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Company Note

9 May 2023

BUY

Target Price: 19.6p

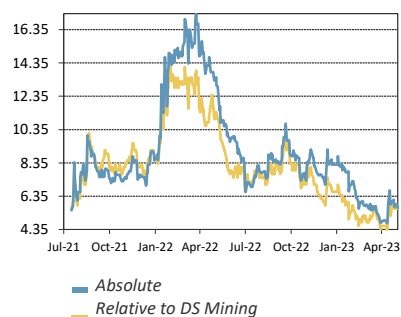
Share Price: 5.65p

(Price at close 3 May 2023)

Key Data

Market Cap	£22m
Sector	Mining
Stock Codes	BHLL.L / BHL LN

Absolute & Relative Performance



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Investment Research

Bradda Head Lithium

Initiation of coverage

Primed for strategic lithium discovery

Bradda Head is exploring for lithium across three distinct geological settings, in Arizona and Nevada in the US, one of the world's best jurisdictions for mining. The company is aiming to discover a deposit of significant scale which can supply the domestic US battery market. Based on drilling results and geological interpretation, we see excellent potential for Bradda to define an economic orebody. We initiate coverage with a Buy recommendation.

- ▶ **Geologically diversified** – Bradda is exploring for hard rock, clays and brines, three distinct types of lithium deposit. This puts the company in a unique position, de-risking it from future changes in preference between the deposit types. At present the hard rock spodumene target, San Domingo, is the most prospective and sought after ore.
- ▶ **Exciting drill results from hard rock San Domingo pegmatite project** – Encouraging intercepts from recent drilling at San Domingo (Arizona), includes a 32m intercept from the Midnight Owl target. Based on the mineralised pegmatite defined through drilling and the numerous outcropping pegmatites at surface, over the 23km² licence area, we see excellent potential for Bradda to discover an orebody of sufficient thickness and grade for mining. San Domingo is Bradda's highest priority target, as it contains spodumene (lithium mineral), which is saleable globally as a concentrate.
- ▶ **Basin Clay project highly prospective** – Bradda's clay targets also offer high potential for an economic discovery. A Mineral Resource of 371kt LCE has been defined, but additional drilling is ongoing on additional targets, aiming to increase the Resource. Based on the small area over which the current Resource is based, and mapped clay outcrops across the licence, there is potential for a large increase to the Resource.
- ▶ **Lithium poised to be a vital metal for the US energy transition** – Lithium is a vital metal as society moves from away fossil fuel powered vehicles. Battery-powered EV demand and hence lithium demand is anticipated to increase considerably in the near-term. Bradda Head is well located to supply the growing EV market.
- ▶ **Initiating coverage with a Buy recommendation and 19.6p target price** – We have undertaken a valuation of Bradda Head, based on metal in the ground of its current Resource on its Basin claystone project and a risked estimate of exploration potential for its other key assets, San Domingo and the brine projects. We reach a target price for Bradda Head of 19.6p, implying ~230% upside.

Year End	Sales	PBTA	EPS	DPS ord	P/E	EV/EBITDA	Yield
Dec	(\$m)	(\$m)	(c)	(c)	(x)	(x)	(%)
2022A	2.4	(3.6)	(0.9)	0.0	n/a	n/a	0.0
2023E	0.0	(3.8)	(1.0)	0.0	n/a	n/a	0.0
2024E	0.0	(4.2)	(1.1)	0.0	n/a	n/a	0.0
2025E	0.0	(4.6)	(1.2)	0.0	n/a	n/a	0.0

Source Company Data, Panmure Gordon

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INVESTMENT CASE

SUMMARY

Bradda is focused on exploration, and plans to explore all of its hard rock, brine and clay projects in 2023

Bradda Head is exploring at three highly lithium prospective targets in Arizona and Nevada. It has built up a strong team to explore these projects concurrently and based on regional geology, we see excellent potential for a resource of significant size to be discovered. Bradda can remain flexible as to which project it directs exploration budget, depending which deposit type is most sought after/commands the highest premiums. At present this is hard rock, which contains in-demand spodumene ore. Bradda is focused on exploration, and plans to explore all of its hard rock, brine and clay projects in 2023. Exploration success has the potential to drive a share price increase in the near term.

There is visibility to a near-term 1Mt LCE Resource as the Basin Clay project

BRADDA HEAD'S OPPORTUNITY

Bradda Head offers exposure to highly prospective ground for lithium, with near-term exploration upside. Further drilling results are expected shortly from Basin and San Domingo, and additional drilling at both targets is planned for later in 2023. A large exploration target has been identified at Basin East, with visibility to defining a 1Mt LCE (lithium carbonate equivalent) Resource in the short term. Basin West is yet to be drilled and also highly prospective based on surface outcrops of clay. Spodumene and lepidolite (lithium-bearing minerals) have been intercepted at San Domingo, with intercepts at a handful of targets ranging from 2-32m and grading 0.5% - 3% Li₂O. Additional results from recent drilling are outstanding and more drilling is planned for later in 2023. Drilling to test the brine targets in Nevada is also planned for this year, subject to budget.

Lithium-bearing intercepts have been found at San Domingo (hard rock project). The target is highly prospective with more results to come

Importantly for Bradda, Nevada and Arizona are recognised as world leading mining jurisdictions, ranking 3rd and 5th on Fraser Institute Survey respectively. These are also especially high-quality jurisdictions amongst London-listed lithium peers, whose projects are typically in Africa or Europe. Moreover, there are few London-listed lithium companies offering an entry point at such an early stage. Bradda is well-placed to benefit from share price appreciation off the back of a discovery.

Nevada and Arizona are recognised as world leading mining jurisdictions

BRADDA HEAD'S LOCATION RELATIVE TO THE US LITHIUM MARKET

The US battery market is forecast to grow rapidly over the coming decade

Arizona and Nevada are regularly reported as two of the best states for mining development globally, within the US which scores strongly overall. While lengthy permitting processing can present challenges to companies in the US, we expect high-quality lithium assets to be somewhat fast-tracked to production in order to supply the US battery market, which is forecast to grow rapidly over the coming decade. Biden's recent Inflation Reduction Act (IRA), which came with a credit for EV purchases, aims to encourage the shift from petrol powered vehicles to battery. A \$7,500 tax credit is on offer for EVs with parts made predominantly in the US, which we feel will drive consumer demand, especially as economic conditions improve. \$7bn of the IRA fund has been allocated for battery supply chain spending. This represents a great opportunity for battery metals explorers and developers like Bradda to gain affordable financing and state support to fund project construction. Clearly Bradda have a long way to go before being in this position, and needs to make a discovery of scale first, but this is a definite show of support for companies of this type by the US government.

There is a show of support for companies like Bradda by the US government

The US wants domestic lithium for the green energy transition

The US wants domestic lithium for the green energy transition and to reduce its dependence on China for downstream processing of raw materials and parts manufacturing. ~75% of global lithium-ion batteries are currently produced in China. The current US administration is aiming to reduce that and plans to invest heavily in its battery supply chain, all the way to mining raw materials and in particular lithium. In 2021, the Biden administration set a loose target, that by 2030, at least 50% of new car sales would

be electric. Bradda Head is in the prime location to benefit from growing demand and supply the US battery sector, should it make a discovery of sufficient size to warrant a mine.

Spodumene is the most commonly mined and sold lithium-bearing mineral

Bradda's hard-rock San Domingo target contains pegmatite rocks which contain spodumene

We believe the licence area has potential for a significant spodumene orebody

We use a long-term lithium carbonate price of \$20,000/t

We have valued Bradda Head based on a 0.25X NAV valuation

SAN DOMINGO IS BRADDA'S NO.1 TARGET

The most common lithium-bearing mineral which is mined globally is spodumene. Numerous miners produce a spodumene concentrate to internationally recognised specifications (6-7% Li₂O, 75%-87% spodumene). The majority of this concentrate is produced in Australia and shipped to China for downstream processing. There is high demand for spodumene, as evidenced by the robustness in spodumene prices vs carbonate and hydroxide in recent months. The hard-rock San Domingo target contains pegmatite rocks which contain spodumene. Bradda has intercepted good grades and thicknesses. But has only scratched the surface in drilling viable targets. The company holds a 23km² licence area which is covered in numerous outcropping pegmatites. Only a handful have been drill tested so far, these showing good grades >1% Li₂O and mineable thicknesses (up to 32m). We anticipate strong drill results to come and feel the licence area has potential for a significant spodumene orebody.

VALUATION

We use a risked NAV valuation for the group and its assets, incorporating our conservative long-term commodity forecast for lithium of \$20,000/t. Although the lithium price has recently fallen below this, we believe it remains a conservative long-term price given the expectations of rapid demand growth in the EV sector.

We have valued Bradda Head based on a 0.25X NAV valuation. Over the coming year we don't expect Bradda to re-rate based on a market cap/resources ratio, primarily because the company is not expected to advance any of its projects beyond resource stage. We therefore see the most near-term potential from strong drilling results at San Domingo or Basin, and/or resource growth at the Basin clay deposit, or maiden resource definition at the San Domingo pegmatite district (hard rock) or brine deposits.

Valuation Summary

NAV Summary	\$ Value	Attrib	Attributable value	Attrib value /sh (\$)
San Domingo - Hard rock	234,000,000	100%	234,000,000	59.9
Basin & Wikieup - Clay	123,000,000	100%	123,000,000	31.5
Eureka & Wilson - Brines	19,000,000	100%	19,000,000	4.9
Total	376,200,000		376,200,000	96.3
Net cash/(debt)	3,300,000	100%	3,300,000	0.84
Total	379,500,000		379,500,000	97.2
GBPUSD X Rate	1.24			1.24
Shares in issue	390,609,439			390,609,439
1.0x NAV per share (GBP)				78.6
0.25x NAV				19.6
Final target price (GBP)				19.6

Source Panmure Gordon

San Domingo – For San Domingo we assume potential for a contained Resource of 85kt LCE, based on drilling to date, we also assume a ‘blue sky’ resource of 7.7Mt LCE. The mean of our two estimates is 3.9Mt which we value *\$234m.

Basin & Wikieup Clay – For Basin, we have valued the current Resource (371kt LCE) at *\$22m. SRK’s target estimate midpoint is 3,421kt LCE, which we value at *\$205m. The midpoint is \$114m. We add a NAV for Wikieup of \$8m to reach \$123m.

Eureka & Wilson Salt Flat Brines – We estimate a basin area of 10km² and aquifer thickness of 200m, resulting in a 2bn m³ basin volume. At 6% drainable porosity this contains 120bn Litres of brine. We assume 500mg/L Li concentration and reach a contained LCE estimate of 320kt. We value this at *\$19m.

*We value contained Resource estimates using a lithium carbonate price of \$20,000/t (our long-term estimate) and applying a value to contained metal in resources of 0.30%, an average which resource stage lithium companies typically trade at.

We reach a target price of 19.6p

Drilling results from San Domingo and a maiden Resource can drive the share price

Total – Incorporating Bradda’s net cash position (est H1 2023), combined with our NAV estimates for each of the company’s exploration projects, reach a NAV of 78.6p. We use a 0.25X NAV as Bradda is at Resource stage, and therefore reach a target price of target price of 19.6p. This offers ~230% upside to the current share price. Near-term exploration work planned across the company’s projects has the potential to result in a significant increase in the share price. We note in particular that further positive or improved drilling results from San Domingo or (following this) the definition of a strong maiden Mineral Resource, could drive a share price increase in the near-term. Bradda is trading at a significant discount to our 0.25x NAV estimate.

COMPANY OVERVIEW

LOCATION & OBJECTIVE

Bradda’s goal is to discover and prove up an economic lithium deposit

Bradda has a clay Resource, but we feel the most potential exists within the hard rock prospect

Bradda Head is AIM listed and has a market cap of £23m. Bradda’s goal is to discover and prove up an economic lithium deposit at one or more of its targets in Arizona and Nevada. Bradda’s has three projects of differing geological type. These are hard rock (pegmatite), clay and brine. The hard rock and clay projects are located in Arizona and brine in Nevada, two of the best and most prolific states in the US for mining. We see an opportunity for Bradda to make a discovery, which can be mined and supply lithium to the growing market in the US, driven by demand for lithium from the electric vehicle sector for use in batteries. Bradda has established a Resource on its clay project, but we feel the most potential for a high value deposit exists within the hard rock prospect.

Bradda Head project locations



Source Panmure Gordon

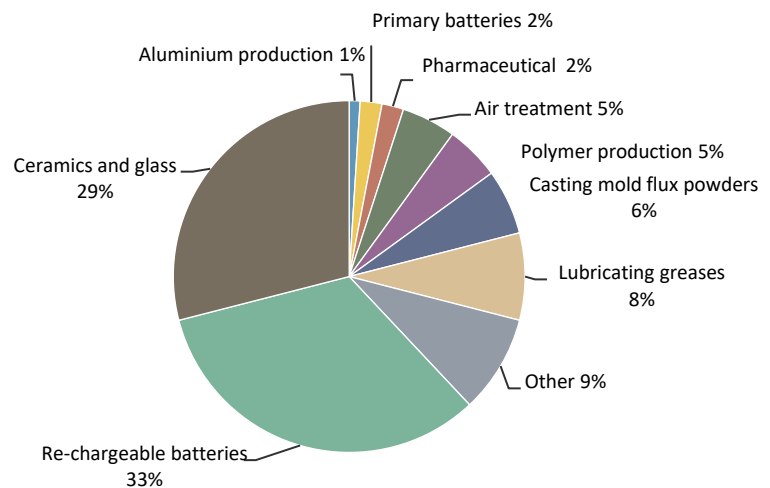
LITHIUM

SUMMARY

Lithium is the lightest metal. Towards the end of the 20th century, it became a key material used in the anode of re-chargeable batteries, chosen for its high energy density, meaning improved energy storage capability and therefore increasing the amount of energy that can be delivered before a re-charge is required. Lithium-ion re-chargeable batteries have been widely adopted in numerous portable electrical devices.

As well as being used in batteries, a significant amount of the total lithium demand is from the ceramics and glass making industry, where it is added to the glaze mix. It is also used in the medicinal industry as an anti-depressant and is used as a lubricant in the manufacturing adhesives.

Breakdown of lithium uses



Source Panmure Gordon, Research Gate 2020

The highest demand for lithium now comes from batteries for EVs

Lithium is a key component in all these battery types

Electric vehicle demand

The highest demand for lithium now comes from batteries for EVs where the technology has advanced, and lithium is now used in the cathode, along with nickel, cobalt and manganese (most commonly). Lithium ions still act as the charge carriers across the battery, but the anode in EV batteries is now generally made from graphite. The acronym for each battery type refers to the cathode materials and NCM batteries are now the most commonly used type, with a typical metal ratio split of 8-1-1. This is the choice battery type due to its energy density and rapid charge times. LMO (lithium iron manganese oxide) batteries are cheaper, but do not perform as well, and LFP (lithium iron phosphate) batteries have lower energy density but are highly stable and have been adopted in larger vehicles such as buses and trucks. LCO (lithium-cobalt oxide) batteries are the predominant type used in portable electronic devices. A key drawback is the proportion of cobalt required, which is why they are rarely used in EV batteries. From a market perspective, it is notable that lithium is a key component in all these battery types.

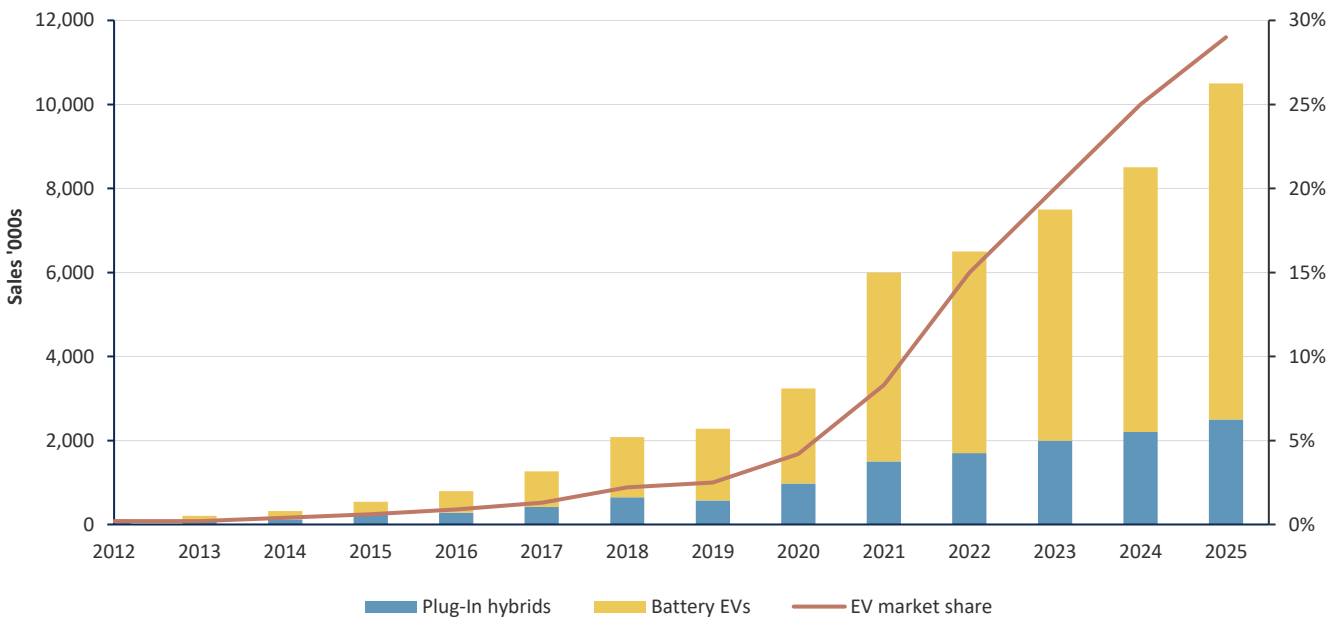
Estimates for future lithium demand from EVs vary, dependent on cost, uptake, the rate at which sufficient charge infrastructure can be implemented. The supply demand balance for EVs is not a simple one. As EV technology improves, cars become cheaper and more widely available to the average consumer. However, with a sudden increase in demand, potentially driven by government incentives to switch to an EV, there is immediate demand on raw materials, which may not be immediately available, and the prices of the required

metals will rise quickly. This has been seen for lithium, as well as other metals used in batteries, like nickel and cobalt. These price rises will trickle down to the end consumer and sway demand away from EVs. In addition, if petrol and diesel cars become less popular, the resultant likely drop in oil prices may make people think twice or switch back to an internal combustion vehicle. This balance is what future lithium and other battery metal prices will depend on.

We feel recent lower lithium prices could spur demand growth as the cost of EV batteries falls

Despite the challenges in forecasting future lithium supply, it is widely accepted that the uptake of EVs will continue to rise through the first half of this century, and if governments are serious about meeting their respective emission targets, they will need to invest heavily in EV charging infrastructure and incentives. The uptake of EVs in developed nations is already high, with over 50% of new car sales in the UK and Germany in 2021 being EVs. EV purchases have recently been stunted by reduced consumer spending power, a result of high interest rates globally. In January 2023 EV sales were down nearly 50% YoY as a result of this. Combined with increases in supply driven by the high lithium prices of the last 18 months, the market has moved into oversupply recently and prices for lithium carbonate and hydroxide have fallen dramatically. In the short-medium term we feel this could spur demand growth as the cost of EV batteries (typically 25-30% of the total cost of the vehicle) falls.

EV sales and projected sales growth



Source EV-Volumes, S&P Global Market Intelligence

EV sales will grow quickly to 2025 and beyond

While the graph does not account for macro-economic weakness dampening demand in the short term, the consensus is that EV sales will grow quickly to 2025 and beyond.

Competition from Hydrogen fuel cells

In replacing petrol powered vehicles, the competition for battery powered EVs is hydrogen fuel cell power. Hydrogen fuel cells work by stripping Hydrogen atoms of their electrons. These electrons then travel from the anode to the cathode in the form of electricity, this results in a power output which is used to drive a motor. Hydrogen has an energy to weight ratio far superior to batteries and re-fuelling is fast, as with conventional hydrocarbon fuel.

The only waste products of this process are heat and water – making hydrogen a clean fuel. However, hydrogen needs to be artificially isolated to be used as a fuel and this is energy intensive. The way this is done, is through electrolysis (which requires water and electricity) or from extraction from methane. For hydrogen fuel to be green it must be produced using renewable energy, so from electrolysis, and the original electricity must be from a renewable source. This is a challenge, as electrolysis requires significant quantities of energy. There are also difficulties in storing hydrogen, which must be done at cryogenic temperatures. It is also highly flammable and over time reacts with the metal in which it is stored, creating potentially dangerous situations in storage or use. Fuel cells also operate with water, making running and particularly re-starting in cold temperatures a challenge.

Lithium-ion technology remains a cheaper and more practical choice than hydrogen

There are clear advantages to hydrogen fuel powered vehicles, and we see it as a strong competitor to battery powered EVs. If green hydrogen can be supplied on the scale required, and technology advances to make it cheaper to store and more practical, hydrogen fuel cells may become the preferential choice. For now, lithium-ion technology remains a cheaper and more practical choice.

We expect hydroxide to trade at a modest premium going forwards

Carbonate v Hydroxide

Unlike many other metals, lithium products are varied. The most visible lithium price is the spot price of lithium carbonate, but the majority of the market is accounted for by private offtake contract pricing, so a lot of the market is not transparent. There are two main lithium products: carbonate and hydroxide. The higher value of these products is typically hydroxide. However, this reversed in 2022 due to high demands for carbonate from China for LFP battery types, which are lower cost and require carbonate. With the recent drop in lithium prices, hydroxide has returned to trading at a premium. We expect it to trade at a modest premium going forwards, assuming no major technological changes in battery chemistry.

Both carbonate and hydroxide can be produced from lithium ore/solution from brines.

New lithium projects will be required if consensus demand growth proves correct

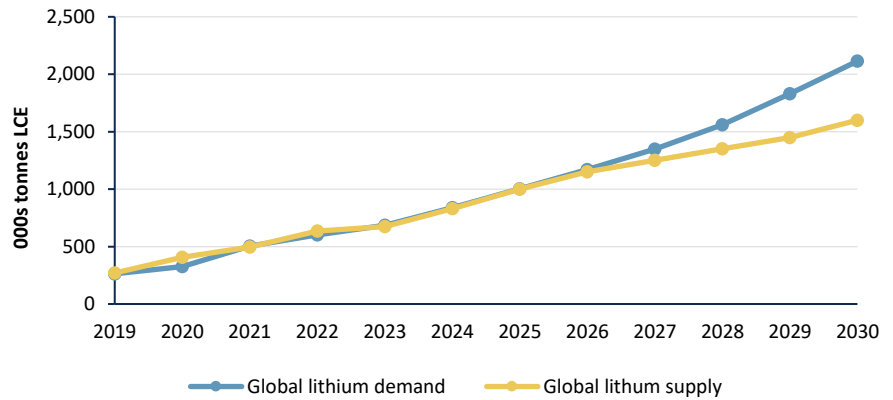
We forecast that supply response may lag demand over this decade

Supply and pricing

Lithium supply is dominated by Chile, Australia and China, who together account for >80% of global supply. McKinsey estimates the market for lithium will grow by ~20% every year to 2030. The market is volatile, with output controlled by a few major players. These players have some capacity to fund new projects/expand production at existing operations, as was seen at the end of 2022, namely by Mineral Resources in Australia. However, new projects will be required if consensus demand growth proves correct.

Overall lithium demand in lithium carbonate equivalent (LCE), is projected to rise to 1Mt by 2025. Consensus suggests that major producers can increase production in the short-term to meet this demand. Beyond 2025, should demand continue to increase as forecasted, production from new projects would be required. It is forecast (below), that even with this, supply may not be able to meet demand.

Lithium supply – demand balance



Source Panmure Gordon, Research Gate

Lithium is an important metal as society attempts to move away from petrol/diesel powered vehicles

We see lithium as an important metal as society attempts to move away from petrol/diesel powered vehicles. There is a high degree of uncertainty around demand growth rates, and how far supply from known sources can be stretched to meet this. Hydrogen fuel cells have the potential to take much of the vehicle market share, should the technology improve. Despite this, battery powered EV demand and hence lithium demand is widely anticipated to increase considerably over the coming decades.

Commodity Assumption

	2023	2024	2025	2026
Lithium Carbonate (LCE) (CNY/t) 99% purity	235,000	200,000	135,000	143,000
Lithium Hydroxide (CNY/t) 56.5% purity	279,000	213,000	140,000	150,000

Source Panmure Gordon

Drilling may not yield anticipated results and currently defined zones of mineralisation may not be repeated

Arizona has a well-established mining department and mining is important for the state

Permitting is a challenge in Arizona, but we expect a strategic lithium project to be fast-tracked

The only operating lithium mine in the US is in Nevada, another project (Thacker Pass) is in development

RISKS

GEOLOGICAL RISK

While current sampling and drilling indicates the presence of lithium-bearing minerals, and this has largely de-risked the project geologically, there remains the possibility that an orebody of significant size and grade, to be economic at prevailing lithium prices doesn't exist. Based on our interpretation of drilling results, further planned drilling, the regional geology and extent of Bradda's licence areas, we are of the view that discovery of an economic deposit at one or more of Bradda's targets is likely. However, the possibility remains that ongoing drilling efforts to not yield anticipated results and currently defined zones of mineralisation are not repeated based on similar surface outcrops at other targets (this refers only to the San Domingo hard-rock and Basin/Wikieup Clay targets).

JURISDICTIONAL RISK

Arizona

Both San Domingo and Basin/Wikieup are located in Arizona, which has a rich history of mining dating back to the 1800s, and it remains a major jurisdiction for mining activity in the US today. The state is blessed with abundant mineral resources such as copper, gold, silver, and molybdenum, and has been a leading producer of these minerals for many years. The state has a well-established overseeing department, the Arizona Department of Mines and Mineral Resources (ADMMR), which oversees all exploration, development, and production activities. The regulatory framework in Arizona is robust and includes strict environmental and safety regulations to protect public health and the environment. Mining is a significant contributor to the state's economy, providing thousands of jobs and generating billions of dollars in economic activity each year. Moreover, mining companies operating in the state are committed to responsible mining practices, including community engagement, environmental stewardship, and sustainable development.

We note some risk to permitting new mines in Arizona, highlighting that in recent years the state has become more left-leaning and there are a number of copper projects on the cusp of construction which are facing opposition from local politicians and NGOs. Permitting new mines generally in the US is a longer process than in many other countries. However, given lithium's strategic importance to the national de-carbonisation strategy, we feel that should Bradda discover a significant deposit, there will likely be support for converting it into a mine.

Nevada

Nevada is also a prominent state for mining in the US, with a rich mining history that dates back to the 1800s. The state boasts a diverse range of mineral resources, including gold, silver, copper, lithium, and other precious and base metals and is the leading producer of gold in the US. The state has a well-established regulatory regime that includes comprehensive environmental and safety regulations. Mining is a significant contributor to the state's economy, providing jobs and generating substantial economic activity. Nevada also boasts the only currently operating lithium project in the US, the Silver Peak lithium mine, which has been producing lithium for over 50 years, as well as Thacker pass, which is in development and owned by Lithium Americas.

The company is doing a good job of building up a strong block of licences at each of its projects

Permitting for drilling and exploration is low risk. However, permitting a mine can be a lengthy process in the US

Permitting may be accelerated for a lithium project

We expect Bradda to raise funds towards the end of 2023

PERMITTING

Bradda is in possession of all permits required for drilling at both its clay and hard rock targets. Drilling is planned at the brine projects in late 2023 and NOI (Notice of Intent) permits for this are low impact and easy to acquire. Bradda has also recently acquired three inner claims at San Domingo, enabling it to build up a continuous licence area of over 23km². At the Basin clay project, Bradda is currently in the process of acquiring licences containing prospective ground to the West. The company is has done a good job of building up a strong block of licences at each of its projects and continues to seek opportunities to grow if necessary.

We deem the risk of permitting for drilling and exploration activities to be fairly low, although various different governing bodies are required to be dealt in securing permissions. The real permitting risk will come if and when Bradda has proven an economic resource and mine plan and is looking to permit a mining operation. This will be a long process and has the potential to delay project construction, as has been seen elsewhere in the US. However, we note that the opportunity that exists in owning Bradda's shares at present is in exploration upside and project definition. We deem it fairly likely that should Bradda discover and prove up an economic orebody, they look to sell the project at a considerable profit, as opposed to pushing through to mining operations themselves.

The ultimate permitting risk to any of Bradda's projects is also diminished as lithium is a metal, critical to the production of rechargeable batteries which will be required by the US at a higher level than at present. This means it is highly likely permitting is accelerated.

COST INFLATION/CASH POSITION

Bradda is operating in a developed country, where G&A and ongoing exploration/drilling costs are higher than many other countries. The company has also experienced cost inflation in all of these areas. Although we expect this to wane as global inflation falls. Bradda's current annual exploration budget is ~US\$6-10m, depending on the success and scope of future exploration plans. Bradda's cash position at the end of February 2023 was \$7.3m. We therefore expect the company to raise additional funds through debt or equity (most likely equity) towards the end of 2023. This will clearly have a dilutive impact on the shares, although we expect this to be vastly decreased by a positive move in the shares price, from anticipated exploration success this year.

ASSET OVERVIEW

Quick facts

Location:	Arizona
Ownership:	100%
Drill highlight:	32m @1.6% Li ₂ O
Deposit:	Hardrock - pegmatite

San Domingo is Bradda’s primary exploration target

Bradda has only scratched the surface in drilling viable targets

Drill results so far show good grades >1% Li₂O and mineable thicknesses

SAN DOMINGO – HARD ROCK

We feel that San Domingo is Bradda’s primary exploration target. This is because it is a hard-rock pegmatite target, which contains spodumene; the most common lithium-bearing mineral which is mined globally. Hard rock lithium miners, developers and explorers typically trade at a premium to their brine and clay peers, as the process to produce lithium from spodumene is lower cost and faster, and it can be sold as a globally recognised concentrate. Numerous miners produce a spodumene concentrate to internationally recognised specifications (6-7% Li₂O, 75%-87% spodumene). The majority of this concentrate is produced in Australia and shipped to China for downstream processing. There is high demand for spodumene, as evinced by the robustness in spodumene prices vs carbonate and hydroxide in recent months.

The hard-rock San Domingo target contains pegmatite rocks which contain spodumene. Bradda has intercepted good grades and thicknesses, but has only scratched the surface in drilling viable targets. The company holds a 23km² licence area which is covered in numerous outcropping pegmatites. Only a handful have been drill tested so far, these are showing good grades >1% Li₂O and mineable thicknesses (up to 32m). We anticipate strong drill results to come and feel the licence area has potential for a significant spodumene orebody.

Pegmatite is a hard igneous rock, typically eroded less than surrounding rocks due to its hardness. At San Domingo numerous surface outcrops exist atop small hills, as seen below.

Morningstar outcropping pegmatite



Source Bradda Head

The project is extremely well located in terms of supply of personnel and equipment

Location

The San Domingo project is located just outside of Phoenix, Arizona – specifically in the Maricopa and Yavapai counties. Outcropping pegmatite in the licence area has been mined historically for lithium (during the 1940’s and 50’s). The project is located 7km from a major highway, along a well-maintained track. The project is therefore extremely well located in terms of supply of personnel and equipment.

Work to date

- ▶ Mapping in 2016 discovered lithium-bearing pegmatite dykes, up to 60m and 600m long.
- ▶ Key discovery outcrops were Midnight Owl and Morning Star.
- ▶ Rock chip sampling – grades of <5m @2% Li2O and 3m @ 1.44% Li2O.
- ▶ Selective sampling has returned grades much higher, >5% Li2O.
- ▶ 2022 – 3D mapping to establish the extent of pegmatite dykes within the San Domingo licence area.
- ▶ 2022/early 2023 – 7,300m diamond drilling, 47 core holes.

Lithium-bearing minerals have been discovered in ~60% of holes drilled

Drilling results from Bradda’s recent maiden diamond drilling programme have shown numerous intercepts of lithium-bearing pegmatite. This programme had a planned 7,000m of drilling, but ended up drilling 7,300m. So far, spodumene and lesser amounts of lepidolite (lithium-bearing minerals) have been discovered in (60% of holes drilled. The images below show spodumene mineral (pinkish colour) in core, within the 32m @1.6% Li₂O.

San Domingo drill core



Source Bradda Head site visit

There is potential for dykes which appear non-bearing at surface to contain lithium

Claims within San Domingo are split into Central and Northern, both of which have now been drill-tested. Bradda has discovered that lithium tends to be concentrated towards the centre of the pegmatite dykes at San Domingo. The company therefore feels there is potential for pegmatite dykes which appear non-bearing at surface to contain lithium in the sub-surface. This is being tested through the recently completed and planned 2023 drilling programmes.

Highlights from drilling include:**Northern**

- ▶ 32m @ 1.6% Li₂O
- ▶ 10m @ 0.8% Li₂O
- ▶ 4.3m @ 1.9% Li₂O
- ▶ 2.5m @ 1.6% Li₂O
- ▶ A further three intercepts of 3-4m @ 1.7-2.4% Li₂O

Central

- ▶ 9.5m @ 1.85% Li₂O
- ▶ 7.4m @ 0.7% Li₂O
- ▶ 10m @ 0.9% Li₂O
- ▶ 4m @ 1.3% Li₂O

Spodumene mineral – pure crystal is ~6% Li

Source Bradda Head

Key lithium-bearing minerals which can be formed within pegmatite deposits are spodumene, lepidolite and petalite

Lithium-bearing minerals tend to be concentrated within veins

Lithium orebody formation - pegmatites

Pegmatite is a coarse-grained granite or similar that is often mineral bearing. Due to their slow-cooling nature, pegmatites are often mineral bearing. Key lithium-bearing minerals which can be formed within pegmatite deposits are spodumene, lepidolite and petalite. These minerals are concentrated as they have a high melting point and crystallise late on in the magma-cooling fractional crystallisation process. Generally, lithium is redistributed from rocks surrounding the magma chamber as it cools. Hydrothermal fluids interacting with the magma chamber and surrounding country rock can concentrate ore minerals within regions of the intruding magma.

Pegmatite deposits can also be formed through metasomatism, where the intruding magma causes fluids to alter lithium-bearing minerals in the country rock, generally concentrating lithium content in the case of economic ore deposits. As lithium-bearing minerals tend to be concentrated within veins, these can be very concentrated and grade

distribution can vary dramatically across a deposit. This is clear from San Domingo drilling results to date, which have an extremely wide grade distribution over mineral intercept.

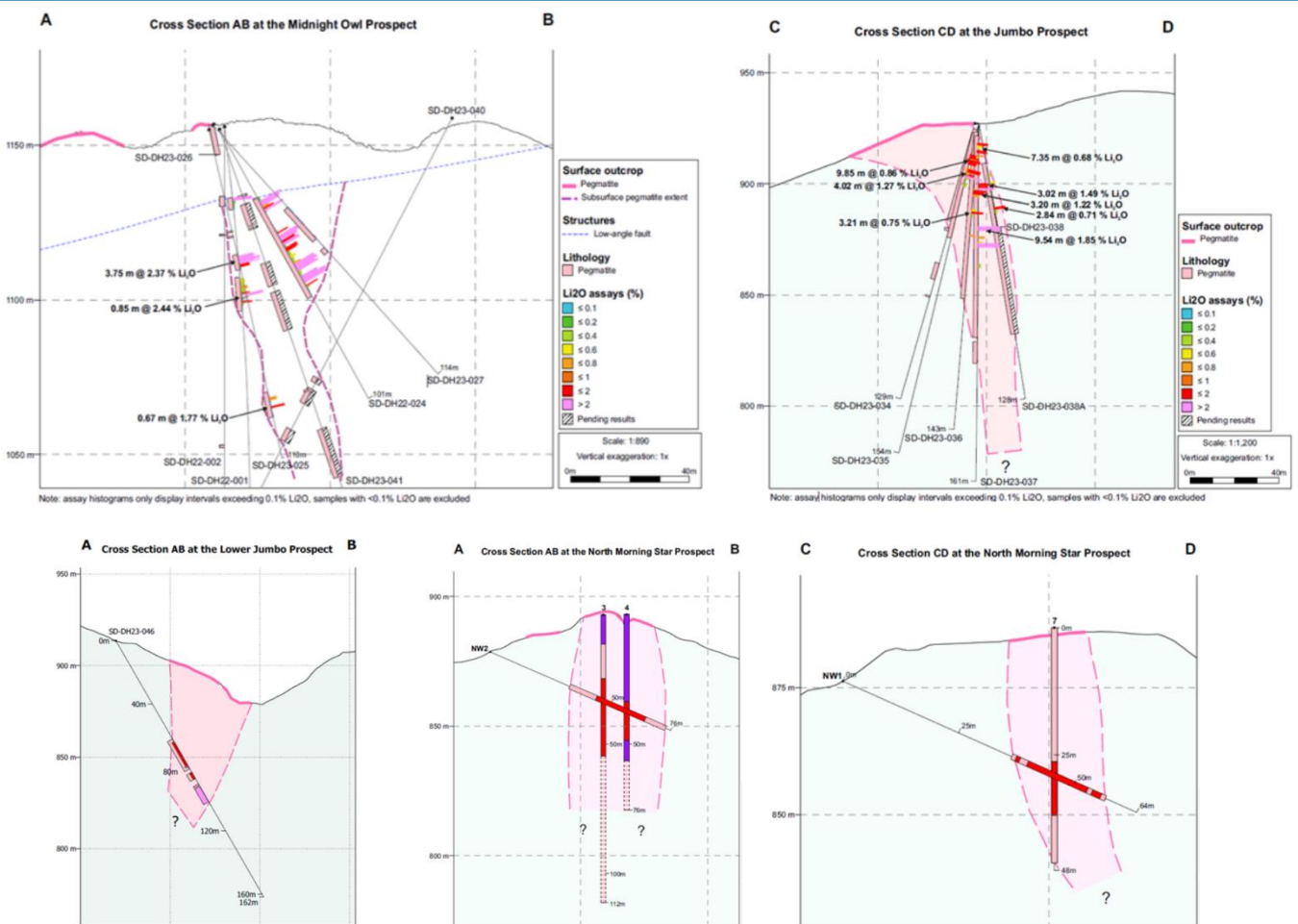
Upcoming Milestones

- ▶ Final results from late 2022/early 2023 drilling.
- ▶ Subsequent 2023 drilling, testing wider extent of lithium mineralisation.
- ▶ Drilling to greater depth, potentially discovering a significant orebody .

Only 1% of the licence area has been drill tested, so there remains excellent potential

So far, Bradda has made a good discovery of lithium-bearing pegmatites at grades which are generally amenable to mining. Only 1% of the 23km² licence area has been drill-tested. The discovered grades are good and indicate there is good mineralisation generally across numerous targets. This bodes for the likelihood of discovering a significant orebody. Bradda is now planning a follow up programme, targeting other parts of the licence area, aiming to discover thicker intersections and ultimately define a resource of significant size, warranting a mining operation.

Interpreted cross sections from recent San Domingo drilling results



Source Bradda Head

Quick facts

Location	Arizona
Ownership	100%
Resource	Indicated: 100kt LCE Inferred: 271kt LCE Average grade: 738ppm
Deposit	Clay

Bradda is targeting a 1Mt LCE Resource at Basin East (near-term)

BASIN & WIKIEUP – CLAY

Bradda has successfully defined a Mineral Resource on its Basin East project. The Resource is 371Kt LCE (lithium carbonate equivalent), last updated in January 2023. The average grade of the Resource is 738ppm. This is good, especially for an initial resource as economic clay deposits typically start at 500ppm. Bradda is building a picture of the geology through drilling and surface mapping/sampling. This is allowing the team to understand alteration patterns of the clay in the area and should allow them to hone in on the highest-grade zones within the deposit area. This will be the key to increasing the average grade through future resource updates.

Drilling continues at Basin East, with Bradda hoping to increase the Resource in the near-term, targeting an initial 1Mt LCE at Basin East. Basin West is another target, not yet drilled. Bradda is in the process of acquiring drill permits and additional concessions in this area but hopes to be drilling at Basin West in early 2024. This area, like East, is extremely prospective, with numerous altered surface outcropping clays. To date, 14 reverse circulation drillholes, 10 diamond drillholes and 14 sonic drillholes have been completed.

Drill rig at Basin East and clay outcrop at Basin West



Source Bradda Head

The lithium clay unit thickens to the northwest. This bodes well for further drilling at an updated resource

An exploration target of 1-6Mt LCE has been defined

Importantly, drilling of the Basin East Extension (northwest of Basin East) is encountering the clay unit over a greater thickness. In particular, Hole 5 of the current programme has intercepted a completely in-tact (uneroded) upper-lower clay sequence (the first found). This has been preserved by a basalt layer. This means that the lithium-bearing clay unit extends to the northwest, is thicker and has the upper clay (typically higher grade) preserved. This bodes extremely well for drilling further to the northwest and into the Basin West target and indicates great potential for a significant resource upgrade.

SRK Consulting (the widely recognised geological consultant) has defined an exploration target for the whole Basin area of 1-6Mt LCE, based on an independent report. The Mineral Resource update, announced in January this year increased the Resource to 95Mt @ 738ppm for contained LCE of 371kt. We see potential for this to increase to >1Mt LCE off the back of current drilling at Basin East. Drilling at Basin West in a years' time could

increase it further still. Bradda’s budget for exploration activities on Basin and Wikieup was US\$6.6m from October 2022 for 18 months.

Basin location

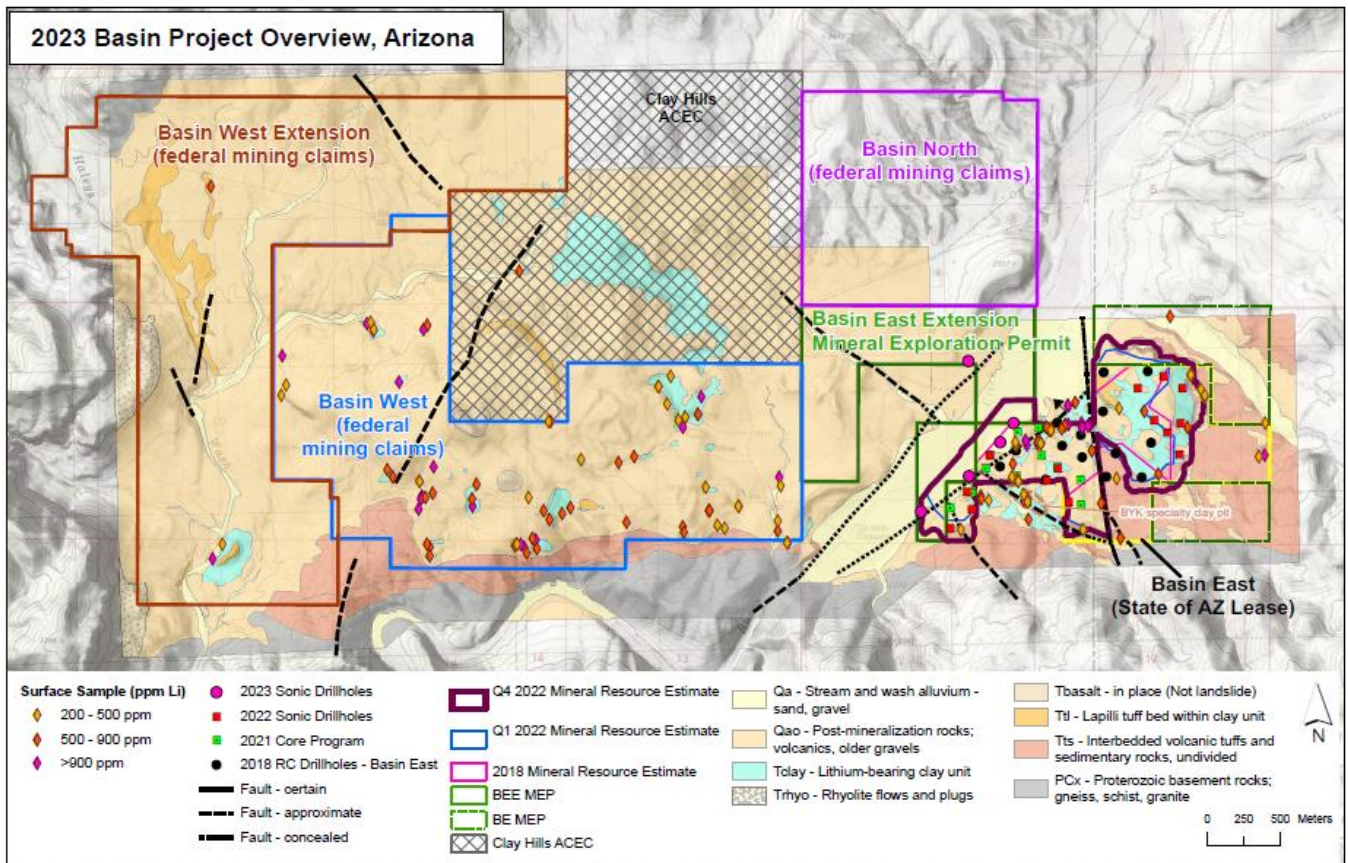
The Basin project is located 150km northwest of Phoenix in central western Arizona

The Basin project is located 150km northwest of Phoenix in central western Arizona. No lithium mining activities have been carried out at the site to date. It’s also located adjacent to the Baghdad copper mine to the east. The project is 100% owned and total licence area is nearly 20km².

Work to date

- ▶ Surface sampling conducted in 2016 – 2018
- ▶ Mapping carried out 2016 – 2018
- ▶ 2016 – Metallurgical test work completed
- ▶ Seismic and radar surveying carried out concurrently
- ▶ 2018 – drilling programme
- ▶ Drilling campaigns 2018, 2021, 2022

Basin prospect and drillhole location map



Source Bradda Head

The current Resource at Basin will be expanded following the current drilling

Drilling of the Basin East Extension (northwest of Basin East) is encountering the clay unit over a greater thickness

The grades and thicknesses encountered at Basin are good

Recent drilling

Drilling is ongoing at Basin East and East Extension, and of a planned 25 holes, five have now been completed. Visual inspection of these holes has confirmed management’s view that the current Resource at Basin will be expanded from this programme. The clay unit at Basin East appears to be thickening to the northwest. Assay results are to be announced shortly.

The first four holes located in Basin East Extension and Basin East have shown that the upper clay unit is much thicker than the lower clay unit and thickens to the northwest into the Basin East Extension zone. Previous drill programmes undertaken by BHL at Basin have shown that the upper clay unit is higher grade than the lower clay. This is encouraging for a potential upgraded Resource in terms of both grade and tonnage. Drilling of the Basin East Extension (northwest of Basin East) is encountering the clay unit over a greater thickness. This means that the lithium-bearing clay unit extends to the northwest, is thicker and has the upper clay (typically higher grade) preserved. This bodes extremely well for drilling further to the northwest and into the Basin West target and indicates great potential for a significant resource upgrade.

Summary of best drill intercepts from Basin East (2022 drilling and prior)

- ▶ 60m @ 848ppm
- ▶ 31m @1,100ppm
- ▶ 37m @764ppm
- ▶ 73m @782ppm
- ▶ 21m @890ppm
- ▶ 19m @548ppm
- ▶ 24m @666ppm
- ▶ 34m @763ppm

Intercept depth ranges from 70-140m.

Clay projects typically require a grade of 500ppm + to be economic, and at a thickness amenable to mining via an open cast operation. The grades and thicknesses encountered at Basin East to date are good, but Bradda is targeting higher grade and higher thickness zones with current drilling.

Drill core containing clay from Basin project

Source Bradda Head site visit

Clay deposits are less commonly economic compared with hard rock

Clays processing is energy intensive and require large quantities of consumables

Clay deposits are very likely to be an important supply of lithium globally, but particularly in the US

Mineralisation may be controlled by original sedimentation or by post-depositional fluid flow

Claystone lithium deposit formation

Lithium can be found concentrated in young lacustrine sedimentary basins, particularly in the Western US and Northern Mexico. The lacustrine sediments (clay, mudstone, siltstone) form in fault-controlled basins with or without the presence of active volcanism. Lithium forms more frequently within claystone deposits and often found within clay minerals such as hectorite, illite, and montmorillonite. The economic viability of mining clay deposits is less common than for hard rock deposits. This is the main reason why hard-rock lithium companies command higher valuations than the equivalent size clay or brine deposit.

Lithium is also more challenging to extract from clays than from hard rock (larger grains). Lithium concentration is typically much lower, ranging from 0.05-0.2% (500-2000ppm) for economic deposits. Clays processing for lithium requires leaching, purification, precipitation and drying/pressing. These steps are often energy intensive and require large quantities of consumables, such as acid/alkali for leaching and sodium carbonate or hydroxide for precipitation. The prices of these processing steps have risen dramatically over the last two years.

We note that processing methods for clay deposits are likely to advance and become more efficient. There are an increasing number of clay discoveries at grades which have been deemed economic. Clay deposits are very likely to be an important supply of lithium globally, but particularly in the US, given the prevalence of this deposit type in the southwest of the country.

Geology

The target area is situated within a transition zone between the Colorado Plateau and the Basin and Range provinces. The lithium here typically exists with a mineral called saponite, a smectite-group clay mineral. These clays have been altered by hydrothermal fluid flow and fluids derived from hot springs. Lithium is associated strongly with clay and correlates strongly with clay content. Mineralisation may be controlled by original sedimentation or by post-depositional fluid flow.

The Thacker Pass clay project in nearby Nevada is globally significant, containing 3.1Mt LCE

Some supergenes (near surface interaction) may have also contributed to lithium enrichment in the clays. This process is thought to have resulted in the Sonora Lithium project, one of the largest lithium deposits in the world with 4.5Mt of contained LCE. This highlights the potential for deposits of this style to host very large quantities of lithium. The Thacker Pass project (also a clay deposit) in nearby Nevada is also globally significant, containing 3.1Mt LCE.

Bradda must complete further processing test work

Metallurgical test work

Acid leach, gypsum-roast, water-leach and roast-leach tests have been carried out. The findings of this work have found that lithium cannot be leached at ambient conditions and there are a high concentration of acid consuming gangue minerals. Bradda must complete comminution-focused test work to establish whether this gangue can be removed sufficiently, prior to leaching.

75% recovery has been applied to the Mineral Resource estimate

SRK has estimated an achievable of recovery of 75% and has applied this to the Mineral Resource estimate. A very early stage estimate of costs has been made at \$5,000/t LCE, although this could rise or fall with flowsheet design and be impacted by inflation.

The Resource has a cut-off grade of 300ppm, which we deem reasonable

Resource

The most recent version of the Resource is from October 2022 and incorporates data from all three drilling programmes into a block model. The Resource assumes mining dilution of 5%, mining recovery of 95%, metallurgical recovery of 75%. It also assumes a cut-off grade of 300ppm, which we deem reasonable.

Basin East Mineral Resource estimate

	Tonnes (Mt)	Li (ppm)	LCE (kt)
Indicated	21.2	891	100
Inferred	73.3	694	271
Total	94.5	738	371

*300ppm cut-off

Source Bradda Head

The clay deposits remain open and are highly prospective. We expect a considerable Resource increase

Exploration potential

Basin East and West remain open and highly prospective, given the widening of clay intercepts to the northwest of the Basin East Resource area. Mapping at Basin West has also found clay-altered tuff, similar to the pathfinder surface expression for the Basin East Resource. There is therefore good potential for Resources to be increased in terms of both tonnage and grade following drilling in the Basin West area and current ongoing drilling at Basin East.

SRK’s exploration target estimate is 300 – 1,300Mt @ 600 – 850ppm. This is equivalent of 1-6Mt LCE

SRK, the widely known and established geological consultant, has made an exploration target for the entire Basin area, based on the range of likely grades and mapped clays in undrilled parts of the licence holding. SRK’s exploration target estimate is 300 – 1,300Mt @ 600 – 850ppm. This is equivalent of 1-6Mt LCE. The midpoint is 3.5Mt LCE.

Upcoming Milestones

- ▶ Ongoing drilling at Basin East – announcements from assays expected shortly.
- ▶ Resource update and potential grade improvement on at Basin East.
- ▶ Acquisition of further licence areas at Basin West and receipt of drill permits.
- ▶ Drill results from Basin West drilling – expected in early 2024.

Bradda completed drilling at Wikieup and identified anomalous lithium

Adjacent licences, owned by Arizona lithium contain a Resource of 321kt LCE

WIKIEUP

The Wikieup project is located close to Basin, but ~12km further north. The area has been mined in the past 20-40 years, and there exists evidence of shallow strip-type mining. The claim length totals 25km. Bradda completed sonic drilling on Wikieup in 2022 and identified anomalous lithium concentrations.

Wikieup is currently a lower priority target compared with Basin, but potential for a significant clay deposit exists. Notably, the adjacent licences, owned by Arizona lithium have been channel sampled and drilled with reported assays up to 1,160ppm Li. A 37-hole drill programme was also completed and led to definition of a Resource of 33Mt @1,850ppm for 321kt LCE. This bodes well for Bradda's exploration efforts at Wikieup, and the company's hypothesis based on geological mapping, sampling and initial drilling is that the same clay units exist on Bradda's licences.

Quick facts

Location	Nevada
Ownership	100%
Deposit	Brine

Nevada is highly prospective for lithium

Bradda's projects are located 115 miles and 90 miles northeast of the major Silver Peak lithium operation

Brines are formed where fluids rise through the crust and dissolve lithium-bearing minerals, before pooling and becoming concentrated

Brine deposits are relatively rare and do not usually contain economic concentrations of lithium

EUREKA & WILSON - BRINE

Bradda's two brine projects are located in Nevada: The Wilson Salt Flats project in Nye County, and the Eureka Project in Lander County. Eureka is located 16 miles northwest of the town of Austin and 160 miles east of Tesla's gigafactory, which is and will likely continue to be a major consumer of lithium. The Wilson Salt Flat project is located 70 miles east of the town of Tonopah, the project is easily accessible, 0.5km from a highway.

Nevada is highly prospective for lithium in general, contained in both brines and clays. The state contains 3.6% of the world's lithium reserves, according to the US Geological Survey.

Eureka and the Wilson Salt Flat projects are located 115 miles and 90 miles northeast of the Silver Peak lithium operation respectively. This mine is producing and operated by Albemarle, one of the world's largest lithium mining companies. Silver Peak is the world's longest producing lithium facility and currently the only producing lithium project in the US.

Eureka - Work to date

- ▶ Surface sampling has previously identified anomalous grades of up to 550ppm Li.
- ▶ Previous geophysical surveys indicate the presence of brines (deep) only shallow holes have been drilled to test a small portion of the clays, no testing of brines has occurred.
- ▶ 2021 – Conductive layer found at 800-2000m depth through (MT) magneto telluric geophysical- survey.. The low conductivity and feeder structures are interpreted as brine style mineralization and indicates potential for presence of metal-bearing brine.

Wilson Salt Flat - Work to date

- ▶ 2016 - Shallow sampling (1-2m depth), returned grades of 33-192ppm.
- ▶ 2016 - Boreholes <1km from project area found anomalous lithium, indicating potential for enriched waters at depth.
- ▶ 2016 - Seismic survey discovered thick sedimentary sequence bounded by faults – This is similar to deposition style found at the Albemarle's Silver Peak operation.
- ▶ 2017 – Conductive shallow layer found at 200-300m depth through (MT) magneto telluric geophysical survey interpreted as a clay layer. Deeper and very conductive anomalies found at depths of 700 to 900m with 'feeder structures' interpreted. The low conductivity and feeder structures are interpreted as structures which could contain brine.

Brine project geology

Lithium brine deposits are formed through a combination of geological and hydrological processes that occur over millions of years. These deposits are often associated with areas of geothermal activity, where heated water rises to the surface through faults. This facilitates the circulation of groundwater, which dissolves lithium-bearing rocks (generally volcanic rocks), creating a lithium-enriched brine. At the surface these brines can pond and evaporate, concentrating the lithium content. Alternatively, the brines can reach an aquiclude and pond within a rock layer at depth, or surface concentrated brines can re-circulate and become 'trapped' underground.

Once a brine is concentrated it will eventually become fully saturated with lithium and solid lithium minerals will precipitate. Lithium brine deposits typically accumulate in depressions, basins, or closed geological structures. Brine deposits are relatively rare and do not usually contain economic concentrations of lithium. Brine recharge during extraction is a critical consideration for assessing viability.

Brines are extracted using extraction wells

To concentrate lithium, brines are traditionally directed into large evaporation ponds

DLE is being tested as a method to replace traditional evaporation ponds

Sun Resin is successfully producing lithium using DLE technology

Brine production

Lithium brines are typically produced and extracted using a combination of drilling, pumping, and evaporative concentration processes. Wells are drilled to access the brines that are trapped underground. Brine is then pumped to the surface from the aquifer and collected in surface ponds/tanks depending on the processing approach.

Lithium brines are naturally dilute, typically ranging from tens to hundreds of parts per million (ppm). To concentrate the lithium, the extracted brines are traditionally directed into large evaporation ponds or pools, where they are exposed to sunlight, wind, and other environmental conditions that promote evaporation. As water evaporates from the brine, the concentration of lithium increases, as lithium ions remain in the remaining brine.

In some cases, chemical processes may be used to further concentrate the lithium in the brine. This can involve adding chemicals or reagents that selectively precipitate out impurities, leaving behind a more concentrated lithium brine. These chemical processes can vary depending on the specific characteristics of the lithium brine deposit and the desired end product. Once the lithium brine has been sufficiently concentrated, the lithium is typically extracted from the brine using various chemical or physical methods. This can involve precipitating lithium compounds, such as lithium carbonate or lithium hydroxide, through chemical reactions, or using ion exchange, solvent extraction, or other separation techniques to isolate and extract the lithium from the brine.

Direct lithium extraction (DLE) is currently being tested at numerous projects globally as a method to replace traditional evaporation ponds, taking brine straight from the ground to produce end lithium products. DLE aims to separate lithium from brine using ion-exchange technology in a processing plant to produce solid lithium compounds. This reduces residence time (often >1 year), cost and environmental impact. DLE is employed commercially by Chinese company Sun Resin and is likely to become widely adopted for producing lithium from brine deposits around the world. Importantly, DLE should make numerous small (otherwise non-economic brine deposits) viable. Bradda will likely choose this extraction method should it have exploration success at its Brine targets in Nevada.

General Motors recently announced a planned investment into EnergyX, which is developing technology to efficiently extract lithium from brines using DLE (direct lithium extraction). This method is being developed globally, although is already used successfully in China, by Chinese company, Sun Resin.

WHAT COULD BRADDA HEAD BE WORTH?

Lithium stocks generally have fallen over the last 12 months by an average of 10%, meaning value now exists

Bradda’s share price is at a significant discount

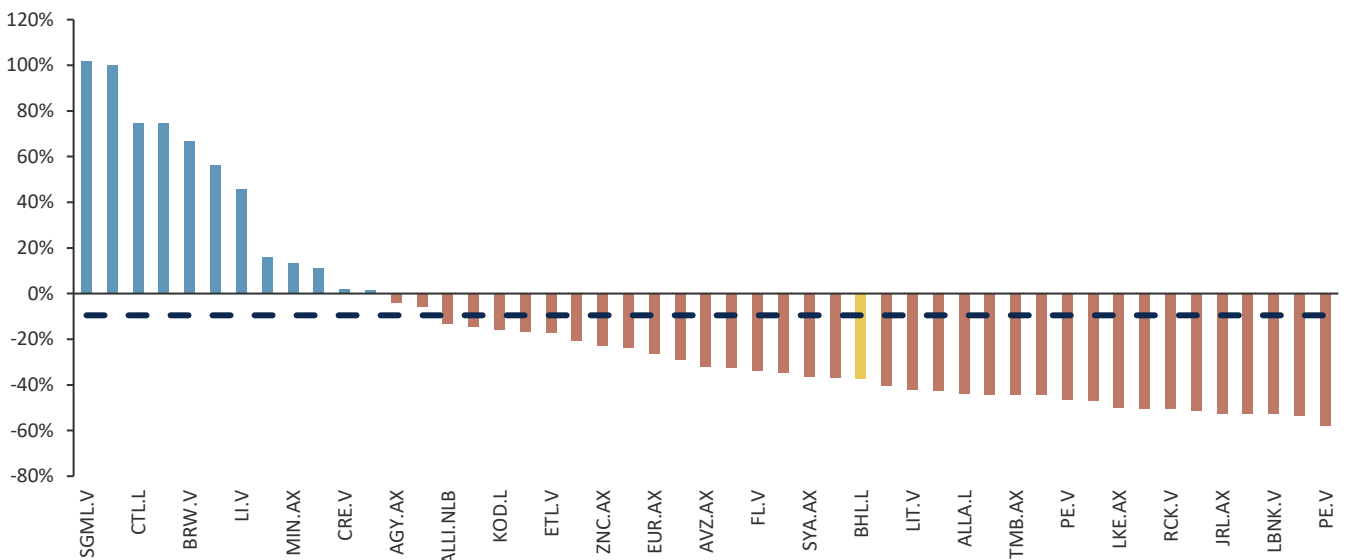
Bradda is good value and numerous exploration updates are expected in 2023

In line with our stated commitment to offer a consistent approach to appraising our sector coverage. Our key objective is to ascertain whether a valuation anomaly is presenting itself and whether investors can benefit.

The lithium price has fallen over 70% since its highs in November 2022. In our view the price is now nearing a baseline level seen prior to the high prices of 2021/2022. Lithium stocks generally have fallen over the last 12 months by an average of 10% (mean) across the LSE, TSX and ASX. Overall, this decrease has been skewed upwards by binary exploration/development success by a few companies, particularly some of those listed in Canada. These have dragged the overall mean upwards. In our view, this represents an opportunity as numerous lithium stocks are now trading at significantly lower levels than seen over the last two years.

Bradda has fallen by more than the mean and the median (32%) across lithium explorers/developers, at 37% over the last 12 months. As an early-stage explorer, it is unsurprising that the shares have reacted more extremely than the wider sector. Our view is that this, along with an overall stagnation in investment in the junior mining sector over the last 12 months means that Bradda’s share price is at a significant discount. In addition, the numerous opportunities for exploration success across hard rock, clay and brines within Bradda’s portfolio present very good potential for the share price. In general, we expect a muted rebound in the shares of fundamentally strong lithium companies as the lithium price stabilises over 2023. We feel Bradda is primed to rebound notwithstanding expected exploration updates which in our view have potential to be very positive.

Market cap/Resources



Source Bradda Head

RATIOS

Companies move to trading at 1% of their contained resource value as they develop a project. Bradda is at ~0.30%

We note potential for the share price given expectations for Resources to be increased

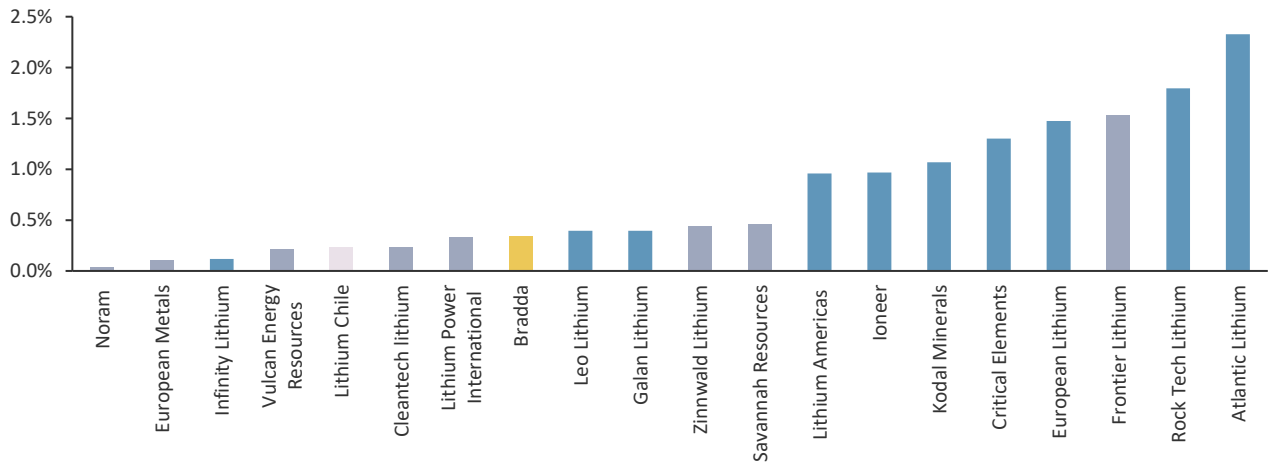
Hard rock projects command premium

Bradda should focus its efforts on its hard rock project - San Domingo

In comparing Bradda with its peers, we look particularly at the market cap to Resources multiple which companies trade on depending on the level of project advancement. In our list of selected comparable companies, excluding outliers, we find companies trade on a market cap to Resources multiple of 0.28% for Resource stage companies, 0.43% for initial study level companies, and 1% for companies at least at Feasibility Study stage.

On an MCap/Resources comparison, Bradda trades at a discount to its peers, and we note potential for the share price given expectations for Resources to be increased, through Resource expansion at the Basin Clay project and initial resource definition at the San Domingo hard rock project. Bradda Head currently trades with a market cap of 0.34% of its contained resources value (at \$20,000t LCE). Both an increase in defined resources and a move towards a 1% market cap-resources ratio are highly likely in our view over the coming years as Bradda explores and completes development work on those assets which become most advanced through exploration. We also point out that the companies trading close to and above a 1% ratio are virtually all hard rock focused companies. As noted above, these deposit types command premiums as they can produce spodumene concentrate, a widely traded product. Operating costs are also generally lower than for brine projects. For this reason, we recognise San Domingo at Bradda’s key exploration target, and the one the company should, and we believe is currently focusing the majority of its efforts. Our view is that exploration success at San Domingo, in particular is most likely to drive an increase in the share price.

Market cap/Resources



Source Bradda Head

Our long-term lithium carbonate price forecast is \$20,000/t

We have valued Bradda Head based on a 0.25X NAV

The most potential is from drilling results at San Domingo

Our estimate is based on resource potential from drilling to date, and a larger scale target

Our valuation of San Domingo is \$234m

The existing Basin Resource is worth \$22m

We use SRK's exploration target in our upside case and value the clay projects at \$123m

We value the brine projects conservatively at \$19m

VALUATION

Given the early-stage nature of Bradda's assets, our typical evaluation approach of NAV, earnings per share and cash flow per share is not appropriate. As such we have used a risked NAV valuation for the group and its assets, incorporating our conservative long-term commodity forecast for lithium carbonate of \$20,000/t. Although the lithium price has recently fallen below this, we believe it remains a conservative long-term price given the expectations of rapid demand growth in the EV sector.

We have valued Bradda Head based on a 0.25X NAV valuation. Over the coming year we don't expect Bradda to re-rate based on a market cap/resources ratio, primarily because the company is not expected to advance any of its projects beyond resource stage. We therefore see the most near-term potential from strong drilling results, and/or resource growth at the Basin clay deposit, or maiden resource definition at the hard rock or brine deposits.

Our valuation methodology is as follows -

San Domingo – For San Domingo we have made a volume estimate for a potential Resource, based on drilling results to date, and the area and thickness of pegmatite that has been identified, and the grade of lithium bearing material at the five zones which have been drilled. We assume a 3.45Mt resource @ 1% Li₂O. This grade is based on a mineable width intercept from drilling results completed in the last programme. This results in a contained Resource of 85kt LCE. We have also made an estimate of the Resource potential of the licence area. We take the 23km² licence area and conservatively assume 5% contains mineralised pegmatite. We assume a mineralised depth of 100m, known from drilling to date (mineralisation is open to depth). Based on this assumption we reach an estimate of 7.7Mt LCE. The mean of our two estimates (85kt and 7.7Mt) is 3.9Mt which at our long-term \$20,000/t LCE assumption and a 0.30% value assigned to contained metal in resources for resource stage companies, is worth \$234m.

Basin & Wikieup Clay – For Basin, we have taken the current total contained resource in LCE (371kt) and apply a value to metal contained in resources estimate of 0.30% based on the level we typically see Bradda's peers. We use a lithium price of \$20,000/t and reach a valuation of \$22m. We then also use the SRK estimate of the total Basin area exploration target. We take the midpoint of potential contained resources from SRK of 3,421kt LCE, which at a 0.30% ratio amounts to \$171m. The midpoint between these two values, (\$22m and \$205m) is \$114m. This is our NAV estimate for Basin.

To this, we add a NAV estimate for Wikieup. This is based on an expectation that Bradda defines a resource similar to direct neighbour's Arizona Lithium. We conservatively see potential for Bradda to define a resource which is 50% of this (160kt LCE), we then apply the same 0.30% value-resources multiple at \$20,000/t. From this we reach \$9.6m. The total NAV estimate for Basin and Wikieup is therefore \$123m.

Eureka & Wilson Salt Flat Brines – To make a value estimate for the brine targets, we have taken the basin dimension estimate for Wilson of 5km x 1km, for a 5km area, which we double to include Eureka. The Wilson basin thickness has been estimated at 400m, which we halve to 200m in the interests of conservatism. This results in a volume of 2bn m³ basin volume. We assume a drainable porosity of 6%, as found for the nearby Clayton Valley brines project, resulting in 120bn Litres of brine. Assuming 500mg/L lithium concentration, which is around the minimum concentration required for an economic brine (and therefore conservative), we reach a contained LCE estimate of 320kt. At our \$20,000/t price and 0.30% value to resources multiple, we value this 'potential resource' at \$19m.

Our 1x NAV/share is 78.6p. We use a 0.25X NAV to reach a target price of 19.6p

Total – Incorporating Bradda’s net cash position (end H1 2023) and combined with our NAV estimates for each of the company’s exploration projects, reach a NAV of 78.6p. We use a 0.25X NAV as Bradda is at Resource stage, and therefore reach a target price of target price of 19.6p. This offers ~230% upside to the current share price. Near-term exploration work planned across the company’s projects has the potential to result in a significant increase in the share price. We note in particular that further positive or more improved drilling results from San Domingo or following this the definition of a strong maiden Mineral Resource, could drive a share price increase in the near term.

Valuation Summary

NAV Summary	\$ Value	Attrib	Attributable value	Attrib value /sh (\$)
San Domingo - Hard rock	234,000,000	100%	234,000,000	59.9
Basin & Wikieup - Clay	123,000,000	100%	123,000,000	31.5
Eureka & Wilson - Brines	19,000,000	100%	19,000,000	4.9
Total	376,200,000		376,200,000	96.3
Net cash/(debt)	3,300,000	100%	3,300,000	0.84
Total	379,500,000		379,500,000	97.2
GBPUSD X Rate	1.24			1.24
Shares in issue	390,609,439			390,609,439
1.0x NAV per share (GBP)				78.6
0.25x NAV				19.6
Final target price (GBP)				19.6

Source Panmure Gordon

We have included a price matrix for investors to determine their own NAV based on lithium price and multiple

Our NAV estimate for Bradda incorporates exploration potential across the companies’ targets. We have reached our NAV estimate assuming a \$20,000/t long-term lithium price and note the clear upside to the shares based on this assumption. Given long-term expectations of demand exceeding supply and the volatility in the lithium price (seen recently), we see potential for a higher lithium price. We have therefore included a price matrix for investors to determine their own NAV/share, based on our NAV assumptions which are outlined in the following valuation section.

NAV Sensitivity Analysis (GBP)

NAV	Lithium price (\$)	10,000	15,000	20,000	25,000	30,000	40,000
0.25X NAV	0.40	15.9	23.7	31.4	39.2	47.1	62.7
	0.30	11.9	17.7	23.6	29.4	35.3	47.0
	0.25	9.9	14.8	19.6	24.5	29.4	39.2
	0.20	7.9	11.8	15.7	19.6	23.5	31.3
	0.10	4.0	5.9	7.9	9.8	11.8	15.7

Source Panmure Gordon

BOARD & MANAGEMENT

Charles Fitzroy – Chief Executive Officer

Charlie FitzRoy, CEO, joined Bradda Head in May 2021 and listed the Company in July 2021 on London's AIM. Charlie has a wide range of experience across the metals and mining sector, with most of his focus from M&A, equity research, and strategy gained from working at Citi, BlackRock, Arden Partners and most recently on CMOC's Corporate Development and Strategy team. He holds degrees in Geology (BSc Hons) and Metals & Energy Finance (MSc) and is a fellow of the Geological Society and a professional member of MIMMM. Charlie also brings with him considerable management experience from his five years with the British Army.

Ian Stalker – Non-Executive Chairman

Ian Stalker is a senior international mining executive with over 45 years of experience in resource development. He has directed over twelve major mining projects, from initial exploration drilling to start-up, including gold, base metal, uranium and industrial minerals. Mr Stalker was President and Chief Executive Officer of LSC Lithium Corp, a TSX Venture Exchange quoted company, which was sold to Pluspetrol Resources Corporation B.V. for approximately C\$111 million in March 2019. Ian was also CEO and Chairman of PLU (Txsv) a Peru based Lithium and Uranium development co. Before that, Ian was CEO of UraMin Inc. from 2005 until its acquisition by Areva S.A. in 2007 for US\$2.5 billion. Prior to this he was VP of Gold Fields Ltd, the fourth largest gold producer in the world at the time.

Denham Eke – Chief Financial Officer

Denham Eke began his career in stockbroking before moving into corporate planning for a major UK insurance broker. He is a director of many years' standing of both public and private companies in the mining, leisure, manufacturing and financial services sectors.

Joey Wilkins – Chief Operating Officer

Joey obtained his geoscience qualification at the University of Arizona. He has extensive experience in porphyry (copper, gold and molybdenum), epithermal (gold and silver), magmatic (nickel and copper) and Industrial Minerals (boron and lithium). He also has extensive knowledge of alteration mapping, geochemical and geophysical interpretation, geotechnical applications, project management and exploration permitting.

Joey has held positions at a number of mining companies including Director of Exploration Great Basin at Coeur Mining, which had assets in Nevada, Vice President and Chief Geologist, as well as being President and CEO, at Aztec Minerals Corp, whose assets were in Arizona and Sonora, Mexico, guiding the company to public company status including a CAD \$4.0M Initial Public Offering (IPO) and also working as a Principal Geologist with Kennecott Exploration Co (Rio Tinto) in the Western US and Mexico.

Brendan Fenerty – Project Geologist

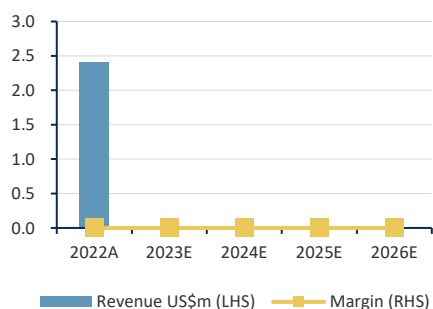
Brendan Fenerty is an exploration geologist conducting reconnaissance geologic mapping and directing drilling operations at Bradda Head's flagship sedimentary lithium assets in Arizona, including the Basin East lithium clay Mineral Resource. Brendan is a PhD Candidate in the Department of Geosciences at The University of Arizona and has extensive experience in scientific drilling of playa-lacustrine systems.

Duncan McBean – VP Exploration

A geologist with more than 30 years of exploration experience from early-stage exploration to development projects, Duncan brings a wealth of project development and management knowledge and has worked in the precious metals and diamond industries. Duncan was involved in bringing the la Colorada mine (Gold, Mexico) and the Snap Lake mine (Diamonds, Canada) into production from the pre-feasibility stage. He has led multidisciplinary teams in resource development in remote locations. Duncan is a member of the Engineers and Geoscientists, BC and Society of Economic Geologists.

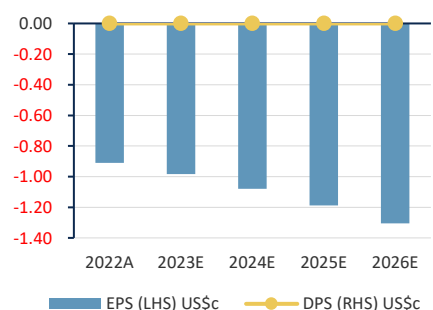
THE NUMBERS

Turnover and operating margin



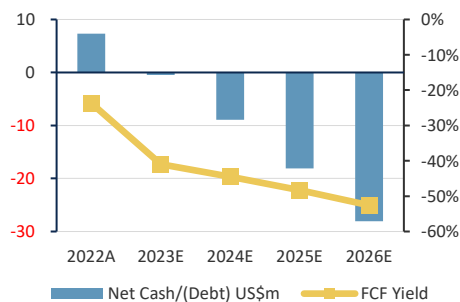
Source Panmure Gordon, Bradda Head

EPS & DPS



Source Panmure Gordon, Bradda Head

Free cash flow and net cash/(debt)



Source Panmure Gordon, Bradda Head

Bull Points

- Exploration upside at three lithium targets
- World class mining jurisdiction
- Exposure to EV revolution in the US

Bear Points

- Risk of exploration failure
- Water availability for mining in Nevada
- Recent weakness in the lithium price

Profit & Loss Account (US\$m)

Year to December	2022A	2023E	2024E	2025E	2026E
Revenue	2.4	0.0	0.0	0.0	0.0
Operating expenses	-5.9	-3.8	-4.2	-4.6	-5.1
G&A	-3.5	-3.8	-4.2	-4.6	-5.1
Exceptional	-0.6	0.0	0.0	0.0	0.0
FX	-0.2	0.0	0.0	0.0	0.0
Share based payments	-1.4	0.0	0.0	0.0	0.0
Impairment	-0.2	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0
Profit/loss	-3.5	-3.8	-4.2	-4.6	-5.1
Finance income	0.0	0.0	0.0	0.0	0.0
Finance costs	-0.0	-0.0	-0.0	-0.0	-0.0
Profit/loss before tax	-3.6	-3.8	-4.2	-4.6	-5.1
Income tax	0.0	0.0	0.0	0.0	0.0
Profit/loss after tax	-3.6	-3.8	-4.2	-4.6	-5.1

Source Panmure Gordon, Bradda Head

Summary Cash Flow Statement (US\$m)

Year to December	2022A	2023E	2024E	2025E	2026E
Operating profit	-3.6	-3.8	-4.2	-4.6	-5.1
Depreciation	0.0	0.0	0.0	0.0	0.0
Equity payment expense	1.4	0.0	0.0	0.0	0.0
Changes in working capital	1.0	0.0	0.0	0.0	0.0
Cash from operations	-0.8	-3.8	-4.2	-4.6	-5.1
Exploration & deferred costs	-2.5	-2.8	-3.0	-3.3	-3.7
Licence/permit costs	-1.1	-1.1	-1.1	-1.1	-1.1
PPE	-0.1	-0.1	-0.1	-0.1	-0.1
Cash from investing	-3.7	-3.9	-4.2	-4.5	-4.9
Change in loans	0.0	-0.0	-0.0	-0.0	-0.0
Cash from share issuance	12.1	0.0	0.0	0.0	0.0
Cash from financing	11.7	-0.0	-0.0	-0.0	-0.0
Change in cash	7.2	-7.8	-8.5	-9.2	-10.0
Cash EOP	7.3	-0.5	-8.9	-18.1	-28.1

Source Panmure Gordon, Bradda Head

Balance Sheet (US\$m)

Year to December	2022A	2023E	2024E	2025E	2026E
Deferred mining and exploration costs	4.2	6.9	10.0	13.3	17.0
Exploration permits and licences	1.6	2.7	3.8	4.9	6.0
PPE	0.1	0.1	0.2	0.3	0.3
Non-current assets	5.9	9.9	14.2	18.8	23.8
Cash	7.3	-0.5	-8.9	-18.1	-28.1
Trade and receivables	0.1	0.1	0.1	0.1	0.1
Current assets	7.4	-0.4	-8.8	-18.0	-28.0
Total assets	13.4	9.6	5.4	0.8	-4.2
Trade and payables	1.1	1.1	1.1	1.1	1.1
Current liabilities	1.1	1.1	1.1	1.1	1.1
Equity	12.2	8.4	4.2	-0.5	-5.6

Source Panmure Gordon, Bradda Head

Distribution of investment ratings for equity research (as of 3 May 23)			Rating: GUIDELINE (return targets may be modified by risk or liquidity issues)	
Overall Global Distribution (Banking Client*)			Buy	Total return of >10% in next 12 months
Buy	Hold	Sell	Hold	Total return >-10% and <+10% in next 12 months
78% (39%)	18% (4%)	4% (0%)	Sell	
* Indicates the percentage of each category in the overall distribution that were banking and/or corporate broking clients				

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