LithiumBank Resources Corp. Announces 30% Increase in Overall Lithium Resources at Boardwalk Brine Project

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Including 5,195,000 Tonnes LCE Measured and Indicated Resources at 81.6 mg/L Lithium

Calgary, Feb. 20, 2025 - LithiumBank Resources Corp. (TSXV: LBNK) (OTCQX: LBNKF) ("LithiumBank" or the "Company") is pleased to announce an updated National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101") lithium-brine mineral resource estimate of 1,671,000 tonnes of measured Lithium Carbonate Equivalent ("LCE") at a grade of 81.2 mg/L lithium and 3,524,000 tonnes of indicated LCE at a grade of 81.8 mg/L lithium within the Leduc Formation ("Fm"), and 1,128,000 tonnes of inferred LCE at 81.8 and 1,649,000 tonnes inferred LCE at 78.1 mg/L lithium within the Leduc and Beaverhill Lake Group ("Gp")/Swan Hills Fm, respectively, underlying its 100% owned Boardwalk lithium brine project ("Boardwalk") located in west-central Alberta. The resource update reports an increase in lithium grade of approximately 18% from the previous resource estimate and an increase in overall lithium resources by approximately 30% (previous Boardwalk resource estimate with effective date Feb. 22, 2024) and increasing the Company's overall lithium resources as shown in Table 1 and Figure 4.

The upgraded resource estimate was prepared in collaboration with SLB (NYSE: SLB), a global technology company. The data and workflow process were reviewed and validated by Alex Haluszka of Montrose Environmental Solutions Canada Inc., a Qualified Person as defined by NI 43-101. The total combined measured and indicated mineral resource for the Boardwalk project is 5,195,000 tonnes LCE with a combined average grade of 81.6 mg/L lithium. The Company anticipates filing a NI 43-101-compliant technical report in respect of Boardwalk on SEDAR+ within 45 days of this announcement.

"We are pleased with the outcome of this upgraded resource estimate and at establishing Alberta's highest grade lithium brine resource to date, in a reservoir with no conflict over pore space. The upgraded resource estimate is a 30% overall increase from the previous resource estimate and contains 5,195,000 tonnes of LCE as measured or indicated resources. The area containing measured or indicated lithium resources more than covers the Company's 'Production Zone' outlined in the January 2024 PEA and demonstrates consistent lithium grades and deliverability," commented Rob Shewchuk, CEO of LithiumBank. "Leveraging the extensive experience of the SLB team in hydrogeological and reservoir modelling, the Boardwalk dataset was put through a rigorous workflow and uncertainty analysis to deliver a very robust resource estimate that will provide a high level of confidence going into future economic and/or feasibility studies."

Highlights:

- Boardwalk hosts the highest-grade lithium brine measured or indicated current resource estimate in Alberta at 81.6 mg/L lithium.
- The resource estimate at Boardwalk increased by over 30% due to an increase in the lithium grade via recent "10-06" drilling/testing program, additional measurements and a refined parameterization of Leduc Fm aquifer geometry and effective porosity as well as confirming the presence of lithium in the Beaverhill Lake Gp/Swan Hills Fm aquifer.
- SLB's workflow uses three-dimensional ("3D") static modelling mining workflow, porosity/permeability connectivity modelling, connected pore volume statistics, and uncertainty modelling.
- 5,195,000 tonnes of measured or indicated LCE within the Leduc Fm aquifer at an average of 81.6 mg/L lithium.
- 2,777,000 tonnes of inferred LCE within the Leduc Fm and Beaverhill Lake Gp/Swan Hills Fm aquifers, which directly underlies the Leduc Formation, at a weighted average of 79.0 mg/L lithium.
- The subsurface reservoir model will assist in planning well networks and locations in future economic and engineering studies.

Table 1: LithiumBank lithium resource holdings from Boardwalk and Park Place

Project	Resource Category	Lithium Grade (mg/L)	Tonnes LCE	LithiumBank Combined Resources (tonnes LCE)	Lithium Grade (mg/L)	Co
Boardwalk	Measured	81.2	1,671,000	5,195,000	81.6	Me
	Indicated	81.8	3,524,000			
Park Place	Inferred	79.0	2,777,000	24,474,000	80.1	Inf
	Inferred	80.2	21,697,000			

*The NI 43-101 Park Place resource estimate entitled "LithiumBank Resources Corp. Park Place NI 43-101 Technical Report" effectively dated June 24, 2024, is available on SEDAR+

**LithiumBank is following the same systematic development strategy at Park Place as it has with Boardwalk.

Boardwalk consists of 395,369 acres of contiguous Brine Hosted Mineral Licenses ("BHML") owned 100% by LithiumBank. The Company has consolidated 100% of BHML's overlying the Leduc Fm and Beaverhill Lake Gp/Swan Hills Fm at Boardwalk with no freehold mineral rights or any carbon sequestration/pore space permits or applications existing over Boardwalk. Boardwalk is situated approximately 85 km east of Grande Prairie and approximately 270 km northwest of Edmonton, Boardwalk is also approximately 50 km to the north of the Company's Park Place lithium brine project ("Park Place"). Boardwalk and the surrounding area have seen over 70 years of hydrocarbon extraction resulting in a well-established and well-trained labour force, networks of all-weather gravel roads, drill sites that can be easily accessed from Provincial highways, and electrical transmission lines that run through the project (see Figure 1).

Reservoir Evaluation

The reservoir evaluation was completed in collaboration with SLB and overseen by Alex Haluszka, M.Sc., P. Geo. of Montrose Environmental Solutions Canada Inc., a Qualified Person under NI 43-101 (the "QP").

The NI 43-101 compliant Boardwalk mineral resource estimate includes measured and indicated resources from the Leduc Fm and inferred mineral resources from both the Leduc Fm and Beaverhill Lake Gp/Swan Hills Fm (Table 2). Mineral resources are not mineral reserves and do not have demonstrated economic viability.

The mineral resource estimate was prepared within the boundaries of the Boardwalk BHML's (Figure 1). The Beaverhill Lake Gp/Swan Hills Fm directly underlies the Leduc Fm and is mapped to be up to 167 m in thickness within the claims area. The Leduc Fm immediately overlies the Swan Hills Fm, where present, with a maximum thickness of 370 m within the claims area. The known thickness of the Leduc and Beaverhill Lake Gp/Swan Hills was extended based on recent drilling results as reported on September 23, 2024 along with a 167m zone below the hydrocarbon zone with a lithium grade on the order of 80 mg/L (Figure 2).

Figure 1: Map of the Boardwalk showing NI 43-101 measured, indicated, and inferred lithium resources with surface infrastructure and A-A' cross-section line from Figure 3.

To view an enhanced version of this graphic, please visit:
https://images.newsfilecorp.com/files/10140/241625_lithiumbank_figure1.jpg

Table 2: Boardwalk Lithium Measured, Indicated, and Inferred Mineral Resource Estimations

Resource Category	Reservoir	brine Volume (km3)	Grade (mg/L lithium)	Sub total - tonnes LCE	Category total tonnes LCE	C
Measured	Leduc (oil saturated zone)	0.25	71.8	91,000	1,671,000	8
Measured	Leduc (water saturated zone)	4.07	81.8	1,580,000		
Indicated	Leduc (water saturated zone)	8.52	81.8	3,524,000	3,524,000	8
Inferred	Leduc (water saturated zone)	2.73	81.8	1,128,000	2,777,000	7
Inferred	Beaverhill Lake/Swan Hills	4.18	78.1	1,649,000		

Note 1: Mineral resources are not mineral reserves and do not have demonstrated economic viability. There

is no guarantee that all or any part of the mineral resource will ever be upgraded to a higher category. The estimate of mineral resources may be materially affected by geology, environment, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.
Note 2: The weights are reported in metric tonnes (1,000 kg or 2,204.6 lbs).
Note 3: Tonnage numbers are rounded to the nearest 1,000 unit.
Note 4: In a 'confined' aquifer (as reported herein), effective porosity is an appropriate parameter to use for the resource estimate.
Note 5: The resource estimation was completed and reported using a cut-off of 50 mg/L Li.
Note 6: To describe the resource in terms of industry standard, a conversion factor of 5.323 is used to convert elemental Li to Li2CO3, or Lithium Carbonate Equivalent (LCE).

The resource estimate is based on two key reservoir properties: 1) lithium grade in the brine; and 2) the producible effective porosity volume. These parameters are believed to be independent in the reservoir and therefore confidence and uncertainty in these parameters were evaluated using different methods.

Lithium Grade Evaluation

For the resource estimate, only recent samples collected by LithiumBank have been included in the dataset. Inclusive of the data from the 2024 and 2021 drilling and testing programs, lithium samples have been collected from three units: the oil saturated portion of the Leduc Reservoir, the fully water saturated portion of the Leduc Reservoir, and the Swan Hills Reservoir. A summary of some of the basic statistics of the sample dataset are included in Table 3 below.

Table 3: Lithium Grade Evaluation of the Different Reservoirs at Boardwalk

Unit	Total Number of Samples (Number of Unique Sampling Intervals)	Average Li C
Leduc Reservoir, Residual Oil Saturated	41 (4)	71.8
Leduc Reservoir, Fully Water Saturated	6 (1)	81.8
Beaverhill Lake/Swan Hills Reservoir	2 (1)	78.1

Note: For all intervals, coefficient of variation was calculated from the bulk sample dataset. For the Leduc Reservoir, Residual Oil Saturated Interval, average and median concentrations were calculated by first averaging samples from the same sample interval collected at different times.

Separate from the samples collected by LithiumBank, there is a large historical dataset from the Leduc Reservoir in the Sturgeon Lake Reef complex. The dataset has a very narrow range of concentration, likely within the range of measurement error of the lab analysis methods. There is a notable difference in concentration (elevated) from the interval sampled outside of the oil saturated areas. This is expected as there has been injection of potentially lithium depleted fluids into the oil saturated portion of the reservoir. It is the opinion of the QP for the resource estimate that the uncertainty in lithium grade is low, and it is appropriate to apply an average concentration for these different reservoir domains for the resource estimate.

Connected Porosity Evaluation

The producible effective porosity volume was evaluated using a multi-step approach. The main steps of this workflow were:

- A 3D structural model encompassing the Leduc Fm and Beaverhill Lake Gp/Swan Hills Fm was developed based on borehole data. Prior geological knowledge, including a regional facies model developed for the Leduc Reservoir in the Surgeon Lake Reef Complex from Stoakes (1990), was also used to guide the structure of the model.
- The 3D model was discretized into 250 x 250 m cells with variable thickness (average 4 m) based on the model structure and data density.
- Measurements of total and effective porosity were reviewed and evaluated, including both core measurements of porosity and geophysical logs.
- Permeability measurements from core were also reviewed and a core porosity - permeability relationship was evaluated.
- Valid porosity data were used to develop a 3D variogram of the effective porosity.

- From the variogram the model grid was populated with effective porosity values using a gaussian random function simulation algorithm in Petrel.
- One hundred unique realizations of the porosity distribution were generated using the same porosity variogram.
- All realizations of porosity were evaluated using the Petrel geoscreening module. This module conducts simplified dynamic simulations using pathlines, which are simulated flow paths between source and injector locations in the model. A given cell in the model is counted as connected porosity when a pathline intersects the grid cell during the simulation.
- The variability of connected porosity volumes from the Petrel geoscreening module was evaluated to assess the sensitivity of the porosity realizations on connectivity. This was also completed using alternative well network configurations (deterministic and grid pattern).

Resource Classification

- There is low uncertainty in lithium grade variance across the reservoir and high confidence that the lithium grade is homogeneous within two broad domains of the Leduc Reservoir (the historical oil production pools and the saline aquifer portions of the reservoir) and within a single domain of the Beaverhill Lake/Swan Hills Reservoir. Therefore, grade is not considered a key parameter for establishing the resource classification (i.e. inferred, indicated or measured).
- The connectivity analysis showed that the connected pore volume was not sensitive across the 100 realizations of porosity, nor was it sensitive to the well network configuration.
- To evaluate confidence in the resource, the Relative Standard Deviation ("RSD") of the porosity distribution was selected as the key indicator parameter. This parameter reflects the amount of variability in a particular cell of the model between the different realizations of porosity. Cells containing measurements of porosity do not vary between realizations whereas cells further away from measurements vary more.
- RSD was calculated as a vertical aggregate for each column of the model (i.e. each 250 x 250 cell was summed vertically into a column to flatten the RSD into a 2-Dimensional attribute).
- An RSD value of 47.5% was selected as a threshold to indicate areas of the model where there was higher confidence that the modelled porosity values reflect the measured data, with values below this threshold being considered a measured resource, between 47.5% and 52.5% being an indicated resource, and above 52.5% being an inferred resource.
- The effective porosity volume of the Beaverhill Lake Gp/Swan Hills Fm was classified as an inferred resource, as there is a more limited dataset of measurements and lack of historical production data in this unit.

Resource Estimation

To estimate the resource volume, each cell was assigned a resource classification based on the criteria described above. Each cell's dimensions were multiplied by the effective porosity value to calculate the brine volume in place. For each cell, the brine volume was multiplied by the lithium grade value assigned to that cell to estimate a mass of lithium (elemental). The cells were summed for the reservoir units in their respective categories to calculate the estimated resource in place. The elemental lithium mass multiplied by a factor of 5.323 determines the LCE quantities for each reservoir (Table 2). A 3D image of the LCE tonnage distribution for the Leduc Fm aquifer at Boardwalk is shown in figure 2 as well a cross-section displaying the parameterization of effective porosity through Boardwalk in Figure 3.

Figure 2: 3D tonnage map for the Leduc Fm aquifer at Boardwalk.

To view an enhanced version of this graphic, please visit:
https://images.newsfilecorp.com/files/10140/241625_lithiumbank_figure2.jpg

Figure 3: Cross-section through Boardwalk showing effective porosity. Cross-section line shown on Figure 1.

To view an enhanced version of this graphic, please visit:
https://images.newsfilecorp.com/files/10140/241625_e243614564770944_005full.jpg

Resource Estimation Verification

The mineral resource estimate was independently verified by the QP by:

- Confirming that LithiumBank claims information matched what is publicly reported online in the Alberta Department of Energy Geoview system
- Reviewing stratigraphic picks of the major reservoir surfaces by loading the picks into geoSCOUT software and comparing to public datasets, reviewing the geophysical logs and confirming the appropriate formation responses, and previous professional experience mapping these formations in Alberta
- completing a statistical review of the raw lithium grade data compiled by LithiumBank
- directly overseeing and directing the reservoir modelling work conducted by SLB
- review of the final P50 porosity grid independently in a different software and calculating the porosity volumes independently for each resource category

Mineral Resource Quality Assurance and Quality Control

Samples collected in 2021 and used in the resource estimate were analysed at AGAT Laboratories, an ISO 17025:2017 certified lab, in Calgary Alberta ("AGAT"). LithiumBank implemented strict Quality Control and Quality Assurance ("QA/QC") protocols for the analysis (as per the news release June 28, 2022). Initial testing of the four wells included six brine samples from each well. Well number 100/09-26-068-22W5/00 was sampled first and included six lab duplicates, blanks, standard reference material, and check lab analysis.

LithiumBank conducted a second round of QA/QC with a new standard reference material sample made to mimic the Sturgeon Lake brine grades. The second round also included blanks and duplicates and consisted of an additional 13 samples from well 100/09-26-068-22W5/00 and one additional sample from the other three wells. All samples were analysed at AGAT Labs in Calgary, AB.

LithiumBank later acquired well 100/10-06-069-21W5/00 ("10-6") which was extended, via a sidetrack, from the top of the Leduc Fm to the bottom of the Beaverhill Lake Gp/Swan Hills Fm (as per the news release on September 23, 2024). The sampling at the 10-6 was done under the supervision and guidance of Gord McMillan, P. Geo., who was on site at the 10-6 during the sampling campaign to ensure QA/QC. Brine samples were sent to AGAT. Duplicate samples were sent to Isobrine Laboratory and Bureau Veritas Laboratory in Edmonton Alberta as duplicate check lab samples. Each batch of samples included duplicate samples and standard reference material to ensure QA/QC.

Figure 4: Comparable lithium brine and lithium clay projects in North America.

To view an enhanced version of this graphic, please visit:
https://images.newsfilecorp.com/files/10140/241625_lithiumbank_fig4.jpg

The scientific and technical information relating to the mineral resource estimate presented in this news release has been reviewed and approved by Alex Haluszka P. Geo. of Montrose Environmental Solutions Canada Inc., Alex Haluszka is independent of LithiumBank and a Qualified Person as defined by NI 43-101.

Risks and Uncertainties

There is no guarantee that a company can successfully extract lithium in a commercial capacity. Initial mineral processing bench-scale and/or demonstration pilot test work may not translate to a full-scale commercial operation.

About LithiumBank Resources Corp.

LithiumBank Resources Corp. (TSXV: LBNK) (OTCQX: LBNKF), is a publicly traded lithium company that is focused on developing its two flagship projects, Boardwalk and Park Place, in Western Canada. The Company holds 1,787,594 acres of brown-field lithium brine licenses, across three (3) districts in Alberta and Saskatchewan. The Company has licensed a DLE technology from Go2Lithium.

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This release includes certain statements and information that may constitute forward-looking information within the meaning of applicable Canadian securities laws. All statements in this news release, other than statements of historical facts, including statements regarding future estimates, plans, objectives, timing, assumptions or expectations of future performance, including without limitation, the Company's expectations regarding the completion and filing of a technical report in respect of Boardwalk, and the timing thereof; that the upgraded resources estimate will lend to a high level of confidence going into future economic and/or feasibility studies; and that the subsurface reservoir model may assist in planning well networks and locations in future economic and engineering studies are forward-looking statements and contain forward-looking information. Generally, forward-looking statements and information can be identified by the use of forward-looking terminology such as "intends" or "anticipates," or variations of such words and phrases or statements that certain actions, events or results "may," "could," "should" or "would" or occur.

Forward-looking statements are based on certain material assumptions and analysis made by the Company and the opinions and estimates of management as of the date of this press release, including that the Company will complete and file a technical report in respect of Boardwalk, and will do so on the timeline indicated; that the upgraded resources estimate is very robust which will lend to a high level of confidence going into future economic and/or feasibility studies; and the subsurface reservoir model may assist in planning well networks and locations in future economic and engineering studies.

These forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking statements or forward-looking information. Important risks that may cause actual results to vary, include, without limitation, the risk that the Company will be unable to complete and file a technical report in respect of Boardwalk, or will be unable to do so on the timeline indicated; the risk that the upgraded resources estimate is not as robust as expected and will not lend to a high level of confidence going into future economic and/or feasibility studies; and the risk that the subsurface reservoir model may not be used in planning well networks and locations in future economic and engineering studies.

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