

GREAT PLAINS DEVELOPMENT  
COMPANY OF CANADA, LTD.,

GEOLOGICAL AND GEOCHEMICAL REPORT  
ON THE VV 1-6 CLAIMS.

MOUNT DUNN AREA, BRITISH COLUMBIA

N.T.S. 104-B-7

*gpcna*  
Lard Mining Division  
130°30'W, 56°29'N

Colin Q. Winter  
M.D. McInnis

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 5616 MAP \_\_\_\_\_



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Preface

The VV claim group is comprised of the following claims:

<u>Claim</u>	<u>Record Nos</u>	<u>Recorded Owner</u>	<u>Recording Date</u>
VV 1-6	38916-21	Great Plains Development Company of Canada, Ltd.	July 25th, 1974

Work for which assessment credit is requested was carried out during the period July 25th, 1974 to July 25th, 1975.

This report details the geological mapping and geochemical surveying carried out on the VV claim group during the period July 17th to July 25th, 1975. As a result of the work performed, assessment credit is requested on the claims as follows:

<u>Claims</u>	<u>Record Nos</u>	<u>Assessment Credit Requested</u>	<u>Total</u>
VV 1,2,4,6	38916,17,19,21	3 years each per claim	12 years
VV 3,5.	38918,20	2 years each per claim	4 years

The total value of the requested assessment credit and the total cost of the performed work is as follows:

<u>Claims</u>	<u>Requested Assessment Credit</u>	<u>Cost of Performed Work</u>
VV 1-6	16 years	\$3,279.00

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

## A. Summary

The Mount Dunn property consists of the six VV claims located in the Iskut region of northern British Columbia. Preliminary mapping, geochemical soil sampling on a 200 feet square grid and geochemical analysis of rock chip samples was undertaken in the 1975 season. The promising potential for a porphyry copper and gold deposit which had been indicated by the 1974 work was confirmed and boosted by the results of the 1975 exploratory programme.

A dioritic intrusive with a felsitized gossan zone was mapped and delineated within the claim boundaries. High concentrations of copper were found in the soils developed on the intrusive and in certain areas finely disseminated pervasive chalcopyrite with associated malachite could be observed. The copper soil anomalies corresponded very closely to the mineralization recorded in the field.

The high copper values (greater than 1000 ppm) were found over the fresh intrusive and the felsitized zone but from the rock chip samples anomalous silver values to 1.75 oz/ton were found to be associated with the felsitized gossan zone. High gold values to 0.073 oz/ton were also recorded from the intrusive. The work to date has indicated that the intrusive, although limited in extent, has an excellent potential as a porphyry deposit and merits further detailed exploration. It is recommended that detailed mapping, additional soil sampling, trenching and I.P. surveying be carried out.

## B. Introduction

### 1. History

During the 1971 Stikine Arch Reconnaissance Programme of Great Plains Development Company of Canada, Ltd., the Mount Dunn area and neighbouring areas were evaluated under the direction of Norman Reynolds. Geochemical soil sampling undertaken in the Mount Dunn area revealed anomalous copper values. These promising results prompted Mr. Reynolds to recommend the immediate staking of the anomalous area but this could not be facilitated at that time because the anomalies had already been staked.

By 1974, it became apparent that all the claims in the area had lapsed and consequently six VV claims were staked during the summer of 1974 to cover the earlier defined anomalies. Staking was undertaken by H.M. Visagle for Great Plains Development Company of Canada, Ltd., during one day's work in the area.

In 1975, geochemical soil sampling on a grid was conducted on the six claims, additional prospecting was carried out and a preliminary geological map was compiled.

## 2. Claim Details and Ownership

The Mount Dunn property consists of six contiguous claims. The layout of these claims is presented on the accompanying maps with the principal claim line direction trending 10 degrees east of north.

The pertinent information regarding land holding may be summarized in the following table:

<u>Claims</u>	<u>Acreage</u>	<u>Recording Date</u>	<u>Ownership</u>
VV 1-6	300	July 25, 1974	Great Plains Development Company of Canada, Ltd.,

## 3. Location and Access

The VV claim group is situated on a northerly trending saddle on the north western spur of Mount Dunn midway between the easterly flowing King and Fewright Creeks at an elevation of 4,200 feet. The claim group is located approximately 2½ miles west of the Unuk River and 9 miles North 40 degrees east of Mount Stoeckl on the British Columbia - Alaskan Border. The co-ordinates of the claims are 56 degrees 29 minutes north, 130 degrees 38 minutes west.

The closest town and seaport is Stewart, British Columbia, which is located forty-five air miles southeast of the property. The Snippaker Creek air strip is located about eight miles north of the property. Supplies can be flown to Snippaker air strip from either Stewart or Terrace, wherefrom a helicopter could ferry supplies directly to the property, a distance of ten miles.

## 4. Economic and Geographical Considerations

The property straddles the tree-line on Mount Dunn with about 60% of the claims' area lying within the Alpine zone. The climate in this area falls under the category of cold western-margin and is typified by abnormal amounts of precipitation as relatively warm westerly winds from the Pacific Ocean unload on the Western Cordillera. The area is therefore very inhospitable. The summers are cool and the property is above the cloud base a good deal of the time. About 40% of the property is covered by perennial snow.

No economic importance other than mineral potential can be attached to the VV claims or to the immediate area.

In the event of finding the claims to be of mining potential two routes could be considered for road construction. One road could be cut to the northeast for approximately fifty miles where it would connect with the Stewart - Cassiar Highway about 100 miles from Stewart. A second route could be to construct a road eight miles southwest to the deep waters of Burroughs Bay on the Behm Canal, Alaska.

#### 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 this area in the mid 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 a few hand trenches. Their claims were allowed to lapse at the end of 1973, possibly as a consequence of the political climate in British Columbia at that time.

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 to 3,680 ppm 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. Objectives

The Mount Dunn property was acquired for three reasons:

1. Because of the anomalous copper values.
2. the similarity and proximity of this area to other properties held by Great Plains Development Company of Canada, Ltd., in the Iskut region.
3. the area had proven interesting to other companies and its potential could be more fully appraised by Great Plains by utilizing information from the company's other enterprises in the region.

The geology, the large gossan, the structure and the mineralization indicated the possibility of a multimetal porphyry deposit and the geological work undertaken in 1974 lent support to this hypothesis.

The objectives of the 1975 undertaking were realized in that:

1. prospecting and preliminary mapping were effected over the claim block.
2. a grid was chained in over the more accessible parts of the property.
3. geochemical evaluation was facilitated by extensive soil sampling and rock chip analysis.

### C. Exploration and Development

#### 1. General Statement

A total of eight days was spent in exploration on the Mount Dunn property in 1975 by two employees of Great Plains Development Company of Canada, Ltd. A geologist and a geological student undertook work from July 17th to July 25th, 1975.

Exploration was left until close to the anniversary date of these claims for climatic reasons.

1. so that the amount of snow cover would be minimal
2. so that the weather would be the most equable for exploration.

#### 2. Prospecting

In conjunction with the laying out of the grid lines, prospecting was undertaken by the writer. The gossanous area which crosses claims 1, 2, 3 and 5 was not found to be as mineralized as the area to the north east around the No. 1 claim post for claims 1 and 2. In the gossanous area, extensive alteration to a white felsite stained heavily with hematite and mottled with pyrite is present. In the area to the northwest minor chalcopyrite, malachite, pyrite and a trace of azurite were observed in apparently unaltered rock.

### 3. Grid Lines

Using a compass and a 200 ft chain, grid lines of westing at 200 foot intervals were put in at 2 W and 4 W from OS (at the northern margin of claim number one) to 30 S (at the southern margin of claim number two). Similarly, lines of easting were measured at 2 E, 4 E and 6 E from OS to 30 S and at 7.5 E from 8 S to 30 S. In order to obtain the maximum coverage for the time spent, further grid emplacement (except northing 30 S from OE to 15 E and easting 15 E from 30 S to 52 S) was carried out by compass and air photograph grid coverage and pacing. Lines of westing 2 W and 4 W from 30 S to 60 S and 6 W from 0 S to 60 S and lines of easting 2 E, 4 E and 6 E from 30 S to 54 S, 56 S and from 40 S to 48 S were emplaced respectively.

The area to the west of line 6 W is too steep to readily put in a grid and the area to the south east in claims 4 and 6 is too steep and densely tree covered.

All locations were clearly marked with fluorescent orange flagging and all grid point reference co-ordinates were written in duplicate on tightly folded orange ribbon and placed under the tied marker flagging on the underside of the marker rocks or trees for ready reference and preservation of the co-ordinates for use in later years.

### 4. Geological Mapping

The geological mapping was severely hampered by the very poor weather and the extensive snow coverage. Poor visibility did not permit the ready follow up of subtle geological features and mapping for the most part was limited to observations made at the 200 foot grid points. The geology was mapped to a 1:8000 (one inch to 1/8 mile) base map drawn from the air photo BC 5158 225.

### 5. Geochemical Sampling

A top soil has developed reasonably well over the property. Care was always taken to obtain soil samples from the B horizon at an average depth of 8 inches. Where soil conditions were unfavourable a sample would be taken at the nearest suitable point to the grid co-ordinate. Samples are usually absent from areas of extensive snow coverage.

One hundred and eight-six soil samples were collected. Thirty-six rock chip samples which were deemed to be interesting were also collected and assayed for copper, molybdenum, silver and gold. The soil samples were collected along the grid lines at every 200 foot center while rock samples were taken from all outcrops and their position is plotted in relation to the grid lines. The samples were then tied, recorded and



shipped to Chemex Labs in Vancouver for analysis. The soil samples were analyzed for copper and molybdenum and the rock samples were assayed for copper, molybdenum, gold and silver.

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

1. Samples are sorted, recorded and dried at 60 degrees Centigrade.
2. Dried samples are sieved to -80 mesh fraction with a nylon and stainless steel sieve.
3. 0.5 gram of -80 mesh sample fraction is weighed into a test tube and digested with hot 70% perchloric and concentrated nitric acid. Samples are digested until all organic material is oxidized (approx. 4 hours).
4. Digested samples are diluted to 25 ml. volume with demineralized H<sub>2</sub>O and mixed thoroughly. Solutions are settled until clear.
5. Copper is analyzed in aqueous solution with an atomic absorption unit. Detection limit in soils and stream sediments for copper is 1 ppm.
6. Molybdenum below 5 ppm is analyzed colorimetrically, with stannous chloride - ammonium thiocyanate procedure and "moly iso-amyl alcohol" is read on Bausch and Lomb Spectronic -20. Detection limit is 1 ppm. Molybdenum greater than 5 ppm is analyzed by atomic absorption, detection 2 ppm.

#### D. Geology

##### 1. General Geology

The area has not been mapped in detail by the Geological Survey of Canada but the Stikine River Area Map 9-1957 covers the area at a scale of 1:253,440. There is no mention of any intrusive in the location of the property but the surrounding area is mapped as Jurassic layered rocks.

It may be concluded therefore, that the property is the site of a small intrusion which has been up-faulted through the Jurassic sedimentary and volcanic pile. The whole area is fractured on a megascopic scale between two principal N-S trending faults which delineate the intrusive within the boundaries of the claim lines. The geology is com-

plex and very variable. Gossanous felsitic intrusives lie in juxtaposition with lithic tuffs and well bedded siliceous limestones.

## 2. Local Geology

The following units have been described and distinguished on the basis of hand specimen identification.

- (a) Intrusive: ranging in composition from quartz-diorite to granodiorite - weathers grey to rust brown; fresh, light grey-green; medium crystalline allotrimorphic (to hypidiomorphic granular in part) mafics generally composed of hornblende and commonly replaced by pyrite. This unit is altered in a patchy fashion over the gossan zone to a bleached felsite of quartz and feldspar with abundant pyrite which weathers to hematite.
- (b) Tuff: a crystal tuff with variable amounts and sizes (to several mm. in part) of feldspar phenocrysts welded with irregular and partly assimilated lithic fragments which appear to be of andesitic composition and vary in size from less than 1 cm. to greater than 10 cm.; the lithic fragments, when layered, are elongated and partly aligned; the plagioclase phenocrysts are commonly angular and broken and lie in a poorly sorted tuffaceous matrix.
- (c) Andesite: a black porphyritic extrusive with plagioclase phenocrysts to 1 cm. in an aphanitic groundmass; elsewhere the unit is more granular, the groundmass becoming very fine grained and the percentage of phenocrysts increasing considerably.
- (d) Sedimentary Sequence: undifferentiated; thin limestone units which have been considerably distorted in outcrop scale show silicification in a nodular and lenticular fashion along bedding planes with occasional larger (cobble size) chert concretions; the limestone is aphanitic and varies to "china stone" in places with a destructive cream weathering surface; interbedded units consist of argillites and medium to coarse grained sub-greywackes.
- (e) Hornblende Diorite: a thin (less than 20 ft) intrusive cuts across the property and forms a distinctive horizon composed almost entirely of a acicular green hornblende,

generally less than 5 mm long, and plagioclase; the hornblende is felted into an ophitic to sub-ophitic texture; the unit weathers grey-green to grey-brown and is dark grey green fresh; feldspar - 50%, hornblende - 45%, quartz 5%; In places blotchy pyrite is seen in blebs to 8 mm. diameter associated with minor chloritization; generally the unit is unaltered.

### 3. Structure

The whole area is dissected by a series of generally N-S trending faults whose presence has been accentuated by glacial scouring and which can be seen on the air photographs. The intrusive appears to be upfaulted in a horst fashion into the Jurassic sequence and does not appear to be of very great magnitude. It is closed off in the north within the limits of the claim boundaries.

### 4. Mineralization

The mineralization is restricted to the major intrusive. In the gossan zone, hydrothermal alteration and pyritization is most apparent but the alteration was not found to be in association with quartz veining. Apart from pyrite the zone is not obviously mineralized.

In the fresh areas of the intrusive disseminated pyrite mineralization is common. Finely disseminated chalcopyrite mineralization depicted by the presence of malachite is pervasive over two main areas:

1. In the northwest adjacent to the claim line between claims 1 and 2.
2. In the south, either side of the claim line between claims 5 and 6.

The chalcopyrite mineralization was found to be associated with minor quartz veining in the intrusive. No veining pattern was observed suggesting that the veining may be a high level stockwork development.

Fine traces of molybdenite could occasionally be observed in association with the chalcopyrite in the areas of the more intense mineralization.

High silver values to 1.75 oz/ton were recorded from two rock chip samples taken from the felsitized gossan zone (#24, #158). The zone may represent an area of differential enrichment in silver.

From the geochemical data it can be shown that the gossan zone is probably not deficient in copper mineralization and that the true nature of the mineralization may be hidden by the alteration.

The anomalous copper values from the soil samples, with the exception of those from the gossan zone, correspond very closely to those areas of the intrusive where chalcopyrite mineralization was observed in hand specimen.

Field observations would indicate that the intrusive is cut at a high level. The gossan zone may represent either the top or edge of the intrusive or a zone of weakness where hydrothermal activity has resulted in the felsitization of the intrusive.

#### 5. Geochemical Interpretation

To provide meaningful interpretation of the geochemical results, the assay values were treated statistically to bracket background, threshold and anomalous values. The procedure is as follows:

##### a) Determine the Mean

$$x = \frac{\sum x_i}{n} \quad \text{where } x = \text{mean}$$

$$x_i = \text{ith value}$$

$$n = \text{no. of samples.}$$

It should be noted that in these calculations only values less than 250 ppm were used as the incorporation of values greater than 250 ppm would tend to skew the results.

##### b) Determine the Standard Deviation

$$S = \frac{n(\sum x_i^2) - (\sum x_i)^2}{n(n-1)}$$

$$= \frac{156(13,57,497) - (144,576,576)}{24,180}$$

$$= 52 \text{ ppm.}$$

- c) In common usage, anomalous is defined as the mean plus two standard deviations. Therefore, anomalous in copper for this case is  $(77 + 104)$  181 ppm and the divisions would be as follows:

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

- d) In a similar fashion, calculations show that the mean of the molybdenum values is 6 ppm and the bracketed divisions are:

Background	0 - 6 ppm
Threshold	7 -18 ppm
Anomalous	Over 18 ppm.

Contouring of the anomalous copper values describes a broad linear anomaly which trends roughly northeasterly across the entire claim group. By contouring those samples that are greater than 500 ppm two anomalies can be discerned. The larger of the two measures 2,000 feet by 1,000 feet and is centered on VV 2. The smaller anomaly is centered near the junction of VV 3, 4, 5 and 6. It seems clear that these anomalies reliably represent a metal build-up of metal content in the underlying bedrock.

The contoured molybdenum values show a similar pattern to the copper and are coincident with them. Two anomalies are present but are slightly smaller in areal extent than the copper anomalies. Considering the recorded presence of molybdenite in outcrop it is apparent that the anomalies represent anomalous concentrations in bedrock.

#### E. Conclusions

1. Geological mapping has revealed that the VV claim group has been staked over a small intrusive which is fault bounded on most margins by a series of volcanics.
2. Soil and rock chip samples from 1975 and 1974 indicate a localized high in concentrations of gold, silver and copper with occasional anomalous values to 12,800 ppm copper (soil sample), 0.035 oz/ton gold (rock chip) and 1.75 oz/ton silver (rock chip).

3. Chalcopyrite mineralization is finely disseminated in the intrusive and is made apparent by the common presence of malachite.
4. The felsitized pyritic gossan zone is not an area of more intense mineralization. High copper values in soils (over 1,000 ppm) were observed as elsewhere in the intrusive but values to 1.75 oz ton silver would indicate some degree of enrichment in silver over the zone.
5. The low grade pervasive copper mineralization is associated with what is considered to be a stockwork development of thin quartz veins. This association is consistent with the intrusive being a porphyry deposit which has been exposed at quite a high level.
6. All geological and geochemical results to date indicate that this area has an excellent potential for hosting a low grade porphyry deposit.


**F. Recommendations**

It is recommended that:

1. Further detailed mapping be undertaken on the claim block emphasizing a greater understanding of the nature of the intrusive and of the mineralization. In particular, attention should be paid to the type of alteration, the frequency of quartz veining, the intensity of fracturing and the distribution of sulphides.
2. Further geochemical soil sampling be undertaken where possible on the same 200 foot grid where snow has thus far prevented the collection of samples. In addition, sampling should be carried out in areas around the claim block.
3. Trenching and/or Winkle drilling should be considered as an exploratory tool in the two main areas of chalcopyrite mineralization.
4. An IP survey over the entire claim block be carried out in an effort to define the sulphide distribution.
5. Additional claims be staked to gain protection of the mineralized area.

Report by: C.Q. Winter

Under the Supervision of

  
M.D. McInnis

**APPENDIX I**

**ROCK AND GEOCHEMICAL SOIL SAMPLE ASSAYS**

**CERTIFICATE OF ANALYSIS**



**CHEMEX LABS (ALBERTA) LTD.**

ANALYTICAL CHEMISTS

4638 - 11th ST. N.E.  
 Calgary, Alberta T2E 2V7  
 TELEPHONE: 403-276-9627  
 TELEX: 036-25541  
 TWX: 610-821-7390

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Great Plains Development Company of Canada Ltd.  
 736 - 8th Avenue S.W.  
 Calgary , Alberta

Certificate No. 46-03-04  
 Date Received  
 Date Analysed

Geochem Analyses

Attn: Mike McInnis

Location	Cu (PPM)	Mo (PPM)
1	500	15
2	470	21
3	130	10
4	38	3
5	50	2
6	65	2
7	30	4
8	85	3
9	38	4
10	38	6
11	50	6
12	60	4
13	22	4
14	45	3
15	38	2
16	85	1
17	90	4
18	100	0
19	160	10
20	190	9
21	1320	96
22	910	512
23	115	6
24	80	5
25	65	5
26	80	9
27	50	2
28	45	2
29	38	2
30	30	3
31	22	3
32	22	5
33	38	2
34	65	0
35	38	0
36	30	3
37	55	21
38	50	3
39	30	5
40	55	4



Certified by *AP Swales*



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Page 2 con't.

Certificate No. 46-03-04  
Date Received  
Date Analysed

Geochem Analyses

Attn: Mike McInnis

Location	Cu (PPM)	Mo (PPM)
41	22	4
42	45	9
43	38	0
44	22	0
45	18	0
46	60	0
47	55	5
48	65	26
49	180	29
50	50	4
51	342	14
52	200	8
53	320	23
54	140	2
55	12,800	73
56	880	79
57	583	9
58	310	11
59	220	15
60	240	6
61	90	6
62	60	4
63	115	6
64	45	7
65	168	0
66	125	3
67	240	9
68	260	27
69	55	0
70	555	28
71	115	13
72	130	6
73	60	0
74	200	5
75	153	6
76	160	4
77	38	5
78	38	3
79	140	11
80	320	9



Certified by *GW Swaby*

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Certificate No. 46-03-04  
Date Received  
Date Analysed

Attn: Mike McInnis

Location	Cu (PPM)	Mo (PPM)
161	12	2
162	45	0
163	38	2
164	22	6
165	180	6
166	38	3
167	22	2
168	38	3
169	30	8
170	50	6
171	55	0
172	70	0
173	85	0
174	38	0
175	175	3
176	18	3
177	18	3
178	22	0
179	30	0
180	38	2
181	30	6
182	18	0
183	60	4
184	60	8
185	45	5
186	70	0
187	30	9



Certified by *A.W. Swaby*

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 Date Analysed

Geochem Analyses

Attn: Mike McInnis

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Assay	Ag oz/ton	Au oz/ton	Cu (PPM)	Mo (PPM)
#4	0.09	<0.003	190	2
19	0.58	0.016	90	1
20	0.07	0.003	310	1
22	0.08	0.013	115	105
24	1.75	0.012	70	5
25	<0.01	<0.003	55	2
27	0.02	<0.003	90	10
28	0.05	<0.003	45	7
30	0.11	0.006	18	5
35	0.04	<0.003	12	2
37	0.04	<0.003	7	1
39	0.04	0.004	50	2
49	0.01	0.010	22	8
54	0.05	<0.003	60	<1
55	0.04	0.004	12	60
59	0.09	0.007	2,160	5
60	<0.01	0.005	125	7
61	0.05	0.012	910	6
62	<0.01	0.008	153	2
66	0.89	0.073	408	6
67	0.03	0.004	105	2
79	0.05	<0.003	1320	5
80	0.13	0.004	1150	5
82	0.01	0.003	180	1
83	0.06	<0.003	1320	2
90	0.06	0.009	332	10
100	0.09	0.065	85	4
117	0.01	0.006	30	<1
126	0.20	0.035	70	<1
130	0.02	<0.003	168	13
139	0.06	0.021	4,000	<1
140	0.16	0.006	4,000	28
144	0.10	0.035	2,000	<1
150	0.20	0.021	55	<1
158	1.75	<0.003	153	<1
171			56	<1



Certified by: *Alfred Swaby*

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Certificate No. 46-03-04  
 Date Received  
 Date Analysed

Geochem Analyses

Attn: Mike McInnis

Location	Cu (PPM)	Mo (PPM)
81	38	11
82	275	9
83	355	7
84	90	7
85	385	4
Sample Missing		
87	65	3
88	30	0
89	115	2
90	22	0
91	268	86
92	125	5
93	130	2
94	70	5
95	268	2
96	125	3
97	268	20
98	45	8
99	85	6
100	90	11
101	145	10
102	332	13
103	190	17
104	190	15
105	45	4
106	50	6
107	1100	28
108	205	10
109	240	2
110	470	49
111	80	5
112	45	2
113	45	3
114	100	4
115	30	5
116	45	3
117	60	0
118	55	3
119	38	2
120	22	2



Certified by... *[Signature]*

**CERTIFICATE OF ANALYSIS**



**CHEMEX LABS (ALBERTA) LTD.**

ANALYTICAL CHEMISTS

4638 - 11th ST. N.E.  
 Calgary, Alberta T2E 2W7  
 TELEPHONE: 403-276-9627  
 TELEX: 038-25541  
 TWX: 610-821-7390

- MINERAL    • GAS    • WATER    • OIL    • SOILS    • VEGETATION    • ENVIRONMENTAL ANALYSIS

Great Plains Development Company of Canada Ltd.  
 Page 4 con't.

Certificate No 46-03-04  
 Date Received  
 Date Analysed

Attn: Mike McInnis

Geochem Analyses

Location	Cu (PPM)	Mo (PPM)
121	60	0
122	45	0
123	30	7
124	38	7
125	45	16
126	85	4
127	85	0
128	1150	23
129	55	4
130	300	13
131	342	14
132	100	5
133	310	7
134	60	0
135	22	3
136	650	20
137	115	7
138	90	4
139	65	0
140	50	3
141	90	3
142	55	0
143	55	6
144	140	6
145	65	2
146	100	10
147	70	7
148	90	2
149	140	8
150	60	7
151	60	8
152	30	0
153	90	3
154	190	4
155	100	4
156	80	3
157	55	0
158	60	10
159	105	5
160	38	0



Certified by *J.W. Swaby*

**APPENDIX II**  
**STATEMENT OF QUALIFICATIONS**

**STATEMENT OF QUALIFICATIONS**  
**COLIN Q. WINTER**

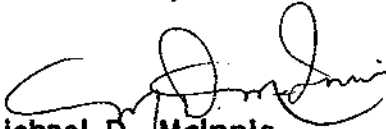
1. I graduated in 1972 from St. Peter's College of the University of Oxford with an Honours B.A. in Geology.
2. From September 1972 until the Spring of 1973 I attended the Graduate School of the Faculty of Geology at Calgary University. Course work there included two ore deposits courses and work towards an Economic Geology Master's Degree.
3. During the summers of 1970 and 1971 I was employed as an exploration geologist in Morocco and in Australia respectively.
4. After graduation I was employed with Union Oil of Canada Ltd., for fifteen months as an Arctic exploration geologist.
5. I was employed during the summer of 1975 as a field exploration geologist for Great Plains Development Company of Canada, Ltd.,

C.Q. Winter  
September, 1975.

**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 Regional Geologist 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 B.C. and have applied for membership in that society.

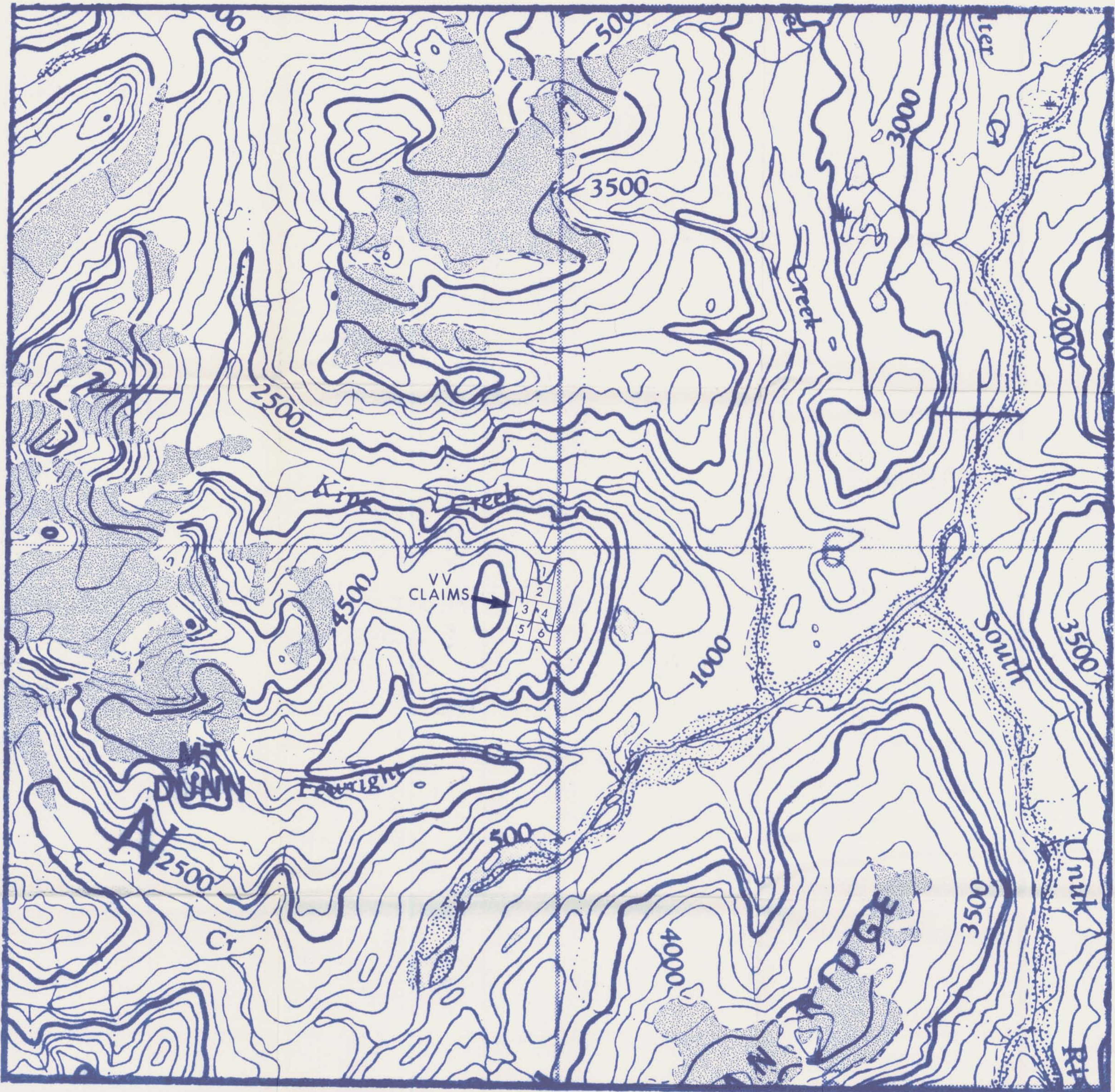
  
Michael D. McInnis  
September, 1975.



**APPENDIX III**  
**STATEMENT OF EXPENDITURES**

COST STATEMENT

a)	<b>Salaries</b>		
	Geologist	9 days @ \$40/day	\$ 360.00
	Geol. Assistant	9 days @ \$40/day	\$ 360.00
	Supervision	1 day @ \$90/day	\$ 90.00
b)	<b>Domicile</b>		
		9 days @ \$15/man/day	\$ 270.00
c)	<b>Aircraft</b>		
		3.6 hours 315	\$1,134.00
d)	<b>Assaying</b>		
		186 samples @ \$2.50/sample	\$ 465.00
e)	<b>Mobilization and Demobilization (Transportation)</b>		\$ 400.00
f)	<b>Report Preparation</b>		\$ 200.00
			<hr/>
			<b>\$3,279.00</b>
			<hr/>



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 5616 MAP 4

LEGEND

 GLACIER

*C. D. M. Davis*



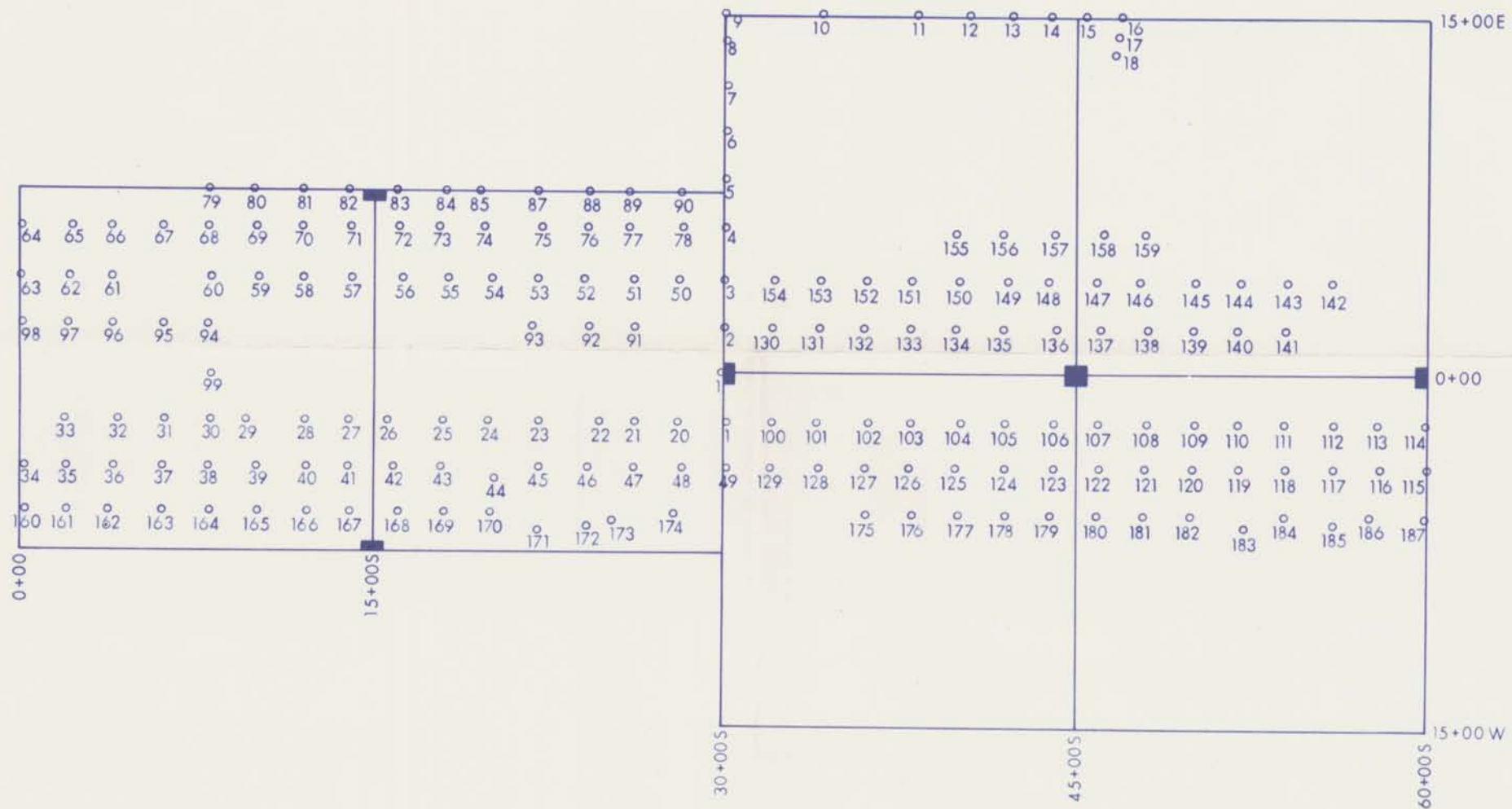
DEVELOPMENT COMPANY  
OF CANADA, LTD.  
BRITISH COLUMBIA

V V CLAIM GROUP

SCALE - 1:50,000

R. VISAGIE

SEPT., 1974



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 5616 MAP 3

*C. J. Jones*



DEVELOPMENT COMPANY  
OF CANADA, LTD.

VV CLAIMS - MT. DUNN AREA  
BRITISH COLUMBIA

SOIL SAMPLE GRID

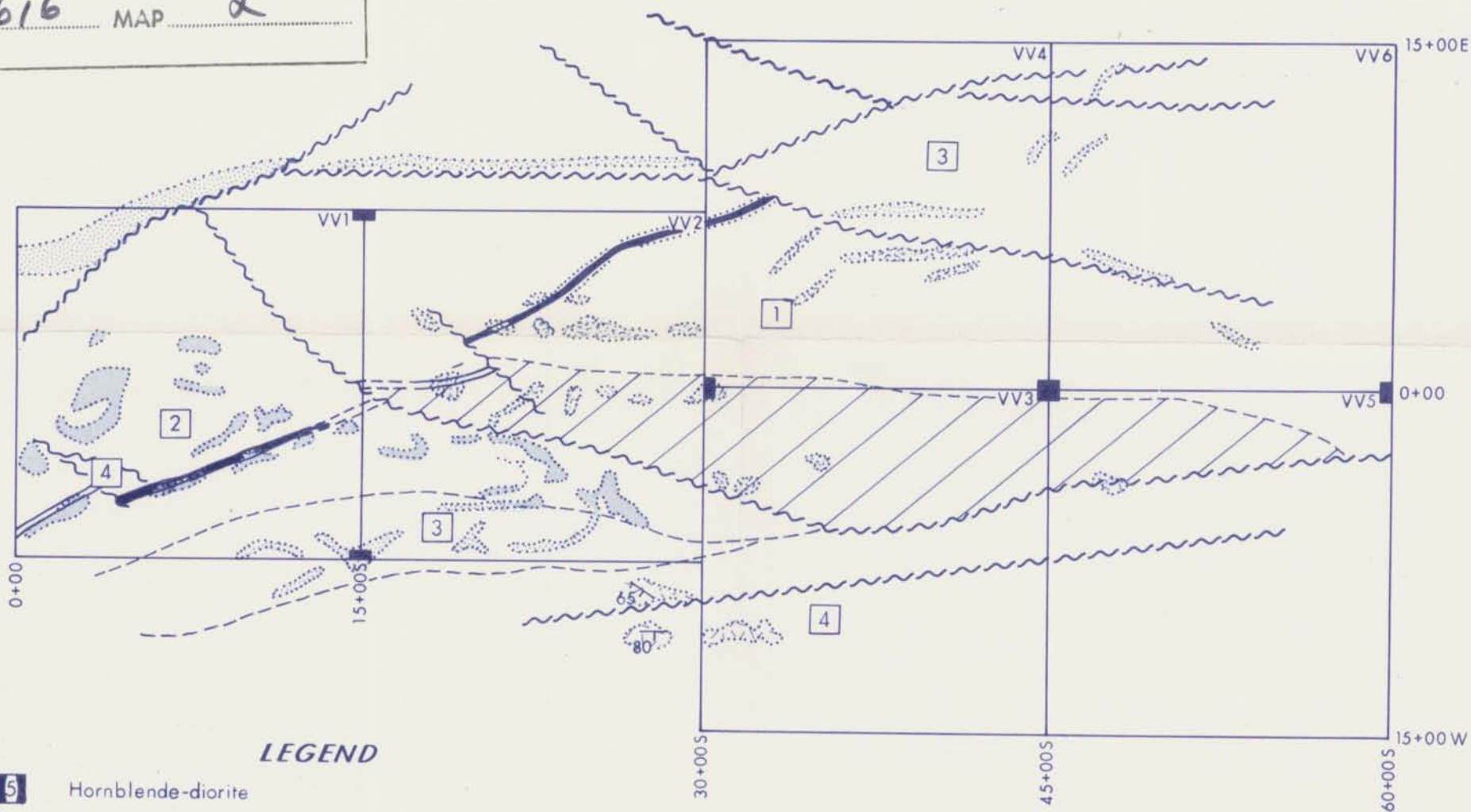
SCALE: 1"=8000'

LIARD M.D.  
C.Q. Winter

N.T.S.: 104-B-7  
AUGUST, 1975

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 5616 MAP 2



**LEGEND**

- 5** Hornblende-diorite
- 4** Volcanics, argillite, siliceous limestone + sandstone  
- interbedded succession
- 3** Andesite - finely porphyritic to massive
- 2** Lithic-crystal tuff - lithic clasts to more than 10cm.,  
variable in coarseness + phenocryst content
- 1** Intrusive - diorite - altered to white felsite in gossan zone

**SYMBOLS**

- Outcrops
- Gossanous zone
- Indefinite geological contact
- Dips & strikes of bedded strata
- Faults



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BRITISH COLUMBIA

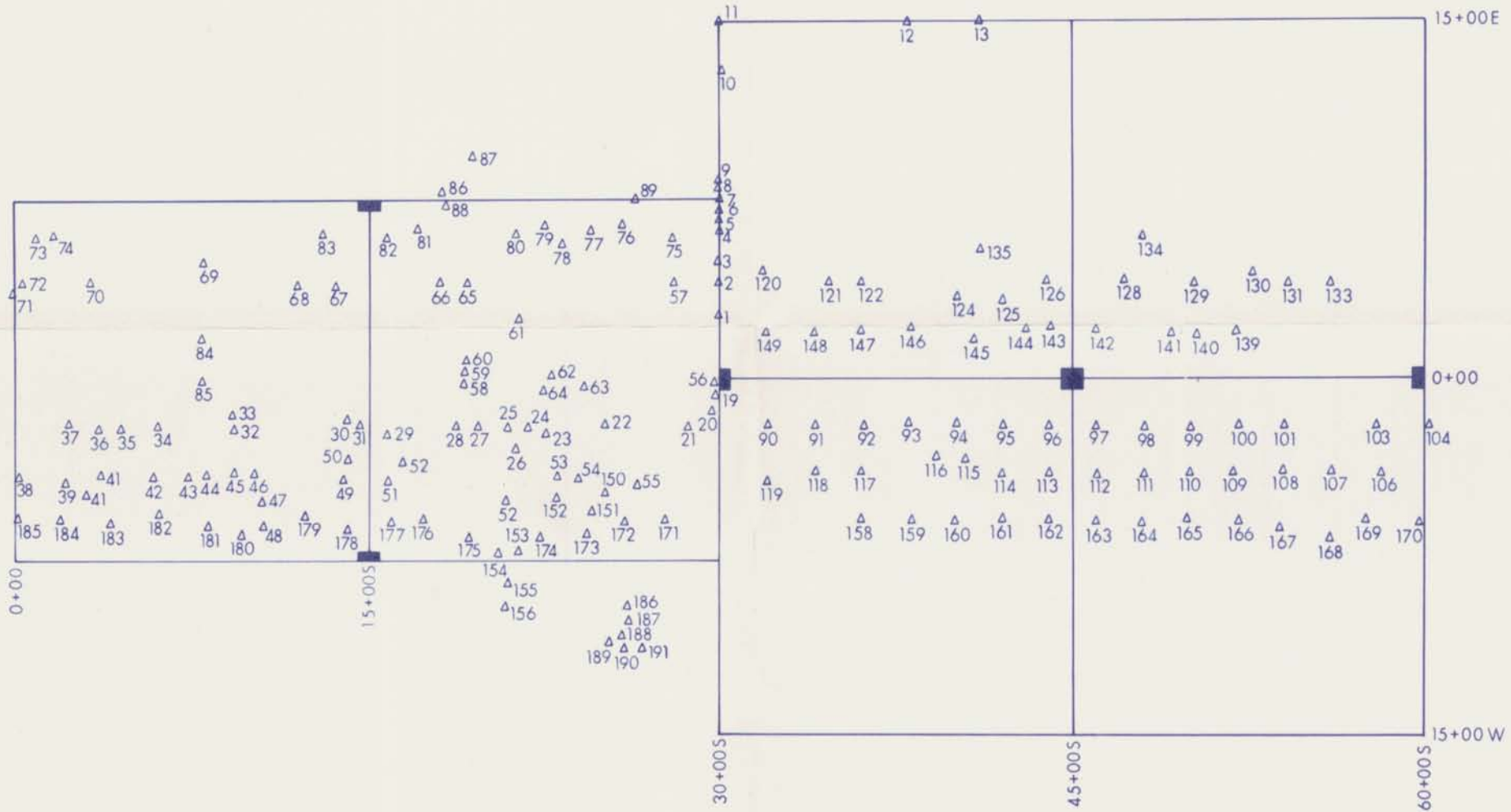
**GEOLOGY MAP**

SCALE: 1"=8000'

LIARD M.D.  
C.Q. Winter

N.T.S.: 104-B-7  
AUGUST, 1975

*[Handwritten signature]*



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 5616 MAP 1



DEVELOPMENT COMPANY  
OF CANADA, LTD.

VV CLAIMS - MT. DUNN AREA  
BRITISH COLUMBIA

ROCK SAMPLE GRID

SCALE: 1"=8000'

LIARD M.D.  
C.Q. Winter

N.T.S.: 104-B-7  
AUGUST, 1975

*Handwritten signature*