

2143

GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT

on the

BYR AND ACE No. 1 CLAIM GROUPS

KNUTSFORD

50° 120° N.E.

KAMLOOPS MINING DIVISION

by

W.R. BACON, Ph.D, P.Eng.

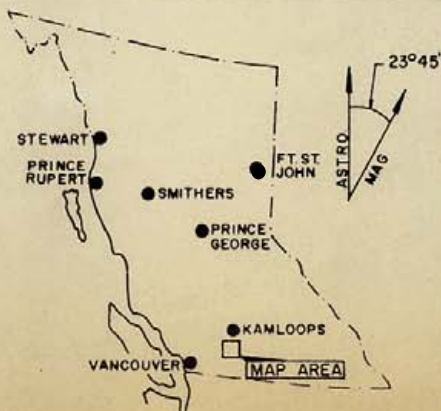
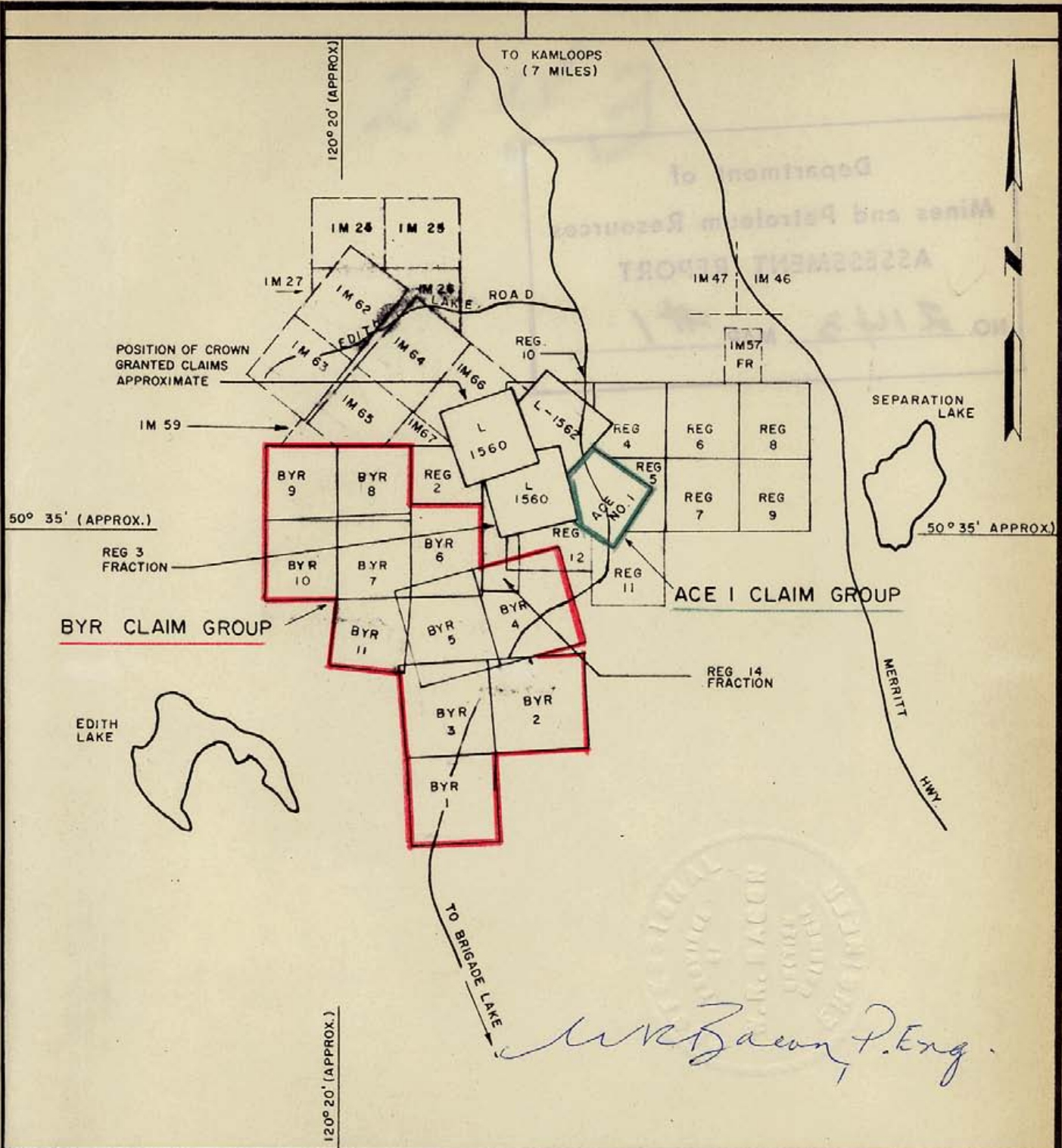
for

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

June to October 1969

Vancouver, B.C.

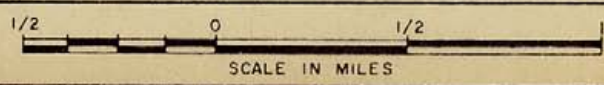
December 11, 1969.



GREAT PLAINS DEVELOPMENT COMPANY
OF CANADA LTD.

LOCATION MAP
BYR AND ACE I CLAIM GROUPS,
KNUTSFORD

IRON MASK PROJECT - KAMLOOPS MINING DIVISION



BACON AND CROWHURST LTD.
VANCOUVER B. C.
NOVEMBER 1969

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Department of
 Mines and Petroleum Resources
ASSESSMENT REPORT
 NO. R13
 MAP

LIST OF ILLUSTRATIONS

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SUMMARY AND CONCLUSIONS

This report covers the work done on the BYR and Ace No. 1 claim groups.

Interpretation is based upon results obtained on these claim groups as well as results obtained on the Dewey Crown grants, REG and IN claims.

These properties are located in the Iron Mask area of the Kamloops Mining Division of British Columbia.

Work was carried out during the period between June 21st and November 8th of 1969 on behalf of Great Plains Development Company of Canada Ltd. of Calgary, Alberta, and involved an extensive exploration program which included 26.5 miles of linecutting, geologic mapping, soil sampling, magnetometer and induced polarization surveys.

The results of the 1969 field work are sufficiently encouraging to warrant a diamond drill program to test anomalous zones as outlined by McPhar Geophysics Ltd.

In addition to this, the grid should be extended southward to 70+00S and this should be followed by a program of soil sampling, mapping and geophysics over this untested area.

PROPERTY

The claim groups discussed in this report consist of the following claims:

<u>Claim Group</u>	<u>Claim Names</u>	<u>Record Nos.</u>	<u>Date of Location</u>	<u>Date of Record</u>
BYR	BYR 1-11	74373-383	Nov. 6/68	Nov. 12/68
Ace No. 1	Ace No. 1	15319	July 19/55	July 19/55

LOCATION AND ACCESS

The claim groups under investigation are located about 8.5 miles south of Kamloops in the Kamloops Mining Division of British Columbia. The properties may be reached by the paved No. 5 (Kamloops-Merritt) highway to the Knutsford Post Office and thence southerly for 3 miles along the Long Lake gravel road to the turnoff to the Reg Paine ranch. Practically all parts of the claim groups are accessible with a two-wheel drive vehicle during the summer months.

TOPOGRAPHY

The area lies within the "dry belt" of the Interior Plateau of British Columbia and precipitation here is usually less than 10 inches per year. The topography of the area is characterized by gently sloping, open grassy rangelands which are partially covered with drumlins and rounded knolls. Elevations on the property range from 3000' to 3600'.

Glaciation has covered much of the countryside with an extensive mantle of till which may reach depths of several tens of feet on the uplands and to much greater depths in the gully bottoms. The claim area is relatively sparsely wooded (about 5%) and is generally restricted to poplar groves on the plains and to thick patches of spruce on the upper and northern slopes. The percentage of bedrock exposed is believed to be less than 5%. Only one creek, Anderson Creek, and a few small ponds or lakes are present on the property which may offer sufficient water for drilling purposes. Edith Lake near the southwest part of the map area and Separation Lake to the east are the only large lakes in the immediate area of the claim groups.

HISTORY AND PRODUCTION

The region of the Iron Mask batholith was first prospected in the late 1800's for gold and silver, and in the early 1900's for copper which occurs in many places throughout the area.

Considerable underground development work had been done on some of the properties in earlier days, and in the middle 1950's on the holdings of Makao Development Co. Ltd. (Python, Noonday and Copper Head claims) and of the Kamloops Copper Co. Ltd. (includes the Iron Mask, Erin, Copper Queen, Lucky Strike, Ben Hur, claims). However, mineral production has been very small. A tabulation of the production of some of the properties of the Iron Mask batholith appears below:

<u>Property</u>	<u>Period</u>	<u>Tons Produced</u>	<u>Pounds Cu</u>	<u>Ounces Au</u>	<u>Ounces Ag</u>
Iron Mask	1901-1928	189,230	5,194,871	3,630	41,292
Copper King	1906-1940	7,491	391,381	1,183	2,180
Iron Cap	1937-1940	263	9,462	209	414
Evening Star			5,628		29
Python		30	4,800		

There is no recorded production from any of the mineral claims currently held by Great Plains Development Company of Canada Ltd. Four adits and several old trenches and pits were located on the claim groups and it is understood that some trenching and limited diamond drilling were carried out on the Ace No. 1 and Sasbas claims by the Frank Avery interests during the summers of 1955 and 1956.

Local residents in the vicinity have reported that the old Graham mill near the Long Lake road was erected to handle gold-bearing rock from the Joker and Utopia adits just prior to World War I. However, no records of production are currently available.

GEOLOGY

(a) GENERAL GEOLOGY

The Iron Mask batholith is about 2½ miles wide and extends for about 12 miles in a northwesterly direction. It is situated about 3 miles southwest of Kamloops and about 40 miles northeast of the Highland Valley copper belt which is in the Guichon batholith. The Iron Mask and Guichon batholiths are two of several on the eastern margin of the main Coast Intrusions.

The rocks of the Iron Mask batholith are considered to be of Jurassic age and consist mainly of micromonzonites, microdiorites,

syenites, monzonites, diorites and gabbros. These rocks are intrusive into the Upper Triassic Nicola rocks (andesites, argillites, limestones, basalts) which occur on the eastern and western margins of the batholith. In the vicinity of Sugarloaf Hill, in the north part of the batholith, is a promontory of microdiorite porphyry, one of several porphyry stocks which intrude the batholith.

Outcroppings of dyke-like masses of greenish black, dense, picrite-basalt rock have been reported near the east margin of the batholith.

The Cherry Creek intrusions are found along the east and northerly margins of the batholith. These rocks range from finer grained phases of trachyte or latite porphyries to a breccia consisting of sub-rounded and angular fragments of plutonic and volcanic rocks set in a highly altered matrix. The Cherry Creek intrusions have been observed cutting the picrite-basalt and also rocks of the Iron Mask batholith.

(b) LOCAL GEOLOGY

The properties under discussion are located near the southeast limb of the Iron Mask batholith and are underlain by intrusive rocks which vary in composition from ultra-basic to acid. Microdiorite and micromonzonite were observed to mainly occupy the north and central part of the map area and coarser phases of the more basic rocks (hornblende diorites, hornblendites, gabbros and pyroxenites) in the areas towards the west and south. Some fine-grained andesitic rocks were also observed in the southwest quadrant.

The east margin of the property is reported to be underlain by Paleozoic rocks of the Cache Creek group which consists of argillites, limestones, quartzites, conglomerates and greenstones. To the south lie extensive thicknesses of mixed sedimentary and volcanic rocks of the Kamloops Series of Miocene age.

An extensive 'capping' of the recent basalts, dark brown, locally vesicular and columnar, overlies a large portion of the northwest and southeast quadrants of the map area with an apparent thinning of the 'capping' towards the northwest.

Plate I "Geology Plan" shows the distribution of outcrops and mineralization as mapped within an area approximately two miles long by two miles wide.

Micromonzonite is usually distinguishable from microdiorite by its pinkish colouration imparted to it by the pink potash feldspar. However, in several places micromonzonite and microdiorite were found to be virtually indistinguishable from one another and this may be attributable to the belief that both are altered varieties of diorite rocks. Similarly, some deeper pink varieties of micromonzonite have been observed to grade into rocks which resemble those of the Cherry Creek intrusions near the north margin of the batholith.

The basic rocks in the area consist mainly of medium to coarse grained hornblende diorites, hornblendites, gabbros and pyroxenites, and all of these appear to be transitional into each other. Most of these rocks exhibit magnetic properties, the intensities of which appear to be directly proportional to the relative abundance of magnetite associated with the mafic minerals contained in the rocks.

Fracturing and jointing have been observed to be most prevalent and often intense in the micromonzonite-microdiorite rocks, and this has resulted in producing a "lumpy" and "shattered" appearance to the terrain. This shattering appears to be very intense in the vicinity of the top of the ski tow where the fracture system appears to favour southeast and southwest directions. Jointing has also been observed, but less frequently, in some outcrops of basic intrusives towards the south, and these display less intense jointing with a distinct preference for a northeast-southwest strike and a steep dip toward the northwest.

No age or contact relationships could be positively established between the rock units in the field, mainly because of the extensive areas of drift cover.

MINERALIZATION

Copper mineralization is found mainly near the periphery of the Iron Mask batholith. A few deposits, however, do occur near the central part, such as the mineral showings on the Evening Star claim group (south of the Iron Mask Mine), and the copper mineralization at and near the Paine adit on the Admiral Dewey Crown grant claims.

In the deposits of the batholith, there are impregnations, veins, stockworks, and mineralized shear zones. The principal minerals are chalcopyrite and bornite with some chalcocite, native copper, cuprite, azurite and malachite. Chrysocolla, galena and molybdenite have also been reported in the general area. Magnetite and

pyrite are both common and occur as lenses, veins or as fine disseminations. Gold and silver values are generally low but a few deposits carry good values.

On the claims under investigation by Great Plains Development Company of Canada Ltd., copper mineralization appears to favour the more acid environment, that is the micromonzonite-microdiorite suite of rocks. In addition to this, it was observed that the mineralization often exhibited a preference for the highly fractured or shattered rocks. Pyrite is the predominant sulfide mineral in the area and occurs abundantly as fine fracture fillings and as disseminations within the host rock. Malachite is also fairly abundant and is exposed in the numerous cuts and trenches on the Dewey Crown grants and Ace No. 1 mineral claim. Chalcopyrite, on the other hand, is relatively scarce. Some pyritic vein-type mineralization associated with minor faulting was observed in trenches on mineral claims IH No. 23 and 26, and also at the Paine and Ace No. 1 adits. The attitude of the mineralization at the adits was observed to be about $S40^{\circ}W/50^{\circ}NW$. Magnetite veinlets appeared to be in greater abundance towards the northwest quadrant of the grid.

Alteration in the wall rock on the property is generally moderate to intense in the immediate vicinity of mineralization, and is usually characterized by the development of epidote, chlorite, carbonate and gypsum. Also common is the alteration caused by the replacement of the original feldspars in the wall rock by albite and/or pink orthoclase feldspars.

Numerous chip, channel and grab samples were obtained from some of the adits and trenches on the property and their assay results are shown in the following table:

<u>Place</u>	<u>Location</u>	<u>Type of Sample</u>	<u>Width (ft.)</u>	<u>% Cu</u>	<u>Ag Oz/ton</u>	<u>Au Oz/ton</u>	<u>% Mo</u>
Paine adit	5+50E, 4+00S at portal	chip	6.0' 15.0	3.0% 1.4			
Paine adit	5+50E, 4+00S muck pile just inside portal	grab		1.08			
Paine adit	5+50E, 4+00S from dump just NE of portal	grab		3.70			
Ace No.1 adit	18+50E, 12+00S dump near Long Lake Road	grab		5.1			
Ace No.1 adit	18+00E, 12+00S	chip	9.5	1.31			
Ace No.1 shaft	18+75E, 12+75S dump at caved shaft	grab		0.15			
Ace No.1 trench	18+75E, 13+00S rubble in caved trench near Long Lake Road	grab		8.2			
Ace No.1 trench	17+00E, 13+00S channel in rubble along NE wall of caved trench	channel	25.0	0.70			
IM No.25 trench	20+00W, 42+00N North wall	chip	5.0 10.0	1.26 0.86	0.44 0.27	trace trace	
IM No.25 trench	South wall, 20+00W, 42+00N	chip	4.0	2.22	0.44	trace	
Road cut - Paine ranch	4+00E, 2+00S	grab		0.16	0.03	trace	tr.
Cut No. 1	11+50W, 3+50S east of ski tower #6	channel	15.0	0.25	0.02	trace	
Cut No. 2	10+50W, 3+00S south of ski tower #5	channel channel channel	25.0 45.0 25.0 95.0	0.134 0.068 0.11 0.096	0.03 0.02 0.01 0.02	trace trace trace trace	

<u>Place</u>	<u>Location</u>	<u>Type of Sample</u>	<u>Width (ft.)</u>	<u>% Cu</u>	<u>Ag Oz/ton</u>	<u>Au Oz/ton</u>	<u>% Mo</u>
Cut No. 3	6+50W, 1+50S east of ski tower #4	channel	50.0'	0.39%	trace	trace	
Cut No. 4	0+00W, 0+75N south of ski tower #2	channel	20.0	0.77	trace	trace	
Cut No. 5	11+75W, 4+50S	channel	30.0	0.13	0.01	trace	
Trench	8+00E, 2+00S	chip	5.0	0.04	0.01	trace	0.001

The grades of the chip samples from the adits and trenches appear to be compatible with what was observed at these locations. However, the assay results of the channel samples obtained from cuts Nos. 1-5 (in the vicinity of the ski tow) appear to be quite low and this may be due in part to the highly weathered and leached condition of the exposed surfaces in the cuts.

GEOCHEMICAL SURVEY

METHOD

Pickets were established at 100 ft. spacing on grid lines using prismatic and Brunton compasses and a nylon chain. All chainages were slope corrected and frequent tie-ins to adjacent lines were made to ensure the 400 foot line spacing between lines and to prevent wide divergences in the lines.

Soil samples were collected at 100 foot intervals along the picket lines employing a long-handled spade and a stainless steel trowel. In addition, soil samples were also obtained at 100 foot intervals along 6400 feet of the base line. Plastic-coated gloves were

used by collectors to clean the trowel and spade after each sampling in order to minimize the possibility of contamination of succeeding samples.

'B' horizon, buff to brown in colour, was sampled where possible and this horizon was reached at depths of 8 to 20 inches. Where the 'B' horizon itself was not developed, the A₂ horizon was sampled. In isolated cases where rock outcrop precluded soil development, no sample was taken.

Sample collectors were required to record, on prepared sheets, all data related to topography, soil development and type of vegetation, at the sample site, and this information was taken into consideration in the final interpretation of the geochemical assay map.

A total of 1392 soil samples were collected on all the claim groups under investigation and each was placed in a high wet strength kraft paper bag 3½" x 6-1/8" in size. These samples were permitted to dry at room temperature and then were packed for shipment to Chemex Labs Ltd., North Vancouver, for analysis of their copper content.

At Chemex Labs Ltd. the samples were sorted, recorded and dried at 60°C. The dried samples were then sieved to -80 mesh fraction with a nylon and stainless steel sieve. A 0.5 gram portion of the -80 mesh sample fraction was weighed, then placed in a test tube and digested with hot 70% perchloric and concentrated nitric acid. The digested sample was diluted to 25 ml. and then analyzed for copper using the Techtron A-A-3 Atomic Absorption Unit.

RESULTS AND INTERPRETATION

The analytical results of the soil seeping survey are plotted on Plate II "Geochemical Survey". Examination of these results led to assigning values to the following categories:

Background	50-100 ppm
Threshold	100-300 ppm
Anomalous	300- ppm

As shown on Plate II, several anomalous zones are indicated and are listed as follows:

<u>Zone</u>	<u>Dimensions</u>	<u>No. of Soil Samples</u>	<u>Trend of Zone or Remarks</u>
A	300' x 7'	3	Open to the west
B	600' x 250'	8	West-northwest
C	800' x 400'	8	Westerly
D	1400' x 900'	24	West-southwest
E	1050' x 300'	10	Westerly
(D,E combined)	2300' x 500'	-	Westerly
F	700' x 400'	9	Westerly
G	1100' x 300'	8	Westerly

Examination of the geology and of the distribution of known sulfide and carbonate mineralization shows a remarkable correlation to the dimensions and the orientation of the anomalous zones.

In actuality, anomalous zones C, D, E, F, G may be considered as one larger anomalous area and if this is to be considered, then the new dimensions of the zone would be about 3500' long x average width of 1000' with an apparent west-northeasterly trend.

A total absence of anomalous copper values was noted in the areas immediately east and north of the Dewey Crown grants and this may be due in large part to extensive depths of drift which cover this entire area. This would probably tend to inhibit the upward migration and diffusion of copper ions through the soil which could 'mask' the presence of copper anomalies.

MAGNETOMETER SURVEYPURPOSE

A magnetic survey was conducted on the grid using a Sharpe MF-1 fluxgate magnetometer in an attempt to more closely define the contact, if any, between the relatively acid micromonzonite-microdiorite suite of rocks and the more basic and coarse grained phases of the dioritic and gabbroic rocks. This geophysical information could assist in defining the favourable areas of possible mineralization under the largely drift-covered areas.

The micromonzonite and microdiorite rocks have been observed to be the most favourable host for sulfide mineralization on the properties and were also found to be generally only weakly magnetic. On the other hand, the coarser grained and more basic rocks in the vicinity (hornblende diorites, gabbros, pyroxenites and hornblendites) were found to be typically strongly magnetic, a property directly related to the relative abundance of magnetite associated with the mafic minerals of the rocks. The recent basalt flows near the centre of the map area were found to be of fairly low magnetic susceptibility, but slightly higher (by approximately 1000 gauss) than the micromonzonite, microdiorite rocks.

It was hoped, therefore, that the MF-1 magnetometer, with its 20-gauss sensitivity, would be an excellent instrument to use to help to delimit the rock units in the area.

METHOD

A main base station was established near the Long Lake road turn-off into the Paine Ranch where readings were taken with the MF-1 magnetometer hourly during the first day of the magnetic survey. The magnetometer reading at this base station was found to be exactly 6000 gammas and exhibited no wide fluctuations in readings during the initial day's trials.

Sub-base stations were established every 800' along the base line and magnetometer readings checked several times for deviation. These sub-base stations were so spaced as to provide a convenient tie-in point at the beginning and end of each successive loop traverse by the magnetometer operator.

Readings were taken by the operator at 100 foot intervals along gridded picket lines spaced 400 feet apart and were recorded in a hard covered field book. At the beginning and conclusion of the daily traverses the magnetometer operator would check into the main base station and record the readings. In this way, the daily records could be diurnally corrected and their results plotted on the map. During the course of the magnetometer survey, it was found that the daily diurnal variation rarely exceeded 20 gammas and that no large or erratic variations in the earth's magnetic field were encountered which would indicate the approach of magnetic storms.

RESULTS AND INTERPRETATION

Over 1300 magnetometer readings were recorded during the magnetic survey and their results are shown on Plate III together with their profiles. It was decided to profile each grid line rather than attempt to contour the map conventionally because of the relatively small amount of magnetic relief in the areas under investigation. In this way, patterns and trends would show up more definitively and possibly be easier to interpret than by the contour method.

Examination of the magnetic profile patterns suggests the following features:

- (1) Magnetic background for the claim area is of the order of 6500 gammas and the readings show a maximum relief of about 9,000 gammas for the map area.
- (2) The magnetically 'flat' profiles of all the lines from 20+00E to 44+00E suggests that this area, covered by an extensive mantle of drift and few outcroppings, could conceivably be underlain by rock units of a lithology and a magnetic susceptibility similar to that on the Dewey Crown grant area, in view of the similarities of the amplitudes and patterns of their profiles. Thus, there is a good possibility that an acid-type rock of relatively low magnetic susceptibility such as microdiorite or micromonzonite could be present at depth.
- (3) The basalt flows near the southwest quadrant of the map area have a magnetic susceptibility only slightly higher than that of the micromonzonite-microdiorite rock types and this was substantiated by testing both rock types with a pencil magnet. Inspection of

the magnetic profiles of the grid lines crossing basalt flows suggest that the basalt 'capping' near 16+00W and 14+00S is of relatively shallow depth and could overlie rock units whose susceptibilities are similar to those of the finer grained acid rocks (micromonzonites-microdiorites).

(4) The sharp rises or 'peaks' on the profiles in the extreme southwest quadrant of the map area exhibit amplitudes of 2 to 2.5 times background and a distinct trend towards the northwest. This area of relatively high magnetic intensity correlates well with the observed distribution of coarse grained, basic rocks, such as hornblendites and gabbros, which underlay the area. The Federal Department of Mines aeromagnetic map No. 5216 also shows a large aeromagnetic 'high' over this same locality and also trending northwesterly.

INDUCED POLARIZATION SURVEY

An induced polarization geophysical survey was carried out over the properties in the fall of this year with the express purpose of locating and defining areas of interest which were hitherto not detectable by the conventional geochemical and geophysical methods employed to date.

The IP survey was carried out by McPhar Geophysics Ltd. of Toronto, Ontario, on a contract basis during the period October 6th to November 1st.

Several areas of interest were located by McPhar Geophysics. These are described in detail in their 'Report on the Induced Polarization and Resistivity Survey on the BYR and Ace No. 1 Claim Groups' which is filed separately.

CONCLUSIONS

The results of the 1969 exploration program on the claims of the Iron Mask project have been sufficiently encouraging to warrant additional work to investigate the areas of interest. This could best be accomplished, at this stage, by testing some of the targets by diamond drilling as outlined in the recommendations in the McPhar LP report.

Other areas of potential interest could be approached by performing further work involving detailed geochemistry and mapping. The northwest and southeast quadrants would be such areas.

The grid should be extended southward to at least 70+00S in order to cover the areas within the boundaries of claims BYR 1, 2, 3, 4, 5 and REG 8, 9 which are essentially untested.

TABLE OF EXPENDITURES ON MINERAL CLAIMS BYR No. 1-11 (only)1. LINE CUTTING AND LINE PICKETING

<u>Personnel</u>	<u>Dates</u>	<u>No. of Line Miles Completed</u>	<u>Rate/Line Mile</u>	<u>Cost</u>
S. Stuart) D. McNaughton) A. Wienand) B. Connock)	June 26, 27) Aug. 11, 13, 14, 31, Sept. 5) Sept. 17, 18, 19, 27, 28, 29) Oct. 18)	5.5	\$75.00	\$412.00

2. GEOCHEMICAL SURVEY - SOIL SAMPLING

<u>Personnel</u>	<u>Dates</u>	<u>No. of Line Miles Sampled @ 100' Intervals</u>	<u>Rate/Line Mile</u>	<u>Cost</u>
S. Stuart) D. McNaughton) A. Wienand) B. Connock) I. Voight) J. Robson)	July 13, 18, 23) Aug. 13, 14, 28, 31) Sept. 22, 23, 25, 26) Oct. 21) Oct. 31))	5.29	\$100.00	\$529.00

3. ASSAYING OR ANALYSES

Soil sample analyses by Chemax Labs Ltd., Vancouver -
analysis and preparation at \$1.20/sample

290 samples @ \$1.20 \$336.00

4. MAGNETOMETER SURVEY USING SHARPE MF-1 MAGNETOMETER

<u>Personnel</u>	<u>Dates</u>	<u>No. of Line Miles Completed</u>	<u>Rate/Line Mile</u>	<u>Cost</u>
G.D. Delane) D. McNaughton) C. Campbell)	July 21) Sept. 2, 4) Nov. 4, 5)	5.5	\$75.00	\$412.00

5. GEOLOGIC MAPPING (1" = 400' scale)

<u>Personnel</u>	<u>Dates</u>	<u>No. of Line Miles Traversed</u>	<u>No. of Days</u>	<u>Rate /Day</u>	<u>Cost</u>
G.D. Delane	July 7, 9, 12, 21 Sept. 2, 20, 21, 23, 30 Oct. 26	6.19	10	\$100.00	\$1000.00

6. INDUCED POLARIZATION SURVEY by McPhar Geophysics Limited, Toronto, Ont.

<u>Personnel</u>	<u>Dates</u>	<u>No. of Line Miles Completed</u>	<u>Rate/Line Mile</u>	<u>Cost</u>
Peter Mark)				
Wm. Murray)				
I. Voight)	Oct. 9, 10, 11	4.93	\$206.00	\$1014.00
J. Robson)	12, 13, 26, 31			
A. Wienand)				
B. Concock)				

7. SUPERVISION by G.D. Delane, Project Geologist,
on the following dates

June 23, 24, 25, 26, 27

July 7, 13, 18, 22, 23

Aug. 11, 13, 14, 28, 31

Sept. 2, 4, 5, 10, 11, 16, 17, 18, 22, 23, 25, 26, 29

Oct. 4, 9, 10, 11, 12, 13, 14, 15, 16, 18, 21, 26, 28, 31

Total - 42 days supervision @ \$100/day

\$4200.00

TOTAL OF EXPENDITURES ON BYR Nos. 1-11 CLAIMS

\$7903.00

TABLE OF EXPENDITURES ON MINERAL CLAIM ACE No. 11. LINE CUTTING AND LINE PICKETING

<u>Personnel</u>	<u>Date</u>	<u>No. of Line Miles Completed</u>	<u>Rate/Line Mile</u>	<u>Cost</u>
S. Stuart) D. McNaughton)	Aug. 20	0.7	\$75.00	\$50.00

2. GEOCHEMICAL SURVEY - SOIL SAMPLING

<u>Personnel</u>	<u>Date</u>	<u>No. of Line Miles Completed</u>	<u>Rate/Line Mile</u>	<u>Cost</u>
A. Wienand) B. Connock)	Sept. 22	0.7	\$100.00	\$70.00

3. ASSAYING & ANALYSES

Soil sample analyses by Chemex Labs Ltd., Vancouver -
analysis and preparation @ \$1.20/sample

37 samples @ \$1.20 \$44.00

4. MAGNETOMETER SURVEY USING SHARPE MF-1 MAGNETOMETER

<u>Personnel</u>	<u>Date</u>	<u>No. of Line Miles Completed</u>	<u>Rate/Line Mile</u>	<u>Cost</u>
Colin Campbell	Nov. 4	0.7	\$75.00	\$50.00

5. GEOLOGICAL MAPPING

1 day (July 19, 24, partial days) @ \$100/day \$100.00

6. INDUCED POLARIZATION SURVEY by McPhar Geophysics Limited, Toronto, Ont.

<u>Personnel</u>	<u>Dates</u>	<u>No. of Line Miles Completed</u>	<u>Rate/Line Mile</u>	<u>Cost</u>
Peter Mark) Wm. Murray) I. Voight) J. Robson)	Oct. 20, 21 (partial days)	0.7	\$206.00	\$150.00

7. SUPERVISION by G.D. Delane, Project Geologist

3 days (Aug. 20, Oct. 20, 21) supervision required for all the various surveys conducted on the claim

3 days @ \$100.00/day

\$300.00

TOTAL OF EXPENDITURES ON AGE No. 1 CLAIM

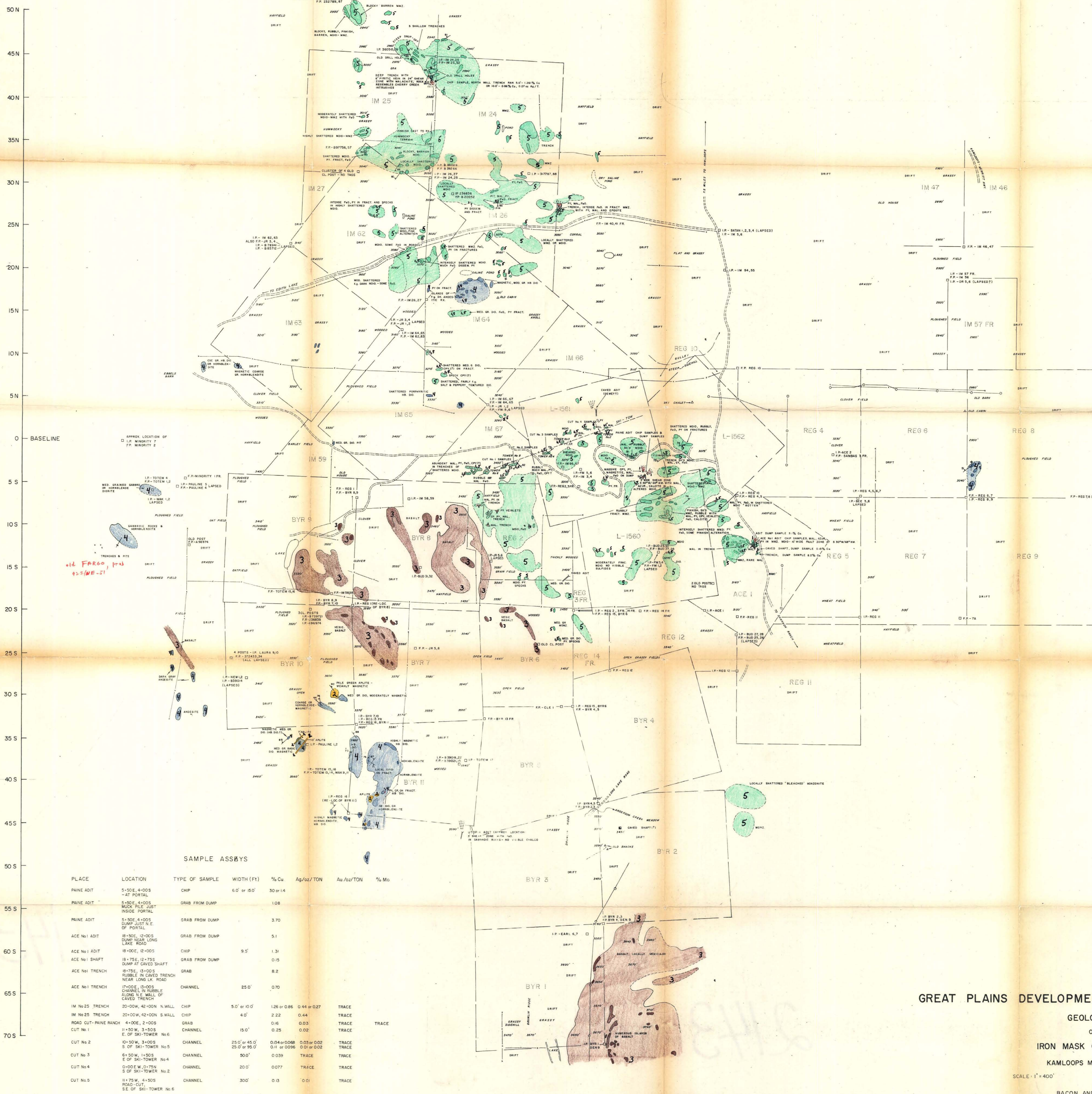
\$764.00



W.R. Bacon P. Eng.

W.R. Bacon, Ph.D, P.Eng.

L.48 W L.44 W L.40 W L.36 W L.32 W L.28 W L.24 W L.20 W L.16 W L.12 W L.8 W L.4 W 0+00 L.4E L.8E L.12E L.16E L.20E L.24E L.28E L.32E L.36E L.40E L.44E



SAMPLE ASSBYS

PLACE	LOCATION	TYPE OF SAMPLE	WIDTH (FT)	% Cu	Ag/oz/TON	Au/oz/TON	% Mo
PAINE ADIT	5+50E, 4+00S -27 PORTAL	CHIP	6.0' x 15.0'	30.0	1.4		
PAINE ADIT	5+50E, 4+00S MUCK PILE JUST INSIDE PORTAL	GRAB FROM DUMP		1.08			
PAINE ADIT	5+50E, 4+00S DUMP JUST N.E. OF PORTAL	GRAB FROM DUMP		3.70			
ACE No 1 ADIT	18+50E, 12+00S DUMP NEAR LONG LAKE ROAD	GRAB FROM DUMP		5.1			
ACE No 1 ADIT	18+00E, 12+00S	CHIP	9.5'	1.31			
ACE No 1 SHAFT	18+75E, 12+75S DUMP AT CAVED SHAFT	GRAB FROM DUMP		0.15			
ACE No 1 TRENCH	18+75E, 13+00S RUBBLE IN CAVED TRENCH NEAR LONG LAKE ROAD	GRAB		8.2			
ACE No 1 TRENCH	17+00E, 13+00S CHANNEL IN RUBBLE ALONG N.E. WALL OF CAVED TRENCH	CHANNEL	25.0'	0.70			
IM No 25 TRENCH	20+00W, 42+00N N.WALL	CHIP	5.0' x 10.0'	1.26	0.86	0.44	0.27
IM No 25 TRENCH	20+00W, 42+00N S.WALL	CHIP	4.0'	2.22	0.44		
ROAD CUT-PAINE RANCH	4+00E, 2+00S	GRAB		0.16	0.03		TRACE
CUT No 1	11+50W, 3+50S E. OF SKI-TOWER No 6	CHANNEL	15.0'	0.25	0.02		
CUT No 2	10+50W, 3+00S S. OF SKI-TOWER No 5	CHANNEL	25.0' x 45.0'	0.54	0.068	0.03	0.02
CUT No 3	6+50W, 1+50S E. OF SKI-TOWER No 4	CHANNEL	50.0'	0.039			TRACE
CUT No 4	11+00E, 0+75N S. OF SKI-TOWER No 2	CHANNEL	20.0'	0.077			TRACE
CUT No 5	11+75W, 4+50S ROAD CUT-PAINE RANCH S.E. OF SKI-TOWER No 6	CHANNEL	30.0'	0.3	0.01		TRACE
TRENCH	8+00E, 2+00S	CHIP	5.0'	0.04	0.01		0.001

SAMPLES COLLECTED BY G.D. DELAINE

TO ACCOMPANY GEOLOGICAL, GEOCHEMICAL AND GEOPHYSICAL REPORT ON THE BYR AND ACE 1 CLAIMGROUPS, KNUTSFORD, KAMLOOPS MINING DIVISION, BY W.R. BACON, P.H.D. F.Eng. DATE: Dec. 11, 1969

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.
 GEOLOGY PLAN
 OF THE
 IRON MASK CLAIMS PROJECT
 KAMLOOPS MINING DIVISION, B.C.

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 No. 2143 MAP #2

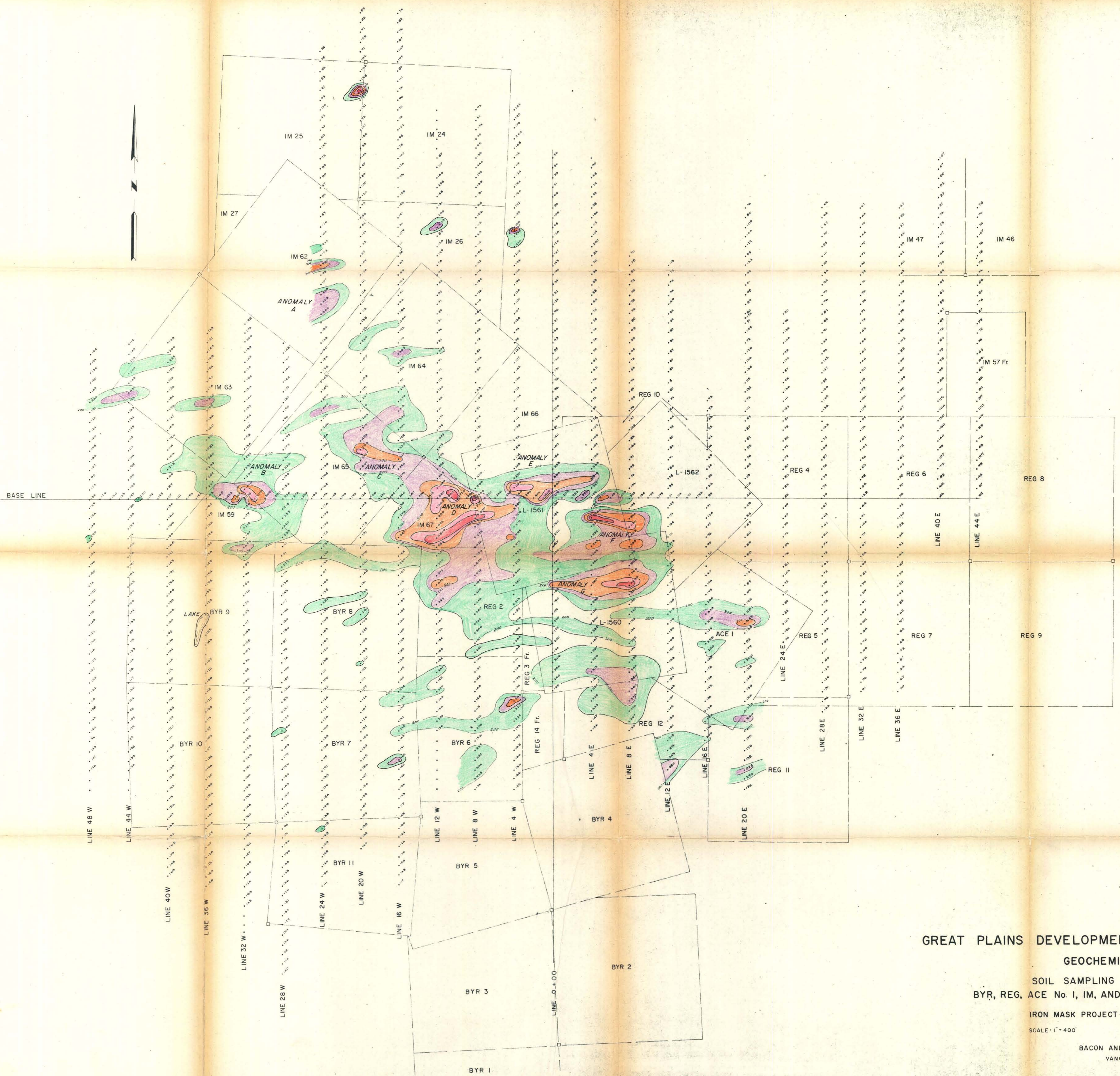
2143

SCALE: 1" = 400' NOVEMBER 1969

BACON AND CROWHURST LTD.
 VANCOUVER, B.C.

W.R. Bacon, P.Eng.
 PLATE 1

50 N
45 N
40 N
35 N
30 N
25 N
20 N
15 N
10 N
5 N
0
5 S
10 S
15 S
20 S
25 S
30 S
35 S
40 S
45 S
50 S



NOTES
 ASSAYS SHOWN ARE IN PARTS PER MILLION (PPM). CU
 CONTOUR INTERVALS ARE AS SHOWN
 SAMPLE COLLECTORS: D. McNAUGHTON
 S. STUART
 A. WIENAND
 B. CONNOCK
 I. VOIGHT
 J. ROBSON
 G. DELANE
 GRIDLINES - COMPASSED AND CHAINED,
 SLOPES CORRECTED.

CONTOUR INTERVALS

- 200 ppm
- 300 ppm
- 500 ppm
- 1000 ppm
- > 2000 ppm

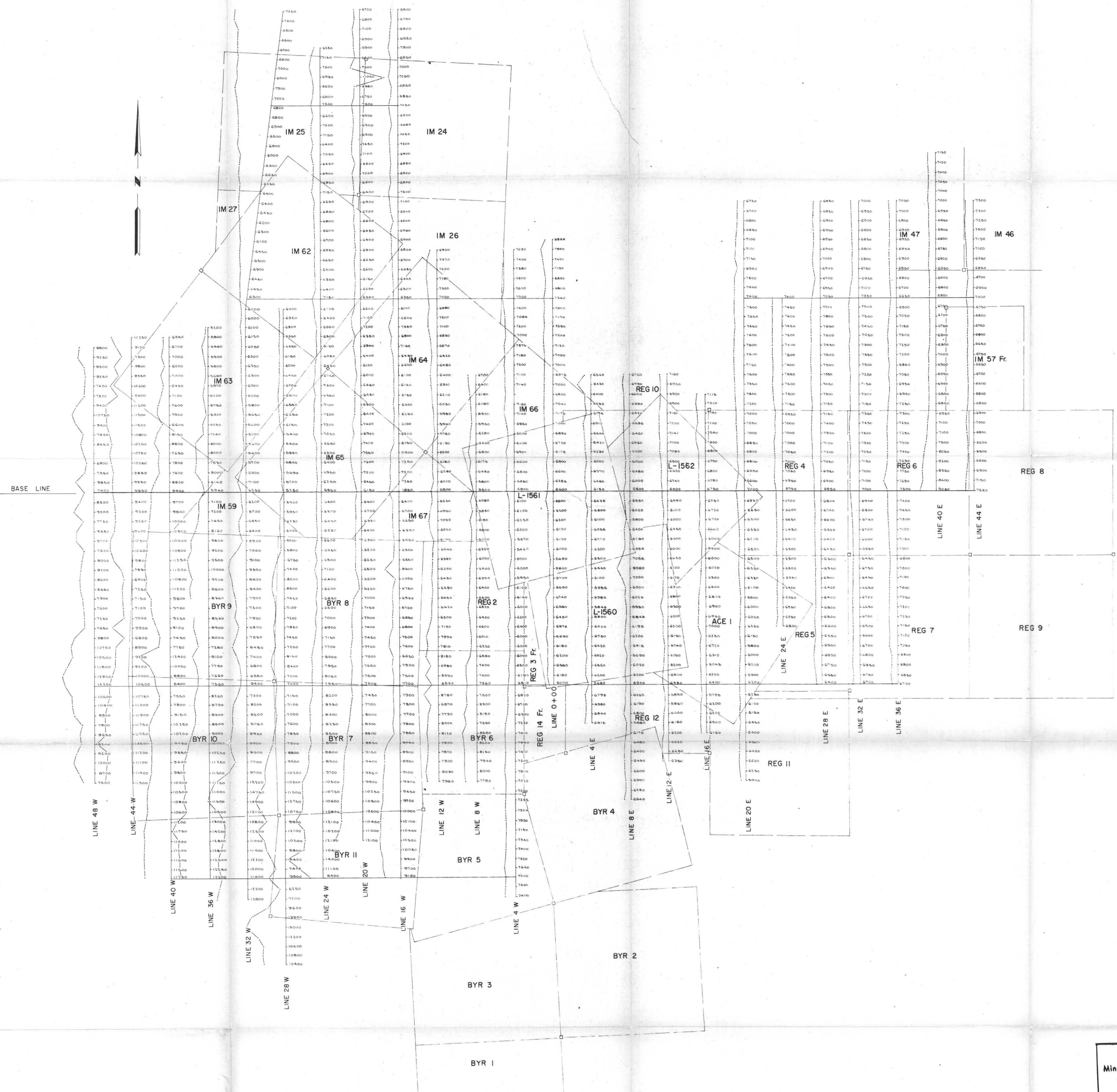
2143

Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 2143 MAP #3

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.
GEOCHEMICAL SURVEY
 SOIL SAMPLING ASSAY PLAN OF THE
 BYR, REG, ACE No 1, IM, AND DEWEY CROWN GRANTED CLAIMS
 IRON MASK PROJECT - KAMLOOPS MINING DIVISION
 SCALE: 1" = 400' NOVEMBER 1969
 BACON AND CROWHURST LTD.
 VANCOUVER, B.C.

W.R. Bacon
 PLATE 2

50 N
45 N
40 N
35 N
30 N
25 N
20 N
15 N
10 N
5 N
0
5 S
10 S
15 S
20 S
25 S
30 S
35 S
40 S
45 S
50 S



PROFILES OF
MAGNETIC INTENSITY (γ) $\gamma = 0.000 \times -5000 \pm$
DATUM SET @ 5000 γ

NOTES
READINGS SHOWN ARE IN GAMMAS (γ)
AND ARE DIURNALLY CORRECTED.

INSTRUMENT - SHARPE MAGNETOMETER
MODEL MF-1
INSTRUMENT OPERATORS: D. McNAUGHTON
C. CAMPBELL
G. DELANE

GRIDLINES - COMPASSED AND CHAINED,
SLOPES CORRECTED.

DISTANCE SCALE 1" = 400'

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
No. 2143 MAP #4

2143

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.
MAGNETOMETER SURVEY

OF THE
BYR, REG, ACE No. 1, IM, AND DEWEY CROWN GRANTED CLAIMS

IRON MASK PROJECT - KAMLOOPS MINING DIVISION
SCALE: 1" = 400' NOVEMBER 1969

BACON AND CROWHURST LTD.
VANCOUVER, B.C.