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GREAT PLAINS DEVELOPMENT
COMPANY OF CANADA, LTD.

DL 7/8/7

PROJECT YEAREND REPORT

MACKENZIE JOINT VENTURE
REPORT OF THE DIAMOND DRILLING
ON LAURA, BUH, AND BEV CLAIM GROUP

N.T.S. 106 E and F

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February, 1977

A. SUMMARY

- 1) This report describes EX diamond drilling conducted on the McKenzie Project during the period June 14 to 27, 1976. The properties examined by this programme are the Laura, Bev and Buh.
- 2) The properties are all located approximately 125 to 140 miles northeast of Mayo Yukon from where the diamond drill mobilization was conducted.
- 3) Three drill targets were proposed on the Laura claims to a depth of 100 to 125 feet. The drilling was very slow due to difficult ground. Diamond drill holes 76-1 and 76-2 were drilled to 112 and 120 feet respectively. Diamond drill hole 76-2 encountered the only significant zinc mineralization which would assay less than 1% in the top 10 feet of the hole. Diamond drill hole 76-3 was stopped at 36 feet because of very difficult drilling and no mineralization.
- 4) The water supplies on the Buh and Bev claims had dried up and so no diamond drilling was conducted on these properties and the project was terminated.
- 5) From the results to date, there is little potential for the development of economic mineralization on the Laura property.
- 6) It is recommended that no further exploration be conducted on the Laura property.

B. INTRODUCTION

1. History

In the summer of 1973 a joint venture was formed whereby Kerr Addison Mines Ltd., and Great Plains Development Company of Canada Ltd., would participate in a geological and geochemical reconnaissance program in the Mackenzie Mountains, Yukon Territory. The joint venture program was designed to search for Mississippi Valley type lead/zinc deposits.

During August and September of 1973 a preliminary reconnaissance program was conducted by Great Plains personnel in north-eastern British Columbia and in the Mackenzie Mountains in the Northwest Territories. During the winter of 1973-74 a study program was undertaken to elucidate the tectonic framework and the stratigraphic history of the Mackenzie Mountains in an effort to select areas favourable to the deposition of lead-zinc mineralization. During the 1974 field season, from May 25 to August 28, a crew collected silt samples from streams in the areas selected. Several claim groups including the Laura, Buh and Bev were staked on showings and geochemical anomalies.

In 1975 geochemical soil grid sampling and geological mapping were effected on the Laura, Buh and Bev prospects. It was felt that targets existed on the three groups which required testing by small bore drilling.

2. Ownership

The claims are held in the name of Great Plains Development Company of Canada, Ltd. Under the terms of the Mackenzie Joint Venture, Great Plains and Kerr Addison Mines Ltd. share the interest in the claims as to 50% each.

The pertinent data on the claims is as follows:

<u>CLAIM NAME</u>	<u>NO. OF CLAIMS</u>	<u>GRANT NUMBERS</u>	<u>DUE DATE</u>
Bev	20	Y95257-Y95276	August 27, 1977
Buh	10	Y97764-Y97773	July 16, 1980
Laura	22	Y97742-Y97763	January 15, 1979

3. Location and Access

The Laura, Buh and Bev claim groups are located in the northern Mackenzie Mountains of the Yukon Territory. More specifically, the locations for each of the claim blocks are as follows:

(a) Laura Claims:

The claims are located on a large tributary of the Snake River, approximately fifty-two miles east-southeast of Margaret Lake and 142 miles northeast of Mayo. The property falls within the Mayo Mining District in N.T.S. 106F/2. The longitude and latitude of the property are 130 degrees 50 minutes and 65 degrees 05 minutes respectively.

(b) Buh Claims:

The Buh property is located near the Snake River about fifty miles east-southeast of Margaret Lake and 140 miles northeast of Mayo, Yukon Territories. The claims are centered on longitude 132 degrees 57 minutes and latitude 65 degrees 06 minutes in N.T.S. 106F/2 and fall within the Mayo Mining District.

(c) Bev Claims:

The property is located five miles north of the mouth of Rapitan Creek and twelve miles southeast of Margaret Lake. The town of Mayo lies 125 miles to the southwest. The claims fall within the Mayo Mining District in N.T.S. 106E/8. The longitude is 134 degrees 17 minutes and the latitude is 65 degrees 13 minutes.

4. Objectives of the 1976 Program

The objective of the 1976 program was to drill test with small bore diamond drilling several showings on the Laura, Buh, and Bev claim groups. The aim of the drilling was to test the continuity and subsurface grade of the known zinc mineralization.

C. DRILLING PROGRAM

1. Introduction

Several drill targets defined by zinc showings or geochemical anomalies had been outlined on the Laura, Buh and Bev groups during the 1975 program. It was jointly decided by Great Plains and Kerr Addison personnel that these targets deserved testing by small bore drilling. Martinson Bros. of Powell River, British Columbia were contracted to carry out the proposed drilling which is detailed below:

LAURA CLAIM GROUP

	<u>AZIMUTH</u>	<u>DIP</u>	<u>LENGTH</u>
DDH Laura 1	---	-90 degrees	100' - 125'
DDH Laura 2	North	-60 degrees	100' - 125'
DDH Laura 3	07.0 degrees	-45 degrees	100' - 125'

BUH CLAIM GROUP

DDH Buh 1	---	-90 degrees	100' - 125'
DDH Buh 2	---	-90 degrees	100' - 125'

BEV CLAIM GROUP

DDH Bev 1	---	-90 degrees	100' - 125'
DDH Bev 2	070 degrees	-45 degrees	100' - 125'
DDH Bev 3	070 degrees	-45 degrees	100' - 125'

2. Programme Followed

During the period June 14 to 27 Martinson Bros. mobilized and carried out EX diamond drilling for the Mackenzie Project.

The Laura property was the initial property on which diamond drilling was conducted. The progress on diamond drill holes Laura 76-1 and 76-2 was extremely slow due to very broken rock and took twice as long as expected. Even with this difficulty, these holes were completed to the proposed depth of 112 feet and 120 feet, respectively. In diamond drill hole Laura 76-3, the progress was even slower and more difficult. When no zinc mineralization was encountered, the hole was abandoned at 36 feet

After the Laura drilling, the drill was moved to the Buh property on a set-up that was laid out a week earlier. After the moving it was realized that the water supply that had been confirmed a week earlier was completely dried up. Because of this problem no drilling was conducted on the Buh claims.

Due to the water problem encountered on the Buh it was decided to check the confirmed water supply on the Bev and it had dried up as well. So, therefore, considering the difficulty of drilling and obtaining water, combined with the mounting expense, it was decided not to attempt any drilling on the Buh or the Bev properties.

The detailed results of the drilling conducted on the Laura property in diamond drill holes 76-1, 76-2 and 76-3 are contained in Appendix 1 of this report.

D. GEOLOGY

a) Surface Geology

The Laura property is located in an erosional window of a thrust plate consisting of predominantly Rapitan Formation sediments overlying Lower Cambrian sediments.

The property was mapped during the 1975 field season at a scale of 1 inch to 400 feet and the results of this mapping are documented in Figure 16 of this report.

The mappable units are described as:

Unit 1

Unit 1 consists of crystalline, resistant, dark to medium grey with areas of zebra texture developed. Buff to grey weathering dolomite with local zones of brecciation within this unit are marked on the map. Near the showing brecciation is well developed, with angular blocks up to two feet in length, and may be fault controlled. Other zones of brecciation exhibit a smaller scale brecciation which may be related to slumping during deposition and lithification.

Unit 2

The unit consists of a dolomite similar to Unit 1 but is not mineralized and exhibits a wavy bedding pattern. It may be interbedded with and overlies the more massive Unit 1.

Unit 3

The unit consists of flaggy, black crystalline, dull grey weathering dolomite with small vugs and veins filled with white dolomite. Occasional pyrite may be seen in the unit.

Unit 4

The unit consists of dark grey, light grey weathering, fissile to thinly bedded, calcareous shales with interbeds of medium grey crystalline, flaggy (.1 - .5 feet) dolomite.

Unit 5

The unit consists of a calcareous chert-quartz-pebble conglomerate with a calcareous sand matrix. The unit breaks into round knobs or rectangular blocks. Several of the round knobs contain pyrite. Bedding is weak, some preferred orientation is visible and calcite veining is common.

Structure

Small folds were noted and are plotted on the geology map. The river valley may be controlled by a vertical fault. The showing occurs in a window of Lower Cambrian (?) carbonates in a thrust plate of Rapitan Formation sediments.

b) Geology Recognized in Diamond Drill Core

The 1976 diamond drill core from the Laura property was logged on graphic logs at a scale of 1 inch to 10 feet. Several units were recognized on the basis of textural and compositional variations and are generally described as:

Pisolitic and Laminated Dolostone

The pisolitic and laminated dolostone generally consists of white pisolites in a medium to dark grey crystalline to argillaceous dolostone matrix.

Laminated Dolostone

The laminated dolostone generally consists of 1 mm to 5 mm light and dark laminations. Parts of this unit were found to be quite fissile. The argillaceous content of this unit is variable and in the darker sections may be an argillite.

Crystalline Dolostone

The crystalline dolostone is comprised of fine to medium crystalline dolomite. This unit is generally homogeneous and the colour varies from a light to a medium grey.

Clastic Dolostone

The clastic dolostone is comprised of dark randomly oriented 2 mm to 5 mm argillaceous clasts in a light to medium grey dolomite matrix.

The secondary textures noted in the drill core can be described as:

Sparry Dolomite is white crystalline dolomite that generally precipitated in open spaces.

Vug is a discontinuous open space up to 5 cm in diameter that is developed in a carbonate during dolomitization and is often lined or filled with sparry dolomite.

Stylolite - a fine sutured line developed in the rock due to pressure.

Breccia - is a section of dolomite in which the primary lithology has broken up or collapsed into a matrix of deficient composition or texture..

E. MINERALIZATION

a) Surface Mineralization

The showing consists of boulders containing pyrite, sphalerite which have slabbed off the cliffs along the river bank.

Hydrozincite and zinc oxides are prevalent near the #1 claim post of the Laura 1 and 2 claims. Assays over a fifty foot section showed values of 1.1% zinc. An outcrop near #2 post, Laura 1 and 2, displays good reaction to the zinc spot test.

b) Mineralization Recognized in Diamond Drill Core

No significant sulphide mineralization was recognized in diamond drill core. In diamond drill hole Laura 76-2 from 0 feet to 50 feet the trace amounts of honey sphalerite noted were the only sphalerite encountered. In this section the sphalerite was found to occur as medium to coarse crystalline sphalerite deposited after sparry dolomite in open spaces.

Pyrite was noted in Laura 76-2 and 76-3 and generally occurs on Sparry dolomite vugs. Small sections of disseminated pyrite were noted and a clast of pyrite was noted in the Clastic Dolomite.

E. POSSIBILITIES AND CONCLUSIONS

For mineralization to be economic in the area of the Laura claim group it is expected that one would need a significant tonnage of 10% zinc or better. The best mineralization encountered during the 1975 surficial mapping was 1.1% zinc. The best mineralization encountered in the Laura 1976 diamond drill programme was in the top eight feet of the hole and would assay less than 1% zinc.

The geology generally suggests that the Laura property is near the shale-carbonate facies change which is favourable for the development of Mississippi Valley type lead-zinc deposits. The textural features as vugs, dolomite on fractures and minor dolomite breccia represent porosity that would have developed in the dolomite during dolomitization. In Mississippi Valley type deposits this porosity is often the space in which the lead-zinc mineralization is precipitated. These porosity textural features on the Laura property are not well developed, not of any significant size and generally are not filled with lead-zinc mineralization.

From the results to date there is little potential for the development of economic mineralization on the Laura property.

F. RECOMMENDATIONS

It is recommended that no further exploration be conducted on the Laura property.

FIGURE 16

BEV CLAIMS - 1976 PROPOSED DRILLING PROGRAM

BUH CLAIMS - 1976 PROPOSED DRILLING PROGRAM

APPENDIX 1:

Diamond Drill Log

LEGEND

LAURA 76-1	1 to 2
LAURA 76-2	1 to 3
LAURA 76-3	1

