MOBILE METAL ION GEOCHEMICAL REPORT

on the

BEATON GROUP MINERAL CLAIMS
Ice Lake Zone

Kamloops Mining Division
British Columbia

N.T.S. 092I/10E
Latitude 50° 41'N
Longitude 120° 37'W

for
operator and owner

Charles Boitard
1756 246th Street
Langley, B.C.
V2Z 1G4

Compiled by

Charles Boitard
January 10, 2002

Conclusions and recommendations by

Laurence Stephenson, B.Sc. MBA, P. Eng.
President of Geofin Inc.

and

Robert B. K. Shives B.Sc.
Head, radiation Geophysics Sections, Geological Survey of Canada

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1. Summary

1.1 The Beaton Group consists of 11 mineral claims, representing 82 units The property is located approximately 5 kilometres west of Afton Mine and 20 kilometres from the town of Kamloops, B.C. The claim is accessible from the Trans-Canada Highway, then Greenstone Mountain Road and Duffy Lake Road.

1.2 The property is underlain by andesites of the Nicola Volcanics.

1.3 Induced Polarization Magnetometer Surveys, Soil Sampling and a few percussion drill holes and diamond drill holes, have been carried out on the property, but no commercial mineralization has been encountered.

2. INTRODUCTION

2.1 This report has been prepared for assessment purposes.

2.2 Previous percussion drilling carried out on the property intercepted many zones of alteration, bleaching and quartz. Mobile Metal Ion (M.M.I.) Survey; is a new exploration tool, the soil sampling carried out on in this report is a followup from a previous survey to test a Gamma Ray Spectromectric/Magnetic/VLF-EM Anomaly in the northwest direction on the Beaton 1 and Beaton 2 claims.

2.3 The Beaton Group is registered under the name of Charles Boitard. The property lies approximately 20 kilometres west of Kamloops B.C.

3. LOCATION ACCESS AND PHYSIOGRAPHY

3.1 The Beaton property is located on the Thompson Plateau approximately 20 kilometres west of Kamloops, B.C. The claims are centered at 50° 41' north latitude and 120° 37' west longitude on NTS map sheet 0921I/10E. The claims are in the Kamloops Mining Division.

3.2 Access is provided by the Trans-Canada Highway and then south along the Greenstone Mountain Road which branches off the highway approximately two kilometres west of the Afton Mine. Good dirt roads provide access to most of the claim area.

3.3 The property lies between elevations 600 to 885 metres above sea level. Vegetation consists of pockets of Pine within grasslands. Water for all stages of exploration is available from Beaton Creek, the main drainage on the Beaton Claims. The climate is semi-arid with an average annual precipitation of 250 to 280 millimetres.

4. CLAIM STATUS

4.1 The Beaton property comprises 11 mineral claims totalling 82 units. Complete claim information is as follows:

NAME	UNITS	RECORD NO.	EXPIRY DATE*
BEATON #1	20	217820	JUNE 15, 2002
BEATON #2	20	217821	JUNE 15, 2002
SNOW 1	1	385243	MAR. 22, 2003
SNOW 2	1	385244	MAR. 22, 2003
SNOW 3	1	385245	MAR. 22, 2003
SNOW 4	1	385246	MAR. 22, 2003
DUFFY	20	355486	SEPT. 9, 2002
ROSE #1	12	316736	SEPT. 9, 2002
ROSE #2	1	316737	SEPT. 9, 2002
ROSE #3	1	316738	SEPT. 9, 2002
ROSE #4	1	316739	SEPT. 9, 2002
ROSE #5	1	316740	SEPT. 9, 2002
ROSE #6	1	316741	SEPT. 9, 2002
ROSE #7	1	316742	SEPT. 9, 2002

Includes assessment currently being applied.

4.2 All the claims in the Beaton Group are recorded under the name of Charles Boitard.

5. HISTORY

5.1 The Afton orebody, located five kilometres east of the Beaton claims, began production in 1977 and continued through 1991 when it was shut down for economic reasons. At start–up, Afton had drill proven ore reserves of 30.84 million tonnes grading 1.0% copper, 0.58 ppm gold and 4.19 ppm silver at a cut off grade of 0.25% copper (Carr & Reed, 1976). It is reported that underground reserves still exist and that with an improvement in copper and/or gold prices the mine could be re–opened.

5.2 In 1972, the TT claims were explored by Bow River Resources Ltd. A magnetic survey on the TT claims reportedly revealed Coast Intrusives, and Tertiary volcanics as well as Nicola Volcanics within portions of the present day Beaton claims (Sookochoff, 1992)

5.3 In 1980, Asarco completed a magnetometer survey on the Red 1–4 claims, two of which occupied a portion of the northwest corner of the present Beaton #2 claim. The resultant magnetic highs were determined to be the result of outcroppings of Nicola volcanics. Percussion drilling in 1981 revealed chalcopyrite but no economic concentrations of copper were discovered.

5.4 In 1983, De Baca Resources explored the Akila claim which included the southwest corner of the present day Beaton Group Claims. One diamond drill hole was completed to test a silicified shear zone that strikes 070°. This hole reportedly returned assays of nominal copper and silver. It is reported in C..T. Pasieka, P. Eng. November 1983 Report, that the drill hole was in the vicinity of an existing shaft of 22.12 m. in depth and a selected sample with obvious sulphides yielded Mo 0.002%, Cu 2.18%, Au 0.025 ozs/ton, Ag 1.92 ozs/ton.

5.5 Since 1987 exploration on the Beaton claims has consisted of IP surveys, localized soil geochemical surveys and the drilling of nine percussion drill holes in 1992.
Two diamond drill holes in 1993, five diamond drill holes in 1994 and seven diamond drill holes in 1995.

6. GEOLOGY

6.1 The Beaton claims lie within the Quesnel Trough, a 30 to 60 kilometre wide belt of Lower Mesozoic volcanic and related sedimentary rocks bounded by older sedimentary rocks of the Cache Creek Group to the east and younger Coast Intrusions to the west. In the area of the Beaton claims the Quesnel Trough is dominated by Upper Triassic Nicola Group andesites, basalts, tuffs and argillites. The Nicola Group is intruded by Upper Triassic – Lower Jurassic diorite, syenite and monzonite of the Iron Mask Batholith. This batholith represents a major northwest trending structure that crosscuts the north–northwesterly trending Nicola Volcanics. Portions of this area or obscured by later plateau lavas.

6.2 Bedrock exposure in this area amounts to only about ten percent, the rest being covered by glacial drift deposited from Pleistocene ice sheets that moved from northwest to southeast.

6.3 No systematic, property scale geological mapping has been carried out on the property. The Beaton Group of claims is underlain by andesite of the Nicola Group and quartz monzonite of the Iron Mask pluton. A rhyolite flow was observed.

7. MOBILE METAL ION SURVEY

This survey was carried out across an airborne Gamma Ray Spectrometric/magnetic/VLM–EM. This anomaly is shown on the March 1995, Geological Survey of Canada Open F ile #3061 by R.B.K Shives, K.L. Ford and B.W. Charbonneau.

7.1 During the period from September 2nd to September 18, 2001, a soil sampling survey was carried out on the Beaton #1 and and Beaton #2 mineral claims. The survey area was established with a Base Line at 315º, and five survey lines at 90º to the Base Line (north 45º) with stations at 50 metre intervals, blazed and flagged. A total of 6,600 metres of survey was carried out.

7.2 During the period from September 2nd to September 18th, 2001 , a soil sampling survey was established with a compass, hip chain and an axe. The base line in the northwest direction (north 315º) was established, blazed and flagged. Five survey lines at 250 metre intervals were blazed and flagged in the northeast direction at 90º to the Base Line (north 45º) with stations at 50 metre intervals. The stations were marked by red and blue flagging, with the line and the station number written with a waterproof marker. A total of 117 samples were collected from Line 0, Line 250W, Line 500W, Line 750W, Line 1000W.

L. 0 15 samples were collected from the Base Line to 700N, and 8 samples collected from the Base Line to 400S, for a total of 23 samples.

L. 250W 19 samples were collected from the Base Line to 900N, and 5 samples collected from the Base Line to 250S, for a total of 24 samples.

L. 500W 21 sample were collected from the Base Line to 1000N, and 4 samples collected from the Base Line to 200S, for a total of 25 samples.

L. 750W 23 samples were collected from the Base Line to 1100N, and 2 samples collected from the Base Line to 100S, for a total of 25 samples.

L.1000 19 samples were collected from the Base Line to 900N, for a total of 10 samples.

7.3 The samples were collected with a pick and small shovel dug from pits to the depth of approximately 25 cm., to sample the B Horizon. The soil was sieved with a plastic sieve and a pound of fine material was collected and placed in a plastic snap seal bag, clearly marked with the property name, the line and the station number. The small sample bags were then placed into a larger bag to be carried to the truck. At each station the pits were refilled and the tools used to collect the samples were brushed clean after each sample was taken to avoid contamination.

7.4 A maximum of six sample bags were placed in a larger plastic bag and carried to the truck for transportation to Vancouver. The samples were then placed in cardboard boxes and shipped for assay to XRAL LABORATORIES, at 1885 Leslie Street , Don Mills, Ontario M3B 3J4.

7.5 Xral Labs assayed all the samples with the method code **M.M.I., suite B**; for five elements: CO, AU, AG, PD, NI. Only the Line 500, representing 25 samples were assayed for the **Base Metal, M.M.I. suite A**; CU, PB, NZ, CD

7.7 RESULTS: All the results for each metal have been plotted on separate sheets for each metal, to facilitate the interpretation.

8. CONCLUSIONS

8.1 The interpretation and recomendations of the M.M.I. results, were compiled by Laurence Stephenson, B.Sc, MBA, P.Eng., president of Geofin Inc., in conjunction with Robert B.K. Shives, B.Sc., Head, Radiation Geophysics Section, Geological Survey of Canada, Ottawa.

8.2 GEOFIN REPORT by Laurence Stephenson, B.Sc., MBA, P. Eng.
Histograms, recommendations and qualifications.

8.3 HELICOPTERBORNE MULTISENSOR GEOPHYSICAL SURVEY, Report by Robert B.K. Shives, B.Sc.
On the Airborne Survey Specifications Re: Open file 3061
Conclusions and qualifications

9. REFERENCES

Carr, J.M. and Reed, A.J.	Afton: A Supergene Copper Deposit. Part of C.I.M., Special Volume 15: Porphyry Deposits of the Canadian Cordillera. 1976
Cockfield, W.E.	Geology and Mineral Deposits of Nicola Map Are, British Columbia. Geological Survey of Canada, Memoir 249, 1961
Pasieka, C.T.	Diamond Drilling and Sampling Report for De Baca Resources Inc. November 10, 1983
Sookochoff, L.	Compilation Report for Green Valley Mine Inc. on the Beaton Claims. Unpublished report, 1992
Reynolds, P.	Percussion Drilling Report on the Beaton Mineral Claims for Green Valley Mine Inc. September 8, 1993
Reynolds, P.	Diamond Drilling and Percussion Drilling Report on the Beaton Claims for Green Valley Mine Inc. May 31, 1995.
Boitard, C	Mobile Metal Ion Geochemical Report on the Beaton Mineral Claims, May 28, 1999
Boitard, C.	M.M.I. Geochemical Report on the Duffy Claim July 9, 1999
Boitard, C	M.M.I. Geochemical Report on the Beaton #2 and, Beaton #6 (Snow 1 to 4) June 19, 2000

10. STATEMENT OF COSTS

BEATON #1 & BEATON #2 Mineral Claims, Kamloops Mining Division;

Establishing a Base Line and Survey Lines on the Beaton #1 and the Beaton #2 claims. 6,600 metres of survey lines were established from September 2, 2001 to September 18, 2001

117 samples were collected from the following lines:

Line 0	23 samples
Line 250W	25 samples
Line 500W	25 samples
Line 750W	25 samples
Line 1000	19 samples

Field work & travelling time, 6 days, 2 men	$1,440.00	
Motel, 6 days, 2 men	540.00	
Meals, 6 days, 2 men	420.00	
Field supplies; flagging, thread, bags	70.00	
4 X 4 Truck rental	600.00	
Preparing and shipping samples to		
Xral Lab, Toronto, Ontario	423.77	
Assay for PD, AU, AG, NI, CO, CU, ZN	3,000.00	
		$6,493.77
Geologist's report and Interpretations		3,000.00
		$9,493.77

Respectfully submitted:

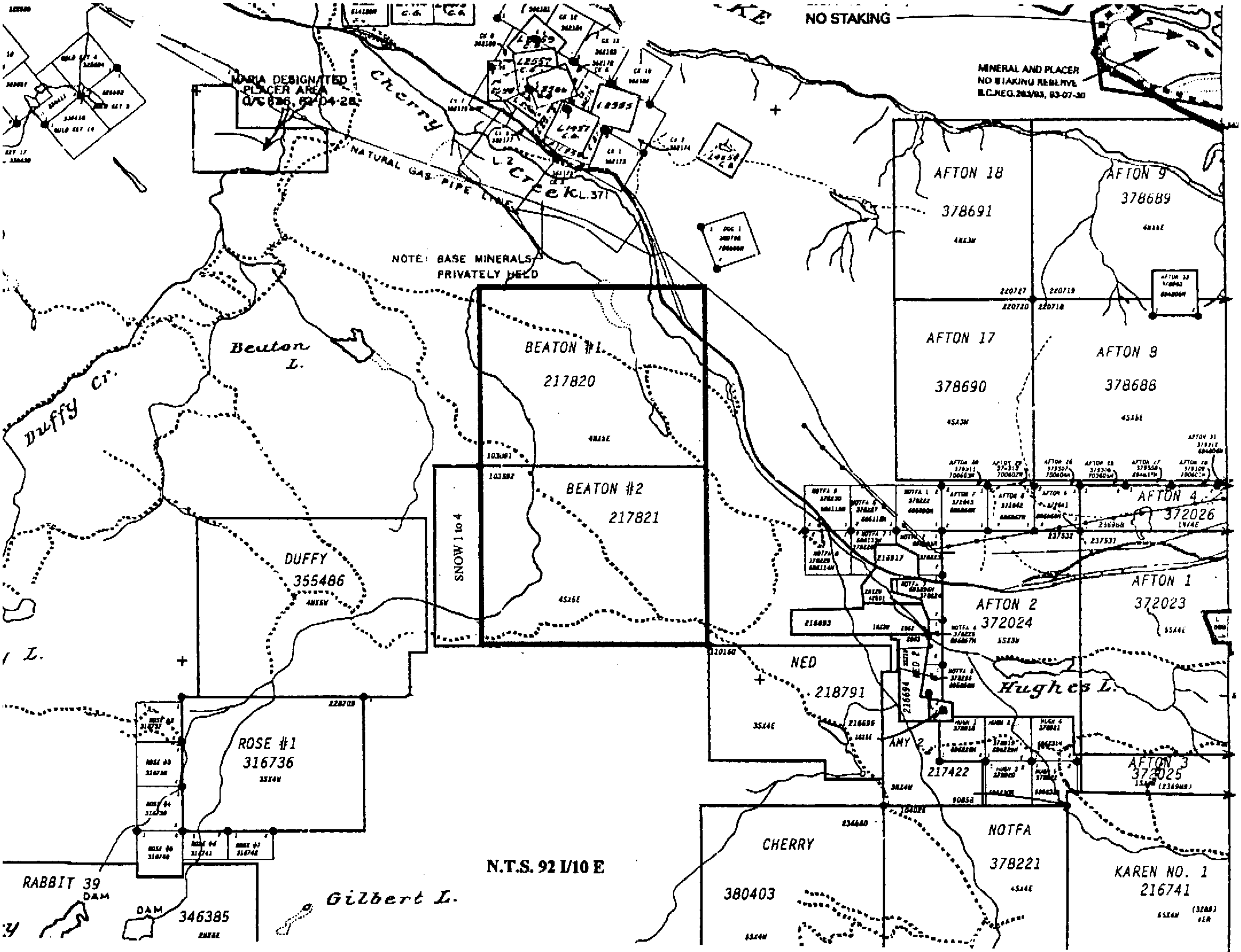
Charles Boitard

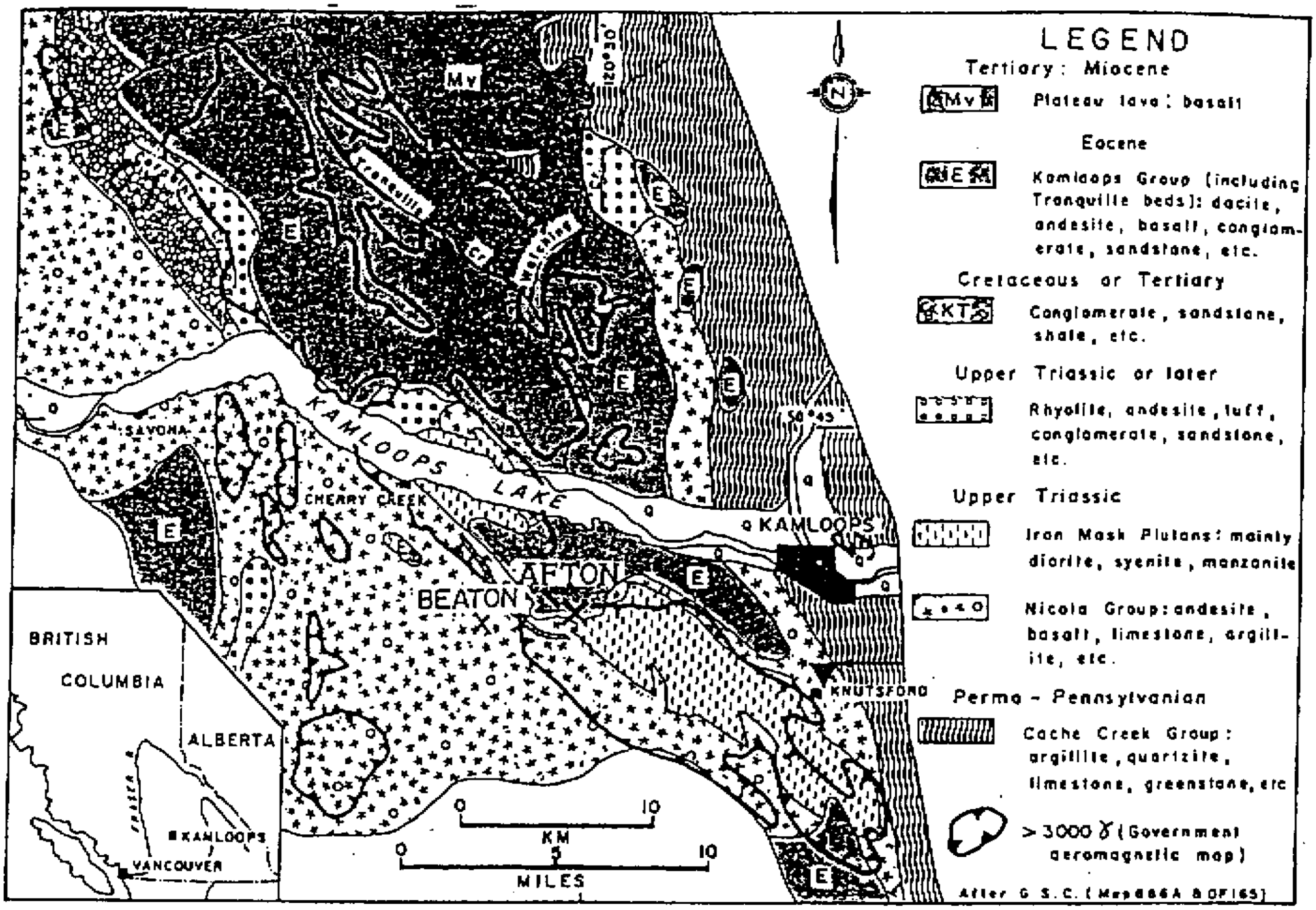
LOCATION MAP

KAMLOOPS M.D.

NTS: 092I/10E

FIG. NO.


NO STAKING
MINERAL AND PLACER
NO STAKING RESERVE
B.C.REG.263/93, 93-07-30
MARIA DESIGNATED
PLACER AREA
Cherry Creek
NATURAL GAS PIPE LINE
NOTE: BASE MINERALS
PRIVATELY HELD
AFTON 18
378691
AFTON 9
378689
AFTON 17
378690
AFTON 8
378688
BEATON #1
217820
BEATON #2
217821
SNOW 1 to 4
Beaton L.
Duffy Cr.
DUFFY
355486
AFTON 4
372026
AFTON 1
372023
AFTON 2
372024
NED
218791
Hughes L.
AMY 2
217422
AFTON 3
372025
ROSE #1
316736
CHERRY
380403
NOTFA
378221
KAREN NO. 1
216741
RABBIT 39
DAM
346385
Gilbert L.
N.T.S. 92 I/10 E

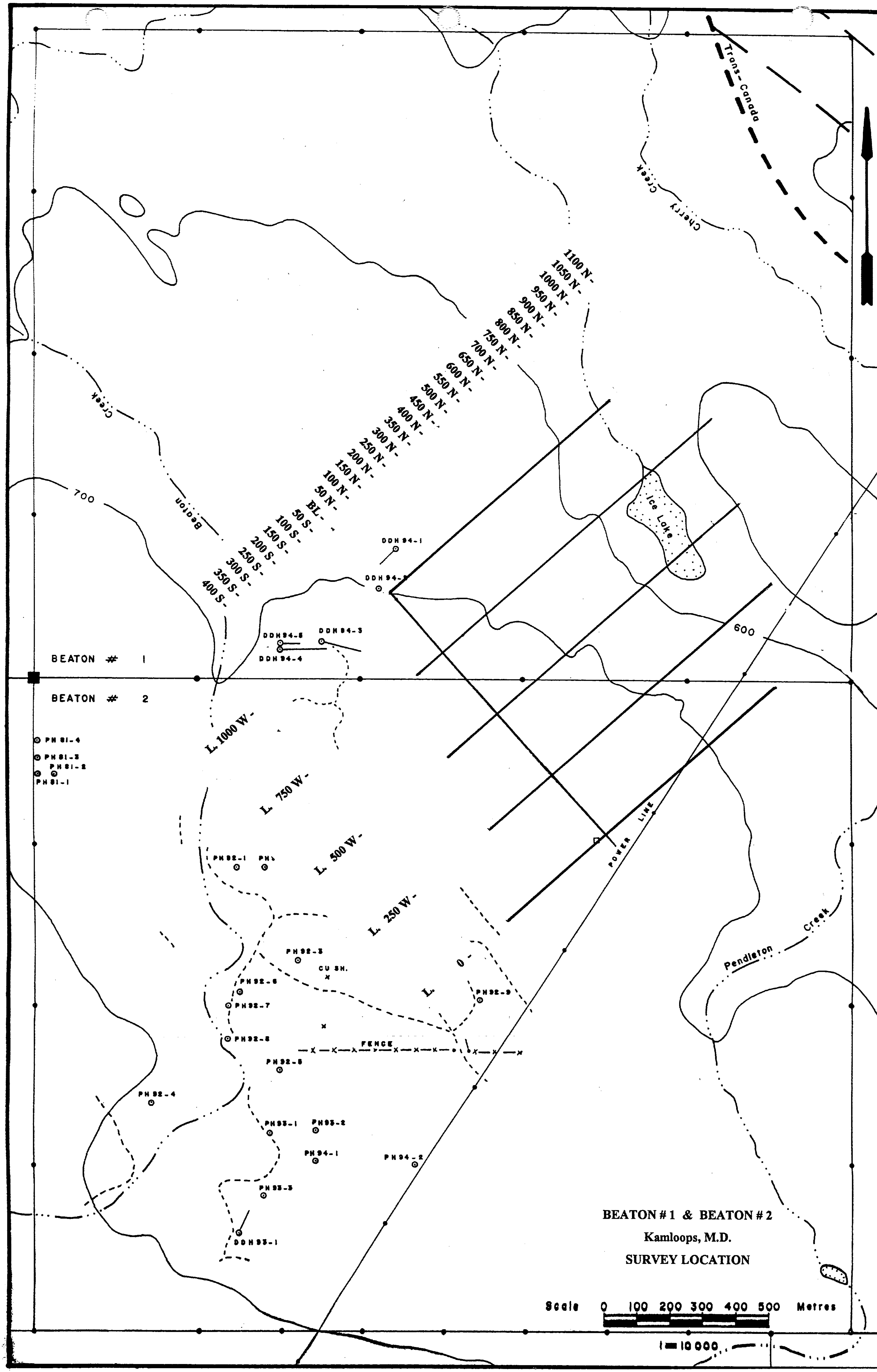


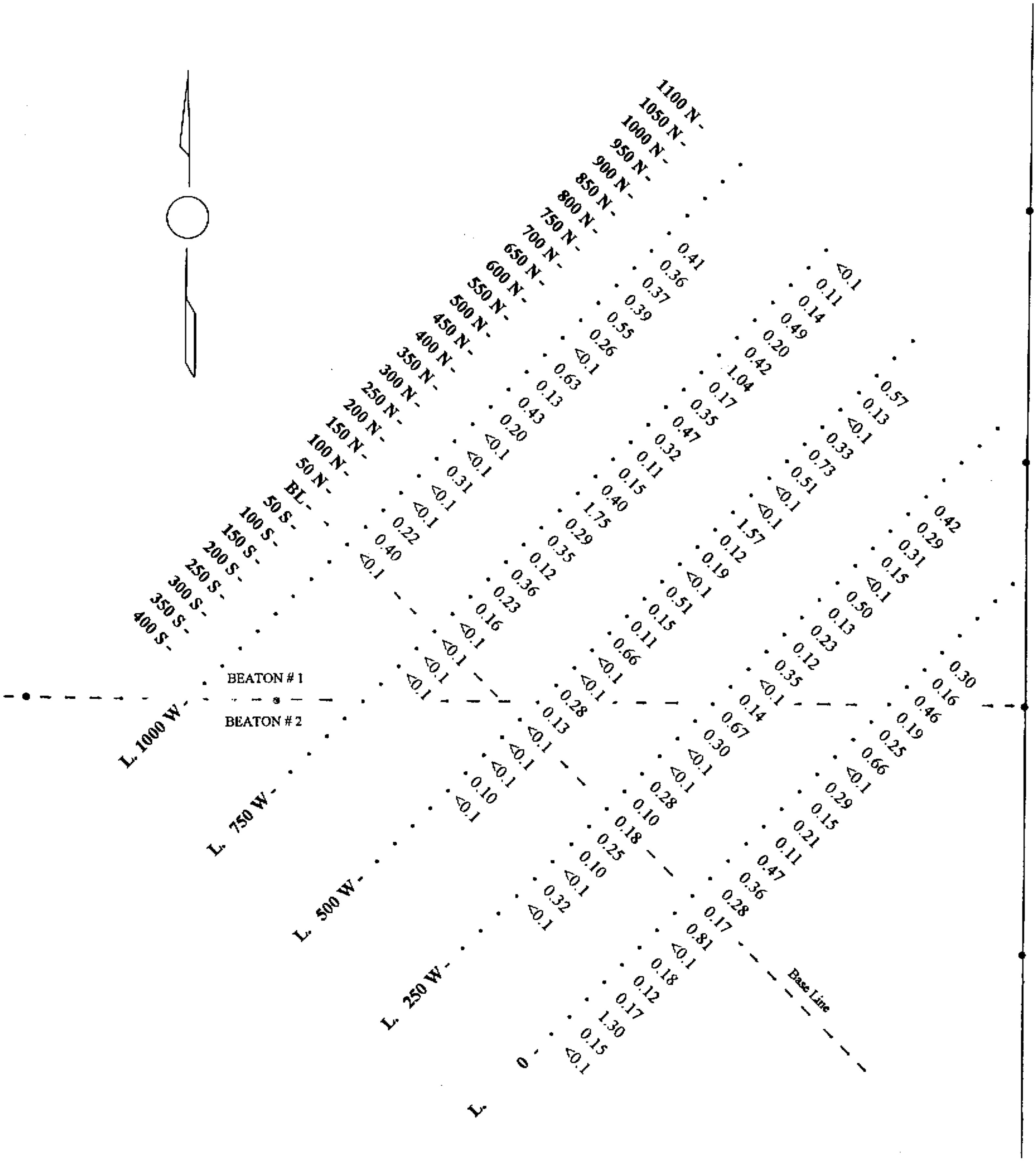
REGIONAL GEOLOGY

KAMLOOPS M.D. NTS: 092I/10E

SCALE AS SHOWN			FIG. NO.

AFTER CARR & REED, 1976

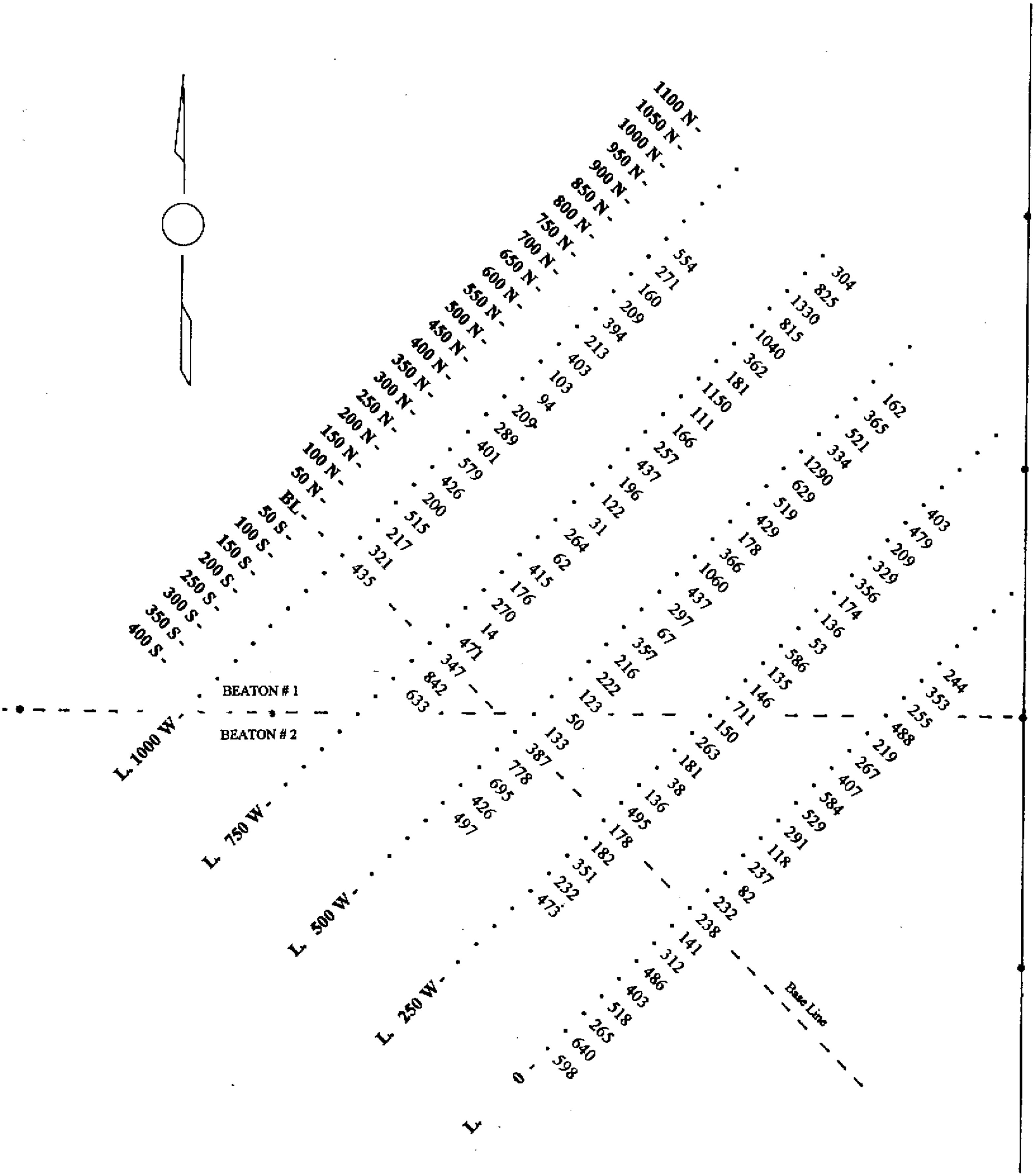

Trans-Canada
Cherry Creek
Beaton Creek
Pendleton Creek
700
600
Ice Lake
1100 N
1050 N
1000 N
950 N
900 N
850 N
800 N
750 N
700 N
650 N
600 N
550 N
500 N
450 N
400 N
350 N
300 N
250 N
200 N
150 N
100 N
50 N
BL
50 S
100 S
150 S
200 S
250 S
300 S
350 S
400 S
DDH 94-1
DDH 94-2
DDH 94-5
DDH 94-3
DDH 94-4
BEATON # 1
BEATON # 2
PH 81-4
PH 81-3
PH 81-2
PH 81-1
L. 1000 W
L. 750 W
L. 500 W
L. 250 W
L. 0
PH 92-1
PH 92-3
CU SH.
PH 92-6
PH 92-7
PH 92-9
PH 92-8
FENCE
PH 92-5
PH 92-4
PH 93-1
PH 93-2
PH 94-1
PH 94-2
PH 93-3
DDH 93-1
POWER LINE
BEATON # 1 & BEATON # 2
Kamloops, M.D.
SURVEY LOCATION
Scale 0 100 200 300 400 500 Metres
1:10 000

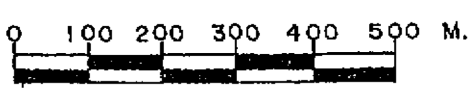


BEATON #1 and BEATON #2
KAMLOOPS, M.D.
M.M.I. SURVEY

PALLADIUM

SCALE 1 = 10,000





BEATON #1 and BEATON #2

KAMLOOPS, M.D.

M.M.I. SURVEY

NICKEL

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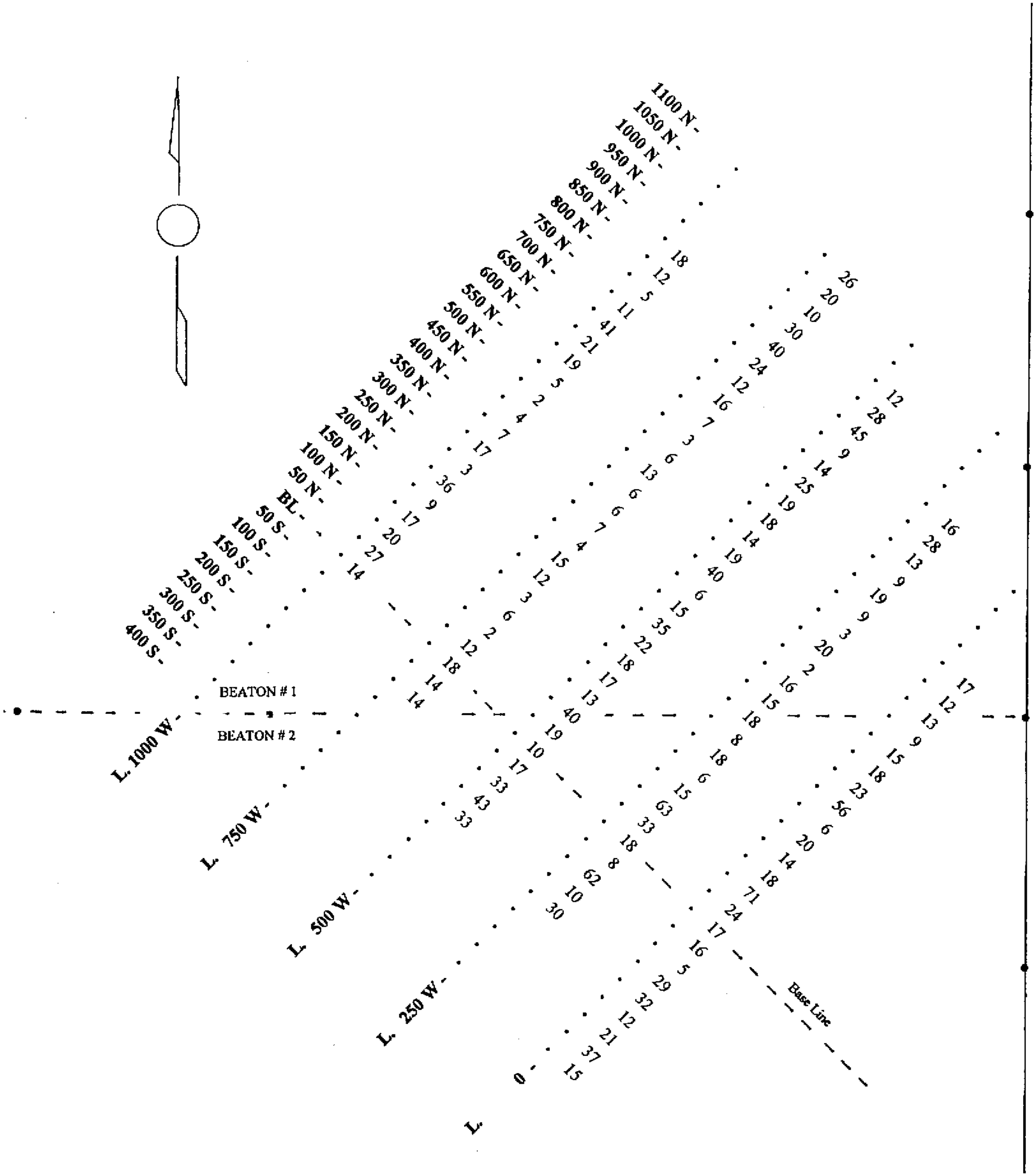


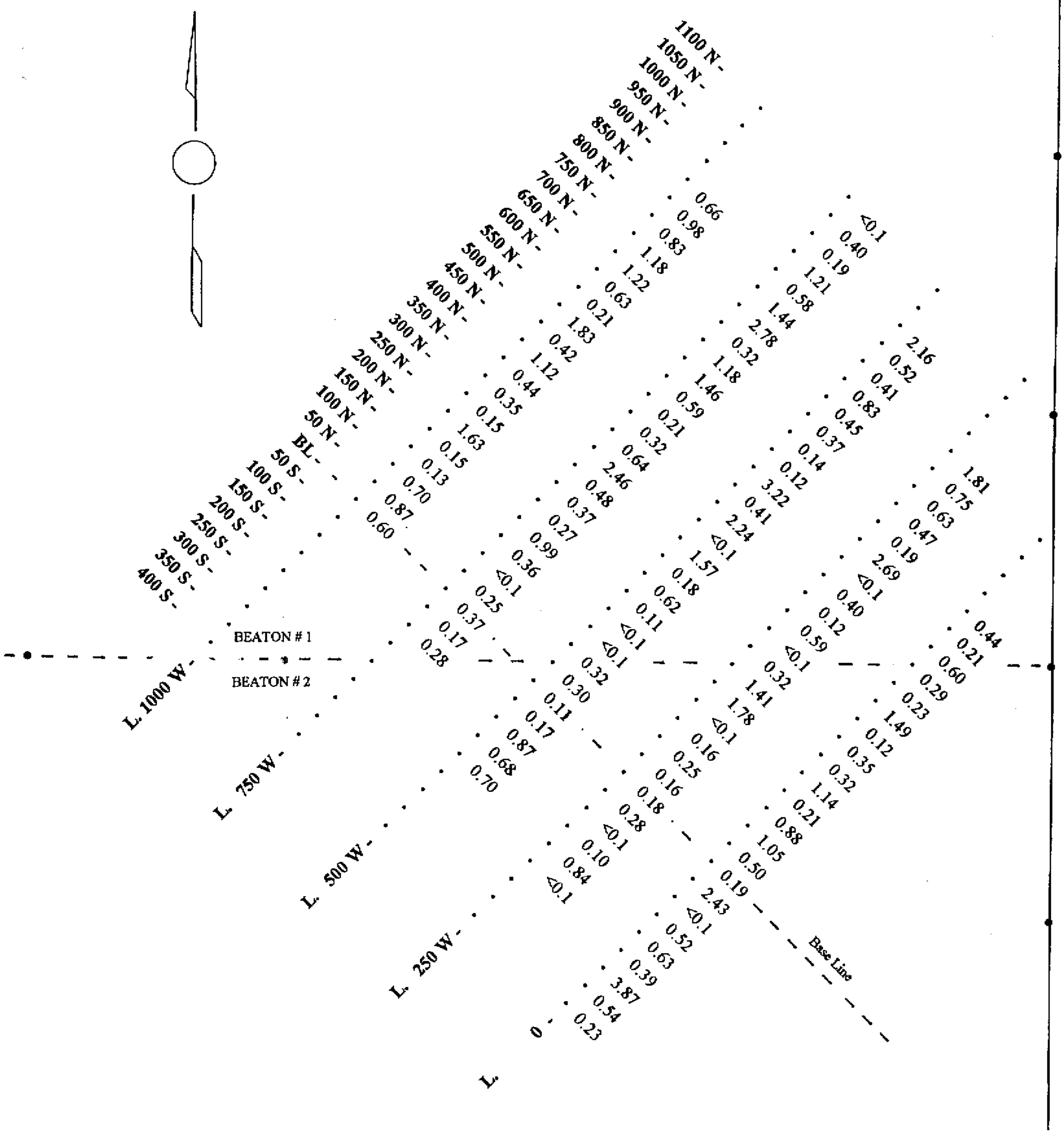
0 100 200 300 400 500 M.

BEATON #1 and BEATON #2

KAMLOOPS, M.D.
M.M.I. SURVEY

COBALT

SCALE 1 = 10,000



BEATON #1 and BEATON #2

KAMLOOPS, M.D.

M.M.I. SURVEY

GOLD

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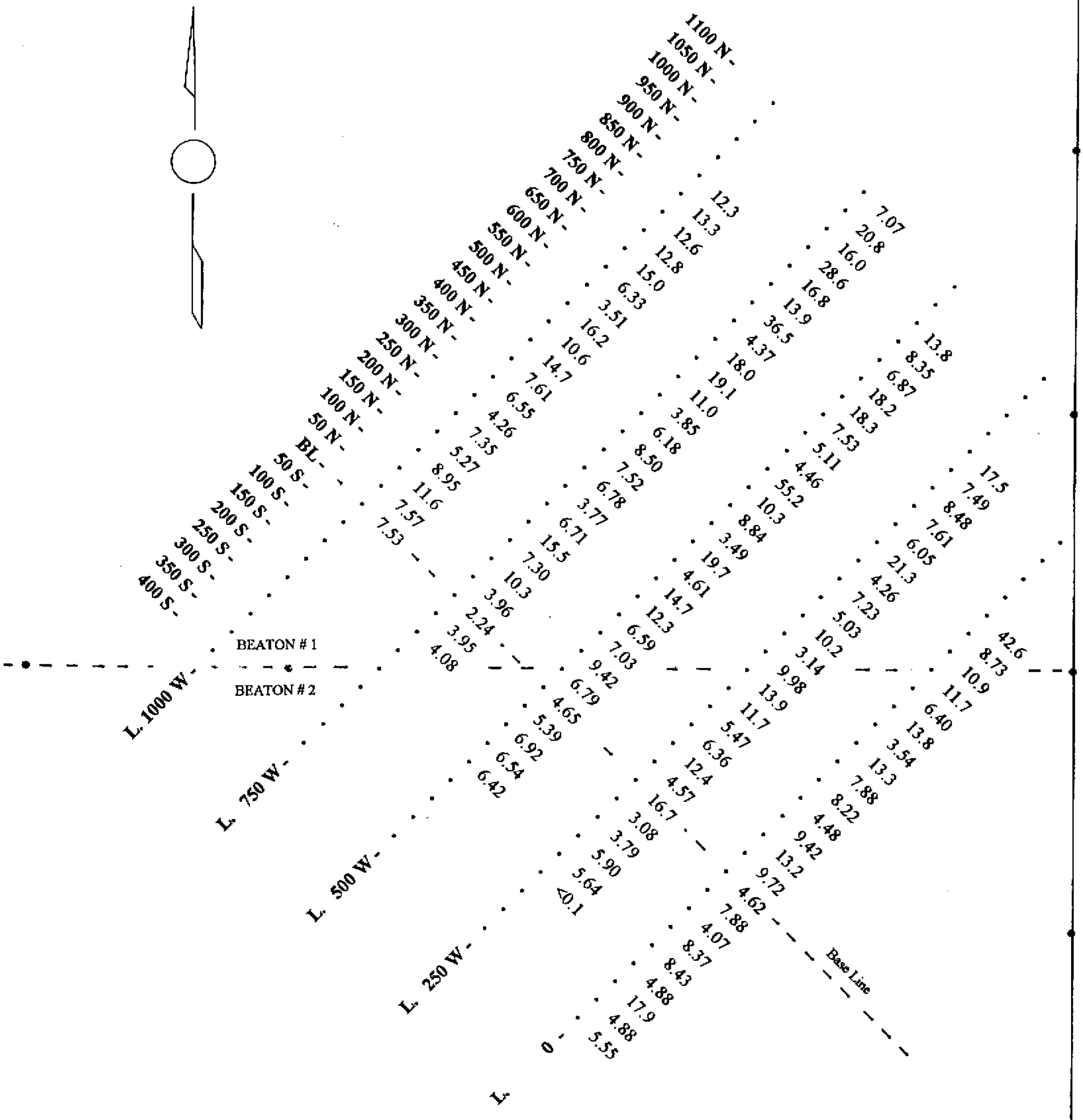

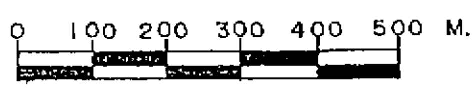

BEATON #1 and BEATON #2

KAMLOOPS, M.D.

M.M.I. SURVEY

SILVER

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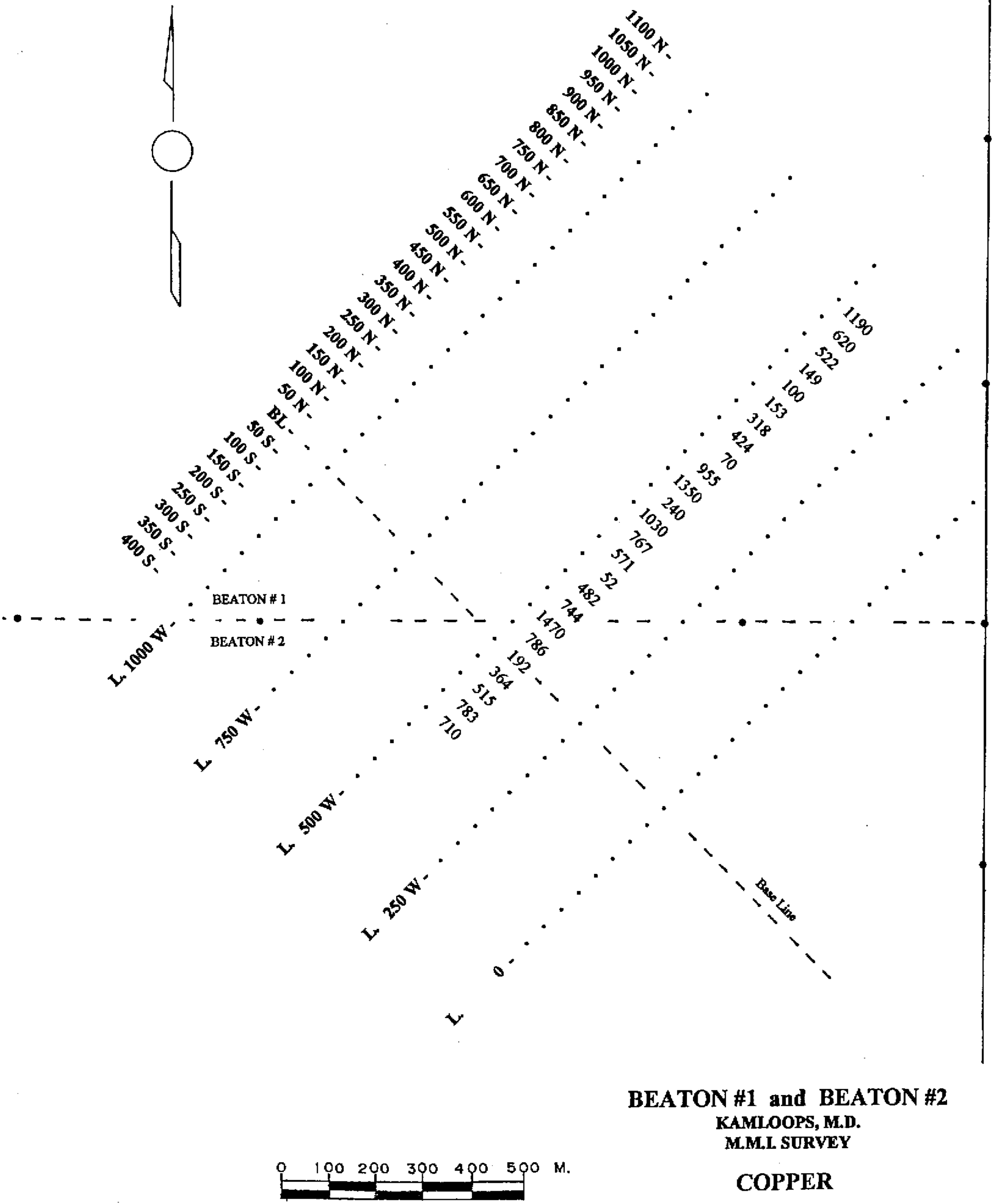
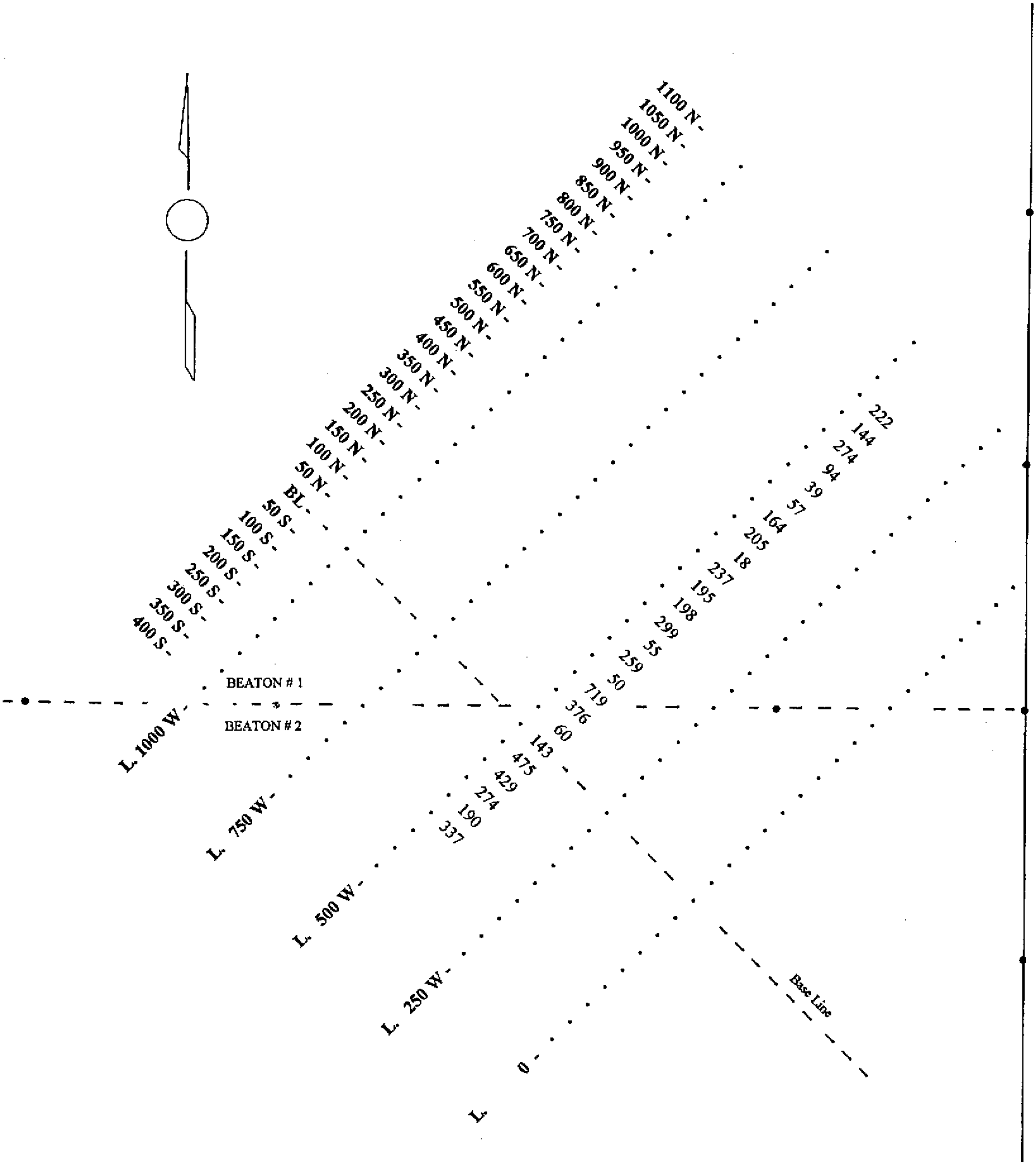


BEATON #1 and BEATON #2

KAMLOOPS, M.D.
M.M.I. SURVEY

COPPER

SCALE 1 = 10,000



BEATON #1 and BEATON #2

KAMLOOPS, M.D.

M.M.I. SURVEY

ZINC.

SCALE 1 = 10,000

XRAL **XRAL Laboratories**
A Division of SGS Canada Inc.

1885 Leslie Street
Don Mills, Ontario
Canada M3B 3J4
Telephone (416) 445-5755
Fax (416) 445-4152

CERTIFICATE OF ANALYSIS

Work Order: 065738

To: **Green Valley Mine Incorporated**
Attn: Charles Boitard

Date : 25/10/01

2245 West 13th Avenue,
VANCOUVER
B.C., CANADA V6K 2S4

Copy 1 to :

P.O. No.	:	
Project No.	:	
No. of Samples	:	117 Soil(MMI)
Date Submitted	:	11/10/01
Report Comprises	:	Cover Sheet plus Pages 1 to 6

Distribution of unused material:
Pulps: Store
Rejects: Store

Certified By :

Dr. Hugh de Souza, General Manager
XRAL Laboratories

ISO 9002 REGISTERED

Subject to SGS General Terms and Conditions

Report Footer:

L.N.R.	= Listed not received	I.S.	= Insufficient Sample
n.a.	= Not applicable	--	= No result
*INF	= Composition of this sample makes detection impossible by this method		

M after a result denotes ppb to ppm conversion, % denotes ppm to % conversion

XRAL XRAL Laboratories
A Division of SGS Canada Inc.

Element.	Cu	Zn	Cd	Pb
Method.	MMI-A	MMI-A	MMI-A	MMI-A
Det.Lim.	5	5	10	20
Units.	ppb	ppb	ppb	ppb
L1000W-150N	n.a.	n.a.	n.a.	n.a.
L1000W-100N	n.a.	n.a.	n.a.	n.a.
L1000W-50N	n.a.	n.a.	n.a.	n.a.
L1000W-BL-0	n.a.	n.a.	n.a.	n.a.
*Blk BLANK	n.a.	n.a.	n.a.	n.a.
*Std MMISRM07	n.a.	n.a.	n.a.	n.a.
L500W-1000N	1190	222	17	58
L500W-950N	620	144	17	95
L500W-900N	522	274	22	77
L500W-850N	149	94	15	23
L500W-800N	100	39	10	31
L500W-750N	153	57	13	30
L500W-700N	318	164	14	76
L500W-650N	424	205	18	84
L500W-600N	70	18	13	22
L500W-550N	955	237	16	99
L500W-500N	1350	195	31	104
L500W-450N	240	198	18	83
L500W-400N	1030	299	19	36
L500W-350N	767	55	13	72
L500W-300N	571	259	19	56
L500W-250N	52	50	<10	32
L500W-200N	482	719	21	75
L500W-150N	744	376	18	82
L500W-100N	1470	60	14	60
L500W-50N	786	143	21	84
L500W-BL-0	192	475	12	103
L500W-50S	364	429	24	98
L500W-100S	515	274	20	72
L500W-150S	783	190	20	83
L500W-200S	710	337	17	70
*Dup L-0-700MN	n.a.	n.a.	n.a.	n.a.
*Dup L-0-100MN	n.a.	n.a.	n.a.	n.a.
*Dup L250W-850N	n.a.	n.a.	n.a.	n.a.
*Dup L250W-250N	n.a.	n.a.	n.a.	n.a.
*Dup L750W-1100MN	n.a.	n.a.	n.a.	n.a.
*Dup L750W-500N	n.a.	n.a.	n.a.	n.a.
*Dup L750W-100S	n.a.	n.a.	n.a.	n.a.
*Dup L1000W-350N	n.a.	n.a.	n.a.	n.a.
*Dup L500W-800N	91	38	11	<20
*Dup L500W-200N	460	749	20	65
*Blk BLANK	<5	<5	<10	<20
*Std MMISRM07	7	135	<10	79

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Work Order: 065738 **Date:** 25/10/01 **FINAL**

Element.	Au	Co	Ni	Pd	Ag
Method.	MMI-B	MMI-B	MMI-B	MMI-B	MMI-B
Det.Lim.	0.1	1	3	0.1	0.1
Units.	ppb	ppb	ppb	ppb	ppb
L-0-700MN	0.44	17	244	0.30	42.6
L-0-650MN	0.21	12	353	0.16	8.73
L-0-600MN	0.60	13	255	0.46	10.9
L-0-550MN	0.29	9	488	0.19	11.7
L-0-500MN	0.23	15	219	0.25	6.40
L-0-450MN	1.49	18	267	0.66	13.8
L-0-400MN	0.12	23	407	<0.1	3.54
L-0-350MN	0.35	56	584	0.29	13.3
L-0-300MN	0.32	6	529	0.15	7.88
L-0-250MN	1.14	20	291	0.21	8.22
L-0-200MN	0.21	14	118	0.11	4.48
L-0-150MN	0.88	18	237	0.47	9.42
L-0-100MN	1.05	71	82	0.36	13.2
L-0-50MN	0.50	24	232	0.28	9.72
L-0-BL0M	0.19	17	238	0.17	4.62
L-0-50MS	2.43	16	141	0.81	7.88
L-0-100MS	<0.1	5	312	<0.1	4.07
L-0-150MS	0.52	29	486	0.18	8.37
L-0-200MS	0.63	32	403	0.12	8.43
L-0-250MS	0.39	12	518	0.17	4.88
L-0-300MS	3.87	21	265	1.30	17.9
L-0-350MS	0.54	37	640	0.15	4.88
L-0-400MS	0.23	15	598	<0.1	5.55
L250W-900N	1.81	16	403	0.42	17.5
L250W-850N	0.75	28	479	0.29	7.49
L250W-800N	0.63	13	209	0.31	8.48
L250W-750N	0.47	9	329	0.15	7.61
L250W-700N	0.19	19	356	<0.1	6.05
L250W-650N	2.69	9	174	0.50	21.3
L250W-600N	<0.1	3	136	0.13	4.26
L250W-550N	0.40	20	53	0.23	7.23
L250W-500N	0.12	2	586	0.12	5.03
L250W-450N	0.59	16	135	0.35	10.2
L250W-400N	<0.1	15	146	<0.1	3.14
L250W-350N	0.32	18	711	0.14	9.98
L250W-300N	1.41	8	150	0.67	13.9
L250W-250N	1.78	18	263	0.30	11.7
L250W-200N	<0.1	6	181	<0.1	5.47
L250W-150N	0.16	15	38	<0.1	6.36
L250W-100N	0.25	63	136	0.28	12.4
L250W-50N	0.16	33	495	0.10	4.57
L250W-BL0	0.18	18	178	0.18	16.7
L250W-50S	0.28	8	182	0.25	3.08
L250W-100S	<0.1	62	351	0.10	3.79
L250W-150S	0.10	10	232	<0.1	5.90

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Element.	Au	Co	Ni	Pd	Ag
Method.	MMI-B	MMI-B	MMI-B	MMI-B	MMI-B
Det.Lim.	0.1	1	3	0.1	0.1
Units.	ppb	ppb	ppb	ppb	ppb
L250W-200S	0.84	30	473	0.32	5.64
*Blk BLANK	<0.1	<1	<3	<0.1	<0.1
*Std MMISRM07	30.1	417	3950	<0.1	32.7
L250W-250S	0.16	3	333	0.16	4.55
L250W-300S	0.23	13	511	<0.1	3.18
L750W-1100MN	<0.1	26	304	<0.1	7.07
L750W-1050MN	0.40	20	825	0.11	20.8
L750W-1000N	0.19	10	1330	0.14	16.0
L750W-950N	1.21	30	815	0.49	28.6
L750W-900N	0.58	40	1040	0.20	16.8
L750W-850N	1.44	24	362	0.42	13.9
L750W-800N	2.78	12	181	1.04	36.5
L750W-750N	0.32	16	1150	0.17	4.37
L750W-700N	1.18	7	111	0.35	18.0
L750W-650N	1.46	3	166	0.47	19.1
L750W-600N	0.59	6	257	0.32	11.0
L750W-550N	0.21	13	437	0.11	3.85
L750W-500N	0.32	6	196	0.15	6.18
L750W-450MN	0.64	6	122	0.40	8.50
L750W-400N	2.46	7	31	1.75	7.52
L750W-350N	0.48	4	264	0.29	6.78
L750W-300N	0.37	15	62	0.35	3.77
L750W-250MN	0.27	12	415	0.12	6.71
L750W-200N	0.99	3	176	0.36	15.5
L750W-150MN	0.36	6	270	0.23	7.30
L750W-100N	<0.1	2	14	0.16	10.3
L750W-50N	0.25	12	471	<0.1	3.96
L750W-BL-0	0.37	18	347	<0.1	2.24
L750W-50S	0.17	14	842	<0.1	3.95
L750W-100S	0.28	14	633	<0.1	4.08
L1000W-900MN	0.66	18	554	0.41	12.3
L1000W-850MN	0.98	12	271	0.36	13.3
L1000W-800MN	0.83	5	160	0.37	12.6
L1000W-750MN	1.18	11	209	0.39	12.8
L1000W-700MN	1.22	41	394	0.55	15.0
L1000W-650MN	0.63	21	213	0.26	6.33
L1000W-600MN	0.21	19	403	<0.1	3.51
L1000W-550MN	1.83	5	103	0.63	16.2
L1000W-500MN	0.42	2	94	0.13	10.6
L1000W-450MN	1.12	4	209	0.43	14.7
L1000W-400N	0.44	7	289	0.20	7.61
L1000W-350N	0.35	17	401	<0.1	6.55
L1000W-300N	0.15	3	579	<0.1	4.26
L1000W-250N	1.63	36	426	0.31	7.35
L1000W-200N	0.15	9	200	<0.1	5.27

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Work Order: 065738 **Date:** 25/10/01 **FINAL**

Element.	Au	Co	Ni	Pd	Ag
Method.	MMI-B	MMI-B	MMI-B	MMI-B	MMI-B
Det.Lim.	0.1	1	3	0.1	0.1
Units.	ppb	ppb	ppb	ppb	ppb
L1000W-150N	0.13	17	515	<0.1	8.95
L1000W-100N	0.70	20	217	0.22	11.6
L1000W-50N	0.87	27	321	0.40	7.57
L1000W-BL-0	0.60	14	435	<0.1	7.53
*Blk BLANK	<0.1	<1	<3	<0.1	<0.1
*Std XRB1	29.4	418	3930	<0.1	31.9
L500W-1000N	2.16	12	162	0.57	13.8
L500W-950N	0.52	28	365	0.13	8.35
L500W-900N	0.41	45	521	<0.1	6.87
L500W-850N	0.83	9	334	0.33	18.2
L500W-800N	0.45	14	1290	0.73	18.3
L500W-750N	0.37	25	629	0.51	7.53
L500W-700N	0.14	19	519	<0.1	5.11
L500W-650N	0.12	18	429	<0.1	4.46
L500W-600N	3.22	14	178	1.57	55.2
L500W-550N	0.41	19	366	0.12	10.3
L500W-500N	2.24	40	1060	0.19	8.84
L500W-450N	<0.1	6	437	<0.1	3.49
L500W-400N	1.57	15	297	0.51	19.7
L500W-350N	0.18	35	67	0.15	4.61
L500W-300N	0.62	22	357	0.11	14.7
L500W-250N	0.11	18	216	0.66	12.3
L500W-200N	<0.1	17	222	<0.1	6.59
L500W-150N	<0.1	13	123	<0.1	7.03
L500W-100N	0.32	40	50	0.28	9.42
L500W-50N	0.30	19	133	0.13	6.79
L500W-BL-0	0.11	10	387	<0.1	4.65
L500W-50S	0.17	17	778	<0.1	5.39
L500W-100S	0.87	33	695	<0.1	6.92
L500W-150S	0.68	43	426	0.10	6.54
L500W-200S	0.70	33	497	<0.1	6.42
*Dup L-0-700MN	0.52	20	285	0.31	45.2
*Dup L-0-100MN	1.19	86	84	0.29	15.8
*Dup L250W-850N	0.85	34	557	0.22	8.57
*Dup L250W-250N	2.07	21	307	0.39	13.9
*Dup L750W-1100MN	<0.1	30	347	<0.1	8.68
*Dup L750W-500N	0.42	7	236	<0.1	7.40
*Dup L750W-100S	0.35	16	749	<0.1	4.63
*Dup L1000W-350N	0.45	19	455	<0.1	7.76
*Dup L500W-800N	0.38	14	1240	0.70	17.8
*Dup L500W-200N	<0.1	15	203	<0.1	6.22
*Blk BLANK	<0.1	<1	<3	<0.1	<0.1
*Std MMISRM07	38.9	548	4960	<0.1	41.5

1.0 INTRODUCTION

'Mobile Metal Ions' is a term used to describe ions which have moved in the weathering zone and that are only weakly or loosely attached to surface soil particles. It is a widely-held belief that these Mobile Metal Ions are transported from deeply-buried ore bodies to the surface. Studies from Australia and overseas have shown that such Mobile Metal Ions are useful in locating buried mineralization. Mobile Metal Ions are generally at very low concentrations in the soil. To successfully interpret these weak signals, a series of very carefully quality controlled steps have been developed that, when put together, constitute an integrated package **'The MMI Process'**.

The steps which are necessary to ensure the successful application of Mobile Metal Ion geochemistry for mineral exploration include:

- A field, commodity and exploration situation appropriate for application of MMI geochemistry;
- An understanding of landform and regolith relationships;
- Application of appropriate specialized digestions;
- Access to advanced ICP-MS analytical equipment/techniques; and
- Correct interpretation of the partial extraction analytical data.

Detailed information on a number of these steps, remains confidential. At this point in the development of MMI technology and its role in exploration, orientation surveys are recommended, where possible, to develop a level of confidence for any particular prospect or project area.

Currently, the optimum application for MMI geochemistry is to define specific mineralization targets for detailed drilling, making broad reconnaissance RAB programmes redundant. In this scenario, the assumption is that a number of target areas have been defined and MMI is used to prioritize and more accurately define targets for RC drill programmes.

Developmental work is ongoing to allow extension of the technique to a regional application, and ultimately a target definition role is envisaged. Research is also underway to explore its applicability down hole.

Integral to the successful transition to these new applications will be the continued development in the understanding of Mobile Metal Ion anomalies and a competitive cost structure allowing the technique to deliver cost effective exploration programmes aimed at reducing first pass drilling campaigns. Both matters have been addressed via ongoing research programmes, and the initiative to Licence commercial laboratories to undertake MMI digestions and analyses on a non-exclusive basis.

2.0 BACKGROUND INFORMATION

The key attributes of Mobile Metal Ion surface soil geochemical anomalies include:

- Constrained, precise anomalies, vertically above mineralization and occasionally at up-dip projection positions on the surface;
- Commodity elements respond reducing the need for pathfinders;
- The anomalies can precisely target base metals mineralization at significant depths (greater than 700 m);
- The incidence of false anomalies is very low in comparison to conventional geochemistry;
- Surface soil anomalies are repeatable and persist over time; and
- Anomalies have a better signal to noise ratio related to mineralization in a much wider range of regolith units when compared with conventional techniques.

The Mobile Metal Ion geochemical technique has been developed over the past six years and resulted from a series of 13 case studies where the attributes summarized above were first observed. After this initial field testing in Australia and off-shore, a larger scale research and development initiative was instigated culminating in the establishment of The Geochemistry Research Centre at Technology Park in Perth. In an effort to understand and effectively apply MMI geochemistry to mineral exploration, its first project, The Mechanism of Formation of Mobile Metal Ion Anomalies, was supported by 11 mining companies, WAMTECH and the Western Australian State Government.

It is important to realize that the MMI approach to geochemical exploration is significantly different to that used in conventional surveys. The principal aim of the process is to remove the smallest amount of metal ions from the exterior of soil particles whilst leaving the substrate unaffected. This is the essential difference between MMI and other partial digestion techniques that specifically attack substrates, such as iron oxides and manganese oxides. This approach optimizes the use of improved analytical instrumentation with lower detection limits now available. While absolute metal concentration levels are significantly less than those from 'total digestions', the signal to noise ratios are significantly enhanced using MMI procedures.

Early case studies clearly suggested that, on an empirical basis, better contrast was achieved over a number of different styles of mineralization using MMI when compared to conventional (total) techniques. It was postulated that the very loosely-attached ions were sourced from mineralization and that input from other sources of metals, for example lateritic or lithological contributions would be minimized.

Currently the element suite for MMI analysis includes the following nine elements:

Cu, Pb, Zn, Ni, Cd, Au, Ag, Co, and Pd.

The concept of the MMI Process has been introduced to reinforce the requirement that the method is not simply an analytical technique. It is a series of integrated steps that, when combined correctly and intelligently, is proving to be a powerful addition to the existing exploration geochemistry techniques.

A cautionary note: as initial scepticism starts to abate, history confirms the tendency to regard a new technique as a panacea and usually it is grossly mis-applied. MMI technology will be no different. There is a current practical limit to its usefulness and cost effective application. As MMI TECHNOLOGY's on-going research progresses and a better understanding of the technique continues to develop, those limits will be revised, extended and up-dated in this manual.

3.0 APPROPRIATE LANDFORM AND REGOLITH SITUATIONS

Mobile Metal Ion geochemistry has proved successful in a broad range of landform situations including relict, erosional, and depositional regimes. It is also proving effective in lateritic terrains by identifying primary sources of mineralization from the surface within broader conventional anomalies influenced by specific regolith units.

Surface Mobile Metal Ion geochemistry essentially responds to sources of mineralization, so that weakly-mineralized structures, like subsurface supergene mineralization blankets, are defined at a lower contrast level than the primary zones from which they are derived.

3.1 Relict and Erosional Regimes

Surface regolith units developed on relict and erosional landforms respond well to MMI geochemistry. The key advantage is a superior signal to noise ratio over mineralization. Compared to conventional geochemistry, it allows better focusing on follow-up exploration, either further surface sampling or more precise target drilling. Conventional responses are usually broader and maxima are often not directly over mineralization, particularly in deeply-weathered terrains. MMI responses are more constrained, and provided that the correct background levels are applied when calculating MMI Response Ratio values during interpretation, commodity element anomalies are usually closely related to primary mineralization.

This does not automatically ensure that a commercially-viable deposit is identified beneath each MMI anomaly. However, the success rate for ore-grade drill intercepts early within an exploration programme can be significantly improved.

At an operational level, MMI samples can easily be collected from the surface of these regimes in a straightforward manner as discussed below.

3.2 Depositional Regimes

Surface soils on depositional regimes need to be addressed with extra care. Case studies have shown clearly that the MMI technique extends the range of effective surface soil geochemistry further into more complex transported regolith units, when compared to conventional geochemical techniques. Again it is the superior *signal to noise* or *anomaly to background* responses provided by MMI geochemistry that allow the technique to identify and highlight anomalous responses from mineralization while reducing the effects of spurious background levels.

Terrains with colluvial soils, where coarser components are obvious, usually respond well to the MMI technique. In terrains with extensive alluvium, particularly within larger tracts of sheetwash with intermittent flood activity, care is required with any geochemical technique. MMI anomalies in this terrain type can be of the order of 1 ppb or less. At these analytical levels, great care must be taken to ensure quality of data, and correct interpretation.

An effective *orientation study* is strongly recommended if possible to provide data before embarking on a survey.

4.0 ORIENTATION STUDIES

Although MMI geochemistry is a powerful technique, it should not be regarded as a panacea for exploration. Field inspection can be important to establish whether any major landform or regolith changes are likely to influence the MMI results. Other relevant background material that can contribute to a successful MMI survey programme and interpretation includes: geological maps, aerial photographs, geophysical data including aeromagnetic maps and any interpretation thereof, conventional geochemistry results showing broader anomalies or corridors, and styles of any known mineralization.

As with any geochemical survey, an orientation programme can provide valuable information if a suitable target can be accessed and soils collected at the surface. Prior to any orientation, it is also important for the explorationist to define the parameters for minimum target size, especially when considering sample spacing for future exploration surveys. An important feature of MMI geochemistry is that it essentially responds to primary mineralization. Weakly-mineralized structures may not respond clearly or distinctly to an MMI programme so an orientation should preferably test a target considered significant.

A 50-metre interval sample spacing along lines is recommended for orientation surveys.

To obtain the maximum benefit from the analytical data generated using commercial MMI analyses, response ratios (discussed below) should be calculated. Background samples provide the necessary data to allow meaningful response ratios to be calculated and therefore orientation sampling must include soils collected off the known mineralization.

5.0 SAMPLE DENSITY AND GRID ORIENTATION

Density of sampling is largely influenced by the type and style of mineralization being sought. Narrow higher grade styles require a maximum of 50-m sample intervals along lines spaced according to the required strike length of mineralization considered as an economic target within the specific project area. If the minimum strike length is 200 m, then the maximum line spacing should be 400 m. This is assuming that the target mineralization is likely to produce a geochemical halo, giving rise to an anomaly that may extend further than 200 m (for example along strike of a mineralized structure). However, it is recommended that the line spacing be equal or less than the target mineralization length. Generally for gold targets a sample spacing of 100 m x 50 m will allow a focused drill programme to commence eliminating blanket RAB drilling.

Larger sedimentary styles (for example Mississippi Valley style) can have expanded sample patterns. However, in these cases it is vital that background is also sampled. Very specific targets, for example massive Ni sulphides along basal contacts, have in the past required 25 m x 25 m spacing to allow detailed anomaly definition prior to the first phase of drilling. This pattern density may represent the second or third infill phase of MMI sampling after an initial broader-spaced programme to identify contacts.

One important aspect of incorporating MMI geochemistry into an exploration programme is that it can substantially reduce drilling costs (see Figure 1). If anomalies remain strong along significant strike lengths and more precise targets are desired, it is still more cost effective to undertake infill surface sampling at 50 m x 50 m spacing within the anomalous trend rather than to blanket drill.

5.1 Sampling Grids

Pre-designated sample grids and numbers should be established prior to sampling to avoid irregular sample spacing/numbering which disrupts later data interpretation and any subsequent follow-up work. Sampling should be conducted in a methodical way, preferrably starting from the lowest easting and northing and working upwards. Avoid allocating negative eastings and northings for sample co-ordinates.

For orientation, survey traverses across known targets are ideal. These traverses can be assessed independently; however, it is imperative that background samples are collected for the general area, even at the expense of maintaining a consistent spacing along the line once the mineralized zone has been covered.

6.0 SAMPLE COLLECTION

6.1 Equipment

- A 30-cm diameter plastic garden sieve or kitchen colander with minus 5-mm apertures, available from hardware and super markets, is ideal for sample collection;
- Plastic collection dish with similar diameter and a kitchen floor brush used for cleaning the sieve and dish between samples;
- A bare steel (no paint) garden spade; and
- Plastic snap seal bags, do not use calico.

6.2 Sample specification

A 500-gram sample is collected and stored in a plastic bag (a 90 x 150-mm plastic snap seal sample bag is recommended). Once sealed in the snap seal plastic bags, samples should be placed in polyweave sample dispatch bags (maximium 40 per bag). Stored in this manner, samples can be carried on tray-back vehicles during summer without problems and be stored for long periods.

6.3 Sample site

Sample sites should be undisturbed and preferably away from any major contamination: creek beds, drainage, drilling lines, pads, roads, etc. Wind borne contamination should also be eliminated during sample collection by sampling just below the surface.

6.4 Sample collection

It is imperative that during sample collection and handling **no jewellery should be worn**, (for example rings, bracelets, and chains), as this can be a possible major source of contamination. It is advisable that all field and laboratory staff be informed.

The initial step in taking an MMI soil sample requires the surface soil layer to be scraped away eliminating organic matter, debris, and any possible contamination. In undisturbed environments samples are collected approximately 150 to 200 mm below the surface. Before actually taking the soil sample material, the sieve and collection dish should be brushed to eliminate residue from previous samples and preferably flushed with the soil from the new sample site.

GEOFIN

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November 18, 2001

Charles Boitard, President,
Lakewood Explorations Inc.
2245 West 13th Avenue
Vancouver, British Columbia
V6K 2S4

Re: Beaton I Claims, Kamloops British Columbia

Dear Sir,

I have reviewed the data with respects to the Mobile Metal Ion (MMI) survey conducted on your company's claims and its relationship to the Geophysical Report prepared by Robert B. K. Shives, and herewith present a brief analysis with respects to continued exploration of the property.

The new and unique MMI geochemical technique is gaining more respect as an efficient and valid exploration tool in mineral exploration. Developed in Australia, it is based on the theory that metallic ions from a buried source are continually being "shed" and will migrate to the surface where they will be weakly bounded to the surface soils. By using a weak solution these "migratory ions" can be extracted and measured and in theory will be directly over the source. Simplistically, it is much like the theory that is employed by using trained dogs to "sniff out" and locate avalanche victims immediately after they have been buried often under metres of freshly "deposited" snow.

The developers of the technique have developed "packages" of extractions that are specific to various types of deposits. In the case of the Beaton Claims, the Au-Co-Ni-Pd-Ag extraction package is most consistent with region's deposit type (Afton's Copper, gold silver mine which has now been found to contain both nickel and palladium). In analysis the total package is analysed and compared to a relative background for each element. The "number of times background" for each element is then added – "stacked" together to give a profile of each sample site. In this analysis, I have selected the 1st Quartile as the background and prepared histograms for each line and analysis.

In general, the Au-Co-Ni-Pd-Ag extraction package has worked quite well as expected and the Cu-Zn-Cd-Pb extraction package was noticeably poor in definition of anomalies (This is to be expected as that latter package was designed for volcanic or sedex type massive sulphide terrains which are not ubiquitous to the areal geology of the Beaton Claims).

Beaton I Claims MMI Survey Results

The limited MMI survey has identified discreet anomalies on each line that form consistent line to line anomalies that are concordant to the geological and interpreted geophysical trend over the grid area.

Specifically, four and possibly five discreet parallel anomalous trends can be interpreted across the grid based on using a "15 times background stacked value" as a cutoff with respects to an anomaly and with a report of "10 times background staked value" to assist in analysis. Of significance is that these parallel anomalous trends are juxtaposed to the interpreted favourable geophysical area, which is very encouraging.

Of particular observation, one trend is intimately related to three of the five geophysical anomaly sites selected by Shives in his report (Anomaly E – Line 1000; Anomaly A – Line 500; and Anomaly C – Line 0). The two other geophysical anomalies are associated with the flanking trends the harbour some the highest "stacked value" results. The anomalous trends and associated geophysical anomalies are presented on Map 1.

The association of discreet MMI anomalies from the MMI technique package pertinent to the region's "deposit type," with the geophysical signature that Mr. Shives has identified as "distinguish[ing] the known deposits in the survey area" on the Beaton Claims enhances the property as a very attractive exploration target.

In my opinion, further exploration is warranted and required to fully evaluate the potential of the property hosting mineralization akin to that found throughout the area. That work should consist of more detailed MMI surveying and expanding the grid to cover more area by MMI work, as well as geophysical surveying to update and enhance the data base. This work should be completed in connection with drilling to enable a full interpretation of the results.

With respects to drilling, the area around Anomaly A (Trend 3) represents the most advantageous target outlined to date. The coincidence of the geophysical target and the MMI trend (Trend 3) with flanking MMI highs (some of the highest responses) enhances the potential that mineralization is related to these anomalies. Although further defining MMI and geophysics will better define the stratigraphy and dip of the zone, I would recommend a drill program of 3000 metres to test the delineated anomalies.

Since the MMI theory should be located directly above the anomaly source I would recommend six 500 metre drill holes could be completed across this zone to give a subsurface charactor to the zones. This is also to test sufficiently the area exploration experience that is identifying the better grades encountered at depth at the old Afton Mine site. The drill sites recommended on an initial observation basis are: Line 500W 600N, drilled at -90° for 500 metres; Line 750W 400N, drilled at -90° for 500 metres; Line 1000W 750N, drilled at -90° for 500 metres; Line 0 50S, drilled at -90° for 500 metres; Line 750W 800N, drilled at -90° for 500 metres; and Line 500W 500N, drilled at -90° for 500 metres.

Alternative sites may be selected on subsequent detailed MMI work (especially around Line 0 300S).

Respectfully submitted,

Laurence Stephenson B.Sc. M.B.A. P.Eng.
President
GeoFin Inc.

References: Shives, Robert B. K. "Helicopter Multisensor Geophysical Survey Results over the Beaton Claims, Kamloops, British Columbia" Lakewood Mine Inc. Internal Report, November, 2001.

XRAL Laboratories Work order 065738; October 2001

Beaton #1 and Beaton #2 MMI Survey Plot Internal Company report.

Attachments: 5 (Lines 0 - 1000W) Stacked Value Histograms
Map 1 – MMI Survey Analysis – Beaton Claims

An Introduction to GeoFin Inc.

GeoFin Inc is operated as a sole proprietorship practise that is incorporated and registered in Ontario and British Columbia.

Through this entity Laurence Stephenson conducts a consulting professional practice that provides service to the geological mining industry and the financial investment industry with the emphasis on developing mining exploration companies to there full potential.

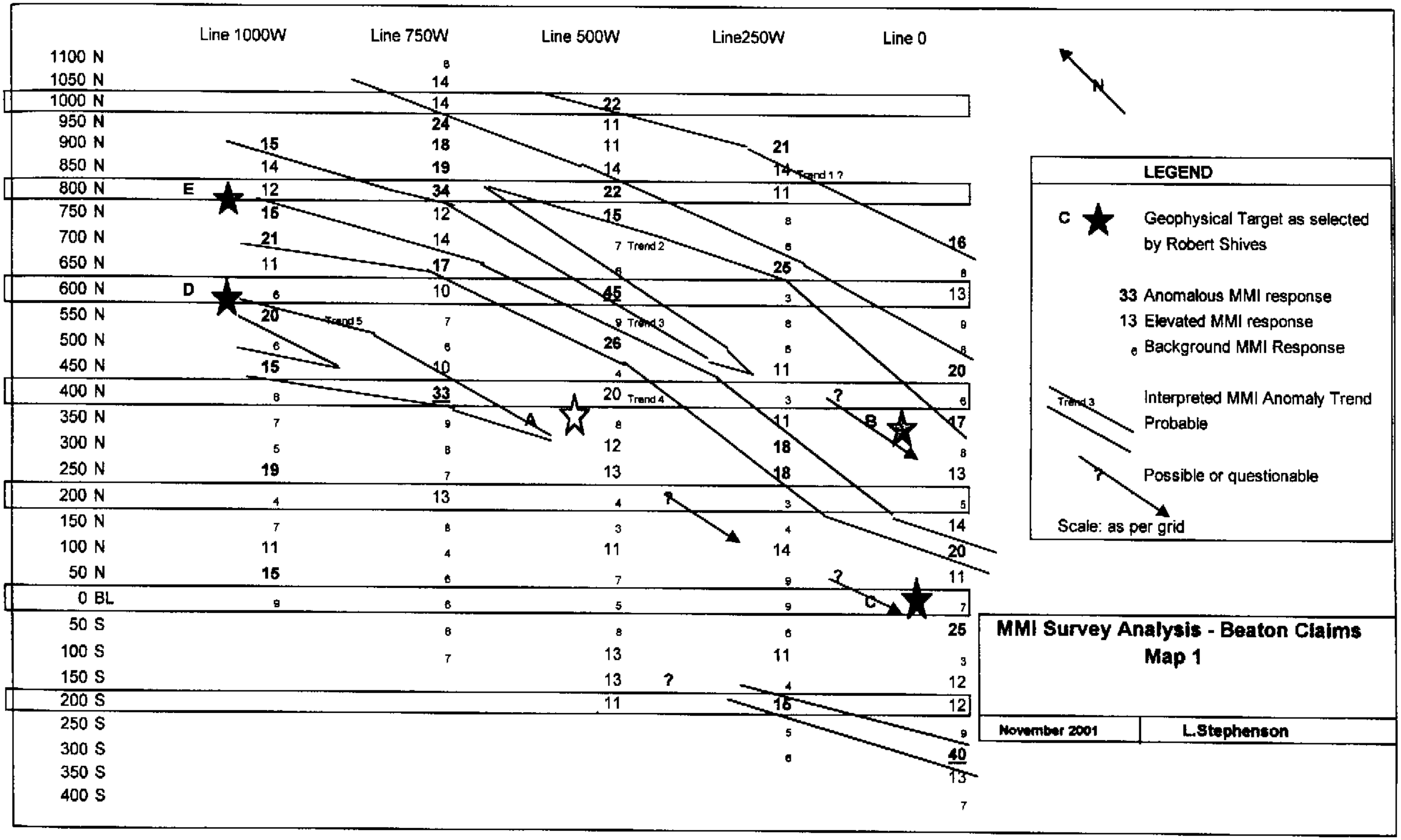
Profile of Laurence (Laurie) Stephenson

QUALIFICATIONS

Mr. Stephenson graduated from Carleton University in 1975 with a Bachelor of Science degree in Geology then, in 1985, graduated from York University with a Masters of Business Administration. He is registered as a Professional Engineer for the Province of Ontario (1981) and currently a member in good standing. With over 30 years experience in the field of mining exploration he has the experience to guide new companies through the effective use of financing in their exploration program. With his business education and experience consulting to the investment industry for the past 15 years he has able to assist these new companies in acquiring investment funds to proceed.

He was instrumental in starting Spirit Lake Explorations in 1985 (Montreal Stock Exchange), Kokanee Explorations Ltd. (Vancouver and Toronto Stock Exchanges) and Glencarin Explorations Ltd (Alberta Stock Exchange) and through Glencarin, Wheaton River Minerals (Toronto Stock Exchange). He assisted in the reorganization of Golden Hemlock Explorations (early 1990's Vancouver Stock Exchange) Strike Minerals Ltd. and several other companies to a lesser degree. All these companies remain active.

He was involved in Golden Chief Resources Inc. (Vancouver Stock Exchange) as a founding partner, director and Vice President - Exploration. In that role he actively guided the exploration and acquisition of capital investment to fund the exploration. Eventually through his efforts, Kinross Gold Corp of Toronto optioned a 50% interest in the main Golden Chief project and spent in excess of $1.5 million U.S.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650 N 11 17 6 25 8
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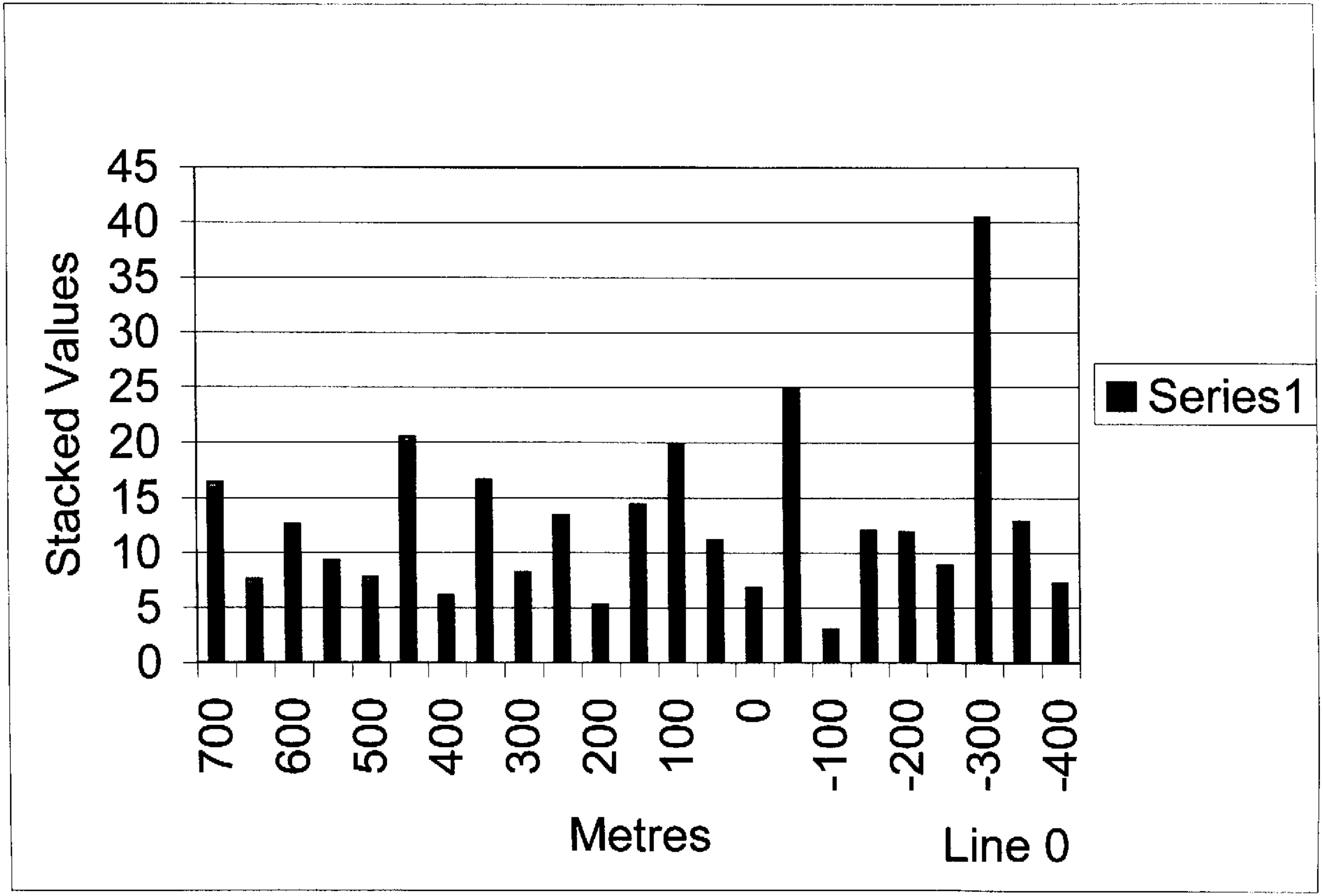
550 N 20 7 9 8 9
500 N 6 6 26 6 8
450 N 15 10 4 11 20
400 N 8 33 20 3 6
350 N 7 9 8 11 17
300 N 5 8 12 18 8
250 N 19 7 13 18 13
200 N 4 13 4 3 5
150 N 7 8 3 4 14
100 N 11 4 11 14 20
50 N 15 6 7 9 11
0 BL 9 6 5 9 7
50 S 6 8 6 25
100 S 7 13 11 3
150 S 13 4 12
200 S 11 15 12
250 S 5 9
300 S 6 40
350 S 13
400 S 7
Trend 1 ?
Trend 2
Trend 3
Trend 4
Trend 5
A
B
C
?
N
LEGEND
Geophysical Target as selected by Robert Shives
33 Anomalous MMI response
13 Elevated MMI response
6 Background MMI Response
Interpreted MMI Anomaly Trend Probable
Possible or questionable
Scale: as per grid
MMI Survey Analysis - Beaton Claims
Map 1
November 2001
L.Stephenson



45
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35
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25
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Stacked Values
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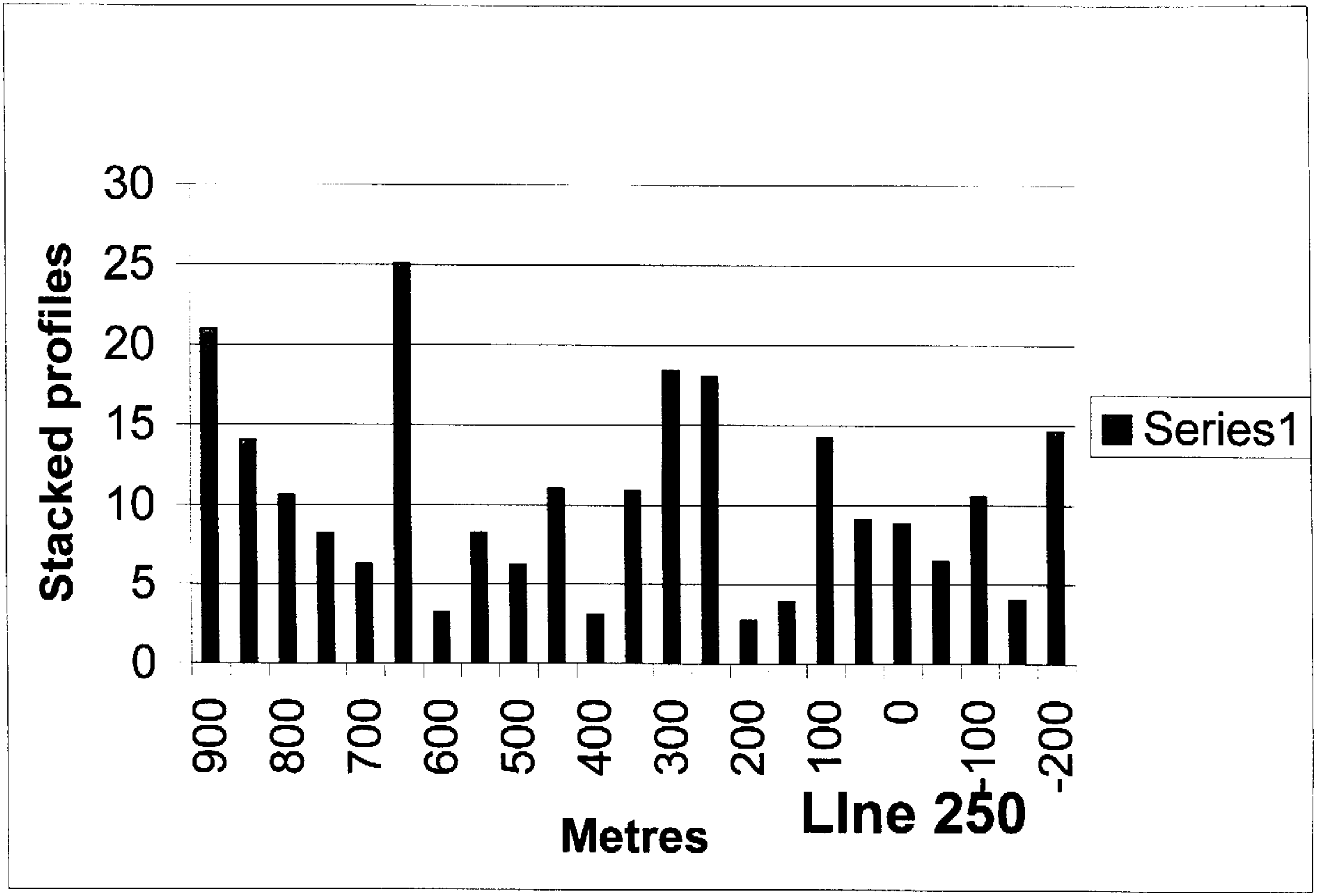
Metres
Line 0
Series1



Stacked profiles
30
25
20
15
10
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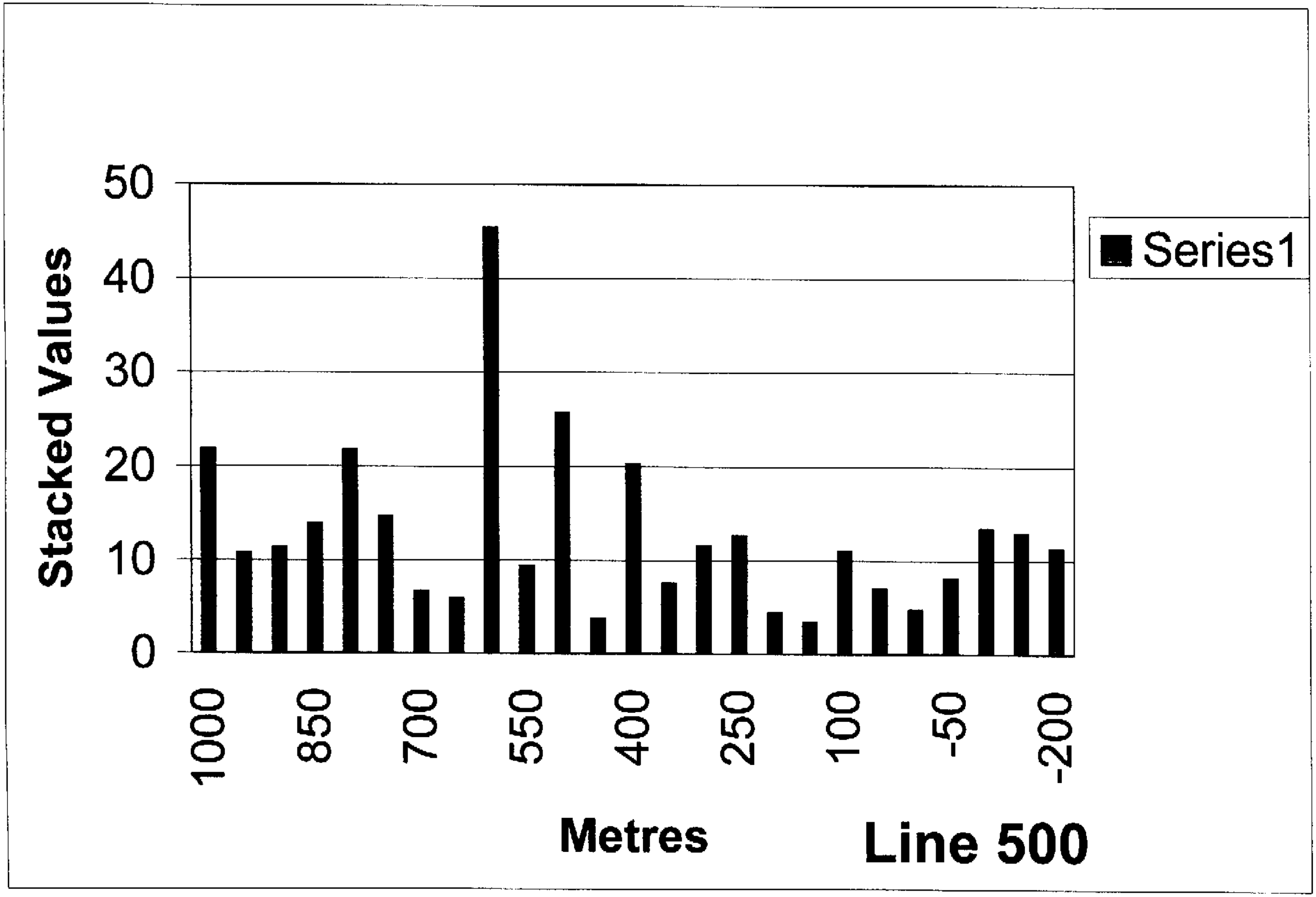

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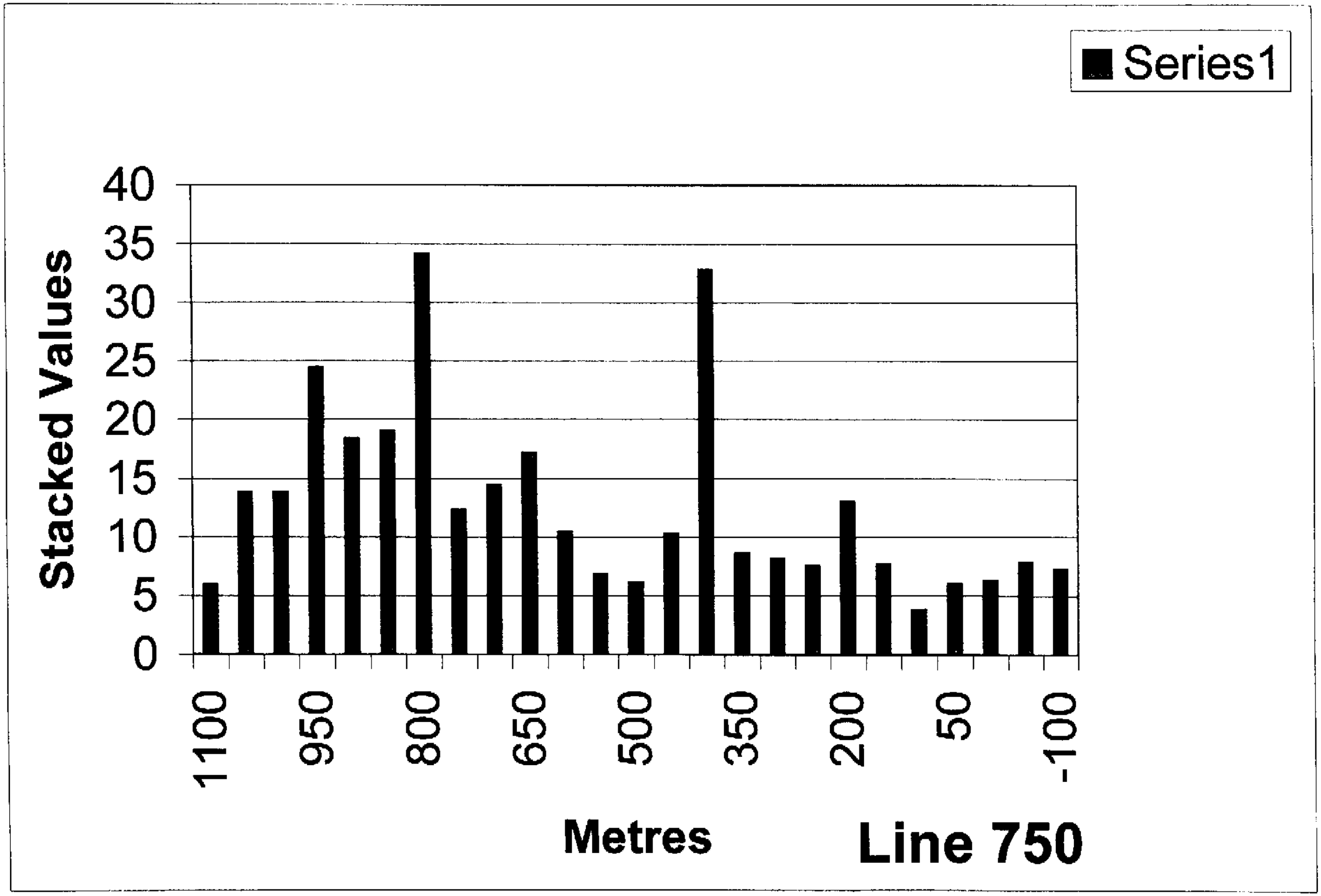
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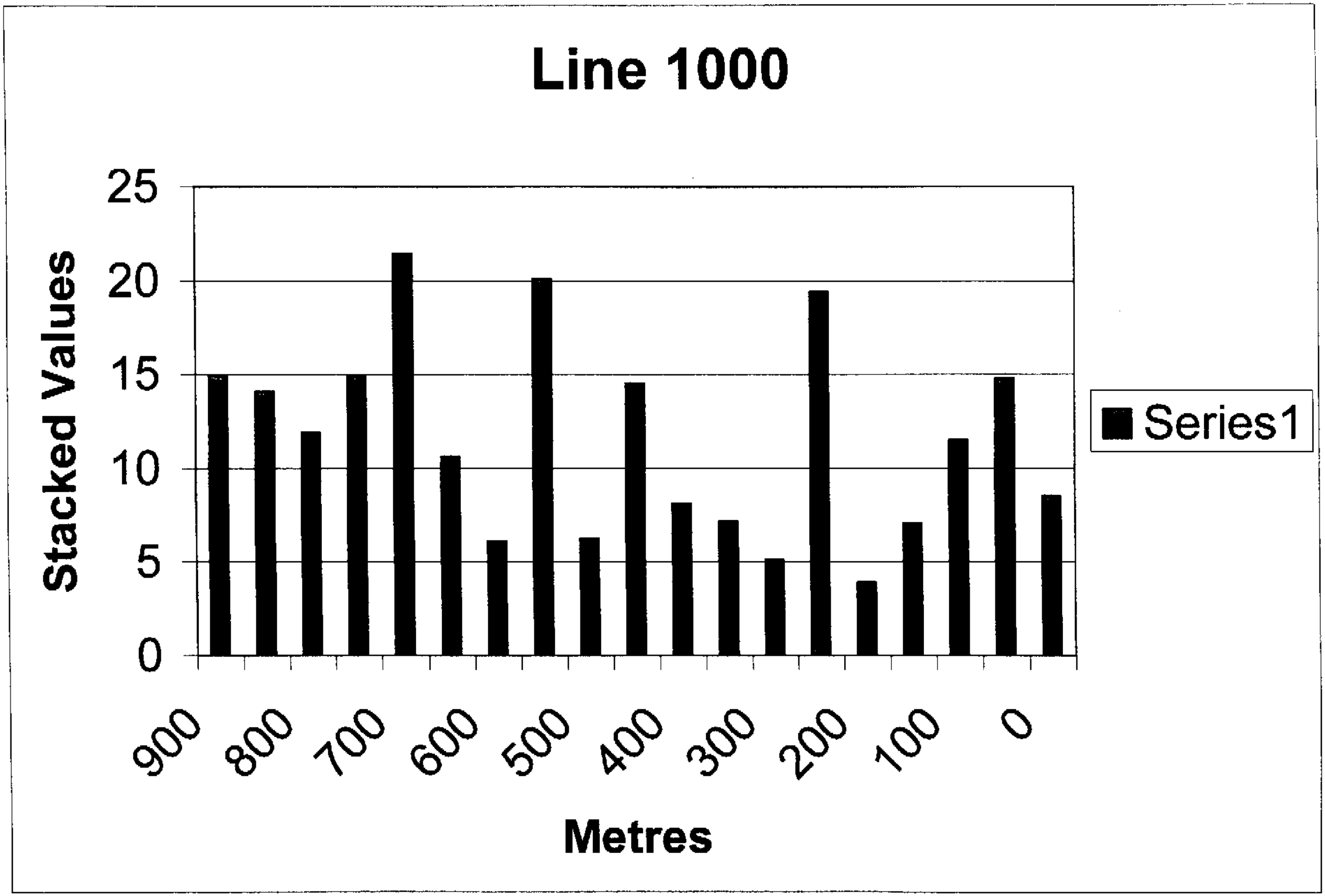
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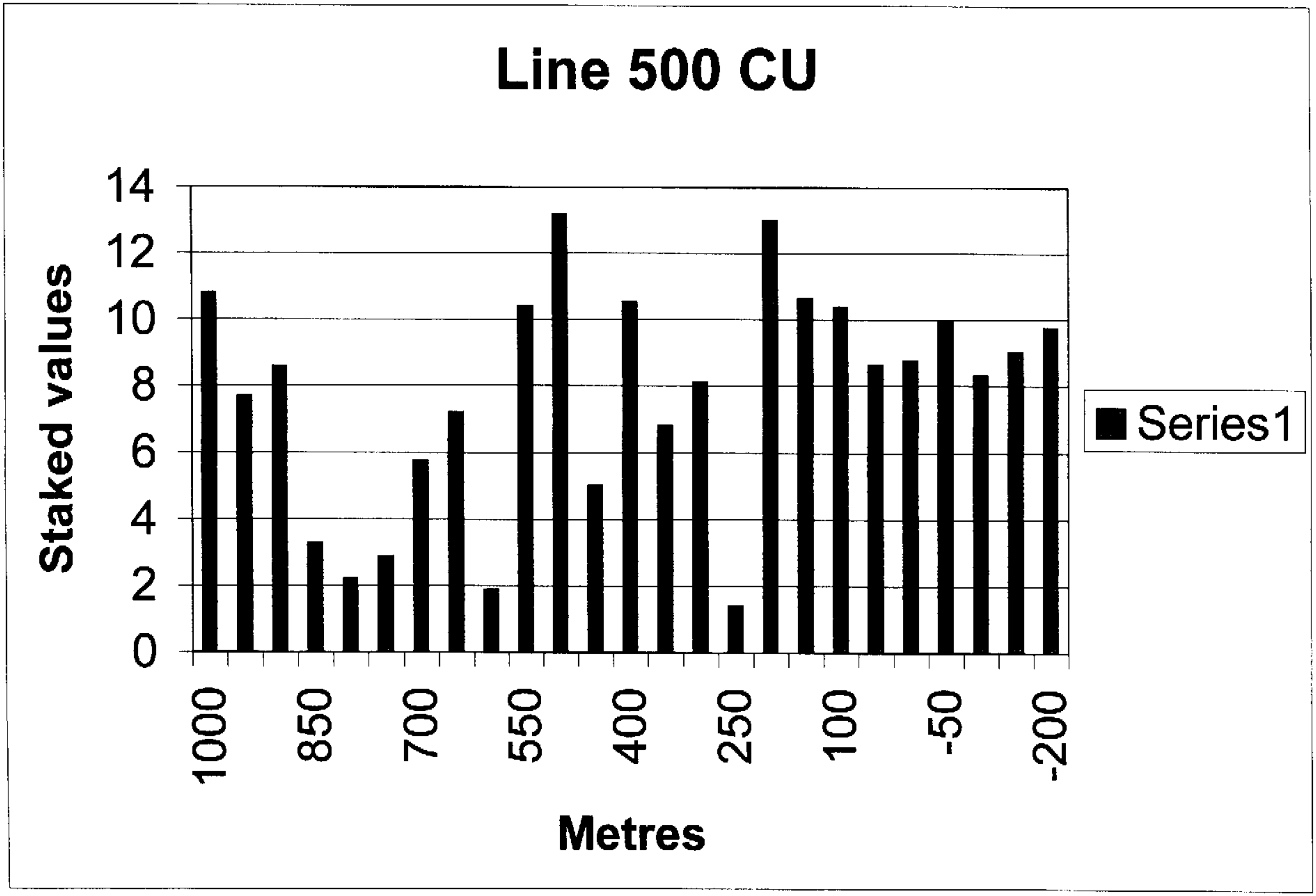

Line 500 CU
Staked values
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Metres
Series1

Au		Co		Ni		Pd		Ag	Line 0	
0.44	2.3	17	1.9	244	1.3	0.3	3	42.6	7.9	16
0.21	1.1	12	1.3	353	2	0.16	1.6	8.73	1.6	7.6
0.6	3.2	13	1.4	255	1.4	0.46	4.6	10.9	2	13
0.29	1.5	9	1	488	2.7	0.19	1.9	11.7	2.2	9.3
0.23	1.2	15	1.7	219	1.2	0.25	2.5	6.4	1.2	7.8
1.49	7.8	18	2	267	1.5	0.66	6.6	13.8	2.6	20
0.12	0.6	23	2.6	407	2.2	0	0	3.54	0.7	6.1
0.35	1.8	56	6.2	584	3.2	0.29	2.9	13.3	2.5	17
0.32	1.7	6	0.7	529	2.9	0.15	1.5	7.88	1.5	8.2
1.14	6	20	2.2	291	1.6	0.21	2.1	8.22	1.5	13
0.21	1.1	14	1.6	118	0.7	0.11	1.1	4.48	0.8	5.2
0.88	4.6	18	2	237	1.3	0.47	4.7	9.42	1.7	14
1.05	5.5	71	7.9	82	0.5	0.36	3.6	13.2	2.4	20
0.5	2.6	24	2.7	232	1.3	0.28	2.8	9.72	1.8	11
0.19	1	17	1.9	238	1.3	0.17	1.7	4.65	0.9	6.8
2.43	13	16	1.8	141	0.8	0.81	8.1	7.88	1.5	25
0	0	5	0.6	312	1.7	0	0	4.07	0.8	3
0.52	2.7	29	3.2	485	2.7	0.18	1.8	8.37	1.6	12
0.63	3.3	32	3.6	403	2.2	0.12	1.2	8.43	1.6	12
0.39	2.1	12	1.3	518	2.9	0.17	1.7	4.83	0.9	8.8
3.87	20	21	2.3	265	1.5	1.3	13	17.9	3.3	40
0.54	2.8	37	4.1	640	3.5	0.15	1.5	4.88	0.9	13
0.23	1.2	15	1.7	598	3.3	0	0	5.55	1	7.2
									Line 250	
1.81	9.5	16	1.8	403	2.2	0.42	4.2	17.5	3.2	21
0.75	3.9	28	3.1	479	2.6	0.29	2.9	7.49	1.4	14
0.63	3.3	13	1.4	209	1.2	0.31	3.1	8.48	1.6	11
0.47	2.5	9	1	329	1.8	0.15	1.5	7.61	1.4	8.2
0.19	1	19	2.1	356	2	0	0	6.05	1.1	6.2
2.69	14	9	1	174	1	0.5	5	21.3	4	25
0	0	3	0.3	136	0.8	0.13	1.3	4.26	0.8	3.2
0.4	2.1	20	2.2	53	0.3	0.23	2.3	7.23	1.3	8.3
0.12	0.6	2	0.2	585	3.2	0.12	1.2	5.03	0.9	6.2
0.59	3.1	16	1.8	135	0.7	0.35	3.5	10.2	1.9	11
0	0	15	1.7	146	0.8	0	0	3.14	0.6	3.1
0.32	1.7	18	2	711	3.9	0.14	1.4	9.98	1.9	11
1.41	7.4	8	0.9	150	0.8	0.67	6.7	13.9	2.6	18
1.78	9.4	18	2	263	1.5	0.3	3	11.7	2.2	18
0	0	6	0.7	181	1	0	0	5.47	1	2.7
0.16	0.8	15	1.7	38	0.2	0	0	6.36	1.2	3.9
0.25	1.3	63	7	136	0.8	0.28	2.8	12.4	2.3	14
0.16	0.8	33	3.7	495	2.7	0.1	1	4.57	0.8	9.1
0.18	0.9	18	2	178	1	0.18	1.8	16.7	3.1	8.8
0.28	1.5	8	0.9	182	1	0.25	2.5	3.08	0.6	6.4
0	0	62	6.9	351	1.9	0.1	1	3.79	0.7	11
0.1	0.5	10	1.1	232	1.3	0	0	5.9	1.1	4
0.84	4.4	30	3.3	473	2.6	0.32	3.2	5.64	1	15

0.16	0.8	3	0.3	333	1.8	0.16	1.6	4.5	0.8	5.5
0.23	1.2	13	1.4	511	2.8	0	0	3.18	0.6	6.1
									Line 750	
0	0	26	2.9	304	1.7	0	0	7.07	1.3	5.9
0.4	2.1	20	2.2	825	4.6	0.11	1.1	20.8	3.9	14
0.19	1	10	1.1	1330	7.3	0.14	1.4	16	3	14
1.21	6.4	30	3.3	815	4.5	0.49	4.9	28.6	5.3	24
0.58	3.1	40	4.4	1040	5.7	0.2	2	16.8	3.1	18
1.44	7.6	24	2.7	362	2	0.42	4.2	13.9	2.6	19
2.78	15	12	1.3	181	1	1.04	10	36.5	6.8	34
0.32	1.7	16	1.8	1150	6.4	0.17	1.7	4.37	0.8	12
1.18	6.2	7	0.8	111	0.6	0.35	3.5	18	3.3	14
1.46	7.7	3	0.3	166	0.9	0.47	4.7	19.1	3.5	17
0.59	3.1	6	0.7	257	1.4	0.32	3.2	11	2	10
0.21	1.1	13	1.4	437	2.4	0.11	1.1	3.85	0.7	6.8
0.32	1.7	6	0.7	196	1.1	0.15	1.5	6.18	1.1	6.1
0.64	3.4	6	0.7	122	0.7	0.4	4	8.5	1.6	10
2.46	13	7	0.8	31	0.2	1.75	18	7.52	1.4	33
0.48	2.5	4	0.4	264	1.5	0.29	2.9	6.78	1.3	8.6
0.37	1.9	15	1.7	62	0.3	0.35	3.5	3.77	0.7	8.2
0.27	1.4	12	1.3	415	2.3	0.12	1.2	6.71	1.2	7.5
0.99	5.2	3	0.3	176	1	0.36	3.6	15.5	2.9	13
0.36	1.9	6	0.7	270	1.5	0.23	2.3	7.3	1.4	7.7
0	0	2	0.2	14	0.1	0.16	1.6	10.3	1.9	3.8
0.25	1.3	12	1.3	471	2.6	0	0	3.96	0.7	6
0.37	1.9	18	2	347	1.9	0	0	2.24	0.4	6.3
0.17	0.9	14	1.6	842	4.7	0	0	3.95	0.7	7.8
0.28	1.5	14	1.6	633	3.5	0	0	4.08	0.8	7.3
									Line 1000	
0.66	3.5	18	2	554	3.1	0.41	4.1	12.3	2.3	15
0.98	5.2	12	1.3	271	1.5	0.36	3.6	13.3	2.5	14
0.83	4.4	5	0.6	160	0.9	0.37	3.7	12.6	2.3	12
1.18	6.2	11	1.2	209	1.2	0.39	3.9	12.8	2.4	15
1.22	6.4	41	4.6	394	2.2	0.55	5.5	15	2.8	21
0.63	3.3	21	2.3	213	1.2	0.26	2.6	6.33	1.2	11
0.21	1.1	19	2.1	403	2.2	0	0	3.51	0.7	6.1
1.83	9.6	5	0.6	103	0.6	0.63	6.3	16.2	3	20
0.42	2.2	2	0.2	94	0.5	0.13	1.3	10.6	2	6.2
1.12	5.9	4	0.4	209	1.2	0.43	4.3	14.7	2.7	15
0.44	2.3	7	0.8	289	1.6	0.2	2	7.61	1.4	8.1
0.35	1.8	17	1.9	401	2.2	0	0	6.55	1.2	7.2
0.15	0.8	3	0.3	579	3.2	0	0	4.26	0.8	5.1
1.63	8.6	36	4	426	2.4	0.31	3.1	7.35	1.4	19
0.15	0.8	9	1	200	1.1	0	0	5.27	1	3.9
0.13	0.7	17	1.9	515	2.8	0	0	8.95	1.7	7.1
0.7	3.7	20	2.2	217	1.2	0.22	2.2	11.6	2.2	11
0.87	4.6	27	3	321	1.8	0.4	4	7.57	1.4	15
0.6	3.2	14	1.6	435	2.4	0	0	7.53	1.4	8.5
									Line 500	
2.16	11	12	1.3	162	0.9	0.57	5.7	13.8	2.6	22
0.52	2.7	28	3.1	365	2	0.13	1.3	8.35	1.5	11

0.41	2.2	45	5	521	2.9	0	0	6.87	1.3	11
0.83	4.4	9	1	334	1.8	0.33	3.3	18.2	3.4	14
0.45	2.4	14	1.6	1290	7.1	0.73	7.3	18.3	3.4	22
0.37	1.9	25	2.8	629	3.5	0.51	5.1	7.53	1.4	15
0.14	0.7	19	2.1	519	2.9	0	0	5.11	0.9	6.7
0.12	0.6	18	2	429	2.4	0	0	4.46	0.8	5.8
3.22	17	14	1.6	178	1	1.57	16	55.2	10	45
0.41	2.2	19	2.1	366	2	0.12	1.2	10.3	1.9	9.4
2.24	12	40	4.4	1060	5.9	0.19	1.9	8.84	1.6	26
0	0	6	0.7	437	2.4	0	0	3.49	0.6	3.7
1.57	8.3	15	1.7	297	1.6	0.51	5.1	19.7	3.7	20
0.18	0.9	35	3.9	67	0.4	0.15	1.5	4.61	0.9	7.6
0.62	3.3	22	2.4	357	2	0.11	1.1	14.7	2.7	12
0.11	0.6	18	2	216	1.2	0.66	6.6	12.3	2.3	13
0	0	17	1.9	222	1.2	0	0	6.59	1.2	4.3
0	0	13	1.4	123	0.7	0	0	7.03	1.3	3.4
0.32	1.7	40	4.4	50	0.3	0.28	2.8	9.42	1.7	11
0.3	1.6	19	2.1	133	0.7	0.13	1.3	6.79	1.3	7
0.11	0.6	10	1.1	387	2.1	0	0	4.65	0.9	4.7
0.17	0.9	17	1.9	778	4.3	0	0	5.39	1	8.1
0.87	4.6	33	3.7	695	3.8	0	0	6.92	1.3	13
0.68	3.6	43	4.8	426	2.4	0.1	1	6.54	1.2	13
0.7	3.7	33	3.7	497	2.7	0	0	6.42	1.2	11
78.07		2133		42497		30.17		1174.23		0
0.19		9		181		0.1		5.39		0
0.41		16		312		0.18		7.61		
0.667265		18.23077		363.2222		0.257863		10.03615		
0.19		9		181		0.1		5.39		

Cu		Zn		Cd		Pb		Line 500
1190	6.2	222	2.4	17	1.2	58	1	11
620	3.2	144	1.5	17	1.2	95	1.7	7.7
522	2.7	274	2.9	22	1.6	77	1.4	8.6
149	0.8	94	1	15	1.1	23	0.4	3.3
100	0.5	39	0.4	10	0.7	31	0.6	2.2
153	0.8	57	0.6	13	0.9	30	0.5	2.9
318	1.7	164	1.7	14	1	76	1.4	5.8
424	2.2	205	2.2	18	1.3	84	1.5	7.2
70	0.4	18	0.2	13	0.9	22	0.4	1.9
955	5	237	2.5	16	1.1	99	1.8	10
1350	7	195	2.1	31	2.2	104	1.9	13
24	0.1	198	2.1	18	1.3	83	1.5	5
1030	5.4	299	3.2	19	1.4	36	0.6	11
767	4	55	0.6	13	0.9	72	1.3	6.8
571	3	259	2.8	19	1.4	56	1	8.1
52	0.3	50	0.5	0	0	32	0.6	1.4
482	2.5	719	7.6	21	1.5	75	1.3	13
744	3.9	376	4	18	1.3	82	1.5	11
1470	7.7	60	0.6	14	1	60	1.1	10
786	4.1	143	1.5	21	1.5	84	1.5	8.6
192	1	475	5.1	12	0.9	103	1.8	8.7

364	1.9	429	4.6	24	1.7	98	1.8	9.9
515	2.7	274	2.9	20	1.4	72	1.3	8.3
783	4.1	190	2	20	1.4	83	1.5	9
710	3.7	337	3.6	17	1.2	70	1.3	9.7
14341		5513		422		1705		
192		94		14		56		
573.64		220.52		16.88		68.2		
192		94		14		56		

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Helicopterborne Multisensor Geophysical Survey Results over the **Beaton Claims** Kamloops, British Columbia

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Prepared for
Greenvalley Mining Inc. and Lakewood Mine Inc.
at the request of
Charles Boitard (President)
Osvaldo Contini (Director)
by
Robert B.K. Shives
Head, Radiation Geophysics Section,
Geological Survey of Canada
Ottawa
November 16, 2001

Contents

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Osvaldo Contini (Director)

Introduction

In 1993 a multisensor airborne geophysical survey, combining gamma ray spectrometric (GRS), magnetic total field (MTF) and very low frequency electromagnetic (VLF-EM) sensors was flown over the entire Ironmask Batholith area, near Kamloops, British Columbia. The survey was funded by Teck Exploration Limited (Teck) and flown by Sander Geophysics Limited under contract to the Geological Survey of Canada (GSC).

Comparison of the new airborne survey patterns soon revealed an astonishing correlation with the twenty most significant known deposits, including the then operating copper-gold mines at Afton and Ajax. Following a brief period of exclusivity, results were published at 1:150,000 scale as a series of colour interval maps and stacked profiles (GSC Open File 2817) and as digital data.

Under a GSC-Teck Joint Venture agreement, the airborne data provided regional and local frameworks for bedrock mapping and testing of new exploration strategies, including conventional and selective leach soil analyses (Enzyme Leach methodology), biogeochemical methods, lithogeochemical sampling and ground gamma ray spectrometry. As much of the work was focused within Teck-held property, such as the Rainbow zone, some of the interesting regional targets indicated by the airborne survey may have received little or no attention. The Beaton Claims overlie one of these anomalous zones.

This report summarizes the significance of the airborne survey patterns to mineral exploration in the Kamloops area, and to the exploration potential of the Beaton Claim area.

Gamma Ray Spectrometry

Traditional magnetic and electromagnetic techniques and applications are generally well understood by the exploration community. The gamma ray spectrometric method, however, is generally underutilized, and deserves brief description.

Gamma ray spectrometry has been conducted since the 1960's, evolving from a uranium-only exploration tool to a now well established, multi-element method, applied successfully worldwide to a variety of commodities in diverse geological settings. The technique passively measures the natural radioactivity of all rocks and derived materials, to characterize normal lithological variations and, of exploration significance, to fingerprint alteration of these normal radioactive element signatures by mineralizing processes. The three most abundant radioactive elements, potassium, uranium and thorium are quantitatively measured, providing major, mobile and immobile trace element (respectively) information. Thus although the technique relies on physics, interpretation must be conducted in geochemical terms. Several Canadian case histories, including those derived from the Ironmask survey, are presented in GSC Open File 3601. In short, the method can be of direct assistance to exploration for many commodities, most obviously for U and Th, but also for Sn, W, REE, Nb, Zr, Au, Ag, Hg, Co, Ni, Bi, Cu, Mo, Pb, and Zn mineralization, either because one or more of the radioactive elements is an associated trace constituent or because the mineralizing process has changed the radioactive element ratios in the surrounding environment.

Conventional geophysical methods may respond to sources at depth, such as buried magnetic intrusions, electromagnetic conductors, or density contrasts. GRS, however, is strictly a "surficial" technique, related to the radioactivity of the top 30 cm of the earth's crust. Despite extensive glaciation throughout Canada, this limitation is less severe if one understands that the radioactive element signatures of underlying bedrock are commonly reflected in related, locally derived overburden. This holds true generally, in the Afton area, based on ground spectrometric follow-up conducted by the author. Interestingly, the same work showed that ground susceptibility measurements on the soil surface detected significant magnetic mineral content (magnetite), which interfered with results of ground magnetometer surveys conducted by Teck. For this reason, Teck staff found that the new airborne magnetic data more reliably reflected bedrock geology and structural features than the ground magnetometer surveys, and incorporated the airborne patterns in their exploration strategies.

The complimentary relationship between aeromagnetic and spectrometric techniques offers a powerful exploration tool, as consistently evident in the combined anomalies related to known mineralization throughout the Ironmask survey area. This clear association is described below, giving strong support to potential economic mineralization in the Beaton Claims area.

Airborne Survey Specifications

As detailed specifications are provided in Open File 2817, only factors pertinent to data interpretation or application are summarized below.

The airborne survey was flown to international standards established by the Radiation Geophysics Section, Geological Survey of Canada, ensuring collection of high quality, properly calibrated data. Gamma ray spectrometric measurements were made using an Exploranium GR820 spectrometer with ten 102 x 102 x 406 mm NaI(Tl) crystals (33.8 litres downward, 8.5 litres upward). Gamma ray spectra were recorded at one second intervals at a mean terrain clearance of 120 m, an air speed of 120 km/h, along NE-SW oriented flight lines spaced at 500 m intervals . With this configuration, each measurement corresponds to a ground area of approximately 50 along track by 100 m across track, with overlapping, consecutive1 second readings every 35 m along the ground. This resolution is maintained on the stacked profile presentations, but gridding required to generate the colour interval maps requires interpolation to 120 m.

Magnetic total field (MTF) measurements were made using a Scintrex cesium vapour magnetic sensor in a bird towed 30 m below the helicopter. Half second readings were corrected for diurnal variations and the International Geomagnetic Reference Field (IGRF) was removed (hence the magnetic data displayed is referred to as "residual"). Flown control lines were used to level the data, which was then interpolated to a 100 m grid using a minimum curvature algorithm. The magnetic vertical gradient (MVG) was calculated from the magnetic total intensity grid.

VLF total field and quadrature components for two stations were recorded using a Hertz Totem 2A system. The line station was tuned to 24.0 kHz , from station NAA at Cutler, Maine, and the ortho station was tuned to 24.8 kHz from NLK at Seattle, Washington. As the VLF data was collected on a secondary "as-is" basis, no effort was taken to ensure complete coverage. A long wavelength interference signal is evident in the data, and extreme caution must be exercised in any interpretation of the VLF data. For this reason, the VLF data has not shown particular relevance to known mineralization and it is not considered in this report. (Contact the author if additional information is required).

Airborne Survey Results

Results are summarized below using annotated figures created from the original Open File 2817 colour maps and stacked profiles generated using SurView, at regional, local and property scales. A more compete series of digital images is included on CD-ROM, accompanying this report. Site-specific follow-up to these patterns should be based on larger images at improved scales.

The first three figures illustrate regional relationships between equivalent thorium and potassium (shown as eTh/K ratio in Figure 1), residual magnetic total field (Figure 2) and the calculated magnetic vertical gradient (Figure 3), with the 20 known deposits. Note that the deposits include intrusion-related Cu-Au porphyries and precious metal occurrences. All of the deposits lie within blue, low eTh/K ratio areas (Figure 1) and along the flanks of magnetic total field high areas, rather than on the highest magnetic anomalies. At many of the occurrences/deposits, these relatively low-magnetic features represent structurally controlled, magnetite destructive albitization, associated with mineralization. Weak to moderate potassic alteration is also associated with the deposits, but is not obviously evident as potassium highs on either the colour maps, or the stacked profiles.

More detailed views of the deposit signatures are illustrated by 12 stacked profile plots in Figure 4. These clearly show the consistent dip in the eTh/K ratios, along the flanks of magnetic total field highs, or sharp breaks in the magnetic profile. Neither the eTh/K values, nor the magnetic total field patterns can individually provide direct vectoring – it is the combination of the two factors that distinguishes the known deposits in the survey area. Similar features are evident in the Beaton Claims area.

Figures 5, 6 and 7 provide closer views of the eTh/K ratio, residual magnetic total field and calculated magnetic vertical gradient (respectively) for the Beaton-Afton area. Note that the chemical signature of the tailings, waste and altered lithologies at the surface reflect relative lows in the eTh/K ratio. Magnetic lows are best delineated on the gradient map (Figure 7), which clearly shows similar features extending through the Beaton Claim area across the survey grid.

Figures 8, 9 and 10 provide still closer views of the data in the Beaton Claims, showing existing grid lines (yellow), percussion and diamond drill sites (blue, green dots) and the airborne survey flight lines with fiducials (white). Again, the coincidence of the Th/K ratio low with the linear magnetic features is evident, centered at fiducial 260 on flight line 2056. Corresponding stacked profiles are illustrated in Figure 11, for each of the flight line segments over the Beaton Claims. Yellow bars in Figure 11 are positioned over possible targets suggested by the airborne trends, most evident on lines 2055, 2056 and 2057.

Based on these relationships, in 1996 the author suggested 5 possible drill targets within the Beaton Claim area, to test for mineralization, within the main eTh/K low. At that time, platinum group elements (PGE's) had not been noted within the known deposits. The more recent discovery of PGE's at Afton, and the results of the MMI survey conducted over the Beaton grid, further enhances the potential for economic discoveries. Results for Pa, Au, Ag, Cu, Ni, Co and Zn concentrations detected by the MMI survey are indicated in Figure 12. The spatial relationship between the airborne "geochemistry" and the ground results is clear.

Conclusion

Patterns resulting from a multisensor airborne geophysical survey in the area surrounding the Beaton Claims have been shown to provide direct vectoring to known, intrusion-related, economic mineralization. Similar patterns are evident within the Beaton Claim area, where recent MMI geochemical survey results have detected significantly anomalous base, precious metal and palladium concentrations. In the author's opinion, these factors offer high potential for mineral exploration success and warrant further examination.

Signed, this 16th day of November, in the year two thousand and one:

RBK Shives

Robert B. K. Shives

Regional Scale

Figure 1.
Twenty occurrences, Beaton Claims, on equivalent thorium/potassium ratio.

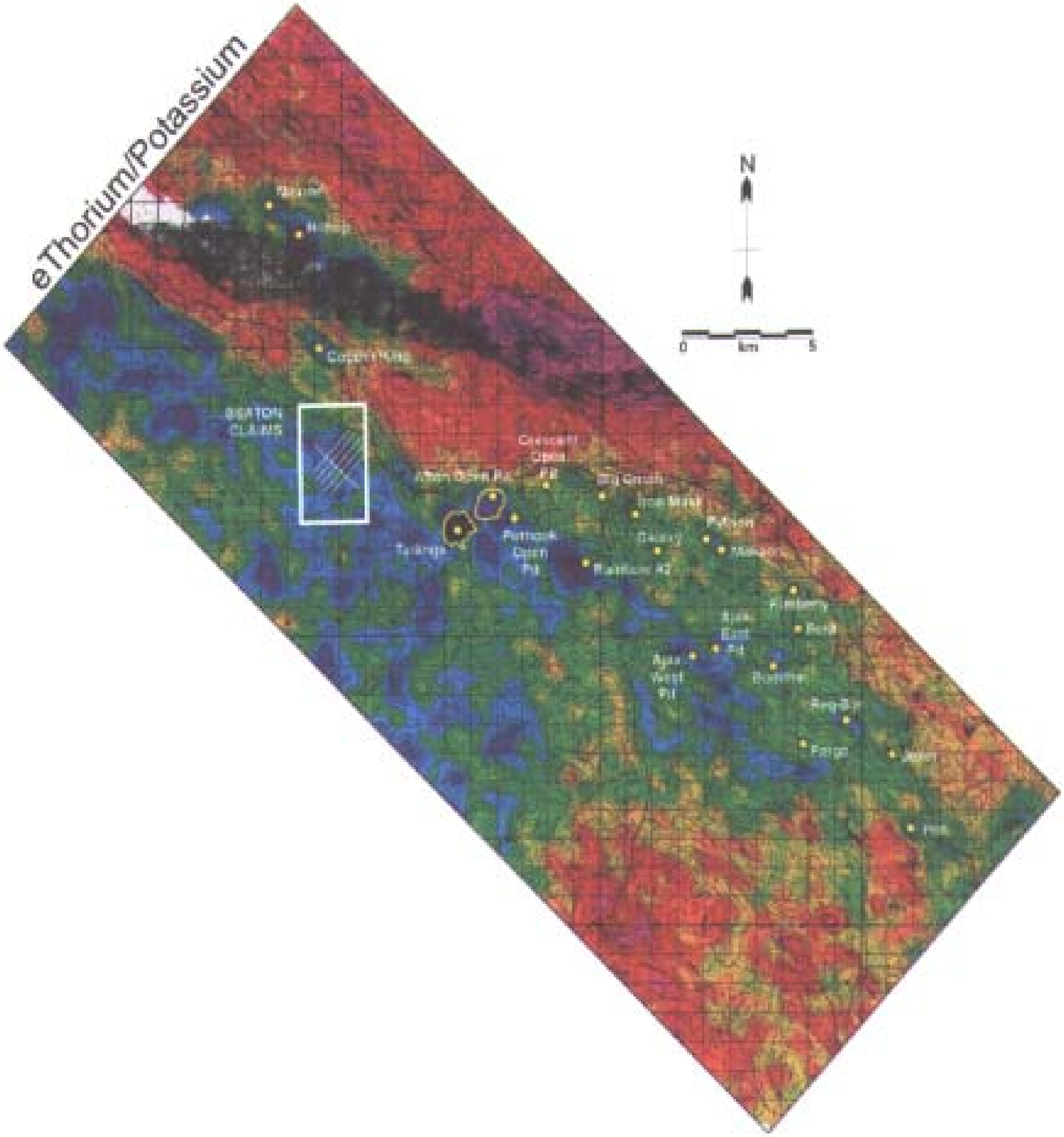


Figure 2
Twenty occurrences, Beaton Claims, on residual magnetic total field.

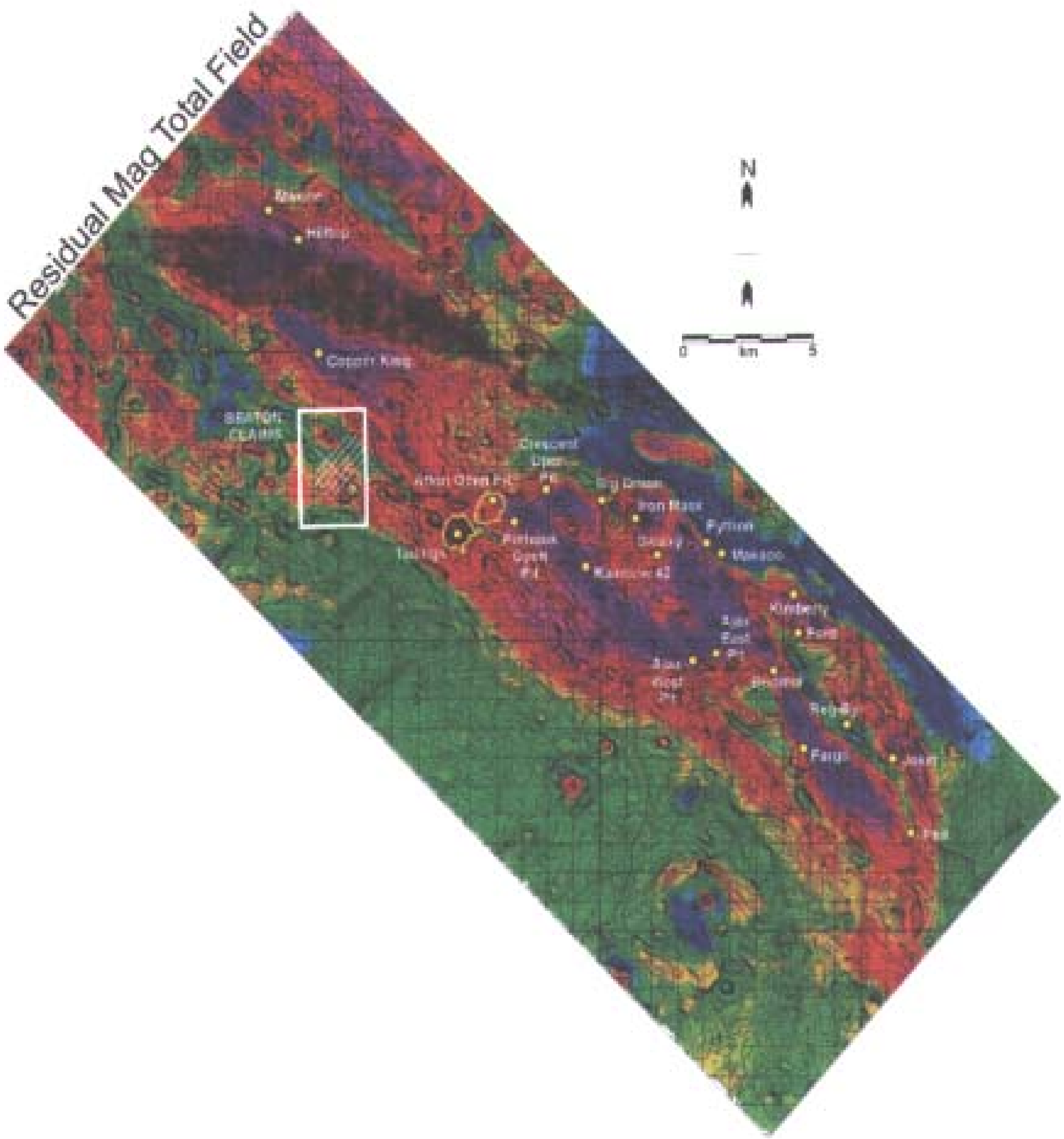


Figure 3
Twenty occurrences, Beaton Claims, on calculated magnetic vertical gradient.

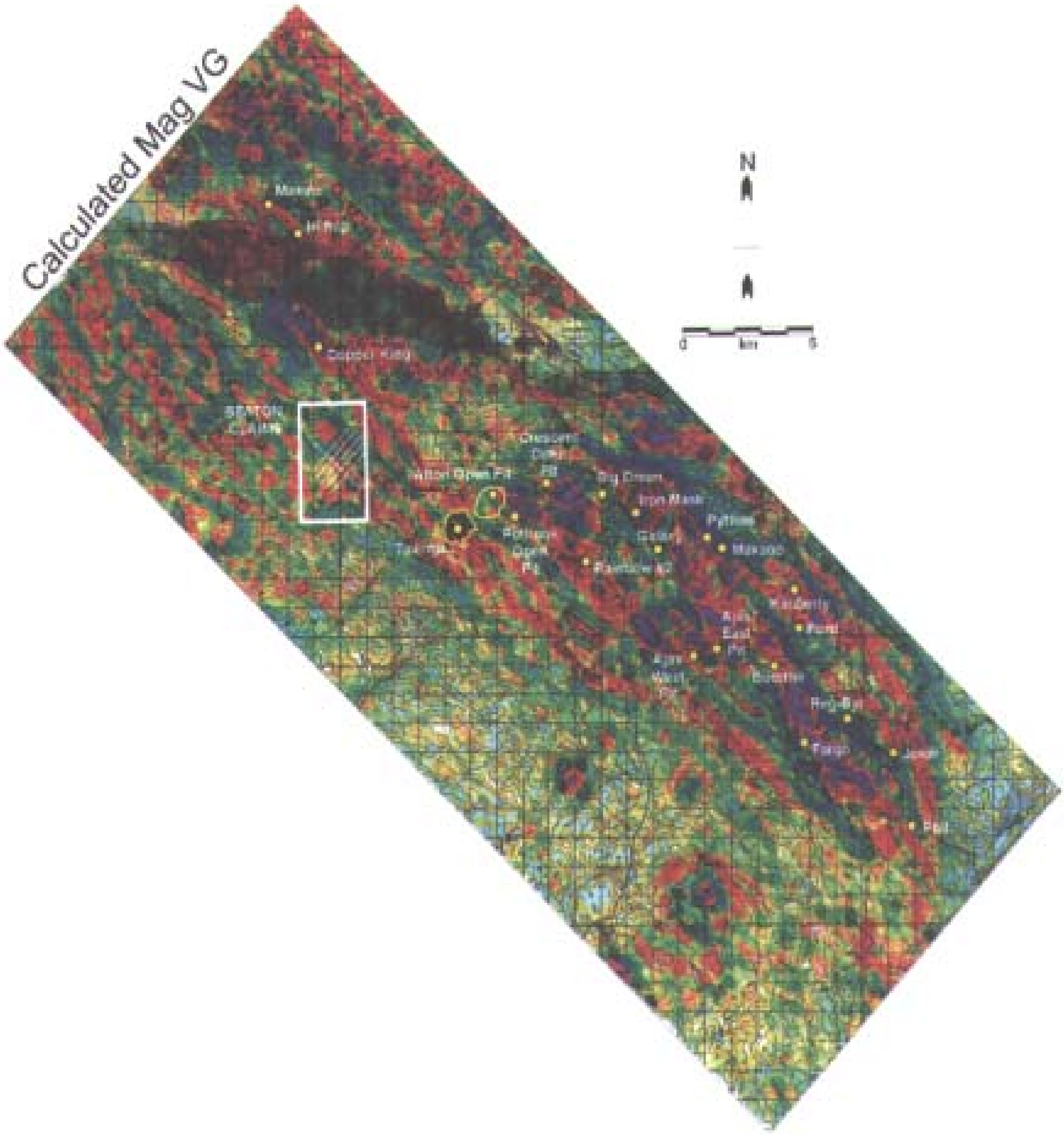
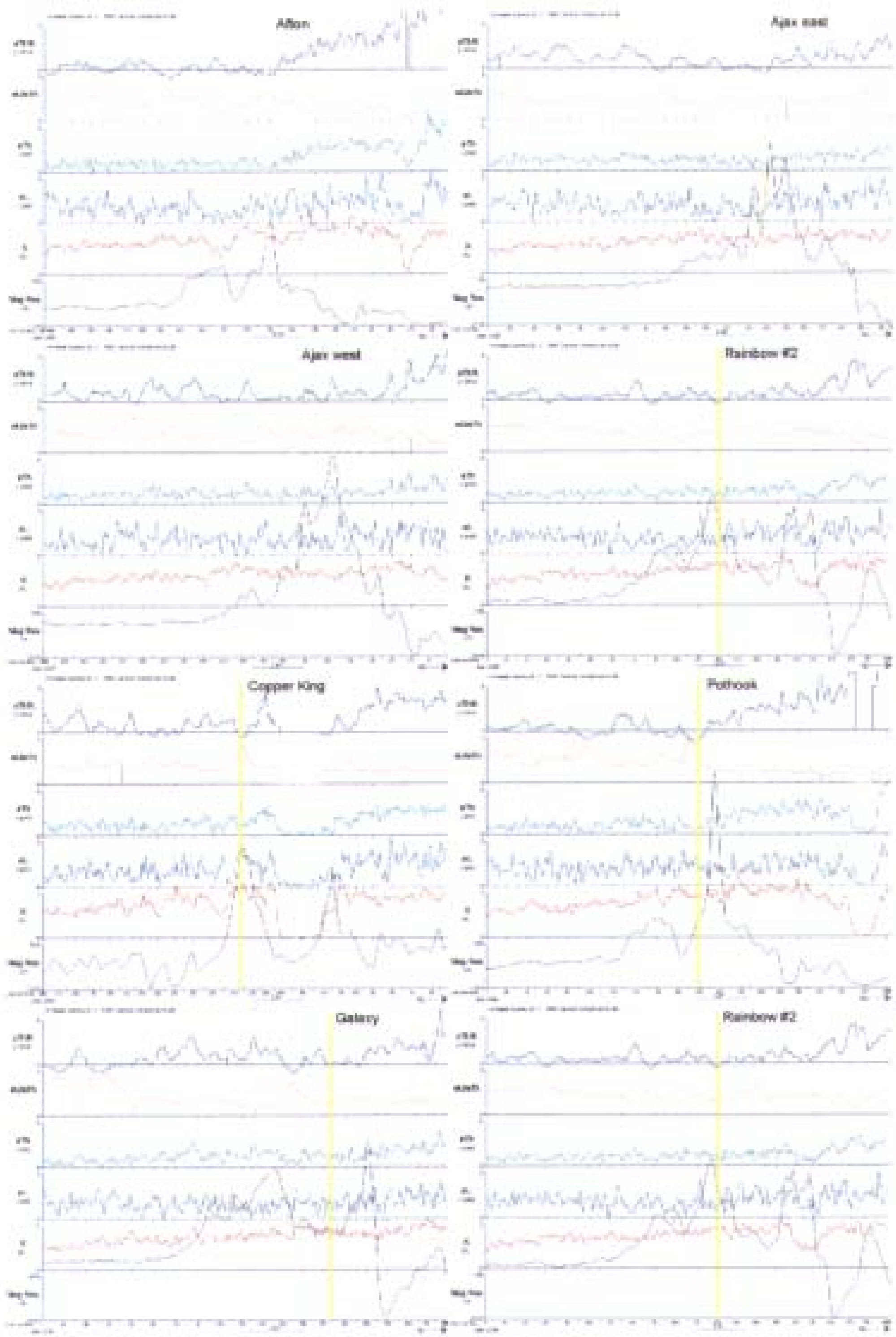
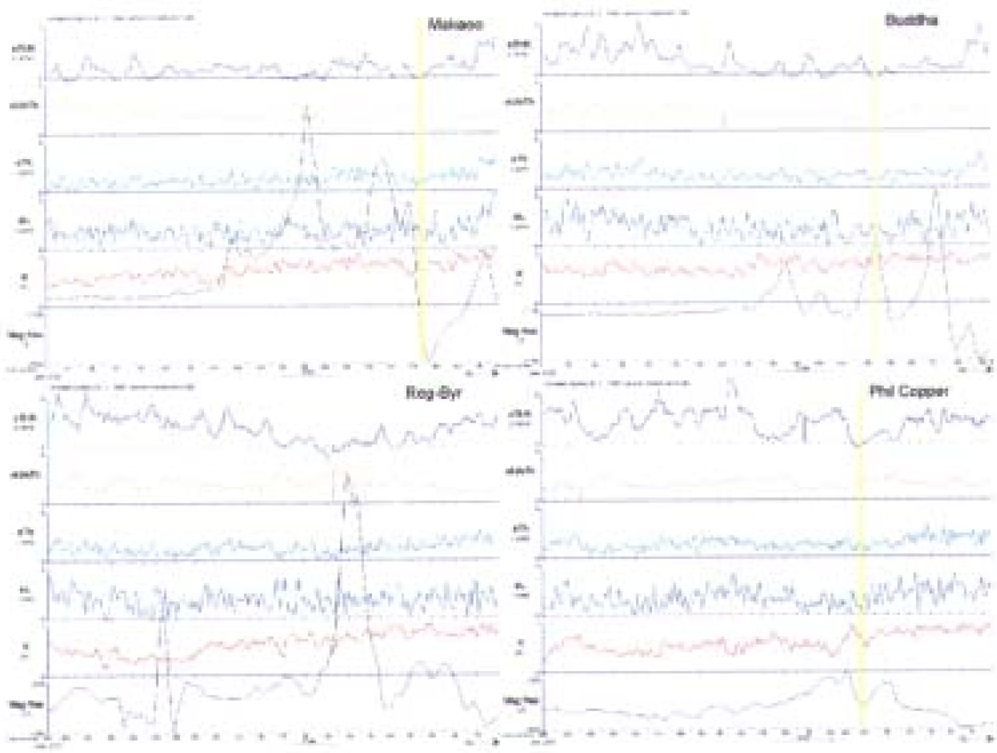


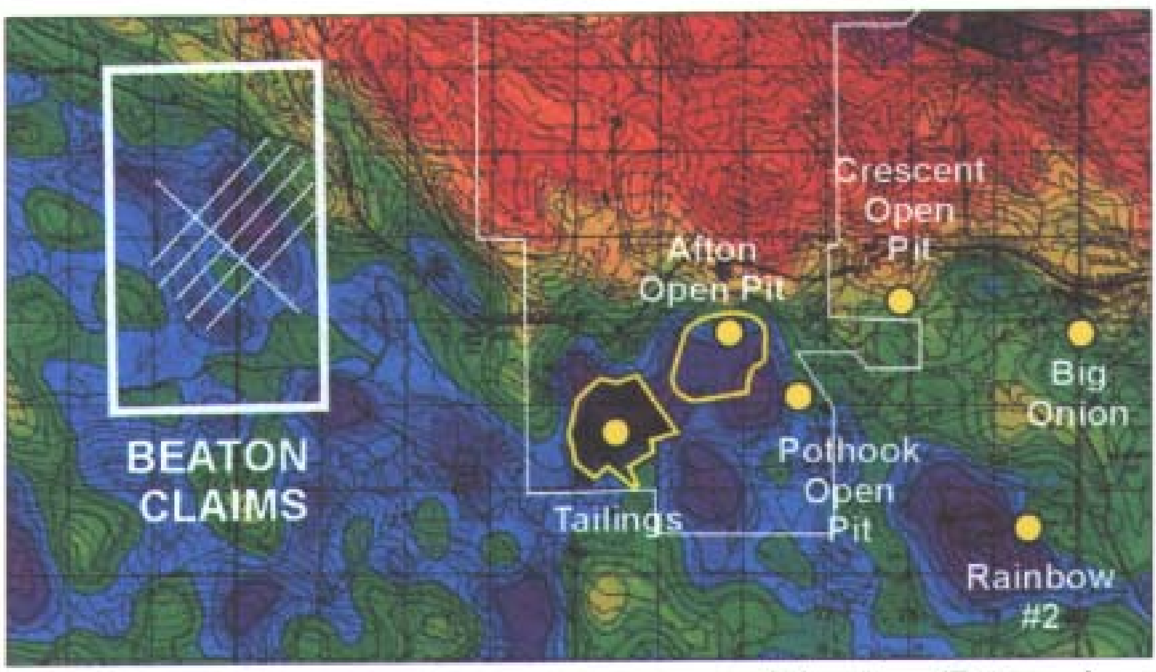
Figure 4.
Stacked profiles, 12 of 20 known deposits in the survey area





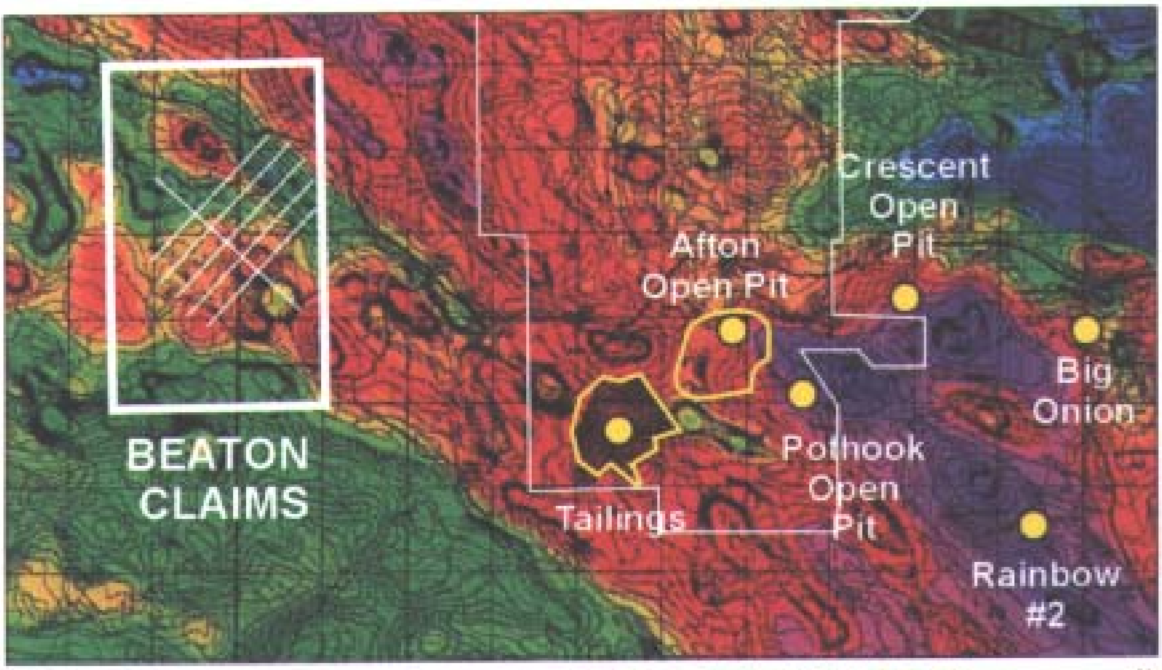
Local Beaton-Afton scale

Figure 5.



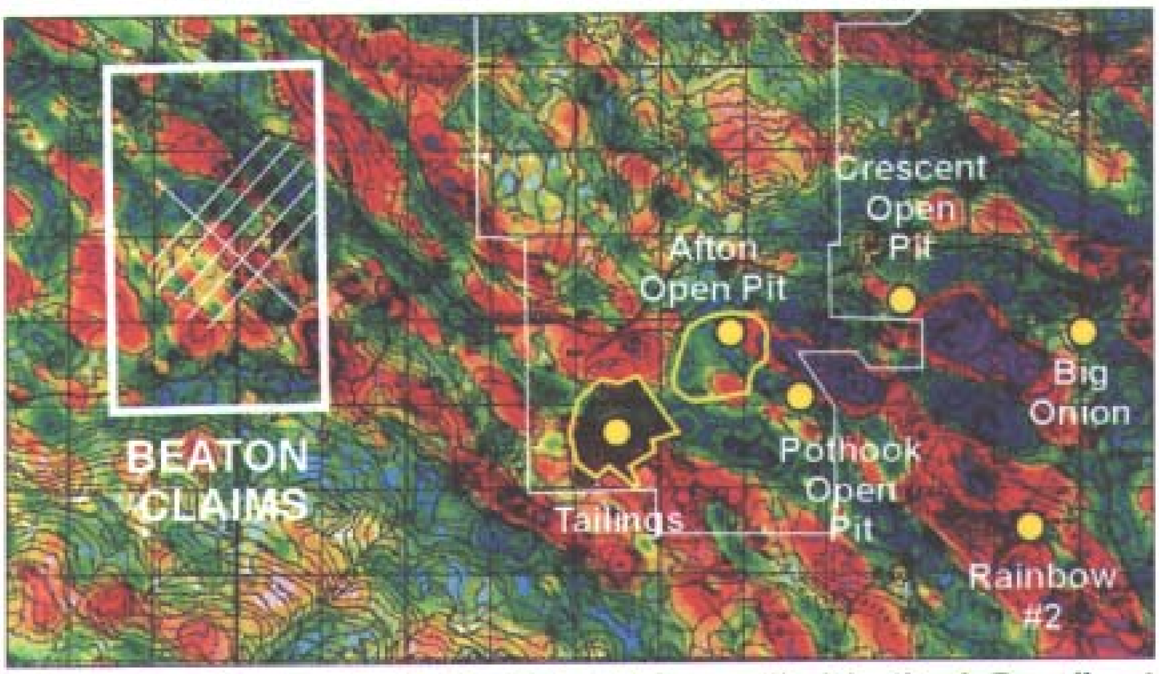
eThorium/Potassium

Figure 6.



Residual Magnetic Total Field (IGRF removed)

Figure 7.



Calculated Magnetic Vertical Gradient

1. **Beaton Claims**

Figure 8.
Flight lines with fiducials, Beaton grid, on equivalent thorium/potassium ratio.

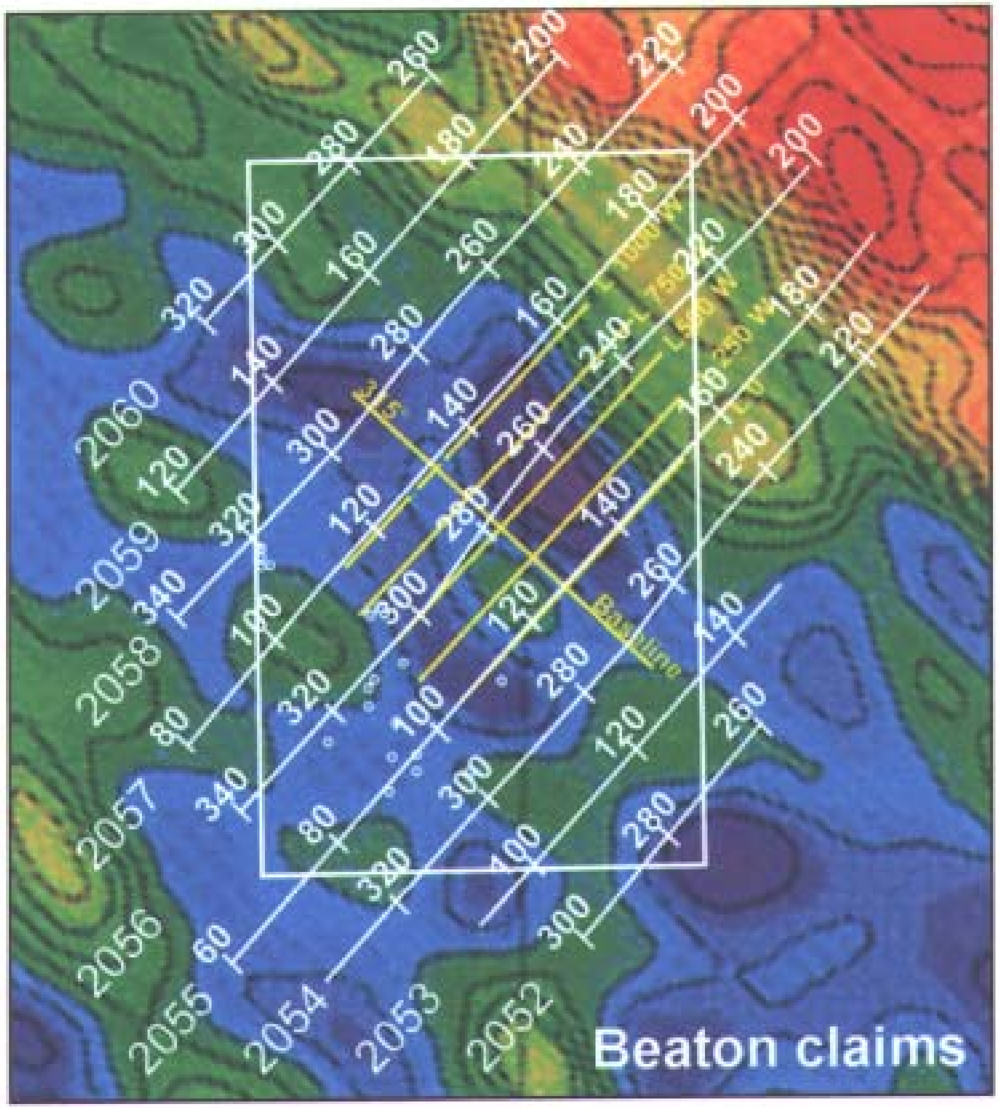


Figure 9.
Flight lines with fiducials, Beaton grid, on residual magnetic total field.

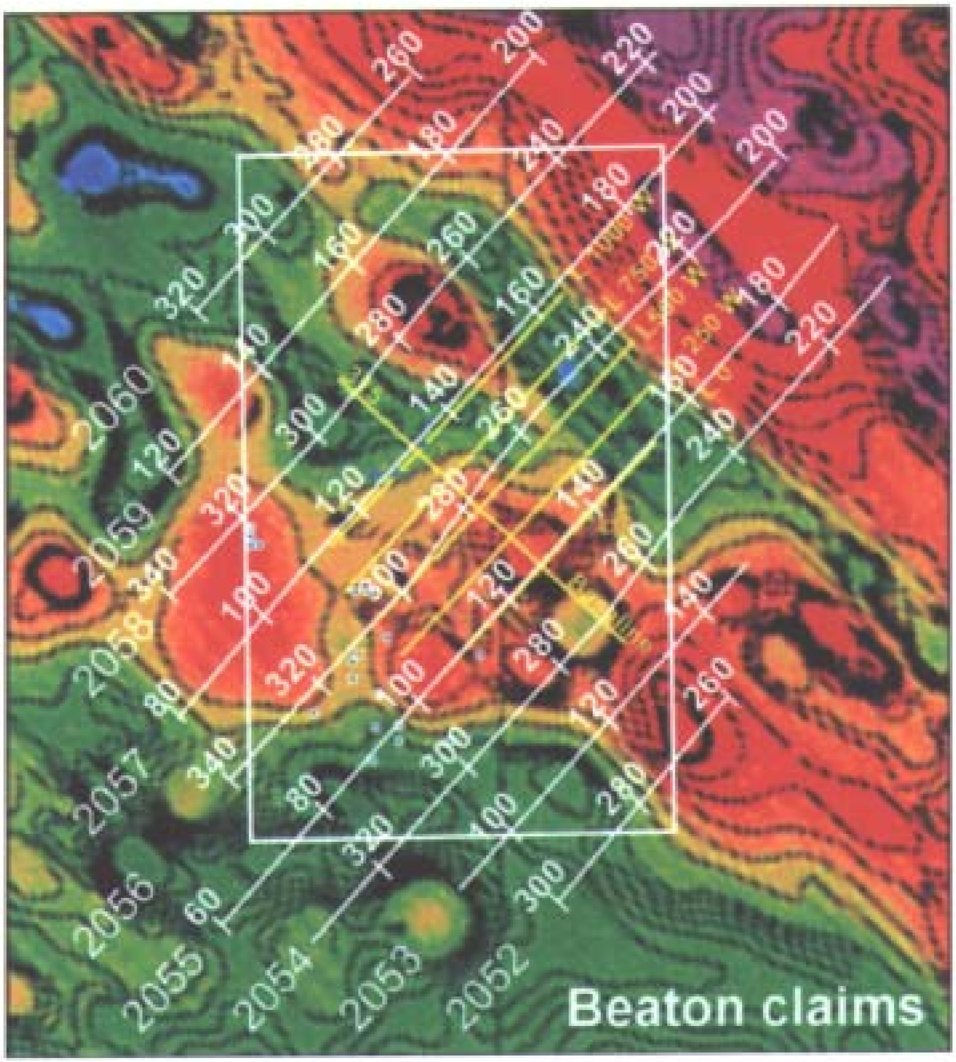


Figure 10
Flight lines with fiducials, Beaton grid, on calculated magnetic vertical gradient.

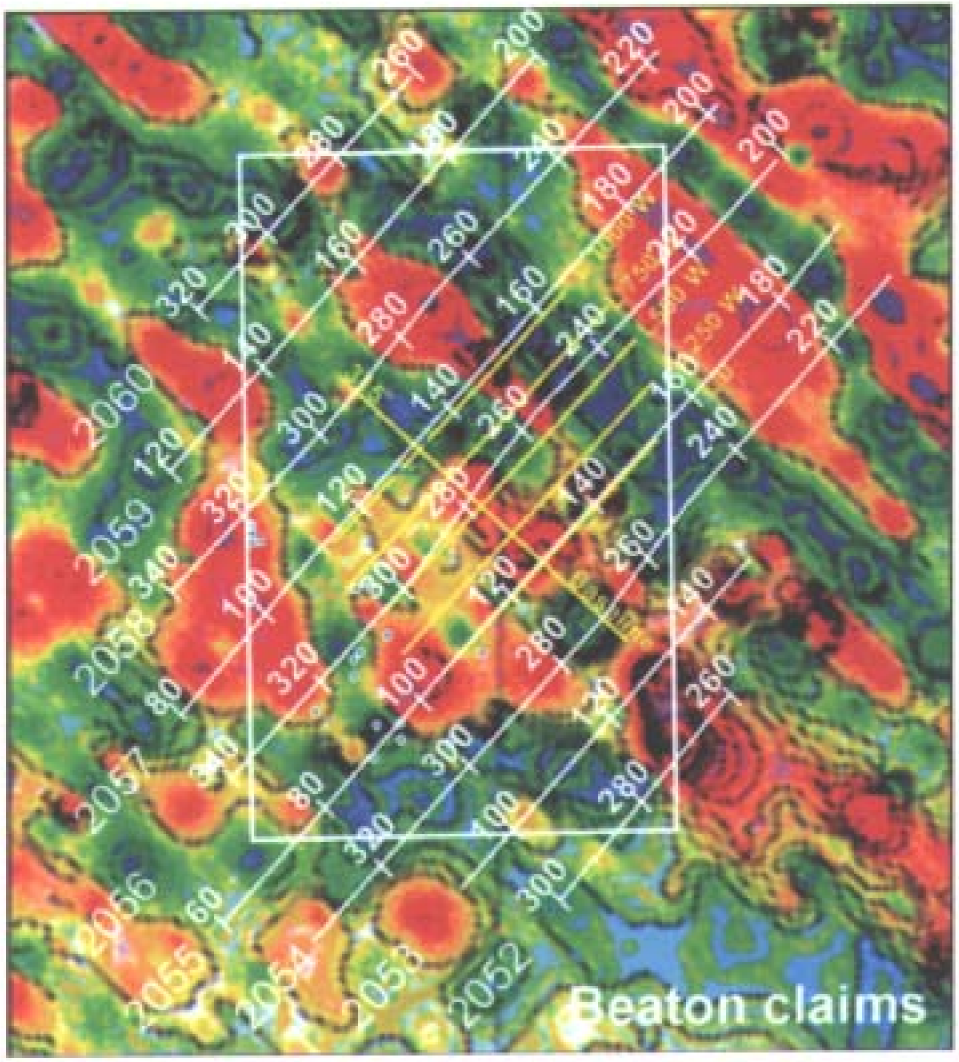


Figure 11.
Stacked profiles, Beaton Claim area. Refer to flight line, fiducial maps, above.
Grey shaded areas indicate flight line segment shown on above images; yellow lines indicate "targets" based on profile data shown.

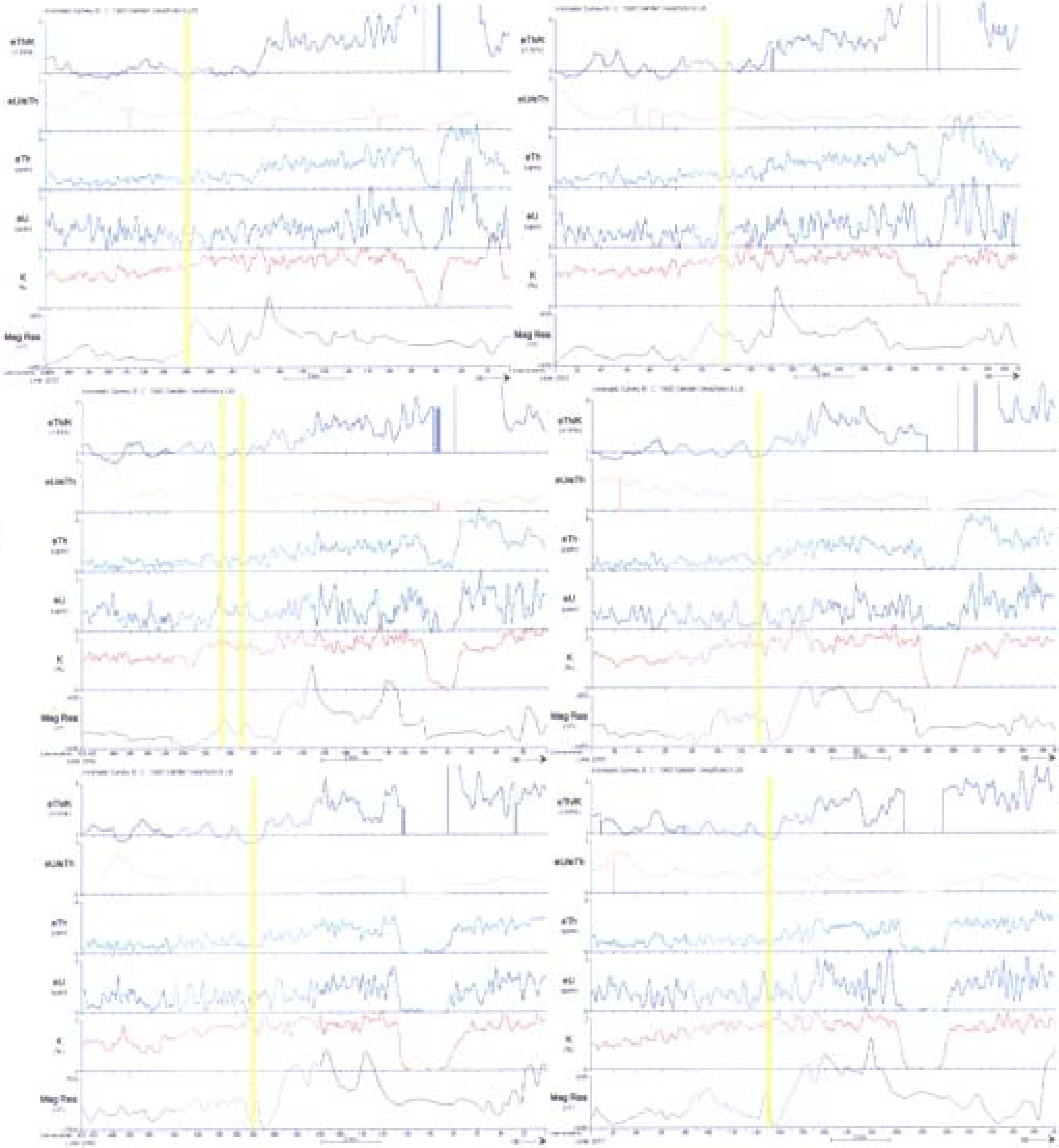


Figure 11 (continued).

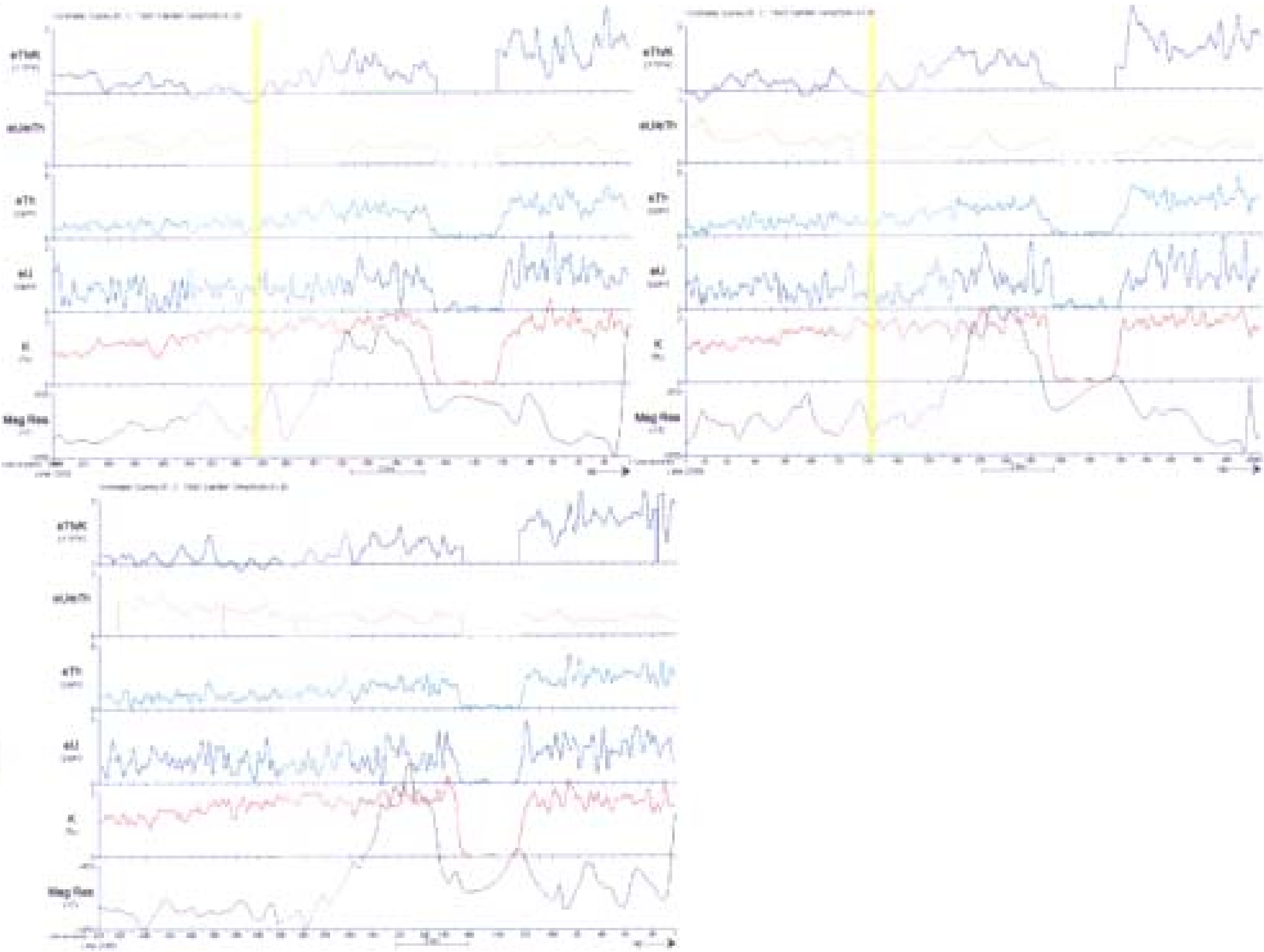
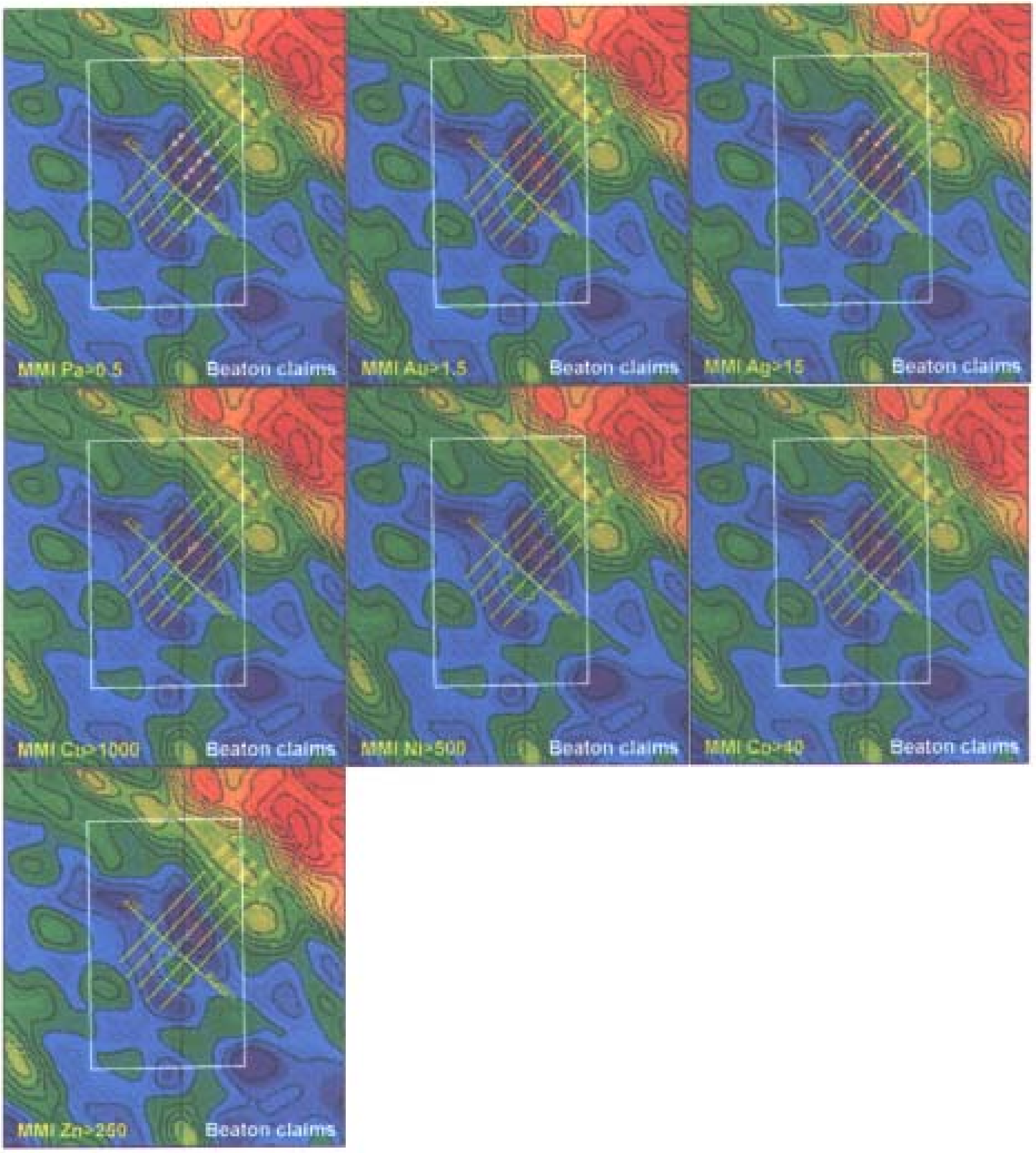


Figure 12.

MMI results (thresholds indicated) on equivalent thorium/potassium



Curriculum Vitae Nov. 2001

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Summary: **Geologist/geophysicist with 22 years post-graduate experience in private exploration and public sectors, in a variety of gold (vein, porphyry and epithermal) and uranium environments, with emphasis on application of gamma ray spectrometric techniques to bedrock and surficial mapping and practical exploration for a wide variety of commodities. Recent work includes development and presentation of case histories and short courses nationally and internationally.**

Personal

Born May 5, 1956; 3 children; excellent health

Education

1979: B.Sc. Geology, Carleton University, Ottawa, Ontario
1981: "Mineral Logging" short course, applications of digital borehole logging systems, Saskatoon, Saskatchewan
1982: "Lithogeochemistry - effective data analysis", Saskatchewan Research Council, Saskatoon, Saskatchewan
1994: "Alteration and alteration processes associated with ore-forming systems" Waterloo Ontario
1997: "Geochemistry in Lateritic Environments Vancouver, British Columbia
1998-2001: various exploration geochemistry and geophysics courses

Work History

15/07/97 – present

Physical Scientist (PC-4), Geological Survey of Canada, Ottawa. Head, Radiation Geophysics Section, Geological Survey of Canada, Ottawa. Responsible for Section staff and all activities related to collection, maintenance and application of gamma ray spectrometry, magnetic and electromagnetic data to mapping, exploration, health and safety, environment; created, launched new GSC NATGAM Program; continued development of new applications to exploration for hydrocarbons, diamonds; published national/internationally refereed papers.

01/04/92 – 15/07/97

Physical Scientist (PC-3), GSC, Ottawa. Duties as for PC-1 and PC-2 positions below, but including: increased collaboration with provincial/territorial mapping geologists and industry in Canada and internationally; principle author of numerous Canadian workshops and accompanying workshop manuals (ie. GSC Open File 3061); Short courses recently given at Northwest Mining Conference in Washington, USA (1996), at ASEG Conference in Sydney Australia (1997), Exploration '97 in Toronto, Canada (September, 1997), 5th Annual Brazilian Mining Conference (September, 1997). Increased contract survey monitoring and more focus on Canadian Cordilleran mapping and exploration applications of gamma ray/magnetic/VLF-EM multisensor surveys.

08/01/87 - 01/04/92

Physical Scientist (PC-2), GSC, Ottawa. Plan and coordinate airborne geophysical surveys; provide interpretation and evaluation of airborne and ground gamma ray spectrometry data; demonstrate application of AGRS to geological mapping, mineral deposit studies and environmental radiation monitoring; investigate the distribution of radioactive elements on soils and bedrock of the Canadian landmass and analyze results in conjunction with other geoscience data sets to prepare written and oral interpretations for national and international journals and meetings; compile, publish survey data; provide expert advice to industrial, academic and other representatives regarding application of gamma ray spectrometry to geological mapping, mineral exploration and environmental studies.

05/01/86 - 07/01/87

Physical Scientist (PC-1), GSC, Ottawa. geologist/geophysicist - data processing; compilation of GSC airborne gamma ray spectrometry, mag, VLF data, from raw field tapes to final publication, using Data General MV4000, Vax, Cyber and PC computers; designed, conducted field follow up programs under Canada-New

Brunswick Mineral Development Agreement; conducted ground spectrometer; monitoring of contract surveys; preparation of posters for variety of local and national geological conferences; preliminary VLF interpretation of various surveys; worked with computer programmer to design formats and procedures for digital cartographic layout currently used for publication of GSC spectrometric, magnetic and VLF-EM data.

01/08/84 - 15/12/84 **Consulting Geologist**, for three VSE-listed gold exploration companies, Vancouver; assessment file reviews, compilation and on site property evaluations, sampling, assaying; formal reports to Company Presidents included recommendations for property acquisition and comprehensive phased exploration programs to diamond drilling stages.

01/02/84 - 31/07/84 **Senior Geologist**, Goldsil Mining and Milling Inc., and Burrill Exploration Ltd., Saskatoon, Saskatchewan; designed, budgeted, executed highly successful winter drilling and summer mapping-prospecting-soil sampling exploration programs on five large Joint Venture properties within the La Ronge gold belt, Saskatchewan; includes discoveries of significant gold mineralization successfully mined at Mallard Lake, new occurrences near Waddy Lake and increased grade-tonnage estimates at Tower Lake; submitted proposals, reports directly to company president and senior Joint Venture partners; constructed useful three dimensional model of the Tower Lake Deposit.

15/05/83 - 15/09/83 **Project Geologist**, Asamera Inc., Calgary, Alberta; designed, executed 3 month gold exploration program on 4000 acre property near Dryden, Ontario, involving supervision of 8 man crew (mag, VLF, bio- and lithogeochemical sampling, detailed and reconnaissance mapping and design/supervision of follow up diamond drilling program; final report to Manager, Minerals Canada and Joint Venture partner.

07/01/80 - 14/5/83 **Drill Geologist** and **Supervisory Geologist**, Asamera Inc., Saskatoon, Saskatchewan; drill supervision, drill core logging, borehole logging, on major uranium property in Northern Saskatchewan (Athabasca basin); responsibilities expanded following promotion to include supervision of over 30 persons, including several drill geologists, line cutters, drillers, staff and contract geotechnicians and geophysicists, during very active, multi-million dollar programs; reported weekly, monthly, annually to Saskatoon and Calgary offices; designed, supervised, reported on several reconnaissance drilling programs; conceived, conducted various borehole gamma ray logging tests in model boreholes and company drill holes, to provide reliable correction factors for in-situ uranium assays in extremely high grade zones.

Fall, 1979 **Contract Geologist**, 2 months, Agnes and Jennie Mining Co. Ltd., Vancouver; geological mapping, percussion drill supervision, Sharbot Lake U-pegmatites, Ontario.

1977, 1978, 1979 **Student Assistant**, 3 summers, Geological Survey of Canada, Ottawa; office and field duties related to aeromagnetic and airborne gamma ray spectrometric surveys in several localities throughout Canada.

Associations

Fellow: Geological Association of Canada
Member: Canadian Geophysical Union
Mineral Deposits Division of Geological Association of Canada
Prospectors and Developers Association of Canada
British Columbia and Yukon Chamber of Mines

Publications

- over 60 formal talk and poster presentations describing specific application case histories; course notes and manuals for over a dozen workshops; hundreds of Geological Survey of Canada G-Series and Open File maps related to over 50 multisensor (gamma ray spectrometric/magnetic/VF-EM/electromagnetic) airborne surveys. Numerous unpublished reports to private sectors companies through collaborative studies and projects have also been submitted. A list of publications will be provided on request.