



Titan Uranium Announces Positive Preliminary Feasibility Study for Sheep Mountain Project, Wyoming

April 12, 2010

Saskatoon – Titan Uranium Inc (TSX-V:TUE, FSE:T4X) is pleased to announce that it has completed a Preliminary Feasibility Study (PFS) for its 100% owned Sheep Mountain uranium project in Fremont County, Wyoming. The study was prepared by a group of consultants led by BRS Inc., an independent engineering consulting firm based in Denver, Colorado. A number of other independent consulting firms including Western States Mining Consultants, Lyntek Inc. and McNulty and Associates provided their study results for use in developing the PFS. The project generates a pre-tax Internal Rate of Return of 25%, with a Net Present Value of \$101 million. All currency amounts are quoted in US dollars.

Brian Reilly, President and CEO of Titan Uranium stated: “The results of the PFS confirm our view that Sheep Mountain is a high quality project which exhibits robust economics. This is a significant milestone in the development of the project which will utilize conventional mining methodologies and state-of-the-art equipment. We will continue to work with all stakeholders to advance the project toward production.”

Highlights include:

- PFS estimates are based on estimated capital and operating costs for a uranium mine using conventional open pit and underground mining methods and heap leach recovery, with a maximum annual capacity of 1.5 million lb;
- The financial model is based on the long term uranium price of \$60.00/lb. as projected by The Ux Consulting Company March 2010;
- Probable Mineral Reserve of 6,393,000 tons at an average grade of 0.111% eU₃O₈, containing 14,186,000 lbs e U₃O₈;
- Initial mine life: 11 years
- Estimated capital cost: \$118 million including allowances for contingency and risk;
- Estimated operating cost: \$28.67 per pound recovered;
- Estimated pre-tax Net Present Value (NPV) at a 7% discount rate: \$101 million;
- Estimated pre-tax Internal Rate of Return (IRR): 25%
- Estimated pre-tax payback period: 5 years

Pre-tax NPV and IRR Sensitivities

Discount rate	Selling price (USD/pound)		
	\$50	\$60	\$70
5.0%	\$50M	\$129M	\$209M
7.0%	\$34M	\$101M	\$169M
10.0%	\$17M	\$70M	\$122M
IRR	14.0%	25.0%	35.0%

Sheep Mountain Project:

The uranium deposits which form the Sheep Mountain project are hosted by sandstones and conglomerates of the Eocene Battle Springs formation. The style of mineralization can be generally classed as “roll front.”

Mining on the Sheep Mountain property started in 1956 and continued in several open pit and underground operations until 1982. The Sheep I shaft was sunk in 1974, followed by the Sheep II shaft in 1976. Production from the Sheep I shaft to 1982 is reported to be 312,701 tons at an average grade of 0.107% U₃O₈. In 1987 an additional 12,959 tons at 0.154% U₃O₈ were produced, followed by 23,000 tons at 0.216% U₃O₈ in 1988. There has been no production from the Sheep II shaft. The Congo Pit was being readied for development in the early 1980’s but plans were never followed through because of a major collapse of the uranium market.

Current plans include the development of both the Sheep I and Sheep II underground mines, with access from twin declines. Haulage to the surface will be via a 36-inch conveyor belt system. At its peak production, the underground mine will produce approximately 1.0M pounds U₃O₈ per year. Also the Congo Pit will be developed, producing an average of 500,000 pounds U₃O₈ per year. Recovery of the uranium will include heap leach pads, using H₂SO₄, and a conventional recovery plant, through to yellowcake production on site.

Probable Mineral Reserve:

The Mineral Reserve estimate is compliant with CIM Definition Standards on Mineral Resources and Reserves. Probable Mineral Reserves are fully included in the total Indicated Mineral Resources previously reported (Titan release dated March 4, 2010) for the Congo Pit and Sheep Underground. This estimate includes deletion of the portions of the mineral resource model which fall within the historic mine limits and is fully diluted based on minimum mining thicknesses appropriate for the selected mining methods. The Probable Mineral Reserve is that portion of the Indicated Mineral Resource that is within the current open pit design or within the current underground mine design, as follows.

Sheep Mountain Project Probable Mineral Reserve

	Minimum GT	Pounds eU ₃ O ₈	Tons	Average % eU ₃ O ₈
Congo Pit	0.10	4,938,000	2,895,000	0.085

Sheep I and II	0.45	9,248,000	3,498,000	0.132
Total		14,186,000	6,393,000	0.111

As the operating costs per ton vary substantially between the open pit and underground, it is appropriate to have separate grade cutoff criteria for the two operations. A calculation of breakeven cutoff grades for both the open pit and underground mines based on current cost forecasts and a sales price of \$60 per pound follows. The costs per ton reflect operating costs only and do not include capital write off. The calculation of breakeven cutoff grade allows for a constant tail or loss in the mineral processing of 0.01 % U₃O₈.

Minimum Mine Cutoff

	Operating Cost \$/Ton	Breakeven Grade U ₃ O ₈ @ \$60/lb Price
Mineral Processing	\$ 13.51	
Open Pit Mine	\$ 19.28	0.037
Underground Mine	\$ 52.24	0.065

From this evaluation and other factors such as minimum mining thickness, the mine design cutoffs were set as follows.

- Open Pit
 - Minimum 2 foot thickness
 - Minimum grade 0.05% U₃O₈
 - Minimum GT 0.10 ft%
- Underground
 - Minimum 6 foot thickness
 - Minimum grade 0.075% U₃O₈
 - Minimum GT 0.45 ft%

Congo Open Pit:

The current mine design for the Congo Pit includes typical highwall heights in the range of 100 to 400 feet, and reaches a maximum depth of 600 feet in localized areas in the southeast pit corner. The open pit design employs similar design parameters and mining equipment configurations to those used successfully in past operations. Highwall design is based upon the performance of past projects in the Sheep Mountain and Gas Hills districts, and includes an average highwall slope of 0.7:1, which reflects the average of a 10 foot bench width and a 50 foot wall at a 0.5:1 slope.

The Congo Pit is essentially a single open pit that will be developed sequentially to accommodate the desired mine production and allow for internal backfilling. This sequential schedule and internal backfilling reduces the amount of double-handling of mine waste material required to backfill and reclaim the mined pit during the life of the mine.

The planned open pit has a total volume of 32,200,000 cubic yards of overburden, from which an estimated 2,895,000 tons containing 4,938,000 pounds of uranium oxide will be produced. The stripping ratio of the pit expressed as cubic yards overburden to cubic yards mined material is approximately 20:1, or expressed as cubic yards overburden to pounds of uranium contained is approximately 6.5:1.

Sheep I and II Underground:

Sheep Mountain has operated as a conventional underground mine on three separate occasions under Permit to Mine No. 381C. The planned mining method is a conventional method using a modified room and pillar method, utilizing state of the art mining equipment such as jumbo drills and seven cubic yard scooptrams for haulage. A new double entry decline will be constructed starting at the reclaimed Paydirt Pit and ending below the deposit. Haulage from the mine will be accomplished via a 36 inch conveyor within one of the double declines. The existing shafts will be used for ventilation purposes only with exhaust fans mounted at both locations.

Mineral Processing:

Western Nuclear Corp. (WNC) processed feed from Sheep Mountain over a 30 year period from the early 1950's through the mid 1980's at their Split Rock Mill which was located north of Jeffrey City along the haulage road to the Gas Hills. WNC also processed Gas Hills ores at their mill and operated a commercial heap leach in the Gas Hills, as did Union Carbide Corp. (UCC). Historical and published data indicates an acid consumption of 50 pounds per ton H_2SO_4 and a loss for heap leaching of 0.008 % U_3O_8 . The current test results are consistent with or better than historic experience with respect to recovery, and acid consumption.

Acid is readily available locally from an acid plant located in Riverton, Wyoming (some 60 miles from Sheep Mountain).

For the purposes of this study, a constant residue, including soluble uranium losses, of 0.010% U_3O_8 and a sulfuric acid consumption of 50 pounds per ton of mineralized material was used. This assumption is conservative with respect to the recent test work but representative of historic heap leaching experience with similar mineralized material. With a lifetime average feed assay of a 0.098% U_3O_8 , this assumed total loss equates to a uranium recovery of 89.8 percent. The soluble uranium loss in the rinsed heap residue and the impurity bleed to the evaporation pond will likely be on the order of 2 percent, suggesting a heap extraction of about 91.8 percent.

Assuming no re-use of heap pads, there will be 100 heap leaching cells, each with a capacity of 66,000 tons of material stacked to a height of 25 feet over an area 40 feet by 100 feet. The mineral processing rate will be 500,000 tons per year or greater. Although the resource is primarily un-cemented sand, there will be a jaw crusher with an open-circuit product of 6 inches. This product will be conveyed to a cone crusher producing a nominal minus 1-inch heap feed without screening. An inclined belt conveyor with automatic sampler and scale will deliver crushed material to a stockpile with a reclaim bin and belt feeder. Metered mineralized material from the belt feeder will be conveyed to a small portable stacker for distribution into heap cells.

The heap leach pads will be lined with a synthetic double liner system with leak detection. A network of drain pipes and gravel bedding convey the solutions which pass through the heap to lined ponds by gravity flow. Solutions are distributed on the heap through a piping network utilizing sprays for uniform application of solutions. The heap pads are initially leached with concentrated lixiviant. Leach solutions returned from the heap to the collection ponds are regenerated with lixiviant as necessary and recycled through the heap until the solution grades are enriched to suitable levels for processing. Enriched solutions, referred to as pregnant leach solution (PLS), are then delivered to the processing plant for uranium recovery.

Further processing will use a standard flow sheet using solvent extraction, through the production of ammonium diuranate, precipitation, thickening, filtration and finally to drying and yellowcake packing. All this will take place at the project site.

Personnel:

At full production the Sheep Mountain Project will require approximately 200 employees. Roughly 80 employees will be required for operation of the open pit, heap leach and mineral processing plant with the remainder required for the underground mine.

Capital Cost:

Initial capital costs are summarized in the following table. Additional capital will be necessary for the construction of additional heap pads and replacement of underground mine equipment during the life of the project. The surface mine equipment has sufficient life to complete the planned mining and reclamation without replacement.

Capital Cost Summary:

Capital Expenditures:	Contingency	Yr - 3	Yr - 2	Yr -1	Start Production	Yr +1	Total
		\$1000's					
NRC Licensing		\$1,260	\$925	\$1,050	\$710		\$3,945
Pre-Development + dewatering		\$1,640	\$1,915	\$800	\$400		\$4,755
Open Pit Mine Equipment	15%				\$12,687		\$12,687
Underground Mine Equipment + Decline	10-30%			\$11,534	\$23,068	\$11,534	\$46,136
Office, Shop, and Dry	15%				\$2,274		\$2,274
Mineral Processing Plant	25%			\$10,924	\$10,924		\$21,849
Heap Loading Crusher/Conveyor	25%				\$5,044		\$5,044
Heap Pads**	25%				\$4,872		\$4,872
Working capital				\$715	\$715		\$1,430
Warehouse Inventory					\$500		\$500
TOTAL		\$2,900	\$2,840	\$25,023	\$61,194	\$11,534	\$103,492

After Year 1, additional capital investment, totaling \$14,177,000, will be required to add more heap leach pads and to replace underground min equipment, giving a total capital required of \$117,670,000.

The total capital cost equals \$9.00 per pound U_3O_8 recovered.

Operating Costs:

Open pit mining operating costs account for:

- All earth moving costs related to excavation and placement including:
 - Primary stripping
 - Mining
 - Interburden
 - Preparation of heap base
- Surface support equipment
- Overall mine supervision including health and safety
- Surface mine and heap leach reclamation costs

Underground mine operating costs account for:

- All costs related to underground mine excavation
- Conveyance of mined material to the surface for loading on the heap
- Mine supervision, support and miner training
- Underground development between mining levels and areas
- Ventilation
- Dewatering
- Mine safety and ground control

Mineral processing operating costs account for:

- All costs related to the operation of the heap leach
 - Heap loading
 - Heap leaching and liquid handling
 - Power and water use and handling
- All costs related to processing of uranium bearing liquids from the heap leach
 - Solvent extraction
 - Ammonia stripping and precipitation
 - Yellow cake drying and packaging
 - Power use
- Mineral processing supervision and support
 - Radiation Safety and compliance
 - On site laboratory facilities
 - General supervision

Reclamation operating costs include:

Reclamation and closure costs have been incorporated primarily into the open pit mine operating costs as the open pit and heap leach reclamation represent the largest cost components for reclamation. A specific allowance for decommissioning of buildings, facilities, and equipment was not included as these costs will be substantially offset by the salvage value for the same and/or the facilities and equipment can continue in use for the mining and processing of additional mineral resource either within reasonable proximity to the Sheep Mountain Project.

The project operating costs are summarized in the following table:

	\$ per ton mined/processed	\$ per pound U ₃ O ₈ recovered
Open Pit	\$19.28	\$12.42
Underground	\$52.24	\$21.71
Processing	\$13.51	\$6.69
Additional costs (taxes/royalties)	\$5.00	\$2.48

From this, the average operating cost per pound U₃O₈ recovered is \$28.67.

Sensitivity:

Sensitivity of the projected IRR and NPV with respect to key parameters is summarized in the table below. It is considered unlikely that the heap recovery will vary by more than a 0.002 U₃O₈ loss based on current metallurgical test work and historical production experience. If a variation in recovery occurs it is expected to be favorable. The sensitivity analysis shows that the project is not highly sensitive to minor changes in OPEX and/or CAPEX. As contingencies were added to both of these items and as costs were based primarily upon recent contractor and vendor quotes it is considered unlikely that a variance in CAPEX and/or OPEX in excess of 10% will occur. With respect to Mine Recovery, Mine Dilution, and Disequilibrium Factor (DEF), production history indicates that a positive variance may be expected. Management and/or improvement in Mine Recovery and Mine Dilution are dependent upon grade control and mining selectivity. The mine planning, equipment selection, and personnel allocations for both the open pit and underground provide for selective mining and tight grade control. The grade control program will also be critical in the recognition of chemically enriched mineralized zones. Finally, selection of a \$60/lb basis for this PFS is well supported by current published pricing and published price forecasts predict higher prices in the time frame that the Sheep Mountain project is scheduled to be brought into production.

Parameter	Change from Base Case	Change in IRR	Change in NPV
U Price	5 \$/lb	5 %	\$40 million
Mine Recovery	10 %	5 %	\$35 million
Mine Dilution	10% Reduction	5 %	\$35 million
Heap recovery	0.002 U ₃ O ₈ loss	1%	\$ 9 million
DEF	10 %	6%	\$45 million
CAPEX	10 %	3%	\$11 million
OPEX	10 %	2%	\$15 million

The uranium quantities and grades are reported as equivalent U_3O_8 (e U_3O_8), as measured by downhole gamma logging. This industry standard protocol for reporting uranium in sandstone hosted deposits in the USA has been validated for the Sheep Mountain project by test drilling at the deposit, as well as by correlation with previous mining activities. In the fall of 2009, five rotary percussion holes were drilled on the property to study disequilibrium. Downhole logging of the drill holes was completed using standard gamma technology as well as a uranium spectral analysis tool (USAT), both supplied by Century Wireline of Tulsa OK. The USAT tool gives a direct measurement of uranium content and therefore allows determination of the equilibrium state of the uranium mineralization intersected in the hole. A total of 34 intervals were measured, showing an overall moderate positive disequilibrium (thus the true chemical grade of the mineralization is slightly higher than the equivalent grade determined by the gamma tool). The results of the resource estimates were not adjusted to account for this positive disequilibrium, and can therefore be considered conservative.

Chris M. Healey, a Professional Geologist licensed in the State of Wyoming and Chief Operating Officer for Titan, is the Qualified Person responsible for the technical content of this release. Doug Beahm P.E, P.G., President BRS Inc., is the independent Qualified Person responsible for the preparation of the Preliminary Feasibility Study.

About Titan Uranium Inc.

Titan Uranium's vision is to be a leading mid-tier North-American uranium exploration, development and mining company. Our mission is to create shareholder value by advancing quality projects to production.

Our growth strategy is driven by three elements:

- **Development:** A pre-feasibility study has been completed at the Sheep Mountain Uranium Project, Wyoming. The deposit contains a NI 43-101 compliant probable reserve of 14.1M lbs. of U_3O_8 (6,393,000 tons at 0.111% e U_3O_8).
- **Exploration:** The goal is to discover world class uranium deposits by exploring over 1.5M acres of land in the proven Athabasca and prospective Thelon Basins. Exploration programs are also active in Utah and Wyoming.
- **Consolidation:** The Company is actively pursuing M & A opportunities and focused on uranium-friendly jurisdictions such as Saskatchewan and Wyoming.

Titan has gained market recognition for its ability to attract strategic partners to participate in the

exploration of its properties. Japan Oil, Gas and Metals National Corporation and Mega Uranium Ltd. are partners in current exploration programs managed by Titan.

Titan is well-financed and ideally positioned to emerge as a pre-eminent player in the uranium industry.

ON BEHALF OF TITAN URANIUM INC.

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