4347

GREAT PLAINS DEVELOPMENT
COMPANY OF CANADA, LTD

GEOPHYSICAL AND GEOCHEMICAL REPORT

BUCK GROUP

BRITISH COLUMBIA

NICOLA AND SIMILKAMEEN MINING DIVISIONS

92 H/16

M.D. McInnis
D.R. Cochrane

MARCH, 1973.

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SUMMARY

The Buck Group is comprised of the following claims:

CLAIM	RECORD NOS	RECORDED OWNER	ANNIVERSARY DATE
Buck 1-10	34069-78	G.P.D. Co. of Can.	Aug. 13/73
Buck 12-13	34873-74	" " " " " "	Mar. 17/73
Buck 24-33	34881-90	" " " " " "	" " "
Buck 38-39	34895-96	" " " " " "	" " "
Buck 57-59	34897-99	" " " " " "	" " "
Buck 18-23	34875-80	" " " " " "	Mar. 17/74
Buck 34-37	34891-94	" " " " " "	" " "
Buck 40-49	51267-76	" " " " " "	Mar. 15/73
Buck 54-56	51281-83	" " " " " "	" " "
Buck 62-71	51286-95	" " " " " "	" " "
Buck 74-99	51298-323	" " " " " "	" " "
Buck 50-53	51277-80	" " " " " "	Mar. 15/74
Buck 60-61	51284-85	" " " " " "	" " "
Buck 72-73	51296-97	" " " " " "	" " "

Buck 40-47 and 60-99 are located in the Nicola Mining Division; Buck 1-10, 12,13, 18-33, 38, 39, 58 and 59 are found in the Similkameen Mining Division.

Geochemical work for which assessment credit of $2,805.00 is requested was carried out during the period October 30th, 1972 to

November 6th, 1972. Geophysical work totalling $4,610.00 was carried out during the period March 1 to March 12, 1973.

The Buck 1-10, 18-23, 34-37, 50-53, 60, 61, 72 and 73 were grouped as Buck #1 Group in August 1972 and assessment credit was applied to maintain these claims in good standing for several years. This report details the geochemical and geophysical surveys carried out on the remainder of the claims. As a result of the work performed, assessment credit is requested on the claims as follows:-

Buck No. 2 Group

Claims	Record Nos	Assessment Credit Requested	Total
Buck 12, 13	34873, 74	1 year/claim	2 years
Buck 24-33	34881-90	1 year/claim	10 years
Buck 40, 48	51267, 75	2 years/claim	4 years
Buck 41-47	51268-74	1 year/claim	7 years
Buck 49	51276	1 year/claim	1 year
Buck 62-67	51286-91	1 year/claim	6 years
Buck 68, 70	51292, 94	2 years/claim	4 years
Buck 69,71	51293, 95	1 year/claim	2 years.
			36 years.

Buck No. 3 Group

Buck 38, 39	34895, 96	1 year/claim	2 years
Buck 54-56	51281-83	1 year/claim	3 years

Buck No. 3 Group (Cont'd)

Buck 57-59	34897-99	1 year/claim	3 years
Buck 74-89	51298-313	1 year/claim	16 years
Buck 90-93	51314-17	2 years/claim	8 years
Buck 94-99	51318-23	1 year/claim	6 years
			38 years

The total value of the requested assessment credit and the total cost of the geochemical and geophysical work performed on each of the claim groups is as follows:-

Group	Requested Assessment Credit	Cost of Work Performed
Buck No. 2 Group	36 years	$3,600.00
Buck No. 3 Group	38 years	$3,800.00
		$7,400.00

This report with accompanying maps and statement of expenditures is hereby submitted to record the above assessment work.

INTRODUCTION

This report presents the results of the geochemical and geophysical surveys carried out on the Buck group of mineral claims in November 1972 and in March 1973. The claim group is the subject of an option agreement between Great Plains Development and Messrs. V. Paulger and M. Mathieu of Kamloops, B.C.

Prior to Great Plains involvement, the property was virtually untested by modern techniques. It was felt that the quickest, most effective method of evaluating the property was to conduct a soil and silt sampling program over all parts of the claim group. In formulating the program, it was reckoned that any anomalies received from the geochemical survey would be tested through follow-up geophysical techniques.

LOCATION AND ACCESS

The Buck Group is accessible by a twenty mile long dirt road which branches from the Princeton-Merritt highway about four miles south of Aspen Grove and terminates near the center of the claim group. The property is roughly centered at longitude $120^{\circ}28'$ and latitude $49^{\circ}46'$. Maximum relief in the area is 1000 feet, the lowest point being at 4500 feet and the highest at 5500 feet. The claim group is characterized by gently undulating plateau topography, generally covered by timber. Outcrop exposure is limited due to a thin mantle of glacial material which thickens appreciably in valley bottoms.

GEOCHEMICAL WORK

Geochemical work was carried out on all parts of the claim group in an effort to filter out areas that would require closer examination. Two-man crews collected samples, from the "B" horizon where possible, on lines 800 feet apart at every 800 foot center on

the lines. In addition, silt from any dry or active streams encountered during the traverse were sampled. Control was provided by chain and compass.

The soil was collected with a plastic scoop and transferred into kraft paper sample bags. The samples were then tied, recorded and shipped to Core Labs in Vancouver for assay for Cu, Pb, Zn and Ag. On the claims to which assessment is being applied, a total of 145 samples were collected from approximately 18.3 miles of line.

Generally, the soil is glacial fluvial material in which soil development is poor. Except in areas in and near valley bottoms, the thickness of overburden does not exceed thirty feet. Field observations on the nature and depth of overburden indicated that geochemical sampling is a reliable method for evaluating the ground.

Statistical treatment of the survey results has bracketed values for background, threshold and anomalous. The values are as follows:

	Background	Threshold	Anomalous
Cu	0-28	29-74	>74
Ag	0-.6	.7-1.2	>1.2
Pb	0-10	11-17	>17
Zn	0-36	37-72	>72

The procedure used for laboratory processing and analysis of soil samples is as follows:-

1. Samples are sorted, recorded and dried at $60^{\circ}C$.
2. Dried samples are sieved to -80 mesh fraction with a nylon and stainless steel sieve.
3. 0.5 gram of -80 mesh sample fraction is weighed into a test tube and digested with hot 70% perchloric and concentrated nitric acid. Samples are digested until all organic material is oxidized (approx. 4 hrs.).
4. Digested samples are diluted to 25 ml. volume with demineralized H_2O and mixed thoroughly. Solutions are settled until clear.
5. Copper is analyzed in aqueous solution with Techtron A-A-3 Atomic Absorption Unit - Detection limit in soils and stream sediments for Copper is 1 p.p.m.
6. Molybdenum below 5 p.p.m. is analyzed colorimetrically, with stannous chloride - ammonium thiocyanate procedure and "moly iso-amyl alcohol" is read on Bausch and Lomb Spectronic -20. Detection limit 1 p.p.m. Molybdenum greater than 5 p.p.m. is analyzed by atomic absorption - detection 2 p.p.m.

Considering the sample interval and the environment, a reliable interpretation of the results is difficult. Numerous threshold and anomalous values for all metals are indicated by the sample results but the results are often influenced by factors other than mineralized zones. Spurious anomalies can be caused by lithological changes or by secondary environment conditions. Correct delineation of significant anomalies can only be achieved through fill-in geochemical sampling around anomalous areas.

GEOCHEMICAL CONCLUSIONS AND RECOMMENDATIONS

Due to the large sampling intervals and the environment, the significance of the anomalous samples cannot be reliably stated at this stage. It is apparent that the property warrants continued work in the area of the anomalous samples and it is recommended that fill-in geochemical sampling and geophysical surveying be initiated in these areas.

M.D. McInnis, March, 1973.

A-1 PREAMBLE:

Early in February and again in March, 1973, a field crew, employed by Great Plains Development Company of Canada Ltd., completed coincident electromagnetic (EM) and magnetometer surveys on two areas of the Buck Group of mineral claims located near the settlement of Aspen Grove, in southern British Columbia. The field work included:

(a) 6.7 line miles of vertical component fluxgate magnetometer work;
(b) 6.7 line miles of a VLF EM survey;
(c) 2 line miles of a CRONE (shootback) electromagnetic survey test.

The work was conducted in two areas, designated Grid #1 area (centered on the Buck #54, 55, 74 and 75 claims) and Grid #2 area (centered on the Buck #32, 33 and 49 claims).

The raw field data was forwarded to the author, and interpreted in the Delta office of Cochrane Consultants Ltd. A description of procedures and a discussion of the results of this work is presented herein.

Survey details, claims information and a breakdown of costs incurred on the project may be found in the Appendix section at the end of this report.

A-2 SUMMARY and CONCLUSIONS:

1. The Buck Claim Group is situated in the Thompson Plateau area of southern British Columbia, some 28 air miles north of Princeton and 10 air miles east of Aspen Grove.

2. The claims are underlain by Nicola Group volcanics, and the large Penask batholith lies several miles to the east of the claims.

3. Two grid areas were layed out, Grid #1 is the most southerly and contains five (5) cross lines spaced 200 feet apart and they are directed northwest by west. Grid #2 just over 2 claim lengths to the north also contain 5 cross lines and these are parallel to the Grid #1 cross lines.

4. Several "families" of magnetic values occur in the Grid #1 area, and this suggests that at least two rock types underlie the area.

5. VLF-EM response on the Grid #1 area is quite complex in the east and west ends, and rather subdued in the central section.

6. Filtered VLF-EM in-phase data shows one area of high (+20) conductivity and several major EM crossovers, suggesting narrow, steeply dipping conductors, indicated on the Crone JEM profiles.

7. The Grid #2 magnetometer data is almost normally distributed, suggesting that one single lithologic unit, (Possibly a volcanic), underlies the survey area.

8. VLF-EM response in Grid #2 is characterized by rapid, high amplitude changes which appear to correlate between cross lines, in a northerly direction.

9. Filtered VLF-EM data shows the presence of widespread, high amplitude, apparent conductive zones on the Grid #2 area, and several JEM crossovers are present.

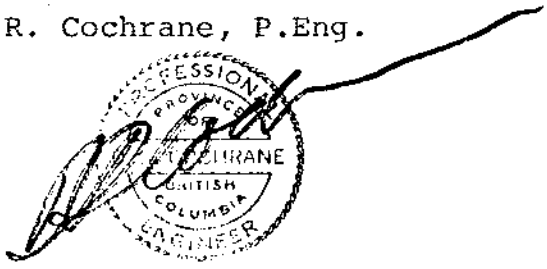
10. Correlation between each pair of the six geophysical parameters dealt with is low to moderate, and depends on the area surveyed (and therefore, presumably the subsurface conditions such as overburden depth and rock types, in addition to topography). There is good correlation in the Grid #1 area between magnetometer values and VLF in phase response and this correlation is inverse. In the Grid #2 area, there is good positive correlation between VLF in phase and VLF out of phase response and fair correlation between the above two variables and the low and high frequency JEM results.

11. Investigation as to the cause of the apparent conductors and apparent conductive zones that have been outlined in the two grids in recommended.

Respectfully submitted,

April 9th, 1973,
Delta, B.C.

D. R. Cochrane, P.Eng.



PART B

B-1 LOCATION and ACCESS:

The Buck Group is situated almost 10 air miles due east of the settlement of Aspen Grove and 28 air miles north of the town of Princeton in southern British Columbia. Logging and mining access roads extend east from Aspen Grove on Highway #5, and north and east from the Summers Creek-Missezula Lake road and approach within a few miles of the claim group. Facile access however, is only obtained by the use of helicopters which may be chartered at Kamloops or (occassionally) Princeton, B.C. The national topographic system code for the claims area is 92 H/16 (W1/2)(see Fig.1).

B-2 GENERAL SETTING:

The Buck claims lie within the Thompson plateau subdivision of the interior plateau physiographic region of British Columbia. It is a relatively gently rolling upland surface, rising to just over 6,000 feet above sea level. Much of the highland surface is quite flat, but steeply incised major valley systems draining southerly into the Similkameen River, disect the plateau surface. The Princeton-Aspen Grove area is underlain by a thick sequence of Upper Triassic volcanics, designated the Nicola group, and it consists predominently of andesites and basaltic andesites with minor intercalated sedimentary sequences. The Nicola group has been intruded by the Coast Intrusions, the largest of which is the Penask Batholith, a granodiorite/quartz diorite mass lying immediately east of the Buck claims. This entire bedrock complex has been inturded by the "otter" intrusions, of Upper Cretaceous or Lower Tertiary age.

The Buck Group itself is underlain primarily by Nicola rocks, however small plugs, presumably apophyses from the Penask Batholith, occur frequently in the immediate area.

This region of British Columbia was occupied by Pleistocene ice, and a relatively thin, but widespread, mantle of drift covers much of the bedrock surface.

PART C

C-1 FIELD PROCEDURES:

Two ground control grids were layed out: Grid #1 in the south west property quadrant, and Grid #2 in the north west property quadrant.

Both grids are made up of 5 parallel cross lines, spaced 200 feet apart, and the lines trend north-westerly. "Along line stations" are 100 feet apart.

The magnetometer and VLF-EM work was completed by Mr. Wm. Farion, and the Crone EM work was completed by Messrs. Smith and Reid, and all are employed by Great Plains. A Scintrex MF-1 fluxgate magnetometer, a Ronka EM16 and CRONE JEM units were utilized (instrument specifications appended). The magnetometer survey was conducted in a standard "loop" procedure, and the reading and time of each reading were recorded in order to correct for diurnal geomagnetic variation. Notes on topography were recorded with VLF-EM in phase and quadrature readings in order to aid interpretation.

Station NAA, transmitting from Culter Maine, on a frequency of 18.6 KH_Z was used as the primary VLF-EM transmitter. The Crone EM was operated with a 200 foot coil separation.

The raw field data was forwarded on March 15, 1973 to Cochrane Consultants for processing.

C-2 DATA PROCESSING:

The raw magnetometer data was corrected for diurnal variation by standard time drift methods. Since the drift in the main base reading check-ins were less than 60 gammas, no corrections were applied to the data from Grid #1. Grid #2 had a complex set of drift corrections and the maximum correction was 440 gammas.

The VLF-EM in phase readings were filtered by the Fraser method (see: Contouring of VLF-EM Data, by D.C. Fraser, Geophysics, Vol. 34, No.6, Dec.1969, pp 958-967). This system requires 50-foot along line values, and therefore some interpolation was done in those areas covered by a 100-foot sample interval.

The Crone EM data is plotted midway between the "Chief" and "Helper" units. The low frequency (Lo) is 480 H_Z and the high frequency (Hi) is 1800 H_Z.

Arithmetic means, standard deviations and coefficients of correlation were calculated on a Deihl Combotronic mini computer.

PART D - GRID #1

Discussion of Results

D-1 Magnetometer Work:

Relative vertical field component fluxgate magnetometer readings ranged from a low of -350 to a high of 3200 gammas. The arithmetic mean is 1348 gammas and the standard deviation is 710. A frequency histogram of the magnetometer results was prepared (see Fig.2) and the distribution (with respect to class) is multimodal, with the primary mode lying in the 600 to 700 gamma range. Two secondary modes appear in the 1000 to 1100 and 1300 to 1400 gamma classes respectively. The large range of values, multimodal distribution and large standard deviation from the norm, strongly suggest that at least two distinct lithologic units underly the Grid #1 area. and there is good indications that additional units or hybrids also exist. For interpretive purposes however, two families are herein described:

1. "Family "A" - lying in the -100 to +1200 gamma range, with an average of 650 gammas;

2. Family "B" - lying in the 1200 and above range with an average of about 1350 gammas.

The two distinct families are quite apparent on the isomagnetic plan (Fig.2, map pocket).

The Grid #1 survey area may be divided into two distinct magnetic response areas (see Fig.2). The west grid zone is one of relatively gentle magnetic relief, low amplitude response, with predominently northerly directed isomagnetic trends. The east grid zone is characterized by complex relief, steep gradients, high (and occassionally dipolar lows) amplitudes, with arcuate to northerly isomagnetic trends. It is probable that the east sector of the grid area is underlain by a wedge of rock with a fairly high magnetic susceptibility. The magnetically indicated contact between this wedge and the "relatively" homogeneous rock to the west lies in the 10+ooW area on line 5, and 13+00W on line 1.

D-2 VLF-EM:

The VLF-EM profiles accompany this report as Fig.3, the filtered EM inphase plan is designated Fig.4, and some VLF-EM information is shown in Fig.6 (a compilation of Grid #1 work; all maps are located in the map pocket).

VLF-EM inphase response ranged from a low of -36 to a high of +15%. Quadrature response ranged from a low of -14 to a high of +12. As Fig. 3 and 4 show, the EM response on the extreme west and extreme east ends of the grid area is quite complex, while the central area is a relatively flat and low amplitude response zone. The strongest VLF-EM in-phase change occurs on the east end of line #4, Grid 1.

An "inphase" change of -35 to +10 was recorded within 400 lineal feet and this was accompanied by an "out of phase" (or quadrature) change of -12 to +6. The filtered inphase data shows a conductor in this same general area, and the peak value is +37 (Note: only positive filtered values are considered, since these indicate conductors. Negative value occur on the flanks of conductive zones).

The raw EM data has been categorized into "cross-overs" and "horizontal conductors" and their relative strength and position is shown in Fig.6. The filtered VLF-EM inphase data has been categorized as apparent conductive or non-conductive zones.

Positive (or more positive) to negative (or to more negative) changes in the inphase component when travelling easterly and when greater than 10% per 100 feet, are normally classes as major crossovers. Filtered inphase conductors are classified as follows:

From	To(but not including)	Class
0	+10	Background to minor
10	+20	Moderate conductor
20	30	Major conductor

The graphic interpretation is shown in Figure 6.

D-3 Crone JEM:

The Crone JEM shootback results are shown in profile form in Fig. 5, and the major features are presented in Fig.6.

Both low (480 H_Z) and high (1800 H_Z) results show strong changes and indicate that strong, major apparent conductors are present in the grid area, particularly near the east ends of lines #4 and #5. It is not definitely discernable if these two conductors are actually portions of the same zone, and intermediate lines would have to be run to determine crossline correlation. Therefore, in the discussion below, they are treated separately.

Conductor #1 - peaks at 9+50W on line #4, and the profile suggests that two subparallel, narrow and steeply easterly dipping conductors are present. The most westerly conductive zone is "poorly" conductive, but the eastern zone has a 480/1800 H_Z ratio of 0.74, which is indicative of sulphides.

Conductor #2 - is also a major and important conductor, which peaks (and is centered) at 7+00W on line #5. The narrow conductive body apparently is steeply dipping (to the east) and the 480/1800 H_Z ratio (0.92) suggests sulphides.

Other JEM conductors are shown in Fig.6.

D-4 Correlation:

The coefficient of correlation between each pair of the six measured and calculated geophysical parameters was calculated and is presented in tabular form below. Note: A coefficient of +1.0000 indicates perfect positive correlation, one of -1.0000 perfect inverse correlation, and 0.0000 indicates that no correlation exists between the paired parameters (ie. random data).

	Lo JEM	Hi JEM	Mag	VLF in P	VLF Out	Filtered
Lo JEM		1.0000*	-0.1174	0.0601	-0.0256	+0.0822
Hi JEM	1.0000*		-0.1672	0.1476	-0.0665	+0.0679
Mag	-0.1174	-0.1672		-0.4810	-0.0418	-0.1302
VLF in P	0.0601	0.1416	-0.4801		0.0883	+0.2322
VLF out	-0.0256	-0.0665	-0.0418	0.0883		+0.1497
Filtered	0.0822	+0.0679	-0.1302	+0.2322	+0.1497	

*Theoretical

The chart was prepared from sets of 50 paired geophysical

parameters from the Grid #1 area.

The "best" correlation is that between VLF-EM inphase tilt angles and magnetometer data. The "close to" 0.5 coefficient of correlation suggests that the VLF-EM inphse component is reacting strongly to changes in the vertical component of the geomagnetic field, and that high magnetometer values are often indicative of low VLF-EM inphase response.

The "second best" correlation is between VLF-EM inphase and filtered VLF-EM inphase (as is expected). The correlation is rather weak, however, and may be due to the slight shifting of the conductive zone by the filter process.

PART E - GRID #2

Discussion of Results

E-1 Magnetometer Work:

Corrected relative vertical component fluxgate magnetometer readings in the Grid #2 area ranged from a low of -1114 to a high of 1905 gammas. The arithmetic mean is -50 gammas and the standard deviation is 320 gammas. A frequency histogram of the results accompanies Fig.7 (map pocket) and distribution is close to being normal, suggesting the presence of a single lithologic unit. The primary mode lies in the -100 to +100 gamma class.

The isomagnetic plan (Fig.7) shows that trends are rather indistinct but overall predominantly north-northwesterly directed, presumably reflecting the overall geological bias in the underlying bedrock. The isomagnetic plan is characterized by a "bird's eye" pattern with eyes made up of relatively small dipolar pairs such as the pair at 32 and 33W of line #5, being +1905 and -660 gammas respectively (a very rapid and steep magnetic change of over 2500 gammas within loo feet). This type of magnetic pattern and steep gradient magnetic terrain is often indicative of an intermediate to basic volcanic bedrock sequence.

E-2 VLF-EM:

VLF-EM inphase and quadrature profiles accompany this report as Figure 8, and a contoured (Frazer) filtered inphase plan is designated Fig.9 (both Figs. to be found in map pocket).

Both profiles and filtered data show a complex subsurface situation and major VLF-EM changes may be traced between lines and some conductive zones are at least 800 feet long, over 100 feet wide, trending northerly. Widespread, high amplitude changes of this order are sometimes caused by through going conductive lithologic units.

The most impressive VLF-EM change occurs across lines 2, 3, 4 and 5, at approximately 10E, 23E and 30E; and all are characterized by severe changes (from positive to less positive or negative, going westerly) in inphase response, often accompanied by sharp changes in the out of phase component.

The filtered inphase data clearly shows the extent and amplitude of the "conductive" zones and Fig.11, the compilation, shows the excellent coincidence of "true" VLF-EM crossovers with apparent conductive zones.

E-3 Crone JEM:

Crone JEM low frequency response ranged from a low of -8 to a high of +12, and high frequency response ranged from a low of -9 to a high of +12 degrees. The profiles accompany this report as Fig.10 and the major features are presented in the compilation plan (Fig.11).

Relative to the very major JEM crossover on line #4 Grid #1, the results on Grid #2 are only low to moderate in amplitude. A quite impressive change occurs at 23E, line #2 Grid #2 however, where low frequency very closely matches high frequency changes from -2 to +12 within 100 feet. The low to high frequency ratio is 1.0, suggesting good conductivity for the causative body (possibly massive sulphides). This very abrupt change suggests the conductor is near surface. Additional JEM located conductors are displayed on Fig. 11.

E-4 Correlation:

The coefficient of correlation between each pair of the six measured and calculated geophysical parameters on Grid #2 was computed and the results are presented in tabular form below:

	Lo JEM	Hi JEM	Mag	VLF in	VLF out	Filtered
Lo Jem		0.9469	-0.2243	0.2390	0.2957	0.1052
Hi JEM	0.9469		-0.1683	0.2722	0.2680	0.1377
Mag	-0.2243	-0.1683		-0.1821	-0.3152	-0.0933
VLF in	0.2390	0.2722	-0.1821		0.4840	-0.1419
VLF out	0.2957	0.2680	-0.3152	0.4820		0.0625
Filtered	0.1052	0.1377	-0.0933	-0.1419	0.0625	

Clearly, the best correlation (outside of Hi to Lo JEM) in the Grid #2 area is between VLF out of phase and VLF in-phase data. This is a considerable difference in the correlation between these two variables on Grid #1 (0.0883) and may

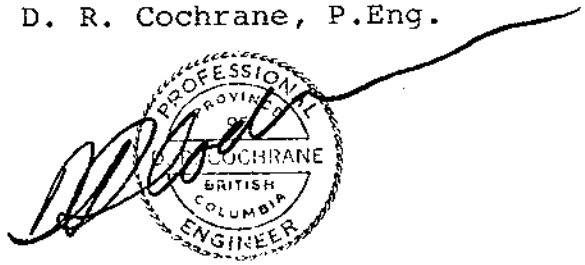
possibly indicate that the overburden cover in the Grid #2 area is shallow, since quadrature response of VLF-EM is normally considered almost a "skin effect". A second indication of possible shallow overburden conditions is in the correlation of -0.3152 between the VLF out of phase and magnetometer values.

In fact, the double pair Lo JEM, Hi JEM, VLF out and VLF in, show fair positive correlation.

Respectfully submitted,

April 9, 1973
Delta, B.C.

D. R. Cochrane, P.Eng.



APPENDIX No. I

BUCK GROUP

GEOCHEMICAL SAMPLE ASSAYS

SAMPLE NO.	Cu ppm	Ag ppm	Pb ppm	Zn ppm
B - 3	20	.3	8	53
4	22	.5	7	42
5	82	.4	8	167
6	67	.4	10	160
7	12	.1	5	30
8	14	.5	6	29
9	13	.3	7	38
10	16	.4	8	61
11	19	.5	6	40
12	16	.2	5	42
13	12	.2	4	30
14	15	.4	6	43
15	31	.2	5	27
16	30	.3	5	38
17	10	.4	7	34
18	25	.4	5	53
19	98	.8	9	32
20	12	.2	5	23
21	79	.9	10	26
22	15	.5	12	46
23	22	.4	8	37
24	14	.3	10	28
25	22	.3	7	27
26	24	.3	8	26
27	12	.1	10	28
28	165	1.5	12	27
29	24	.3	7	23
30	32	.5	8	27
31	32	.5	8	27
32	16	.3	7	26
33	34	.4	9	59
34	13	.1	5	25
35	37	.2	8	31
36	150	1.1	10	33
37	28	.2	8	25
38	46	.3	10	62
39	16	.2	8	36
40	17	.2	6	36
41	38	.6	8	83
42	10	.5	11	47
43	18	.6	8	39
44	27	.4	7	53
48	20	.6	8	36
49	13	.9	9	38
50	19	.6	9	18
51	13	.5	6	24
52	13	.9	12	32

SAMPLE NO.	Cu ppm	Ag ppm	Pb ppm	Zn ppm
53	10	.3	6	10
54	16	.3	5	27
55	15	.4	5	30
56	22	.7	6	27
57	39	1.2	8	25
58	22	.5	5	19
59	15	.6	7	31
60	15	.7	6	30
61	42	.3	10	30
62	34	.4	14	37
63	38	.2	11	22
64	18	.3	11	27
65	16	.2	8	28
66	17	.2	8	18
67	12	.3	7	19
68	14	.3	6	14
69	25	.5	10	41
70	24	.7	8	42
71	20	.3	9	32
72	17	1.0	11	35
77	17	.6	8	36
78	15	.4	9	14
79	21	.5	10	32
80	17	.4	9	25
81	14	.7	7	17
82	28	1.5	13	37
83	52	1.0	11	21
84	23	1.4	12	36
85	18	.8	11	32
86	14	.6	10	42
87	21	.5	6	24
88	9	.5	9	20
89	18	.8	10	30
90	17	.6	12	20
91	24	.6	7	18
92	7	.4	5	17
93	48	1.3	9	31
94	17	.6	7	18
95	13	.5	6	30
96	15	.8	8	35
101	13	.5	7	27
102	28	.4	8	34
103	18	.8	8	27
104	12	.5	7	21
105	13	.6	7	29
106	8	.9	6	24
107	26	.4	13	35
108	21	.3	7	19
109	24	.4	8	21
110	18	.6	7	22
111	28	.5	10	30
112	23	.8	8	25
113	29	.8	12	23
114	22	.6	9	24

SAMPLE NO.	Cu ppm	Ag ppm	Pb ppm	Zn ppm
115	112	1.3	13	33
116	30	.8	9	39
117	32	1.3	15	33
118	89	1.5	13	21
119	25	.8	10	38
120	38	.8	10	25
121	20	.5	10	27
256	20	1.3	12	46
257	38	1.8	15	57
258	16	.6	12	47
259	11	.4	10	27
260	55	1.2	18	31
261	11	.6	14	37
262	13	.1	20	21
263	22	.8	14	39
266	17	.4	11	20
267	15	.6	12	32
268	14	.8	12	15
269	21	.6	10	4
270	7	.9	12	5
271	29	.9	18	51
272	20	.5	16	26
273	38	1.2	18	59
274	22	1.0	17	39
275	23	.5	13	38
276	31	.6	16	43
277	22	.9	14	42
278	23	.7	13	33
279	30	.3	16	49
280	24	.5	14	38
281	19	.6	16	46
282	27	.7	15	33
283	25	.4	15	50
284	24	.8	14	50
285	16	.6	15	74
286	19	.7	14	52
287	16	.5	15	51
288	15	.3	13	36
289	45	.7	16	30
290	120	.9	18	22
291	20	1.3	15	61
292	16	.4	13	48
295	20	.4	14	32
296	103	.7	13	5
297	24	.7	14	38

APPENDIX NO. II

STATEMENT OF QUALIFICATIONS

Jean-Claude Rossier, Age 28.

Education - Secondary and vocational School Architectural drafting courses. Since 1965 - general drafting experience, geophysical drafting. Seigel Associates - 1969 to 1972.

STATEMENT OF QUALIFICATIONS

Donald Robert Cochrane B.A. Sc. - University of T. M.A. Sc. Queen's University.

Professional Engineer of B, C. Ontario, and Saskatchewan

Member of the C.I.M.M. G.A.C., M.A.C., Geological Engineer.

Experienced - Engaged in the profession since 1962 while employed with Noranda Exploration Co. Ltd., Quebec Cartier Mines Ltd. and Meridian Exploration Syndicate.

STATEMENT OF QUALIFICATIONS

I, Michael D. McInnis, with business address in Calgary, Alberta do certify that:

1. I am a geologist employed by Great Plains Development Company of Canada, Ltd.,
2. I am a graduate of the University of British Columbia with a B.Sc in Honours Geology, 1967.
3. I have been engaged in mineral exploration since graduation and have worked extensively in Western Canada.

M.D. McInnis

STATEMENT OF QUALIFICATIONS

I, the undersigned, Robert G. Reid with business address in Calgary, Alberta certify that:-

I am a graduate of Branden University with a degree of Bachelor of Science in Geology.

I am a natural born Canadian with permanent Address, Box 297, Shoal Lake, Manitoba.

I have been practicing my profession for a total of thirty (30) months with extensive experience in geophysical surveying.

Robert Reid

Robert G. Reid, BSc.,

STATEMENT OF QUALIFICATIONS

I, Duane McNaughton, do certify that:-

1. I am presently employed by Getty Mines Ltd, of 1904-1177 W. Hastings Street, Vancouver B.C.

2. I graduated in 1971, from the University of Calgary with a BSc., degree in Geology.

3. Since graduating, I have been engaged in mineral exploration work in B.C. and Ontario.

4. My experience includes all facets of geology, geochemistry and geophysics.

5. I was personally on the Buck group and carried out part of the geochemical survey.

Duane McNaughton

Duane McNaughton

STATEMENT OF QUALIFICATIONS

Choong-Bai Ko.

Education: Geology, B.Sc. 1965 - Seoul National University, Seoul, Korea.

Experience:

January 1965 - August 1965
Yong-Poong Mining Co. Ltd., Seoul, Korea.
Geologist, Underground mining exploration.

September 1965 - August 1967
Union of Land Improvement Association,
Seoul, Korea.
Geologist, Groundwater exploration.

September 1967 - June 1969
Geological Survey of Korea
Junior Geologist, Regional mapping

March 1970 - April 1971
Donald Fisher & Associates Ltd., Sask.
Geologist, Mining exploration

May 1971 -
Great Plains Development Company of Canada Ltd.
Geologist, Mining exploration.

ChoongBai Ko

STATEMENT OF QUALIFICATIONS

I, Bill Dave Farion, with business address in Calgary, Alberta, do certify that:

1. I am a geologist employed with Great Plains Development Company of Canada, Ltd.,

2. I am a graduate of the University of Alberta, Edmonton, Alberta. (Four year B.Sc. Geology, 1971).

3. I have been engaged in mineral exploration since graduation 1971, and have worked in Western Canada.

4. I personally ran the V.L.F. (EM.16) and magnetometer surveys on the property.

Respectfully Submitted

Bill Dave Farion

B.D. Farion, B.Sc.

BDF/jda

QUALIFICATIONS OF LARRY R. GOLEMBA

I Larry R. Golemba, of #403-609-8th Street, S.W. Calgary, Alberta do certify that:

1. I am an under graduate of the University of Saskatchewan, Regina Campus, (ENGINEERING).
2. I have been employed by Great Plains Development Company of Canada, Ltd since July 1st, 1969 and have been involved in all facets of exploration work.
3. I was personally on the property and took part in the geochemical survey.

Respectfully Submitted,

L.R. Golemba

LRG/jda

APPENDIX NO. III

APPENDIX III: GEOPHYSICAL SURVEY DETAILS

PROPERTY: Buck Group, Buck #1 to #10 (incl) #12, #13 and #18 to #99 (incl).

MINING DIVISION: Similkameen and Nicola

LOCATION: 10 air miles east of Aspen Grove, North of Missizula Lake.

SURVEY: (a) 6.7 line miles Magnetometer

(b) 6.7 line miles Ronka VLF-EM

(c) 2 line miles of Crone (shootback) JEM

SURVEY MAN DAYS: March 3, 1973 to March 10, 1973 Total 24

FIELD PERSONNEL: Great Plains, W. Farion, L. Smith and R. Reid

OFFICE PERSONNEL: D.R. Cochrane P. Eng. (interpretation)

J.C. Rossier (drafting)

M.D. McInnis (supervision, report preparation)

APPENDIX NO. IV

APPENDIX IV - A

BUCK GROUP

STATEMENT OF EXPENDITURES

GEOCHEMICAL SURVEY

Salaries	
M.D. McInnis 8 days @ $35.00/day	$ 280.00
L.R. Golemba 8 days @ $35.00/day	$ 280.00
Choong-Bai Ko 8 days @ $35.00/day	$ 280.00
D. MacNaughton 8 days @ $35.00/day	$ 280.00
Supervision	
N.W. Reynolds 1 day @ $65.00/day	$ 65.00
Domicile	$ 600.00
Transportation	
Truck	$ 200.00
Mobilization and Demobilization	$ 240.00
Communication	$ 25.00
Equipment	$ 58.00
Drafting	$ 90.00
Report Writing	$ 90.00
Assays	$ 317.00
	$2,805.00

APPENDIX IV - B

BUCK GROUP

STATEMENT OF EXPENDITURES

GEOPHYSICAL SURVEY

Salaries	
R. Reid 8 days @ $35.00/day	$ 280.00
B. Farion 8 days @ $35.00/day	$ 280.00
L. Smith 8 days @ $35.00/day	$ 280.00
Supervision	
M.D. McInnis 4 days @ $65.00/day	$ 260.00
Domicile	$ 400.00
Geophysical Instrument Rental	$ 225.00
Transportation	
Helicopter	$1,400.00
Truck	$ 420.00
Mobilization and Demobilization	$ 180.00
Consultants fee	$ 400.00
Communication (radio)	$ 90.00
	$4,610.00

APPENDIX NO. V

SPECIFICATIONS

Specifications for MF-1 Fluxgate Magnetometer

Maximum Sensitivity:	20 gammas (per scale division) on 1000 gamma range.
Readability:	5 gammas ($\frac{1}{4}$ scale division) on 1000 gamma range.
Ranges: (Full Scale)	1,000 gammas 3,000 gammas 10,000 gammas 30,000 gammas 100,000 gammas
Maximum Range:	$\pm$ 100,000 gammas
Latitude Adjustment Ranges:	10,000 to 75,000 gammas, Northern Hemisphere convertible to: 10,000 to 75,000 gammas, Southern Hemisphere or $\pm$ 30,000 gammas equatorial.
Dimensions: (Including Battery Case)	7" x 4" x 16"
Weight: (Including Battery Case)	9 lbs.
Batteries:	12 flashlight batteries ("C" cell)

SPECIFICATIONS

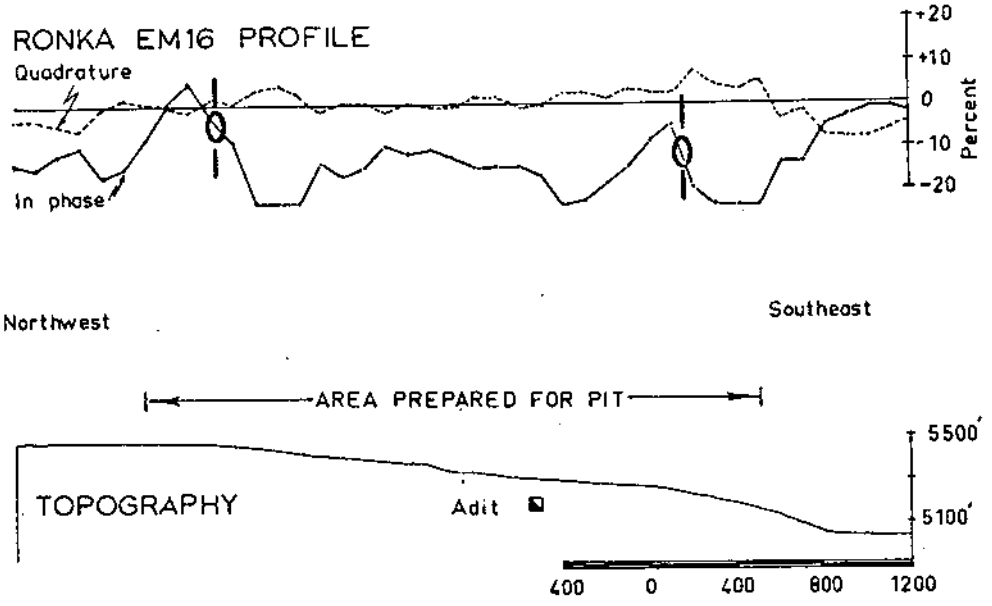
Specifications for Crone JEM Unit

Standard Unit	--Massive Sulphide Exploration 480/ 1800 CPS
Readout:	Dip Angle from inclinometer $\pm \frac{1}{2}^{\circ}$
Null Indicator:	Audio through crystal earphones
Weight:	Per man each transceiver unit -- 15 lb. Shipping weight including 2 spare batteries -- 55 lb.
Range:	non-conductive overburden 1° wide null at 300' non-conductive overburden 15° wide null at 500'
Battery Power	Normal 12 volt -- TW-2 Burgess; 732 Eveready, M-919 Mallory Hi Power 18 volt -- 3 of 6 volt F4BP Burgess and Adaptor Battery Life -- 2 weeks to 1 month Receiver -- 1.4 volt mercury RM1R -- life 1 year

APPENDIX III

EM SPECIFICATIONS

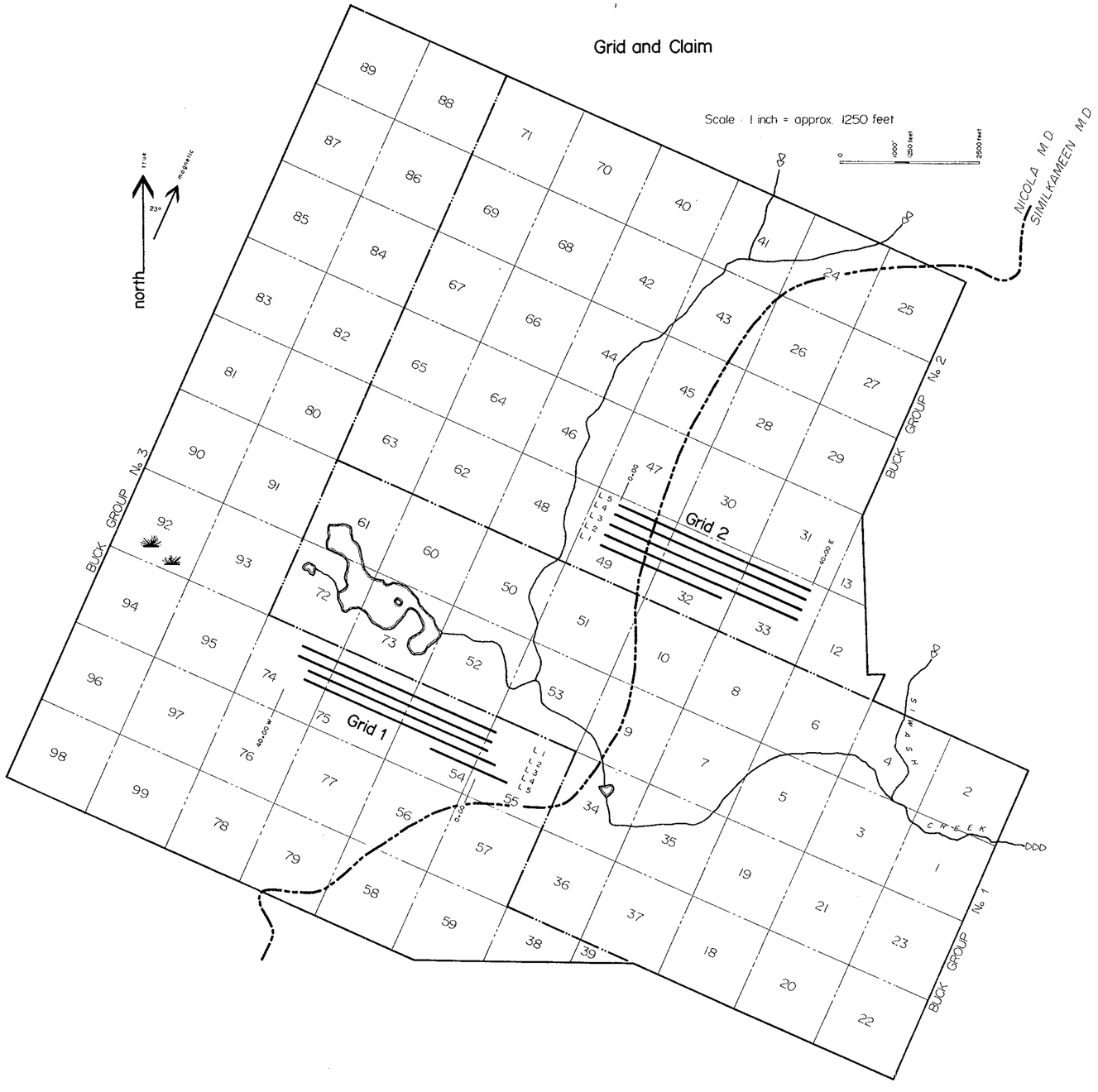
Primary Field:	Horizontal from any selected VLF transmitting station.
Frequency Range:	Approximately 15-25 kc.
Station Selection:	By plug-in units. Two stations selected by a switch on front panel.
Measured Field:	Vertical field, in-phase and quadrature components.
Accuracy of Readings:	± 1% resolution.
Range of Measurements:	In-Phase ±150% or ±90°, quadrature ±40%
Output Readout:	Null-detection by an earphone, real and quadrature components from mechanical dials.
Batteries:	6, size AA penlight cells. Life about 200 hours.
Size:	16 x 5.5 x 3.5 in. (42 x 14 x 12 cm)
Weight:	2.4 lbs. (1.1 kg)



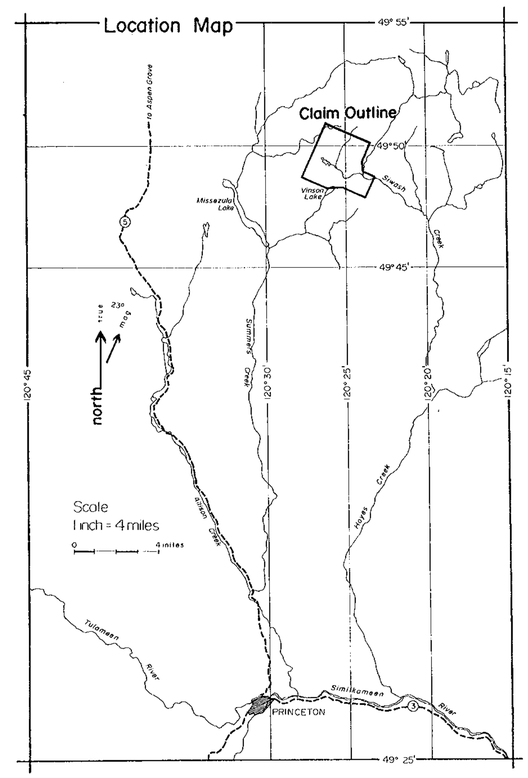
Brenda Mines Limited.

Grid and Claim

Scale : 1 inch = approx. 1250 feet



Location Map



4347 M-1

Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

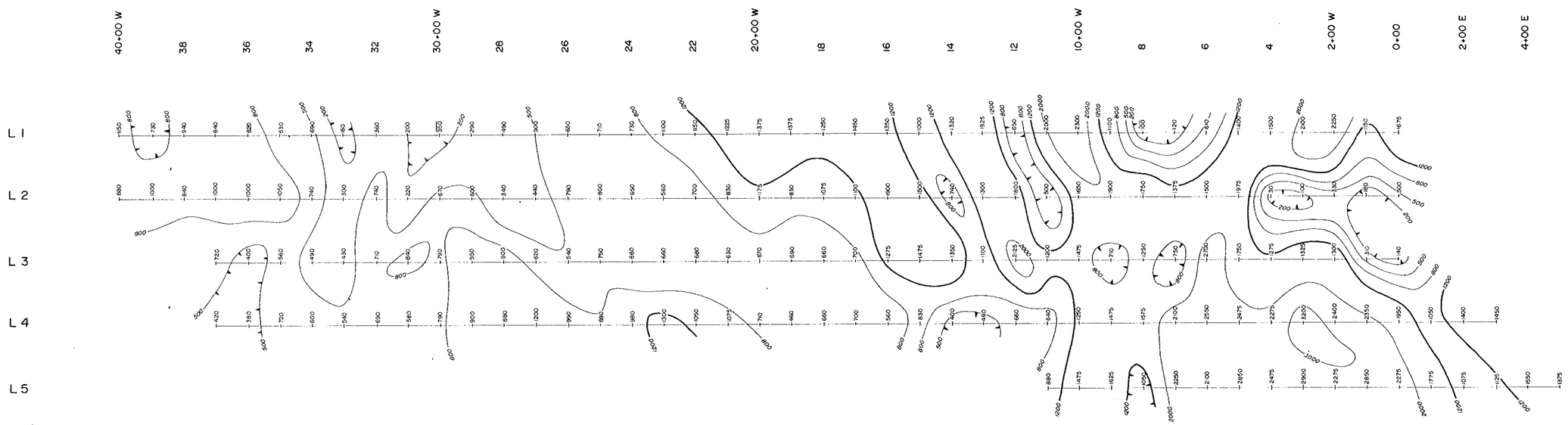
Location and Claims and Grid Layout

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
4347 MAP #1

To accompany a report by
D.R. COCHRANE, P.Eng.
Dated April 9, 1973

Cochrane Consultants Limited
4882 Delta Street Delta B.C.

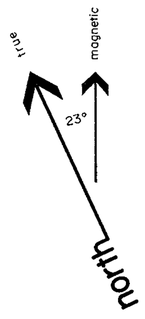
figure 1



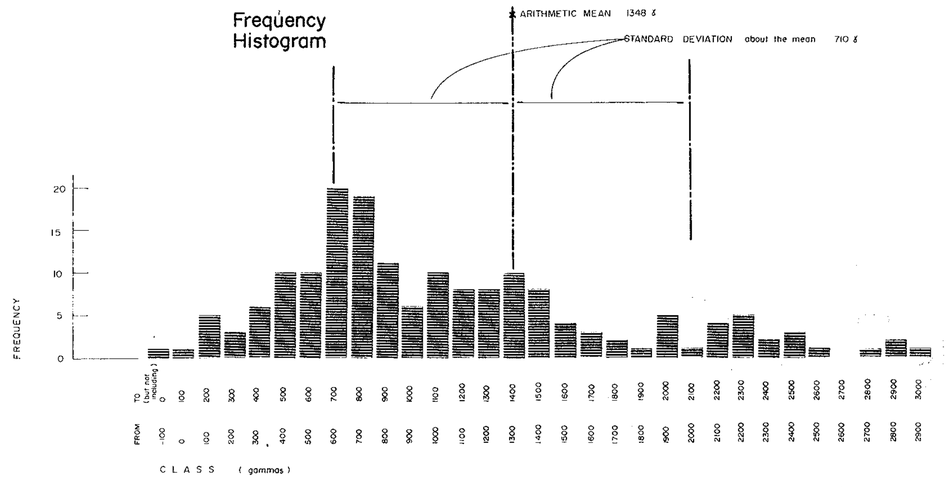
Legend

1200 γ CONTOUR

200 - 500 - 800 - 2000 - 3000 γ CONTOURS



Frequency Histogram



Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

Grid I - Isomagnetic Plan + Frequency Histogram

SCALE 1 inch = 200 feet

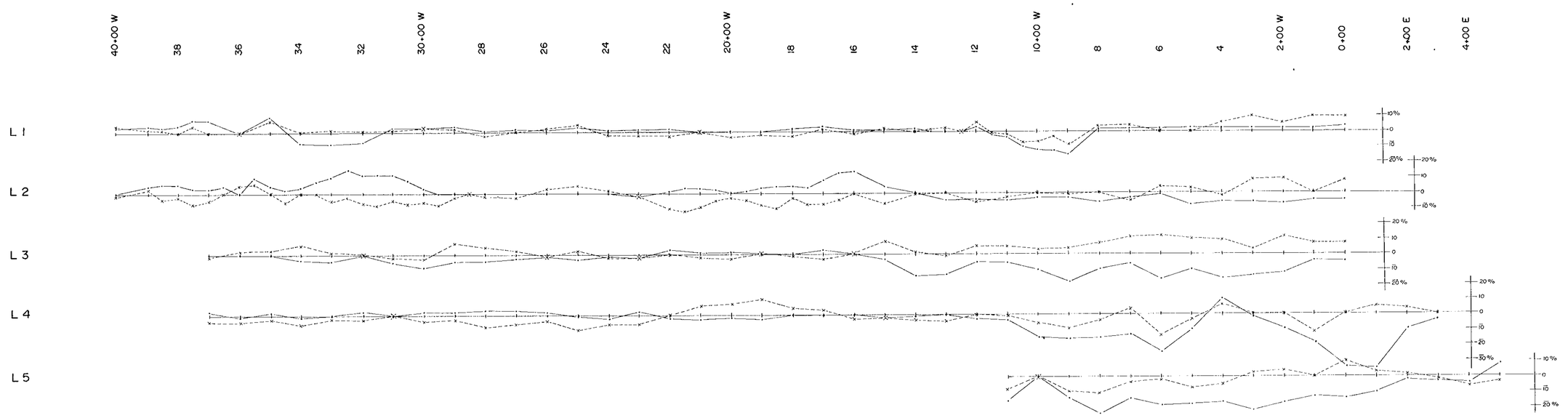
200 feet 0 200 feet

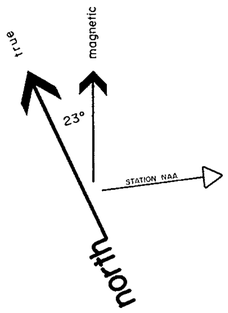
To accompany a report by
D.R. COCHRANE, P.Eng.
Dated April 9, 1973

Cochrane Consultants Limited
4882 Delta Street - - - - Delta, B.C.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
4347 MAP #2

figure 2





Legend

In Phase

Quad.

Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

Grid I - VLF-EM Profiles

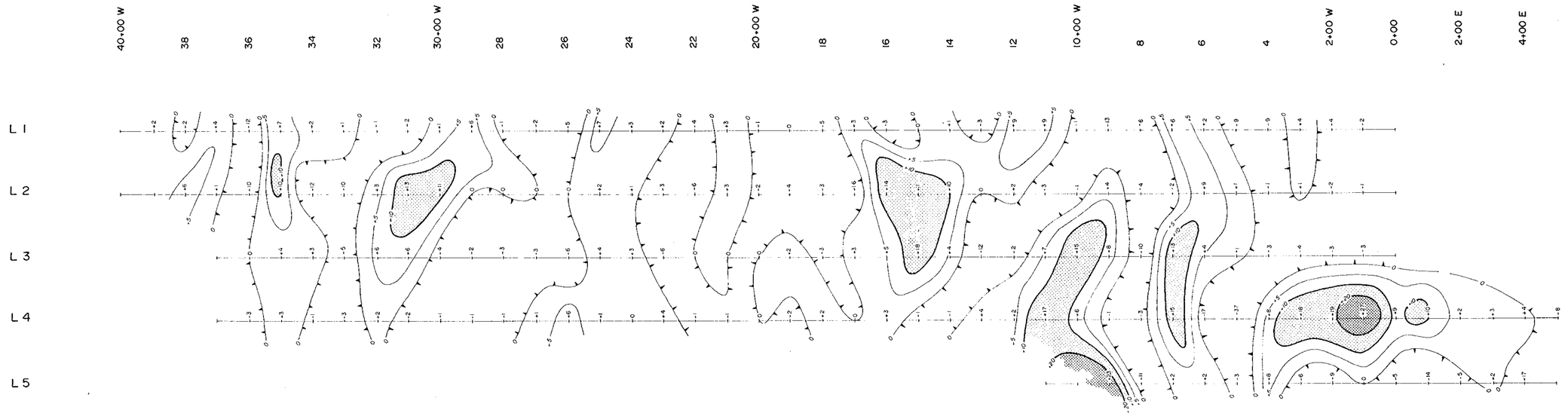
HORIZONTAL SCALE 1 inch = 200 feet

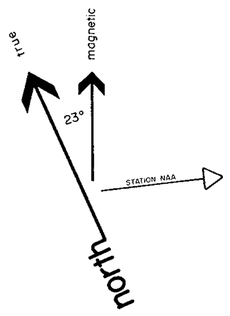
200 feet 0 200 feet

To accompany a report by D.R. COCHRANE, P.Eng. Dated April 9, 1973

Cochrane Consultants Limited
4882 Delta Street ——— Delta B.C.

figure 3





Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

Grid I - Filtered VLF In Phase Data

SCALE - 1 inch = 200 feet

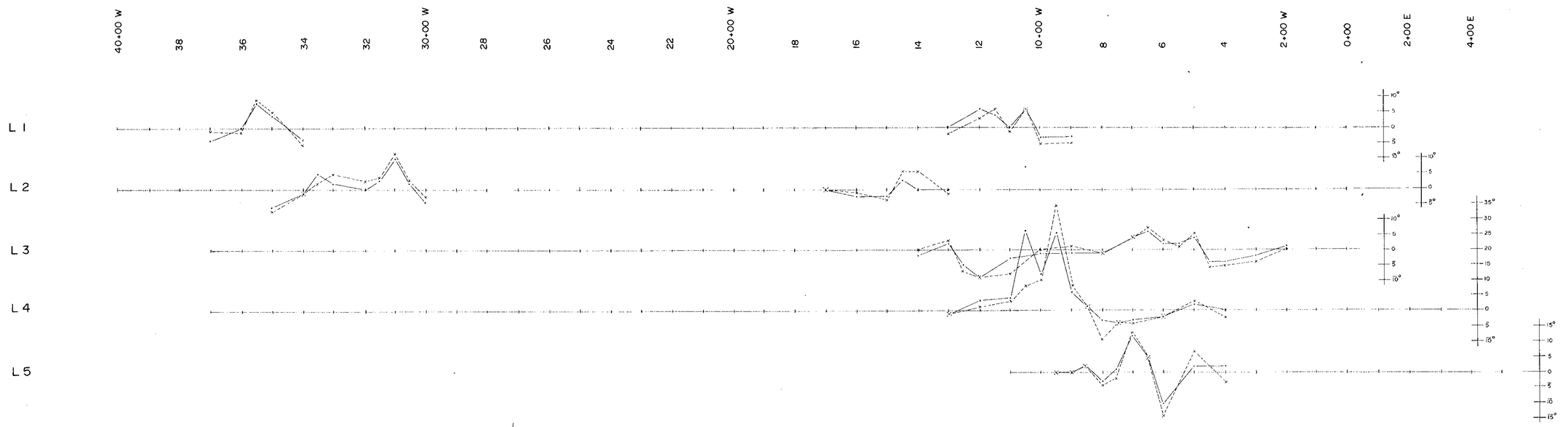
200 feet 0 200 feet

To accompany a report by
D.R. COCHRANE, P.Eng.
Dated April 9, 1973

Cochrane Consultants Limited
4882 Delta Street Delta B.C.

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4347 MAP #4

figure 4



Legend

Hi

Low

Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

Grid 1 - Crone EM Profiles

HORIZONTAL SCALE 1 inch = 200 feet

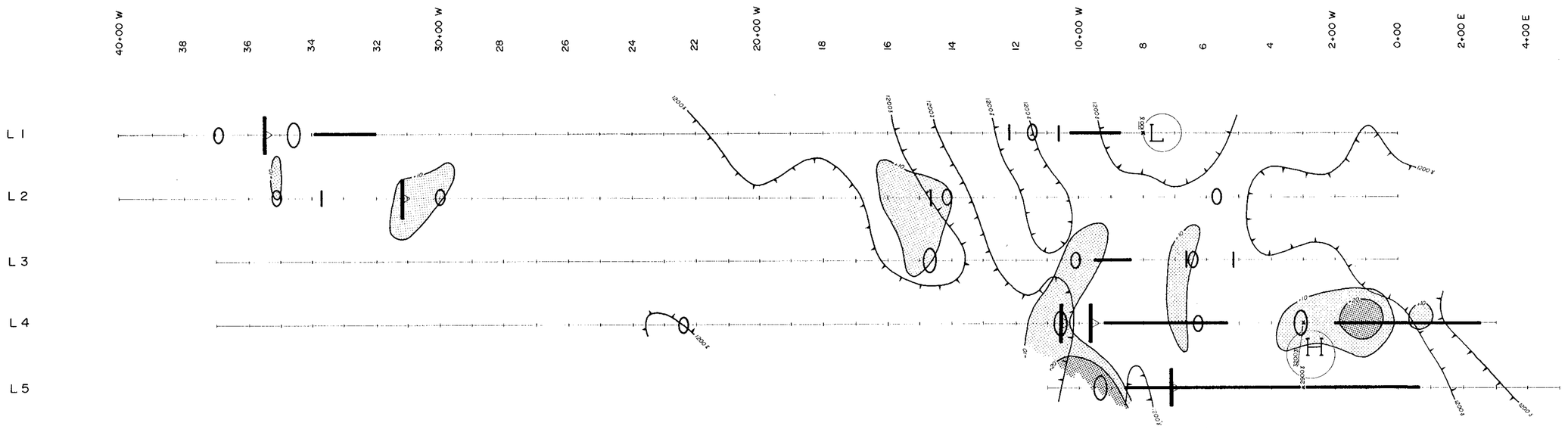
200 feet 0 200 feet

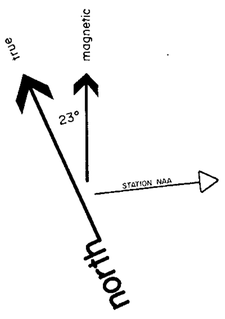
To accompany a report by D.R. COCHRANE, P.Eng. Dated April 9, 1973

Cochrane Consultants Limited
4882 Delta Street Delta B.C.

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 4347 MAP #5

figure 5





Legend

- 1200γ CONTOUR — carrots indicate LOW
- MAGNETIC LOW (with value)
- MAGNETIC HIGH (with value)
- FILTERED IN PHASE CONDUCTIVE ZONES

JEM CROSSOVERS

- MINOR - MODERATE
- MAJOR (DIP INDICATED)

VLF EM CROSSOVERS

- MINOR (less than 10% / 100')
- MODERATE
- MAJOR (greater than 20% / 100')
- VLF INDICATED HORIZONTAL CONDUCTOR

Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

Grid I - Compilation

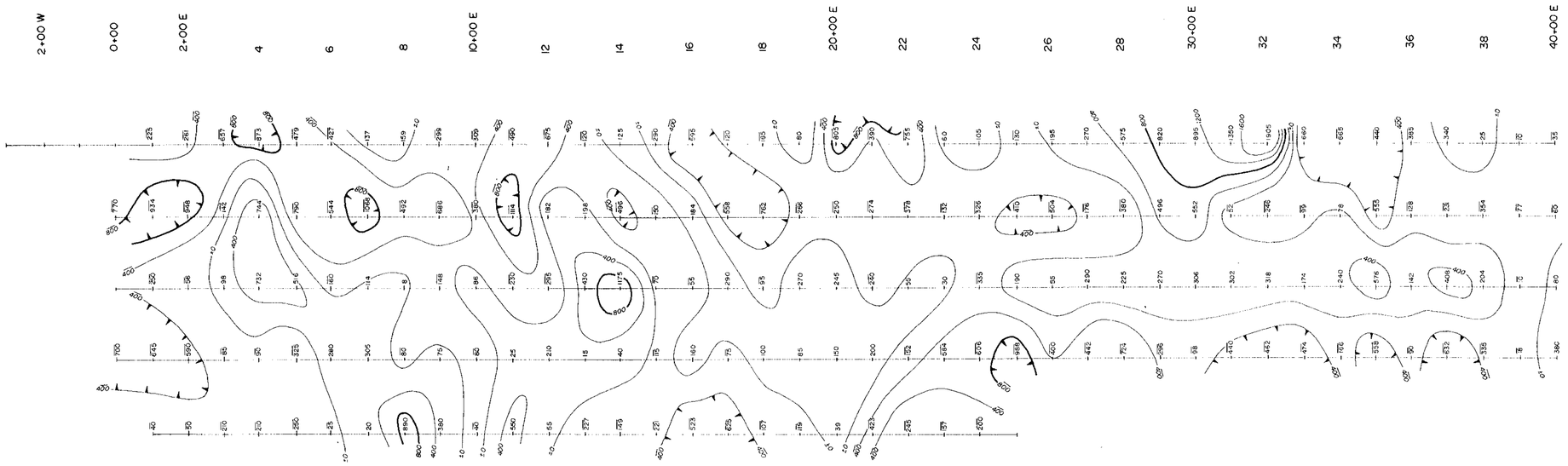
SCALE : 1 inch = 200 feet

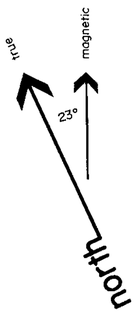
200 feet 0 200 feet

To accompany a report by
D.R. COCHRANE, P.Eng.
Dated April 9, 1973

Cochrane Consultants Limited
4382 Delta Street - Delta B.C.

figure 6



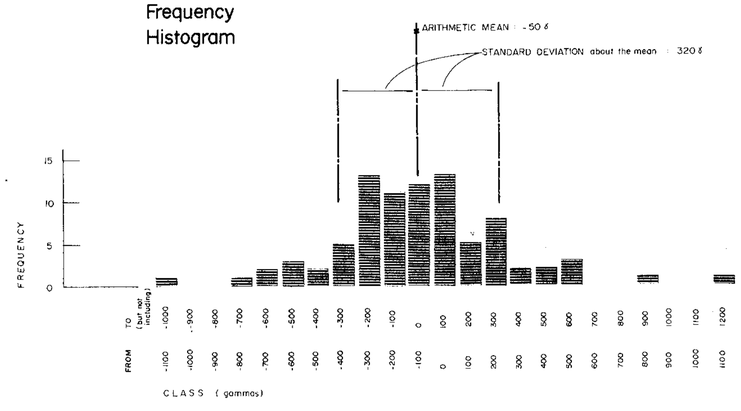


Legend

800 and -800 ♂ CONTOURS

400 ♂ CONTOUR INTERVAL

Frequency Histogram



Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

Grid 2 - Isomagnetic Plan + ~~Frequency Histogram~~

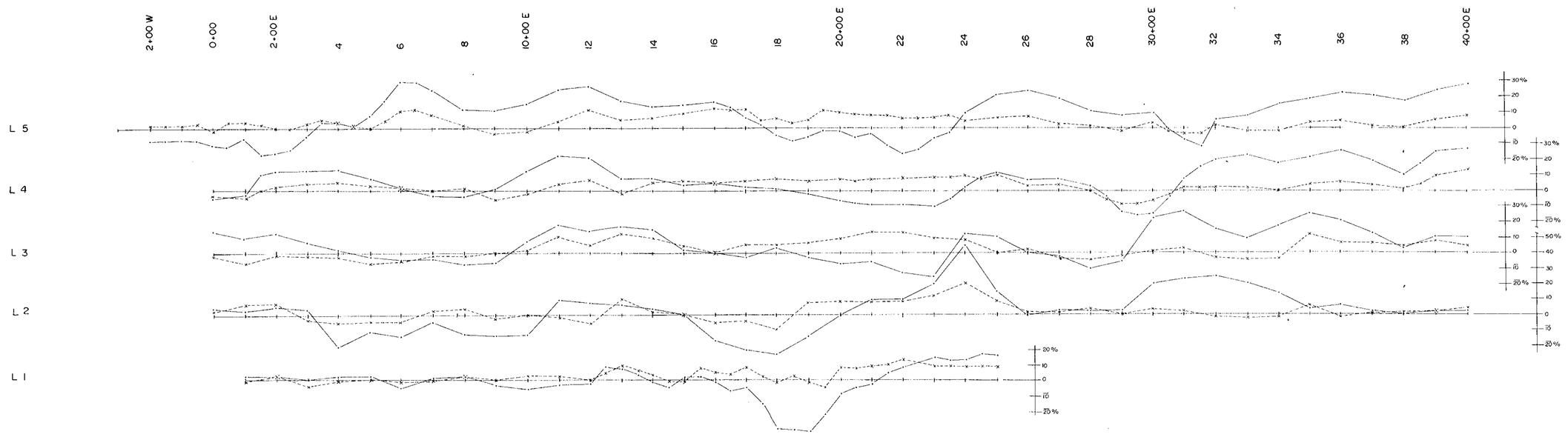
SCALE 1 inch = 200 feet

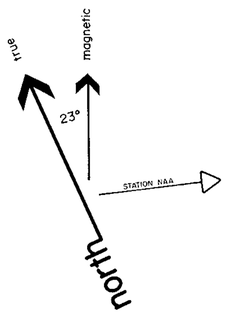
200 feet 0 200 feet

To accompany a report by
D.R. COCHRANE, P.Eng.
Dated April 9, 1973

Cochrane Consultants Limited
4882 Delta Street Delta B.C.

figure 7





Legend

In Phase

Quad.

Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

Grid 2 - VLF-EM Profiles

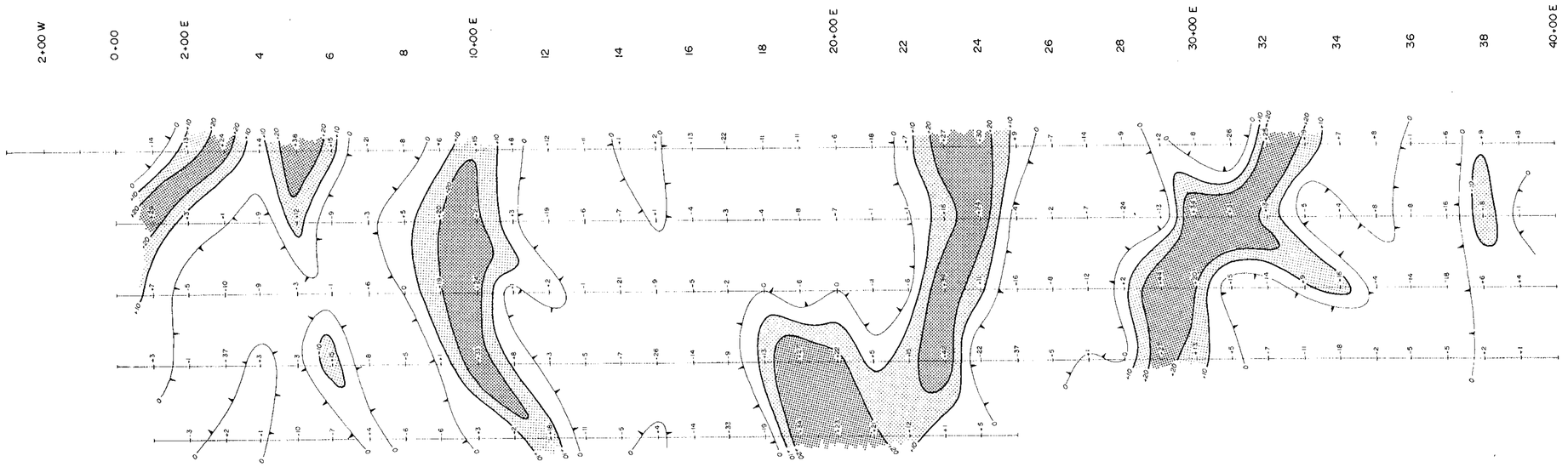
HORIZONTAL SCALE 1 inch = 200 feet

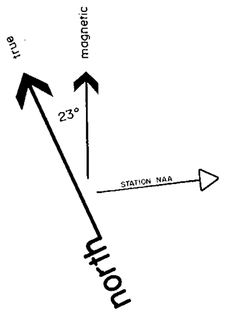
200 feet 0 200 feet

To accompany a report by D.R. COCHRANE, P.Eng. Dated April 9, 1973

Cochrane Consultants Limited
4882 Delta Street Delta B.C.

figure 8





Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

Grid 2 - Filtered VLF In Phase Data

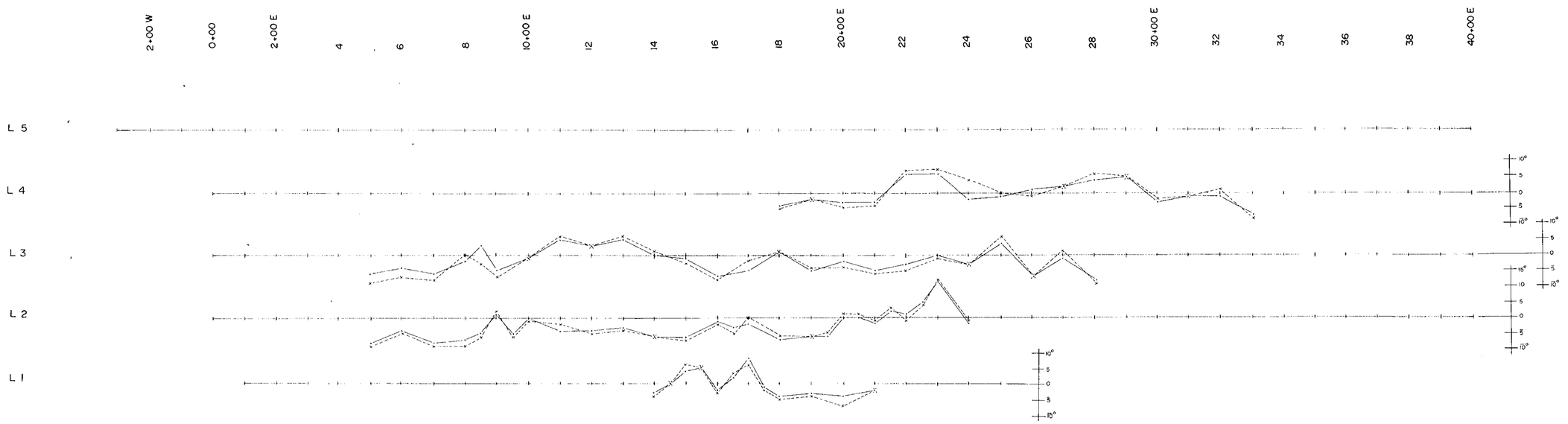
SCALE : 1 inch = 200 feet

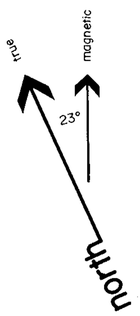
200 feet 0 200 feet

To accompany a report by
D.R. COCHRANE, P.Eng.
Dated April 9, 1973

Cochrane Consultants Limited
4812 Delta Street Delta B.C.

figure 9





Legend

Hi

Low

Great Plains Development Company of Canada Limited

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

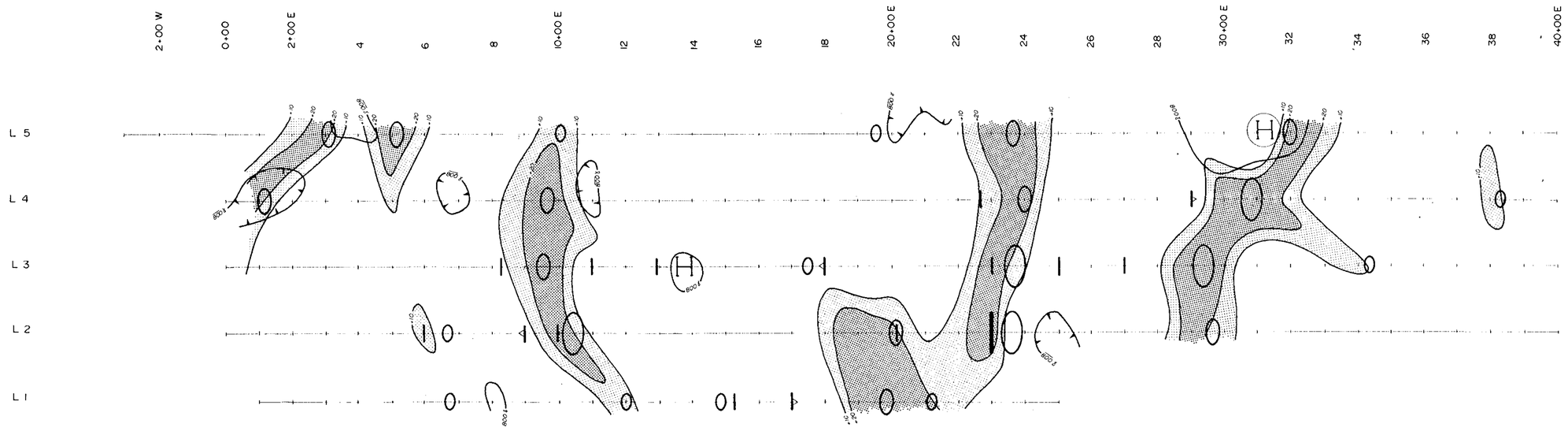
Grid 2 - Crone EM Profiles

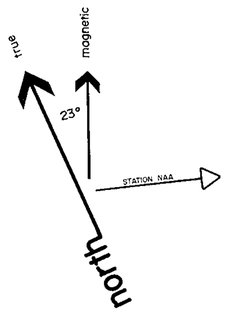
HORIZONTAL
SCALE - 1 inch = 200 feet
200 feet 0 200 feet

To accompany a report by
D.R. COCHRANE, P.Eng.
Dated April 9, 1973

Cochrane Consultants Limited
4812 Delta Street Delta B.C.

figure 10





Legend

- 1200 ɣ CONTOUR — carrots indicate LOW
- MAGNETIC HIGH
- FILTERED IN PHASE CONDUCTIVE ZONES

JEM CROSSOVERS

- MINOR - MODERATE
- MAJOR (DIP INDICATED)

VLF EM CROSSOVERS

- MINOR (less than 10% / 100')
- MODERATE
- MAJOR (greater than 20% / 100')
- VLF INDICATED HORIZONTAL CONDUCTOR

Great Plains **Development Company of Canada Limited**

Buck Group

Princeton Area - Nicola and Similkameen M.D. - British Columbia

Grid 2 - Compilation

SCALE - 1 inch = 200 feet

200 feet 0 200 feet

To accompany a report by
D.R. COCHRANE , P.Eng.
Dated April 9 , 1973

Cochrane Consultants Limited
4882 Delta Street — Delta B.C.

figure II

BUCK No.2 GROUP

BUCK No.3 GROUP

BUCK No.1 GROUP

LEGEND

- SOIL SAMPLE
- STREAM SEDIMENT SAMPLE
- CLAIM BLOCK BOUNDARY
- CLAIM GROUPING BOUNDARY

To accompany geochemical report by M.D. McInnis on the Buck numbers 2&3 groups, Princeton area Nicola and Similkameen M.D. dated March 12, 1973.

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

BRITISH COLUMBIA

BUCK GROUP

GEOCHEMICAL SURVEY

800 400 0 800 1600
FEET

SIMILKAMEEN M.D
L.R.GOLEMBA

NTS: 92 H/16
NOVEMBER, 1972