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EVALUATION REPORT  
ON  
THE D.C. CLAIM  
MURPHY CREEK AREA  
TRAIL CREEK MINING DIV. B. C.

FOR

KENDAL MINING AND EXPLORATION LTD.  
Box 10054, 700 W. Georgia St.  
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February 16th, 1977

PROPERTY FILE

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MAPS

LOCATION MAP OF D.C. CLAIM - - - - - follows p.2

EVALUATION REPORT ON THE  
D. C. CLAIM, MURPHY CREEK AREA  
TRAIL CREEK MINING DIVISION, B.C.

SUMMARY

The D. C. Claim, consisting of 20 metric units is located to the west of Murphy Creek and to the south of the summit of Mt. Crowe in the Trail Creek Mining Division of B. C. Access to the property is by way of Highway 3B north from Rossland for a distance of about 16 miles.

Geologically, the claim area is underlain by granitoid gneiss and pegmatoids believed to be of Paleozoic or Proterozoic age which are intruded in part by plutonics of the Nelson Batholith. In the China Creek area which is about 6 miles to the east of the D. C. claim and underlain by the same rock complex, uranium mineralization has been found over a wide area associated with the pegmatoids and gneisses, and there are indications that this geological structure could contain very large tonnages of low grade uranium mineralization which at today's prices would be economic to mine by large scale, open pit methods.

An exploration program for the D. C. claim is recommended which would consist in the initial phase of geological mapping and prospecting, a radiometric survey, and soil sampling, to cost an estimated \$17,000.

If the results of this work are favorable, it would be followed up by stripping, trenching and percussion drilling, at a cost, including contingencies, of an additional \$38,000.

## INTRODUCTION

This report consists of an appraisal of the D.C. claim block located in the Murphy Creek Area of the Trail Creek Mining Division of B. C.

As the property has only recently been staked, and is presently snow covered, it was felt that no useful purpose would be served by making an actual inspection of the claims, as there are no known surface mineral showings, and the normal radiometric prospecting methods for uranium are not effective under winter conditions.

The report therefore, is based on a compilation of the geological data available from government maps and reports and from additional data obtained from other geological papers and reports written on the area. Those are acknowledged under "References".

The report was prepared for Kendal Mining and Exploration Ltd., Box 10054, 700 West Georgia St., Vancouver, B. C.

## LOCATION AND ACCESS

The D. C. claim consisting of 20 metric units is located to the west of Murphy Creek, and to the south of the summit of Mt. Crowe in the Trail Creek Mining Division of B. C. The approximate geographic center of the claim would be Lat.  $49^{\circ}12'N$ , Long.  $117^{\circ}52'W$ .

Access to the claim is by way of Highway 3B north from Rossland for a distance of about 16 miles where the highway crosses its southwest corner.

A Location Map, prepared from the staking sketch accompanies this report.

### TOPOGRAPHY, ETC.

According to the topographic map, the ground covered by the claim rises steadily in a northwesterly direction, from 5,000 feet at the southeast corner to about 7,000 feet in the northeast part. The area is timber covered, falling mainly in the Salmo Provincial Forest, with a small part on the west side being within the Nancy Greene Recreational Area.

Several branches of Murphy Creek originate within the claim area, and should supply adequate water for exploration purposes.

### PROPERTY

The property consists of one claim, the D. C., consisting of 20 metric units staked according to the Modified Grid System as a block 4 units (1500 m.) east-west, by 5 units (2000 m.) north-south. The Form 'G' shows that the claim was staked by Eric N. MacKenzie from Jan. 29th - 31st, 1977 and recorded at Rossland Feb. 4th, 1977. The Tag No. is 14113, Record No. 116.

### HISTORY OF THE AREA

The earliest exploration for uranium mineralization in the area dates from 1968 when Norex Uranium Ltd. carried out exploration work in the China Creek area, about 6 miles due east of the D. C. claim. In the Minister of Mines Report for 1968, J. T. Fyles describes the uranium mineralization as uraninite occurring in a coarse grained granitic pegmatite. Seven drill holes up to 500 feet in depth were reported to be drilled, but failed to block out any definite zone of economic grade.

In a report for Norex Uranium Ltd. by Dr. A. C. Skerl dated May 1968, high grade samples running up to 20 lbs./ton  $U_3O_8$  are mentioned, with channel samples of 0.06 to 0.52 lbs./ton  $U_3O_8$  over widths of 2.5 to 6.5 feet.

At this time the market price for  $U_3O_8$  was around \$7.00 per lb. and as the exploration showed up nothing which could be considered economic grade even for large scale mining, nothing further was done in the way of exploration.

The recent rise in the price of uranium to around \$40 per lb.  $U_3O_8$ , with a forecast of \$50 per lb. or higher, has renewed interest in the area, as it is conceivable that a grade of 0.5 lbs./ton  $U_3O_8$  or less could be economic for a large scale, open pit type of operation. The ground covered by the original showings has been re-staked, and recent staking has covered much of the area believed to be underlain by the favorable rock type.

#### REGIONAL AND ECONOMIC GEOLOGY

The geology of the area underlain by the D. C. claim is still somewhat indefinite, as it is only recently that anything other than rough, regional mapping has been carried out and most detailed studies have been concentrated on the rocks of the China Creek area where the original showings of uranium mineralization were made.

G.S.C. Map 1090A (Nelson, W. half) shows the area mainly underlain by a complex of sediments, flows and pyroclastic rocks of Palaeozoic or Proterozoic age. Later mapping by Little of the eastern part of this complex (G.S.C. Map 7-1962) shows it to consist of layered, granitoid gneiss intruded in part by plutonics of the Nelson batholith.

Skerl, in his report of 1968 describes the major rock type of the China Creek area as consisting of coarse feldspar with subsidiary quartz classified as pegmatoid.

P. S. Simony also describes the rocks as a granitoid gneiss and suggests that they are derived from a re-working of a mixture of older sediments and intrusives of Cambrian or Precambrian origin.

According to Fyles and Skerl, the uranium mineralization, as uraninite or uranothorite, is chiefly associated with the pegmatoid type of rock, but Farquharson who conducted a study of the uranium distribution in various rock types of the area found the uranium to be principally associated with the pegmatoid type of rock but also in the gneiss and granodiorite bodies.

#### ECONOMIC EVALUATION OF THE PROPERTY

As no detailed examination has been made of the ground covered by the D. C. claim, it is not possible at this time to evaluate its economic potential. What is known, however, is that in all probability it is underlain by the same rock types as occur in the China Creek area, where exploration has indicated erratic values, but very widespread uranium mineralization. With the current high price, and forecast of even higher prices for  $U_3O_8$ , the objective of the current exploration activity is to block out very large tonnages of low grade material, which, due to the accessibility of the area, could be mined economically by open pit methods.

On this basis, the D. C. claim area is considered to be a valid exploration zone, which should be subjected to a careful step by step program to determine its potential, with an evaluation of each phase of exploration before embarking on the following phase.

## EXPLORATION TECHNIQUES

In areas where bedrock is largely exposed, or where overburden cover does not exceed about 4 feet, the normal preliminary exploration method for uranium is to conduct a detailed radiometric survey with a scintillometer. In areas where the overburden is thick, other methods such as the Track-Etch, Alphameter, or Radon Emanometer can be used to detect the presence of underlying radioactive minerals. Soil sampling, or stream sediment sampling can also be effective, due to the solubility of most uranium minerals.

Due to the fairly steep topography of the D. C. claim, it is expected that overburden cover will be light over most of the area, and there is a good likelihood of rock outcroppings, especially in the higher parts of the claim. It is proposed therefore, in the initial stages to employ a combination of radiometric surveying and soil sampling along with detailed prospecting and mapping, and progress to the more sophisticated exploration methods only after analysis of the preliminary work, and if found necessary.

A general outline of the work program would be as follows:

### RECOMMENDATIONS

#### Phase I

1. Detailed prospecting and mapping.
2. A radiometric survey conducted with 100 m. line spacing and 20 m. reading intervals.
3. On completion of (1) and (2), selected areas of soil sampling, especially where overburden cover appears to be too thick for a radiometric response.



Phase II

Assuming that the results of Phase I work will have indicated certain areas of the claim to have anomalous uranium values or radioactivity to be considered valid targets for further exploration, then the Phase II program should be initiated. This would probably consist of stripping, trenching, or shallow hole percussion drilling with radiometric logging of the holes, or perhaps, a combination of the above.

ESTIMATE OF COSTS

1. Prospecting and geological mapping	\$ 2,500
2. Radiometric survey - Approx. 32 km of line at \$200.00/km including cutting and flagging of lines	6,400
3. Soil sampling, allow 500 samples at \$5.00 each	2,500
4. Engineering, travel and administration	3,500
5. Contingencies, approx. 15% of above	<u>2,100</u>
Total	\$17,000

Phase II

1. Construction of access roads, camp, drill sites, etc.	6,000
2. Percussion drilling, allow 4,000 ft. at \$4.00/ft.	16,000
3. Stripping and trenching	7,000
4. Engineering, assaying, radiometric logging, administration, etc.	4,000
5. Contingencies, approx. 15% of above	<u>5,000</u>
Total	\$38,000
Total, Phase I and II	<u>\$55,000</u>

Feb. 16th, 1977


 J. P. Elwell, P. Eng.

REFERENCES

J. T. Fyles - Minister of Mines Report 1968, China Creek

Report on China Creek Property - Dr. A. C. Skerl, P.Eng., May 1968

"K, U, Th. Distribution in Constituent Rock Types of a Migmatitic Gneiss

Complex Near Castlegar, B. C." - R. B. Farquharson, Dept. Geology

Univ. of Alberta (Paper given to the Geol. Assoc. of Canada, May 1976

"Pre-Carboniferous Gneisses Near Trail, B. C." - P. S. Simony, Dept. of Geol.,

Univ. of Alberta (Paper given to Geol. Assoc. of Canada, May 1976)

G.S.C. Map 1090A - Nelson

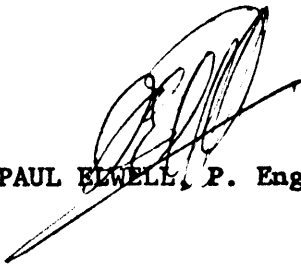
G.S.C. Map 7-1962 - Trail

C E R T I F I C A T E

I, James Paul Elwell, of 4744 Caulfield Drive, West Vancouver, B. C., do hereby certify that:

1. I am a Consulting Mining Engineer residing at 4744 Caulfield Drive, West Vancouver, B. C., and with an office at 1030 - 510 West Hastings Street, Vancouver, B. C. V6B 1L8
2. I am a graduate in Mining Engineering from the University of Alberta in 1940, and am a Registered Professional Engineer in the Province of British Columbia.
3. I have no personal interest, directly or indirectly in the properties or in Kendal Mining and Exploration Ltd. securities, nor do I expect to receive directly or indirectly any interest in such property or securities.
4. The findings in the report are from data obtained from the reports and maps referred to.

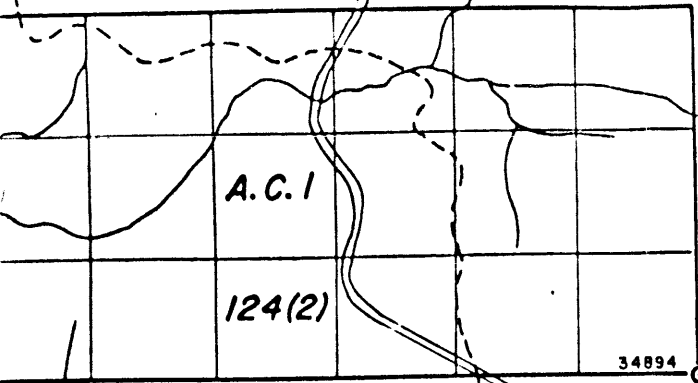
DATED at VANCOUVER, B. C. this 16th day of February, 1977.



JAMES PAUL ELWELL, P. Eng.

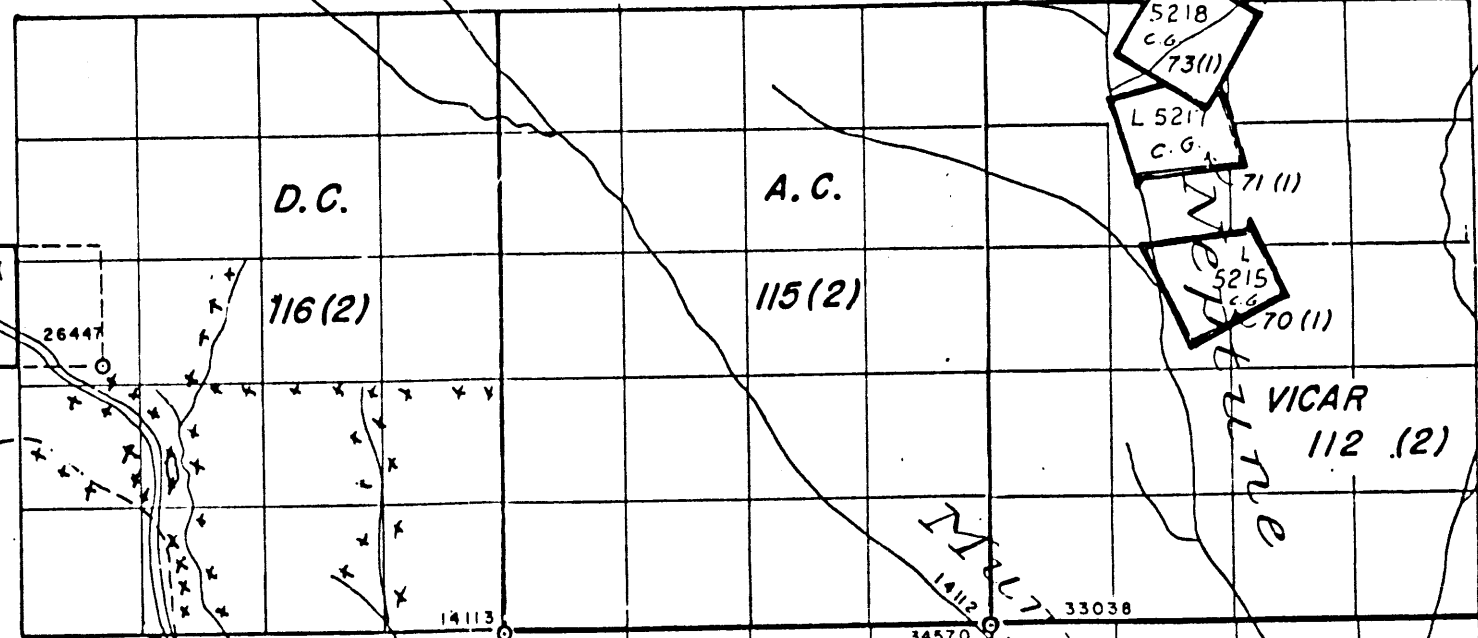
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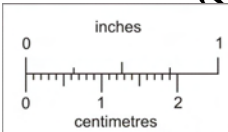
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L 5217  
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L 5215  
C.G.  
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x holes in overburden  
along escarpment

Robert Steiner, P. Geol. (Alta. & Idaho)  
371 - 56th ST. DELTA, B.C. V4L 1Z4 CANADA



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

RS

MOUNT  
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VICAR  
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PAT

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