LithiumBank Reports >98% Recovery of Lithium from Brine During Direct Lithium Extraction Pilot Testing

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Calgary, September 11, 2024 - LithiumBank Resources Corp. (TSXV: LBNK) (OTCQX: LBNKF) ("LithiumBank" or the "Company") is pleased to announce it has successfully recovered greater than 98% of lithium from brine during initial pilot plant operations at the Company's 10,000 litres/day Direct Lithium Extraction ("DLE") facility in Calgary. The DLE pilot campaign processed over 40,000 litres ("L") of brine sourced from four wells located within the indicated resource area (Figure 1) of the 100% owned Boardwalk Lithium Brine Project ("Boardwalk") located in west-central Alberta. Pilot testing will now focus on the desorption stage, where lithium is stripped from the IX sorbent. These results will be reported as they become available.

"Successfully recovering over 98% lithium from Boardwalk brine at the pilot scale is a very significant achievement for LithiumBank," comments LithiumBank Executive Chairman Paul Matysek. "Consistently achieving this level of recovery at scale is of paramount importance as we work towards efficiently producing a battery grade lithium. These initial recovery results confirm bench-scale test work used in our 2024 Preliminary Economic Assessment ("PEA") for Boardwalk. This recent work further validates our DLE lithium extraction process and is an essential milestone for unlocking value."

The initial piloting campaign focused on the absorption/recovery portion of the DLE process. This campaign continuously processed 40,000 L of brine over 4.5 days to recover lithium. This process was run using continuous DLE ("cDLE®") licensed from LithiumBank's DLE technology partner, Go2Lithim Inc ("G2L"). The patented cDLE® process allows lithium-rich brine to continuously flow through the absorption contactors in a counter-current flow to the ion exchange ("IX") sorbent. The sorbent is designed to selectively recover lithium ions from the brine. Having now continuously processed Boardwalk brine through the pilot plant for approximately 120 hours, pilot testing will now focus on the desorption stage, where lithium is stripped from the IX sorbent.

The cDLE® process operates as a continuous flow system in which the brine and sorbent move in opposite directions. Earlier laboratory test results suggested that a brine-to-sorbent flow ratio of 80 would be needed to achieve an expected lithium recovery of 98%. The pilot plant campaign was initiated at this specified ratio, with the flexibility to adjust the flow rate if the target recovery was not met.

Once the circuit reached a steady state (between 50 and 100 hours of runtime), the feed brine averaged 70 mg/L (ranging from 67 to 74 mg/L), while the barren brine averaged 0.7 mg/L (ranging from 0.2 to 1.1 mg/L). During this period, lithium recovery remained consistently in the 98-99% range, aligning well with the bench-scale results of 98.5% used in the updated Boardwalk PEA.

During the 120-hour piloting campaign, analytical support from AGAT monitored the lithium concentration of brine entering and exiting the sorption circuit on an hourly basis. Additionally, lithium concentrations were tracked in each contactor to assess the removal efficiency at each stage of the sorption circuit.

Figure 1: Boardwalk map showing location of bulk brine sample wells and NI 43-101 resource estimate area Preliminary Economic Assessment (PEA) For LithiumBank Resources Corp. Boardwalk Lithium-Brine Project in West-Central Alberta, Canada, effectively dated February 22, 2024 and authored by the following Qualified Persons: Roy Eccles, P. Geol. of APEX Geoscience Ltd., Kim Mohler, P. Eng. of GLJ Ltd., Gordon MacMillan, P. Geol. of Fluid Domains, Jim Touw, P. Geol. of HCL Ltd., Frederick Scott, P. Eng. of Scott Energy, Egon Linton, P. Eng. of Hatch Ltd., Evan Jones, P. Eng. of Hatch Ltd., Stefan Hlouschko, P. Eng. of Hatch Ltd., and Lisa Park, AusIMM. 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 be converted into a mineral reserve. The estimate of mineral resources may be materially affected by geology,

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cDLE® Process Design

FIgure 2 illustrates the main components of the CDLE process. Raw brine (#1) is passed through a filtration circuit to remove hydrocarbons and suspended solids and is then stored in a filtered brine tank (#2). Following filtration, the brine is re-heated to 70 degrees Celsius (°C) (#3), close to the reservoir temperature to replicate field conditions. When the brine has reached 70 °C it then enters the cDLE® lithium extraction process (#4). After the lithium is extracted, the spent brine exits the absorption process is sent to a baren brine tank (#5) for disposal. The IX sorbent that is now loaded with lithium (#6) and is currently being stored for elution stage (#7) testing that is now under way. The elution results will be reported shortly.

Figure 2. LithiumBank's DLE pilot plant facility: #1 - Raw brine brought in from Boardwalk (raw brine has been through a de-gassing process by AMGAS), #2 - Filtered brine tank holds brine post filtration for suspended solids and hydrocarbons (filtration system not visible in photo), #3 - Heated brine tank is insulated and holds brine at a temperature of ~70°C, #4 - DLE columns continuously move brine and the IX sorbent in a counter current manner, #5 - Baren brine, depleted of lithium is held here until properly disposed of in a disposal well, #6 - IX sorbent was collected for later processing for this particular pilot campaign (not visible in this photo).

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The Company's DLE facility in Calgary also includes a satellite lab operated by AGAT Laboratories. The on-site, independent, laboratory is a vital piece of equipment that allows real time assay results during the piloting campaign on a 24-hour basis. This helps ensure efficient processing and allows for real time adjustments as and when required. To ensure Quality Control and Quality Assurance ("QA/QC") standard reference material was used on a regular basis as well as duplicate samples that were run at the on-site lab and at AGAT's main lab in Calgary.

Peter Voigt, Go2Lithium's CEO and CTO said, "This is a significant milestone for both Go2Lithium and LithiumBank. The results from the cDLE® pilot plant align with our expectations based on laboratory testing and computer simulations. The key advantage is our capacity to swiftly scale-up the process, as it has already been fully engineered for other battery metals. We are excited to continue this collaboration with LithiumBank on the Boardwalk project and proceed with work on the Park Place Project. As the industry evolves, the cDLE® technology will gain greater recognition for the value it offers to asset owners."

"I would also like to express my gratitude to all our staff and associates who have worked tirelessly to achieve this outstanding result. Moving from the initial licensing agreement to a 10,000L/day pilot plant generating results in less than 12 months is a great example of how to accelerate development timeframes for lithium brine projects."

The processed 40,000 litres of brine was collected within the hydrocarbon zone from four wells in the Indicated resource area of Boardwalk (Figure 1) originally reported June 28, 2022 and are shown in Table 1 below. In future piloting campaigns LithiumBank will process brine from the Company's own licensed well 100/10-06-069-21W5/00 ("10-6") which it has recently completed drilling as reported August 8, 2024. The Company has collected 248 cubic metres of brine from below the hydrocarbon zone for piloting purposes.

Table 1: source brine for initial pilot campaign

Well ID	Number of assays	Maximum Grade Lithium (mg/L)	Minimum Grade Lithium (mg/L)	Average Grade Lith
100/09-26-068-22W5/00	20	90.3	67.4	73.8
100/07-25-068-22W5/00	7	71.8	68.8	70.8

100/10-06-069-21W5/00 7	72.3	65.9	69.9
100/13-27-068-22W5/00 7	77.6	65.7	72.6
		Average grade	71.8

Qualified Person

The information that forms the basis for the scientific and technical information disclosed in this news release was prepared and approved by Kevin Piepgrass, P.Geo, who is a Qualified Person (QP) for the purposes of National Instrument 43-101. Mr Kevin Piepgrass consents to the inclusion of the data in the form and context in which it appears.

About LithiumBank Resources Corp.

LithiumBank Resources Corp. (TSXV: LBNK) (OTCQX: LBNKF), is a publicly traded lithium company that is focused on developing and de-risking the largest portfolio of lithium brine assets in North America. The Company has completed a NI 43-101 Preliminary Economic Assessment ("PEA") at Boardwalk (Jan. 16, 2024), an initial NI 43-101 Resource Estimate at Park Place (June 24, 2024) which are both located in west central Alberta. The Company is currently conducting large-scale pilot testing of a licensed Direct Lithium Extraction ("DLE") technology at the Company's facility in Calgary (July 10, 2024). The DLE technology process being piloted is currently being used at a commercial scale to recover other metals. The Company owns 100% of the 2,130,470 acres of brown-field brine hosted mineral licenses within Alberta and Saskatchewan.

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Cautionary Statement Regarding Forward-Looking Statements

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, future pilot testing plans; the Company efficiently producing a battery grade product; and the timing of reporting of results, 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 be able to execute its future pilot testing plans; that the Company can efficiently produce a battery grade product; and that the Company will be able to report results on the timelines indicated.

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 execute its future pilot testing plans as anticipated, or at all; the risk that the Company will be unable to produce a battery grade product; and the risk that the Company will be unable to report results on the timelines indicated, or at all.

Although management of the Company has attempted to identify important factors that could cause actual

results to differ materially from those contained in forward-looking statements or forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements and forward-looking information. Readers are cautioned that reliance on such information may not be appropriate for other purposes. The Company does not undertake to update any forward-looking statement, forward-looking information or financial outlook that are incorporated by reference herein, except in accordance with applicable securities laws.

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