6234

Assessment Report

GREAT PLAINS DEVELOPMENT
COMPANY OF CANADA, LTD.

YEAR END REPORT
MOUNT DUNN PROPERTY
BRITISH COLUMBIA

N.T.S. 104B/7

'77-#11-#6234

SKEENA
~~Liard~~ Mining Division
Longitude: 130 degrees, 38 minutes West
Latitude: 56 degrees, 29 minutes North

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January, 1977

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A. SUMMARY

Field work on the Mount Dunn property in 1976 was carried out between July 18 and November 15, 1976. The program was designed to extend the existing data base on the property by means of detailed mapping at a scale of one inch to two hundred feet, fill-in geochemical sampling and induced polarization surveying.

During the period of August 7 to August 11, 1976, a crew of four linecutters cut and chained a grid totalling ten miles subsequent to which the intrusive and adjacent rocks were mapped in detail. The mapping outlined a narrow monzonitic intrusive which trends northerly and is in fault contact with country volcanics, volcaniclastics and sediments.

An abbreviated gamma ray spectrometer survey was carried out over the intrusive with a DISA 300 in an unsuccessful attempt to delineate alteration patterns by means of the K40 or U238 content of the intrusive. It was found that measurements of both K and U values produced very weak readings that are statistically very close to values obtained in the sediments and volcanics.

During the period of September 10 to September 18, 1976, a pulse induced polarization survey was undertaken over the intrusive by Peter Walcott and Associates. The results of the survey indicated that both the width and depth to which the mineralization extends in the intrusive are greater in the southern half of the property than in the northern half. In addition, the survey indicated that total sulphide concentration is higher in the south than in the northern part of the intrusive.

A magnetometer survey was attempted between September 11 and September 17, 1976. During this time, a strong magnetic storm seriously hampered the survey; however, readings were successfully obtained at one hundred foot spacings on lines at 800 foot intervals across the grid, in addition to readings along the base line. The survey indicated that the magnetite content of the intrusive is very low. A general north-south pattern is indicated by the magnetometer, roughly outlining the intrusive, but the weak anomalies coincide only very generally with the copper mineralization observed.

Soil geochemistry was extended southwards in the intrusve from the southernmost limits of 1975 sampling.

A helicopter traverse was undertaken on September 10 to investigate a gossanous area visible from camp north of King Creek. It was hoped that this might represent an extension of the intrusive. This was indeed found to be so and subsequent to the discovery of several small patches of copper mineralization, fifteen claim units, consisting of Boot I and Boot 2 groups were staked to protect the intrusive.

It was concluded that porphyry copper style mineralization associated with quartz veining is widespread within a monzonitic intrusive. Strong sericitic and chloritic alteration are associated with the mineralization. Significant pre-mineralization faulting has taken place within the intrusive. Evidence supporting oxidation and leaching of surface outcrops suggests that, at least in some areas, surface assays could be significantly lower than subsurface grades. I.P. surveying has indicated that the sulphide concentration and continuity is greater in the southern part of the intrusive.

B. INTRODUCTION

1. Ownership

The Mount Dunn property consisted, until June, 1976, of six contiguous claims designated VV1 to VV6. In June, 1976 this group was augmented by the staking of two claim groups of 20 units each, designated the Eric 1 and Eric 2 claims, to protect the area of interest.

In September, 1976, the Boot 1 and Boot 2 claims totalling 15 units were staked north of the Eric claims to cover extensions of the intrusive.

In November, 1976, the Frank Can and NON claims totalling 55 units were staked.

All claims are wholly owned by Great Plains Development Company of Canada, Ltd. The pertinent data on the claims is as follows:

Claims	Record Numbers	Recording Month
VV 1, 2, 4, 6	38916, 17, 19, 21	July
VV 3, 5	38918, 20	July
Eric 1	00079	July
Eric 2	00080	July
Boot 1	00075	October
Boot 2	00076	October
Frank 1	00355	November
CAN 1	00356	November
NON 1	00357	November

2. Location and Access

The Mount Dunn property is situated on a northerly trending saddle on the north-easterly spur of Mount Dunn, midway between the easterly flowing King and Fewright Creeks and two and a half miles west of the Unuk River at an elevation of 4,000 feet. Latitude of the claim group is 56 degrees, 29 minutes north and longitude is 130 degrees, 38 minutes west, corresponding to N.T.S. 104B-7 within the Liard Mining District of British Columbia.

The closest town and seaport is Stewart, British Columbia, located about forty-five miles southeast of the property (see Diagram 1). The Snippaker airstrip is about eight miles north of the property and equipment could be transported from the airstrip to Mount Dunn by helicopter at minimum expense.

3. Geographic Considerations

The Mount Dunn property straddles the tree line at about 4,000 feet and is accessible only by helicopter. Above this elevation, occasional badly stunted trees and abundant low alpine flora are present, while below 3,800 feet, the vegetation consists of dense black spruce and occasional tag alder.

The climate at Mount Dunn may be classed as cold western-margin and is typified by abnormal amounts of participation as relatively warm westerly winds from the Pacific Ocean unload on the Western Cordillera. The property receives very heavy snowfall, resulting in very extensive snow cover between October and the end of July and broad snow patches, particularly in gullies, between July to September. In addition, as the property is frequently above cloud base, dense fogs are common, often reducing visibility to less than two hundred feet.

4. Economic Considerations

Access to the Stikine region may be achieved by aircraft from Terrace or Prince George to Eddontenajon, British Columbia, or from Vancouver to Stewart, British Columbia. In addition, a gravel road exists between Terrace, Stewart and Eddontenajon and continues on to Cassiar.

Supplies for Mount Dunn may be trucked to Bob Quinn Lake from whence they may be flown by helicopter to Mount Dunn, a distance of about 40 miles. Alternatively, supplies may be flown by fixed wing aircraft to the airstrip at Snippaker Creek, from where they can be flown to the property by helicopter - a distance of eight miles.

Numerous creeks and streams are present on the Mount Dunn property in summer. These would be more than adequate for drilling or to supply a large camp. However, running water is available only from July until late September at which time freeze-up occurs.

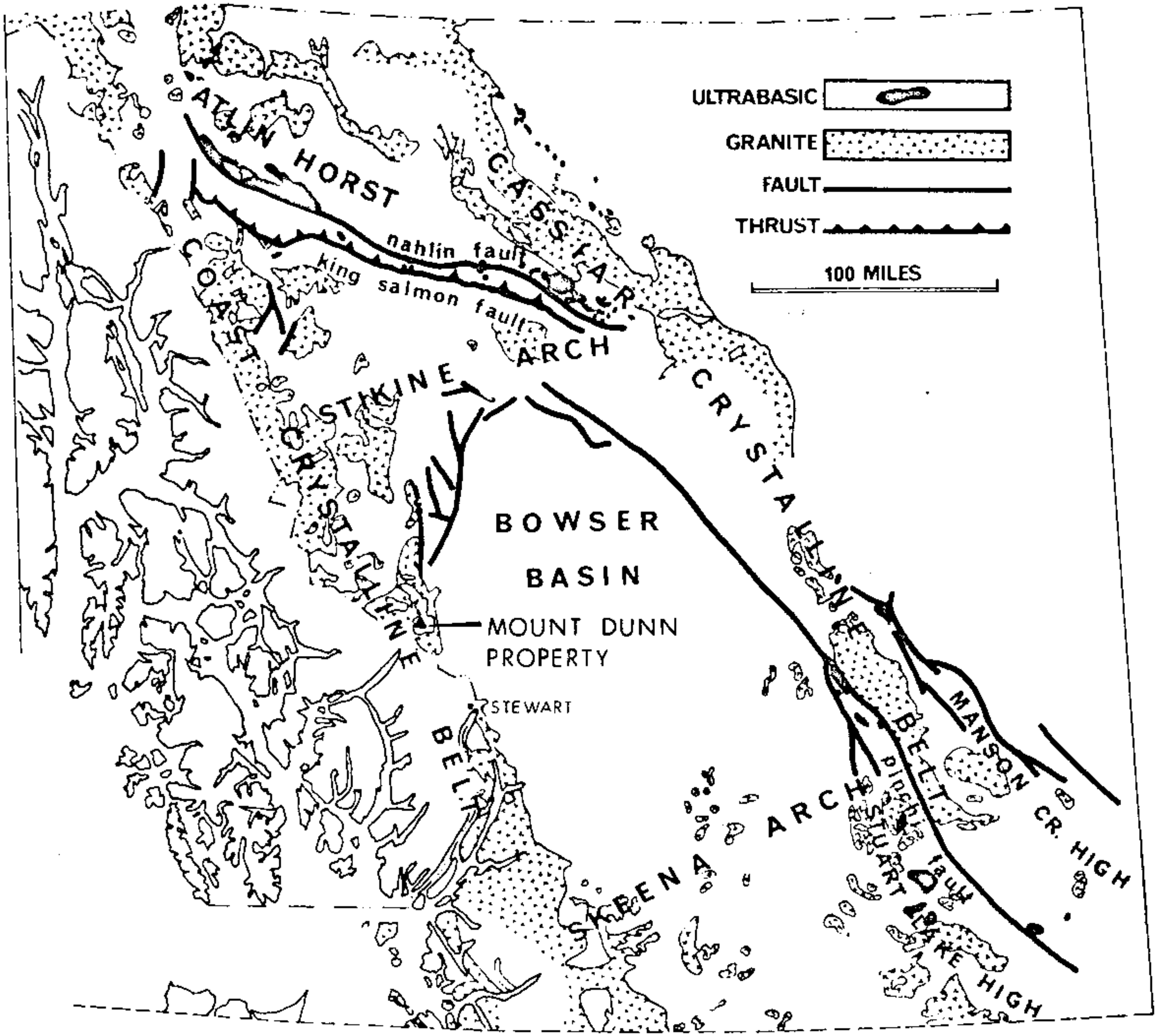

DIAGRAM No. 1: Tectonic elements of north central British Columbia AFTER: SOUTHER, J.G. & ARMSTRONG, J.E., 1966

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5. Previous Exploration

The region around Mount Dunn was prospected for placer and lode deposits in the late nineteenth century and the early decades of the twentieth century. By 1930 a number of high grade vein deposits had been found within ten miles of the VV claims.

Prospectors staked the area in the late 1960's and optioned the property to Skyline Resources. Evidence of their operations on the property are still visible in the form of geochemical soil grid flagging and several blasted trenches. Their claims were allowed to lapse at the end of 1973.

In 1971 Great Plains Development Company of Canada, Ltd., ran a random soil sample line across the property which revealed anomalous copper values to 864 ppm. When the property was staked in 1974 soil samples and rock chip samples were collected along the chained claim lines and anomalous copper values were obtained.

In 1975, 186 soil samples were collected, and 36 rock chip samples were analyzed for copper, molybdenum, silver and gold. Further prospecting was undertaken and a preliminary geological map compiled.

6. Current Objectives

The objectives of the 1976 field program on Mount Dunn were: 1) to compile a detailed geological map of the intrusive at a scale of 1 inch to 200 feet; 2) to complete geochemical soil sampling of the intrusive; 3) to conduct an induced polarization survey over the intrusive with a view to determining the concentration of total sulphide and its depth and width of occurrence within the intrusive; 4) to conduct a gamma ray spectrometer survey over the intrusive and adjacent sediments in hopes of a) delineating a potassic zone of alteration if present by means of measuring K40 in the intrusive and b) finding evidence of uranium enrichment in the intrusive or contiguous sandstones and c) to conduct a magnetometer survey over the intrusive using a Sharpe MF-I Fluxgate magnetometer, time permitting.

C. EXPLORATION AND DEVELOPMENT

1. Reconnaissance

The author and Tom Bojczyszyn of Great Plains Development Company of Canada, Ltd. commenced working on the Mount Dunn property on July 18, 1976. At that time, the property displayed about 70% snow coverage and no grid adequate for mapping control was present.

Prior to August 7, when a linecutting crew of four people arrived, numerous regional traverses were undertaken over and around the property. This was aimed at familiarizing the geologists with the local lithologies and trying to assess the potential for massive sulphide mineralization in the volcanics to the east and sediments and volcanics to the west of the intrusive. During this time, a map was compiled at 400 feet to one inch extending further east and west than subsequent detailed mapping. It was clearly demonstrated during this time that descent from the Mount Dunn camp area, either to the north, or to the east, was totally unfeasible and that helicopter assistance would be necessary.

2. Linecutting

Between August 7 and August 11, a linecutting crew comprising three men and one girl cut and chained a grid over the Mount Dunn property totalling 52,900 feet. This comprises a 7,200 foot baseline bearing 010 degrees through claim post VV5', VV6' and cross lines of varying lengths at 800 foot intervals from ON to 72N with intermediate lines at 12N, 20N, 28N, 36N and 44N. Subsequently, the two geologists of Great Plains cut and chained lines 60N and 52N, in addition to extending eastwards lines 44N, 32N and 28N.

3. Geological Mapping

Detailed mapping was effected at a scale of 1 inch to 200 feet over the intrusive and some of the adjacent sediments and volcanics. Because of time limitations, the sediments and volcanics were more extensively mapped at the north than at the south end of the grid. Controls used in mapping were:
1) a cut and chained grid with lines at 800 foot intervals between ON and 72N supplemented by intermediate lines at 400 foot intervals between 12N and 44N, and
2) topographic controls which could be readily related to the one inch to 200 feet topographic base map.

Detailed mapping of the intrusive itself was somewhat hampered by the low incidence of outcrops. While the intrusive is readily delineated by the gossanous sand which often covers it, much of the rock exposure is either subcrop or felsitized intrusive which is frequently highly leached and crumbly.

4. Geochemical Work

Numerous locations on the 1975 grid were located and tied in to the 1976 grid so that the 1975 geochemical soil and rock samples could be replotted on the 1976 grid. Fill-in geochemistry was effected on 200 foot centres at the southern end of the grid to supplement the samples obtained in 1975. In addition, about twenty rock chip and chip channel samples were collected over the grid and sent in either for assay or for geochemical analysis to Chemex Labs of Vancouver. Care was taken to obtain soil samples from the B horizon and analysis was by the hot extraction method. Results obtained from these samples may be found in the enclosed attachments.

Background, threshold and anomalous limits used in contouring soil geochemical results for copper and molybdenum were those calculated by C. Q. Winter in 1975.

For copper, they are as follows:

Background	0-77 ppm
Threshold	78-180 ppm
Anomalous	over 180 ppm

For molybdenum, the values are:

Background	0-6 ppm
Threshold	7-18 ppm
Anomalous	over 18 ppm

5. Geophysical Work

(a) Induced Polarization

A pulse induced polarization survey was carried out between September 10 and September 18 by Peter Walcott and Associates (see attached report).

Because of the narrow width of the intrusive, extensive snow coverage in low places, and inability to string a one mile infinity wire in any direction away from the grid because of topography, it was found to be impractical to establish a background value for the intrusive against which to compare other values obtained.

Good ground contacts were found to be very hard to establish because of the abundance of clayey soil, gossaneous sand and scree. As a result of this and inclement weather, the survey took longer to complete than had been planned and it was decided on the recommendation of Peter Walcott to omit some lines; L. 12N, L. 20N and L. 28N. In addition, lines ON, 64N and 72N were found to be impractical for I.P. surveying either as a result of local topography or of excessive snow cover and were not surveyed.

(b) Magnetometer Survey

Between September 11 and September 17, a magnetometer survey of the intrusive was attempted by Great Plains personnel using a Sharpe MF-1 Fluxgate magnetometer. The survey was seriously hampered throughout this time by a magnetic storm producing large scale distortions over short time intervals. However, readings were successfully obtained at 100 foot intervals on lines 72N, 64N, 60N, 56N, 48N, 40N, 32N, 24N, 16N, 12N, 8N and L0 in addition to readings obtained along the baseline.

Because of probable distortions resulting from the storm, it has been considered wise to contour the results at 100 gamma intervals (see attached map).

(c) Gamma Ray Spectrometer Survey

From August 30 to September 1, a gamma ray spectrometer survey was attempted across the intrusive using a DISA 300 instrument (see attached map). Low concentrations of K40 and U238 necessitated counting times of up to 10 minutes for each reading. This, in addition to the inconclusive results obtained, resulted in an abbreviation of the survey.

Time limitations prevented conducting a radiometric survey of the greywackes, however it is not considered that this would have been fruitful as they are considered to be of very immature volcanogenic origin and intermediate composition with very low potential for mineralization.

(d) Discussion of Geophysics

While the results obtained from the induced polarization survey do not provide all the information and detail it had been hoped it would, the survey nonetheless does indicate an encouraging trend towards higher total sulphide, greater width and greater depth of mineralization in the southern part of the property than in the northern half. These trends reflect the conclusions reached during mapping of the intrusive. It is unfortunate that the survey indicates only shallow depth for the Cu - Mo showing east of the baseline between 4150 and 4300N, however, a bore hole to confirm the depth to which the mineralization extends might still be considered warranted.

Results obtained from the magnetometer survey indicate low magnetite content in the intrusive. Only a few, relatively weak magnetic anomalies were encountered, and these correspond only very approximately to observed copper mineralization. No drill targets are considered to have been defined.

Magnetometer readings appear to decrease slightly towards the south, possibly reflecting higher sulphur fugacity in the south than in the north which either indicates primary zonation or secondary zonation caused by hydrothermal activity which produced the mineralized quartz stock work. This hypothesis is supported by the better I.P. response elicited in the south than in the north.

Insufficient readings were obtained with the gamma ray spectrometer to be considered truly significant. It is considered likely, however, that the inconclusive readings obtained and the similarity of values in the intrusive, as compared to the host rock, are partly a result of several factors: 1) minimal good outcrop exposure in the intrusive, necessitating numerous readings over gossanous sand, scree and vegetation; 2) the ruggedness of the topography making constant geometry difficult to maintain, and 3) the similarity in origins of the intrusive and surrounding volcanics and volcaniclastic sediments.

It does appear, however, that a zone of minor K40 enrichment may be indicated within the intrusive. Lower K40 values towards the southern end of the grid are coincident with the higher total sulphide concentrations previously mentioned but insufficient data is available to determine the significance of this.

E. GEOLOGY

1. General Geology

a) Regional Geology

The Mount Dunn property is located on the edges of the Coast Crystalline Belt and the Bowser Basin. It consists of a high level, apparently vertically tabular monzonite intrusive which trends approximately north-south and has been block faulted up into a sequence of intermediate flows, tuffs and volcaniclastic sediments.

The intrusive varies from about 500 to 1,100 feet in width and appears to be continuous for a north-south distance of at least four miles, extending across King Creek to the Boot claims to the north, and reaching at least 1,000 feet south of line 0N. Both ends of the intrusive are open to the best of our knowledge.

It is believed that the intrusive was emplaced during cooling while still partly molten and plastic. This assumption is based on four lines of evidence: 1) The presence of several narrow, more or less continuous bands of acid ash fall tuff within the intrusive. It is thought that the intrusive was injected concordant to the tuff at depth and, subsequent to partial crystallization, was faulted into place bringing the ash fall tuff with it. 2) The presence of numerous dykes, particularly to the east of the intrusive, which cut the adjacent intermediate tuffs and sediments. These dykes appear to be of very similar composition to the intrusive, grading from fine grained to medium grained light green rocks adjacent to the intrusive to an aphanitic light grey felsite porphry with plagioclase phenocrysts further away from the intrusive. It is postulated that during up-faulting, the solidified margins of the intrusive were fractured allowing molten magma to be squeezed out into the adjacent host. 3) Lack of thermal metamorphism in adjacent argillites and tuffs. Even where the intrusive is directly in contact with argillites, thermal metamorphism is not observed. The implication of this is that the intrusive had to be relatively cool, at least at its margins, at the time that it was emplaced in the sediments and volcanics. 4) Consistency of dip direction west and east of the intrusive. This would not be expected if the intrusive had been actively emplaced as a magma.

The region of the Mount Dunn property is characterized by numerous faults, trending north-south, northeast and northwest. It is probable that many of the north-south faults are directly related to emplacement of the intrusive. They are considered to be chevron faults resulting from uplift and settling of the intrusive and many of them have probably not experienced large scale movement.

b) Structural Geology

The intrusive discordantly cuts a sequence of westerly dipping sediments and volcanics. Faults trend north-south, northeast and northwest. The north-south faults are older than those faults oriented in other directions. The majority of the faults on the property express themselves as gullies and prominent topographic lineaments. It is not known whether tilting of the country layered rocks to produce the steep westerly dips preceded a followed emplacement of the intrusive.

Numerous dykes cut the property, particulary in the intermediate tuffs and sediments east of the intrusive. While the andesite dykes are probably related to the intermediate volcanism, the felsites and monzonites are considered to have originated from within the intrusvie at the time of its emplacement, as previously discussed.

A prominent hornblende diorite dyke was the last rock unit to be emplaced on the property as it cuts the sediments, intrusive and intermediate tuffs. The dyke, in turn, has been offset in several places by the northeast and southeast trending faults.

c) Local Geology

(i) The Eric Claims

East of the intrusive at the apparent bottom of the local stratigraphy is a thick sequence of andesite and basalt flows with thin interbeds of argillite. The basalts are black, fine grained to aphanitic rocks, often containing grey, angular andesitic fragments less than one centimeter in size. Occasional round calcite filled, stretched amygdules are present as well as scattered plagioclase phenocrysts which show poor trachytoid texture. Rare, thin biotite books are present and the rock contains very minor disseminated pyrite.

The andesites are dark green to grey, fine grained to aphanitic flows that characteristically weather to a buff to orange color. They comprise essentially plagioclase plus chloritized hornblende and are frequently calcareous. Euhedral plagioclase phenocrysts which occasionally display trachytoid texture are common. Minor disseminated pyrite is usually present.

Generally thin bands of grey siltstone and black aphanitic argillite are found as interbeds between flows. These sediments are frequently lightly pyritiferous.

Overlying the flows towards the west is a sequence of intermediate tuffs - lithic, crystal and undifferentiated - with thin interbeds of argillite and numerous cross cutting dykes. The tuffs are buff weathering fine grained to aphanitic rocks that generally appear welded. Fragments are frequently visible under the hand lens only after the rocks have been etched with hydrofluoric acid. Composition of the tuffs is andesitic as no potassium feldspar was detected by staining. Minor calcite is usually present, as well as chlorite, occasional epidote and generally less than one percent pyrite. The lithic tuffs contain angular to rounded argillaceous clasts up to ten centimeters in size which occasionally display good bedding. Crystal tuffs contain broken phenocrysts of plagioclase and hornblende that may be up to three millimeters in size and are randomly oriented.

The southeast corner of the property is occupied by interbedded sediments - argillites, siltstones and carbonates that have been faulted into their present position. Their stratigraphic correlation is unknown. The presence of abundant, partly recrystallized, pelecypod shells in the more arenitic horizons indicates an active, shallow environment of deposition. Attempts to identify the shells have been unsuccessful due to the well developed oblique jointing and degree of recrystallization. The sediments in this corner are cut by numerous felsite dykes.

West of the intrusive, in the northern part of the property, there is a band of volcanic breccia. As correlation of rock units across the intrusive is not feasible, its level compared to that of the rocks east of the intrusive is unknown. The breccia is characterized by about 25% light grey, volcanic fragments which are up to five centimeters in size, set in an aphanitic to fine grained, dark grey tuffaceous matrix. The unit weathers grey. Up to 0.1% pyrite is finely disseminated. The unit thins to the south and disappears by line 52N.

Overlying the volcanic breccia in the northwestern part of the property is a band of crystal tuff. The grey-buff weathering rock comprises a dark grey matrix in which are found 10 to 30 percent broken calcareous plagioclase phenocrysts and variable, but usually minor amounts of angular lithic fragments which generally consist of argillaceous sediments. Very minor pyrite is disseminated in the matrix.

The crystal tuff is overlain in the northwestern part of the property by a thin band of argillaceous limestone. This black, aphanitic rock weathers to a light-grey to black color in which differentially weathering thin, grey limestone and black argillite bands are very noticeable. The unit is well bedded and is usually extensively fractured and filled with millimetric cross cutting calcite and quartz stringers. The carbonate does not extend further south than line 56N.

The limestone is overlain by a pyroclastic unit of variable thickness that can be easily followed south from line 72N to line 28N where it is truncated by an east-west fault. It is a grey to buff weathering, lithic crystal tuff containing numerous oriented elongate fragments of black to dark green, aphanitic, chloritized basic volcanic rock up to ten centimeters in size in an aphanitic to fine grained, dark grey to black tuffaceous matrix. Rare broken crystals and intermediate igneous fragments to one centimeter are present. Very minor pyrite is sometimes disseminated throughout the rock, never exceeding 1% volume.

Overlying this unit is a pale orange to buff weathering, well bedded volcanogenic greywacke. The rock is compact, fine grained and light to dark grey in color. It comprises essentially plagioclase plus less than 10% hornblende and is well lithified, breaking with a conchoidal fracture. Surface rust spots reflect the presence of one to two percent disseminated pyrite.

The top of this unit is marked by a north-south gully, presumed to represent a fault. This is bounded on the west by a sequence of interbedded argillites, limestones and greywackes which, at the soutwest end of the property, are directly in contact with the intrusive.

The argillites are well bedded and structually very complex, reflecting intense folding, minor faulting and extensive fracturing. The limestones are extensively fractured and filled with more than fifty millimetric white calcite and quartz veinlets per foot which are randomly oriented and cross cutting. Deformation of the argillites is considered to reflect a combination of soft sediment deformation plus deformation associated with faulting. The limestones, being more competent, underwent extensive shattering.

The majority of the sedimentary sequence is made up of white to grey, fine grained volcanogenic greywacke comprising plagioclase, minor quartz, hornblende and rare potassium feldspar. The greywacke is a hard, thick bedded, lightly pyritized rock that weathers grey. Occasional graded bedding indicates that the sequence is the right side up. Foreset and cross bedding indicate a source of detritus to the north.

West of another north-south fault, beyond the greywacke one encounters a band of intermediate tuffs (or possible volcanogenic greywacke) with thin interbeds of argillite and calcisiltite. The tuff comprises less than 10% andesitic and argillaceous fragments to three millimeters set in a fine grained matrix of plagioclase, hornblende and quartz. It weathers buff-grey and is generally lightly fractured.

Overlying the tuff is a thick sequence of dark green, buff weathering, massive andesite flows. These flows often contain angular cogenetic fragments, particularly at their bases. The andesite is propylitized with chlorite, calcite and minor epidote being easily discernable in the matrix. Pyrite, not exceeding 1% by volume, is disseminated throughout the unit.

The andesite is overlain in the northwestern part of the property by a band of intermediate agglomerate. This dark grey, fine grained intermediate pyroclastic weathers orange brown. It contains numerous round and streamlined bombs to thirty centimeters set in a dark green propylitized matrix.

This is succeeded by another band of propylitized andesite which is overlain at the top of the mountain at 5,200 feet by a thick band of volcanic flows breccia. Very numerous fragments of intermediate composition, sometimes exceeding 120 centimeters, are set in a fine to medium grained propylitized crystalline matrix of latitic composition. The edges of the igneous fragments on occasion show chill margins. Xenoliths of sedimentary rock are not uncommon, including one baked xenolith of well bedded sediments more than eight meters in size that has been rafted into its present position. In additon to a chloritized matrix, the rock frequently has epidote filled fractures.

It is postulated that the monzonite intrusive may have served as a feeder for the latitic extrusions capping the mountain. As such, it is concluded that the intrusive was probably faulted into its present position soon after deposition of the latites.

The intrusive is a light green-grey fine to medium grained monzonite. It consists of a microcrystalline potassium feldspar matrix with (in less altered zones) chloritized hornblende and euhedral millimetric plagioclase phenocrysts. Microcrystalline quartz may be present in the matrix but is not visible to the naked eye. Zoning is often visible in plagioclase phenocrysts under the hand lens and they are often arranged in trachytoid fashion.

On the basis of the degree of alteration which ranges from strong to intense, the intrusive has been subdivided as follows: I CA - Hornblende monzonite; I CB - sericitized monzonite; I d - Felsitized monzonite. The hornblende monzonite is characterized by the presence of distinct chloritized mafics - specifically hornblende. Feldspars are lightly sericitized and commonly saussuritized. Minor calcite is present as a result of breakdown of calcic plagioclase and sulphide content is generally low, essentially confined to pyrite with minor scattered chalcopyrite. Malachite stains are not uncommon on fracture faces. This phase of the intrusive is usually lightly fractured, with fewer than five quartz veinlets per foot and, in many cases, none at all. The pyrite to chalcopyrite ratio normally exceeds 10:1. Euhedral millimetric partly altered plagioclase phenocrysts are normally present and sometimes exhibit zonation under the hand lens. These phenocrysts often show poor trachytoid texture.

The sericitized monzonite is a much more highly altered variety of the hornblende monzonite. Mafics are either entirely absent or are represented only by faint straw colored ghosts made up of sericite and carbonate ± pyrite. This phase of the intrusive is frequently highly fractured and often hosts mineralized quartz stockwork. The stockwork is present as 5 to 20 or more quartz veinlets per foot. These range in width from submillimetric to about two centimeters and are frequently anastomosing. Copper mineralization is present, not only in the quartz veins, but also in the host rock. The pyrite to chalcopyrite ratio is less than 2:1.

Rocks of subgroup I d - the felsitized intrusive are always rusty on the weathered surface and are frequently soft and crumbly as a result of extensive leaching. They comprise a phyllic alteration assemblage of quartz and sericite and pyrite and probable kaolin and occasional remnant malachite. The fresh surface is white to rusty with pyrite comprising up to 15% by volume in a few scattered locations. The felsitized intrusive, while being widespread, is particularly striking in a rusty band about one hundred feet wide outcropping along the western side of the intrusive. Several trenches have been blasted here previously, probably by prospectors seeking gold.

Several dykes and pods of monzonite, believed to be related to emplacement of the intrusive, are present, particularly east of the intrusive. These dykes, up to about 40 feet wide, correspond to subunit I CA - the less intensely altered hornblende monzonite. While minor pyrite may be disseminated in the dykes, copper mineralization was not observed. Millimetric euhedral plagioclase phenocrysts are frequently present, often displaying trachytoid texture. Edges of the dykes generally show chill margins which, depending on the width of the dyke, may be up to two feet wide.

Numerous porphyritic felsite dykes were obsersed, both east and west of the intrusive, but not within it. They are white to light grey-pink, aphanitic to fine grained rocks, often containing oriented millimetric euhedral plagioclase phenocrysts that are sometimes visibly zoned. Staining does not reveal potassium feldspar in the matrix, but it is nonetheless suspected that the dykes are related to the intrusive. Very minor pyrite is frequently present.

Two varieties of andesite dykes cut the property. Both east and west of the intrusive, buff weathering, massive, dark green, aphanitic to fine grained andesite dykes abound, normally oriented approximately east-west. These dykes sometimes contain calcite filled amygdules and often millimetric plagioclase phenocrysts. Diabasic texture is common. Rare disseminated pyrite is observed, not exceeding 1% by volume. In a few instances, andesite dykes of this kind were observed within the intrusive. These are truncated at the fault zones bounding the intrusive to the east and west and are believed to have been emplaced mainly prior to upfaulting of the intrusive.

East and west of the intrusive, numerous calcareous andesite dykes were recorded. These light grey, fine grained rocks display a "shredded" texture of white calcareous sericitized mafics and plagioclase with thin calcite veinlets and rare amygdules. Pyrite is rarely observed.

Cutting across the property from northwest to southeast is a grey-brown weathering hornblende diorite dyke. This dyke, which is consistently about twenty feet wide, comprises about 60% plagioclase, 35% dark green, acicular hornblende and minor quartz, chlorite and epidote. The amphibole needles do not exceed 5 mm in length and the rock displays ophitic texture. Pyrite rarely exceeds 1% by volume and is often associated with rusty patches and minor chloritization. Epidotization of the dyke is pervasive, and particularly strong in the northwest corner of the property. Rounded cogenetic fragments up to 30 centimeters in diameter are found within the dyke in several locations. Longitudinal jointing is very well developed which, as a result of the prominent relief of the dyke right across the property, results in large, platy slabs scaling from its sides. The dyke, which is not significantly magnetic, is younger than the north-south faults but, like the intrusive it cuts, has been offset by several northeast and northwest trending faults.

Trending north-south within the intrusive, south of 50N are several thin bands of acid ash fall tuff which can be followed, discontinuously, south beyond line 8N. This tuff, which shows good banding, is hard, light grey fine grained to cherty rock, generally lightly calcareous. Rare chalcopyrite and pyrite can be observed along fracture faces. The age of the tuff is not known other than that it is older than the intrusive.

(ii) The Boot Claims

A brief, helicopter supported traverse was undertaken to the north side of King Creek ~~on September 10~~ to examine a conspicuous gossan that was considered to represent a possible northward extension of the Mount Dunn intrusive. Confirmation of this postulate resulted in the Boot claims being staked~~, the same day.~~ These claims, extending three units east-west, and five units north-south, are separated from the Eric claims by a small gap of open ground which falls within the canyon occupied by King Creek.

Soil samples TBMD76001 to TBMD76003 and rock samples 76M395, 76M401, 76M410, TBMD276 and TBMD278 were submitted for analysis. Results are as follows:

TABLE I

Soil Sample No.	ppm Copper	ppm Molybdenum	ppm Silver	ppm Gold
TBMD76001	443	23	<0.5	110
TBMD76002	2120	90	<0.5	110
TBMD76003	64	6	<0.5	<15
Rock Sample No.				
76M395	110	2	<0.5	<15
76M401	613	23	<0.5	15
76M410	215	1	<0.5	<15
TBMD276	344	1	<0.5	<15
TBMD278	419	3	<0.5	15

The monzonite intrusive here was observed to be propylitized and pyritized. Epidote is common on fracture faces. Pyrite is sometimes associated with quartz stockwork which was however, not observed to bear significant copper mineralization at surface. Malachite and/or chalcopyrite were observed in six small locations. In addition, rusty massive pyrite lenses were encountered in the interbedded ash fall tuff horizon which is apparently comparable to the tuff interbeds observed within the Mount Dunn intrusive.

d) Metamorphism

Regional metamorphism is of lower greenschist facies. Propylitic assemblages of chlorite and calcite are ubiquitous in the intrusive with significant epidotization in the andesites, agglomerates latite flow breccias west of the intrusive above the 4,700 foot contour.

2. Mineralization

a) Mineralogy

Copper mineralization in the form of chalcopyrite, malachite and azurite are widespread across the property. Malachite and rare azurite form splashy stains and coatings on fracture surfaces within the intrusive as alteration products of chalcopyrite. Chalcopyrite is found to be most concentrated in and associated with quartz stockwork in a band from 56N to south of 0N with the best developed surface showings between 41N and 44N adjacent to the base line. The chalcopyrite here is found both within anastomosing quartz veinlets (particularly adjacent to the walls of the veinlets) and within the host monzonite where the copper appears to have pervaded from the stockwork.

Very weak copper mineralization has been observed in the intrusive in which stockwork is absent, however, this never reaches significant concentration. Surface mapping indicates that copper mineralization is best developed in stockwork south of L44N, and this has been corroborated by the induced polarization survey.

Three chip channel samples were collected across mineralized stockwork on the property. Sample 76M278, with a length of 27 feet was taken from 41 + 97N, 0 + 30E to 41 + 70N, 0 + 35E. Sample 76M279, with a length of 35 feet adjoins 76M278 and was taken between 41 + 70N, 0 + 35E and 41 + 35N, 0 + 40E; while 76M369 with a length of 11 feet was obtained from a blasted trench between 24 + 01N, 1 + 78E and 24 + 10N, 1 + 75E. Assay results are as follows:

TABLE 2

Sample No.	Length	% Cu	% Mo	oz/ton Ag	oz/ton Au
76M278	27'	0.25	<0.001	0.01	0.016
76M279	35'	0.87	<0.001	0.06	0.054
76M369	11'	0.34	0.003	0.06	0.024

Pyrite to chalcopyrite ratios were observed to range from more than ten in areas of weak or nonexistant quartz veining in the intrusive, to ≤ 1:2 in areas of intense mineralized stockwork in sericitized monzonite.

Significant molybdenum mineralization was encountered at only one location adjacent to the baseline at 43N. A grab sample from this locality (76M335) returned assay values of 1.07% copper and 0.19% molybdenum. Soil geoch-mical samples obtained in 1975 close to this locale returned highly anomalous values of 96 and 512 ppm Mo. Several other small molybdenum anomalies were outlined in the intrusive by soil sampling in 1975 and 1976 but molybdenum mineralization was not observed at the sites of these anomalies.

Modest silver and good gold values were reported from grab samples on the grid (see attached assay lists). No silver values were encountered approaching the 1.75 oz/ton reported by C. Q. Winter in 1975 but grab sample 76M335, previously mentioned, did return values of 0.57 oz/ton Ag and 0.252 oz/ton gold. Gold values appear directly correlative to copper values.

Selective oxidation of the intrusive is indicated, manifesting itself as widespread patches of felsitized, gossanous material in which only remnant malachite is observed. It is probably that these extensively weathered patches, which are frequently adjacent to areas of fresh unleached intrusive, have been leached by acidic solutions originating from local pyrite concentrations. These patches are frequently observed in fault and shatter zones where acidic fluids would have ready access to the monzonite.

Because of the extensive surface leaching of these areas, it is probable that grab samples of this material submitted for analysis may be returning unrepresentatively low copper values.

Significant sphalerite was found in only one locality - a peripheral showing on line 72N at 5W. In this weak, but entensive, showing; dark brown, iron rich sphalerite is present with white, well crystallized quartz ± calcite in millimetric to centimetric veinlets cutting pyroclastic breccia. Overall grade is <0.1% zinc over an area of about 200 x 100 feet. Honey brown siderite is frequently associated with the zinc mineralization. Zinc mineralization is apparently affected by three controls:

1) Fault control:

The showing is located in a north-south fault gully close to the cross-cutting hornblende diorite dyke;

2) Chemical control:

The mineralization directly underlies a thin barren-carbonate horizon which probably provided a favourable chemical environment for mineralization;

3) Vein control:

The sphalerite is present only in quartz or quartz-calcite veinlets.

No economic significance is attached to this showing in view of its low tenor of zinc and the complete lack of mineralization outside the veins. As the fault valley is snow filled, the possibility cannot be excluded that the showing extends north or south somewhat further than the surface mapping indicates.

b) Alteration

Because of the long tabular form and the block-faulted mode of emplacement, the monzonite intrusive on the Mount Dunn property does not display the typical coaxial porphyry alteration pattern. No where in the intrusive is a potassic zone of alteration exposed. Although the monzonite contains a microcrystalline potassium feldspar matrix, the orthoclase appears to be entirely primary and no secondary potassium feldspar veinlets or biotite were observed.

A phyllic alteration assemblage is well developed, particularly along the west edge of the intrusve. This rusty weathering, often crumbly quartz-sericite-pyrite ± kaolin assemblage has been mapped as unit I d and previously described as 'felsitized intrusive'. The rock is generally extensively leached and has been hand trenched previously, presumably by prospectors looking for gold. Rare remnant chalcopyrite and malachite have been observed at surface, but the Py:Cp ratio greatly exceeds 10:1 and it is likely that any originally significant copper concentrations have been leached out.

Alteration elsewhere in the intrusive ranges from strong to intense. In the less altered hornblende monzonite, I CA, hornblende is strongly chloritized, feldspars are lightly saussuritized and calcite is frequently present as an alteration product. Plagioclase phenocrysts are presumed to be lightly sericitized.

In the sericitized monzonite, I CB, mafic minerals have been entirely replaced by calcite + sericite ± pyrite; plagioclase phenocrysts have been sericitized and calcitized so that they are distinguishable only after staining of the potassium feldspar matrix. The rock has a pale grey-green, more or less homogeneous color in contrast to the more distinctive green coloration of the hornblende monzonite.

Intermediate volvanics, both east and west of the intrusive display varying degrees of propylitization. East of the intrusive, the volcanics are moderately chloritized and usually contain some carbonate but no epidote was observed. West of the intrusive, advancing degrees of propylitization can be observed with increasing elevation, culminating in advanced epidotization and chloritization in scattered locations at the summit of the mountain. It is believed that this propylitization is representative both of regional greenschist facies, metamorphism and of local hydrothermal alteration.

Two stages of silicification are overprinted on the property.

The first phase resulted in the mineralized stockwork found to run generally north-south within the intrusive. Quartz of this phase is observed to be white or grey, massive material filling veinlets associated with pyrite, chalcopyrite and malachite. This phase of silicification is considered to have been contemporaneous with uplift of the intrusive and probably occupies crush zones in it. Quartz veining of this phase of silicification is not observed in the adjacent country rocks.

The second phase of silicification is not associated with any sulphide mineralization. It is characterized by veinlets (sometimes reaching stockwork intensity) of milky to colorless, finely crystalline drusy quartz that cut not only the intrusive, but also the country volcanic and sedimentary rocks, both to the east, and to a lesser extent, to the west. The drusy quartz sometimes has coarsely crystalline calcite associated with it. This is particularly striking in the southeast corner of the property where numerous veinlets of drusy quartz, coarsely crystalline calcite or a combination of the two fill fractures in the sediments.

c) Ore Controls

Copper mineralization is restricted to the intrusive on the Mount Dunn property. While copper mineralization has been noted very weakly disseminated within the hornblende monzonite, I CA, where good quartz veining is absent, significant concentrations of copper mineralization are restricted to those parts of the intrusive wherein good quartz veining related to the first phase of silicification is present. As such, the significant mineralization occupies an apparently continuous band of stockwork in the intrusive which trends overall 010 degrees and can be followed from 56N to 0N. It has been observed that copper mineralization permeated outward into the host rock during silicification as is present as chalcopyrite disseminations. Within quartz veins, the copper mineralization is most often found at the edges of the veins.

The direction of the stockwork veining is variable on the property from 090 degrees to 010 degrees at different points of observation. The significance of this is not entirely clear, although it is suspected that the east-west stockwork may be related to faulting in that direction.

The quartz of the first phase of silicification is postulated to have originated within the partly molten magma. The origin of the silica of the second phase of silicification is unknown.

3. Possibilities

Following the reasoning advanced by R. Sillitoe in his 1973 paper entitled 'The Tops and Bottoms of Porphyry Copper Deposits', it is believed by the writer that the monzonite intrusive encountered on the Mount Dunn property may represent part of a high level porphyry system near the strato-volcano-porphyry system interface. This assumption is based on: a) the absence of an exposed zone of potassic alteration; b) pervasive propylitic and phyllic alteration; c) extensive hyrothermal silicification observed in the intrusive; d) the presence of numerous late stage dykes; e) the presence of the peripheral sphalerite showing adjacent to a carbonate horizon at the north end of the property.

It is worth noting that although several localized instances of tectonic fault breccia were identified within the intrusive, no crackle breccia was encountered.

The long, narrow, apparently vertically tabular intrusive can be readily followed for a north-south distance of more than four miles. It is considered probable that it represents a high level differentiated satellite of a larger underlying pluton which, subsequent to its emplacement as a sill at some undetermined depth was block faulted up as a horst.

The well developed phyllic alteration along the western edge of the intrusive may imply that the satellite stock was wider at depth prior to up-faulting and that only part of the mineralized igneous body is exposed at surface. This hypothesis would invoke the presence, to at some depth and to the east, of equivalent, possibly mineralized intrusve rock, bounded at its eastern edge by a pyritic halo equivalent to the phyllic assemblage presently noted at the western margin of the intrusive. Whether this igneous body, if it exists, would contain stockwork mineralization comparable to that observed in the exposed portion of the intrusive is questionable if the postulate previously advanced involving emplacement of stockwork mineralization in crush zones at the time of up-faulting is correct.

Surface mapping outlined copper mineralization over a large part of the map grid. It was noted that significant copper mineralization appears to extend from L56N at 6E through 42N adjacent to, and east of the baseline in a probable continuous band through L12N at 3E to L0N at 4E. The induced polorization survey however, does not report sulphide concentrations north of L44N and indicates that the molybdenum showing at L43N and the copper showing at 41N extend only to shallow depth.

South of L36N, improved I.P response suggests greater depth, width and concentration of sulphide mineralization. This is confirmed by good copper grades observed in quartz stockwork at surface.

The writer's opinion, based on the porphyry system model advanced by R. Sillitoe in 1973, and the evidence observed on the Mount Dunn property indicating that the intrusive there is indicative of a high level in such a system, is that it is reasonable to assume the presence of copper mineralization over a considerable vertical extent. If such is the case, it is evident that ample space exists in the intrusive both on, and south of the present grid to host a porphyry deposit - although the steeper topography would hamper its discovery and exploitation.

The Boot claims, north of King Creek, contain an extension of the same intrusive that is present on the Eric claims. Examination of the associated gossan down the north wall of the valley indicates that the intrusive extends from at least the 4,000 foot level to the 2,000 foot level below which the slope is densely vegetated. The author is of the opinion that the intrusive extends beyond there although how deep it does indeed continue and to what degree it is mineralizated at depth are unknown.

F. FINANCES

1. Expenditures

Salaries - Includes Report writing and preparation.

Geologists:	M. Mawer, est. 115 days @$60/day	$ 6,900.00
	T. Bojczyszyn, est.120 days @$60/day	$ 7,200.00
	R. Durfeld, 20 days @$60/day	$ 1,200.00
	D. Good, 10 days @$60/day	$ 600.00
Assistants:	D. Shearer 9 days @$60/day	$ 540.00
	D. Fleming (Cook) 15 days @$45/day	$ 675.00
Expediting:	L. Tyreman 25 days @$60/day	$ 1,500.00
Supervision:	M. D. McInnis 5 days @$125/day	$ 625.00
	Sub Total	$19,240.00

Rentals	Gamma Ray Spectrometer	$ 385.00
	CP Radio	$ 116.00
	Truck Rental	$ 847.81
	Marconi Radio	$ 126.00
	Sub Total	$ 1,474.81

Helicopter Charter and Fuel 41 hrs. @$350/hr.	$14,350.00
Travel and Expenses	$ 2,600.00
Linecutting	$ 2,500.00
Induced Polarization	$ 9,073.78
Rock and Soil Analyses, Assays and Supplies	$ 714.80
Camp Supplies	$ 3,066.39
Groceries	$ 2,250.00
TOTAL	$55,269.78
Overhead @10%	$ 5,526.98
GRAND TOTAL	$60,796.76

G. MISCELLANEOUS

1) Rock Staining

It was found at the Mount Dunn property that etching of rock samples with hydrofluoric acid, followed by staining potassium feldspars with sodium cobaltinitrite solution greatly facilitated rock identification. As well as distinguishing the potassium feldspar matrix of the intrusive, etching of volcanic samples with the acid helped tremendously in differentiating between volcanic flows and fine pyroclastics as fine fragments are particularly noticeable after etching.

2) Quaternary Volcanism

It was noted at an early date that the majority of the Mount Dunn property is covered by several inches of coarse volcanic ash laying on surface. The scoriaceous ash is fresh and recent. Fragment size was observed to be greater in the south than in the north, attaining two centimenters in size at the south end of the property. It was generally observed that the ash is piled up most deeply against south and west edges of boulders and in the northeast ends of depressions. It is believed by the author that the source of this material was to the south or southwest, prevailing winds having carried the ash north of Mount Dunn. No estimate is advanced as to distance to the source.

3) Glaciation

The most recent direction of glaciation was towards the south. This is evidenced by numerous striae parallel to the valley at 190 degrees and by numerous erratics of hornblende diorite, clearly originating from the hornblende diorite dyke. These erratics are always found south of the dyke, the maximum observed distance of transport being about 1,600 feet. Although some of the gossanous sand covering the intrusive is considered to be recent and in situ, it is likely that the rest has been carried out a short distance south by glaciation.

4) Age Dating

A plan to attempt K-Ar dating of the intrusive was found to be unfeasible because of the lack of biotite and the extensive alteration of hornblende to chlorite, calcite and sericite.

Alternative possibilities are: a) whole rock age dating or b) dating of both the younger hornblende diorite dyke and other sediments west of the intrusive to obtain a range of dates bracketing the intrusive.

H. CONCLUSIONS

1. It was determined during mapping that the intrusive on the Mount Dunn property is of monzonitic composition comprising plagioclase phenocrysts set in a microcrystalline potassium feldspar matrix.

2. The intrusive can be observed over a length of more than four miles and has a width varying from four hundred to eleven hundred feet.

3. The intrusive is fault bounded and is believed to have been intruded at depth concordant to contained ash fall tuff horizons. It is then considered that the partly solidified intrusive was up-faulted discordantly into its present portion, this movement and subsequent settling resulting in many of the north-south faults observed. Crushing within the intrusive may have produced areas into which mineralized silicifying fluids could permeate. Monzonitic and felsitic dykes are believed to be contemporaneous with emplacement of the intrusive.

4. The intrusive is discordantly emplaced in a steeply westerly dipping sequence of propylitized intermediate volcanics and volcaniclastic sediments of shallow submarine origin. This sequence has been determined to be upright.

5. Two phases of silicification were observed; the first, with attendant copper mineralization is present only within the intrusive and believed to be a result of silicic fluids percolating through crush zones in the intrusive produced during up-faulting. The second phase of silicification of both the intrusive and host rocks is believed to be of post mineralizational age. It is characterized by drusy quartz veins plus, in some instances, coarsely crystalline calcite. No sulphide mineralization is related to this phase.

6. Alteration observed within the intrusive ranges from propylitic to phyllic with mafics and feldspars being strongly to intensely altered. The most significant copper mineralization is found in the intensely sericitized intrusive associated with quartz stockwork.

7. It is believed, on the basis of long range visual examination of the gossan associated with the extension of the intrusive north of King Creek that the monzonite body is vertical in attitude, but direct proof of this is not available.

8. Evidence presently available suggests that the Mount Dunn intrusive is a high level part of a porphyry system. The monzonite appears to be a tabular body that may be a satellite of a granodiorite pluton at depth. The author is of the opinion that the monzonite was emplaced subsequent to regional tilting of the sediments and volcanics but no evidence is available to support this opinion.

9. Subsequent to the emplacement of the intrusive and later than the hornblende diorite dyke which cuts across the property, the area was subjected to northeast and southeasterly trending faulting which offset the intrusive and the hornblende diorite dyke.

10. Grab and chip channel samples obtained from the Mount Dunn intrusive and submitted for assay returned values ranging between 1.2% and 0.03% copper; 0.19% and < 0.001% molybdenum; 0.57 and 0.06 oz/ton silver and 0.252 oz/ton and 0.005 oz/ton gold. While the maximum values are representative of high grade ore pods, rather than of the intrusive as a whole, the results obtained from chip channel sample 76M369 (0.34% copper; 0.003% molybdenum; 0.06 oz/ton silver and 0.024 oz/ton gold) are reasonably representative of the values obtained elsewhere in the southern part of the intrusive.

11. Copper mineralization, consisting of chalcopyrite plus malachite was observed to be vein controlled in quartz stockwork generally cutting the highly altered sericitized monzonite. Disseminated copper mineralization except where associated with the quartz stockwork, was found to be minimal. Gold values were observed to be correlable with copper values except where extensive leaching of copper is suspected.

12. Differential weathering of the intrusive, probably resulting from the actions of acidic fluids generated from oxidation of pyrite, was found to be widespread at the surface. This has resulted in suspected leaching of a significant proportion of the surface copper mineralization over a substantial part of the intrusive and may result in some assay, soil sample and rock geochemistry values presented here being substantially lower than those below surface.

13. Copper mineralization was observed in a more or less continuous band extending from 56N to 0N. Induced polarization geophysics indicates that this band of sulphides does not continue to significant depth north of L40N; however, it is indicated as being a continuous band of increasing depth and width south of L36N.

14. The Boot claims constitute a favorable target for continued exploration aimed at finding additional porphyry copper mineralization.

15. The potential for finding economic, near surface massive sulphide mineralization in rock adjacent to the Mount Dunn intrusive is considered to be low in light of the up-faulted status of the intrusive. In support of this, with the exception of the peripheral sphalerite showing found on line 72N, pyrite was the only sulphide observed in the country rocks, and this rarely exceeded 1% volume.

<u>REFERENCES</u>

Sillitoe, R. H., <u>The Tops and Bottoms of Porphyry Copper Deposits</u> Econ. Geol. V.68, 1973 pp. 799-815

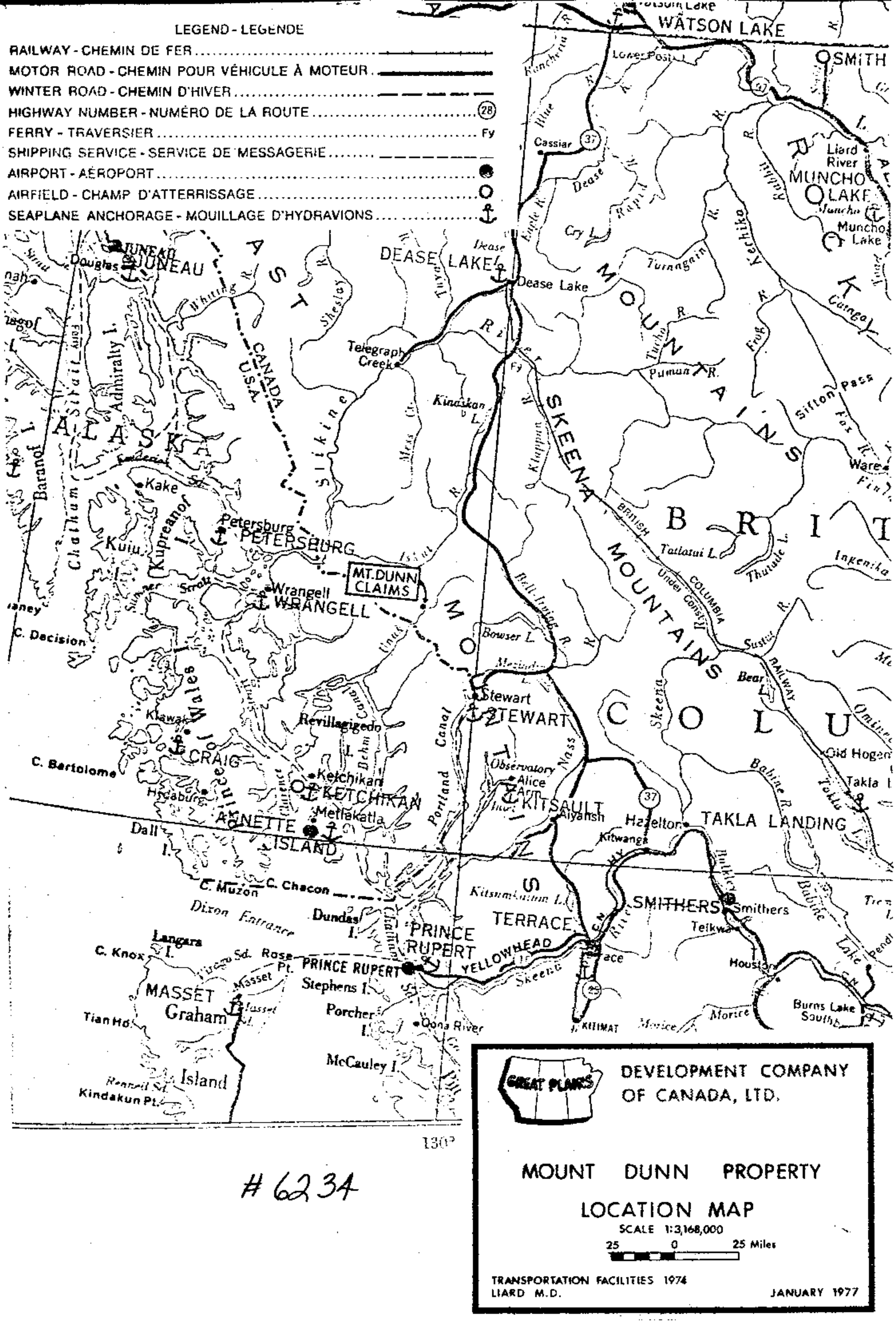
Lowell, J. D., and Guilbert, J. M., <u>Lateral and Vertical Alteration - Mineralization Zoning in Porphyry Ore Deposits</u>. Econ. Geol. V.65, 1970 pp. 373-408

Brown, A. S., <u>Mineralization in British Columbia and the Copper and Molybdenum Deposits</u>. CIMM Bull. V.62, 1969, pp. 26-40

Winter, C. Q., and McInnis, M. D., Mount Dunn Property Yearend Report 1975. Great Plains Development Company of Canada, Ltd.

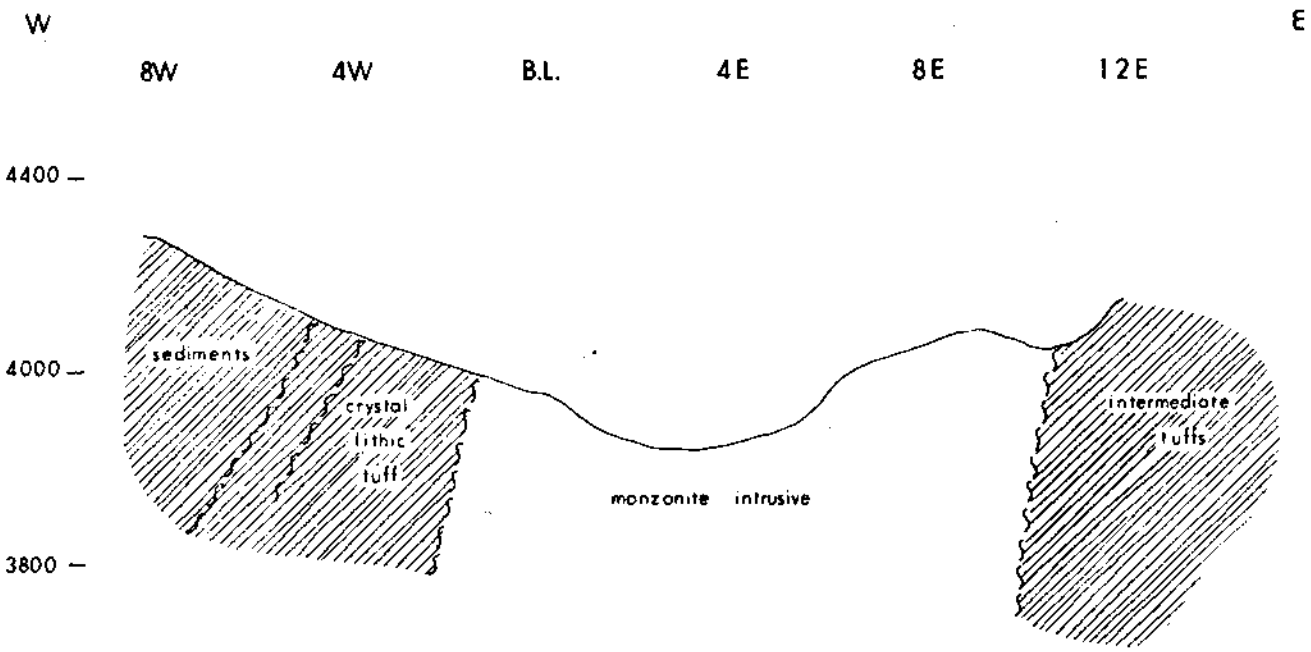
Garratt, G. L., Winter, C. Q., and McInnis, M. D. TAMI Claims - Snippaker Creek Yearend Report, 1975. Great Plains Development Company of Canada, Ltd.

FIGURES


LEGEND - LEGENDE
RAILWAY - CHEMIN DE FER
MOTOR ROAD - CHEMIN POUR VÉHICULE À MOTEUR
WINTER ROAD - CHEMIN D'HIVER
HIGHWAY NUMBER - NUMÉRO DE LA ROUTE
FERRY - TRAVERSIER
SHIPPING SERVICE - SERVICE DE MESSAGERIE
AIRPORT - AÉROPORT
AIRFIELD - CHAMP D'ATTERRISSAGE
SEAPLANE ANCHORAGE - MOUILLAGE D'HYDRAVIONS
WATSON LAKE
SMITH
Lower Post
Cassiar
Liard River
MUNCHO LAKE
DEASE LAKE
Dease Lake
Telegraph Creek
Kinaskan L.
SKEENA MOUNTAINS
JUNEAU
Douglas
ALASKA
CANADA
U.S.A.
Kake
Petersburg
PETERSBURG
MT. DUNN CLAIMS
Wrangell
WRANGELL
C. Decision
BRITISH COLUMBIA
Bowser L.
Stewart
STEWART
Revillagigedo I.
CRAIG
C. Bartolome
Ketchikan
KETCHIKAN
Metlakatla
ANNETTE ISLAND
Alice Arm
KITSAULT
Aiyansh
Hazelton
TAKLA LANDING
Takla L.
Kitwanga
SMITHERS
Smithers
Telkwa
Houston
Burns Lake
C. Muzon
C. Chacon
Dixon Entrance
Dundas I.
PRINCE RUPERT
TERRACE
YELLOWHEAD
Langara I.
C. Knox
MASSET
Graham Island
Tian Hd.
Kindakun Pt.
Stephens I.
Porcher I.
McCauley I.
Oona River
KITIMAT
130°
GREAT PLAINS
DEVELOPMENT COMPANY OF CANADA, LTD.
MOUNT DUNN PROPERTY
LOCATION MAP
SCALE 1:3,168,000
25 0 25 Miles
TRANSPORTATION FACILITIES 1974
LIARD M.D.
JANUARY 1977

#6234

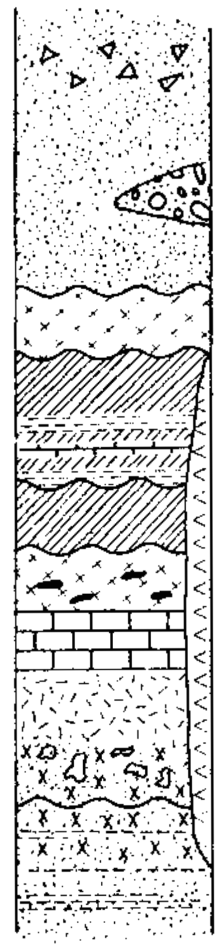
FIGURE 2: Schematic cross-sectional view at L44N (Scale 1"=400')



#6234

FIGURE 3: Stratigraphic Column

MAP UNIT	LITHOLOGY
10	Volcanic Flow Breccia
3a	Andesite, ± porphyritic
9	Agglomerate
2a,2	Intermediate Tuffs - lithic and undifferentiated Volcaniclastics
7b	Greywacke
7a,7b,7c	Interbedded sediments
7b	Volcaniclastic Greywacke
2d	Intermediate Fragmental Tuff
7d	Calcarenites and Argillaceous Limestones
2b	Crystal Tuff
2g	Pyroclastic Breccia
2, 7a	Intermediate Tuffs with argillite interbeds
3a,3b,7	Andesites, Basalts, Interbedded Argillites



unconformity or fault

NOTE: Sedimentary rocks present in the south-east corner of the property have been omitted from this section as their position in the stratigraphic sequence is unknown due to their fault-bounded location.

APPENDIX I

ROCK ASSAYS AND GEOCHEMICAL ANALYSES

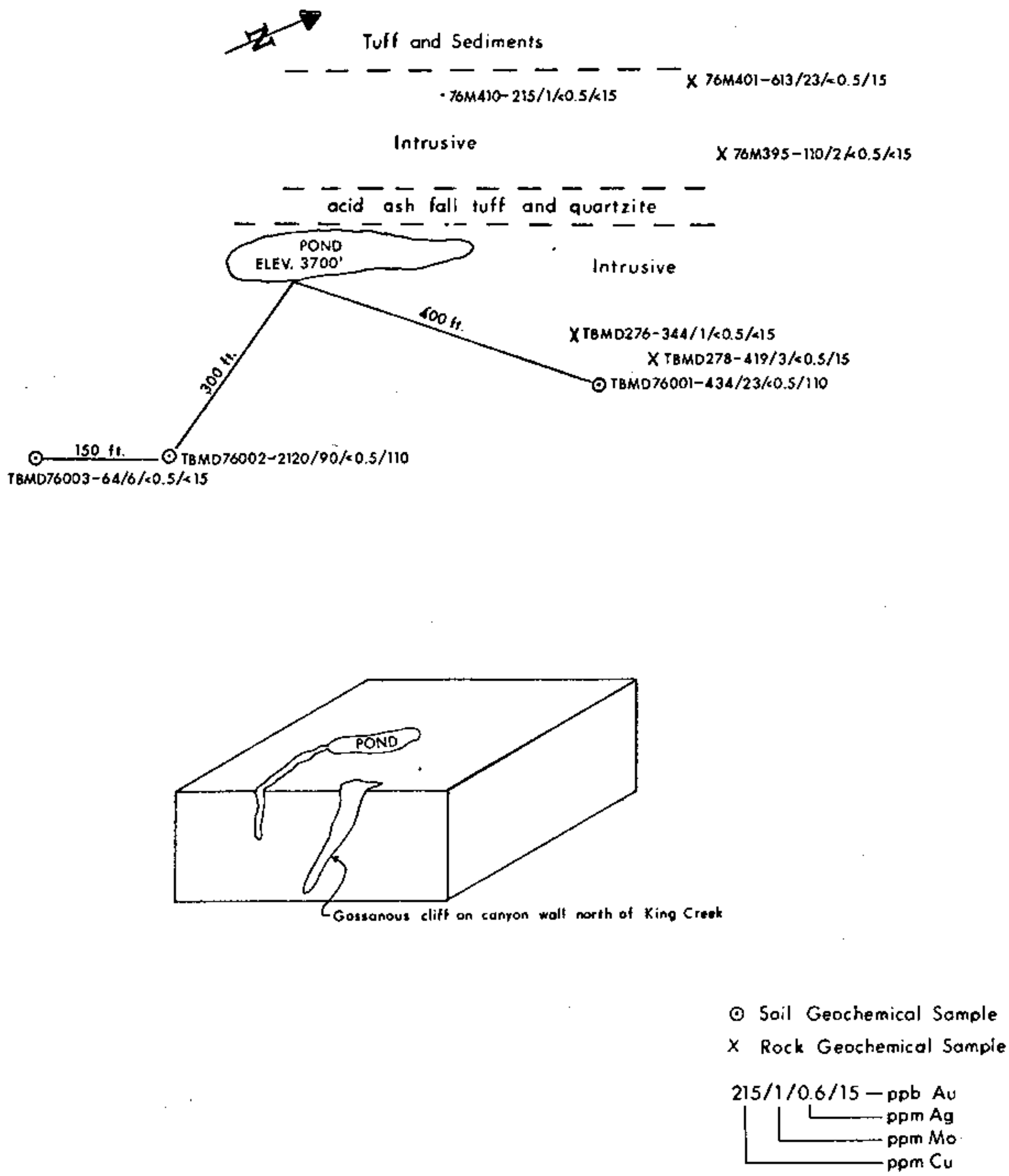


Fig. 4 Boot Claims — Soil and Rock Sample Locations and Analytical Results

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

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CERTIFICATE OF ASSAY

CERTIFICATE NO. 31802

INVOICE NO. 18355

RECEIVED Sept. 23/76

ANALYSED Sept. 27/76

TO: Norcen Energy Resources
Mineral Exploration
715 - 5th Ave., S. W.
ATTN: Calgary, Alta.

71-62408 Mawer

SAMPLE NO. :	% Copper	% Molybdenum	Oz/Ton Silver	Oz/Ton Gold
76M 335	1.07	0.19	0.57	0.252
369	0.34	0.003	0.06	0.024
376	0.16	< 0.001	0.10	0.005
378	0.03	0.002	0.07	0.005
76M 385	0.56	< 0.001	0.10	0.058
T BMD 135C	0.31	0.004	0.11	0.015
253	0.20	< 0.001	0.06	0.007
T BMD 271	1.20	< 0.001	0.32	0.082

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REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA

212 BROOKSBANK AVE.
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CANADA V7J 2C1
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AREA CODE: 604
TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 38382
INVOICE NO. 18069
RECEIVED Aug. 30/76
ANALYSED Sept. 2/76

TO: Norcen Energy Resources
Mineral Exploration
715 - 5th Ave. S.W.
Calgary, Alta.

Mt. Dunn Project

ATTN: Rocks cc: Mr. Mower, Iskut

SAMPLE NO. :	PPM Copper	PPM Molybdenum	PPM Silver	PPB Gold
76M 127	1560	10	1.0	70
247	>4000	5	0.5	50
261	1800	7	0.5	30
273	2880	>500	3.0	850
274 ?	>4000	14	7.0	2520
316	3280	125	6.0	755
76M 317	163	14	<0.5	15
TD 140	>4000	9	3.0	540

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: [illegible signature]

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

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CERTIFICATE NO. 31711
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RECEIVED August 30/76
ANALYSED Sept 9/76

TO: Norcen Energy Resources
Mineral Exploration
715 5th Ave., S. W.
Calgary, Alta.

ATTN:

Proj. M.T.Dunn cc: Iskut

SAMPLE NO. :	% Copper	% Molybdenum	Oz/Ton Silver	Oz/Ton Gold
76M 278	0.25	< 0.001	0.01	0.016
76M 279	0.87	< 0.001	0.06	0.054

CTA MEMBER CANADIAN TESTING ASSOCIATION

REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA

N. Mawer

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 38672

INVOICE NO. 18398

RECEIVED Sept.23/76

ANALYSED Sept.30/76

TO: Norcen Energy Resources,
715 - 5th Ave. S.W.,
Calgary, Alberta

ATTN: 71-62408 Shipper-Mawer Rocks

SAMPLE NO. :	PPM Copper	PPM Molybdenum	PPM Silver	PPB Gold
76M 351	18	<1	< 0.5	< 15
367	141	1	< 0.5	< 15
390	22	7	< 0.5	< 15
395	110	2	< 0.5	< 15
401	613	23	< 0.5	15
76M 410	215	1	< 0.5	< 15
TBMD 276	344	1	< 0.5	< 15
278	419	3	< 0.5	15
281	840	37	< 0.5	< 15
TBMD 290	500	7	< 0.5	< 15

CTA MEMBER CANADIAN TESTING ASSOCIATION

CERTIFIED BY: B. Twaite

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: 985-0648
AREA CODE: 604
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 38673

TO: Norcen Energy Resources
Mineral Exploration
715 - 5th Ave., S. W.
Calgary, Alta.

ATTN: M.T. Dunn From: T. Botczyszyn

INVOICE NO. 18372

RECEIVED Sept. 23/76

ANALYSED Sept. 27/76

SAMPLE NO. :	PPM Copper	PPM Molybdenum	PPM Silver	PPB Gold
TBMD 76001	434	23	< 0.5	110
76002	2120	90	< 0.5	110
76003	64	6	< 0.5	<15
76005	38	4	< 0.5	<15
76006	33	4	< 0.5	<15
76007	46	6	< 0.5	<15
76008	42	5	< 0.5	<15
76009	33	5	< 0.5	<15
76010	209	16	< 0.5	30
76011	92	12	< 0.5	30
76012	86	7	< 0.5	<15
76013	355	17	< 0.5	50
76014	146	13	< 0.5	<15
76015	238	37	< 0.5	85
76016	482	64	< 0.5	135
76017	76	3	< 0.5	<15
76018	102	8	< 0.5	60
76019	63	7	0.5	<15
76020	66	5	< 0.5	<15
76021	94	6	< 0.5	<15
76022	587	14	< 0.5	<15
76023	52	2	< 0.5	30
76024	840	50	< 0.5	<15
76025	116	4	1.5	180
76026	33	3	< 0.5	<15
76027	42	6	< 0.5	<15
TBMD 76028	42	6	< 0.5	<15

CERTIFIED BY: [signature]

APPENDIX II

GAMMA RAY SPECTROMETER REPORT

T. Bojczyszyn

INTRODUCTION

A portable gamma ray spectrometer survey was conducted between August 30 and September 1. The model used was a DISA-300 made by Exploranium, a Division of Geometrics Services Canada Ltd.

The gamma ray spectrometer consists of a sodium iodide crystal detector and an electronic package which converts incident gamma ray radiation into electronic signals proportional to the intensity and energy of gamma rays. By measuring the gamma rays emitted by the daughter products; Potassium 40, Bismuth 214, and Tallium 208, one is able to determine potassium, uranium and thorium, respectively. There are peaks of the energy spectrum which range between 0.1 to 3.0 MeW which are selected to represent energies of potassium, bismuth and thallium but also contain contribution from a variety of other elements in the decay series.

The DISA-300 uses an integral (threshold) discrimator. Energy levels are selected by a front panel switch and are preset for:

Total Count:	All energy above 0.1 MeV
Potassium:	All energy above 1.3 MeV (K40 + Bi 214 + Tl 208)
Uranium:	All energy above 1.6 MeV (Bi 214 + Tl 208)
Thorium:	All energy above 2.5 MeV.

To estimate the amount of potassium, one counts in the potassium mode and then subtracts the counts in the uranium mode. The emission of the daughter product of Bi and Tl cancel out leaving the K40 which should be indicative, in an anomaly sense, of the potassium present.

PURPOSE OF SURVEY

The aims in carrying out the survey were:

(1) To possibly define any zones of secondary potassium feldspar alteration.

(2) To possibly distinguish contrasts between country rock and intrusive rock which could be used as an aid in mapping.

LIMITATIONS OF SURVEY

It is important to note that this is only a surface survey. Overburden will mask anomalies since as little as one foot of alluvium will absorb gamma rays. The gamma ray spectrometer for similar reasons cannot be used over snow or water. Also in steep topography, it is important to maintain constant geometry and counts should be taken for at least 5 to 15 minutes. It is desirable to have a representative sample. Other instrument limitations include noise sources from cosmic rays and Compton scatter.

PROCEDURE

Prior to the arrival of the instrument on the property, geological mapping determined that no potassic alteration zone is present on the property but the monzonite porphyry was found to contain potassium feldspar in the matrix. Hence, it was decided only an abrreviated survey should be carried out to determine if there are any contrasts in the country rocks or any mineralogical zonation patterns in the intrusive.

Counts were taken with the instrument sitting perpendicular to the outcrop on a three inch slab of wood. For total counts one minute was sufficient but for potassium values, ten minute readings for each were necessary.

On the Mount Dunn property, topography is very steep and hummocky. A fair percentage of it is also covered in snow. The intrusive where associated with sulphide, is usually veneered by gossanous sands. Outcrop in the intrusive is scarce, particularly toward the south.

All of these conditions, along with time limitation and poor results, resulted in a termination of the survey after a few traverses.

RESULTS

Total Counts (Figure l)

"Total Counts" readings are usually more successful in distinguishing lithology changes. A few general trends may be observed.

The lithic crystal tuffs have higher values than the baseline intrusive trend. These are followed by the intrusive which generally has higher values than the argillites on the west side, which is roughly higher than the sandstones on that side. Low values are found in the argillites, intermediate tuffs and carbonates on the east side which are also similar to the dykes and silicified tuff.

Potassium 40 Values (Figures 2)

The intermediate tuff on the east side and the sandstones and argillites to the northwest along with the intrusive to the northwest all have similar values. The dykes, carbonate, silicified tuff, marginal pyritized intrusive and Mo showing tend to give low values. The sandstone on the west seems to become progressively lower from north to south.

CONCLUSIONS

With the difficulties encountered and limited data, it is unwise to make any solid conclusions. There seem to be subtle contrasts that show lithology changes. For potassium values, lows associated with silicification and pyritization may be marginal to the main mineralization. Also it is interesting to note a "high" which seems to run parallel to the baseline and includes the Cu showing.

This type of survey would be more applicable to a regional survey (i.e. a large batholith with good outcrop exposure). In such a situation, it could be useful in prospecting for gold mineralization since uranium and gold are sometimes intimately associated.

APPENDIX III

INDUCED POLARIZATION SURVEY

P. Walcott

A REPORT

ON

AN INDUCED POLARIZATION SURVEY

Mt. Dunn Property, Stikine Area, B.C.

FOR

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA LTD.

Calgary, Alberta

BY

PETER E. WALCOTT AND ASSOCIATES LIMITED
Vancouver, British Columbia

DECEMBER 1976

TABLE OF CONTENTS

APPENDIX

INTRODUCTION

Between September 8th and 19th, Peter E. Walcott & Associates Limited carried out a limited induced polarization (I.P.) survey over part of a property, located in the Stikine area of British Columbia, held by Great Plains Development Company of Canada Ltd.

The survey was carried out over N 100° E lines which were turned off from a N 10° E baseline.

First and second separation measurements of apparent chargeability (the I.P. response parameter) and resistivity were made using for the most a modified "pole - dipole" method of surveying, with a 200 foot dipole that was dictated by the unfavourable terrain and electrical contact situations.

The data are presented in contour form on Maps W-227-1 to 4 that accompany this report.

The progress of the survey was severely hampered by the steepness of the terrain, the inclement weather, and by problems encountered in meeting the required minimum potential electrode contact resistance - up to half an hour per reading spent on this.

PURPOSE

The purpose of the survey was to try and outline the area (s) of sulphide mineralization within the intrusive, the presence of which was noted during geological investigations.

GEOLOGY

The reader is referred to reports by the staff of Great Plains Development Company of Canada Ltd.

PREVIOUS WORK

The writer is not familiar with the results of previous work (if any) on the property. However geological mapping was carried out by the staff of Great Plains Development Company of Canada during the 1976 field season, the gist of which is documented in reports held by that company.

SURVEY SPECIFICATIONS

The induced polarization (I.P.) survey was carried out using a pulse type system, the principal components of which are manufactured by Huntec Limited and Crone Geophysics Limited of Metropolitan Toronto, Ontario.

The system consists of basically three units: a receiver (Crone), a transmitter and a motor generator (Huntec). The transmitter which provides a maximum of 7.5 kw d.c. to the ground, obtains its power from a 7.5 kw 400 c.p.s. three phase alternator driven by a gasoline engine. The cycling rate of the transmitter is 2 seconds "current -on" and 2 seconds "current-off" with the pulses reversing continuously in polarity. The data recorded in the field consists of careful measurement of the current (l) in amperes flowing through electrodes C_1 and C_2, the primary voltage (V) appearing between the two potential electrodes, P_1 and P_2, during the "current-on" part of the cycle, and the apparent chargeability (M_a) presented as a direct readout (two samples of the decay curve M_a (0.45 - 0.90 seconds) and N_a (0.90 - 1.35 seconds) are taken for 3 current cycles, automatically averaged, adjusted to the $_{33}M_1$ standard and stored).

The apparent resistivity (P_a) in ohm metres is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry of the array used. The chargeability and resistivity are called apparent as they are values which that portion of the earth sampled would have if it were homogeneous. As the earth sampled is usually inhomogeneous the calculated apparent chargeability and resistivity are functions of the actual chargeability and resistivity of the rocks.

Normally with this system the survey is carried out using the pole-dipole method of surveying. In this method the current electrode C_1, and the two potential electrodes, P_1 and P_2, are moved in unison along the survey lines. The spacing "na" (n an integer) between C_1 and P_1 is kept constant for each traverse at a distance roughly equal to the depth to be explored by that traverse, while that of P_1 - P_2 (the dipole) is kept constant at "a". The second current electrode C_2 is kept constant at "infinity".

However as (a) an "infinity situation" (7 to 10 "n a" between C_1 and C_2) could not be obtained for the whole survey due to the fact that the survey crew were unable to lay the wire down the cliffs surrounding the mountain top where the grid was located, and (b) the "dipole-dipole" method could not be used due to the extremely poor electrical contact conditions that existed on the lines a modified "pole-dipole" method of surveying was used. In this system one electrode C_2 was kept

SURVEY SPECIFICATIONS cont'd

fixed at the eastern end of each line, where the best contact conditions existed (average current for survey was 0.2 to 0.3 amps), while the remaining electrodes were moved in unison along the line as described above - i.e. the system expands from a "dipole-dipole" method to a "pole-dipole" method going westwards as at some point the "infinity" situation is reached.

Progress with this system is naturally slower as it is necessary to implant a new C_2 at the completion of each line.

Line 32 N to 56 N were surveyed using this method while Line 8 N to 24 N and Line 60 N were surveyed using the "pole-dipole" method as the "infinity" condition was met by leaving the C_2 electrode at the respective extremities of the most northerly and southerly lines.

DISCUSSION OF RESULTS

It should be mentioned here that although the data are presented in contour form in this report under better circumstances with this method of surveying they would more aptly be presented in profile form due to the asymmetry of the array and the slightly different sampling depths at each station. However in this case due to the roughness of the terrain the latter condition should have negligible effect.

The resistivity and chargeability data are respectively the same on the n = 1 and n = 2 separations as can be seen from Maps W-227-1 to 4 suggesting uniformity of the suboutcropping formations to at least 300 feet below the surface.

The resistivity results show the intrusive and volcanics on the whole to have higher resistivities than the sediments as can be seen from a comparison of the resistivity data - Maps W-227-1 & 2 - with the geological map of the grid area.

The intrusive and volcanics in the central and northeasterly portions, although indistinguishable from each resistivity wise, have resistivities 80 to 100 time those of the argillites, greywackes, etc. to the west, 2 to 3 times those of the calcereous sediments to the east centred around Line 24 N, and 3 to 4 times those of the volcan-eclastic sediments and intermediate tuffs around the northern section of the baseline.

The heavily pyritized zone around and to the west of the southern section of the baseline exhibits similar resistivities to the latter and suggests to the writer that perhaps this zone extends through to Line 60 N beneath a capping of the latter - he believes that the tuffs etc. should have a higher resistivity.

The chargeability results -Maps W-227-3 & 4 - were unfortunately were not anywhere nearly as diagnostic as those of the resistivity. Similar chargeabilities were obtained over the whole suite of rocks suggesting the presence of sulphides and/or graphites throughout the intrusive, volcanics and sediments, and making them indistinguishable from one another on the basis of chargeability.

However on viewing the chargeability results of the mapped intrusive it can be seen that lower readings were obtained on and northwards of Line 40 N, whereas higher readings were obtained southwards of Line 40 N with the strongest readings on Lines 32 and 36 N - the high readings of the heavily pyritized zone have been discounted here as thought to be entirely due to pyrite.

DISCUSSION OF RESULTS cont'd

Thus it would appear that the southern section of the intrusive has more sulphides distributed throughout and should be the target for further investigation, if any, based on the geochemical results.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Between September 8th and 19th, 1976 Peter E. Walcott & Associates Limited carried out a limited induced polarization survey over part of a property for Great Plains Development Company of Canada Ltd.

The property known as the Mt. Dunn Property is located in the Stikine area of British Columbia.

The resistivity data showed good contrast between the sediments and volcanics/intrusive and in general conformed with the mapped geology.

The chargeability data gave limited useful information due to the similarity of results obtained over the different rock types. It did however show higher readings to be associated with the southern portion of the mapped intrusive suggesting a greater distribution of sulphides in that portion.

As a result the writer recommends that the data be compared with the geochemical results, and should favourable correlation be obtained over the intrusive then consideration be given to drilling a section across the intrusive on either Lines 32 or 36 N to check for economic sulphide occurrence and distribution.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

Peter E. Walcott, P.Eng.
Geophysicist

Vancouver, B.C.

December 1976

APPENDIX

COST OF SURVEY

Peter E. Walcott & Associates Provided a crew and equipment on a daily basis. Mobilization and draughting costs were extra so that the total cost of services provided was $9,073.78.

PERSONNEL EMPLOYED ON SURVEY

Name	Occupation	Address	Dates
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court Coquitlam, B.C.	Sept. 8 - 19th, Dec. 14 - 16th, 76
D. Berryman	Geophysical Operator	" "	Sept. 8 - 19th, 76
S. Berryman	Helper	" "	"
R. O'Brian	"	" "	"
W. Sam	"	" "	"
S. Scurvey	"	" "	"
B. Corey	Draughting	" "	Dec. 16 - 20th, 76
J. Walcott	Typing	" "	Dec. 20th, 1976

APPENDIX IV

STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, Glen L. Garratt, am a qualified Geologist having graduated from the University of British Columbia in 1972 with a Bachelor of Science degree majoring in Geology. I have worked in the mineral exploration industry in British Columbia since 1969 and am presently employed by Great Plains Development Company of Canada, Ltd., as a geologist.

G. L. Garratt

STATEMENT OF QUALIFICATIONS

I, Michael D. McInnis, with residence at 6550 Silver Springs Way, N.W. in the city of Calgary, Alberta, declare

1. that I graduated from the University of British Columbia in 1969 with an Honours B.Sc., in geology,

2. that since graduation I have been employed as an exploration geologist in British Columbia, Yukon and the Arctic Islands,

3. that I am presently Exploration Supervisor, Base Metals for Great Plains Development Company of Canada, Ltd.,

4. that I have successfully passed the exams necessary for entrance into the Professional Engineers Society of British Columbia and hold a non-residence licence granted by that society.

Michael D. McInnis

STATEMENT OF QUALIFICATIONS

I, Malcolm F. Mawer declare that:

1. I graduated from McGill University in 1971 with a B. Sc in geology.

2. From May of 1971 until August of 1973 I was employed by SEREM Ltee and during that time worked in New Brunswick, Quebec and Ontario.

3. From May until September 1975 I was employed by Texasgulf Inc. as an exploration geologist in the Northwest Territories.

4. Since September, 1973 I have been enrolled as a graduate student working towards a Masters Degree in Economic Geology. My thesis is based around four porphyry copper deposits in the Highland Valley of British Columbia. They are Bethlehem Copper, Valley Copper, Lornex and Highmont and involves examination of rock samples and contained fluid inclusions from these deposits to try to determine temperatures of emplacement, composition of mineralizing fluids and comparative depth estimations.

5. I was employed during the summer of 1976 as a field exploration geologist for Great Plains Development Company of Canada, Ltd.

STATEMENT OF QUALIFICATIONS

I, Tom B. Bojczyszyn declare that:

1. I graduated from the University of Alberta (Edmonton), in 1976 with a B. Sc. in Geology.

2. From May until September, 1975 I was employed by Texasgulf Inc. as a junior geologist in the Northwest Territories.

3. I was employed during the summer of 1976 as a field geologist for Great Plains Development Company of Canada, Ltd.

6234

DEVELOPMENT COMPANY OF CANADA, LTD.

MOUNT DUNN PROPERTY
LOCATION MAP

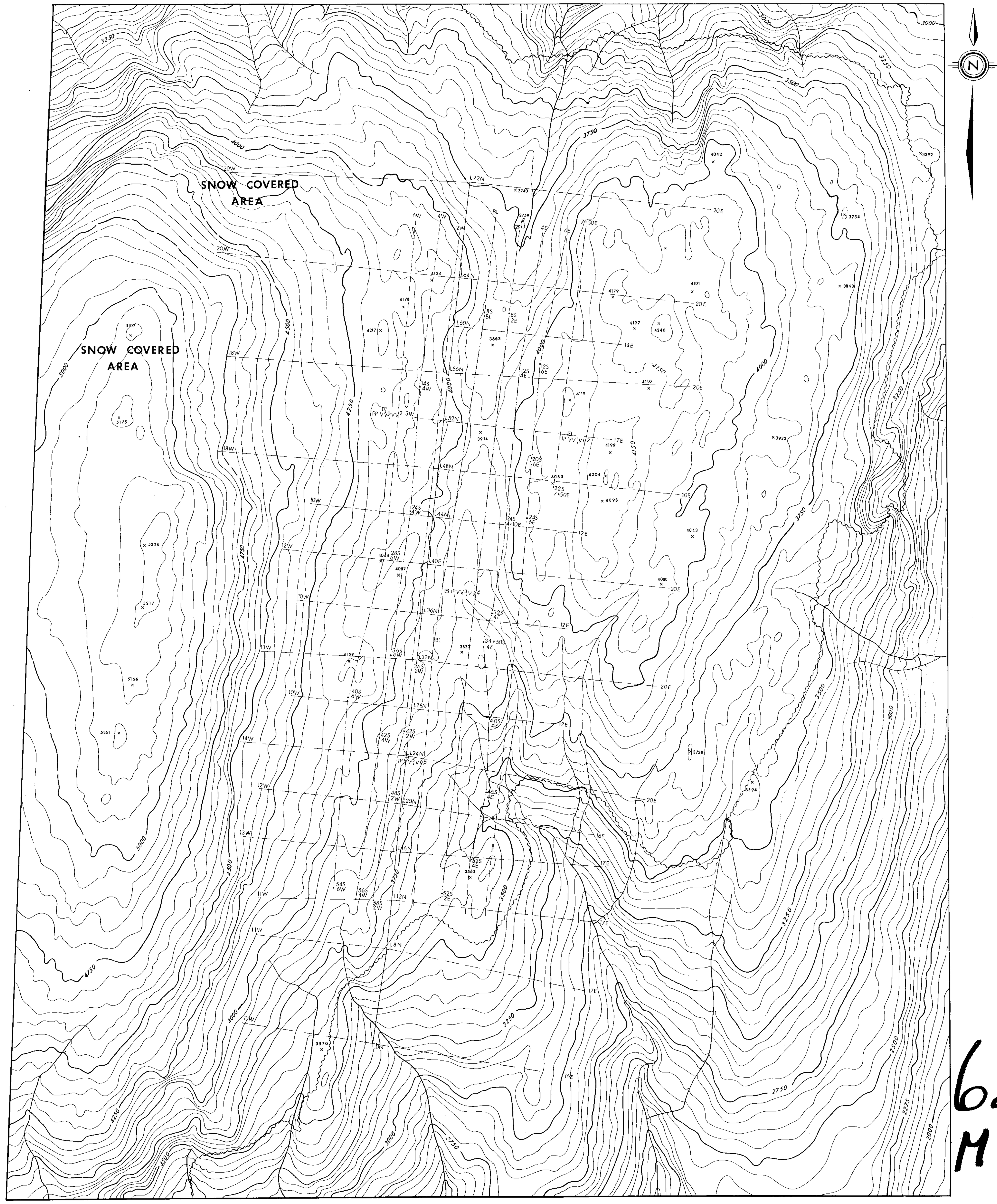
1 Mile 0 1 Mile

SCALE - 1:50,000

NTS: 104 B/10, 104 B/7
LIARD M.D.

T. BOJCZYSZYN
JANUARY 1977

M-1



Correlation Between 1975 and 1976 Grids

- C.Q.Winter's 1975 lines observed with tie-in point
- Extrapolation of 1975 grid from known point
- 1976 grid
- Claim Post

6234
M-2

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

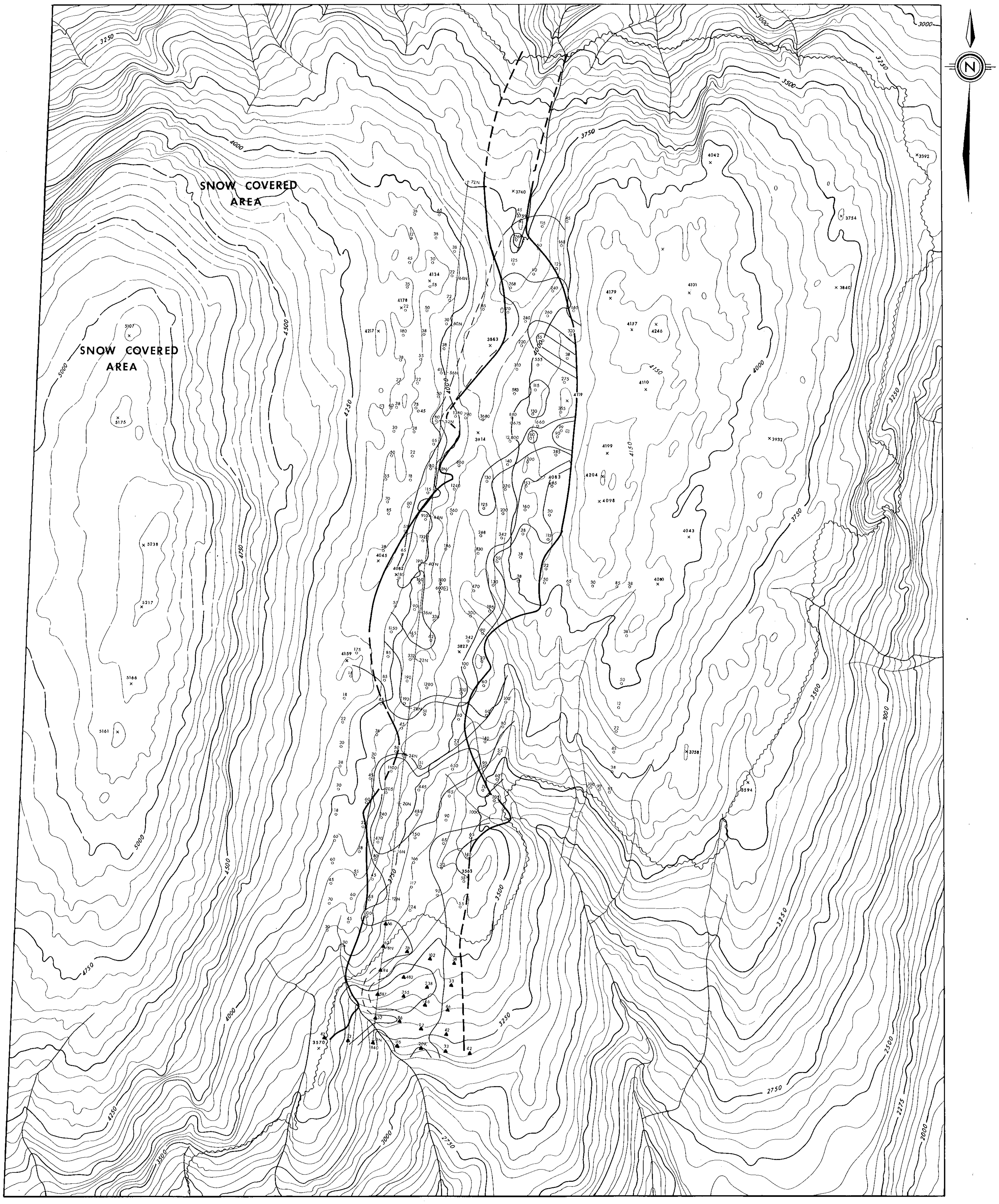
MOUNT DUNN PROPERTY

GRID LOCATION MAP

400 0 400 800
FEET

NTS: 104 8/7

M.MAWER
SEPTEMBER 1976



LEGEND

- Background 0-77 ppm
- Threshold 77-180 ppm
- Anomalous 180 ppm
- Limit of Intrusive
- o 1975 Soil Sampling Program
- ▲ 1976 Soil Sampling Program
- ⊡ Claim Post

6234
M-3

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

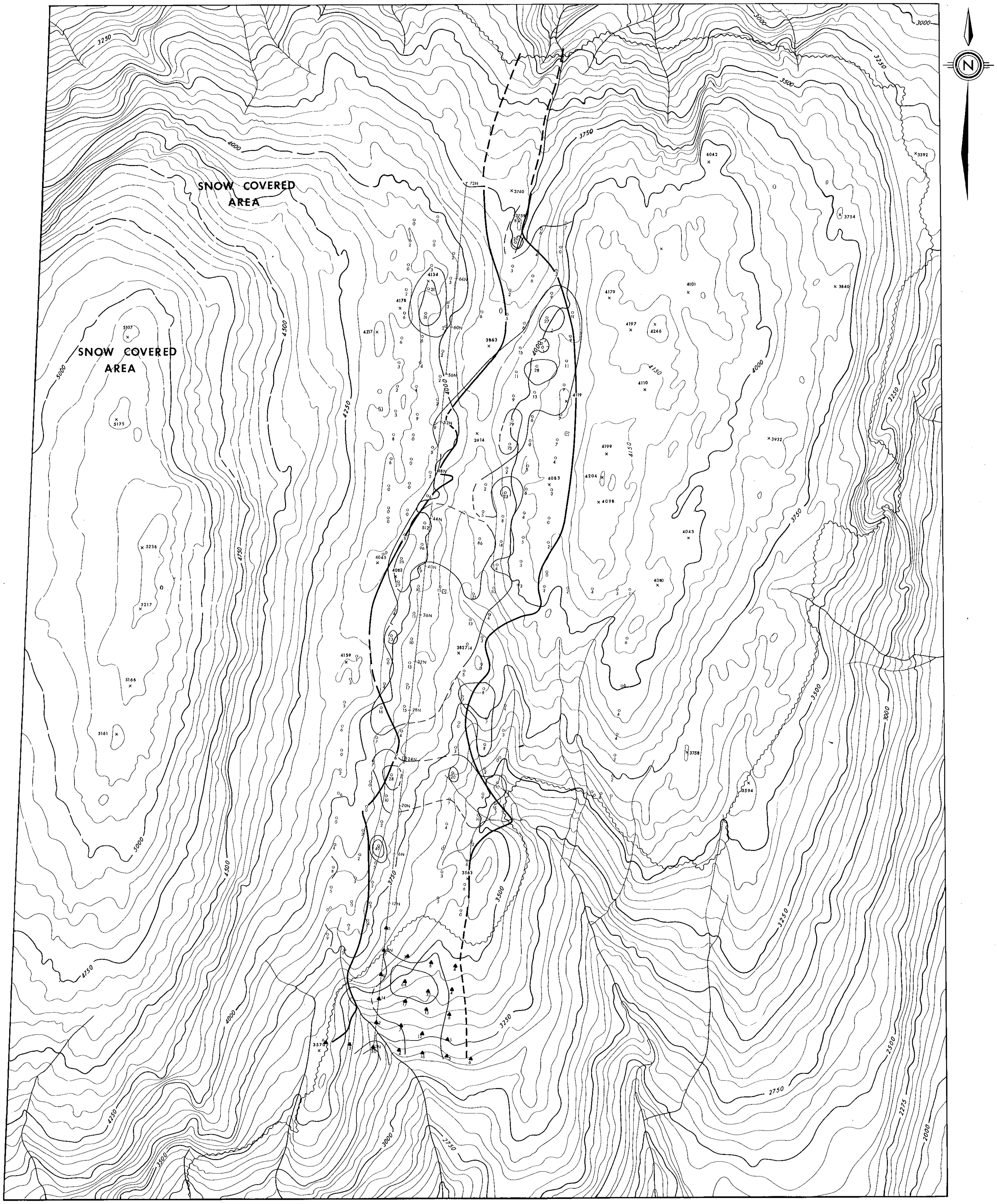
MOUNT DUNN PROPERTY

CU GEOCHEMISTRY FROM 1975 TIED TO 1976 GRID

400 0 400 800
FEET

NTS: 104 B/7

C.Q. WINTER
M. MAWER
SEPTEMBER 1976



LEGEND

- Background 0-6 ppm
- Threshold 7-18 ppm
- Anomalous > 18 ppm
- Limit of Intrusive
- 1975 Soil Sampling Program
- 1976 Soil Sampling Program
- Claim Post

6234 M-4

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

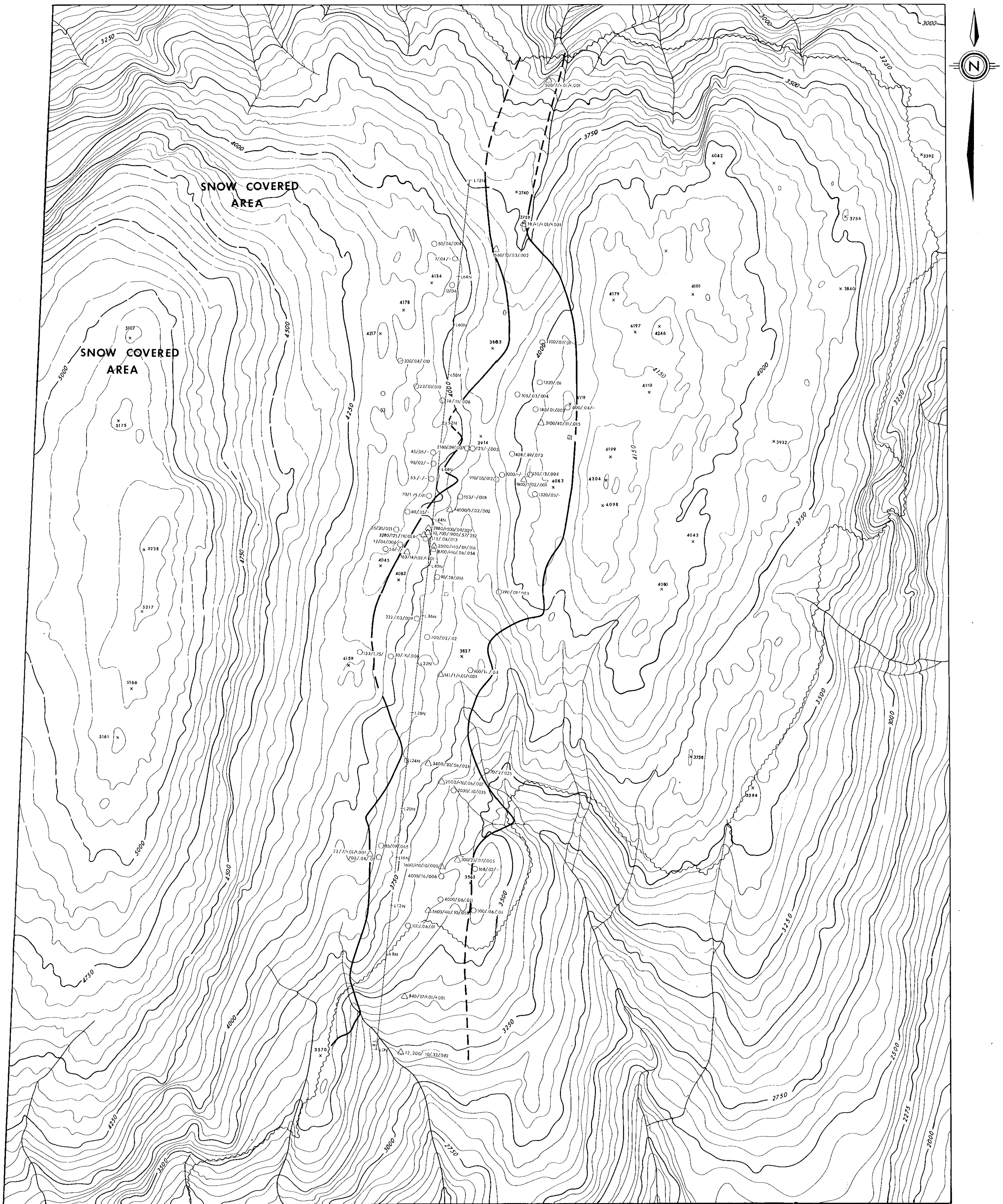
MOUNT DUNN PROPERTY

Mo SOIL GEOCHEMISTRY
from 1975 and 1976 tied to 1976 grid

400 0 400 800
FEET

NTS: 104 B/7

C.Q. WINTER
M. MAWER
SEPTEMBER 1976



LEGEND

Rock Assays : C.Q. Winter, 1975

○ 1150/.13/.010 — Au (oz/ton), Ag (oz/ton), Cu (ppm)

Rock Assays and Analyses: M. Mawer, 1976

△ 3280/125/.19/.024 — Au (oz/ton), Ag (oz/ton), Mo (ppm), Cu (ppm)

Limit of Intrusive

Claim Post

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

MOUNT DUNN PROPERTY

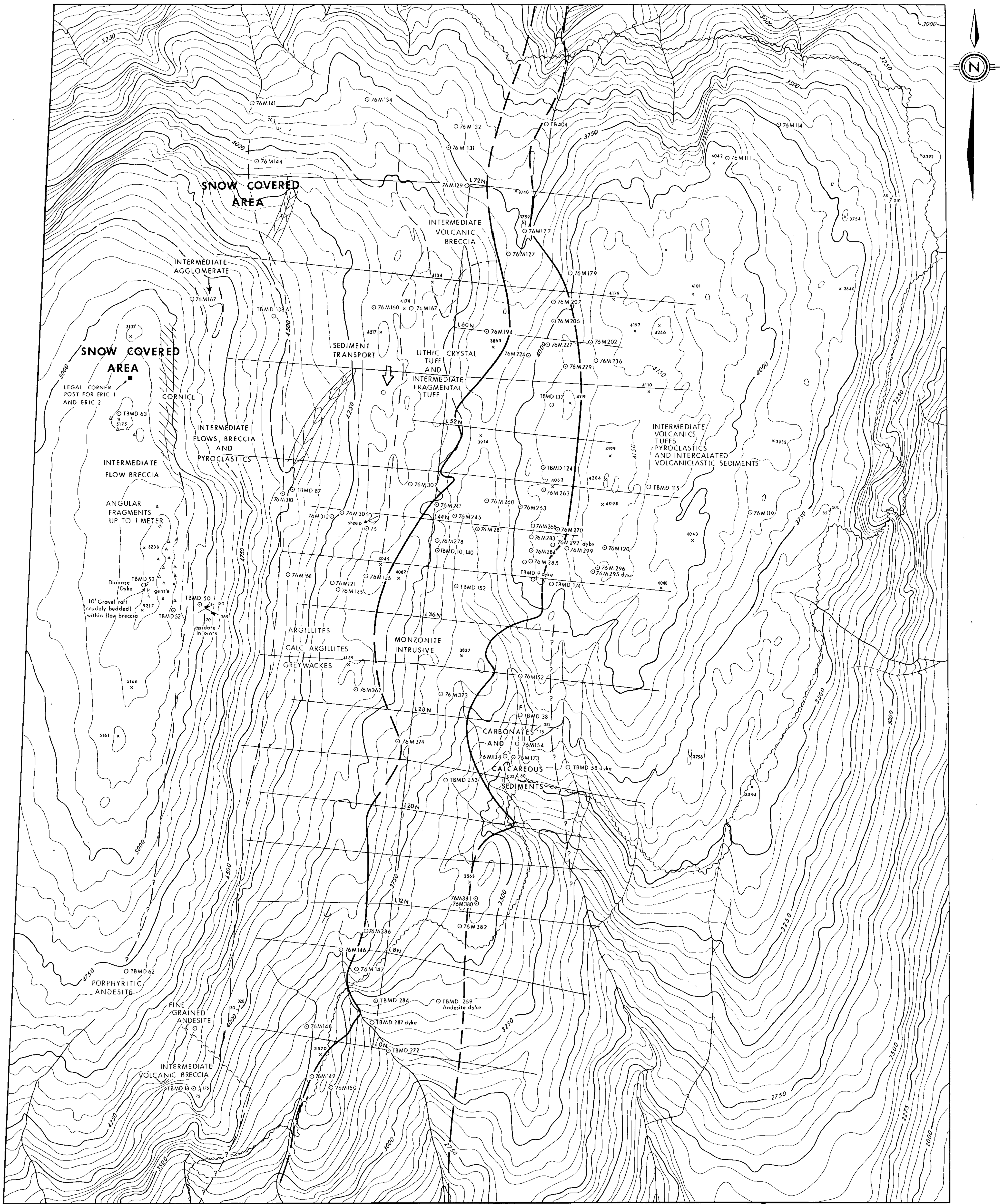
ROCK ANALYSES AND ASSAYS

400 0 400 800 FEET

N15'104 B/7

C.Q. WINTER
M. MAWER
SEPTEMBER 1976

6234 M-5



LEGEND

- Defined, Approximate, Assumed — Geological contact
- Rock sample location
- F — Fossil location
- Intrusive boundary
- Moraine
- Glacial striae (direction of ice movement)
- Tree line
- Drag fold (arrow indicates plunge)
- Jointing (bar indicates dip)
- Bedding
- Fault

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.

MOUNT DUNN PROPERTY

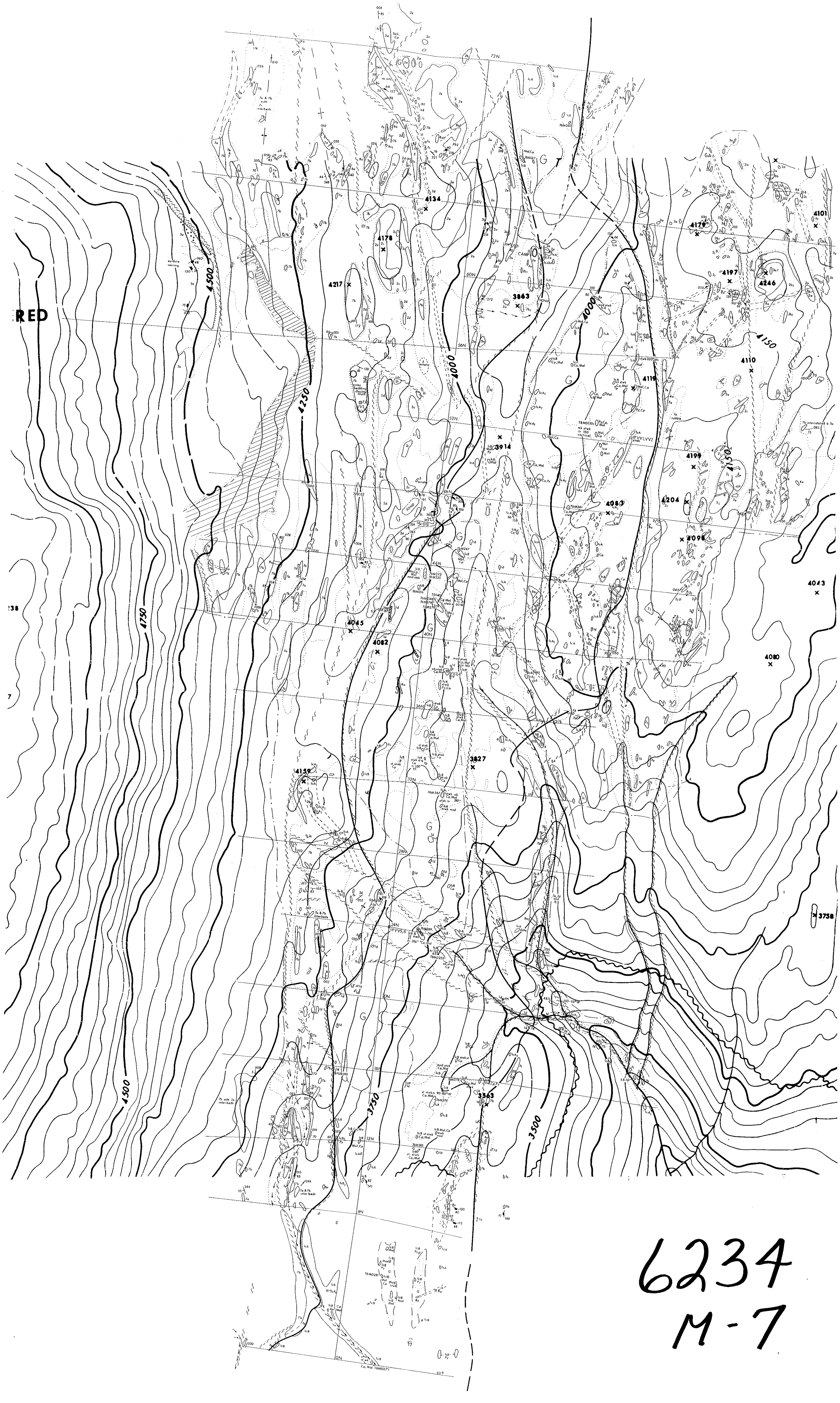
REGIONAL GEOLOGY
and
ROCK LOCATION MAP

N.T.S. 104-B-7
LIARD M.D.

Scale : 1" = 400'

T. BOJCZYSZYN
SEPTEMBER 1976

6234 M-6



LEGEND

1. INTRUSIVE

- 1cA – Altered hornblende monzonite 1) porphyritic texture
- 1cB – Sericitized monzonite
- 1d – Felsitized monzonite

2. INTERMEDIATE PYROCLASTICS

- 2 – Intermediate tuff
- 2a – Lithic tuff
- 2b – Crystal tuff

(2, 2a, 2b: 1) welded 2) non-welded)

- 2c – Lithic crystal tuff
- 2d – Intermediate fragmental tuff
- 2e – Pyroclastic breccia

3. VOLCANIC FLOWS

- 3a – Horneblende andesite 1) porphyritic texture
- 4 – Felsite dyke a) porphyritic
- 5 – Horneblende diorite dyke
- 6 – Silicified dacitic ash fall tuff

7. SEDIMENTARY ROCKS

- 7a – Argillite siltstone
- 7b – Volcaniclastic greywacke
- 7c – Limestone
- 7d – Calcisiltites and calcarenites
- 8 – Andesite dyke a) hornblende andesite b) calcareous andesite 1) porphyritic texture

SYMBOLS

- PVV1 – Claim post
- – Outcrop boundary
- – Geological contact a) observed b) approximate c) postulated
- – Fault a) defined b) postulated
- – Moraine
- – Attitude of bedding
- – Jointing
- – Cliff
- 76M 351 – Sample location
- – Intrusive boundary
- stwk – Stockwork quartz veining
- – Limit of mapped area
- – Snow line
- – Glacial striae
- G – Gossan
- – Breccia
- – Trench
- – Shear zone
- – Syncline
- – Anticline
- 1d sub – Subcrop

wk – weak
mod – moderate
st – strong
tr – trending
s – strong dip
m – medium dip

Cp – Chalcopyrite   Mal – Malachite   Sph – Sphalerite
Py – Pyrite   Mo – Molybdenite

Declination: 29°50 East

6234
M-7

GREAT PLAINS DEVELOPMENT COMPANY OF CANADA, LTD.
BRITISH COLUMBIA

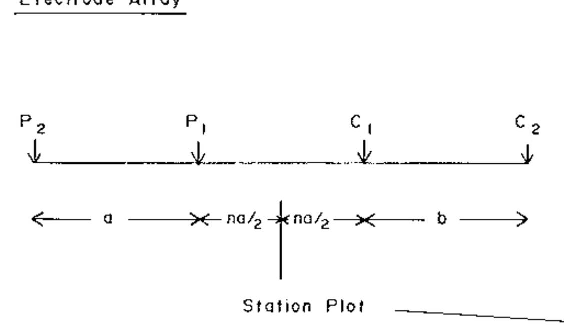
MOUNT DUNN PROPERTY

DETAILED GEOLOGICAL MAP

200 100 0 200 400
FEET

LIARD M.D.
M. MAWER

NTS 104 B-7
SEPT 1976



6234 M-8

GREAT PLAINS DEVELOPMENT Co. of CANADA LTD.

MT. DUNN PROPERTY, STIKINE AREA, B.C.

INDUCED POLARIZATION SURVEY

CONTOURS OF APPARENT CHARGEABILITY

a = 200' n = 1

Scale: 1 Inch = 200 Feet

MAP No. W-227-3

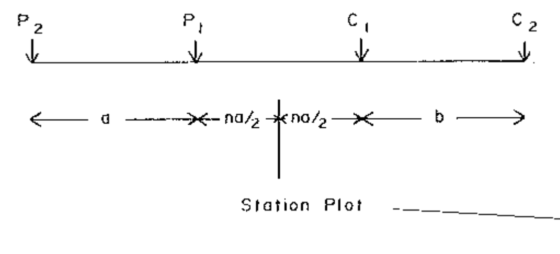
TO ACCOMPANY A REPORT BY PETER E. WALCOTT, P. ENG.

DATED - DECEMBER, 1976

PETER E. WALCOTT & ASSOC. LTD.

SEPTEMBER - 1976

Electrode Array



GREAT PLAINS DEVELOPMENT Co. of CANADA LTD.

MT. DUNN PROPERTY, STIKINE AREA, B.C.

INDUCED POLARIZATION SURVEY

CONTOURS OF APPARENT CHARGEABILITY

a = 200' n = 2

Scale: 1 Inch = 200 Feet

200 100 0 200 400
FEET FEET

MAP No. W - 227 - 4
TO ACCOMPANY A REPORT BY
PETER E. WALCOTT, P. ENG.
DATED - DECEMBER, 1976

PETER E. WALCOTT & ASSOC. LTD.
SEPTEMBER - 1976

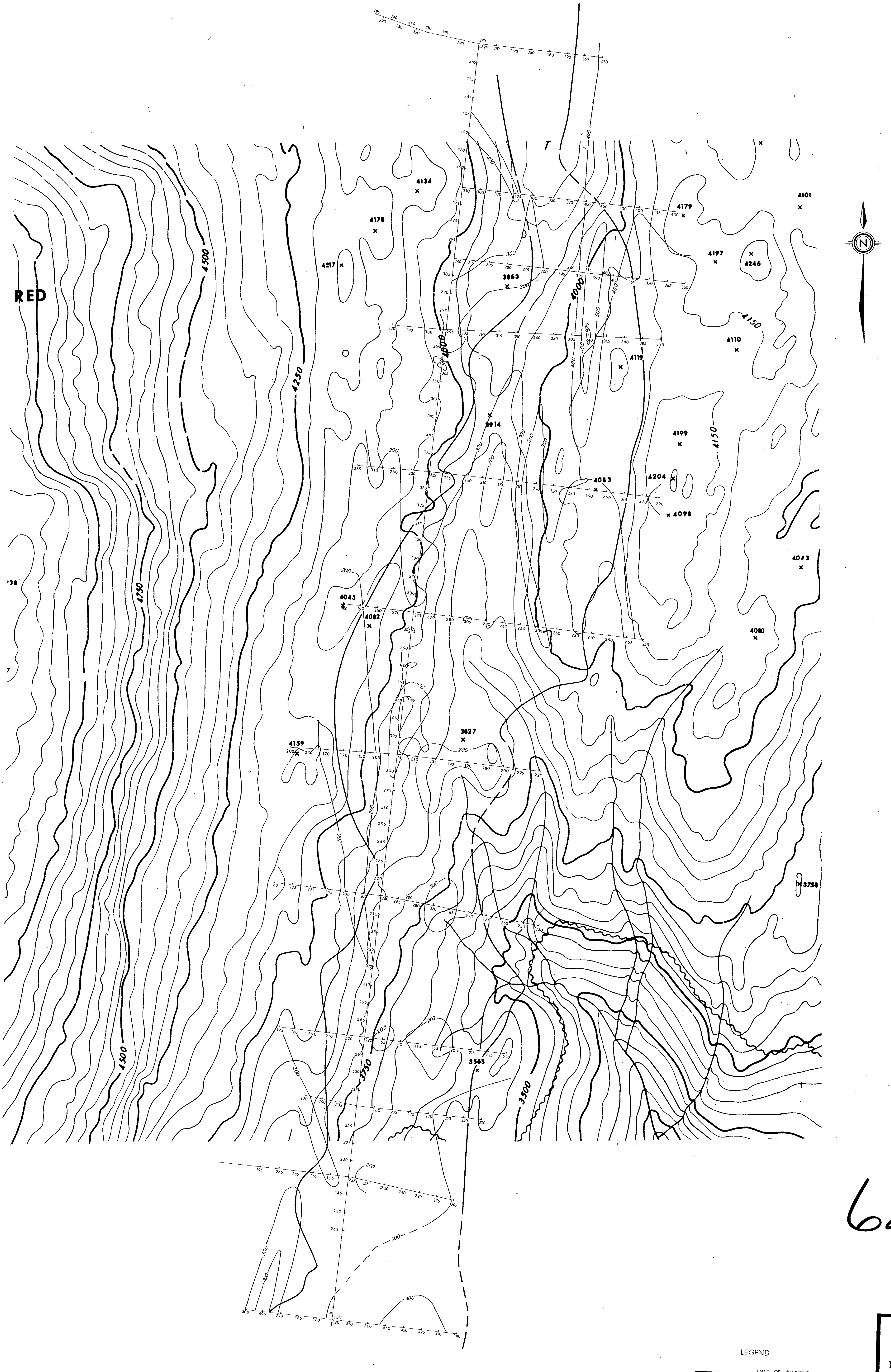


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FIGURE 1: Gamma Ray Spectrometry · total counts per minute (Scale 1" = 400')

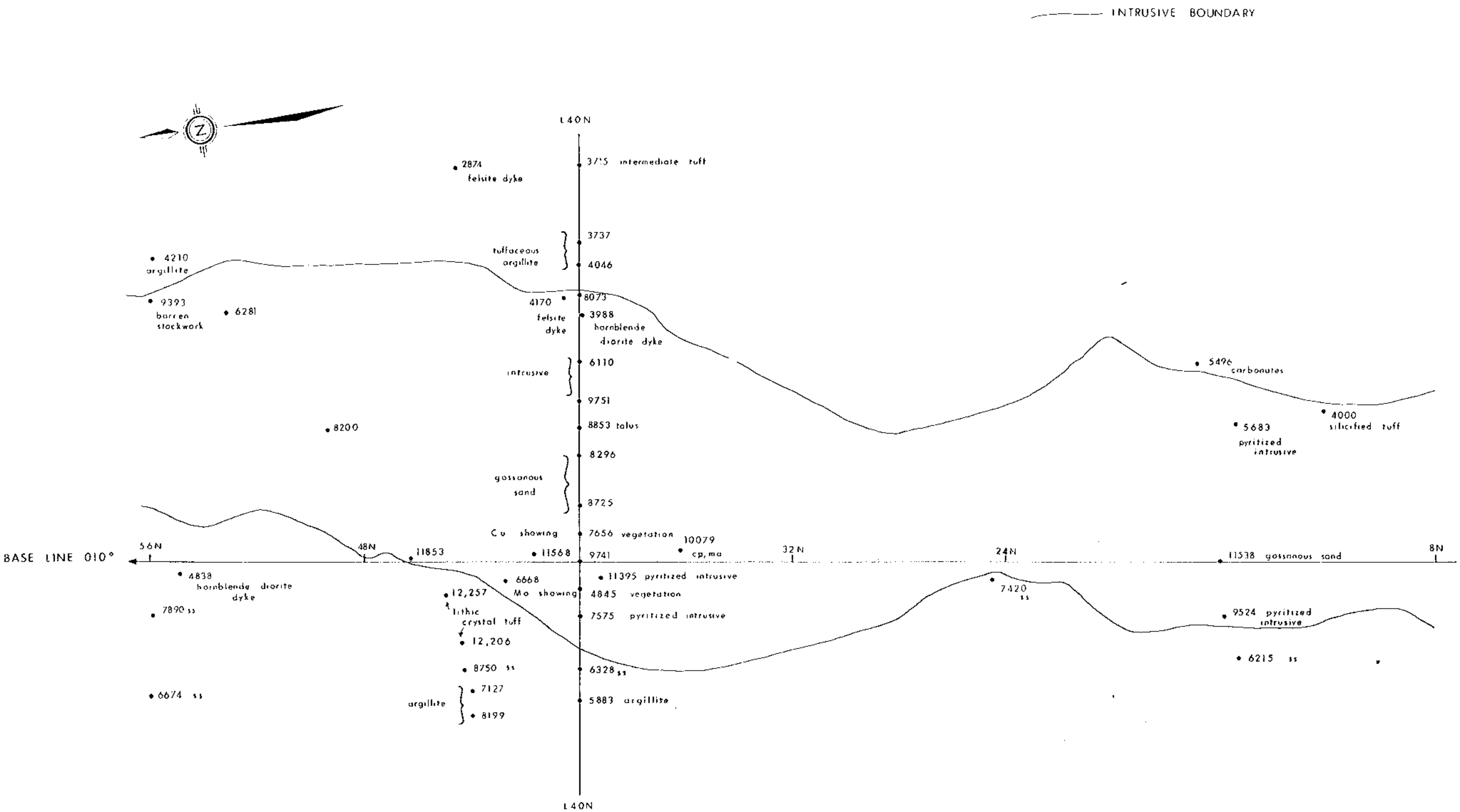

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FIGURE 2 : Gamma Ray Spectrometry: K-U counts per minute, "Potassium 40 values" (Scale 1"=400')