

GM 58937

YATES URANIUM PROPERTY

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Énergie et Ressources
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YATES URANIUM PROPERTY
HUDDERSFIELD TWP., P.Q.
(NTS. 31F-15)

R. H. Janes

July 1979

MRN-GÉOINFORMATION 2001

GM 58937

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Introduction

Janes visited the property examining the Matte and possibly the Belanger prospects on May 16 & 17, 1979. The property is nine miles northwest of Otter Lake, a small community on Highway 301. An all-weather road connects it to Sandy Creek, a small tourist resort situated three miles to the east. Relief is in the order of a few hundred feet. Logging is the principal industry.

Mineralization was first reported in 1907. Yates Uranium Mines Incorporated explored the property from 1953 to 1956. Six radioactive zones were discovered, called Matte, Camp, Lake, Belanger, Cliff and Belisle. The Matte was drilled, explored underground and bulk sampled. An undetermined amount of drilling was done on the prospects.

The property presently consists of a 501 acre lease, Concession Miniere No. 423, held by Futuranium Mines Ltd. of Toronto. Whether or not this lease includes all the radioactive zones is not known.

Conclusions and Recommendations

1. Uranium mineralization occurs within several different lithologies:-
 - a) marble-fluorite unit: e.g. Matte-Lake zone
 - b) marble-pyroxenite: possibly similar to mineralization at Norland, and/or calc-silicate unit e.g. Camp, Belanger and Huddersfield Uranium (Chabot).
 - c) pegmatite (?): e.g. Sopwith and Hickey Lakes.

The marble-fluorite unit is considered to have a volcanic association and possibly to be of fumarolic origin. A series of these can be reasonably expected to occur together within a particular formation or section of a formation in the hosting volcanic lithology.

2. The uraniferous-thoraniferous marble-fluorite unit explored at the Matte and Lake prospects is very similar to those units occurring in the Hermon Gp., Bancroft area, Ont. These units host several uraniferous (-thoraniferous) zones identified during the 1950's as small low-grade sub-economic deposits. Present exploration in the Bancroft area is further exploring and reassessing these units.
3. Combined reserves of the Matte and Camp zones are 4.008 million tons @ 0.074% U_3O_8 (Ref. vi). This figure may be minimal since potential for adding reserves most probably exists along (i) Matte-Lake and (ii) Camp zones and possibly along as yet undiscovered other marble-fluorite units.
4. The presence of the adjacent Copconda Mines mineralization, three to four miles away, suggests the possibility that several small low-grade uranium deposits occur in relative close proximity and that these together feeding a single central mill may constitute an economic entity.
5. This exploration bet merits consideration and discussion. If considered attractive then it is recommended that:
 - a) GMCL approach Copconda Mines Ltd. requesting a visit to and data on their Huddersfield Twp. property with a view to option.
 - b) Should the Copconda and Yates deposits together have an economic potential then GMCL should approach Futuranium Mines with a view to purchase/option of the Yates property.
6. In the list of established priorities this "exploration bet" is rated in the low third category with volcanics after Helikian unconformities and sandstone-shales. The opportunities for basal ground-water type deposits in the Cordillera may also be a better exploration bet.

General Geology

The area is underlain by paragneiss and marbles of the Grenville Supergroup and later granitic intrusives. Mapping by R. Kretz QDM, 1957 did not establish the sequence within the supergroup. M. Katz, QDM, 1969 mapping the area immediately west, Saint Patrice Lake and Portage-du-Fort areas, divided the Grenville as follows:

Grenville Group

- 6 Marble Formation - Metasedimentary sequence includes marbles, calc-silicate rocks, hornblende quartzofeldspathic gneiss, biotite schist, garnet-sillimanite gneiss and quartzite.
- 5 Garnet gneiss
- 4 Hornblende gneiss
- 3 Biotite gneiss
- 2 Amphibolite
- 1a Layered amphibolite-quartzofeldspathic gneiss
- 1 Quartzofeldspathic gneiss.

A crude similarity exists between this division and that by E.G. Bright OGS, 1977 in the Bancroft area, Ont.

Matte Prospect

The adit though open was not entered. Examination was confined to the trenches, these expose mineralization over a strike length of approximately 700 feet.

The trenches expose a band, several feet thick, of calcite marble and less fluorite with minor amounts of apatite, pyroxene and phlogopite (strike 140°, dip 40 to 45W). The marble is cream to salmon coloured and generally fine to medium grained. The fluorite occurs as parallel bands, shreds and clusters of medium to coarse grained purple crystals. It tends to be more prevalent in the salmon coloured marble. The apatite and mafics tend to occur as shattered porphyroblasts. Radioactive minerals are sparsely distributed in variable amount within the marble-fluorite unit. Minerals reported are uranothorite, thorite and allanite. The marble-fluorite unit occurs within and is concordant with banded paragneiss. Locally the unit and enclosing paragneiss are structurally disturbed and plastic flowage of the marble has occurred. This has resulted in a deepening of the salmon colouration and coarsening in grain size (<2ins.) of calcite, also fragments of variably recrystallized paragneiss occur and form local breccias within the recrystallized marble. A granitic pegmatite is described as forming the foot-wall (Ref. i). This was not observed. Pegmatite was noted in only one outcrop of the foot-wall.

An analysis of a head sample of a 500 lb. bulk sample from the Matte zone showed 0.089% U_3O_8 and 0.32% ThO_2 . This suggests a uranium thorium ratio of about 1 to 3 (Ref. i).

The marble-fluorite unit resembles the units seen at the Cardiff property, Bancroft area, Ont. This fact and the crude similarity in the Grenville lithologies of the areas suggests a similar origin. The Matte radioactive marble-fluorite unit is interpreted as a limestone unit deposited in a small restricted sub-basin in which intermittent fumarolic activity took place. Regional metamorphism of Grenvillian age produced recrystallization, local dislocation, plastic flowage of the marble-fluorite unit and brecciation of the enclosing paragneiss.

To the north (?) lies the Lake zone, it is described as follows: (Ref. i):

The Lake zone, 3,200 feet distant along the strike of the Matte zone, is similar geologically to it. Samples from this zone were reported by the company to average 0.193 per cent U_3O_8 and 1.29 per cent ThO_2 .

Belanger Prospect

This or a geologically similar prospect was visited. Two areas of pitting about 100 feet apart are present. In the southern area a marble bed some 20 feet thick is exposed striking 165° and dipping gently ($<10^\circ$) easterly. One drill hole was seen. The marble varies in character from a) coarse grained white carbonate (calcite) to b) coarse grained hematite dusted salmon coloured carbonate (calcite) with variable amounts of phlogopite and diopside. Concentrations of dark blue-green pyroxene (?), biotite and veins of phlogopite with or without pyroxene occur. Uranothorite is reported as the main radioactive mineral, others are thorite and allanite. Distribution of the radioactive minerals is irregular.

This showing is reminiscent of the mineralization at the Seont Prospect, Norland, Ont. The northern pitted area is overgrown and was not examined. The two pitted areas probably represent local concentrations of radioactive minerals within the same marble horizon.

Other Prospects and Showings in area.

Descriptions of the Cliff and Belisle zones are not available. The Camp zone is described under economics.

Ground to the immediate northwest of CM 423 has been explored by P. H. Chabot, Huddersfield Uranium Mines Limited et al. Molybdenite, coarse biotite and radioactive minerals are associated with possible calc-silicate horizons in Grenville paragneiss. Thorianite and uranophane are reported.

A radioactive pegmatitic body within the Grenville paragneiss is exposed on the north shore of Lac Sopwith. Several holes were drilled in this.

Pool Mining Co. and Deer Lake Mines Ltd. have explored claims situated immediately south of CM 423.

Several radioactive pegmatitic bodies occur on a peninsular at the north end of Lake Hickey. Some were sampled.

Copconda Mines holds some 26 lots (approximately 2,600 acres) in the southwest corner of Huddersfield Twp. The company is currently active, during 1977 they trenched and drilled four uraniferous zones within Grenville paragneiss. Best reported result seen is from D.H. No. 5, 175 to 215 feet. @ 0.024% U_3O_8 . Ruzicka describes the mineralization here as follows: (Ref.iii)

In the Fort Coulogne area (4) several exploration companies, including Copconda Mines Limited, Augmitto Explorations Limited, and Carling Copper Limited, conducted exploration of a large radiometric anomaly detected by a Geological Survey of Canada airborne survey near Hikey and Hart lakes. The host rocks of the uranium mineralization are granitized sediments (?) that are locally garnetiferous. Some of the mineralization occurs in limonitized shear zones.

Economics

The Matte zone was explored by diamond drilling to a depth of 600 feet and a strike length of 600 feet. About 200 feet of drifting was done along the marble-flurite unit, estimated to be 30 to 50 feet thick at that depth (130 feet vertically below surface). Reserves are reported to be (Ref. vi):-

3.356 million tons @ 0.078% U_3O_8 , 0.695% ThO_2 and 15% CaF_2 .

The Camp zone consists of a band of crystalline limestone and pyroxenite traceable for 500 feet with widths ranging from 10 to about 45 feet, and is probably succeeded on strike by a series of similar bodies. Beta-uranotile, a yellow secondary product of uraninite, was the only radioactive mineral recognized. uranophane

Reserves are reported to be (Ref. vi):-

0.652 million tons @ 0.056% U_3O_8 and 0.15% ThO_2 .

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- 5) Sabourin, R. J. E. (1965).
Bristol-Masham Area, QDNR, Geol. Rep. 110.
- 6) Annis, R. C. et al.
A survey of known mineral deposits in Canada that are not being
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- 7) Ruzicka, V. (1978).
Uranium and Thorium in Canada, 1978, GSC Paper 79-1A.

APPENDIX II

Spec. No.	U ₃ O ₈	ThO ₂	F	P ₂ O ₅	CO ₂	Cu	Pb	Mn	Ni	Zn	Ag	Co	Mo	Sn	Sb	F	Ba	Hg	
	← assays, % →					← geochemical analyses, ppm →													ppb
J79-7A	Tr	0.030	5.8	Tr	34.1	11	100	770	X	14	X	X	12	X		-		X	
-7B	0.04	0.320	2.8	Tr	37.7	9	180	820	X	8	X	X	11	X		-		X	

X = not detected

J79-7A: Matte prospect, trenches. Radioactive marble-fluorite-apatite (accessory) band, gneissic structure.

J79-7B: As for 7A, radioactivity greater, gneissic structure less developed.

X-RAY ASSAY LABORATORIES

LIMITED

1885 LESLIE STREET

DON MILLS, ONTARIO M3B 3J4

(416) 445-5755

Certificate of Analysis

NO. 4946

PAGE 1 of 3

TO. Gulf Minerals Canada Limited
Suite 1400, 110 Yonge Street
Toronto, Ontario M5C 1T4

Attn: R. H. Janes

RECEIVED May 31, 1979

INVOICE NO. 4946

SAMPLE(S) OF 28 Rock

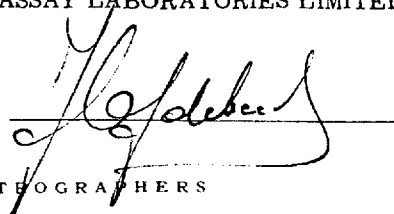
SUBMITTED TO US SHOW RESULTS AS FOLLOWS:

<u>Sample</u>	<u>Cu</u>	<u>Co</u>	<u>Ni</u>	<u>Mn</u>	<u>Zn</u>	<u>Mo</u>	<u>Ag</u>	<u>Pb</u>
J-79-5A	18	3	7	1800	150	5	X	25
J-79-5B	12	X	2	1700	120	7	X	22
J-79-5C	10	X	2	2400	55	11	X	16
J-79-5D	25	X	X	4200	66	10	X	8
J-79-5E	9	X	X	2000	14	10	X	16
J-79-6A	8	X	X	580	8	10	X	18
J-79-6B	10	1	X	620	10	10	X	46
J-79-7A	11	X	X	770	14	12	X	100
J-79-7B	9	X	X	820	8	11	X	180
J-79-10A	130			460	48	8		8
J-79-10B	81			530	42	9		8
J-79-10C	24			290	64	8		49
J-79-11A	140			530	93	12		390
J-79-12A	35			270	22	10		6
J-79-13A	27			450	27	8		10
J-79-15	26			1100	150	10		59
J-79-16	47			950	450	17		540
J-79-17	44			1000	410	16		120
J-79-18A	970			900	60	8		34
J-79-19A	590			1200	43	10		9
J-79-19B	220			530	17	10		6
J-79-19C	43			430	65	6		8

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45 LESMILL ROAD

DON MILLS ONTARIO M3B 2T8

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PAGE 2 of 3

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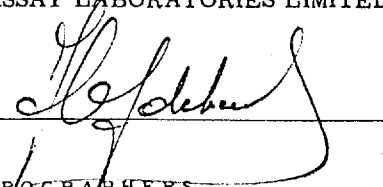
Sample	%P ₂ O ₅	%Zn	%U ₃ O ₈	%ThO ₂	Sn ppm
J-79-2		Trace			
-3A		Trace			
-3B		0.01			
-3C		0.01			
-5A	Trace		Trace	Trace	3
-5B	Trace		Trace	Trace	X
-5C	Trace		0.005	Nil	X
-5D	Trace		Trace	Nil	X
-5E	Trace		Nil	Trace	X
-6A	Trace		Trace	Nil	X
J-79-6B	Trace		0.005	Trace	X
J-79-7A	Trace		Trace	0.030	X
-7B	Trace		0.040	0.32	X
-10A	0.10		0.015	Trace	X
-10B	0.30		0.010	Trace	X
-10C	0.30		0.035	Trace	X
-11A	0.30		0.010	Trace	X
-12A	0.20		Nil	0.005	X
-13A	Trace		0.010	Nil	X
-15	0.20		0.010	Trace	X
-16	13.2		0.095	0.095	X
-17	9.10		0.055	0.014	X
-18A	0.30		0.085	Trace	X
-19A	0.30		0.005	Trace	X
-19B	0.20		0.005	0.005	X
-19C	0.30		Trace	Nil	X

Note: X less than 3 ppm Sn

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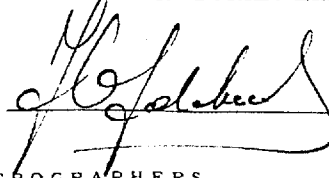
Gulf Minerals Canada Limited
Attn: R. H. Janes

<u>Sample</u>	<u>F ppm</u>	<u>Hg ppb</u>	<u>CO₂%</u>	<u>F %</u>	<u>Sb ppm</u>	<u>W ppm</u>
J-79-5A		X	16.8	22.3		
5B		X	18.9	20.8		
5C		X	34.5	9.10		
5D		X	23.9	17.1		
5E		X	21.6	19.6		
6A		X	26.7	16.1		
6B		X	26.2	16.2		
6C	6100					
6D	1800					
7A		X	34.1	5.80		
7B		X	37.7	2.80		
10A	1420					
10B	640					
10C	1400					
11A	1000					
12A	400					
13A	1300					
15	340					
16	13500					
17	8800					
18A	520					
19A	370					
19B	400					
19C	690					

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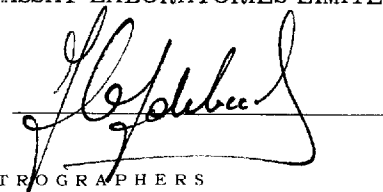
<u>Sample</u>	<u>Sb ppm</u>	<u>W ppm</u>
J-79-5A	0.3	
J-79-5B	0.2	
J-79-5C	0.4	
J-79-5D	0.1	
J-79-5E	0.3	
J-79-6A	X	
J-79-6B	0.4	
J-79-7A	0.3	
J-79-7B	0.3	
J-79-10A		2
J-79-10B		2
J-79-10C		2
J-79-11A		2
J-79-12A		2
J-79-13A		1
J-79-15		1
J-79-16		4
J-79-17		2
J-79-18A		2
J-79-19A		X
J-79-19B		2
J-79-19C		1

*File
Yates Uranium,
Huddersfield Twp.
NTS 31.F-15*

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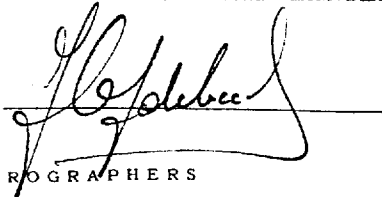
<u>Sample</u>	<u>Sb ppm</u>	<u>W ppm</u>
J-79-5A	0.3	
J-79-5B	0.2	
J-79-5C	0.4	
J-79-5D	0.1	
J-79-5E	0.3	
J-79-6A	X	
J-79-6B	0.4	
J-79-7A	0.3	
J-79-7B	0.3	
J-79-10A		2
J-79-10B		2
J-79-10C		2
J-79-11A		2
J-79-12A		2
J-79-13A		1
J-79-15		1
J-79-16		4
J-79-17		2
J-79-18A		2
J-79-19A		X
J-79-19B		2
J-79-19C		1

File:
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