NATURAL RESOURCES CANADA - INVENTIVE BY NATURE

Uranium Resources in Canada

Presentation to the

Bureau d'audiences publiques sur l'environnement

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Recoverable Resources based on Confidence of Estimates: A Few Terms (IAEA/NEA Redbook)

Identified Resources		Undiscovered Resources	
Reasonably Assured Resources:	**Inferred Resources:**	**Prognosticated Resources:**	**Speculative Resources:**
based on direct measurements	based on measurements, but more data is needed to confirm	based on knowledge within known uranium provinces	based on knowledge of geological provinces

World Uranium (Redbook, 2011)

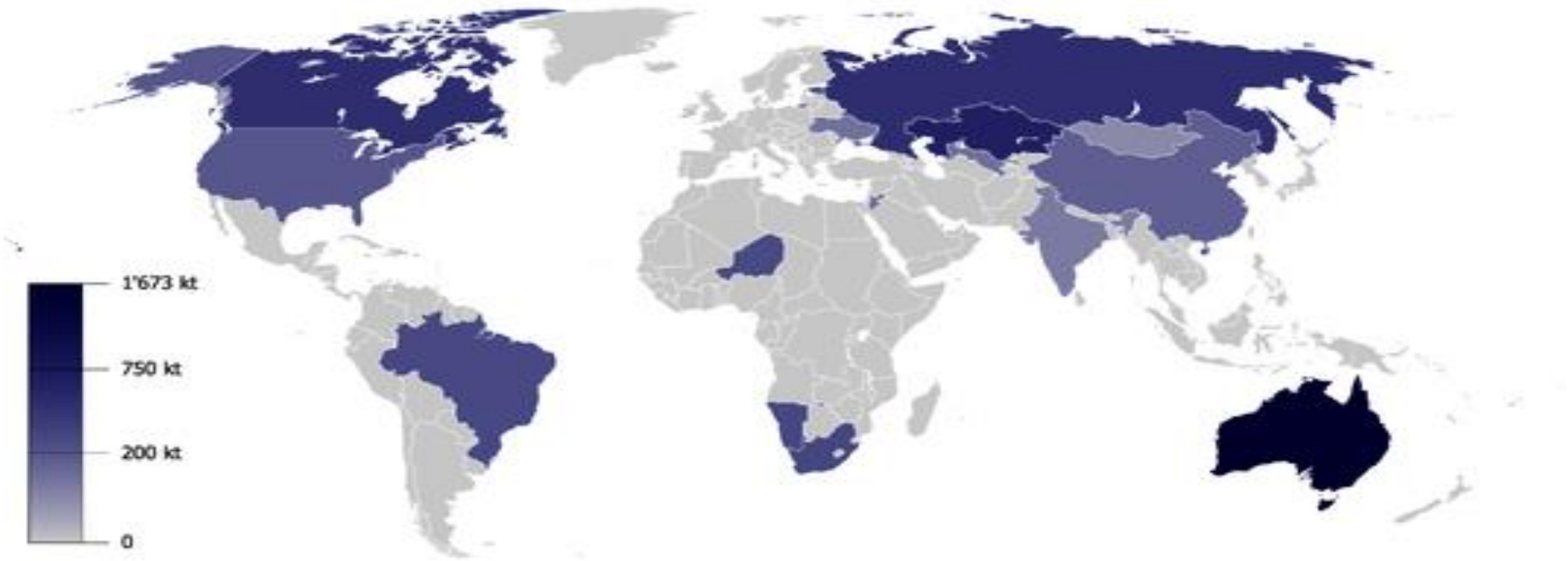
- As of January 1, 2011: world total identified resources – currently economic identified resources are called “reserves”

At Price level (US$ per kgU)	Total Identified Resources (tU)
260	7 096 600
130	5 327 200
80	3 078 500
40	680 900

The spot price of uranium is currently US$83 per kg

Canada and the World: Total Identified Uranium Resources – 2011(tU), at US$40 and US$80 per kg

(World Nuclear Association/WNA and Redbook)



Canada: 350 800 – 416 800

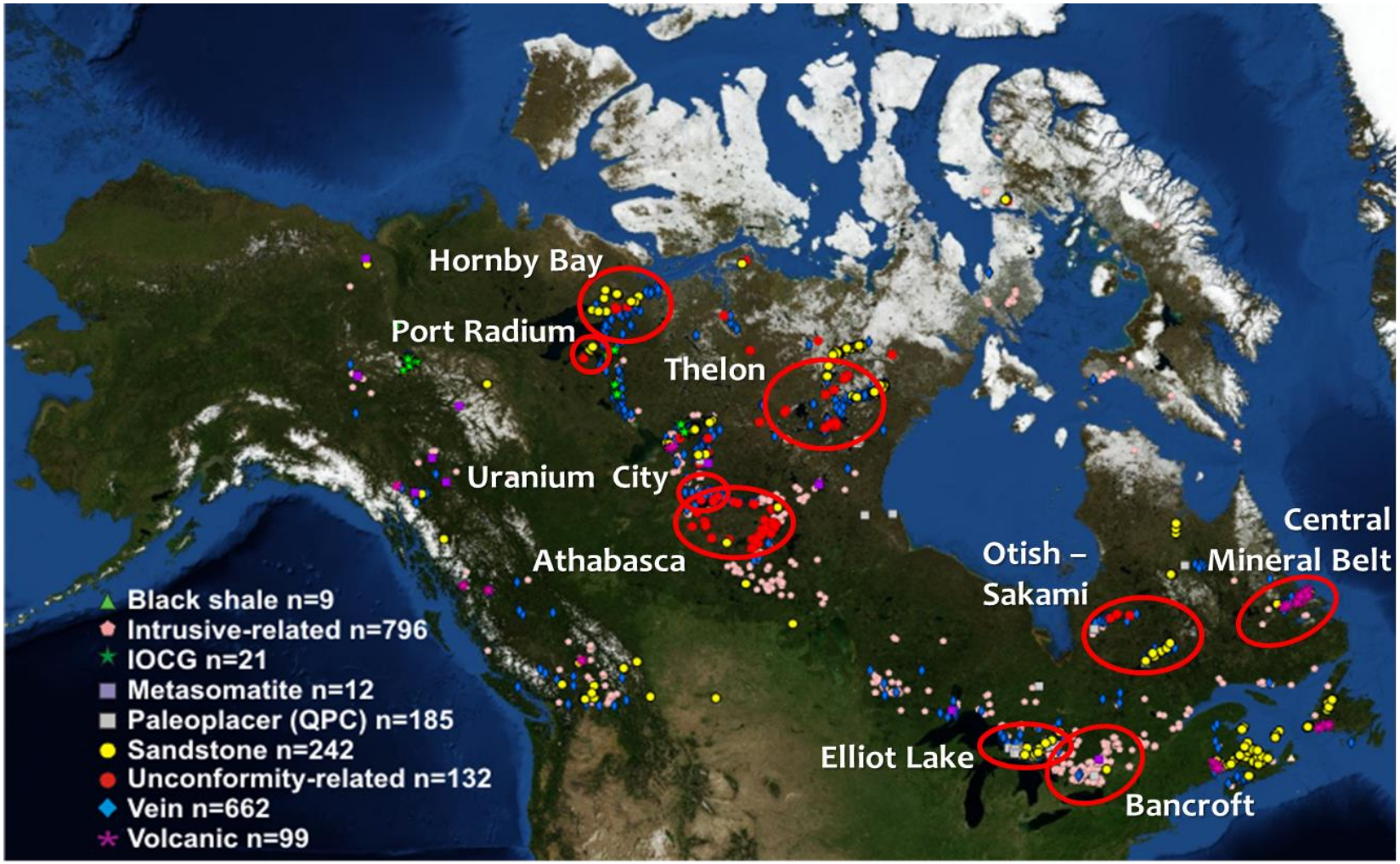
Australia: 0 – 1 349 400

Kazakhstan: 47 400 – 485 800

Russia: 0 – 55 400

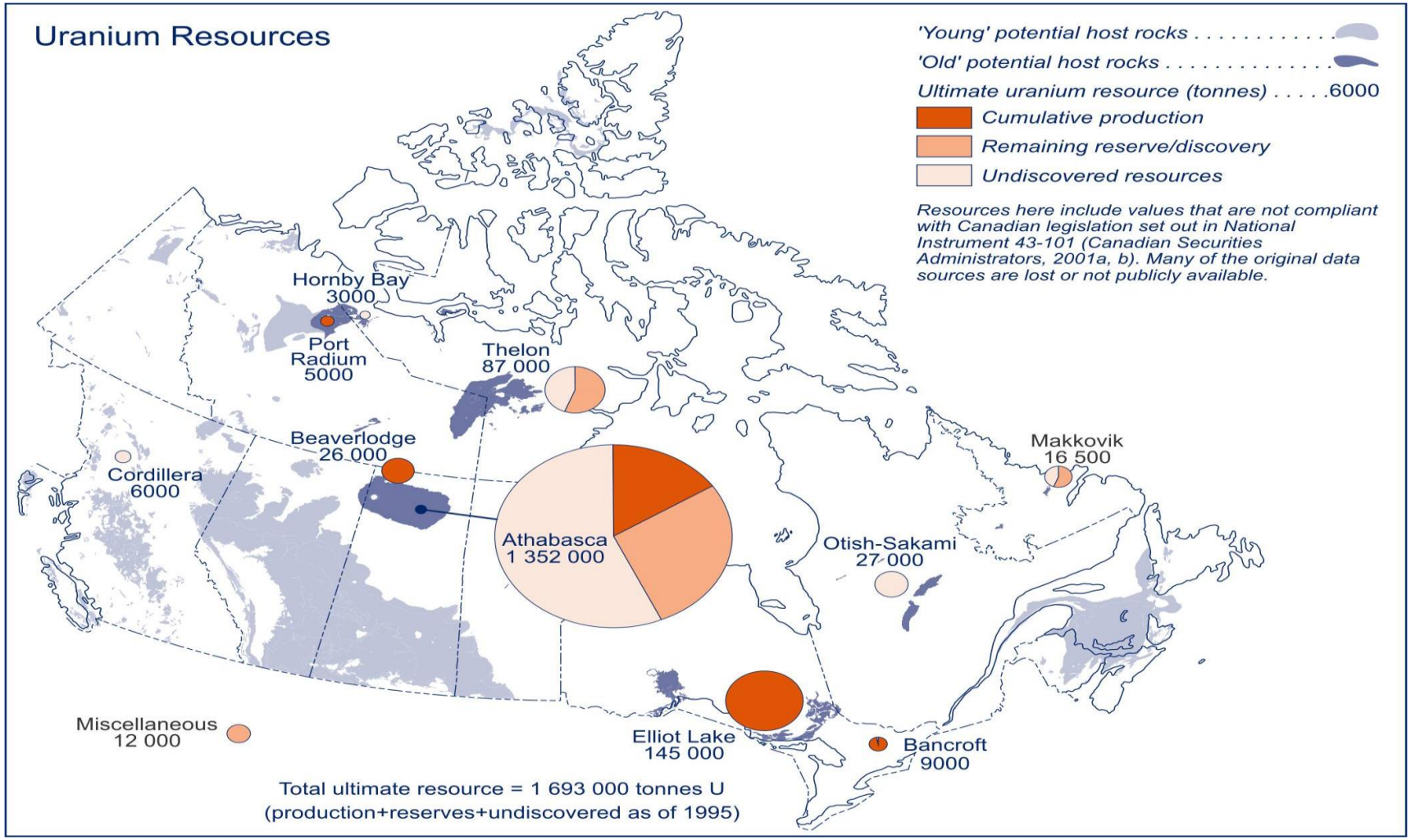
Main Uranium Districts in Canada

(NRCan-GSC,1995)



Ultimate Uranium Resources in Canada

(NRCan-GSC,1995)



Canada's Total Identified Uranium Resources as of January 2013 (NRCan)

About half of Canada's identified uranium resources can be extracted at a cost of less than US$40 per kilogram of uranium produced.

Cost Category	< US$40/kg U	< US$80/kg U	< US$130/kg U	< S$260/kg U
Tonnes of U	321 774 (65% of world total)	418 300 (21% of world total)	493 900 (9% of world total)	650 500 (9% of world total)

Canada's Uranium Resources: ore grades, depletion, augmentation (NRCan)

- Generally, a grade of uranium ore at 20% is qualified as super high; 2% as high; 0.2% as moderate; 0.02% as low;
- Canadian ore grades can exceed 20%; 100 times greater than the **world average grade** (0.2%);
- In addition, Canada has the world's largest high-grade uranium ore deposits;
- At current production rates, it would take 40 to 70 years to deplete Canada's identified resources;
- Identified resources have increased as new discoveries have exceeded the depletion of resources by mining.

Ore Grades, Resources and Production at the World's Largest Conventional Uranium Mines (Redbook, 2011)

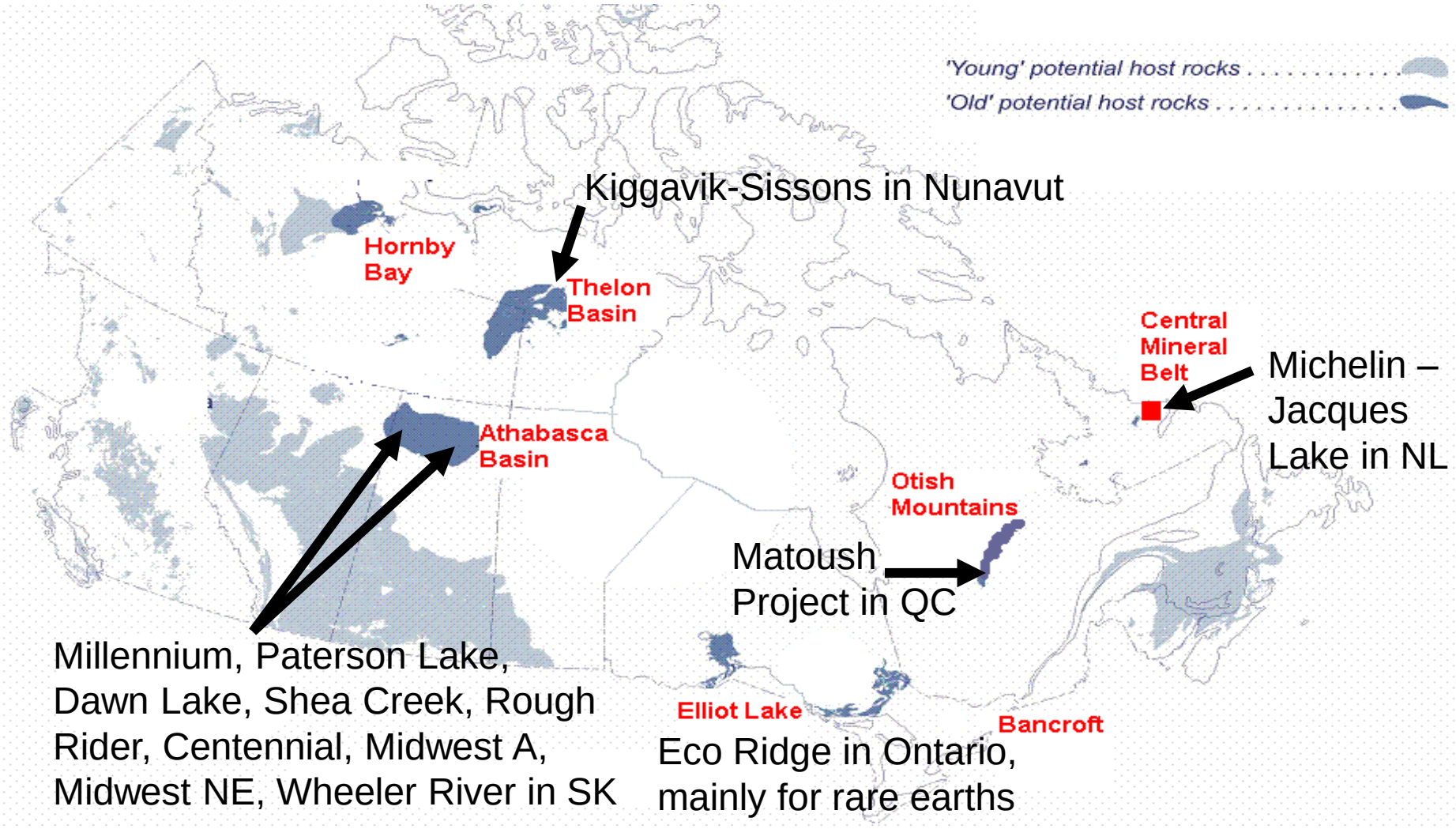
Mine	Location	Type	% Grade	Resources (including reserves) (tU)	2013 Production (tU)
1 - McArthur River	Canada	underground	12.2	135 500	7744
2 - Cigar Lake	Canada	underground	14.0	81 000	0 (March 2014 start-up)
3 - Olympic Dam (from Copper-Gold mining)	Australia	underground	0.05	2 450 000	3399
4 - SOMAIR	Niger	open pit	0.25	42 200	2730
5 – Ranger	Australia	open pit	0.1	22 100	2510
6 – Priargunsky	Russia	underground	0.16	101 500	2133
7 - Langer Heinrich	Namibia	open pit	0.05	60 900	2098
8 - Rossing	Namibia	open pit	0.03	90 100	2031
9 - Rabbit Lake	Canada	underground	0.61	11 300	1587
10 – COMINAK	Niger	underground	0.39	47 400	1508

Future Resources: World Exploration

(Redbook, 2011)

- Uranium companies from many countries explore for domestic uranium, but those which are known to also carry out foreign exploration since 2008 include: **Australia**, **Canada**, **China**, **France, Japan**, and **Russia;**
- In recent years, the highest exploration expenditures by foreign companies have been in Canada;
- Declining uranium price has reduced overall exploration, with exploration continuing at the most promising deposits and for the long-term;
- While the unconformity-type deposits with high grades are still the most desired target, lower-grade higher tonnage deposits (*e.g.,* sandstone and surficial deposits) are now sought to reduce risks by diversifying exploration strategies. Thus, exploration has seen a relative increase in **Africa** and in **South America.**

Future Resources: Main Uranium Exploration Projects in Canada (NRCan)



Conclusion: Canada and the World's Uranium Resources

- Canada has the world's largest and highest grade uranium ore deposits;
- As a result, domestic and foreign uranium companies are increasingly interested in investing in uranium properties in Canada, particularly given growing energy demand and energy policies in countries that do not have significant known domestic uranium deposits.