Surface Geochemical Study Completed over the Centennial Uranium Deposit

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CALGARY, Dec. 16, 2013 /CNW/ - Uravan Minerals Inc. (Uravan), in collaboration with Cameco Corporation (Cameco), the Queen's Facility for Isotope Research (QFIR), and Environmental BioTechnologies Inc. (EBT), completed a multi-faceted surface geochemical sampling program over the Centennial uranium deposit (Centennial Survey), located on the Virgin River structural trend within the south-central portion of the Athabasca Basin, Saskatchewan [map link]. The Centennial deposit is a high-grade unconformity-type uranium deposit occurring at a depth of approximately 800 m that is currently in the drill-developed stage by Cameco and its joint venture partners, Areva Resources Canada Inc. (AREVA) and Formation Metals Inc. (Coronation Mines).

The Centennial Survey is an applied research study that capitalized on our cumulative knowledge obtained from previous surface studies, including the Cigar West Study and similar surface geochemical surveys conducted over five (5) of Uravan's active exploration projects. The purpose in developing these surface geochemical techniques is to provide a means of rapidly evaluating under-explored basin environments with the goal to get to mineral discovery more quickly and cost effectively (i.e. fewer drill-holes to discovery). The objective of this survey is to advance our remote sensing geochemical technology by (a) determining if we can identify unique geochemical and isotopic signatures in the surface environment (soils and trees) that support element migration from a high-grade uranium deposit at depths >800m; and (b) investigating if these elements and isotopic signatures can be characterized as distinct, deposit-sourced geochemical signals or derived from the natural geochemical variations related to surficial geology and/or environmental effects.

The survey was completed in June 2013 and managed by Uravan's technical group. The sampling grid of 533 survey stations: (a) a primary sampling grid covering a 600 x 950 m area was centered over the surface projection of the Centennial uranium deposit. The central grid included 230 sample stations distributed on an offset 50 m grid. An additional 303 survey stations were distributed on 100, 200 and 500 m spacing extending further into background away from the deposit [map link].

Sample Media Collected

1. 495 B- and C-horizon soil samples;
2. 478 tree-core samples from black spruce and/or jack pine trees;
3. 557 MET samples from A2-horizon soils and;
4. 45 bulk B-horizon soil samples.

Sample Preparation and Analysis

Sample preparation of the tree-cores and separation of the clay-sized fraction (

A separate A2-horizon soil sample from each survey station was collected for analysis using EBT's Microbial Exploration Technology (MET) process. Conceptually, the MET analysis measures the population of hydrocarbon-metabolizing microbes living in the near-surface aerobic environment. Elevated populations of these micro-organisms in a soil sample may be indicative of thriving microbial activity due to an increase in hydrocarbon gas flux (primarily methane) that has migrated to the surface from the redox environment of a uranium deposit at depth.

Survey Results - Data Analysis and Interpretation

The combined anomalous surface geochemical signals obtained from the various surface media analyzed (tree-cores, clay-sized fractions of soils, and MET samples) have clearly defined the surface projection of the Centennial uranium deposit, which occurs at depths greater than 800 m [map link]. The spatial relationship and surface distribution of certain pathfinder elements, lead (Pb) isotopic ratios (207Pb/206Pb), and MET microbial values in the media analyzed, provide a compelling, coincident surface anomaly that, when displayed with other known geophysical survey data and interpreted structural patterns, would certainly vector drilling to a deposit at 800 meters depth in a 'green-fields' exploration setting.

These anomalous surface geochemical signals are interpreted to be the result of the migration of gaseous compounds, mobilized metals, and distinct isotopic compositions from the deposit at depth. The movement of these distinct elements and gaseous compounds to the surface environment (soils and trees) is interpreted to occur preferentially along fractures and fault systems, as well as along grain boundaries through the Athabasca Sandstone. The structural pathways extending upward through the overlying Athabasca Sandstone are a result of basement structural reactivation and concurrent hydrothermal activity, both of which are key components necessary for all unconformity-related uranium deposits in the Athabasca Basin.

Proof of Concept

A drilling program on the Stewardson Lake project is the next step in Uravan's objective to apply our cumulative knowledge from these surface geochemical surveys to active projects. In July 2011 a surface geochemical program was completed over the Stewardson project followed by an airborne ZTEM geophysical survey in June 2013 [map link]. A program and budget for the Stewardson project for 2014 is currently under review by Cameco Corporation (Cameco). Cameco has an exclusive option to earn a 51% interest in Uravan's 100% owned Halliday Lake and Stewardson Lake projects. Uravan is currently the operator with the responsibility to plan and implement the exploration programs on the Stewardson project in consultation with and on behalf of Cameco. Details of the approved 2014 program and budget will be announced in the near future.

Dr. Colin Dunn, P. Geo., technical advisor for Uravan, is the Qualified Person for the purposes of NI 43-101 with respect to the technical information in this press release. Dr. Colin Dunn, an independent specialist in biogeochemistry, is working closely with Uravan's technical group and QFIR to advance the interpretation of biogeochemical results.

This press release may contain forward looking statements including those describing Uravan's future plans and the expectations of management that a stated result or condition will occur. Any statement addressing future events or conditions necessarily involves inherent risk and uncertainty. Actual results can differ materially from those anticipated by management at the time of writing due to many factors, the majority of which are beyond the control of Uravan and its management. In particular, this news release contains forward-looking statements pertaining, directly or indirectly, to the use of proceeds of the Offering. Readers are cautioned that the foregoing list of risk factors should not be construed as exhaustive. These statements speak only as of the date of this release or as of the date specified in the documents accompanying this release, as the case may be. The Corporation undertakes no obligation to publicly update or revise any forward-looking statements except as expressly required by applicable securities laws.

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