
UPDATE – URAVAN ATHABASCA BASIN PROJECTS

Stewardson Lake Project

In June 2013, a property-wide heliborne electromagnetic (EM) geophysical survey will commence over the Stewardson Lake project, Athabasca Basin¹, Northern Saskatchewan [\[map link\]](#). The survey will be conducted by Geotech Ltd. using their *Z-Axis Tipper Electromagnetic (ZTEM) system* and will total 779 line-kilometres at 500 meter line spacing.

The ZTEM system is considered ideal for furthering the exploration of the Stewardson Lake project where the underlying basement is locally overlain by low resistivity Athabasca Group sediments and unconformity depths range from an estimated 900 m in the south to greater than 1100 m in the north. The key features of the ZTEM system that will provide high quality data collection over the Stewardson Lake project, are 1) its high spatial resolution (8 to 10 meters), 2) excellent resistivity discrimination for detection of conductive anomalies, and 3) low frequency penetration (as low as 30 Hz) through the conductive Athabasca sediments, resulting in depth resolution to >1500 meters..

Following the completion of the ZTEM survey, follow-up ground EM survey(s) and infill surface geochemistry over prospective areas are anticipated. This work will focus on key EM geophysical targets that are supported by anomalous surface geochemical signatures.

A multifaceted surface geochemical sampling program (1663 sample sites at about 500 meter spacing) over the Stewardson Lake project area was completed by UraVan in July 2011² and identified several anomalous zones. The program consisted of collecting B- or C-horizon soil samples, along with vegetation and tree core samples from black spruce and jack pine trees³. The southwest and south-central portion of the Stewardson Lake property is highlighted by correlations of low radiogenic lead (Pb) isotope values (²⁰⁷Pb/²⁰⁶Pb ratios) between clay and tree core samples that are preferentially distributed in proximity to interpreted structural trends [\[map link\]](#). The airborne ZTEM survey could potentially highlight conductive features that are supported by anomalous surface geochemical trends thereby refining future drill targets.

The Stewardson Lake property overlies the Dufferin Lake Fault, which extends northeast-southwest across the central portion of the property. Most of the historical geophysical surveys conducted by previous operators are considered test surveys to determine which techniques were effective to define conductors in the basement at depths >1100 meters. In 1997 diamond drill-hole VR-01 was completed at 1180 meters (unconformity at 1135 meters) and positioned near the center of a previously identified boron-rich surface anomaly suggestive of intense hydrothermal alteration centered on Stewardson Lake. The results of this drill-hole were positive, intersecting highly anomalous boron concentrations in the upper 700 m, followed by predominantly illite and chlorite clay alteration (>80%) below 700 meters, local uranium enrichment up to 3.78 ppm U308 in the sandstone, and anomalous (Pb) isotope values (²⁰⁷Pb/²⁰⁶Pb isotopic ratios) below 500 meters.

Halliday Lake Project

In July and August 2012, five (5) diamond drill-holes (DDH HL-01, -02, -03, -05 and -06) were completed on the Halliday project totalling 4,836 meters drilled [\[press release link\]](#). Drill-holes were positioned to test the potential occurrence of uranium mineralization at depth along a prominent 5 kilometre long, east-west trending corridor. This corridor was defined by an EM geophysical conductor (Conductor A), which cross-cuts a prominent linear magnetic low and was supported by a concordant distribution of anomalous surface geochemical signatures^{2,3} [\[map link\]](#).

Although no economic uranium mineralization was encountered during this drill program, the intersection of structurally disrupted graphitic pelites and narrow (<0.65m thick) anomalous uranium mineralization (487 to 733 ppm U) in basement rocks was encouraging. Additionally, drill-hole HL-01 intersected pervasive illite clay mineral alteration and sandstone bleaching throughout

the Athabasca Sandstone section and well-developed chlorite clay alteration from 10 meters above the unconformity. These key alteration components, which are coincident with elevated pathfinder elements and REEs through the Athabasca Sandstone section, suggest that a more advanced hydrothermal and structural system potentially exists toward the untested western end of the Conductor A corridor. Positive surface geochemical anomalies (soils and trees) also highlight an area west of DDH HL-01 and EL-10 along Conductor A.

In March 2013, Aurora Geosciences Ltd. (Aurora), in collaboration with UraVan and Cameco Corporation, conducted a ‘test’ EM ground geophysical survey over Conductor A, west of DDH HL-01 [\[map link\]](#). The test survey was completed by Aurora using their *extremely low frequency electromagnetic* (ELF-EM) system ([Link to technical report](#)). The ELF-EM system is a ground-based geophysical technique/instrument that is easily transported and does not require cut lines. The system calculates the tilt angle (tipper) of the magnetic fields from 11 Hz to 1440 Hz and is designed to image resistivity from depths of 10 meters to 2 kilometers.

The ELF-EM test survey area comprised five (5) lines, totaling 19.8 line-kilometers at approximately 600 meter line-spacing [\[map link\]](#). Two of the lines surveyed were centered over previously identified conductive geophysical anomalies (to include Slingram Moving Loop survey techniques) for data orientation and comparison. Three additional lines were surveyed to test the ELF-EM system where little or no geophysical data existed, along the strike of Conductor A and west of DDH HL-01. The purpose of the test survey was to compare the results from the ELF (low-frequency) EM system to other more costly Moving Loop geophysical techniques, and to evaluate the Conductor A west of DDH HL-01 using a low-frequency geophysical technique. The results and interpretation of the test survey are currently being completed by Aurora.

The Stewardson Lake and Halliday Lake projects are a joint exploration effort between UraVan and Cameco Corporation pursuant to the Halliday/Stewardson Option Agreement dated effective June 21, 2012 [\[Press Release dated July 17, 2012\]](#). UraVan is currently the operator with the responsibility to plan and implement the exploration programs on behalf of Cameco.

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.

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¹The Athabasca Basin is an ancient (Paleoproterozoic) sandstone basin located in northern Saskatchewan, Canada. The Athabasca sandstone (Manitou Falls (MF) Formation) hosts high-grade uranium deposits at and below the unconformity between the sandstone and the older crystalline basement rocks. These unconformity-type uranium deposits occur in sandstones at the sandstone-basement unconformity contact (sandstone-hosted mineralization) and within the underlying structurally disrupted crystalline basement (basement-hosted mineralization). These unconformity-type uranium deposits account for about 28 percent of the world's primary uranium production. The ore grades are high, typically grading 2% to 20% U₃O₈.

²The Stewardson and Halliday project surface anomalies were identified by a multifaceted geochemical sampling program completed by UraVan in the summer of 2011. This surface program capitalized on new geochemical technologies developed from a geochemical remote sensing study conducted over the Cigar West Uranium deposit (Cigar Lake Study)⁴, which focused on the detection of buried unconformity-related uranium mineralization in under-explored areas in the Athabasca Basin

³Clay-sized fractions (<2µm) were extracted from the B- and C-horizon soil samples for analysis, and vegetation samples underwent ashing prior to analysis. The clay fractions and ashed vegetation tissues were analyzed by Acme Laboratories in Vancouver, British Columbia by ICP-MS following an aqua regia digestion for a suite of fifty-three (53) elements, plus all rare earth elements (REE) and lead (Pb) isotopes. Tree core samples were prepared by the Queen's Facility for Isotope Research⁵ (QFIR) where they underwent total digestion and analysis using high resolution ICP-SFMS for fifty (50) elements and Pb isotopes.

⁴The Cigar West Study was a collaborative applied research program conducted by UraVan and QFIR (Queen's Facility for Isotope Research⁵) in 2009 over a known high-grade uranium deposit in the Athabasca Basin. The study was designed to develop new surface geochemical techniques that can better identify bedrock sources of uranium mineralization at depth. This research clearly identified distinctive elements and isotopic compositions that have been mobilized from the deposit (geosphere) to the surface media (plants and soils) from depths >450 meters. The Cigar Lake deposit is on the Waterbury/Cigar uranium property located in the Athabasca Basin, Saskatchewan, and is a joint venture partnership between Cameco Corporation, AREVA, Idemitsu Kosan Co. Ltd., and Tokyo Electric Power

Co. [TEPCO]). Uravan thanks both AREVA and Cameco for their collaboration and gracious support for the Cigar West Study, and the support provided by the Cigar Lake facility during our field operations.



⁵The Queen's Facility for Isotope Research (QFIR) at Queens's University, Ontario is a state-of-the-art research facility, comprising a group of highly experienced research geochemists. The QFIR lab contains some of the most technologically advanced analytical equipment in Canada. Under the direction of Dr. Kurt Kyser, the QFIR research team is working collaboratively with Uravan's technical group to develop new exploration technologies using applied research.



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. Dr. Kurt Kyser and Dr. Colin Dunn are key technical advisors for Uravan.

Uravan is a Calgary, Alberta-based diversified mineral exploration company that utilizes applied research to develop new innovative exploration technologies to identify buried uranium, rare earth elements (REEs) and nickel-copper-platinum group element (Ni-Cu-PGE) deposits in under-explored areas. Our exploration focus in uranium is for potential high-grade unconformity-type uranium deposits in the Athabasca and Thelon Basins in Canada and other basin environments globally. Uravan is a publicly listed company on the TSX Venture Exchange under the trading symbol UVN. All of the mineral properties Uravan owns are considered in the exploration stage of development.

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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