MAR 19680014: NORTHEASTERN ALBERTA

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REPORT ON THE GEOLOGICAL EVALUATION
OF QUARTZ MINERAL PERMITS OF
NORTH-EASTERN ALBERTA

(Permits 41, 42, 47, 48, 52)

Prepared For
VISION DEVELOPMENTS LTD.
September 10, 1968.

J.A. Dockery, P. Eng.

4820 Eighth Avenue S.E.    Tel. 272-0209
Calgary, Alberta

INDICATING DOCUMENT NOs. 700048, 700030, 700037, 700038.
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## MAP AND FIGURE REFERENCES

Map Section

#1 - 74 M, Fitzgerald  
#2 - 1045 A - M1, Metallogenic  
#3 - Aerial Photographic  
#4 - 1162 A, Geology  
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Reference Figures

Figure #1 - Quartz Mineral Exploration Permits  
Figure #2 - Principal Structural Elements of the Precambrian, North of Lake Athabasca  
Figure #3 - Northern Miner Extract, February 1, 1968
GEological EVALUATION
OF QUARTZ MINERAL PERMITS OF N.E. ALBERTA

INTRODUCTION:

This report has been prepared at the request of J.W. Worobec of 517 Lancaster Building, Calgary 2, Alberta, for submittal to Vision Developments Ltd. The object of this study is to ascertain the economic potential of possible uranium deposits and other minerals within the acquired permits and claims from a survey of the published geological literature.

The present report presents the results of an investigation of publicly available information relating to the Company's permits, claims and interests and surrounding areas. The properties themselves were not examined in the field by the undersigned in conjunction with this report, but the occurrence of uranium deposits and other mineralization in the area has been confirmed through an investigation of the area by J.D. Godfrey of the Research Council of Alberta.

DESCRIPTION OF PROPERTIES:

Permit No. 41

Township 119, Range 3, W4M
Sec. 19, and 27 - 34 inclusive (9 sections)

Township 119, Range 4, W4M
Secs. 25 and 36

Township 120, Range 3, W4M
Secs. 1, 2 and 3

Township 120, Range 4, W4M
Sec. 1

Total: 9,600 acres
Permit No. 42

Township 120, Range 3, W4M
Secs. 9-16, 21-28, and 31-33 inclusive

Township 120, Range 4, W4M
Secs. 12, 13, 23, 24, 25, 26, 35 and 36

Township 121, Range 3, W4M
West half of township (18 sections)

Township 121, Range 4, W4M
East one-third of township (12 sections)

Township 122, Range 3, W4M
Secs. 4 - 9 inclusive

Township 122, Range 4, W4M
Secs. 1, 2 and 12

Total: 39,680 acres.

Permit No. 47

Township 120, Range 4, W4M
Secs. 2-11, 14-22, and 27-34 inclusive

Township 120, Range 5, W4M
Secs. 10 - 25 inclusive

Total: 29,440 acres.

Permit No. 48

Township 123, Range 9, W4M
Secs. 1, 12, 13, 24, 25 and 36

Township 123, Range 8, W4M
Secs. 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33, 34

Township 122, Range 8, W4M
Secs. 31 and 32

Township 122, Range 9, W4M
Sec. 36

Total: 19,840 acres.
Permit No. 52

Township 119, Range 1, W4M
Secs. 1, 2, 3, 10, 11, 12, 13, 14, 15, and 19 - 36 inclusive

Township 119, Range 2, W4M
Secs. 28 - 36 inclusive

Township 119, Range 3, W4M
Secs. 23, 24, 25, 26, 35 and 36

Township 120, Range 1, W4M
Secs. 1 - 9 inclusive

Township 120, Range 2, W4M
South half of township (18 sections)

Township 120, Range 3, W4M
Secs. 1 - 3 and 10 - 15 inclusive (9 sections)

Total: 49,920 acres.

TOTAL OVERALL ACREAGE: 148,480 acres.

ACCESSIBILITY:

Direct access to this region is available to Fort Chipewyan by air from Edmonton or by an all-weather road starting at Peace Point. (Reference Map #1). However, travel within the area itself is difficult, and can only be economically accomplished by means of float-equipped, fixed wing aircraft or helicopter. Boat or canoe travel is slow and difficult, with numerous portages required.

The topography of the Precambrian Shield east of the Slave River is generally a gentle undulating surface of low rounded hills, however, locally deep valleys and fault scarps up to 200' high are encountered. The area is mainly Precambrian outcrop with numerous glacially-scoured lakes and small muskeg areas. Local relief up to
300' is probably maximum, with a general elevation increase from 700' on Lake Athabasca to 1370' in the northeast corner of the area.

The valleys are wooded with spruce, fir and poplar. Scrubby muskeg and open watery muskegs are generally confined to the lower areas.

**GENERAL STATEMENT:**

Metalliferous vein deposits are generally recognized to be genetically and spatially related to faulting. A large concentration of vein and related types of uranium deposits are known to occur along the north shore of Lake Athabasca in a belt exceeding 30 miles in width northward from Fort Chipewyan in Alberta and extending eastward through Beaverlodge, Saskatchewan to Black Lake for a length of approximately 200 miles.

This belt lies within Athabasca geologic province of the Canadian Shield, and for ease of reference this belt will be termed the Lake Athabasca metalogenic belt. Map #2 (Map 1045 - M1, Metalogenic Map, Uranium in Canada) indicates a favourable area extending northeasterly for an additional 500 miles to the west shore of Hudson's Bay.

In the Canadian Shield the uranium ores are classified into three general types: (1) conglomeratic, (2) vein and related types, and (3) the pegmatitic types. Almost all of the uranium deposits of the producing mines and known occurrences within the Lake Athabasca Belt consist of veins, lenses, stringers and disseminations, and fall within the classification of vein and related types. This type of deposit or occurrence as previously stated is often related to faulting. Therefore structural control can be used to delineate the most promising prospecting
areas as well as eliminating much of the unfavourable areas.

GENERAL GEOLOGY:

The rocks within the area under discussion are of Precambrian age. The geologic succession and distribution is poorly known, since most of the area has not been mapped. The strata have been intensely folded and faulted, generally along northerly or northeasterly trending axis.

The oldest exposed strata are sedimentary and volcanic rocks, exhibiting various degrees of metamorphism and are referred to as the Tazin Group. However, much of the terrain is composed of granites and related rocks, and of complexes made up of gneisses, migmatites and granitized rocks. The intense deformation resulted in brecciation fracturing and mylonitization of these rocks, which are prime areas to prospect for mineral occurrences, particularly those of the meta-sediments.

The principal structural elements of the Precambrian north of Lake Athabasca on the Alberta side consist of three major fault structures termed the Allan Fault, the Warren Fault and the Rutherford Fault, by J.D. Godfrey (Figure #2). Belts of folded and faulted rocks exist between the three named fault zones.

The aerial photographic analysis and surface examination by J.D. Godfrey of the Research Council of Alberta (Geological Division - Bulletin 1) was used as a guide to select the above permits in areas most favourably located structurally wherein mineralization related to faults and fault zones could occur (Map #3).

SPECIFIC PERMITS (Ref. Figure #2)

Permits Nos. 41, 42 and 47 straddle the southern portions
of the Allan Fault (Reference Map #3 and Figure #1). The Allan Fault is the major structural element in the western part of the Lake Athabasca Belt. This fault system, more than 100 miles in length with a northerly strike, is expressed as a shear zone varying from one to five miles in width, with a great number of minor faults and shears. North of Woodman Lake the Allan Fault consists of several parallel fault planes with intervening fault blocks. Belts of meta sediments within granites and granite gneiss provide the structurally weak zones. Southward, the Allan Fault meets the shore of Lake Athabasca at Fidler Point. The strong north-easterly faults northeast of Fort Chipewyan are believed to be a drag effect of the Allan Fault (Map #3).

At Fidler Point, approximately 10 miles south of Permit 39, a pitchblende strike has been recorded and a uraninite strike at Fort Chipewyan (Ref. Map #2). About 12 miles north of Permit 42, two radioactive areas and molybdenite occurrences associated with chalcopyrite were noted in the Potts Lake area (Ref. Research Council of Alberta Preliminary Report 65-6).

Along the Allan Fault, the occurrence of pitchblende and uraninite to the south and radioactive areas, molybdenite and chalcopyrite occurrences to the north, categorizes these permits as highly prospective areas in which uranium and other mineral deposits are likely to occur.

Permit No. 52, approximately 49,920 acres, is an irregular block about 12 miles in length and about 5 miles wide and lies adjacent to the east of Permits No. 41 and 42. The dominant structural pattern (Ref. Map #3) is a large number of minor faults, fractures and shears. Approximately 15 miles north of this permit, McIntyre-Porcupine have
apparently found an important discovery (Ref. Northern Miner, Figure #3). South of Colin Lake in the Belyea and Roderick Lake areas (about 3 miles north of Permit No. 52) about 40 radioactive occurrences are reported in Research Council of Alberta Preliminary Report 62-2 by John D. Godfrey and E.W. Peikert. It appears that on the basis of the structural aspect that Permit No. 52 will lie within a southern continuation of the Cherry Lake, Belyea Lake and Roderick Lake radioactive trend.

Permit No. 48, containing approximately 19,840 acres, is located at the southern extremity of the Warren Fault (Map #3). This fault zone consists of two distinct shear zones about 2 miles apart. The western shear terminates within the southern part of the permit. To the west, the third fault system, the Rutherford Fault, swings southwards and appears to intersect the Warren Fault within the permit area. Here the Precambrian rocks are highly altered and faulted, and therefore must be considered a highly prospective area for mineralization to occur.

COMMENT:

The holdings under consideration, as presented to me, are located in Townships 119, 120, 121, 122, 123 and Ranges 1, 2, 3, 4, 5, 8 and 9, West of the 4th Meridian, as shown on the accompanying Reference Map, Figure #2. The total acreage involved is 148,480 acres.

Although the information on these properties, as given to me by Mr. J.W. Worobec, has been accepted as correct, I have made no investigation of my own as to legal title to such properties or the amounts of interests held.
SUMMARY:

The acquired permits are in an area which forms the westerly margin of the Athabasca province of the Canadian Shield. Within this geologic province, a belt of meta-sedimentary, volcanic, granite and related rocks, about 200 miles long and at least 40 miles wide, extends from Black Lake, Saskatchewan, westwards to the Shield area of Alberta. Within this belt, numerous occurrences and concentrations of uranium deposits are known. The deposits found in this belt are mainly vein and related types that often are genetically and spatially related to fault and shear zones.

The Research Council of Alberta, under the direction of J.D. Godfrey, conducted a detailed study of surface geology over part of the Shield area in Alberta. The prime purpose of this work was to map the detail geology of this region. In many cases areas of anomalously high radioactivity were encountered and noted as well as other metalliferous occurrences. These occurrences, although secondary objectives, were very numerous and discussing them individually is beyond the scope of this report.

Brief mention, however, is made of two important occurrences noted by the Research Council of Alberta (Preliminary Report #58-4).

(1) At an outcrop 200' by 75' southwest of Andrew Lake, three grab samples assayed as follows:

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(2) Spider Lake - A zone containing high radioactive bands with molybdenite was followed for over half a mile along the strike. Geiger
counter readings indicate that this radioactive zone extends for a distance of at least two miles.

The most recent discovery (Northern Miner, February 1st, 1968) in the area of the Permit blocks, was found by McIntyre-Porcupine Mines. Apparently five strikes were found, of which at least two reported grade ore running as high as 0.79% $U_3O_8$. Detailed exploratory work is currently being carried out.

On the basis of proven mineralization under similar geological conditions in Saskatchewan and other parts of the Shield, the numerous occurrences found in an otherwise unexplored area, it seems reasonable to state that the Alberta portion of the Lake Athabasca Metallogenic Belt is a highly promising area wherein economic deposits of uranium-bearing minerals can be found. Molybdenite-bearing deposits must be considered as an important secondary objective.

The permits are strategically located from the structural aspect as well as proximity to known occurrences, and therefore must be considered as highly prospective.

THE FOLLOWING EXPLORATORY PROGRAM IS RECOMMENDED:

(1) A two man surface party to conduct a ground scintillometer survey using the air photo analysis as a guide.

(2) If encouraging radioactive anomalies are discovered in Phase 1, conduct an airborne scintillometer survey using a 1/4 mile grid.

(3) Depending on the results of Phase 2, conduct detailed geological surface studies on anomalous areas, including surface trenching.

(4) If warranted, an initial diamond drilling should be undertaken to determine the vertical geometry of any apparent ore bodies.
BIBLIOGRAPHY


CERTIFICATE

I, James Alfred Dockery, consulting engineer, of 4820 Eighth Avenue Southeast, Calgary, Alberta, do declare:

1. That I graduated as a Petroleum Engineer from the University of Alberta with the degree of Bachelor of Science, in the year 1951.

2. That I am a registered member of the Association of Professional Engineers for the Province of Alberta.

3. That I have no interest, direct or indirect, nor do I expect to receive any interest, direct or indirect, in the properties described in the attached report entitled, "Geological Evaluation of Quartz Mineral Permits of N.E. Alberta", dated September 10, 1968, nor have I any interest, present or expected, in the securities of the Company.

4. The above report is based on my geological and engineering knowledge of the areas described above, and upon a study of all the published data pertaining to the area.

4820 Eighth Avenue S.E.,
Calgary, Alberta.
September 10, 1968.

J.A. Dockery, P. Eng.
McIntyre To Test Uranium Property Of New Senator

McIntyre Porcupine Mines has completed plans for what will amount to a sizable exploration program this year on an extensive uranium acreage taken under a working option last year from New Senator-Rouyn Ltd. The property is an 80-sq. mile concession located in the northeastern part of Alberta and some 60 miles due west of the Beaverlodge uranium camp in Saskatchewan. Also holding a minority interest in the ground is Astrabrun Mines.

The program is to involve diamond drilling as well as other surface investigations, with a drill being moved to the property and slated to commence work on or about Feb. 20. This is to take advantage of winter conditions so that first drilling may be done from the ice on Cherry Lake.

The program during last year’s field season consisted primarily of surface trenching and general prospecting, and this outlined five separate radioactive areas of sufficient importance to warrant further work, The Northern Miner understands. In each case, the showings are associated with fault zones.

Most interesting showing is regarded as the one at the north end of Cherry Lake. Here, ore grade uranium values have been obtained in two areas, while three others are regarded as potential targets for further exploration.

In one case, a radioactive zone related to a major north-south trending fault has been traced intermittently by scintillation counter and surface trenching for a length of about 2,500 ft. At the south end, near the shore of Cherry Lake, chip sampling of a rock trench across the zone has returned grade of 0.79% uranium oxide across 4.0 ft. High scintillation counter readings have been obtained in a swampy area about the middle of the known length. This is regarded as an interesting area and will be tested later by diamond drilling. Only low grade values were found in trenching towards the north end of the zone.

As mentioned, first drilling will be near the south end of this zone.

In addition to this winter program, which is expected to amount to at least 3,000 ft. of work, an extensive program has been lined up for this coming summer season. This latter will include further surface investigation of other known areas, as well as diamond drilling which already has been earmarked for some.

As indicated, the property is held under working option from New Senator which, in turn, obtained the ground from Astrabrun Mines. If carried to completion by McIntyre, a new company would be formed to operate the property in which McIntyre interest would amount to approximately 52%, with New Senator having a 39% stake. In addition, McIntyre has also agreed to furnish most of the senior financing which would be required should production be warranted.
Disclaimer

This page was inserted by the Coal and Minerals Development Branch, to provide a reference that the map 3 of Research Council of Alberta Geological Division was not truncated by the scanning process. The full extent of the map is represented by the scan.
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Considering these major fault and fold features together, it seems possible that the faults are shears which have replaced the limbs of the folds under excessive shearing stress. Relative movement has brought south the two folds mentioned, whilst the intervening complementary fold has been moved north and out of the map area.
QUARTZ MINERAL EXPLORATION PERMIT No. 47

CANCELLED

VISION DEVELOPMENT LTD.,
50th STREET & FORT ROAD,
EDMONTON, ALBERTA

DATE OF ISSUE - FEBRUARY 19, 1968
AREA - 29,440 ACRES
///// - NOT IN PERMIT

NO LEASES SELECTED
QUARTZ MINERAL EXPLORATION PERMIT No. 48

CANCELLED

VISION DEVELOPMENT LTD.,
50th STREET & FORT ROAD
EDMONTON, ALBERTA

DATE OF ISSUE – FEBRUARY 19, 1968
AREA – 19,840 ACRES

NO LEASES SELECTED
QUARTZ MINERAL EXPLORATION PERMIT No. 52

CANCELLED
VISION DEVELOPMENT LTD.,
50th STREET & FORT ROAD,
EDMONTON, ALBERTA

DATE OF ISSUE – FEBRUARY 28, 1968
AREA – 49,920 ACRES

NO LEASES SELECTED

CORRECTION LINE

R. 3
R. 2
R. 1
W. 4 M.