

## Clearing the air: What the recent UMRC report really means

November 20, 2007

*An anti-nuclear activist group in Port Hope gained wide media coverage in November 2007 by holding a press conference in Toronto to report urine test results from a small group of Port Hope residents conducted by the Toronto-based Uranium Medical Research Centre (UMRC). The testing is said to have detected uranium from both natural and man-made sources in four out of the nine people who were tested.*

### Should Port Hope residents be concerned with the information released by the Port Hope Health Concerns Committee?

- *No. The amount of uranium in the urine of study subjects is consistent with normal background levels.*

Uranium is a naturally-occurring material which is present in every human body at very low levels. Background concentrations of uranium in urine are highly variable. Tests of numerous subjects in the Ottawa area show a range of concentrations from three to 60 nanograms per litre (ng/L).

### What was identified in the testing?

- *The testing found quantities of uranium in subjects' urine consistent with what you would find in people anywhere.*

The study conducted by the Uranium Medical Research Centre consisted of nine subjects and two controls. Concentrations of uranium in the subjects' urine ranged from 2.1 to 24.8 ng/L, with a quoted background concentration of 7 ng/L. All of these results are within the expected range of natural exposure and are at levels about 1,000 times lower than the Ontario limit for uranium in drinking water.

### Basic comparisons

Uranium concentrations	Nanograms per litre
Ontario drinking water standard	20,000
Surface water discharge standard	5,000
Average in sea water	3,300
High end of background in urine	60
<b>UMRC test results</b>	
High end of Port Hope urine	24.8
Low end of Port Hope urine	2.7
"High" U-236 in Port Hope urine	0.000517
"Low" U-236 in Port Hope urine	0.000001

**Would health effects be expected from the level of uranium-236 isotope purportedly detected in the urine of four Port Hope residents tested on behalf of the Port Hope Community Health Concerns Committee?**

- *No.*

The <sup>236</sup>U isotope that the study claims to have detected is not in sufficient quantity to cause any conceivable health effect from radiation or toxicity, based on internationally accepted scientific standards.

**Is there any evidence of health effects from exposure to radiation or chemicals used by nuclear processing operations at Port Hope?**

- *No. Numerous peer-reviewed studies have found Port Hope residents are as healthy as people anywhere else in Ontario.*

Since 1984 there have been eight published studies relating to the health of Port Hope residents carried out by reputable researchers and sponsored by government agencies. These peer-reviewed studies have looked at cancer and general mortality, the incidence of cancer and other diseases, and the health of workers at the uranium processing facilities in Port Hope between 1950 and 1999. None of these studies has identified any unusual incidence of cancer or other conditions associated with radiation exposure in the community. In fact, among workers at the Port Hope conversion facility, who are most likely to have the highest level of radiation exposure due to their occupations, there was no increased incidence of cancer or mortality. Further, the study of conversion facility employees suggests they are healthier than the general population.

Copies of these health studies can be found at the Port Hope Public Library.

**What does Cameco do to protect workers and the public in Port Hope?**

- *Cameco conducts extensive monitoring of its employees, facilities and emissions to protect people and the environment. Results are reported to regulatory authorities on an ongoing basis.*

Cameco protects workers and local residents by assessing and controlling all potential chemical, radiological and physical health hazards from its operations. Cameco has a formal health and safety management system that ensures a standardized approach to managing health and safety issues. In addition, there is a joint employee/management health and safety committee. Cameco complies with all relevant regulatory and industry codes and practices for health, safety and environmental protection. All employees are required to wear dosimeters to monitor their radiation exposure. In addition, the company conducts an ongoing urinalysis program to measure uranium and fluoride and all employees have deep lung analyses for uranium at least once a year. Depending upon occupation, annual or biannual physicals are required to identify any changes in employees'

health. All results from the radiation monitoring program are reported to individual employees and regulatory authorities. They consistently show no unusual levels of health effects.

### **What is UMRC?**

- ***UMRC is a controversial international anti-nuclear organization based in Toronto.***

The Uranium Medical Research Centre (UMRC) is an anti-nuclear organization founded in 1997 by Dr. Asaf Durakovic, a physician who became controversial during the debate over the use of depleted uranium in conventional weapons. UMRC is considered well outside the scientific mainstream and believes that “continued abuses of uranium and radioisotopes will only lead to the steady degradation and eventual end of meaningful life on earth (**umrc.net**).” Results of the organization’s research have been questioned by credible scientists working for the World Health Organization, the Royal Society in the United Kingdom, and other agencies.

For more information about UMRC see:

- <http://www.umrc.net>
- <http://doc.danfahey.com/EmergenceDecline.pdf>

### **What is depleted uranium?**

- ***Uranium with some of the more radioactive material removed.***

Depleted uranium, also referred to as DU, is a byproduct of the process of enriching uranium. During this process the content of  $^{235}\text{U}$  is depleted to about 0.2 to 0.3%, from the natural content of 0.7%. Depleted uranium is about 40% less radioactive than natural uranium and is considered as only weakly radioactive. Depleted uranium has peaceful applications, such as counterweights in aircraft, racing sailboat keels and as a material used in hospitals for shielding X-rays or gamma radiation from equipment used for radiation therapy. Depleted uranium is used in armour-piercing ammunition because it has a high density (1.7 times that of lead). Cameco has never produced this type of ammunition.

### **Do Cameco’s Port Hope facilities work with depleted uranium?**

- ***Yes.***

The Port Hope conversion and fuel manufacturing facilities are licensed by the CNSC to work with depleted uranium metal for peaceful purposes such as shielding in reactors or use in Candu fuel bundles. Cameco does not produce depleted uranium metal at its Port Hope facilities and only sells uranium products

for peaceful applications following criteria used by the federal government in granting export licences.

Cameco's Port Hope facilities are also licensed to produce fuel bundles containing depleted uranium oxides, which are occasionally used in Candu reactors.

**What is  $^{236}\text{U}$ ?**

- *An isotope of uranium that is produced within nuclear reactors.*

Uranium-236 is an isotope of uranium that is produced within nuclear reactors. It is found in used nuclear fuel and reprocessed uranium produced from it. Minute amounts of  $^{236}\text{U}$  may also be found in the natural uranium and tailings from enrichment facilities that have at times received small amounts of uranium from reprocessing.