



ASX Release: 4th October 2022

Lithium Mining Permit Granted Over Two Existing Claims

Highlights:

- The State of South Dakota has issued IRIS's local US partner **mining licenses covering two properties that form part of the overall Custer Project**.
- IRIS is now licenced to mine spodumene pegmatites on the properties, both of which have a significant history of producing lithium-spodumene ore.
- Past lithium production from the Beecher pegmatite mines within the Custer Project are amongst the **most prolific in the US**.
- Discussions continue to acquire patented mining claims.
- A **drill rig is contracted** and scheduled to commence drilling activities in December this year.
- Staking activities are continuing, with IRIS strengthening its BLM claim portfolio.

Executive Technical Director Chris Connell, commented: "Obtaining mining licences permitting hard rock lithium extraction is a significant achievement for IRIS. To my knowledge, IRIS is probably the only company in the US with hard rock lithium mining licences. With all the Federal US government grants and subsidies on offer for locally sourced critical minerals; IRIS's lithium spodumene is expected to be a sought-after product in the US battery market. We currently are in negotiations directed towards securing ownership of patented mining claims to further enhance the scale and economics of lithium mining in the Black Hills of South Dakota."

The South Dakota Project

The Black Hills of South Dakota are famous for historic lithium mining dating back to 1898 when Li-bearing spodumene (contains up to 7% Li₂O), and amblygonite (contains up to 10% Li₂O) was first mined near the township of Custer. IRIS' existing South Dakota project comprises the following areas as reflected by Figure 1 below.

1. Dewy Project (Purple)

2. Custer Project (Red)

The mining permit covering Black Diamond and Beecher Extended is denoted by the blue star (Figure 1)

3. Ruby Project (Green)

4. Helen Beryl Project (Blue)

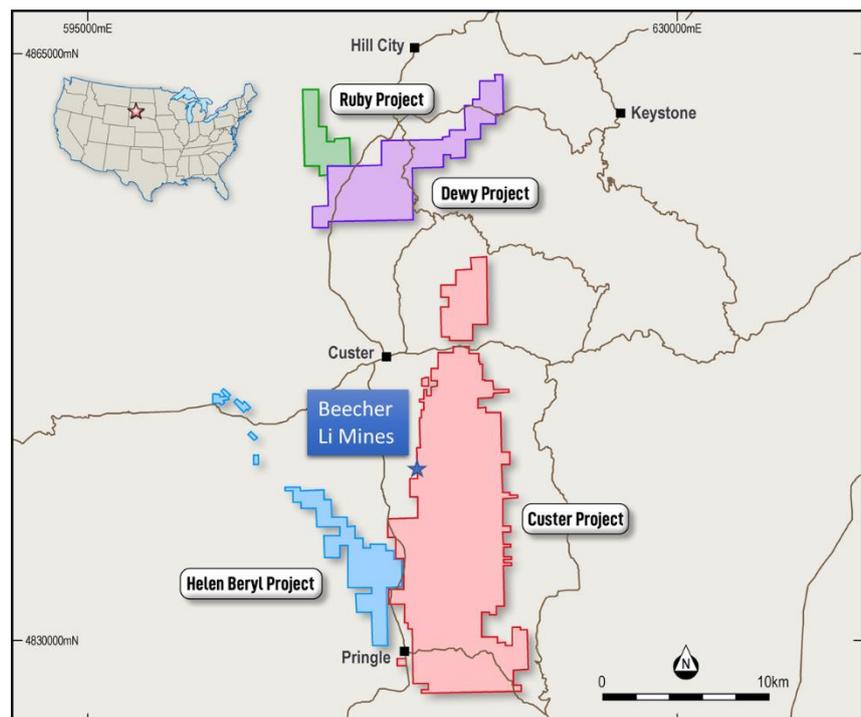


Figure 1: Location of IRIS' South Dakota Project.



IRIS Metals Limited (“IRIS” or the “Company”) (ASX:IR1) is pleased to announce that IRIS’s local partner in South Dakota has applied for and been granted a lithium mining permit which covers 2 claims within IRIS’s existing Custer Project, specifically the **Black Diamond** and **Beecher Extended** sub-properties that comprise part of the overall Custer Project (Figures 1 & 2), giving IRIS the ability to mine and extract lithium from pegmatites situated on these properties.

IRIS’ US partner is currently in the process of transferring the mining permit to IRIS’ US subsidiary.

This is especially significant given that the recently invoked Inflation Reduction Act which stipulated that 50% of battery parts and 40% of battery minerals must be sourced domestically or from countries with which the US has an FTA in place for individuals to be eligible for government grants.

Currently, there is only one producing lithium mine in the USA, located in Nevada. Importantly, with US lithium production comprising less than 2% of production globally. IRIS is now well positioned to assist the US in achieving its goals of domestic production, to achieve its clean energy goals and lessen its reliance on other countries in order to secure its battery metal minerals.

Black Diamond and Beecher Extended Claims

As part of IRIS’ existing South Dakota project areas, it has access rights (inclusive of exploration and mining activities) over 2 patented properties, **Black Diamond and Beecher Extended**, comprising part of its existing Custer project.

The recent mining licenses permitted by the State of South Dakota cover the aforementioned properties and **enable IRIS to fast-track all exploration and mining activities including the right to explore and mine lithium bearing pegmatites.**

The Beecher pegmatite trend was mined sporadically between the 1920’s and 1950’s for lithium, beryllium, tantalum, mica and feldspar. Limited amounts of lithium spodumene ore from the Beecher mines was shipped to Hill City during the 1940s where it was processed through a flotation circuit.

IRIS is currently in negotiations to acquire patented claims which cover the remaining lithium bearing Beecher pegmatite trend. These private properties are not subject to the same obligations as BLM claims that are governed by both Federal and State authorities including the National US Forrest Service.

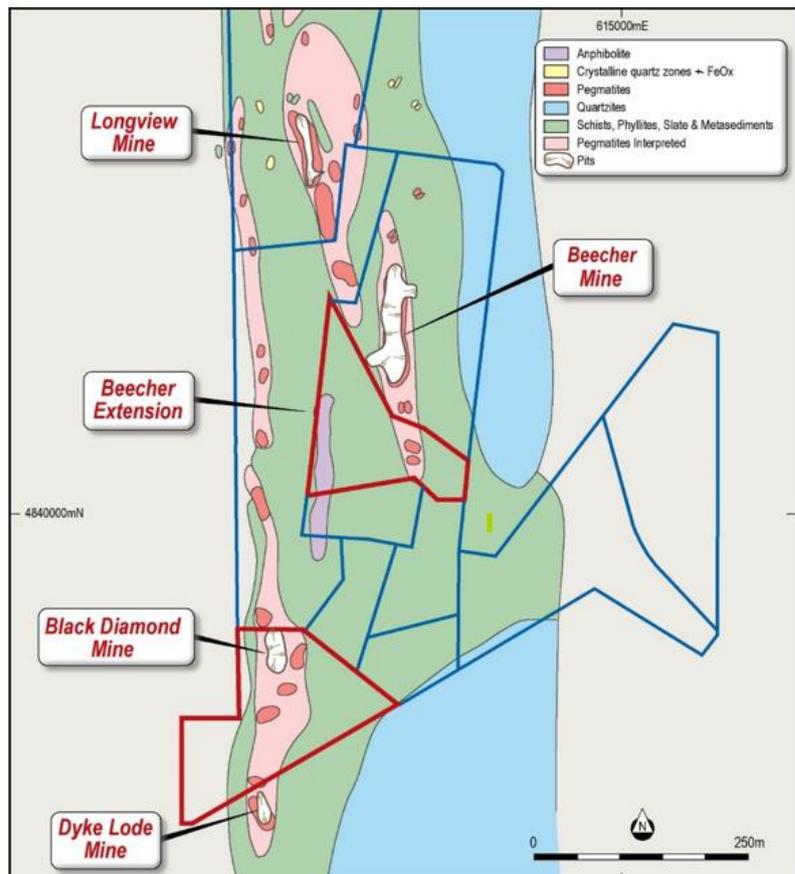


Figure 2: The Beecher Lithium Mine trend showing locations of the Beecher Extension and the Black Diamond claims.



Beecher Extended Claim

The Beecher Extended claim represents the southern portion of the patented Beecher Mine pegmatite.

The Beecher Mine itself is located on a private patented claim and comprises 3 relatively large open cuts that have produced spodumene, beryl, coltan, feldspar, amblygonite and mica.

The quartz-spodumene pegmatite is exposed discontinuously for 750m along strike and up to 130m in width comprising two thirds zoned spodumene (according to USGS reports).

Spodumene crystals 6m by 1.5m have been recorded in this mine. Six diamond drill holes are recorded at the Beecher. Whilst the detailed geology logs are not available, some general data is recorded by the USGS. Widths of spodumene pegmatite at the main Beecher mine are recorded to 30m but drilling didn't completely traverse the entire width of the pegmatite. Based on detailed historic mapping and sampling of the mine, the USGS geologists estimated in 1945, potential volumes of **18,404t per vertical metre at an average grade of 1.8% Li₂O (Page LR, 1953*)**.



Figure 3: Large lithium spodumene minerals in the pit walls of the historic Beecher Mine.

* Page, LR. 1953. Pegmatite investigations 1942 – 1945 Black Hills, South Dakota



Black Diamond Claim

The Black Diamond claim is hosted in a north–south trending pegmatite that has predominantly been mined for beryl and feldspar in the past (**Figure 4**). The narrow open cut has focussed on the zone within the pegmatite with the richest beryl and feldspar and produced a substantial quantity of tantalite.

The walls on both sides of the open cut contain logs of spodumene, and mapping conducted by USGS geologist back in 1945 indicate the potential for significant volumes of this spodumene rich zone. The Black Diamond LCT-pegmatite extends north over a 950m strike length with widths up to 60m wide. Spodumene is mapped over the entire length of the Black Diamond pegmatite supported by the strong lithium readings returned when testing the pegmatite with a LIBS analyzer.





Figures 4: *The Black Diamond opencut mine with spodumene crystals in the wall.*

Staking Activities

Field teams have continued staking claims over fertile lithium trends in South Dakota. A further update will be made to market in due course.

Future Exploration

Exploration activities have already started. Detailed mapping and rock chip sampling has been completed with samples sent to the laboratory. Detailed gridded soil sampling has also commenced to identify geochemical signatures and pathfinder elements that vector into known lithium mineralization. Trenching, rock saw channel sampling and drill line preparation will commence shortly. A rig has been contracted and drilling is scheduled to commence in December.

**About IRIS Metals Limited:**

IRIS Metals (ASX:IR1) is an Australian-based explorer with an extensive suite of assets prospective for gold, nickel and lithium in Western Australia and South Dakota, USA. Its wholly-owned WA tenement portfolio includes a compelling landholding in central Kookynie - a gold camp renowned for its historical high grade gold production and bonanza gold grades, and strategic tenure in the highly prospective Tier-1 mining jurisdiction of Leonora. The hard rock lithium South Dakota Project provides the Company and its shareholders with exposure to the battery metals space in a mining friendly jurisdiction with a history of past production. IRIS is pursuing a strategy of rapid prospect evaluation in recognised mineral fields, with a view to making economic discoveries, thereby enhancing shareholder value.

Forward looking Statements:

This announcement may contain certain forward-looking statements that have been based on current expectations about future acts, events and circumstances. These forward-looking statements are, however, subject to risks, uncertainties and assumptions that could cause those acts, events and circumstances to differ materially from the expectations described in such forward-looking statements. These factors include, among other things, commercial and other risks associated with exploration, estimation of resources, the meeting of objectives and other investment considerations, as well as other matters not yet known to IRIS Metals or not currently considered material by the company. IRIS Metals accepts no responsibility to update any person regarding any error or omission or change in the information in this presentation or any other information made available to a person or any obligation to furnish the person with further information.

Competent Persons Statement:

The information in this announcement that relates to exploration results is based on information reviewed by Chris Connell a Competent Person who is a member of Australian Institute of Geologists and an-Executive Director to IRIS Metals Limited. Chris Connell is an exploration geologist with over 25 years' experience in gold and base metal exploration including gold exploration and resource definition in the Eastern Goldfields and has sufficient experience in the styles of mineralisation and type of deposit under consideration and to the activity undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Chris Connell has consented to the inclusion in this Public Report of the matters based on his information in the form and context in which it appears.

This release is approved by the Board of IRIS Metals Limited.