82F/4E
82F/SW-212

1758 WESTERN PARKWAY
VANCOUVER 8, B.C.

TELEPHONE 224-6257

16th May 1968

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003290

# NOREX URANIUM LIMITED

# CHINA CREEK PROPERTY

## INTRODUCTION

I examined this property and sampled some of the mineralized showings on the 9th May 1968 in the company of Mr. R. Ernewin and Mr. K. A. Suitor.

## SUMMARY

This uranium property is situated in the Columbia River valley on the highway between Trail and Castlegar, B. C. Both electric power and gas are available at the site.

The geology of the mineralization as known at present suggests that millions of tons of the favourable host rock are present. The uranium bearing mineral also contains thorium.

Whilst picked samples have been obtained assaying up to 20 lbs $U_3O_8$ per ton the best channel sample contained ½ lb $U_3O_8$ per ton.

There is no experience in the area to suggest how intensive any leaching of the uranium may be so it is proposed to drill several holes to discover the grade of the fresh rock.

Drilling will also explore for deeper horizons that are not exposed on the surface due to overburden.

At the same time the claims will be covered by a systematic scintillometer survey.

It will be necessary to investigate the technique for assaying this particular mineralization where there is less than 0.1% $U_3O_8$ present.

## S I T U A T I O N

The 24 claims have been staked on the north side of the Columbia River valley and astride China Creek.

The elevation ranges from 1650 feet on the highway between Trail and Castlegar to about 3500 feet on the mountainside above.

## P R O P E R T Y

The claims are named Mota 1 to 18 and Atom 17 to 22 inclusive. They are bounded on the southwest by the Do claims and on the northeast by another group of Atom claims numbered 1 to 8.

## G E O L O G Y

According to the G S C map 7-1962 for the Trail area (scale 1 inch to 1 mile) the claims are underlain by layered granitoid gneiss with an intrusion of Nelson granite about ½ mile southwest of the claims. On the ground, at the higher elevations, almost continuous outcrops of the granitoid gniess are visible across the claims.

The major rock type consists of coarse feldspar with subsidiary quartz that can be termed pegmatoid. It is in layers up to 15 feet thick separated by finer grained pegmatoid and bands of quartz biotite schist. Pinkish to light brown garnets are common in some layers. Finely disseminated calcite that glows a deep pink can be recognized under ultra-violet light.

The layering of the rocks dips from zero to 15° south in the claim area.

The light coloured, coarse pegmatoid layers probably make up the bulk of the granitoid gneiss over a vertical range of 3000 feet.

## M I N E R A L I Z A T I O N

In the past, on Mota claim # 11, several rock cuts were blasted into the coarse pegmatoid at intervals over a distance of 1000 feet as shown on the accompanying map (scale 1 inch to 50 feet).

These places were found to be radio-active and they gave scintillometer readings from 100 to 8000 counts per second compared with a background of 40 to 50 c p s.

The mapping shows that the cuts lie within a total thickness of 120 feet of mainly pegmatoid layers as illustrated by the section on the accompanying map.

Under a hand lens small dark brown to black crystals up to 1 mm across and with rectangular outlines can be seen in the more reactive rock.

## S A M P L I N G & A S S A Y I N G

Two samples of the higher grade material taken previously by Mr Ernewin assayed :

| $U_3O_8$ % | $ThO_2$ % |
|---|---|
| 0.52 | 0.34 |
| 0.70 | 0.30 |

Other samples by Mr Ernewin gave 0.024, 0.032, 0.040, 0.060, 0.172 & 0.80% $U_3O_8$. These results were all obtained by a wet chemical method of assay.

If the uranium and thorium are in only one mineral then the values suggest that the dark crystals are probably a thorian uraninite.

I personally moiled off 5 vertical channel samples from some of the cuts as indicated on the plan. I also supervised the crushing and grinding of each sample to minus 10 mesh. Two samples were then split from each original sample and a set each was given to two assay offices for analysis. The following results were reported :

| No. | Width Ft | 1st Assay office Radio metric | 1st Assay office Fluor Photom. $U_3O_8$ % | 1st Assay office lbs | 2nd Assay office Wet Assay $U_3O_8$ % | 2nd Assay office Wet Assay lbs | c p s |
|---|---|---|---|---|---|---|---|
| X 1 | 1.25 | 0.03 | 0.003 | 0.06 | 0.016 | 0.32 | 100 |
| X 2 | 2.5 | 0.03 | 0.006 | 0.12 | 0.045 | 0.90 | 800 - 1000 |
| X 3 | 5.0 | 0.05 | 0.010 | 0.20 | 0.012 | 0.24 | 1800 |
| X4 | 6.5 | 0.03 | 0.008 | 0.16 | 0.058 | 1.16 | 800 - 1500 |
| X 5 | 1.5 | 0.05 | 0.026 | 0.52 | 0.010 | 0.20 | 3000 - 7000 |

It is almost certain that the second assay office has reversed the numbers for samples X 4 and X 5.

These results show that the wet chemical method gives up to seven times as much $U_3O_8$ as the fluor - photometric instrument.

When the crushed samples were examined under ultra-violet light a considerably amount of a secondary uranium mineral was seen that glowed a bright yellow-green.

The relative amounts along with other data are classified in the following tabulation :

| No | Av. c p s | Relative Fluoresc | Radio metr. | $U_3O_8$ by Fluor Phot. | Ratio U : Th inferred | 1st Assay off. c p s per 1 lb $U_3O_8$ | 2nd Assay off. c p s per 1 lb $U_3O_8$ |
|---|---|---|---|---|---|---|---|
| X 1 | 100 | 1 | 0.03 | 0.003 | 1 : 9 | 1600 | 300 |
| X 2 | 800 | 15 | 0.03 | 0.006 | 1 : 4 | 6400 | 900 |
| X 3 | 1800 | 5 | 0.05 | 0.010 | 1 : 4 | 9000 | 7200 |
| X 4 | 1200 | 15 | 0.03 | 0.008 | 1 : 2.5 | 7200 | 6000 |
| X 5 | 5000 | 20 | 0.05 | 0.026 | 1 : 1 | 10000 | 5000 |

It appears that the wet chemical method of assaying for the uranium in this type of mineralization is unreliable when the $U_3O_8$ content is less than 0.1% due to undissolved silica being weighed as $U_3O_8$.

The ratio of the uranium to thorium based on the first assay office suggests that the mineral is uranothorite.

## P R O P O S E D  E X P L O R A T I O N

This preliminary examination shows that uranium mineralization is present over a considerable distance and thickness. The best assay that I obtained was ½ lb $U_3O_8$ over an exposed thickness of 1.5 feet. This was at the lowest exposure of the zone. Much of the supposed zone does not outcrop so that it is not possible to sample for a continuous thickness.

The amount of leaching near the surface is unknown but the relative abundance of a secondary uranium mineral in the samples suggests that this could be an important factor.

Because of the large potential tonnage of the favourable uranium host rock exploration should be carried out to determine the extent and amount of the radioactivity in the claims and also to determine the grade of the unweathered material by diamond drilling.

Since the best assay was obtained at the bottom of the exposed zone the test drilling should extend well below this horizon. A row of seven holes at 100 feet apart are indicated on the plan and numbered in order of drilling. The first would be taken to say 400 feet to check for deeper mineralization. The results from this first hole could change the location and depth of the subsequent holes. The minimum size of the core should be 'A'.

The evidence from this preliminary drilling will determine whether Stage 2 consisting of further lines of holes to the west and north is justified in the hope of blocking out a large tonnage.

Mill test work will be essential before embarking on Stage 2. For this purpose all the coarse reject from assaying the core should be retained.

The whole of the claim area should have a grid of lines set out at 200 feet apart so that a detailed scintillometer survey can be made.

The mapping of the Geological Survey of Canada shows that about 40 square miles of the country surrounding the property consists of the granitoid gneiss. As much as possible of this area should be prospected and staked where favourable indications are obtained.

C O S T S

The following figures give the estimated costs for the various items of the proposed exploration :

| STAGE 1 | $ |
|---|---|
| Grid of lines 200 ft apart, stations every 50 ft, - 40 miles | 4,000 |
| Scintillometer survey | 1,000 |
| Jeep road | 1,000 |
| Jeep rental, gas and oil etc - 60 days | 1,000 |
| Part time geologist | 1,000 |
| 1000 ft drilling (labour, keep, fuel, bits transport) | 5,000 |
| Rental on drill | 300 |
| Plastic water pipe | 400 |
| Travelling | 300 |
| Assaying | 1,000 |
| Mill testing | 2,000 |
| Consultant | 1,000 |
| Overhead | 2,000 |
| Allowance for outside prospecting | 10,000 |
| Contingencies | 5,000 |
| Total for Stage 1 | $ 35,000 |

| STAGE 2 | |
|---|---|
| Grid of 40 holes at 200 ft spacing, 10,000 ft, 4 drills, 3 months Contract price | 100,000 |
| Jeep rental | 3,000 |
| Geologist | 4,000 |
| Asst. geologist | 2,000 |
| Assaying | 10,000 |
| Consultant | 5,000 |
| Administration | 6,000 |
| Contingencies | 20,000 |
| Total for Stage 2 | $ 150,000 |

STAGE 3

Fill in drilling at 100 ft spacing for say 1/3 of Stage 2 drill area - another 10,000 ft as above $ 150,000

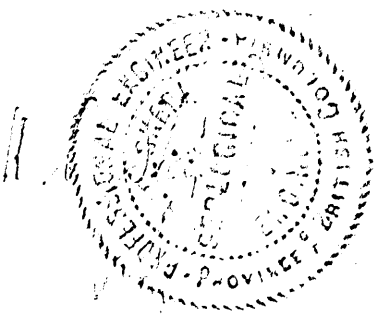
## R E C O M M E N D A T I O N

Proceed with Stage 1 of the exploration programme as outlined above.

## C O N C L U S I O N

This is a very interesting uranium property that justifies a thorough programme of exploration because of the large tonnage potential for an open pit mine.

The crucial factor will be whether an average grade of say 1.0 lb $U_3O_8$ per ton or better can be demonstrated.



A. C. SKERL

16th May 1968

# C E R T I F I C A T E

This is to certify that :

1. I, Augustus C. Skerl, am a resident of Vancouver, B. C. at 1758 Western Parkway which is also my office.

2. I am a professional engineer licensed in British Columbia and have practised as a mining geologist for the past 39 years of which the last 23 years have been in British Columbia.

3. My qualifications consist of the degrees of B Sc and Ph D from the University of London, England and of A R S M and D I C from the Royal School of Mines, London, England, all in mining geology.

4. I have no interest nor do I expect to receive any interest directly or indirectly in the properties or securities of Norex Uranium Ltd.

5. This certificate concerns my report on the China Creek Property of Norex Uranium Ltd. dated 16th May 1968.

6. I personally examined and sampled the property on the 9th May 1968.

7. The report has been written by myself and is based on my fieldwork together with the mapping of the Geological Survey of Canada as acknowledged in the report.

CHINA CR.

2430' Bluff X1 125' 0.03% X5 0.04 100 c.p.s

Basic Dyke

84

A △ 2430'

10°

500-600 c.p.s

X2 2.5' 0.006%

N°7

15°

N°6

B △ 2370'

X3 5.0' 0.010%

800-1500 c.p.s

X5

Flat

2400'

X4

C △ 2365'

N 300

2 200

2100

10°

X1

D 2360'

X4 6.5' 0.008%

800-1500 c.p.s

500-1000 c.p.s

E △ 2315'

15°

2" 0.8% (7-8000 c.p.s) X7

15' Bluff

1200-2400 c.p.s

X2

F △ 2255'

21½°

8°

Trail

X3

LINE OF PROJECTION

G △ 2210' 170-200 c.p.s N 0.002

2200'

High Dead Snag

H △ 2135'

10°

X5 1.5' 0.026%

3000-7000 c.p.s

N.B ● Samples X1 to X5 by A.C. Skerl
other Samples by R. Evnewin
⊗ = Proposed Drill Holes

A

2400'

B C D E

LAYERED PEGMATOID & QUARTZ-BIOTITE SCHIST

2300'

2200'

VERTICAL PROJECTION A to H

2135

H

inches
0 1 2
0 1 2 3 4 5
centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

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.

# NOREX URANIUM LTD.

CHINA CREEK PROPERTY

NEAR TRAIL, B.C.

MAP OF SHOWINGS

SCALE 1" = 50'

12th May 1968 A. C. Skerl.