

Press Release

U3O8 Corp. defines the full extraction process for its Berlin deposit in Colombia

Process flow sheet is another key step in showing the economic value of the Berlin Project

Toronto, Ontario – November 1, 2012 – **U3O8 Corp. (TSX: UWE; OTCQX: UWEFF)**, a Canadian-based company focused on exploration and resource expansion of uranium and associated commodities in South America, outlines the final component of the three main sections of the flow sheet that defines the entire process by which uranium, phosphate, vanadium, rare earths and other metals are to be extracted from the Berlin Project in Colombia. This flow sheet is an integral part of the preliminary economic assessment (“PEA”) being undertaken by Bateman Engineering N.V., which is on track for delivery by the end of 2012.

“The flow sheet marks another key achievement by demonstrating how we plan to extract the various commodities from the Berlin ore into saleable products,” said Dr. Richard Spencer, U3O8 Corp’s President and CEO. “U3O8 Corp. has made huge strides in advancing the Berlin Project from exploration trenching and resource estimation to development of the entire flow sheet and finalizing the upcoming PEA in just two and a half years. Berlin is fast becoming a company maker that we are showing could be a large deposit and low-cost uranium producer thanks to the value of a suite of recoverable by-products.”

Flow Sheet for the Berlin Project

The process route shown in the flow sheet has been designed to efficiently extract multiple commodities from Berlin, to be versatile in terms of reagent consumption, to be compatible with standard recovery methods and to create an environmentally benign tailing. U3O8 Corp. has now defined the three main components of this process as follows (Figure 1):

1. Beneficiation of the crushed ore using acetic acid (vinegar) to remove calcite and concentrate the valuable commodities into as small a mass as possible, which makes the subsequent extraction and recovery processes more efficient and reduces capital and operating costs;
2. Extraction of the various commodities into a pregnant solution by an acidic ferric iron leach method; and
3. Recovery of the individual elements from the pregnant solution by conventional techniques – details reported in this press release.

Beneficiation:

As reported in U3O8 Corp’s October 17, 2012 press release, beneficiation using a weak solution of acetic acid to dissolve calcite from the mineralized material at Berlin concentrated the payable elements into 40-47% of the original ore mass as well as producing a potentially saleable gypsum by-product.

The significant reduction in volume of material that undergoes further treatment may reduce processing and capital costs, simplify the extraction process, add a potentially valuable by-product and decrease the volume of tailings by 50-60%. The PEA is considering both acetic acid and non-acetic acid routes to determine which of these options is most beneficial for the Berlin Project. Arafura Resources Ltd. has stated that it plans to use a similar process of adding sulphuric acid to regenerate hydrochloric acid, which could produce a gypsum by-product at its Nolans Bore deposit in Australia.

Extraction:

The residue of the ore that remains after beneficiation by acetic acid is subjected to a two-step ferric iron process as detailed in U3O8 Corp's January 12, 2012 press release. The ferric leach achieved excellent extraction of multiple elements contained in the mineralized rock from the Berlin Project. These results are considered to be representative of the entire resource area since the test work was conducted on 35% of the bore hole intersections that were included in the resource estimate. U3O8 Corp's ferric process was adapted from proven technology used for uranium and yttrium production at Elliott Lake in Ontario and is now used at Rossing Mine in Namibia and the Talvivaara Mine in Finland.

Step one of the extraction process involves the mineralized residue being mixed with ferric iron and sulphuric acid, followed by step two – a wash with weak sulphuric acid. These two steps will be combined in a conventional train of reactors to ensure efficient extraction of the soluble metals and phosphate into the pregnant liquor.

Recovery:

The beneficiation and extractive leach sections of the process have been designed to create a pregnant liquor solution ("PLS") that contains the metals of economic interest and phosphate at a concentration appropriate for conventional recovery techniques and to minimize the presence of elements such as calcium and iron that can complicate the recovery process. After beneficiation of the Berlin ore with acetic acid, the acidic ferric leach would generate a PLS with an approximate concentration of elements as follows: uranium – 600 milligrams per litre ("mg/L"); phosphorous – 27,000 mg/L; vanadium – 1,400 mg/L; rare earths including yttrium – 200 mg/L and neodymium – 45 mg/L; molybdenum 180 mg/L; nickel 850 mg/L; zinc 1,800 mg/L and manganese 75 mg/L.

Calcium levels are managed in two ways: through the extraction of most of the calcium from the ore in the beneficiation step; and secondly, by maintaining the residual calcium in the PLS in a relatively insoluble form. Had hydrochloric acid been used instead, chlorine would have been introduced into the system which, together with calcium, would have interfered with extraction of the metals of value.

The first step in the recovery process involves the alteration of ferric iron in the liquor to the ferrous form in a process called reduction. Iron in the ferrous state can be carried in the PLS through the remainder of the process without interfering significantly with standard ion exchange ("IX") and solvent extraction ("SX") or direct precipitation routines used for select recovery of the valuable elements. Iron reduction can be readily achieved with the addition of a variety of reducing reagents.

Molybdenum is the first element to be selectively extracted from the PLS in the first IX process and is stripped using ammonium hydroxide (to prevent gypsum co-precipitation with the molybdenum) and is precipitated as calcium molybdate, a saleable product. The removal of molybdenum before uranium and vanadium extraction is to prevent interference in the subsequent IX and SX processes designed to extract other elements.

Uranium and vanadium are then extracted from the PLS in a second IX process into a combined stream using weak sulphuric acid. The uranium is separated from vanadium by adding hydrogen peroxide which causes precipitation of uranium peroxide. The uranium peroxide ($\text{UO}_4 \cdot n\text{H}_2\text{O}$) is thickened, centrifuged and dried for transport off-site. The uranium peroxide is subsequently heated to form yellowcake (U_3O_8), the form in which uranium is marketed. The vanadium is then precipitated with ammonia to produce ammonium penta-vanadate, which is thickened, centrifuged and dried for transport off-site.

This process of extracting the uranium and vanadium together, and then separating them, is used in the following facilities: Climax Uranium Co. (USA), Talvivaara Mining Co. (Finland) and Smith Ranch project (USA).

Following the extraction of molybdenum, uranium and vanadium, the PLS undergoes the first SX process to produce an estimated 25% strength phosphoric acid by extracting phosphorous with tri-butyl phosphate ("TBP") in a ShellSol diluent followed by stripping with water. The resulting phosphoric acid is concentrated to a minimum 83% strength by a steam evaporator to produce a saleable phosphoric acid product.

The rare earths (principally yttrium, neodymium and cerium) are precipitated by elevating the pH level of the PLS with ammonia to produce a precipitate which is centrifuged and dried and then the mixed rare earth oxides are packed for transport and separation off-site.

The PLS now contains only base metals and manganese for recovery and undergoes the second SX process for the extraction and stripping of a mixture of nickel, zinc and manganese with D2EHPA (Di-(2-ethylhexyl) phosphoric acid) and sulphuric acid. The individual metals could then be separated from the mixture on-site, or the mixture could be sent off-site for further processing.

At the end of the recovery process, the ferrous iron contained in solution could be oxidized to the ferric iron form and recycled back into the ferric leach circuit to lower reagent consumption and reduce operating costs.

Qualified Persons and Accreditation

The metallurgical test work relied upon for the development of the flow sheet was done at SGS Lakefield OreTest Pty Ltd in Perth, Australia. SGS Lakefield OreTest was established as a metallurgical services company in 1993 as Lakefield OreTest Pty Limited and is now a subsidiary of the SGS Lakefield group, which has been offering mineral processing services to the mining industry since 1948.

Dr. Paul Miller, a qualified person as defined in National Instrument 43-101 of the Canadian Securities Administrators ("QP"), has overseen the metallurgical test work carried out by SGS Lakefield OreTest, and verified the technical information relating to the results reported above. Dr. Miller is a metallurgist specializing in hydrometallurgy with over 30 years' experience in the commercial application of processes for the treatment of sulphide-bearing ore. Dr. Miller has a doctorate in Chemical Engineering, is a member of the Institute of Mining and Metallurgy, London, and is a Chartered Engineer. He is Managing Director of Sulphide Resource Processing Pty Ltd.

Bateman Engineering N.V. is part of the Tenova Mining & Minerals Group, a leading, international engineering firm ("Bateman"). Bateman has been providing process design, development and construction services to the resource sector for over 90 years with extensive and specific process and engineering experience in the extraction of uranium, phosphate, rare earths, nickel and zinc as well as in sulphuric acid production. U3O8 Corp. selected Bateman to conduct a PEA on the Berlin deposit because of its extensive expertise in these critical elements relevant to Berlin. In coordination with Dr. Miller and U3O8 Corp., Bateman has been instrumental in developing the flow sheet, which has been overseen by Mr. Pieter Niemann, a Bateman employee and a QP. Mr. Niemann, a Professional Metallurgical Engineer and MBA graduate, has relied on geological information relating to the Berlin deposit from U3O8 Corp. and on metallurgical test work carried out by SGS Lakefield OreTest. Mr. Niemann has verified the content related to the flow sheet presented in this press release.

Dr. Richard Spencer, P. Geo., President & CEO of U3O8 Corp. and a QP, has supervised the preparation of, and verified the technical information contained in this press release relating to the Berlin Project.

About U3O8 Corp.

U3O8 Corp. is an advanced exploration company focused on exploration and resource expansion of uranium and associated commodities in South America – a promising new frontier for uranium exploration and development. In just one year, U3O8 Corp's uranium resources have grown 7-fold with deposits now in Colombia, Argentina and Guyana comprising of:

- Berlin Project, Colombia – its flagship property contains a uranium deposit with a high-value suite of by-products including phosphate, vanadium, rare earths (yttrium and neodymium) and other metals;
- Laguna Salada Project, Argentina – a near surface, free-digging uranium, vanadium deposit that is potentially amenable to low-cost mining and processing methods; and
- Kurupung Project, Guyana – an initial uranium deposit in a large emerging uranium district.

Positive metallurgical results have been achieved on all three projects. U3O8 Corp's near-term focus is scout drilling in Colombia to drive resource growth and completion of a preliminary economic assessment by the end of 2012 to broadly estimate capital and operating costs on the initial multi-commodity resource defined at Berlin. Additional information on U3O8 Corp. and its mineral resources are available at 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 future results of metallurgical test work, whether results of metallurgical test work on a smaller scale to date can be duplicated on a larger scale, the impact of general economic conditions, industry conditions, the timing of laboratory results and preparation of technical reports and PEAs, the actual results of independent scoping studies and subsequent metallurgical testing, volatility of commodity prices, risks associated with the uncertainty of exploration results and estimates and that the resource potential will be achieved on the Berlin Project and other exploration projects, currency fluctuations, legislative change, dependence upon regulatory approvals, and 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.

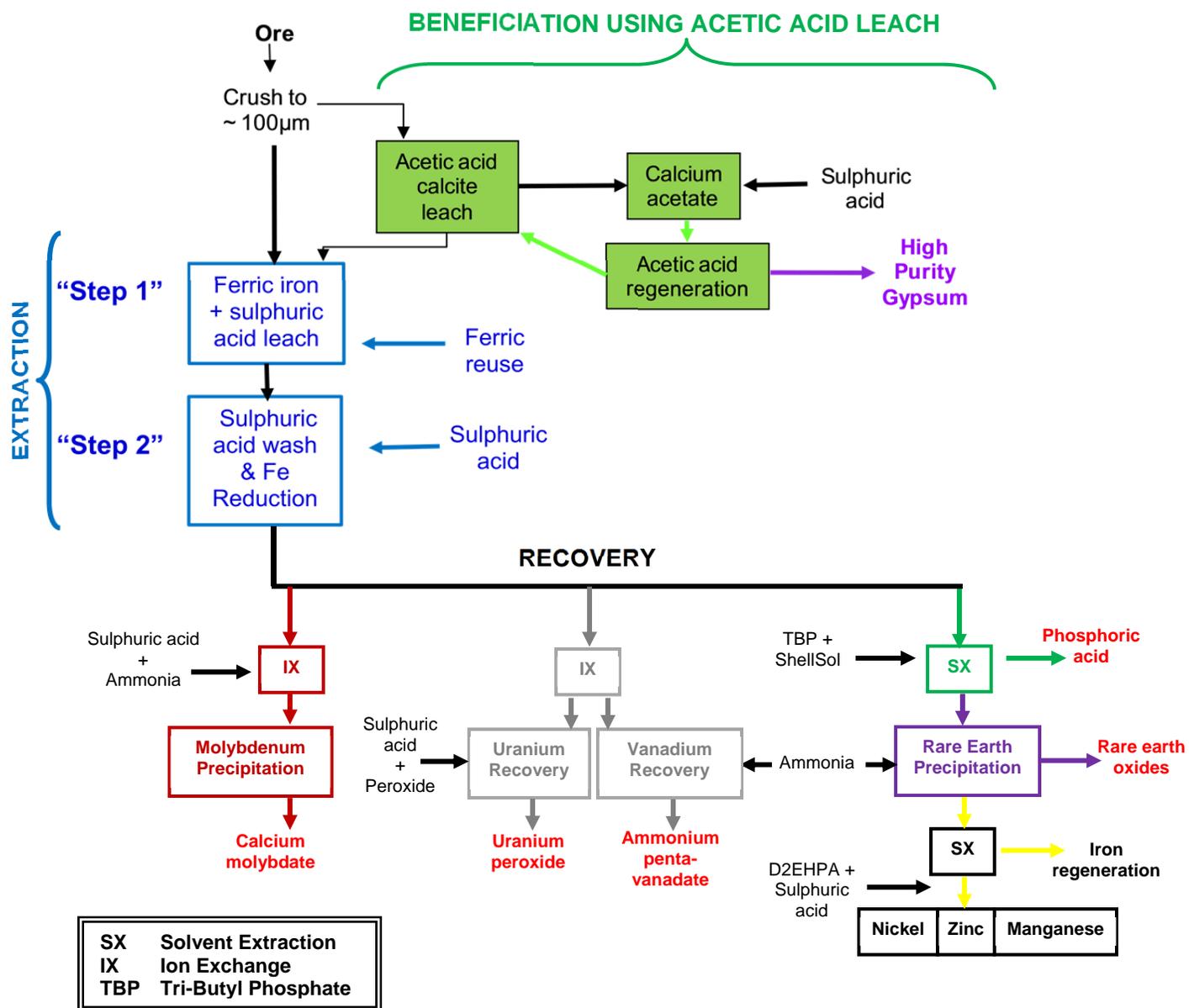
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Figure 1 – Conceptual Flow Sheet of the Metallurgical Process for the Berlin Project



A flow sheet developed from extensive metallurgical test work on intercepts from 35% of all bore holes drilled in the initial Berlin resource shows details of the three principal components of ore processing: (1) beneficiation using acetic acid to remove calcite and concentrate the valuable commodities into as small a mass as possible (green boxes); (2) extraction of the metals and phosphate into a pregnant solution using an acidic ferric leach (blue outlined boxes); and (3) recovery of the individual metals and phosphate by ion exchange, solvent extraction and direct precipitation.