

Overview of Process Development for Plateau Energy Metals Falchani Lithium Project

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Plateau Energy Metals (Plateau) is developing the Falchani lithium project situated on the Macusani Plateau near Puno in Southern Peru. The project totals some 930m km² and is wholly-owned by PLU and lies within 20 km of the company's Macusani uranium project.

The Falchani project is composed of two sections – Falchani East and Falchani West. A maiden resource (NI 43-101) for the project was announced in September 2018 containing High Grade lithium-rich tuff of +3,400 ppm Li – Indicated: ~35Mt at 3,409 ppm Li (0.63Mt Li₂CO₃ equiv.) and Inferred: ~78Mt at 3,410 ppm Li (1.41Mt Li₂CO₃ equiv.). Significant lithium resources are also contained in upper and lower breccia structures of the deposit.

To date only 30% of the deposit has been drilled and a substantial broader target area of 6 x 5 km exists. Encouragingly, lithium zones are located at surface to ~300 m below, with the lithium zones averaging ~75 m, up to ~250m in some parts of the deposits. The mineralogy of the Falchani project is unusual and can be best described as a volcanoclastic tuff material. The lithium-rich tuff is surrounded by breccia, with rhyolite lava flows (typically) covering the upper breccia layer.

ANSTO and Plateau have been working together since 2018 on the development of the hydrometallurgical process for the project. Recently DRA Global (DRA) have been appointed to deliver the Preliminary Economic Assessment (PEA) for the project.

Due the unique mineralogy of the lithium-rich tuff and lack of similarity with any other known lithium deposit, examination of a number of up-front unit processes has been required to fully understand the reactivity of the tuff material. The type of up-front unit process which have been examined are outlined below and have their origins in the processing of other lithium-host mineral paragenesis.

- Sulfuric acid leaching;
- Hydrochloric acid leaching;
- Sulfation baking; and
- Roasting.

This presentation will provide an overview of the process development effort and flowsheet selection for the PEA. A broad comparison of the various flowsheet options based on the techno-economics will be provided and discussed, along with an outline of the main highlights from the PEA study.