LithiumBank Resources Corp. Reports >99% Impurity Removal, >3,000 mg/L Lithium in Eluate

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And Production of Battery Grade Lithium Carbonate from DLE Pilot Testing in Calgary, Alberta

LithiumBank Resources Corp. (TSXV: LBNK) (OTCQX: LBNKF) ("LithiumBank" or the "Company") is pleased to announce the results from the desorption component of the initial Direct Lithium Extraction ("DLE") pilot plant testing campaign at the Calgary facility. This follows the results announced from the adsorption stage of the pilot plant testing process that was previously announced September 11, 2024. The desorption campaign generated multiple lithium-rich liquors (eluates) ranging from 2,600 mg/L lithium (2.6 g/L Li) to >4,000 mg/L lithium (4 g/L Li) that were blended to make a composite eluate with an average grade of >3,100 mg/L lithium (>3.1 g/L Li). The composite eluate was then used as the feedstock for refinery and downstream laboratory test work to produce a battery-grade lithium carbonate (>99.95% purity) product.

Brine collected from Boardwalk was processed through the adsorption circuit of the cDLE® pilot plant and successfully achieved >98% lithium recovery as previously reported by the Company in September. The loaded ion exchange material (or sorbent) was then manually processed to desorb the lithium from the sorbent using a dilute sulfuric acid solution. This process produced an eluate that removed greater than or equal to 99% of the impurities leaving a lithium concentration of at least 3,100 mg/L lithium.

The eluate quality summarised in the table 1 below is the result of a single cycle. Eluate grade and purity were largely in-line with results predicted from previous test work at a lab scale that was previously announced on Nov. 22, 2023. Consistent with the project's strategy of minimising the volumetric flow and impurity load entering the refinery, it is noted that the recent campaign demonstrated:

- An average lithium concentration upgrade from feed of 44x.
- The use of sulfuric acid - a low-cost industrial chemical - for desorption provides excellent rejection of impurities such as calcium, strontium and barium.

Table 1. Eluate grade from a single cycle of piloting

Metric	Average	Max	Min
Eluate Grade mg/L lithium	3,100	4,000	2,600
(g/L Li)	(3.1)	(4.0)	(2.6)
Lithium Concentration Upgrade from Feed Brine	44x	57x	38x
Impurity Rejection	≥99% Ba, Ca, K, Mg, Na, Sr		

As an extension of the desorption campaign, preliminary purification of the eluate was undertaken at the Calgary facility. The chosen process utilised low-cost, industrial-grade reagents and demonstrated our ability to further reduce the impurity load on the downstream refinery. This preliminary purification further increased the rejection of impurities, without materially impacting the eluate grade, as summarised below.

Table 2. Eluate grade after a purification step showing additional impurity rejection.

Metric	Average	Max	Min
Eluate Grade (g/L Li)	3.1	4.0	2.6
Lithium Concentration Upgrade from Feed Brine	44x	57x	38x
Impurity Rejection	≥99.95% Ba, Ca, K, Mg, Na, Sr		

A 5L sample of the composite eluate was further refined into battery grade lithium carbonate by Telescope Innovations Corp. using their proprietary ReCRFT™ recrystallisation process. The cDLE® eluate was initially concentrated by evaporation, carbonated to form a crude lithium carbonate and then processed into battery-grade lithium carbonate. The analysis of the product at the various stages is summarized in Table 3

below.

Table 3. Composition of lithium concentrate, crude and processed lithium carbonate

Element	Composition of cDLE® eluate after evaporation (ppm)	Composition of crude lithium carbonate (ppm)	Composition c (ppm)
Calcium (Ca)	2,409	21,323	32.5
Potassium (K)	941.0	<5	<5
Lithium (Li)	17,336	162,489	173,579
Magnesium (Mg)	137.0	351.7	9.3
Sodium (Na)	2,536	341.9	38.9
Purity (%)	74.22%	88.07%	99.95%

Figure 1. 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 brine that was processed by the adsorption circuit of the pilot plant was collected within the hydrocarbon zone from four wells in the Indicated resource area of Boardwalk (Figure 2) originally reported June 28, 2022 and are summarized in Table 4 below. In future piloting campaigns LithiumBank expects to 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 4. Source brine for initial pilot campaign

Well ID	Number of assays	Maximum Grade Lithium (mg/L)	Minimum Grade Lithium (mg/L)	Average Gr
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

Figure 2: Boardwalk map showing location of bulk brine sample wells and NI 43-101 resource estimate area entitled: 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, environment, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

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The Company's DLE facility in Calgary includes a satellite lab operated by AGAT Laboratories. The on-site, 3rd party, AGAT Lab 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 Assurance and Quality Control ("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.

The Company would also like to comment on disclosure initially made on September 11, 2024, when it announced that a portion of the DLE pilot plant was operating over a period of four and a half days continuously for 120 hours. For clarity, after further audit the plant had an uptime of 95% during this operating period. Furthermore, the audit indicated that a total of 29,000L of brine was put through the adsorption portion of the piloting process and not the previously stated 40,000L of brine.

Qualified Person

The information that forms the basis for the scientific and technical information disclosed in this news release was prepared and approved Viraj Patel, P.Eng., who is a Qualified Person (QP) for the purposes of National Instrument 43-101. Mr. Viraj Patel 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 (since July 10, 2024). The DLE technology process being piloted is currently being used at a commercial scale for use in 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, that LithiumBank expects to process brine from the Company's own licensed well 10-6 in future pilot campaigns , 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 LithiumBank will process brine from the Company's own licensed well 10-6 in future pilot campaigns.

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 LithiumBank will not process brine from the Company's own licensed well 10-6 in future pilot campaigns.

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.