First Vanadium Announces Preliminary Process Flow Sheet for Carlin Vanadium Project in Nevada

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Vancouver, August 7, 2019 - First Vanadium Corp. (TSXV: FVAN) (OTCQX: FVANF) (FSE: 1PY) ("First Vanadium" or the "Company") is pleased to announce that ongoing metallurgical test work on the two ore types - oxidized and un-oxidized - on samples from the Company's Carlin Vanadium Project, six miles south of Carlin, Nevada, has led to the development of a preliminary process flowsheet. The flowsheet is designed to extract and recover vanadium as high-quality vanadium pentoxide.

"The Company is very pleased at achieving this major metallurgical milestone for the project. I would like to recognize the significant contributions made by our independent metallurgical consultants, SGS Canada and Sherritt Technologies. With the preliminary flow sheet defined, the Company will now initiate Requests for Proposals (RFP's) from qualified engineering firms for a Preliminary Economic Assessment," says Paul Cowley, President & CEO.

The process flow sheet follows four generalized steps:

1. Crushing and grinding;
2. Pre-concentration to reduce the volume of feed to the pressure oxidation circuit;
3. Acid leach and pressure oxidation to extract the vanadium into solution; and,
4. Solvent extraction to generate a commercially pure vanadium pentoxide (V_2O_5) flake product.

The extraction process uses conventional unit operations (crushing, grinding, cycloning, flotation, leaching, solid-liquid separation, solvent extraction and ion exchange, precipitation and calcination) and common chemicals (oxygen, sulfuric acid, ammonium carbonate and ammonium sulfate).

Flow Sheet Description

The deposit consists broadly of oxide and non-oxide ores. The run of mine (ROM) oxide ore will be crushed and screened and fed to a ball mill circuit. The milled ore will be de-slimed in an attrition scrubber, which will liberate the fine vanadium-rich particles from the coarser reject material. The scrubbed ore will be classified through multi-stage cyclones and/or thickener/clarifiers, with the fine vanadium-rich particles being advanced to the leaching circuits and the coarse carbonate-rich rejects to tails. The fine material will be treated in a pre-acidulation (acid leach) circuit to decompose any remaining carbonate prior to pressure oxidation. The acidulated material will then be fed to a pressure oxidation circuit, where an autoclave operating at elevated temperature and pressure in an enriched oxygen atmosphere will extract the vanadium into solution. The oxidized slurry will be separated into a washed solid residue for impoundment and a pressure oxidation solution. Minor element impurities in the pressure oxidation solution will be removed in an ion exchange column. The treated solution will be oxidized and sent to a typical solvent extraction circuit, where vanadium is selectively separated and concentrated. The vanadium-loaded organic phase from solvent extraction will be stripped in a counter-current configuration to produce vanadium-rich strip solution. Vanadium is precipitated from the strip solution, forming insoluble high-quality ammonium metavanadate (AMV). The AMV is then calcined to produce a commercially pure vanadium pentoxide (V_2O_5) flake product.

Similarly, the ROM un-oxidized ore is crushed, screened and fed to a ball mill circuit, followed by secondary high intensity fine grinding. The milled ore is then fed to a flotation circuit to concentrate the vanadium and reject carbonate. The flotation concentrate is treated in the common pre-acidulation circuit and then fed to the autoclave for pressure oxidation to extract the vanadium into solution. The same steps of solid-liquid separation, minor element purification, oxidation and solvent extraction and precipitation and calcination are applied to again produce a commercially pure vanadium pentoxide (V_2O_5) flake product.

Key Company Metallurgical Advisors guiding and contributing to the test work are Dr. David Dreisinger, Professor and Chairholder of the Hydrometallurgy Chair at the University of British Columbia, a world-renowned expert on Hydrometallurgy and holder of 21 US Patents, Dr. Gary Kordosky, a world-renowned expert in Solvent Extraction and holder of 19 US Patents and Ms. Jodi Esplin, B.S. Ch.E., former Barrick Senior Mineral Processing Engineer. Mining advisor, Michael Mracek, P.Eng. has complemented the work performed by the metallurgical advisors, with the Company engineering team managed by Fred Sveinson, P.Eng. and director of the Company.

Additional metallurgical test work to refine and optimize the flowsheet is ongoing at SGS Canada, a leading supplier of proven, advanced metallurgical services at its Lakefield, Ontario facilities.

About First Vanadium Corp.

First Vanadium has an option to earn a 100% interest in the Carlin Vanadium Project, located in Elko County, 6 miles south from the town of Carlin, Nevada on Highway I-80. The Carlin Vanadium Project hosts the Carlin Vanadium deposit, which is flat to shallow dipping and at shallow depths with a strike length of approximately 1,800 metres (6,000 feet), width averaging 600 metres (2,000 feet) and average thickness of 35 metres (115 feet). The Company announced its maiden resource February 27, 2019.

ON BEHALF OF First Vanadium Corp.

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Technical disclosure in this news release has been reviewed and approved by Dr. David Dreisinger, Ph.D., P.Eng., a Qualified Person as defined by National Instrument 43-101, and Metallurgical Advisor to the Company.

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Forward-looking information

Certain statements in this news release constitute "forward-looking" statements. These statements relate to future events or the Company's future performance and include the Company's ability to meet its obligations under the Access and Mineral Lease Agreement and the conditions required to exercise in full its option to acquire the Carlin Vanadium project, and results of on-going metallurgical test work,. All such statements involve substantial known and unknown risks, uncertainties and other factors which may cause the actual results to vary from those expressed or implied by such forward-looking statements. Forward-looking statements involve significant risks and uncertainties, they should not be read as guarantees of future performance or results, and they will not necessarily be accurate indications of whether or not such results will be achieved. Actual results could differ materially from those anticipated due to a number of factors and risks. Although the forward-looking statements contained in this news release are based upon what management of the Company believes are reasonable assumptions on the date of this news release, the Company cannot assure investors that actual results will be consistent with these forward-looking statements. The forward-looking statements contained in this press release are made as of the date hereof and the Company disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise, except as required under applicable securities regulations.

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