters, while culture responses are in small letters. Questor's alphabet is as follows: ABCDEFGHJKLMNPRSTWYZ AA BB CC etc.

In addition to the standard anomaly parameters, an "anomaly type" classification has been added. The letters

correlate with the plotted symbols according to the following table:

Anomaly Type	Response Source (see map legend)	Symbol
Blank	bedrock conductor	circular
S	surficial (overburden or lake bottom)	diamond
U	up-dip, accessory peak to main response	half circle and half diamond, the diamond end "pointing" in the dip direction
W	down-dip, accessory peak to main response	half circle and half diamond, the diamond end "pointing" in the dip direction
P	poorly defined response	asterisk "*" in lower left quadrant
C	culture	square

Responses classified as "P" are poorly defined bedrock anomalies which exhibit relatively weak INPUT signatures. Potentially, responses of this weak nature could be the result of a weak bedrock conductor or thick conductive overburden.

Bedrock responses which revealed information about the dip of the conductor were plotted with either an up or down dip symbol. The dip direction may have been indicated by either a channel peak skew or asymmetrical anomaly shape. Those responses with no dip indication were plotted using the standard dot symbol.

In addition to the plan presentations of the INPUT anomalies, listed in Section 3b (ii), one reduced stacked profile map of E.M. channel 1 amplitudes has been plotted. No filter has

map of E.M. channel 1 amplitudes has been plotted. No filter has been applied to the data. The profile is provided at the end of this report. It introduces a visual comparison of consecutive responses with respect to their response characteristics (amplitude and width) and their spatial position to one another.

6. INPUT INTERPRETATION

The survey area contains many long formational-type bedrock conductors which predominantly strike in a north-northwest direction. Conductor axes have been drawn on the interpretation map for all suspected bedrock conductors in the survey area. The axes represent the approximate position of the top edge of a steeply dipping conductor. An examination of the response signatures which make up the formational conductors indicate that they are on the average, moderately conductive, steeply dipping to the east or west, and are situated on or very close to the surface.

No surficial or cultural-type INPUT responses have been interpreted in the survey area.

Along the Ecstall River are two prominent formational-type conductors labelled as 2a and 2b. Intercepts along their axes have channel peak skews and asymmetrical response shapes, which indicates conductor 2a to be dipping to the northeast and 2b in the opposite direction. The area between the two conductors (approximate 800 metres) is also conductive. This conducitivity may be attributed to the shallow inward dipping segments of both conductors. The source of the two conductors is believed to be bedrock in nature. They somewhat resemble conductors which occur on opposite sides of a syncline. An overburden source has been presently ruled out because the two conductors exhibit relatively high conductivity-thickness values, and do not coincide well with the entire length of the Ecstall River which they should if they derive from conductive river

bottom sediments. The two conductors appear to occur on the opposite flanks of a magnetic high which may or may not be significant as to their origin.

The double responses that make up Conductor 2c, particularly on lines 10220 to 10271, share a weak similarity in shape to the pair of responses on lines 10160 to 10110 which correspond to Conductors 2a and 2b. The anomalies of Conductor 2c are much smaller in channel amplitudes than those of Conductors 2a and 2b. This similarity warrants further investigation on the ground to see if the sources of Conductor 2c and Conductors 2a and 2b are related. In the case of Conductor 2c, the double responses have been interpreted as being the result of a singular conductor which is steeply dipping westward.

Conductor 1a is defined by ten INPUT anomalies of very weak channel amplitudes and fast decay rates. These two attributes may be the product of either a long and narrow deposit of conductive surficial sediments or a bedrock conductor of low conductance. The anomalies are believed to originate from the surface but due to their weak nature and the inability to get a reliable nomogram fit, this is uncertain. The conductor is situated a half kilometre east from several massive sulphide deposits which are known occurrences belonging to Ecstall Mines. These deposits were not detected by the INPUT system. An explanation for the lack of E.M. coupling could be the fact that the sulphide minerals in the deposit are isolated from one another by gange material making it a poor conductor. Also, the deposits may have been mined, to some degree, in its early days

of deposit evaluation. A good portion of the conductive trend of 1a is composed of a single response which would imply that it has a shallow dip. From the channel peak skewness displayed by anomaly 10121A, it may be assumed to be in a westerly direction.

Anomalies 10002A 10002B, 10003D, 10003E and 10010C and 10010D have intercepted a single bedrock conductor which may be an undiscovered part of the Ecstall Mine deposits or the northern continuation of Conductor 1a. The conductor is referenced on the interpretion map as 1b. It exhibits enhanced conductivity-thickness values from those along Conductor 1a and a definite dip to the west of 80 degrees. Magnetically, the conductor has no associated magnetic response. However, it corresponds to the same magnetic gradient feature as Conductor 1a, as well as a linear topographic feature; perhaps the result of faulting. The strike length of this conductor is limited somewhere between lines 10001 and 10021, making it an ideal massive sulphide target if it had not been already discovered in conjunction with the Ecstall Mine deposits just to the south.

The survey has revealed at least 28 individual conductor trends which warrant investigation by the project geophysicist with detailed geological information in hand as to their massive sulphide potential. As a personal preference, four zones have been selected and are summarized in the following paragraphs. They are considered to be high priority target areas and should be re-evaluated on the ground in addition to other promising target zones.

ZONE A

Anomalies: 10280H, 10280J, 10290C, 10290D, 10300H, 10300J, 10310B, 10310C, 10320K, 10320L

ZONE A contains a part of a much longer formational-type conductor. This portion of the conductor has been singled out because the anomalies here exhibit well defined response signatures as well as an average conductivity-thickness value of 27 siemens.

The double responses are the result of an eastward dipping conductor and their second channel amplitude ratios indicate a dip of 80 to 85 degrees. Associated with anomalies 10290C and 10290D is a small magnetic peak of 9 nanoteslas which may be due to a local concentration of pyrrhotite minerals. This spot would be a good place to start a ground check of ZONE A. Depth of this conductor is believed to be on surface, as are many of the other conductors in the survey.

ZONE B

Anomalies: 10291F, ,10291G, 10300A, 10300B

Again, this zone has been selected because it contains outstanding INPUT responses when compared to the other responses along the same formational conductor. The conductivity-thickness value in this zone is in the neighbourhood of 50 siemens, indicating an excellent bedrock conductor. The dip of the conductor here varies from 60 degrees on line 10300 to 75 degrees on line 10291 to the east. If one examines the two sets of responses on the analogue records, it can be seen that their

response shapes are relatively narrow. The conductor model best exemplifying this condition would be a thin sheet-like conductor with good depth extent. Magnetically, the zone has no apparent magnetics associated with the conductor.

ZONE C

Anomalies: 10320A, 10320B

This target zone was primarily chosen because it contains a bedrock conductor that may possibly be an isolated occurrence. Assuming , of course, a perpendicular intersection between flight line and conductor strike, a depth estimate based on the first three channels of anomaly 10320B indicates that it is buried about 25 metres below the surface. The 2nd channel amplitude ratio of 10320A and 10320B determines the conductor to be dipping about 75 degrees to the east. The local area was not properly draped with flight lines due to the heavy snow cover. Therefore, additional work is recommended here to first of all see if ZONE C, does in fact, contain a discrete conductor.

ZONE D

Anomalies: 10330A, 10340G, 10340H, 10350D, 10350E, 10360G, 10360H, 10370B, 10370C

Probably at one time, this conductor was the southern continuation of the same formational trend outlined in ZONE A but in the meantime, it had been dislocated by an E-W fault situated between lines 10300 and 10310. The response characteristics of the anomalies in ZONE D define a single bedrock conductor of high

conductivity-thickness value (average equals 23 siemens) and resemble a typical anomaly profile modelled over a thin, vertical, sheet-like conductor. The selection of ZONE D for additional follow-up was on the basis of anomaly shape, high conductivity-thickness value and the favourable mineral environment usually provided by structural deformation such as faulting and folding.

7. CONCLUSIONS AND RECOMMENDATIONS

The INPUT survey has detected at least 28 separate formational-type bedrock conductors and numerous randomly situated single line anomalies. They should be evaluated by the project geophysicist as to their importance as potential massive sulphide targets. Four zones have been briefly described in the report as favourable areas of additional ground follow-up which have been selected primarily on conductor anomaly shape and good conductivity-thickness products. These zones are presently recommended for further ground investigation of a high priority nature.

Respectfully submitted,

QUESTOR SURVEYS LIMITED,

Dan Martyn,
Geophysicist.

APPENDIX A

BARRINGER/QUESTOR MARK VI INPUT(R) Helicopter System

The INduced PUlse Transient (INPUT) method is a system whereby measurements are made, in the time domain, of a secondary electromagnetic field while the primary field is between pulses. Currents are induced into the ground by means of a pulsed primary electromagnetic field which is generated from a transmitting loop around the helicopter. By using half-sine wave current pulses (Figure A-1) and a transmitter loop of large turns-area, a high signal-to-noise ratio and the high output power needed for deep penetration, are achieved.

Induced current in a conductor produces a secondary electromagnetic field which is detected and measured after the termination of each primary pulse. Detection of the secondary field is accomplished by means of a receiving coil, wound on an air core form, mounted in a PCV plastic shell called a "bird" and towed behind and below the helicopter on 76 metres (250 feet) of coaxial cable. The received signal is processed and recorded by equipment within the helicopter.

The axis of the receiving coil may be vertical or horizontal relative to the flight direction. In rolling or hilly terrain the standard or horizontal coil axis is preferred, although in steep terrain, the vertical axis coil optimizes coupling with horizontal or dipping stratigraphy. The secondary field is in the form of a decaying voltage transient, measured in time, at the termination of the primary transmitted pulse. The amplitude of the transient is proportional to the amount of

current induced into the conductor, the conductor dimensions, conductivity and the depth beneath the helicopter.

The rate of decay of the transient is inversely proportional to conductance. By sampling the decay curve at six different time intervals and recording the amplitude of each sample, an estimate of the relative conductance can be obtained. Transients due to strong conductors such as sulphides and graphite, usually exhibit long decay curves and are therefore commonly recorded on all six channels. Sheet-like surface conductive materials, on the other hand, have short decay curves and will normally only show a response in the first two or three channels.

For homogeneous conditions, the transient decay will be exponential and the time constant of decay is equal to the time difference at two successive sampling points divided by the log ratio of the amplitudes at this point.

TRANSMITTER SPECIFICATIONS

Pulse Repetition Rate	180	per sec
Pulse	Half sine	
Pulse Width	2.0	millisec
Off Time	3.56	millisec
Output Voltage	67	volts
Output Current Peak	200	amperes
Output Current Average	46	amperes
Coil Area	177 $m.^2$	(1,904 $ft.^2$)
Coil Turns	7	
Electromagnetic Field Strength (peak)	247,800	amp-turn-$meter^2$

INPUT SIGNAL
TRANSMITTED PRIMARY FIELD

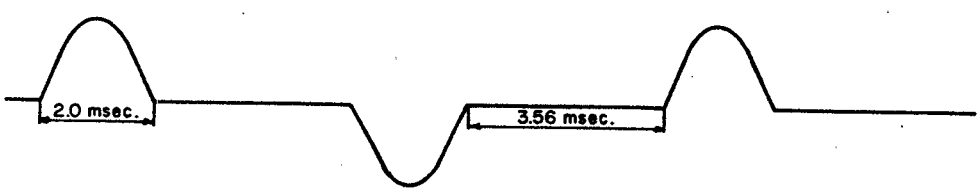


Figure A1

RECEIVER SPECIFICATIONS

Sample Gate	Windows (centre positions)		Widths	
CH 1	340	sec	200	sec
CH 2	540		200	
CH 3	840		400	
CH 4	1240		400	
CH 5	1740		600	
CH 6	2340		600	

Sample Interval	0.5	sec
Integration Time Constant	1.3	sec
Bird Position behind Aircraft (at 40 kt)	19	metres
Bird Position below Aircraft (at 40 kt)	73	metres

Receiver features: Power Monitor 50 or 60 Hz

50 or 60 Hz and Harmonic Filter

VLF Rejection

Spheric Rejection (tweak) Filter

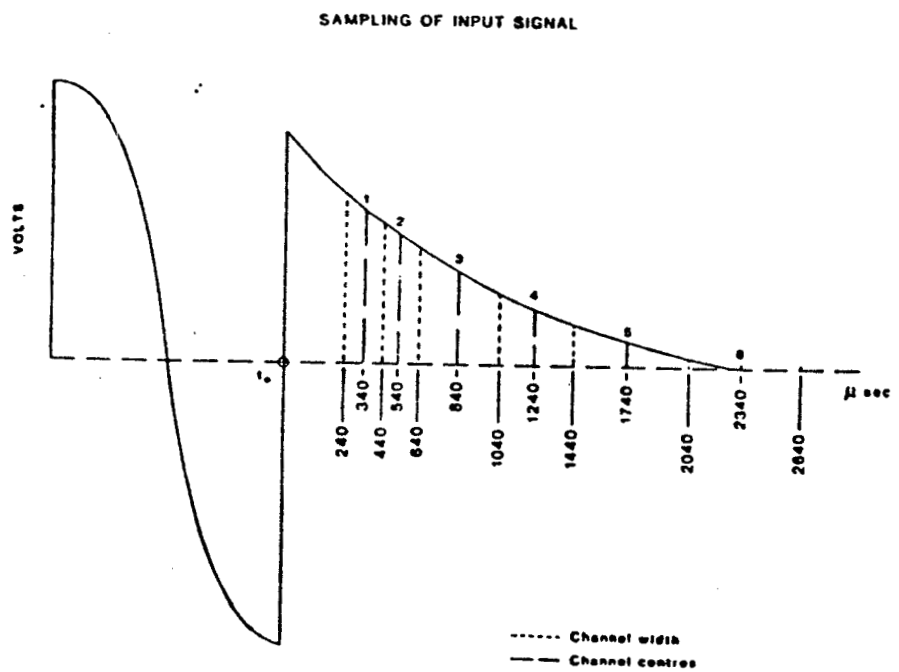


Figure A2

DATA ACQUISITION SYSTEM

Sonotek SDS 1200

9 track 800 BPI ASCII

Includes time base Intervalometer, Fiducial System

CAMERA

Geocam 75 SF

35 mm continuous strip or frame

TAPE DRIVE

Digidata Model 1139

OSCILLOSCOPE

Tektronix Model 305

ANALOG RECORDER

RMS GR-33

Heat sensitive paper (33cm)

Recording 14 Channels: 50-60 Hz Monitor, 6 INPUT Channels, fine and coarse Magnetics, Altimeter, vertical and horizontal timing lines and fiducial markers.

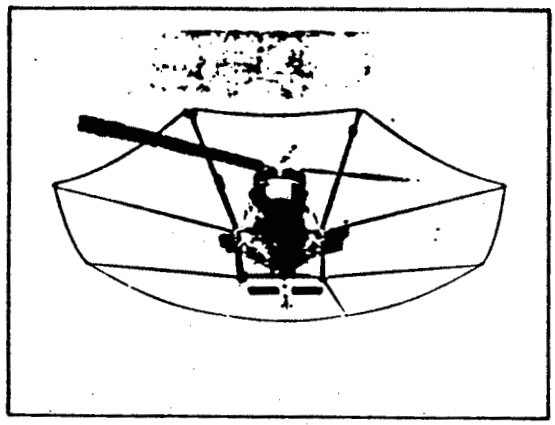
ALTIMETER

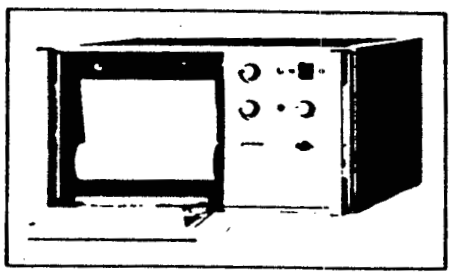
Sperry Radar Altimeter

GEOMETRICS MODEL G-803 PROTON MAGNETOMETER

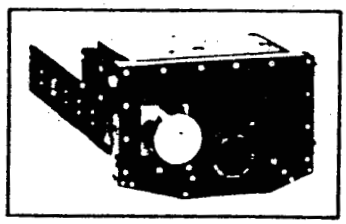
The airborne magnetometer is a proton free precession sensor which operates on the principle of nuclear magnetic resonance to produce a measurement of the total magnetic intensity. It has a sensitivity of 1 gamma and an operating range of 20,000 gammas to 100,000 gammas. The sensor is a solenoid type, oriented to optimize results in a low ambient magnetic field. The sensor housing is mounted on the tip of the nose boom supporting the INPUT transmitter cable loop. A 3 term compensating coil and perma-alloy strips are adjusted to counteract the effects of permanent and induced magnetic fields in the aircraft.

Because of the high intensity electromagnetic field produced by the INPUT transmitter, the magnetometer and INPUT results are sampled on a time share basis. The magnetometer head is energized while the transmitter is on, but the read-out is obtained during a short period when the transmitter is off. Using this technique the sensor head is energized for 0.80 seconds and subsequently the precession frequency is recorded and converted to gammas during the following 0.20 second when no current pulses are induced into the transmitter coil.

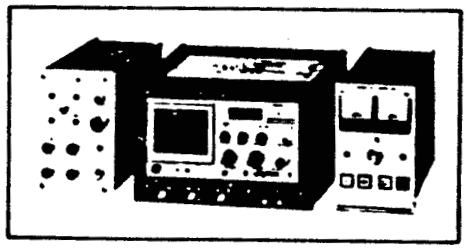




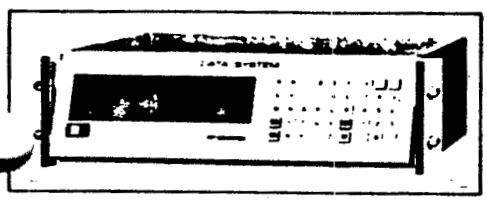
HONEYWELL ANALOGUE CHART RECORDER



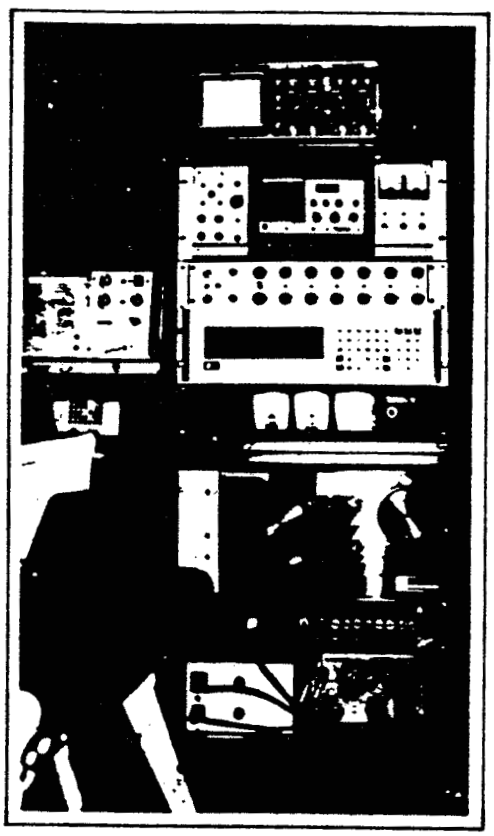
35mm TRACKING CAMERA



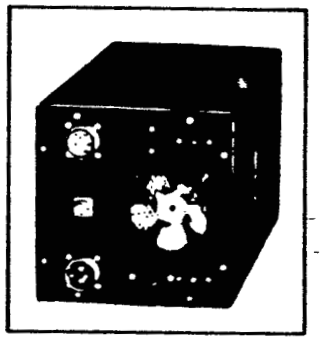
INTERFACE, OSCILLOSCOPE & T.C.U.



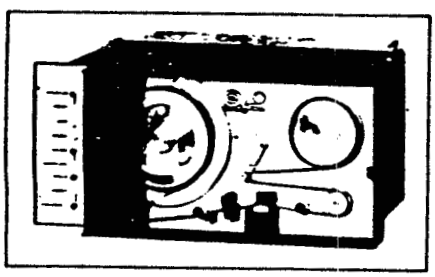
SONOTEK DATA SYSTEM



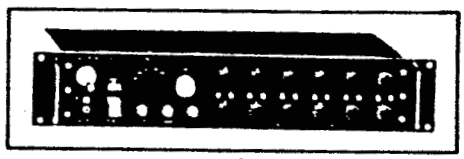
INPUT® EQUIPMENT INSTALLATION



TRANSMITTER

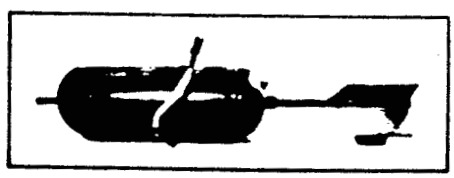


9 TRACK TAPE RECORDER



MK VI INPUT® RECEIVER

RADAR ALTIMETER



TOWED "BIRD" ASSEMBLY

QUESTOR/BARRINGER MARK VI "INPUT"® SYSTEM EQUIPMENT

APPENDIX B

The Survey Helicopter

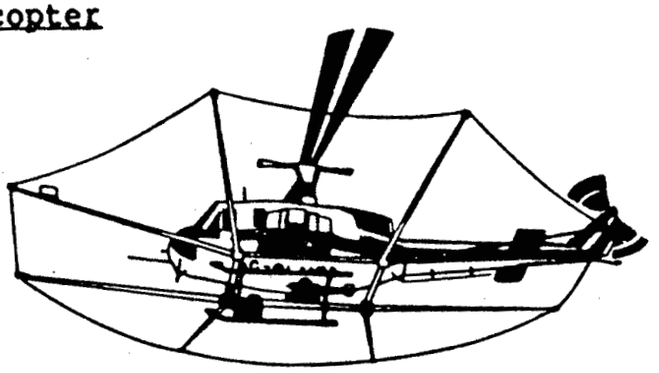


Figure B1

Manufacturer	Bell Helicopter Company
Type	205A-1
Canadian Registration	C-GLMC - present installation
Date of INPUT Installation	May 1982

Modifications:

1) Cradle and wing booms for transmitter coil mounting
2) Camera and altimeter mounting
3) Modified gasoline driven generator system

Any BELL 205-212 airframe can support the QUESTOR Helicopter INPUT system. The 205 is powered by one low maintenance turbine engine. The configuration of the helicopter provides for easy installation of equipment, which can be dissasembled and crated to the survey base. Reassembly takes less than two days. These factors have proven the helicopter to be a reliable and erticient geophysical survey system in areas not suitable for fixed-wing operation.

APPENDIX C

INPUT System Characteristics

a) Geometry

The INPUT system, a time domain airborne electromagnetic system, has the transmitter loop located around the helicopter airframe while the receiver, referred to as the 'bird', typically is towed 19 metres behind and 73 metres below the helicopter at a survey airspeed of 40 knots. The actual spatial position of the bird is dependent on the airspeed of the survey helicopter, as can be seen in Figure C1.

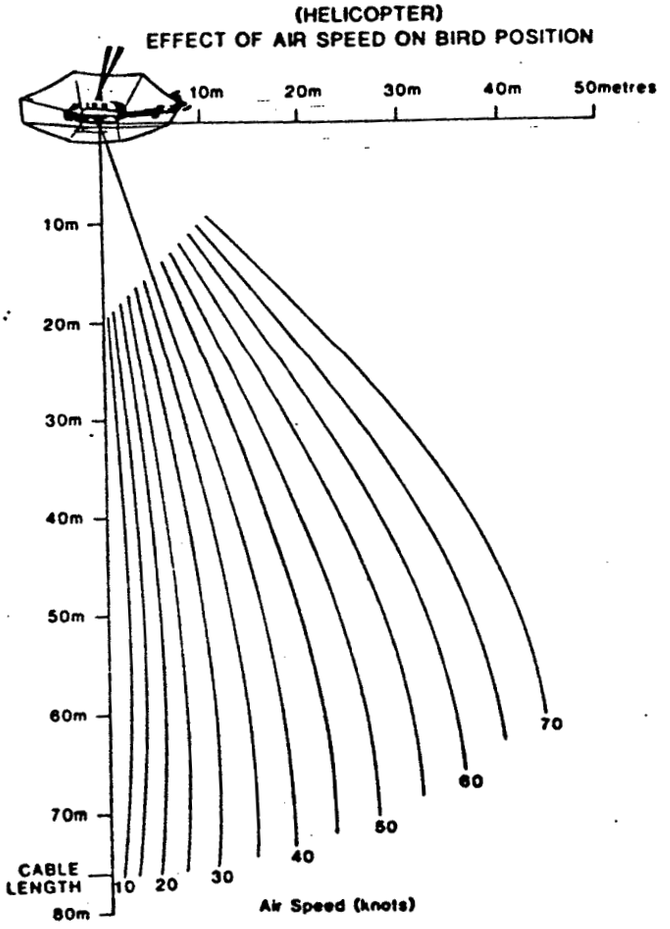


Figure C1

b) The Lag Factor

The bird's spatial position along with the time constant of the system introduces a lag factor (Figure C2) or shift of the response past the actual conductor axis in the direction of the flight line. This is due to fiducial markers being generated and imprinted on the film in real time and then merged with E.M. data which has been delayed due to the two aforementioned parameters. This lag factor necessitates that the receiver response be normalized back to the helicopter's position for the map compilation process. The lag factor can be calculated by considering it in terms of time, plus the elapsed distance of the proposed shift and is given by:

$$\text{Lag (seconds)} = \text{time constant} + \frac{\text{bird lag (metres)}}{\text{ground speed (metres/sec)}}$$

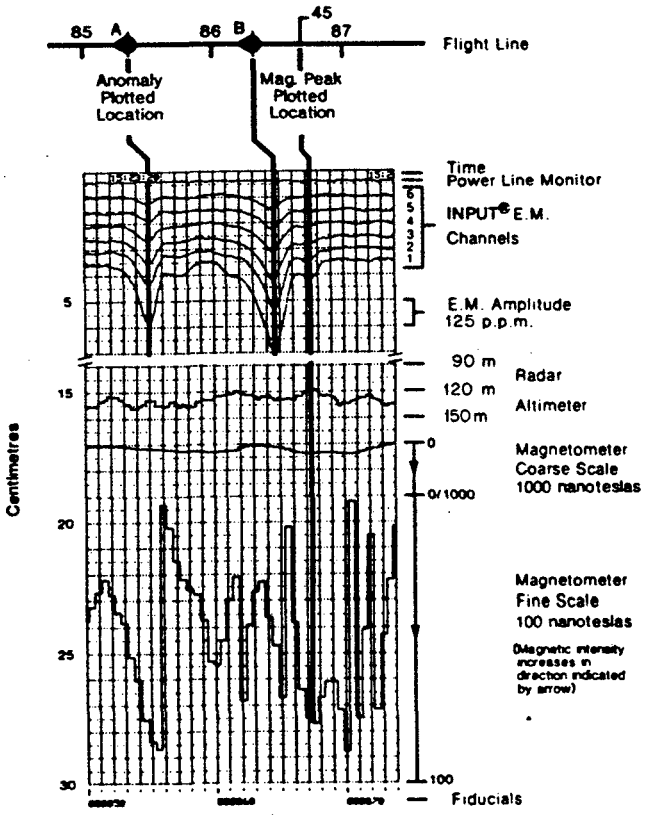


Figure C2

The time constant introduces a 1.3 second lag while, at an aircraft velocity of 40 kt., the 'bird' lag is 1 second. The total lag factor which is to be applied to the INPUT E.M. data at 40 kts. is 2.3 seconds. It must be noted that these two parameters vary within a small range dependent on the helicopter velocity, though they are applied as constants for consistency. As such, the removal of this lag factor will not necessarily position the anomalies in a straight line over the real conductor axis. The offset of a conductor response peak is a function of the system and conductor geometry as well as conductivity.

The magnetic data has a 1.0 second lag factor introduced relative to the real time fiducial positions. This factor is software controlled with the magnetic value recorded relative to the leading edge (left end) of each step 'bar', for both the fine and coarse scales. For example, a magnetic value positioned at fiducial 10.00 on the records would be shifted to fiducial 9.95 along the flight path.

A lag factor of 2 seconds (0.1 fiducial) is introduced to correct 50-60 Hz monitor for the effects of bird position and signal processing. In cases where a 50-60 Hz signal is induced in along formational conductor, a 50-60 Hz secondary electromagnetic transient may be detected as much as 5 km. from the direct source over the conductive horizon.

The altimeter data has no lag introduced as it is recorded in real time relative to the fiducial markings.

c) Calibration

The major advance made during the transition from the INPUT MK V to the MK VI model has been the ability to calibrate the equipment accurately and consistently.

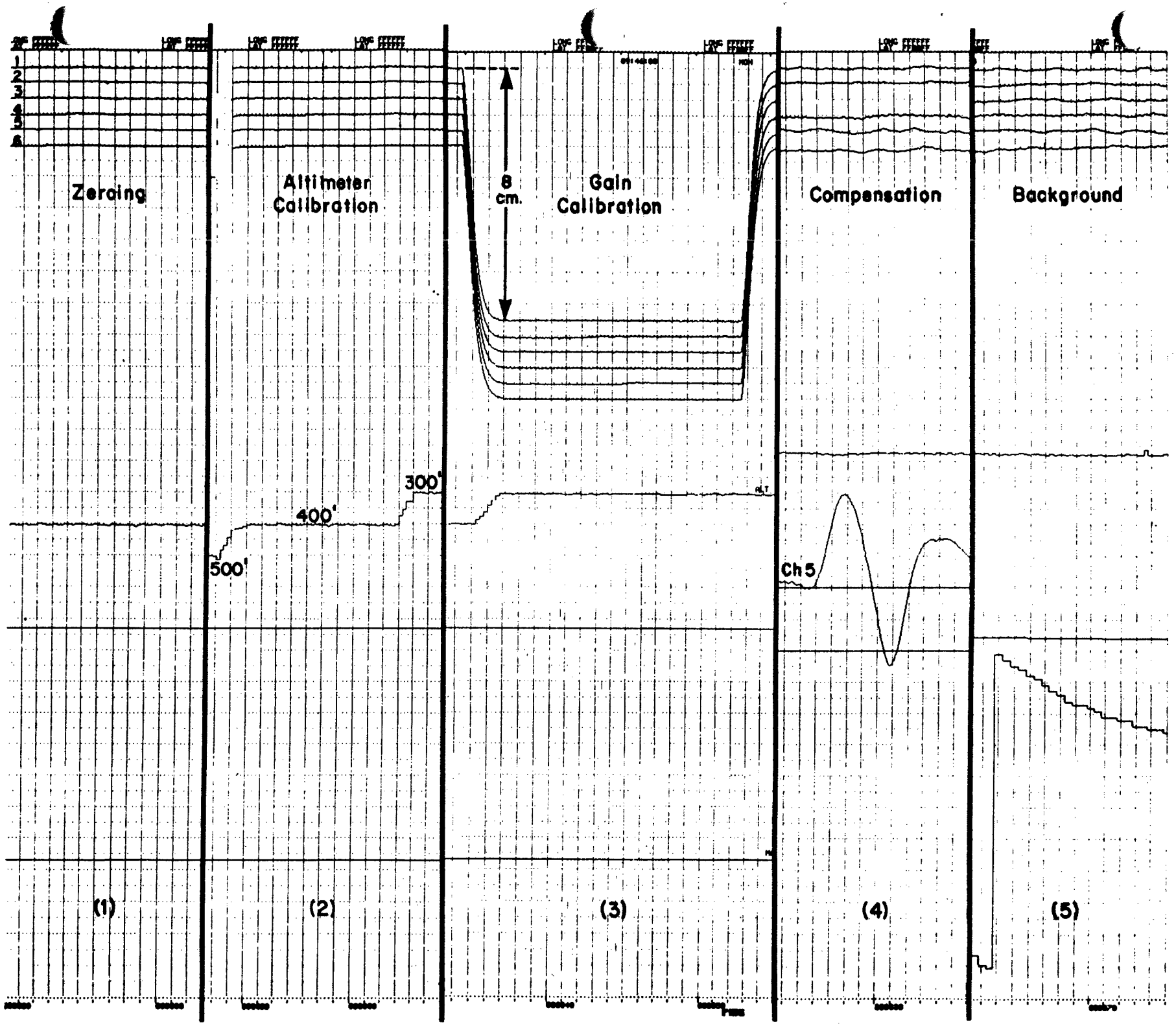
At the beginning of each survey flight, the calibration of the survey equipment is performed by the following tests:

1) zero the 6 channel levels;
2) altimeter calibration;
3) calibration of INPUT receiver gain;
4) aircraft compensation;
5) record background E.M. levels at 600 m.

This sequence of tests are recorded on the analogue records and may be repeated in midflight given that the duration of the flight is sufficiently long (figure C1). At the termination of every flight, the calibration of the equipment is checked and recorded for any drift that may have occurred during the flight.

Channels 1 to 6 are zeroed on the analogue record by first placing the INPUT receiver into calibration mode, which isolates the receiver from any bird signal. Then the channels are adjusted so that they are evenly spaced 5 mm. apart with channel 6 positioned on the first half cm. line at the top of the record.

The magnetic data is recorded on two scales, a fine and a coarse scale. The two scales are permantently set so that a full scale deflection of 100 nanoTeslas is equivalent to 10 cm. on the fine scale and a shift of 2 cm. indicates a 1000 nanoTesla change on the coarse scale.


Zeroing
Altimeter Calibration
8 cm.
Gain Calibration
Compensation
Background
500'
400'
300'
Ch 5
(1)
(2)
(3)
(4)
(5)

(Figure C1)

The aircraft altimeter is calibrated so that an altitude of 122 cm. is positioned at the centre of the analogue records, on the 15 cm. line. This is the nominal flying height of INPUT surveys, wherever relief and aircraft performance are not limiting factors. A cm. above the 122 m. level corresponds to an altitude of 91 m. and a cm. below correlates with 153 m. in altitude.

The INPUT receiver gain is expressed in parts-per-million of the primary field amplitude at the receiver coil. At the 'bird', the primary field strength is maintained at 4.0 volts peak. The gain of the receiver is calibrated by introducing a calibration signal at the input stage of 4.0 mV. This signal should cause an 8 cm. deflection on all 6 traces, which translates to a sensitivity of 125 ppm/cm. on the analogue paper.

In most towed-receiver airborne E.M. Systems, variations in the position of the receiving coil 'bird' in relation to the aircraft, generates a source of noise and needs to be taken account of before every survey flight is initiated.

The noise is the result of spurious eddy currents in the frame of the aircraft, which have been induced by the primary electromagnetic field of the INPUT system.

Compensation is the technique by which the effects of the noise are minimized. A reference signal obtained from the primary field at the receiver coil is utilized to compensate each channel of the receiver for coupling differences caused by bird motion relative to the aircraft. This signal is proportional to the inverse cube of the distance between the bird and aircraft.

Compensation procedures are carried out at an altitude of 600 metres in order to eliminate the influence of external geological and cultural noise. Coupling changes are induced by pitching the aircraft up and down to promote bird motion. The gain of channel 5 is increased to dramatize the effect of the bird swing. The compensation circuitry is then appropriately tuned to minimize the effect of bird motion on the remaining channels. Phase considerations of channel 5, relative to the other channels, dictates whether sufficient compensation has been applied. If the channels are in-phase with channel 5 during this procedure, an over-compensated situation is indicated, whereas, out-of-phase would be indicative of an under-compensation case.

The background levels of the E.M. channels are recorded at the 600 metre altitude. They are used to determine the drift that may occur in the E.M. channels during the progression of a survey flight. If drift has occurred, the E.M. channels are brought back to a levelled position by use of the linear interpolation technique during the data processing.

APPENDIX D

INPUT Data Processing

The QUESTOR designed and implemented computer software routines for automatic interactive compilation and presentation, may be applied to all QUESTOR INPUT Systems. The software is compatible with the fixed-wing MARK VI INPUT, and the helicopter MARK VI INPUT. The procedures are all common, however, separate subroutines are accessed which contain the unique parameters to each system. Although many of the routines are standard data manipulations such as error detection, editing and levelling, several innovative routines are also optionally available for the reduction of INPUT data. The flow chart on the following page (Figure D1) illustrates some of the possibilities. Software and procedures are constantly under review to take advantage of new developments and to solve interpretational problems.

a) INPUT Data Entry and Verification

During the data entry stage, the digital data range is compared to the analog records and film. The raw data may be viewed on a high-resolution video graphics screen at any desirable scale. This technique is especially helpful in the identification of background level drift and instrument problems.

b) Levelling Electromagnetic Data

Instrument drift, recognized by viewing compressed data from several hours of survey flying, is corrected by an

interactive levelling program. Although only two or three calibration sequences are normally recorded, the QUESTOR technique permits the use of multiple non-anomalous background recordings to divide a possible problematic situation into segments. All 6 INPUT channels are levelled simultaneously, yet independently. The sensitivity of the levelling process is normally better than 10 ppm on data with a peak-to-peak noise level of 30 ppm.

c) Data Enhancement

Normal INPUT processing does not include the filtering of electromagnetic data. The residual high frequency variations often apparent on analog INPUT data, is due almost wholly to "spherics", atmospheric static discharges. In conductive environments, spherics are apparently grounded and effectively filtered. In resistive environments, frequency spectrum analysis and subsequent FFT (Fast Fourier Transform) filters have been applied to data to reduce the noise envelope.

d) Selection of EM Anomalies

The levelled data may be viewed sequentially on a graphics screen for the selection of INPUT anomalies. Anomalies are selected by aligning a cursor to the position of the peaks. Some of the parameters of the response are manually entered during the picking of the response. These include the number of channels above background levels and the type of anomaly, e.g. cultural, bedrock, surficial, up-dip, etc.

INPUT DATA PROCESSING

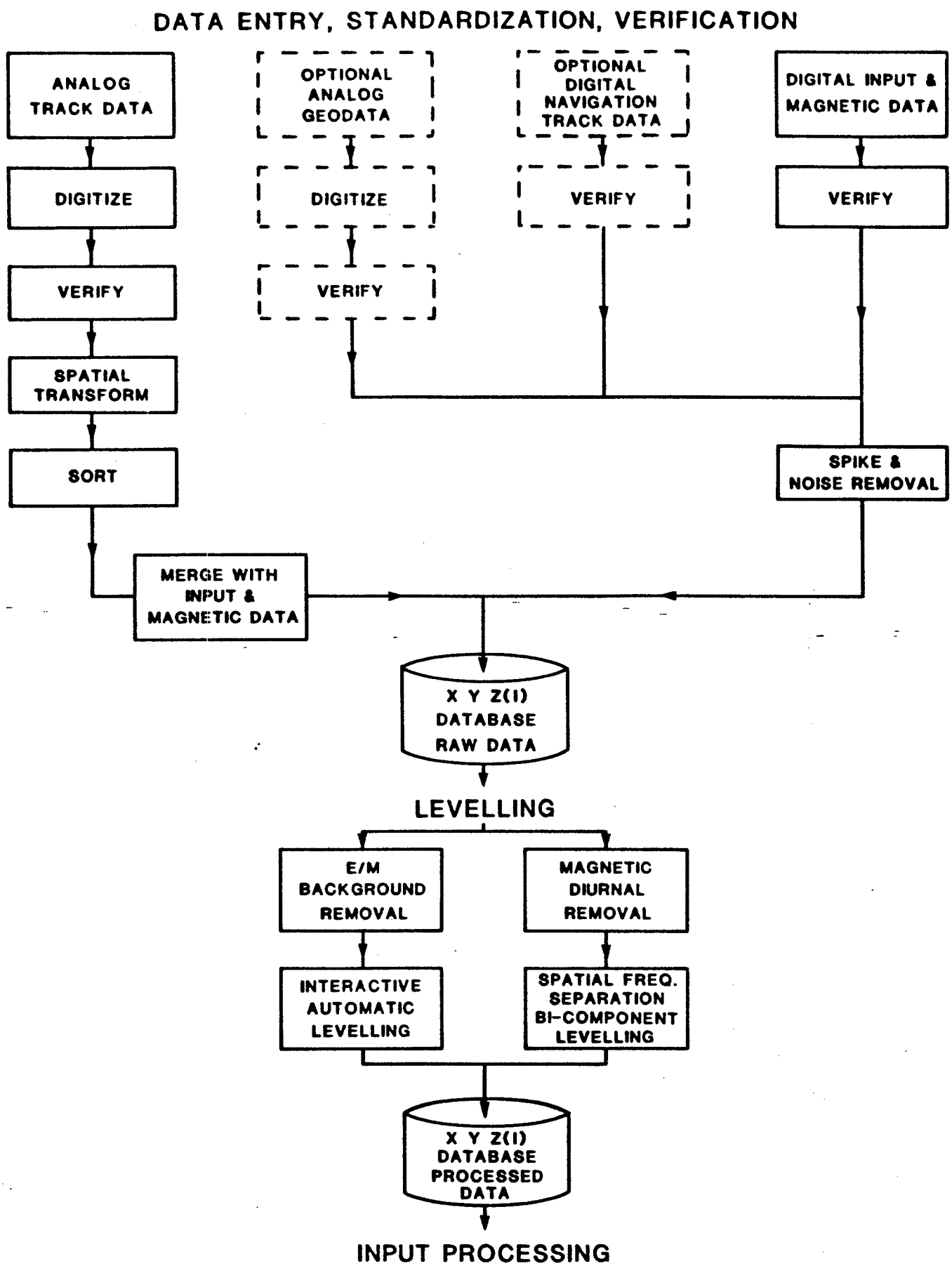


Figure D1

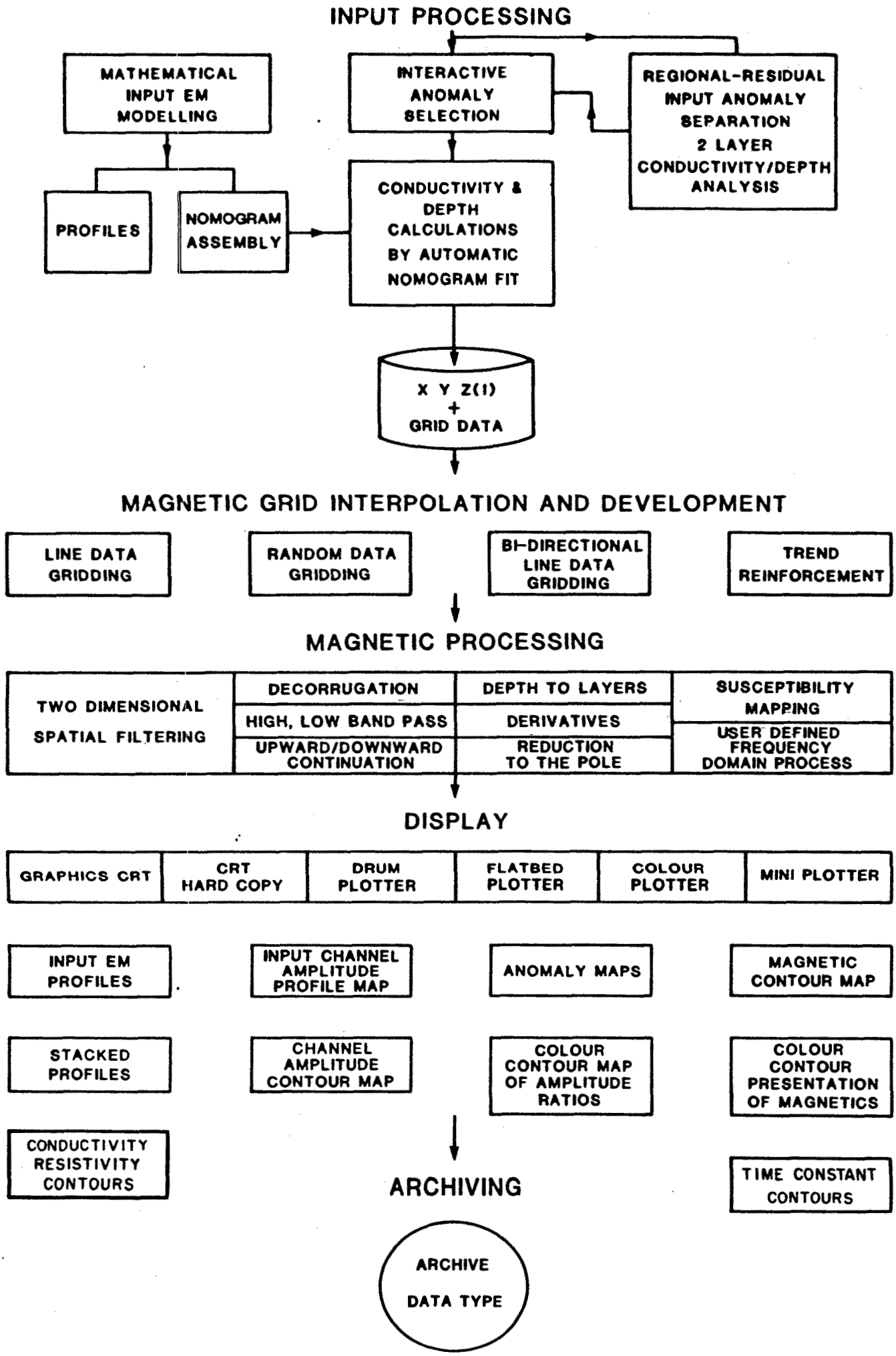

INPUT PROCESSING
MATHEMATICAL INPUT EM MODELLING
INTERACTIVE ANOMALY SELECTION
REGIONAL-RESIDUAL INPUT ANOMALY SEPARATION 2 LAYER CONDUCTIVITY/DEPTH ANALYSIS
PROFILES
NOMOGRAM ASSEMBLY
CONDUCTIVITY & DEPTH CALCULATIONS BY AUTOMATIC NOMOGRAM FIT
X Y Z(I) + GRID DATA
MAGNETIC GRID INTERPOLATION AND DEVELOPMENT
LINE DATA GRIDDING
RANDOM DATA GRIDDING
BI-DIRECTIONAL LINE DATA GRIDDING
TREND REINFORCEMENT
MAGNETIC PROCESSING
TWO DIMENSIONAL SPATIAL FILTERING
DECORRUGATION
HIGH, LOW BAND PASS
UPWARD/DOWNWARD CONTINUATION
DEPTH TO LAYERS
DERIVATIVES
REDUCTION TO THE POLE
SUSCEPTIBILITY MAPPING
USER DEFINED FREQUENCY DOMAIN PROCESS
DISPLAY
GRAPHICS CRT
CRT HARD COPY
DRUM PLOTTER
FLATBED PLOTTER
COLOUR PLOTTER
MINI PLOTTER
INPUT EM PROFILES
INPUT CHANNEL AMPLITUDE PROFILE MAP
ANOMALY MAPS
MAGNETIC CONTOUR MAP
STACKED PROFILES
CHANNEL AMPLITUDE CONTOUR MAP
COLOUR CONTOUR MAP OF AMPLITUDE RATIOS
COLOUR CONTOUR PRESENTATION OF MAGNETICS
CONDUCTIVITY RESISTIVITY CONTOURS
TIME CONSTANT CONTOURS
ARCHIVING
ARCHIVE DATA TYPE

Figure D1

APPENDIX E

INPUT INTERPRETATION PROCEDURES

The INPUT system is dependent upon a definite resistivity contrast and is most suitable for highly conductive massive sulphides. Differentiation is possible between flat-lying surficial conductors and bedrock conductors.

The selection of anomalies is based on their characteristics and interpretation is sometimes enhanced by analyzing the magnetics. Spherics, due to atmospheric static discharges and lightning storms, are distinguishable from conductive anomalies. In the analysis of each conductor anomaly, the following parameters may be considered: anomaly shape with the conductor pattern, topography, corresponding magnetic features, anomaly decay rate, the number of channels affected, geological environment and strike direction and the interpreted dip relative to structural features.

For each anomaly selected, the following are recorded: location by fiducial, channel amplitudes in parts per million, number of channels, conductivity-thickness in siemens, corresponding magnetic association in gammas, magnetic fiducial location altitude of aircraft above ground in metres and also, the origin of the response (ie. surficial, bedrock, cultural).

Conductive responses are categorized into three main groups. These are bedrock, surficial and cultural.

Bedrock conductors can be sorted into conductive sources which are commonly encountered on INPUT surveys: massive

sulphides, graphites, serpentinized peridotites and fault or shear zones. Magnetite and manganese concentrations may also yield INPUT responses in some circumstances. INPUT responses over alkalic intrusives and weathered basic volcanics have been well documented by Macnae (1979) and Palacky (1979).

Massive Sulphides

Massive sulphides occur as both syngenetic and stratified deposits and as vein infilling deposits. Nickel deposits often occur as magmatic injections of massive sulphides. Kuroko-type syngenetic copper-zinc massive sulphides usually occur at an interface of felsic intermediate rocks. In this environment, there are seldom any significant formations of carbonaceous sediments on the same horizon. Often, these deposits are overlain by a silicious zone which may contain stingers of continuous sulphides, which change to disseminated sulphides away from the main deposit. These often give a deposit the appearance of a long strike-length zone which may not fit the explorationist's target model. A careful analysis of conductivities and apparent widths (half-peak-width), will often reveal the geometry and source. Syngenetic deposits of base metal sulphides of up to 2 km strike length are not unknown, although most sizeable deposits have strike lengths between 500 and 1000 m.

The conductivity of most massive sulphide deposits may be attributed to the pyrrhotite and chalcopyrite content, as both minerals form elongated interconnected masses which are most

amenable to the induction of electromagnetic secondary fields. Pyrite normally forms cubic crystals which must be interconnected electrically in order to produce a response. Massive pyrite often produces only a moderate response which may be ditficult to distinguish from graphite. The in-situ conductivity of massive sulphides, although very high for individual crystals, often falls in the range of 5 to 20 S/m.

Sulphide conductive zones are rare in nature; economic sulphides are even more scarce. Long formational sulphide zones are known, but are not common. More often, sulphide concentrations may occur within formational graphitic zones.

The geometry of many syngenetic and injected sulphide deposits may fall within broad classifications of size, conductivity and magnetization but most of these bodies are anomalous within their local geological environment. There are often changes in dip, conductivity, thickness and magnetization with respect to the regional environment. There are no rules which apply universally to massive sulphide deposits. One observation which has consistently applied to sulphide deposits is that INPUT responses (amplitude and conductivity) are roughly proportional to mineral content.

The INPUT system is capable of detecting disseminated sulphides within zones of resistivity changes. These may have low conductivities and responses will normally be restricted to channels 1 through 4. The response amplitudes will vary with the horizontal and vertical extent of the zone. Gold deposits often fall within this response classification.

The magnetic response of a sulphide deposit is the most deceiving information available to the explorationist. Although many large economic deposits have a strong direct magnetic association, some of the largest base metal deposits have no magnetic association. An isolated magnetic anomaly caused by oxidation conditions at a volcanic vent flanking a conductor, may have more significance than a body which has a uniform magnetic anomaly along its strike length. Differing geochemical environments often results in the zoning of minerals so that non-homogeneous conductivities and magnetic responses may be favourable parameters.

Graphitic Carbonaceous Conductors

Carbonaceous sediments are usually found within the sedimentary facies of Precambrian and Proterozoic greenstone belts. These represent a low energy, sedimentary environment with good bedding planes and little or no structural deformation. Graphites are often located in basins of the sub-aqueous environment, producing the same body shape as sulphide concentrations. Most often however, they form long, homogeneous planar sequences. These may have thicknesses from a metre to hundreds of metres. The recognition of graphites in this setting is normally straightforward.

Conductivities and apparent widths may be very consistent along strike. Strike lengths of tens of kilometres are common for individual horizons.

The conductivity of a graphite unit is a function of two variables:

a) the quality and quantity of the graphite and

b) the presence of pyrrhotite as an accessory conductive mineral

Pyrite is the most common sulphide mineral which occurs within carbonaceous beds. It does not contribute significantly to the overall conductivity as it will normally be found as disseminated crystals. Greenschist facies metamorphosis will often be sufficient to convert carbonaceous sediments to graphitic beds. Likewise, pyrite will often be transformed to pyrrhotite.

Without pyrrhotite, most graphitic conductors have less than 20 S conductivity-thickness value as detected by the INPUT system or 1 to 10 S/m conductivity from ground geophysical measurements. With pyrrhotite content, there may be little difference from sulphide conductors.

It is not unusual to find local concentrations of sulphides within graphitic sediments. These may be recognized by local increases in apparent width, conductivity or as a conductor offset from the main linear trends.

Graphite has also been noted in fault and shear zones which may cross geological formations at oblique angles.

Serpentinized Peridotites

Serpentinized peridotites are very distinguishable from other anomalies. Their conductivity is low and is caused partially by magnetite. They have a fast decay rates, large amplitudes and strong magnetic correlation.

JOB NO: 27H42

LINE	INPUT EM FIDUCIAL	ANOMALY TYPE	CHS	PEAK RESPONSE AMPLITUDES (PPM) CH1	CH2	CH3	CH4	CH5	CH6	TOP (S)	ALT (M)	MAGNETIC FIDUCIAL	MAGNETIC VALUE
19010 A	19.572	U	6	242	149	95	47	28	17	22	154	19.45	31
19010 B	20.073	U	6	776	467	280	126	65	42	17	151	-	
19010 C	20.925		6	747	444	232	110	52	26	15	158	-	
19010 D	22.597		4	160	106	55	30	-	-	13	146	-	
19010 E	23.224		4	186	119	59	31	-	-	12	141	-	
19010 F	24.896		4	200	121	57	33	-	-	12	145	-	
19010 G	25.147		4	179	114	56	29	-	-	12	151	-	
19010 H	25.750		2	138	98	-	-	-	-	NC	152	25.90	10
10000 A	111.660		5	184	113	84	56	35	-	63	148	-	
10000 B	111.879		6	356	241	161	103	68	57	50	149	111.78	11
10000 C	112.043		6	292	163	112	103	70	51	50	149	-	
10000 D	112.417		6	341	196	116	63	35	19	22	135	112.25	15
10001 A	97.875		4	176	93	62	25	-	-	20	142	98.18	24
10001 B	98.775	W	6	461	231	130	67	35	13	18	133	-	
10001 C	99.477	P	5	284	178	109	70	42	-	28	126	99.55	15
10001 D	99.725	P	4	171	97	64	37	-	-	28	117	-	
10001 E	100.605	P	2	114	59	-	-	-	-	NC	137	-	
10001 F	101.946	P	3	93	53	36	-	-	-	49	117	-	
10002 A	89.853	U	3	90	48	32	-	-	-	30	151	-	
10002 B	90.295		3	94	36	22	-	-	-	19	125	-	
10002 C	91.149	P	6	306	152	95	62	38	26	37	124	-	
10002 D	91.902	U	6	761	439	248	123	57	43	18	133	-	
10002 E	92.546		6	408	222	127	62	28	14	17	113	92.28	38
10003 A	76.145		5	339	178	115	50	31	-	21	135	-	
10003 B	76.725	W	6	1300	725	408	193	97	57	17	122	-	
10003 C	77.499	P	5	174	117	88	50	28	-	48	145	-	
10003 D	78.197		2	102	54	-	-	-	-	NC	131	-	
10003 E	78.702	W	4	135	71	42	17	-	-	15	152	-	
10010 A	13.999		3	143	40	18	-	-	-	9	149	-	
10010 B	14.475	W	6	796	417	236	113	66	53	20	138	-	
10010 C	15.198	P	2	109	25	-	-	-	-	NC	125	-	
10010 D	15.644	P	3	140	56	19	-	-	-	7	153	-	
10021 A	26.475	U	6	717	437	279	157	95	53	30	120	-	
10021 B	26.925		5	393	187	96	58	23	-	15	128	26.90	78
10021 C	27.075		5	298	158	99	56	30	-	24	128	-	
10030 A	34.400		5	276	136	89	37	24	-	21	151	-	

JOB NO: 27H42

INPUT EM LINE	FIDUCIAL	ANOMALY TYPE	CH3	PEAK CH1	RESPONSE CH2	CH3	AMPLITUDES (PPM) CH4	CH5	CH6	TCP (S)	ALT (M)	MAGNETIC FIDUCIAL	VALUE
10030 B	34.980	W	6	995	560	335	179	102	74	24	111	34.85	53
10030 C	37.300	P	2	75	20	-	-	-	-	NC	120	-	
10030 D	40.134	P	2	51	30	-	-	-	-	NC	126	-	
10030 E	40.547	P	2	75	35	-	-	-	-	NC	152	-	
10040 A	46.895	U	3	63	23	18	-	-	-	86	135	-	
10040 B	49.875	U	6	587	373	250	150	94	65	42	122	49.95	55
10040 C	50.345	P	2	64	20	-	-	-	-	NC	153	-	
10041 A	94.325	P	5	267	184	110	67	47	-	26	154	-	
10041 B	94.475		6	461	290	177	101	61	51	30	151	-	
10041 C	95.000	W	6	775	470	277	165	88	76	26	116	95.00	35
10041 D	96.703	P	2	38	20	-	-	-	-	NC	138	-	
10041 E	97.504	P	2	52	31	-	-	-	-	NC	136	-	
10041 F	97.734	P	2	49	25	-	-	-	-	NC	150	-	
10050 A	51.642		5	240	126	76	34	29	-	21	149	-	
10050 B	52.050	W	6	474	317	210	120	82	55	42	149	51.90	44
10050 C	52.597		5	77	45	36	28	14	-	89	139	-	
10050 D	54.448	P	2	66	19	-	-	-	-	NC	146	-	
10050 E	55.050	P	2	58	20	-	-	-	-	NC	150	-	
10060 A	63.194	P	3	71	28	20	-	-	-	98	131	-	
10061 A	66.675	U	6	480	279	169	95	56	49	29	114	66.72	58
10061 B	67.003		3	140	80	31	-	-	-	7	144	-	
10070 A	68.796	W	3	119	67	31	-	-	-	9	142	-	
10070 B	70.947	P	3	109	61	25	-	-	-	8	148	-	
10080 A	75.000	P	1	81	-	-	-	-	-	NC	168	-	
10080 B	79.043	P	2	105	33	-	-	-	-	NC	125	-	
10080 C	79.796	P	1	60	-	-	-	-	-	NC	120	-	
10090 A	84.702	P	2	87	42	-	-	-	-	NC	145	-	
10090 B	86.600	P	1	100	-	-	-	-	-	NC	150	-	
10100 A	88.447		3	71	32	19	-	-	-	17	151	-	
10101 A	90.796	P	3	100	42	22	-	-	-	12	120	-	
10110 A	15.479	P	3	123	37	24	-	-	-	25	163	-	

JOB NO: 27442

INPUT EM LINE	FIDUCIAL	ANOMALY TYPE	CH3	PEAK RESPONSE CH1	CH2	CH3	AMPLITUDES (PPM) CH4	CH5	CH6	TCP (S)	ALT (M)	MAGNETIC FIDUCIAL	VALUE
10110 B	15.798	P	3	115	50	28	4	-	-	8	184	-	
10110 C	17.670		4	131	65	27	15	-	-	11	154	-	
10110 D	18.350	W	6	1057	668	465	302	200	137	55	131	-	
10110 E	18.747	P	6	1408	887	609	390	266	170	51	136	18.65	20
10110 F	19.050		6	2229	1406	941	557	386	189	38	125	-	
10120 A	21.050	W	6	1307	774	486	280	176	99	31	126	-	
10120 B	21.805	U	6	812	527	349	220	134	86	42	142	-	
10120 C	22.646	P	3	101	44	17	-	-	-	7	151	-	
10121 A	24.401	U	3	56	23	10	-	-	-	8	151	-	
10121 B	26.197	P	1	63	-	-	-	-	-	NC	152	-	
10130 A	31.150	P	6	794	486	317	174	120	50	26	139	-	
10130 B	31.300	W	6	815	534	370	249	161	105	55	137	-	
10130 C	32.075	U	6	1208	772	525	327	210	124	45	128	-	
10140 A	34.550		6	577	313	178	83	41	19	17	151	-	
10140 B	34.925	W	6	1329	820	564	365	242	151	51	127	-	
10140 C	35.596	P	6	716	473	354	241	190	140	82	129	-	
10140 D	35.950	U	5	1037	696	480	297	191	-	43	129	-	
10140 E	36.598	P	2	116	52	-	-	-	-	NC	141	-	
10150 A	41.300		2	75	35	-	-	-	-	NC	151	-	
10150 B	41.695	W	5	169	82	45	25	17	-	19	148	-	
10150 C	43.225	W	6	1928	1244	787	451	291	186	28	110	-	
10150 D	44.025	U	6	988	654	425	259	220	150	28	141	43.63	68
10151 A	44.953		4	139	83	37	20	-	-	11	165	-	
10160 A	49.500		5	120	69	42	16	10	-	16	156	-	
10160 B	49.925	W	6	478	286	158	86	51	20	19	153	-	
10160 C	50.500		3	546	327	202	-	-	-	20	131	-	
10160 D	51.175	U	6	1472	764	347	125	44	17	10	129	-	
10160 E	52.453	P	3	118	65	27	-	-	-	8	136	-	
10160 F	52.850		5	273	166	99	50	35	-	23	132	52.85	20
10160 G	53.375		4	223	131	69	30	-	-	12	148	-	
10170 A	56.450	P	2	150	65	-	-	-	-	NC	120	-	
10170 B	57.024		6	285	171	89	48	37	17	19	151	-	
10170 C	57.325	W	6	571	336	196	107	56	35	22	120	57.47	19
10170 D	58.700	W	3	396	159	66	-	-	-	8	143	-	
10170 E	60.200	U	6	765	445	248	117	75	60	14	137	60.10	11

JOB NO: 27H42

INPUT EM LINE	FIDUCIAL	ANOMALY TYPE	CHS	PEAK RESPONSE CH1	CH2	CH3	AMPLITUDES (PPM) CH4	CH5	CH6	TCP (S)	ALT (M)	MAGNETIC FIDUCIAL	VALUE
10171 A	61.100	P	2	60	25	-	-	-	-	NC	146	-	
10180 A	68.581		4	102	57	38	18	-	-	23	151	-	
10180 B	69.250	W	6	574	346	172	93	45	23	17	154	-	
10180 C	70.251	P	4	148	91	50	29	-	-	15	143	70.63	35
10180 D	71.197	P	4	216	100	51	27	-	-	11	128	-	
10180 E	71.597		5	286	138	84	46	20	-	20	131	-	
10180 F	72.325		6	852	503	294	147	70	57	22	140	72.00	23
10180 G	72.450		4	740	352	184	93	-	-	11	135	-	
10180 H	73.125		6	473	280	171	93	56	46	28	156	-	
10180 J	73.722	P	4	372	144	60	21	-	-	8	133	-	
10190 A	75.975		5	1116	537	238	86	27	-	9	129	75.95	30
10190 B	76.550		6	592	370	236	135	87	60	34	149	-	
10190 C	76.870		6	431	275	188	114	64	54	44	151	-	
10190 D	77.650	W	6	825	515	336	201	119	90	38	150	-	
10190 E	78.300		3	136	68	49	-	-	-	10	141	-	
10190 F	80.193	P	3	85	40	19	-	-	-	10	150	-	
10191 A	81.775	U	4	183	109	65	40	-	-	17	157	82.03	11
10191 B	82.395	P	3	81	41	16	-	-	-	7	134	-	
10191 C	83.593	P	3	149	59	33	-	-	-	14	138	-	
10200 A	85.798		4	190	74	45	16	-	-	14	122	-	
10200 B	86.330	W	6	976	473	257	121	58	25	15	156	-	
10200 C	87.397	U	4	140	74	43	25	-	-	18	155	-	
10200 D	91.000	U	6	471	265	150	69	33	17	17	151	-	
10200 E	91.450		5	531	305	176	86	36	-	16	150	-	
10200 F	91.600		5	480	264	146	81	42	-	21	151	-	
10200 G	92.200	W	5	1235	779	454	207	86	-	15	143	92.18	38
10210 A	93.975	U	6	1809	1184	727	350	145	56	18	141	94.03	48
10210 B	94.650		4	574	309	168	73	-	-	13	128	-	
10210 C	95.000		6	778	405	225	98	51	26	15	143	-	
10210 D	95.421	W	5	473	216	106	38	21	-	11	153	-	
10210 E	98.921		5	197	114	71	31	21	-	20	161	-	
10210 F	99.354	P	4	119	73	49	21	-	-	22	153	-	
10210 G	100.550	U	6	1113	577	298	128	58	29	13	135	-	
10210 H	101.603	P	3	152	61	23	-	-	-	7	117	-	
10220 A	105.375		5	163	71	43	18	12	-	21	126	-	
10220 B	106.000	W	6	860	475	252	128	65	26	15	153	-	
10220 C	107.322	U	5	174	93	52	26	13	-	16	160	-	

JOB NO: 27H42

INPUT EM LINE	FIDUCIAL	ANOMALY TYPE	CHS	PEAK RESPONSE CH1	CH2	CH3	AMPLITUDES (PPM) CH4	CH5	CH6	TCP (S)	ALT (M)	MAGNETIC FIDUCIAL	VALUE
10220 D	108.819		4	141	69	43	14	-	-	14	117	-	
10220 E	110.867		5	341	175	93	43	21	-	14	152	-	
10220 F	111.422	W	6	787	433	238	112	54	38	17	153	-	
10220 G	111.767	P	6	391	229	143	70	36	31	26	152	-	
10220 H	112.325	W	5	1800	1124	647	286	109	-	14	138	112.13	66
10230 A	114.275	U	6	1951	1197	654	286	109	33	13	132	114.50	78
10231 A	115.617		4	203	116	64	30	-	-	14	164	115.70	16
10231 B	116.325	U	6	412	249	139	72	37	11	17	153	-	
10231 C	116.724		6	345	195	104	42	23	10	15	140	-	
10231 D	118.896		3	119	47	35	-	-	-	63	123	-	
10231 E	119.794	W	6	339	192	116	54	38	24	23	155	-	
10231 F	120.897		6	251	168	117	72	43	27	46	139	-	
10231 G	121.345	U	6	765	523	337	138	62	38	16	132	-	
10231 H	122.560	P	3	105	31	21	-	-	-	34	131	-	
10240 A	126.396		5	95	52	26	14	5	-	13	125	-	
10240 B	126.850	W	5	447	240	126	69	36	-	15	151	-	
10240 C	127.701	U	4	185	99	45	36	-	-	13	155	-	
10240 D	128.795		3	113	59	35	-	-	-	17	136	-	
10240 E	130.425		6	368	217	143	62	46	25	26	123	-	
10240 F	131.100	W	6	713	432	273	150	90	59	29	153	-	
10240 G	131.675	P	5	201	115	83	49	28	-	44	151	132.18	76
10240 H	132.575	U	5	1318	791	378	129	39	-	9	139	-	
10250 A	133.925	W	6	1600	815	356	110	31	11	9	123	134.13	60
10251 A	136.471		6	171	97	68	36	24	11	38	161	-	
10251 B	136.875		5	182	106	67	37	18	-	23	144	-	
10251 C	139.702	P	4	180	83	38	14	-	-	9	151	-	
10251 D	140.700	U	6	934	493	243	96	44	11	12	132	-	
10251 E	141.848	P	2	71	15	-	-	-	-	NC	122	-	
10260 A	143.953	P	3	83	38	17	-	-	-	6	135	-	
10260 B	144.416	W	5	214	99	39	20	9	-	10	152	-	
10260 C	144.929		5	171	110	52	38	24	-	20	157	-	
10260 D	145.451		3	201	95	51	-	-	-	13	151	145.88	47
10260 E	146.545		4	152	74	47	19	-	-	17	135	-	
10260 F	147.946		6	189	103	61	36	19	13	25	151	-	
10260 G	148.725	W	6	990	577	366	197	106	70	24	156	-	
10260 H	149.975	U	4	1429	682	278	83	-	-	8	124	149.80	60
10270 A	151.548		5	223	121	77	40	22	-	23	153	-	

JOB NO: 2742

INPUT EM LINE	FIDUCIAL	ANOMALY TYPE	ANOMALY CHS	PEAK RESPONSE CH1	CH2	CH3	AMPLITUDES (PPM) CH4	CH5	CH6	TCP (S)	ALT (M)	MAGNETIC FIDUCIAL	MAGNETIC VALUE
10270 B	151.925	W	4	1111	528	282	50	-	-	7	142	151.95	58
10271 A	154.157		5	108	49	35	19	13	-	42	160	-	
10271 B	154.552		5	125	66	34	20	7	-	14	154	-	
10271 C	155.895	U	5	251	125	65	24	12	-	12	121	-	
10271 D	156.627		5	217	114	60	26	10	-	12	147	156.35	41
10271 E	157.127	P	4	180	102	62	34	-	-	20	157	-	
10271 F	157.546	U	5	145	81	45	29	14	-	20	159	-	
10271 G	158.194	U	2	108	25	-	-	-	-	NC	103	-	
10280 A	163.585	W	6	314	185	112	66	46	23	29	143	-	
10280 B	163.821		5	299	146	74	44	26	-	16	152	-	
10280 C	164.351	P	3	151	67	37	-	-	-	14	141	-	
10280 D	165.300	U	6	361	181	103	45	23	19	18	119	165.40	57
10280 E	165.709	P	5	218	114	55	25	4	-	10	145	-	
10280 F	165.952	W	6	354	204	110	51	34	16	17	153	-	
10280 G	166.546		5	326	164	101	57	29	-	22	154	-	
10280 H	167.450		6	347	181	110	54	33	27	24	148	167.48	28
10280 J	167.879	W	6	498	298	186	108	62	41	30	151	-	
10280 K	168.426		5	185	119	75	47	28	-	30	148	-	
10280 L	168.817	U	5	1207	565	231	93	20	-	8	133	168.70	64
10280 M	169.202		4	235	122	62	24	-	-	11	153	-	
10290 A	170.248	P	3	145	87	46	-	-	-	12	155	-	
10290 B	170.875	W	4	1113	455	156	37	-	-	6	137	170.95	61
10290 C	171.375		5	265	146	94	54	21	-	20	150	-	
10290 D	171.822		6	271	189	118	72	47	34	36	143	-	
10290 E	172.125		6	395	250	185	112	70	65	63	151	-	
10290 F	172.650		5	420	220	125	67	32	-	17	124	172.82	13
10291 A	173.925	P	5	234	138	89	50	31	-	28	148	-	
10291 B	174.420	U	6	541	294	167	86	43	30	20	141	-	
10291 C	175.100		3	164	95	50	-	-	-	20	143	-	
10291 D	177.150	P	3	93	56	39	-	-	-	40	133	-	
10291 E	177.725	P	2	160	90	-	-	-	-	NC	153	-	
10291 F	177.925		6	270	153	106	60	43	32	50	152	-	
10291 G	178.152		6	224	121	77	39	24	20	33	156	-	
10300 A	184.400		6	801	538	369	232	157	113	51	135	-	
10300 B	184.750		6	574	389	239	147	93	69	52	152	-	
10300 C	185.400		3	180	101	62	-	-	-	20	153	-	
10300 D	186.053	P	3	150	68	44	-	-	-	25	133	-	
10300 E	186.850		4	172	97	61	23	-	-	17	150	-	
10300 F	187.898	W	6	445	260	150	78	46	33	22	153	-	
10300 G	188.424	P	6	322	171	98	55	29	27	23	137	-	
10300 H	189.198		6	246	142	92	54	30	24	35	150	189.27	44

JOB NO: 27H12

LINE	INPUT EM FIDUCIAL	ANOMALY TYPE	ANOMALY CHS	PEAK RESPONSE AMPLITUDES (PPM) CH1	CH2	CH3	CH4	CH5	CH6	TCP (S)	ALT (M)	MAGNETIC FIDUCIAL	MAGNETIC VALUE
10300 J	189.635	W	6	391	235	153	97	58	47	42	154	-	
10300 K	190.048		5	181	102	65	28	21	-	22	152	-	
10300 L	190.527	U	4	1023	396	134	31	-	-	6	141	190.45	67
10310 A	192.101	W	4	686	238	67	22	-	-	6	138	192.18	71
10310 B	192.597		4	331	129	65	26	-	-	11	141	-	
10310 C	193.174	P	6	408	254	161	73	47	26	24	143	-	
10310 D	193.600	U	6	777	419	237	102	43	36	16	144	194.05	17
10311 A	195.827	U	4	273	139	72	21	-	-	10	150	-	
10311 B	197.476	U	4	238	156	75	29	-	-	10	133	-	
10311 C	198.750	P	3	110	60	39	-	-	-	25	118	-	
10311 D	199.203		5	243	172	115	68	41	-	34	135	-	
10311 E	199.594		5	187	87	61	41	24	-	49	154	-	
10320 A	203.093		3	47	24	10	-	-	-	8	127	-	
10320 B	203.324	W	4	147	68	41	9	-	-	11	131	-	
10320 C	203.745		6	264	152	103	55	35	21	36	125	-	
10320 D	204.100	W	6	861	502	293	147	80	45	20	115	-	
10320 E	204.527		6	363	224	159	89	56	52	49	128	-	
10320 F	205.398	P	3	120	52	30	-	-	-	15	129	-	
10320 G	205.802	W	5	402	171	83	25	14	-	10	126	-	
10320 H	206.172	P	5	283	157	92	45	23	-	17	139	206.45	639
10320 J	207.425	W	5	590	279	141	69	34	-	13	128	-	
10320 K	208.726		5	203	115	74	37	26	-	25	153	208.90	72
10320 L	209.325	W	6	673	384	219	109	58	32	19	154	-	
10320 M	209.922	W	5	209	118	63	34	21	-	16	141	-	
10320 N	210.275	P	2	315	132	-	-	-	-	NC	148	210.27	75
10320 P	210.546		2	431	152	-	-	-	-	NC	151	-	
10330 A	211.398	W	5	557	242	107	42	16	-	9	136	-	
10330 B	212.223	P	4	159	90	38	16	-	-	9	142	211.90	80
10330 C	213.043	U	6	509	300	182	94	49	30	22	146	-	
10330 D	213.750	P	5	269	166	104	49	23	-	19	148	213.50	59
10331 A	215.092	P	3	110	64	24	-	-	-	7	161	-	
10331 B	217.365	U	3	229	93	44	-	-	-	9	128	-	
10331 C	218.052	P	3	168	90	56	-	-	-	21	123	-	
10331 D	218.674	U	6	546	307	177	75	39	18	16	109	-	
10331 E	219.024	U	5	398	296	152	55	19	-	11	113	-	
10331 F	219.499		4	174	67	39	13	-	-	13	149	-	
10340 A	220.852		5	298	134	77	30	18	-	15	127	-	
10340 B	221.021		4	334	158	80	27	-	-	10	121	-	
10340 C	221.593	W	6	1087	523	262	103	43	26	13	110	-	

JOB NO: 27H02

INPUT EM LINE	FIDUCIAL	ANOMALY TYPE	CHS	PEAK CH1	RESPONSE CH2	CH3	AMPLITUDES CH4	CH5	(PPM) CH6	TCP (S)	ALT (M)	MAGNETIC FIDUCIAL	VALUE
10340 D	222.062	M	6	862	487	303	152	75	53	23	120	-	
10340 E	224.100	P	2	128	83	-	-	-	-	NC	125	224.30	270
10340 F	225.650	M	5	380	201	114	51	22	-	15	154	-	
10340 G	226.124		6	274	176	110	58	33	17	24	151	226.30	42
10340 H	226.700		6	346	135	83	52	28	18	30	149	-	
10340 J	227.246	P	4	123	54	41	24	-	-	57	140	-	
10340 K	228.680	U	5	780	331	132	46	22	-	9	137	-	
10350 A	228.925		4	624	252	98	40	-	-	8	136	-	
10350 B	229.192		5	840	331	130	41	21	-	8	131	-	
10350 C	229.592		5	340	126	59	26	15	-	12	135	229.60	105
10350 D	230.125		6	317	174	111	62	33	18	27	142	-	
10350 E	230.345		5	234	134	87	49	28	-	28	130	-	
10350 F	230.775	U	5	394	206	114	62	28	-	15	142	-	
10350 G	231.200		2	172	101	-	-	-	-	NC	137	231.20	50
10350 H	231.500		5	464	159	91	45	26	-	18	156	-	
10351 A	235.823	U	6	739	425	253	131	66	44	22	119	-	
10351 B	236.320	U	5	1062	531	260	90	38	-	10	110	-	
10351 C	237.073		4	316	151	76	39	-	-	11	128	237.43	105
10360 A	244.194		4	175	82	47	22	-	-	15	120	-	
10360 B	244.847	W	5	861	417	193	71	24	-	9	126	-	
10360 C	245.166	W	5	524	262	158	62	26	-	15	124	-	
10360 D	247.299		4	100	75	49	20	-	-	19	228	-	
10360 E	247.997	W	5	210	132	87	43	22	-	23	153	248.50	47
10360 F	249.049	W	5	627	303	152	58	28	-	12	143	-	
10360 G	249.550		6	326	180	108	58	29	27	24	149	-	
10360 H	249.849		6	378	204	122	65	36	21	23	151	-	
10360 J	250.744	W	5	826	317	138	49	18	-	9	136	250.32	92
10370 A	252.200	U	5	782	318	139	56	31	-	10	136	252.55	85
10370 B	253.149	U	6	489	275	158	84	49	28	21	129	-	
10370 C	253.474		5	248	148	81	36	22	-	15	131	-	
10370 D	254.227	U	4	413	207	100	38	-	-	10	148	-	
10370 E	255.069		4	136	90	48	18	-	-	12	136	255.00	48
10370 F	255.620		5	237	144	93	53	29	-	27	127	-	
10370 G	256.171		5	163	100	58	25	16	-	16	142	-	
10370 H	256.722		5	299	168	104	51	18	-	17	152	256.80	47
10370 J	257.927	U	6	704	360	183	78	34	24	14	124	-	
10380 A	29.072	U	5	664	313	143	61	26	-	11	130	29.35	55
10380 B	29.823	P	5	135	105	50	32	18	-	15	145	-	
10381 A	31.341	P	4	114	74	31	21	-	-	10	152	-	

JOB NO: 27H42

INPUT EM LINE	FIDUCIAL	ANOMALY TYPE	CHS	PEAK RESPONSE AMPLITUDES (PPM) CH1	CH2	CH3	CH4	CH5	CH6	TCP (S)	ALT (M)	MAGNETIC FIDUCIAL	VALUE
10381 B	32.073	U	6	380	246	158	96	55	52	38	121	32.30	14
10381 C	32.825	U	6	1125	667	397	208	113	86	23	131	-	
10382 A	33.624		4	163	105	56	24	-	-	13	129	33.78	139
10382 B	34.797	U	5	214	126	62	28	14	-	12	156	-	
10390 A	39.197	P	4	99	51	37	17	-	-	32	167	-	
10390 B	40.249	P	3	106	81	47	-	-	-	15	118	-	
10390 C	40.703		6	152	102	62	35	27	29	43	150	-	
10390 D	41.325	W	6	1641	1017	641	344	204	135	28	153	-	
10390 E	42.171	W	6	438	265	146	71	34	35	18	140	41.83	37
10390 F	42.697		5	150	105	81	37	30	-	47	151	-	
10390 G	43.325		5	212	134	91	56	28	-	23	153	-	
10390 H	43.875		5	190	123	79	40	29	-	26	149	44.15	61
10390 J	44.475	W	6	590	311	175	80	45	32	18	143	-	
10390 K	44.600	W	5	531	264	151	75	36	-	16	143	-	
10400 A	45.347	P	4	276	149	80	33	-	-	12	141	-	
10400 B	45.772	U	6	611	299	170	88	43	28	19	130	45.90	62
10400 C	46.648		4	191	132	85	43	-	-	22	139	-	
10401 A	48.492	U	5	261	156	88	33	22	-	14	152	48.83	41
10401 B	49.425	U	6	1037	650	404	222	128	90	28	149	-	
10402 A	50.876	P	4	157	83	52	34	-	-	26	113	50.97	203
10410 A	55.048	P	4	120	66	40	22	-	-	20	156	-	
10410 B	56.450		2	173	97	-	-	-	-	NC	146	56.17	237
10410 C	57.250	W	6	1634	1000	620	336	199	132	26	133	-	
10410 D	57.678		6	500	324	213	117	76	71	39	136	57.83	48
10410 E	58.174	W	6	677	352	173	66	34	24	13	125	-	
10410 F	59.449	W	6	347	224	167	98	62	49	59	155	-	
10410 G	59.875	P	2	153	93	-	-	-	-	NC	147	60.05	54
10410 H	60.275	W	6	587	291	171	79	42	31	20	143	-	
10420 A	61.047		4	268	133	73	41	-	-	15	153	-	
10420 B	61.369		6	539	253	124	57	26	30	15	128	61.63	46
10421 A	63.896	U	4	460	219	103	32	-	-	9	129	-	
10422 A	64.975	U	5	376	218	126	61	34	-	17	153	-	
10422 B	65.525	P	3	193	120	73	-	-	-	19	128	-	

JOB NO: 27N42

INPUT EM LINE	FIDUCIAL	ANOMALY TYPE	CHS	PEAK RESPONSE AMPLITUDES (PPM) CH1	CH2	CH3	CH4	CH5	CH6	TOP (S)	ALT (M)	MAGNETIC FIDUCIAL	VALUE
10422 C	66.000	U	5	343	188	101	49	23	-	14	137	66.15	113

LINE NO.	FIDUCIAL	MAP	POSITION (INCHES) X	Y
19010	13.0	1	36.273	16.241
19010	13.5	1	34.828	15.294
19010	14.1	1	32.881	14.445
19010	14.6	1	31.452	13.419
19010	16.7	1	27.438	12.220
19010	18.9	1	21.702	9.840
19010	20.6	1	16.973	7.103
19010	21.9	1	12.964	5.812
19010	23.2	1	8.128	5.139
19010	25.4	1	2.246	3.940
19010	26.0	1	0.342	3.477
10000	106.0	1	35.694	19.567
10000	108.3	1	36.099	15.313
10000	109.7	1	36.227	12.474
10000	110.7	1	36.381	11.078
10000	111.7	1	36.205	8.922
10000	112.6	1	36.069	6.064
10000	113.2	1	36.032	5.422
10001	96.0	1	35.559	4.059
10001	97.3	1	35.508	5.614
10001	98.3	1	35.285	6.987
10001	99.7	1	35.186	9.032
10001	100.8	1	35.075	11.070
10001	102.3	1	35.036	13.175
10001	103.2	1	35.155	14.896
10001	103.8	1	35.138	16.556
10001	105.1	1	35.037	19.422
10002	84.5	1	34.791	19.810
10002	85.8	1	34.755	18.248
10002	86.7	1	34.575	15.956
10002	88.9	1	34.392	12.196
10002	90.0	1	34.303	10.087
10002	91.6	1	34.195	7.828
10002	93.7	1	33.973	4.615
10003	74.8	1	33.892	4.368
10003	76.8	1	34.035	7.784
10003	78.7	1	33.920	10.133
10003	79.9	1	33.866	12.447
10003	81.1	1	33.932	15.252
10003	81.6	1	33.982	16.718
10003	82.7	1	33.862	19.365
10010	12.8	1	33.727	3.916
10010	14.7	1	33.489	7.555
10010	16.0	1	33.207	11.409
10010	17.0	1	33.124	13.758
10010	18.3	1	33.419	17.037
10010	19.3	1	33.463	19.597
10020	21.0	1	32.533	19.332

LINE NO.	FIDUCIAL	MAP	POSITION (INCHES) X	Y
10020	21.7	1	32.366	16.895
10020	23.5	1	32.262	13.200
10020	24.1	1	32.040	11.283
10020	25.4	1	31.477	8.625
10021	25.5	1	31.768	8.650
10021	26.0	1	31.887	7.450
10021	27.1	1	31.890	5.090
10021	27.9	1	31.317	3.130
10030	33.1	1	30.855	2.338
10030	34.3	1	30.861	5.259
10030	35.6	1	31.224	7.411
10030	37.6	1	31.630	11.398
10030	39.1	1	31.839	14.211
10030	40.5	1	32.518	17.700
10030	41.7	1	32.737	19.474
10040	42.7	1	31.773	19.184
10040	43.2	1	31.589	17.849
10040	45.1	1	31.468	14.250
10040	46.4	1	31.081	11.610
10040	47.5	1	30.334	9.058
10040	49.4	1	29.675	6.456
10040	51.0	1	29.147	3.128
10041	93.9	1	30.470	3.507
10041	94.5	1	30.391	5.289
10041	95.7	1	30.843	7.384
10041	97.3	1	31.072	9.677
10041	98.1	1	31.323	11.856
10041	99.0	1	31.228	13.657
10041	100.5	1	31.433	16.189
10041	101.4	1	31.439	18.241
10041	102.0	1	31.440	19.596
10050	51.1	1	29.456	3.591
10050	52.6	1	30.064	7.108
10050	53.9	1	30.325	9.058
10050	55.4	1	30.225	11.941
10050	57.5	1	29.991	14.472
10050	58.9	1	30.007	18.720
10060	59.2	1	28.827	16.836
10060	60.7	1	28.830	14.558
10060	62.4	1	28.955	11.989
10060	64.1	1	28.988	8.957
10061	64.8	1	28.850	8.915
10061	65.7	1	29.060	7.305
10061	67.0	1	29.235	4.560
10061	67.7	1	29.652	3.532
10070	68.0	1	28.519	3.348
10070	68.6	1	28.458	5.083
10070	69.3	1	28.510	6.613

LINE NO.	FIDUCIAL	MAP	POSITION (INCHES) X	Y
10070	70.9	1	28.261	8.874
10070	72.0	1	28.027	12.368
10070	73.6	1	28.506	15.013
10070	74.8	1	28.499	17.030
10080	74.9	1	28.064	17.108
10080	76.0	1	27.946	15.094
10080	77.6	1	27.729	12.249
10080	79.0	1	27.611	9.196
10080	81.2	1	27.656	6.996
10080	82.2	1	27.532	4.611
10090	82.3	1	26.973	4.919
10090	83.2	1	27.061	6.939
10090	84.7	1	27.178	9.437
10090	85.7	1	27.296	12.235
10090	86.4	1	27.033	14.036
10090	87.3	1	26.768	16.360
10100	87.9	1	26.101	19.170
10100	88.8	1	26.223	12.184
10101	89.9	1	26.197	12.191
10101	90.7	1	26.601	9.376
10101	92.8	1	26.704	6.941
10101	93.8	1	27.124	5.218
10110	12.5	1	25.983	3.194
10110	13.7	1	26.376	6.140
10110	15.1	1	26.151	8.465
10110	17.2	1	25.456	12.292
10110	18.2	1	25.724	15.580
10110	18.8	1	25.548	17.296
10110	19.5	1	25.127	19.588
10120	20.3	1	24.339	19.415
10120	21.2	1	24.256	16.066
10120	22.3	1	24.850	12.444
10120	23.3	1	25.479	9.120
10121	23.4	1	24.817	12.111
10121	25.8	1	25.608	7.499
10121	26.6	1	25.745	6.036
10121	26.9	1	25.773	5.563
10130	27.0	1	24.118	4.012
10130	27.6	1	23.808	5.981
10130	29.1	1	23.728	8.568
10130	30.8	1	23.392	12.194
10130	32.0	1	23.377	15.954
10130	32.7	1	23.509	18.614
10140	33.0	1	23.007	18.880
10140	34.6	1	22.872	16.004
10140	35.5	1	22.952	13.496
10140	38.0	1	22.780	9.136
10140	40.3	1	22.998	4.361

LINE NO.	FIDUCIAL	MAP	POSITION (INCHES) X	Y
10150	40.5	1	22.452	4.424
10150	42.1	1	21.894	8.979
10150	43.6	1	22.297	13.812
10150	44.4	1	22.215	16.252
10151	44.9	1	22.374	15.522
10151	46.8	1	22.717	19.366
10160	47.8	1	21.838	18.908
10160	49.7	1	21.618	16.128
10160	51.6	1	21.318	10.726
10160	52.2	1	21.186	9.175
10160	53.3	1	21.160	6.557
10160	54.0	1	21.040	4.921
10170	54.6	1	20.436	0.382
10170	56.2	1	20.486	4.361
10170	57.0	1	20.522	6.416
10170	58.2	1	20.455	10.111
10170	59.0	1	20.683	12.673
10170	60.5	1	20.722	16.275
10171	60.6	1	20.962	15.857
10171	62.0	1	20.960	18.546
10171	62.4	1	20.974	19.279
10180	66.6	1	20.407	19.375
10180	68.3	1	20.261	16.421
10180	70.5	1	20.043	12.105
10180	71.1	1	19.984	10.693
10180	73.3	1	19.673	6.327
10180	73.7	1	19.594	5.088
10180	74.4	1	19.460	2.960
10180	75.1	1	19.409	0.969
10190	75.2	1	19.025	3.021
10190	76.2	1	18.876	6.047
10190	78.5	1	18.948	9.532
10190	79.6	1	19.227	11.408
10190	80.5	1	18.996	13.766
10190	80.7	1	18.936	14.447
10191	81.5	1	19.338	14.491
10191	81.9	1	19.633	16.104
10191	84.4	1	19.851	18.605
10200	84.2	1	18.766	18.466
10200	85.7	1	18.537	16.696
10200	86.9	1	18.269	13.329
10200	87.7	1	18.300	11.507
10200	90.6	1	18.259	8.588
10200	91.9	1	18.134	5.724
10200	93.1	1	18.148	2.831
10210	93.2	1	17.752	2.809
10210	94.2	1	17.762	5.350
10210	96.2	1	17.845	8.850

LINE NO.	FIDUCIAL	MAP	POSITION (INCHES) X	Y
10210	98.3	1	17.940	11.154
10210	99.6	1	18.262	13.331
10210	101.8	1	18.524	16.696
10210	102.7	1	19.033	17.811
10211	102.8	1	18.579	16.536
10211	104.0	1	18.644	18.494
10220	104.1	1	19.260	18.491
10220	105.3	1	19.029	16.796
10220	106.2	1	17.498	13.375
10220	108.8	1	17.064	10.640
10220	109.7	1	16.988	9.417
10220	112.0	1	16.558	5.849
10220	112.5	1	16.672	4.022
10220	113.4	1	16.908	0.738
10230	113.5	1	16.362	2.457
10230	114.1	1	16.246	4.075
10230	114.7	1	16.120	5.908
10231	115.5	1	15.911	4.554
10231	116.0	1	15.927	5.939
10231	118.1	1	16.497	9.462
10231	119.0	1	16.647	10.776
10231	120.0	1	16.510	12.562
10231	122.5	1	16.566	16.328
10231	123.4	1	16.602	17.258
10232	123.5	1	16.363	16.170
10232	124.6	1	16.634	18.300
10240	125.2	1	15.356	19.420
10240	126.0	1	15.491	16.953
10240	127.3	1	15.827	12.834
10240	128.2	1	15.860	10.934
10240	129.4	1	15.690	9.252
10240	131.9	1	15.632	5.947
10240	133.0	1	14.739	3.227
10240	133.2	1	14.580	2.694
10250	133.4	1	14.083	3.080
10250	134.4	1	14.306	5.636
10251	135.9	1	13.861	5.602
10251	138.0	1	15.146	9.480
10251	140.1	1	15.054	13.035
10251	142.5	1	15.490	16.943
10251	143.0	1	15.355	17.799
10260	143.1	1	14.805	17.789
10260	144.1	1	14.595	15.661
10260	144.7	1	14.511	13.386
10260	145.3	1	14.371	11.661
10260	147.3	1	14.176	8.797
10260	149.5	1	13.538	5.639
10260	150.1	1	13.569	3.918

LINE NO.	FIDUCIAL	MAP	POSITION (INCHES) X	Y
10260	151.1	1	13.663	0.938
10270	151.2	1	12.540	2.397
10270	151.7	1	12.706	3.588
10270	152.5	1	12.602	5.602
10271	153.8	1	13.046	5.348
10271	154.8	1	13.660	8.671
10271	156.5	1	14.075	11.096
10271	157.6	1	13.806	14.399
10271	159.9	1	14.259	16.696
10271	161.5	1	14.918	18.115
10280	161.6	1	14.021	18.520
10280	162.6	1	13.688	16.378
10280	163.3	1	12.972	14.829
10280	164.8	1	13.143	11.754
10280	166.2	1	12.531	9.074
10280	168.7	1	11.856	4.339
10280	169.0	1	11.782	3.406
10280	169.8	1	11.550	1.803
10290	169.9	1	10.916	1.140
10290	170.5	1	10.916	3.036
10290	170.8	1	10.944	3.894
10290	173.0	1	11.659	8.619
10291	173.1	1	11.629	8.413
10291	174.6	1	11.830	9.780
10291	177.4	1	12.133	12.399
10291	178.2	1	12.211	15.043
10291	179.2	1	12.644	17.630
10291	180.7	1	13.202	19.584
10300	181.6	1	12.232	19.012
10300	182.9	1	11.881	17.116
10300	184.4	1	11.946	15.003
10300	185.9	1	11.910	11.949
10300	187.4	1	11.612	9.782
10300	190.4	1	10.499	4.360
10300	190.9	1	10.604	2.824
10300	191.4	1	10.732	0.510
10310	191.5	1	9.164	1.817
10310	192.6	1	9.505	3.163
10310	194.2	1	9.820	7.755
10311	195.1	1	9.818	7.756
10311	195.8	1	10.107	9.226
10311	196.7	1	10.379	11.055
10311	198.4	1	10.496	12.177
10311	199.4	1	10.692	14.372
10311	200.4	1	11.424	17.423
10311	201.0	1	11.837	19.216
10320	201.9	1	9.272	19.343
10320	202.5	1	9.554	17.976

LINE NO.	FIDUCIAL	MAP	POSITION (INCHES) X	Y
10320	204.0	1	10.251	14.444
10320	206.4	1	10.128	11.072
10320	207.4	1	9.819	9.165
10320	210.9	1	8.666	1.913
10330	211.1	1	7.226	1.869
10330	212.4	1	7.975	5.935
10330	213.7	1	8.206	7.677
10331	214.5	1	8.206	7.070
10331	216.0	1	8.478	10.435
10331	218.5	1	9.132	13.411
10331	220.0	1	9.092	15.232
10340	220.1	1	8.198	16.346
10340	221.0	1	8.213	14.928
10340	222.3	1	8.189	12.858
10340	223.8	1	8.013	10.954
10340	225.3	1	7.453	8.873
10340	226.9	1	7.379	5.877
10340	228.2	1	6.496	1.857
10340	228.5	1	6.297	0.942
10350	228.6	1	5.735	1.253
10350	229.6	1	6.164	3.880
10350	231.6	1	6.624	8.876
10351	233.8	1	6.747	10.051
10351	235.3	1	7.795	12.497
10351	236.4	1	7.148	14.571
10351	238.6	1	5.722	19.229
10360	241.4	1	6.813	19.550
10360	243.4	1	6.865	15.991
10360	244.5	1	6.891	14.016
10360	245.9	1	6.665	11.826
10360	247.3	1	6.185	9.999
10360	251.2	1	5.362	1.289
10370	251.6	1	4.790	1.272
10370	256.5	1	5.439	8.842
10370	257.4	1	5.391	11.493
10370	258.9	1	5.611	13.411
10371	259.0	1	5.365	12.055
10371	260.7	1	6.334	15.464
10371	262.5	1	6.651	19.313
10380	28.5	1	4.069	1.438
10380	30.4	1	3.640	4.299
10381	30.5	1	3.646	4.302
10381	31.4	1	3.877	6.376
10381	32.9	1	4.210	8.357
10382	33.3	1	4.211	8.359
10382	34.5	1	4.650	11.814
10382	35.7	1	4.219	14.191
10383	35.8	1	4.664	12.960

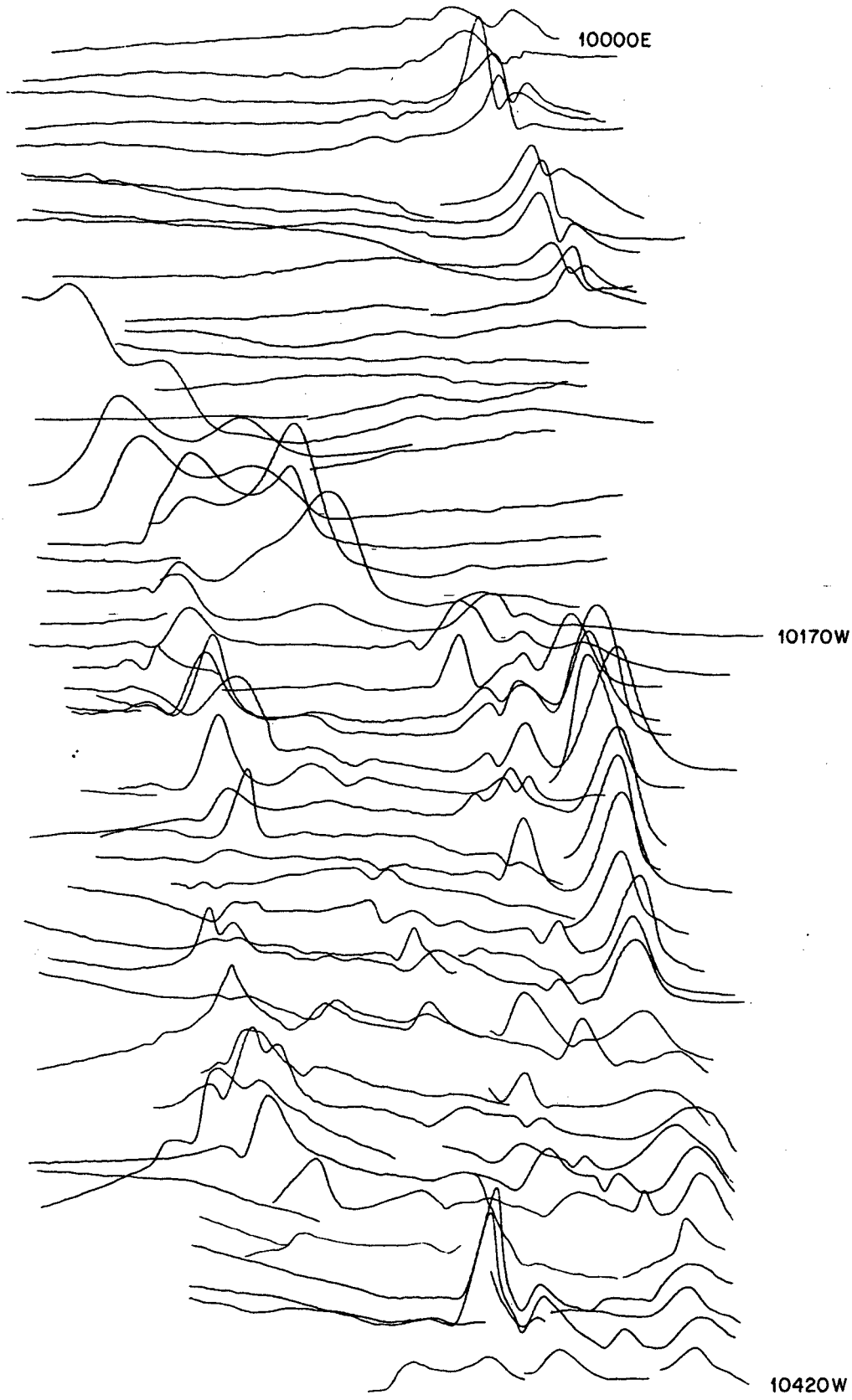
LINE NO.	FIDUCIAL	MAP	POSITION (INCHES) X	Y
10383	37.2	1	5.468	15.341
10390	37.3	1	4.721	15.531
10390	37.9	1	4.462	14.647
10390	39.6	1	3.218	10.514
10390	42.0	1	2.689	6.707
10390	44.2	1	2.830	3.258
10390	44.9	1	3.030	1.368
10400	45.2	1	2.129	1.161
10400	46.1	1	2.339	3.263
10400	47.4	1	2.578	6.289
10401	48.4	1	2.189	6.246
10401	49.3	1	2.349	7.798
10402	50.3	1	2.345	7.793
10402	51.5	1	2.516	10.605
10402	52.6	1	3.351	13.594
10402	53.5	1	3.630	15.486
10410	54.0	1	3.235	15.429
10410	54.6	1	2.916	13.826
10410	55.6	1	2.600	10.573
10410	57.9	1	1.982	6.880
10410	60.0	1	1.576	3.150
10410	60.6	1	1.501	1.329
10420	60.8	1	0.624	0.962
10420	61.7	1	0.965	3.367
10421	62.9	1	1.018	3.509
10421	64.3	1	0.948	6.734
10422	64.6	1	0.946	6.734
10422	65.4	1	0.992	8.612
10422	66.9	1	0.773	10.826

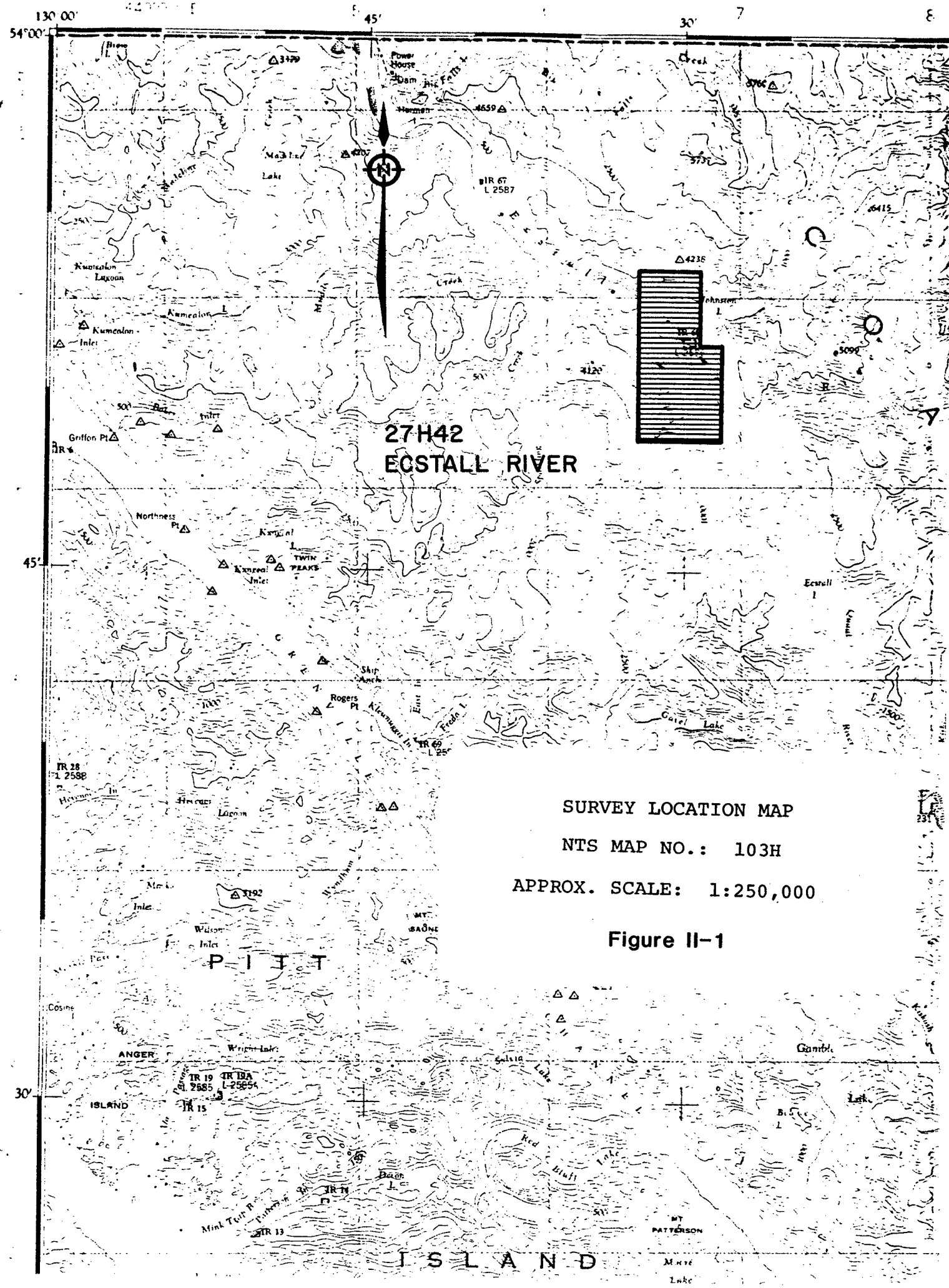
INPUT E.M.PROFILE MAP

27H42

Channel 1 Amplitude

Scale Approx. 1 : 45125





SURVEY LOCATION MAP

NTS MAP NO.: 103H

APPROX. SCALE: 1:250,000

Figure II-1

MARIPOSITE CLAIM BOUNDARY

ECSTALL PROPERTY BOUNDARY

INPUT® PEAK RESPONSE SYMBOLS 2ms PULSE

SURFICIAL RESPONSE	UP-DIP PEAK RESPONSE	BEDROCK RESPONSE	DECAY INTERVAL CLASSIFICATION
			1 Channel (300 microseconds)
			2 Channel (500 microseconds)
			3 Channel (800 microseconds)
			4 Channel (1200 microseconds)
			5 Channel (1700 microseconds)
			6 Channel (2300 microseconds)

Culture Response

50 Associated Magnetic Response

Anomaly Letter — B 5 — Apparent Conductivity-Width (siemens) (N.C. – No Calculation)

1800 — Ch. 2 Amplitude (p.p.m.)

Poorly Defined Response

INTERPRETATION

20 Conductor Axis, with reference number (good definition)

20 Conductor Axis, with reference number (poor definition)

Vertical Conductor

85° Conductor Dip (magnitude and direction known)

Conductor Dip (direction known)

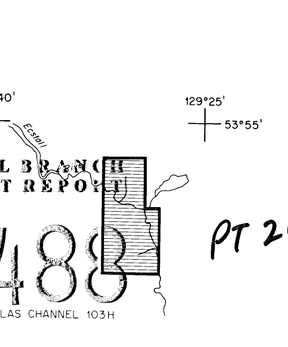
20 Selected Zone, with reference number

Conductive Zone

Fault Zone

A Channel 1 Half-Peak Width

Representative INPUT® Magnetometer and Altimeter Recording



DESCRIPTIVE NOTES

The aircraft is equipped with the Barringer/Questor Mark VI INPUT® airborne E.M. System and the Geometrics G-803 Proton Precession Magnetometer and Sonotek SDS-1200 Series Data Acquisition System. The INPUT® system will respond to conductive overburden and near-surface horizontal conducting layers in addition to bedrock conductors. Discrimination of conductors is based on the rate of transient decay, magnetic correlation and the anomaly shape, together with the conductor pattern and topography.

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INTERPRETATION REFERENCES

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129°40' 53°55' — 129°25' 53°55'

Ecstall

GEOLOGICAL BRANCH ASSESSMENT REPORT

15,488

PT 2 OF 3

DOUGLAS CHANNEL 103H

53°45' 129°40' — 53°45' 129°25'

1000 0 3000 Ft

200 0 1000 M

Scale 1:10 000

HELICOPTER MK VI INPUT® SURVEY

KIDD CREEK MINES LIMITED

ECSTALL RIVER

Province of BRITISH COLUMBIA

FILE NO.	SHEET NO.	DATE	COMPILED BY
27H42	1 of 1	Dec. 1985	Questor Surveys Limited

Questor Surveys Limited
Mississauga Ontario Canada

Figure II-2