

## ALCORE Bath Pilot Batch Reactor Update: Latest Test Runs Achieve >90% Fluorine Recovery

Analytical results from latest test runs show highest fluorine recoveries to date

Maximum 93% fluorine recovery achieved as a result of rigorous experimental work and detailed process understanding

Results continue to provide confidence in the commercial potential of the ALCORE technology



**Figure 1: Solid product after run achieving 93% fluorine recovery.**

ABx Group (ASX: ABX) (“ABx” or “the Company”) is excited to announce that the latest round of independent analysis of samples from further runs of its 83%-owned subsidiary ALCORE’s bath pilot batch reactor with subsequent further processing has confirmed the highest fluorine recoveries achieved to date.

The reactor is operating at the ALCORE Technology Centre on the NSW Central Coast and has been designed for the recovery of fluorine from ‘excess bath’ (an aluminium smelter waste) to produce hydrogen fluoride.

At commercial scale, a proportion of the hydrogen fluoride will be further processed via an existing commercial process to produce aluminium fluoride – a high-value chemical essential for aluminium smelting that is currently fully imported.

Since the bath pilot batch reactor was commissioned in October 2023<sup>1</sup>, ALCORE has conducted many test runs, each typically involving approximately 10kg total of bath and sulfuric acid. ALCORE has reported steady increases in fluorine recovery, previously achieving a maximum of 80% in a single stage, and 88% with further processing.<sup>2</sup>

Following fundamental data analysis and using detailed process understanding, rigorous experimental work was designed using available equipment to mimic the proposed second-stage reactor performance under optimised process conditions. As a result, ALCORE was able to achieve a maximum of 93% fluorine recovery in the latest test runs. This level of fluorine recovery would very likely be sufficient in a commercial plant.

This also means that the solid product from these test runs is representative of the likely output from a future commercial plant. This enables studies of the applications for and further processing of the solid product to be expanded.

The next step is to use the latest results to refine the continuous pilot plant reactor configuration design and tune the operating conditions. ALCORE anticipates that a slightly higher conversion will be achieved on the continuous pilot plant due to the larger scale and optimised equipment design.

**Commenting on the reactor performance, ABx Group Managing Director and CEO Dr Mark Cooksey said:**

*“Achieving over 90% fluorine recovery in the latest test runs is a significant breakthrough for ALCORE, and is a result of the sustained, high level chemical engineering development conducted by the team. The results give us even more confidence that the process will perform as planned at commercial scale.*”

This announcement is approved for release by the board of directors.

**For further information please contact:**

Dr Mark Cooksey

MD & CEO

ABx Group

+61 447 201 536

[mcooksey@abxgroup.com.au](mailto:mcooksey@abxgroup.com.au)

[www.abxgroup.com.au](http://www.abxgroup.com.au)

**Media**

Chapter One Advisors

David Tasker / Alex Baker

+61 433 112 936 / +61 432 801 745

[dtasker@chapteroneadvisors.com.au](mailto:dtasker@chapteroneadvisors.com.au) /

[abaker@chapteroneadvisors.com.au](mailto:abaker@chapteroneadvisors.com.au)

<sup>1</sup> ASX announcement, 8 November 2023

<sup>2</sup> ASX announcement, 4 April 2024

### About ABx Group Limited

ABx Group (ABX) is a uniquely positioned, Australian company delivering materials for a cleaner future.

The two current areas of focus are:

- Creation of an ionic adsorption clay rare earth project in northern Tasmania
- Establishment of a plant to produce hydrogen fluoride and aluminium fluoride from recycled industrial waste, via its 83%-owned subsidiary, Alcore

There is also a legacy business:

- Mining and enhancing the value of bauxite resources for cement, aluminium and fertilisers.

We only operate where welcomed and we apply best practices to restore any disturbed land to a better condition than we found it.

### Disclaimer Regarding Forward Looking Statements

This ASX announcement (Announcement) contains various forward-looking statements. All statements other than statements of historical fact are forward-looking statements. Forward-looking statements are inherently subject to uncertainties in that they may be affected by a variety of known and unknown risks, variables and factors which could cause actual values or results, performance, or achievements to differ materially from the expectations described in such forward-looking statements.

ABx does not give any assurance that the anticipated results, performance, or achievements expressed or implied in those forward-looking statements will be achieved.