

## Press Release

### U3O8 Corp. identifies key pathfinder elements in its uranium exploration in the Roraima Basin

#### *Alteration & metal concentrations in Roraima targets provide further indicators consistent with unconformity-related uranium*

Toronto, Ontario – January 12, 2010 – **U3O8 Corp. (TSX Venture: UWE)**, a Canadian uranium exploration company, identifies key geological and chemical characteristics in exploration for uranium in the Roraima Basin in Guyana, South America. These characteristics are commonly associated with Athabasca-type deposits. The Athabasca Basin in Saskatchewan contains about one third of the world's uranium resources.

Through the analysis of archived core from bore hole GS-3, integrated with airborne geophysical data, U3O8 Corp. has defined additional targets in the Roraima Basin (Figure 1) that share a number of features with unconformity-related uranium systems in the Athabasca including:

*Structure:* The targets lie near the intersection of faults;

*Alteration minerals:* Illite clay has been identified as the dominant alteration mineral in the archived core from hole GS-3; and

*Metal enrichment:* The archived core contains some elevated uranium values which, importantly, occur with a suite of chemical elements that are commonly associated with uranium deposits in the Athabasca.

"The discovery of another area in the Roraima Basin with geological and chemical characteristics that are consistent with Athabasca deposits underscores the potential of the Roraima for unconformity-related uranium," said Dr. Richard Spencer, U3O8 Corp's President and CEO. "We believe that historic bore hole GS-3 lies on the edge of an unconformity-type uranium target and our objective is to locate the most prospective parts within that system. Our magnetic data outline two areas of interest within the larger target area and we expect that further exploration will refine these areas of interest into specific drill targets for testing in 2010."

#### **Exploration Criteria**

U3O8 Corp's exploration focuses on the possibility that the Roraima Basin may host similar uranium deposits to those found in the Athabasca Basin. Detailed review of core from bore hole GS-3, drilled through the Roraima Basin by a gold company in the mid-1990's, reveals a number of features that meet key criteria used in the exploration for unconformity-related uranium deposits in the Athabasca Basin (Figure 3) as discussed below:

#### **Structure:**

- Unconformity-related deposits in the Athabasca Basin typically straddle old thrust faults that were active during basin formation. Bore hole GS-3 intersected a thrust fault (Figure 2) that corresponds

with an east-trending regional fault that is evident in magnetic data (Figure 1). Furthermore, the nature of the sedimentological sequence cut by bore hole GS-3 suggests that the fault was active during the development of the Roraima Basin.

- Many deposits in the Athabasca Basin are located near the intersection of older thrust faults with younger, cross-cutting structures. Magnetic data show the older thrust fault that was cut in bore hole GS-3 intersects a younger northeast-trending fault about two kilometres east of the bore hole collar (Figure 1).

#### Alteration:

- Sandstones and conglomerates in hole GS-3 contain illite clay alteration (Figure 2). Illite typically occurs in the outer parts of alteration systems associated with Athabasca-type deposits (Figure 3).
- In addition, hole GS-3 lies on the edge of a weakly magnetic area that measures approximately eight kilometres long by one to two kilometres wide as identified in airborne geophysical data (Figure 1). U3O8 Corp's interpretation is that the weakly magnetic zone corresponds with a zone of intense alteration which, by analogy with the Athabasca, may enclose uranium mineralization.

#### Pathfinder Chemical Elements:

Chemical elements that are typically concentrated in or near uranium deposits in the Athabasca Basin have been identified in core from bore hole GS-3. These include:

- At 148-156 metres depth below surface, uranium values of six and 19 parts per million (ppm) were detected with anomalous levels of chromium and zinc within a halo of elevated bismuth, vanadium, zirconium and titanium (Figure 2 and Table 1). These elevated values occur directly beneath a silicified zone (Figure 2). Comparable zones of enriched chemical elements beneath silicified layers in the Athabasca Basin are ascribed to metal-bearing fluids pooling against impermeable silica-sealed barriers during hydrothermal activity that may have been related to the formation of adjacent uranium deposits. Similarly, rocks with more than 10ppm uranium seldom extend more than a few hundred metres from deposits such as Cigar Lake in the Athabasca Basin (Figure 3).
- The unconformity at the base of the Roraima is located at a depth of 301 metres in bore hole GS-3. Another zone with elevated metal content – lead, zinc, cobalt, bismuth, vanadium, titanium, zirconium and rubidium (Figure 1 and Table 1) – straddles the unconformity (290-311 metres).

#### Definition of Target Area

U3O8 Corp's interpretation is that the illite-dominated alteration in hole GS-3 and its anomalously high pathfinder chemistry represent the outer part of a hydrothermal system similar to those that enclose unconformity-related deposits in the Athabasca. Furthermore, hole GS-3 was drilled on the edge of a weakly magnetic area, which is interpreted to have resulted from intense alteration (Figure 1).

By analogy with the Athabasca, the prime target areas for unconformity-related uranium are likely to be near the intersection of faults such as the east- and northeast- trending faults that lie within the weakly magnetic zone east of hole GS-3. This focuses exploration on two specific target areas that cover one to two square kilometres each (Figure 1) within the broader weakly magnetic zone.

The next steps in the exploration of these two target areas will be:

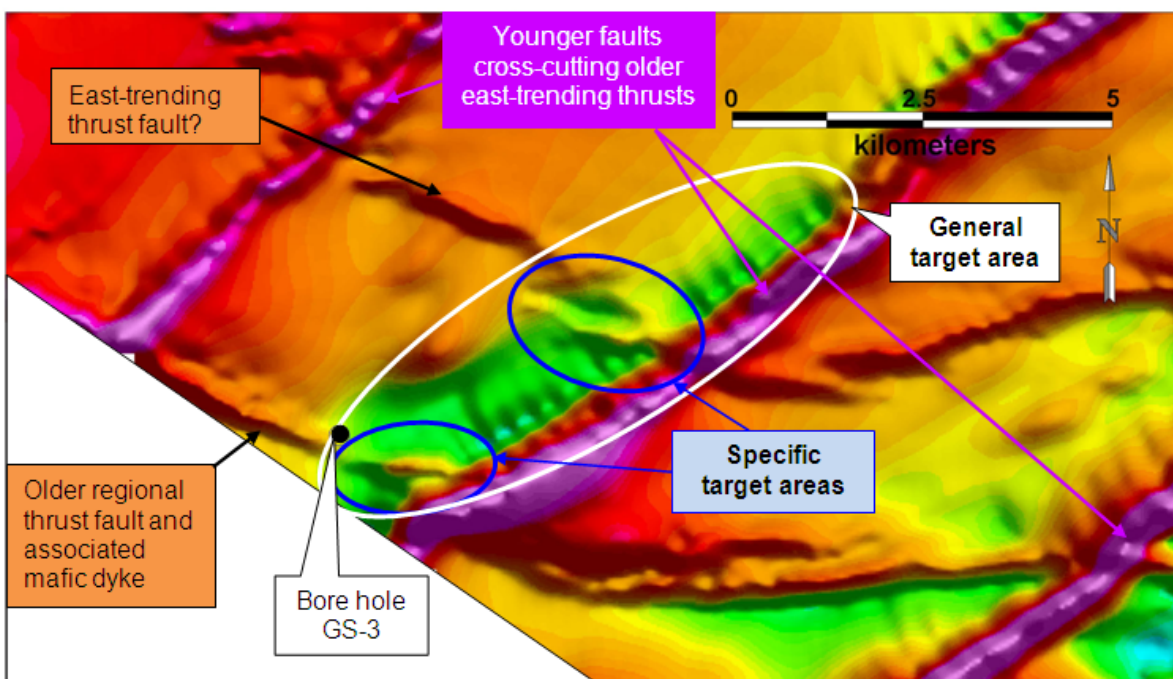
- a detailed gravity survey – a geophysical method that has been effective in exploration of the Athabasca Basin;
- detailed mapping to define structure;
- spectral alteration mapping with the aim of identifying more detailed alteration zoning; and
- rock chip geochemistry with a portable XRF Analyzer in the field supported by laboratory assay with the aim of refining chemical element zoning.

The objective of this detailed exploration is to identify drill targets that can be ranked and prioritized with other previously identified targets for initial drill testing in 2010.

U3O8 Corp's interpretation is conceptual in nature, and aims to provide context to the structural, clay alteration and chemical elements observed in the target area. It is uncertain if further exploration will result in the identification of significant uranium mineralization within the above discussed target area.

Mr. Richard Cleath (M.Sc.), Vice President of U3O8 Corp., and Dr. Boen Tan, a consultant with 35 years exploration experience in the Athabasca Basin, both of whom are Qualified Persons under the definition of that term in National Instrument 43-101 of the Canadian Securities Administrators, had overall responsibility for all aspects of target selection and evaluation. Mr. Cleath and Dr. Tan have reviewed and verified the technical information in this release.

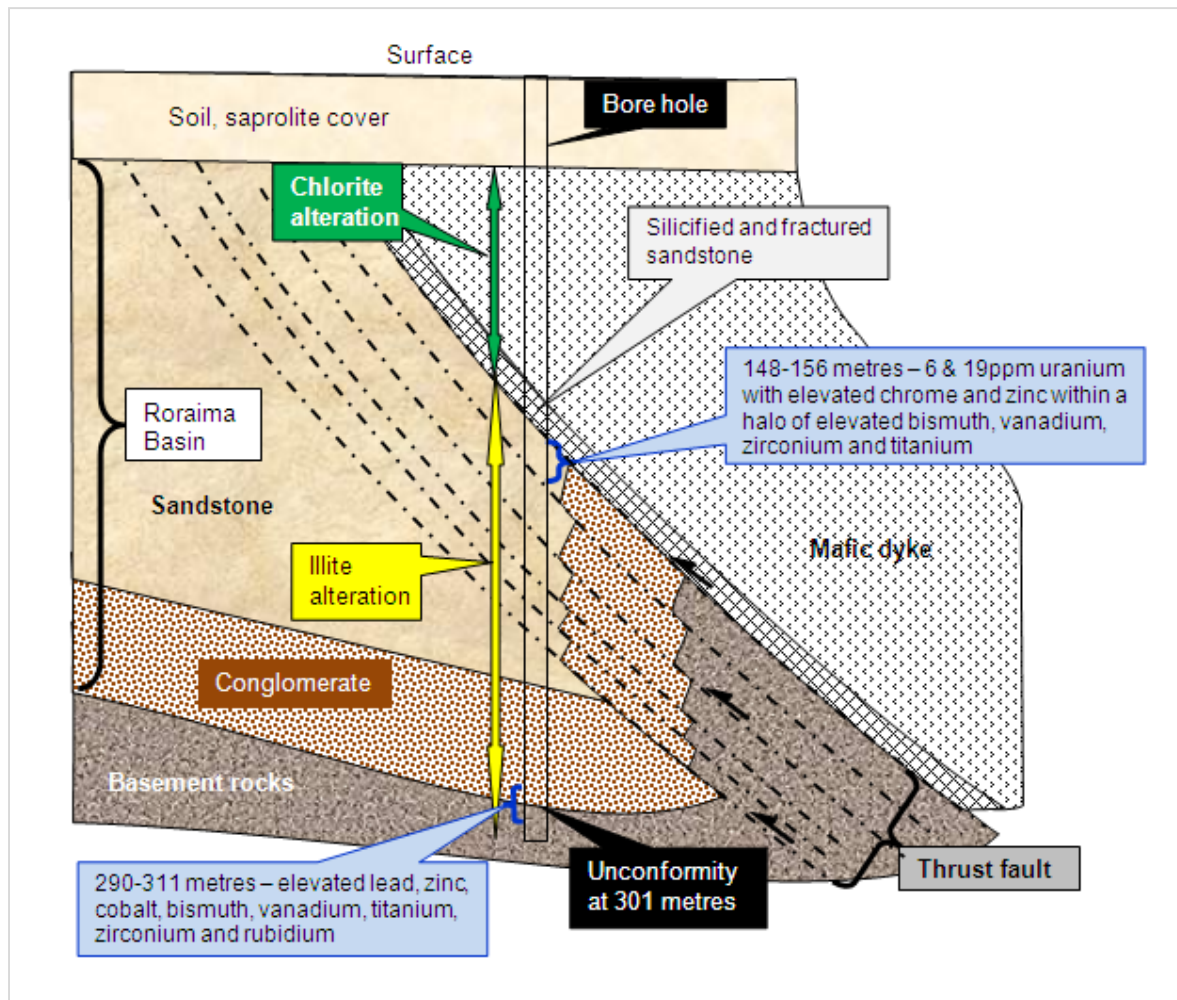
**Figure 1 – Map of Airborne Magnetic Data in the Vicinity of Bore Hole GS-3 and Target Areas**



Map of magnetic data from U3O8 Corp's airborne geophysics survey in the vicinity of bore hole GS-3. Warm colours mark magnetic rocks whereas cool colours represent weakly magnetic zones. The data show the conspicuous, younger northeast-trending faults that are likely intruded by magnetic diabase dykes, as well as the more subtle, linear anomalies that define the east- and northwest- trending, older thrust faults.

Bore hole GS-3, which has alteration and chemical element concentrations that are typical of the outer part of an alteration system consistent with uranium deposits in the Athabasca, is located on the western edge of the weakly magnetic zone. The weakly magnetic area, labelled "General Target Area", may show the extent of more intense alteration. By analogy to Athabasca-type uranium deposits, specific target areas are centred on the intersection of faults within the more extensive altered zones.

**Figure 2 – Interpretation of Geological and Geochemical Features Observed in Bore Hole GS-3**



Interpretation of geological features and enriched chemical elements observed in the core from bore hole GS-3, which intersected a thrust fault. The fault zone and associated dyke corresponds with an east-west oriented feature in magnetic data (shown in Figure 1).

Sandstones and conglomerates in bore hole GS-3 contain intense illite alteration and elevated chemical elements at 148-156 metres and 290-311 metres below surface, which could be the outer part of an alteration system analogous to alteration haloes associated with unconformity-related uranium in the Athabasca.

**Figure 3 – Model of Alteration Zoning Related to Unconformity-Related Uranium in the Athabasca**

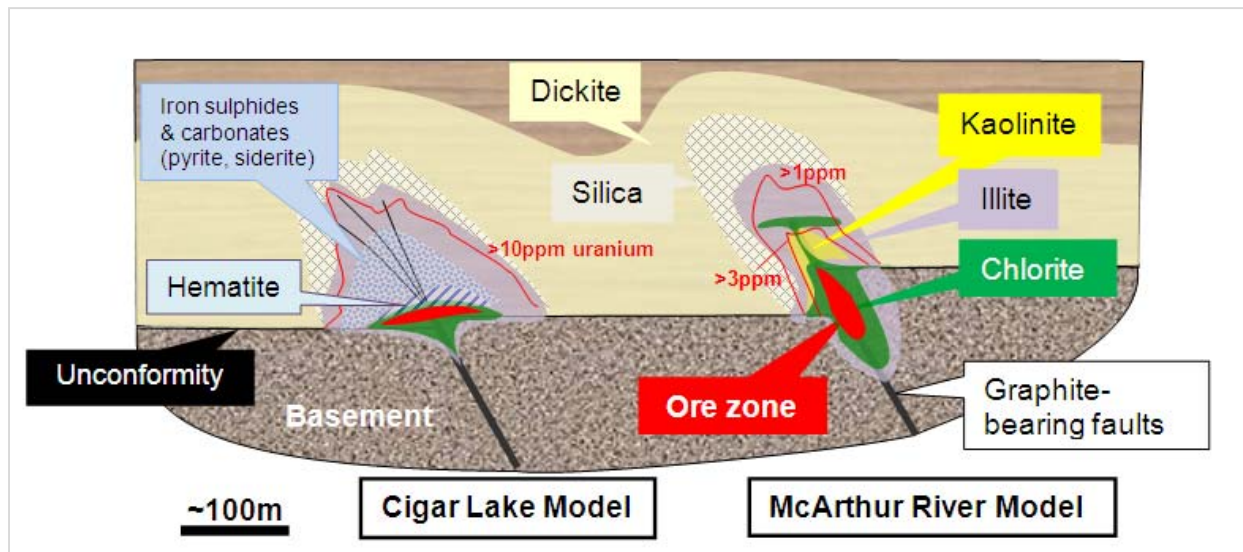


Diagram shows a generalized model of alteration associated with unconformity-related uranium deposits in the Cigar Lake and McArthur River deposits in Canada's Athabasca Basin. Alteration zoning – specific clay minerals (eg. illite and chlorite) that occur in roughly concentric zones around many deposits – provide a much larger target than the deposits themselves and can help narrow exploration to within hundreds of metres of uranium mineralization. U3O8 Corp. is using alteration mapping as a key targeting tool to focus its exploration for unconformity-related deposits in the Roraima Basin.

The metal zoning associated with Athabasca-type deposits contains elevated levels of metals and other chemical elements. Rock more than 10ppm uranium seldom extends more than a hundred metres from deposits such as Cigar Lake and McArthur River.

**Table 1 – Chemical Element Concentrations Identified by Innov-X® Portable XRF Analyzer in Bore Hole GS-3**

Depth (m)	Uranium (ppm)	Lead (ppm)	Zinc (ppm)	Nickel (ppm)	Cobalt (ppm)	Arsenic (ppm)	Strontium (ppm)	Bismuth (ppm)	Vanadium (ppm)	Chromium (ppm)	Titanium (ppm)	Zirconium (ppm)	Rubidium (ppm)
148	-	13	70	27	-	-	71	38	1,669	981	6,698	258	89
149	-	14	158	-	19	-	41	29	117	-	7,112	596	195
149.5	-	-	49	-	2	-	66	7	126	61	414	60	9
150	-	-	59	-	16	-	893	22	33	-	323	-	3
150.5	6	9	74	-	5	-	24	26	462	266	7,191	492	119
151	19	11	275	-	16	-	27	22	526	354	6,081	199	182
152	-	3	68	-	-	-	9	13	-	-	3,982	143	18
153	-	12	84	-	-	-	52	28	-	-	1,073	163	28
154	-	-	87	-	-	-	4	12	25	-	1,469	59	23
156	-	37	98	48	17	-	35	33	804	434	4,964	360	166
290.5	-	33	120	-	7	9	207	17	60	26	2,162	353	134
301.5	-	30	359	-	27	-	43	24	107	-	3,997	185	251
302.5	-	16	83	-	13	30	16	21	217	-	2,226	442	369
310.3	-	11	323	-	8	-	27	16	84	-	2,449	301	213
311.1	-	65	102	-	26	-	249	41	210	85	6,012	858	265

\*Parts per million (ppm)

**Note: These results are provisional in nature and have not been confirmed by assay since only non-destructive analysis of the historic bore hole core is permitted by the Guyana Geology and Mines Commission.**

**To date, there has been insufficient exploration to define a mineral resource in the target area of bore hole GS-3. It is uncertain if further exploration will result in the identification of significant uranium mineralization or a mineral resource being defined in this target area.**

## **About U3O8 Corp.**

U3O8 Corp. is a Canadian uranium exploration company based in Toronto, Canada. Currently focused on uranium exploration in the Roraima Basin in Guyana, South America, U3O8 Corp's primary business objective is to explore, develop and acquire uranium projects in the Americas. The company is funded with approximately \$4.6 million held solely in cash and Canadian chartered bank-backed Guaranteed Investment Certificates.

U3O8 Corp. has exclusive uranium exploration rights in an area covering approximately 1 million hectares that straddles the edge of the Roraima Basin in Guyana. The company is advancing a two-pronged exploration strategy that focuses on:

- Exploration for multiple uranium-bearing structures within structural systems in the basement adjacent to the Roraima Basin with the concept that the individual breccia zones could potentially aggregate to a significant total resource; and
- Exploration for unconformity-related uranium deposits near the base of the Roraima Basin, which are similar to those of the prolific Athabasca Basin in Saskatchewan.

For further information on the company's properties, please refer to the technical reports prepared for the company by Dahrouge Geological Consulting Ltd. and dated September 15, 2006 as amended and restated December 12, 2006; and the NI 43-101 report entitled "A Technical Review of the Aricheng North and Aricheng South Uranium Deposits in Western Guyana for U3O8 Corp. and Prometheus Resources (Guyana) Inc." by Watts, Griffis and McOuat dated January 14, 2009, available on SEDAR at [www.sedar.com](http://www.sedar.com) and on the company's website [www.u3o8corp.com](http://www.u3o8corp.com).

## **Forward-Looking Statements**

*Certain information set forth in this news release may contain forward-looking statements that involve substantial known and unknown risks and uncertainties. These forward-looking statements are subject to numerous risks and uncertainties, certain of which are beyond the control of U3O8 Corp., including, but not limited to, the fact that similarities between the Roraima Basin and other unconformity-related uranium deposits elsewhere are theoretical in nature and not definitive, the impact of general economic conditions, industry conditions, volatility of commodity prices, risks associated with the uncertainty of exploration results and estimates, currency fluctuations, dependence upon regulatory approvals, the uncertainty of obtaining additional financing and exploration risk. Readers are cautioned that the assumptions used in the preparation of such information, although considered reasonable at the time of preparation, may prove to be imprecise and, as such, undue reliance should not be placed on forward-looking statements.*

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