

## SWEETEST SPOT FOR LITHIUM BRINES EXPLORATION

### Investment Highlights

- Argosy Minerals Limited (AGY) is an Australian-based lithium brine explorer and developer with projects in northern Argentina within the “Lithium Triangle” in South America. AGY’s plans are conservative and focussed on minimising project risk and potentially reaching profitable industrial production. AGY has a Joint Venture (JV) in Argentina to earn up to 90% in three stages. AGY’s main project is the Rincon Project (Rincon). Salar del Rincon contains one of the largest undeveloped lithium resources in the world, and shares the same salt flat with a neighbouring project that has recently released encouraging lithium results. We initiate coverage on AGY with a Spec Buy.**
- Pilot Plant Underway:** AGY has recently raised A\$3m to fully fund a lab-scale pilot plant (Stage 1) at the Rincon project, which is expected to be functional in the September 2017 quarter, with a trial of 100-150 tonnes of lithium carbonate equivalent (LCE). AGY will own a 50% in the JV upon completion of Stage 1.
- Key JV Partner:** AGY’s Rincon JV is with a local partner, including Dr. Pablo Alurralde. Dr Alurralde has a conceptual chemical solution to extract lithium from brines at Rincon. Dr. Alurralde has 15 years experience producing lithium carbonate and 30 years experience designing chemical processes.
- Clear Path to Potential Production:** After Stage 1, if successful, Stage 2 will allow AGY to earn a 77.5% project interest by expanding the pilot plant and targeting production of 1,500 tpa of LCE. Stage 3 will be reached once commercial LCE production is achieved, granting AGY 90% interest whilst the local partners will then own the remaining 10%.
- Encouraging Results from Neighbouring Lithium Project:** The Enirgi Group (part of The Sentient Group) released results from its NI 43-101 Bankable Feasibility Study (BFS) performed on the same salt flat as AGY’s Rincon JV, showing that the lithium content from the salt flat reservoir is high enough to be economic.
- Potential Cost Advantage:** Lithium brine producers generally have a cost advantage over hard rock lithium producers, as they use a less energy-intensive process to extract and concentrate lithium.
- Close to infrastructure, Port and Mining Cities:** AGY’s projects are close to existing international roads, rail, power and gas pipelines. The project can be served from the city of Salta in Argentina and could also be supplied from the mining cities of Antofagasta (also a port) and Calama in Chile.
- Argentina is Open for Business:** Argentina has a new pro-investment government. The Country has removed its tariffs, floated its exchange rate, removed business restrictions and has seemingly opened its doors to foreign investment.
- Further Upside:** AGY’s lithium projects in northern Argentina are located in the famous “Lithium Triangle” in South America. AGY’s presence in the region could translate to further discoveries or project acquisitions.

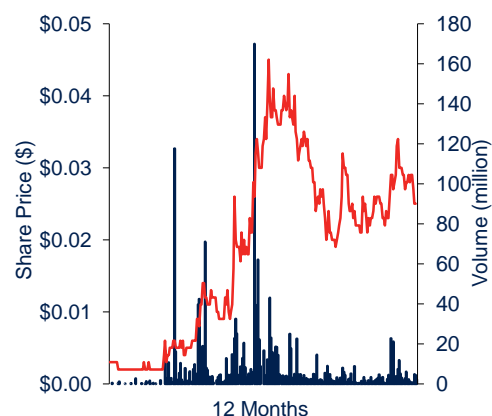
23 November 2016

12mth Rating	SPEC BUY	
Price	A\$	0.025
RIC: <b>AGY.AX</b>	BBG: <b>AGY AU</b>	
Shares o/s	m	744
Free Float	%	91
Market Cap.	A\$m	18.6
Net Debt (Cash)	A\$m	(3.0)
Net Debt/Equity	%	n/a
3m Av. D. T'over	A\$m	0.027
52wk High/Low	A\$	0.045/0.002

**Analyst:** Juan Pablo Vargas de la Vega  
**Phone:** (+61 8) 9225 2818  
**Email:** jpvargas@psl.com.au

*An investment in this company should be considered speculative and note assumptions employed are contingent on broader market conditions remaining supportive. These can change at short notice. Recommendations are current at the time of publication.*

### 12 Month Share Price Performance



## INVESTMENT SUMMARY

We are initiating coverage of Argosy Minerals Limited (AGY) with a Speculative Buy rating. We believe AGY has a significant near term scalable production opportunity that has the potential to put AGY on the map of lithium brine producers. We highlight AGY's sensible de-risking staged plan to become a producer, given the current "lithium boom" times. Otherwise, if commercial production is rushed, AGY could face capital cost blow outs, unforeseen operating costs, and significant time delays.

AGY has a strong lithium brine focus with three lithium projects in northern Argentina. The most advanced project is the Rincon Project (Rincon) (JV to earn up to 90%). The two less advanced lithium brine projects are the Pocitos Project and the Mina Teresa Project, as illustrated on Figure 1.

In addition, the Company has two projects in Australia: the Wee MacGregor Project JV (Cu-Au-Co) with the right to earn up to an 80% interest, and a hard rock lithium project in Tasmania, the Mt Paris Project, with a two year option to acquire a 100% interest. Lastly, AGY has the Erongo graphite project in Namibia, currently under review.

Figure 1: Map of Argosy's projects in Argentina



Source: Argosy Minerals Limited

AGY has strategically Joint Ventured its Argentinian project, with Pablo Alurralde and Francisco Menendez. Dr. Alurralde is an Argentinian national, Chemical Engineer and PhD based in Salta, Argentina. Dr Alurralde has extensive experience working at lithium-brine deposits in Argentina with FMC (a US based, lithium company) and was the co-inventor (US patented) for the "Production of Lithium Carbonate from concentrated brines on sodium chloride".

Mr Alurralde has a conceptual chemical solution to extract lithium from the Rincon brines. This concept will be tested with a pilot plant (commissioning after bore testing) during Stage 1 in CY2017. Rincon is located on a salt flat called Salar del Rincon in the Salta province in northern Argentina and close to the Chilean border. The province of Salta is a mining-friendly jurisdiction, the city of Salta has a population of 600,000, it is 230km east of Rincon and can be used as an operational hub. The project is close to infrastructure including an international gas pipeline and road to Chile that connects to the main mining port of Antofagasta in the Pacific Ocean and the mining city of Calama in Chile.

AGY has not yet explored its 5.8km<sup>2</sup> of tenements on the Salar del Rincon (Figure 2). However, there are several geological studies performed in the past on Salar del Rincon, which highlight the conceptual lithium prospectivity of the salt plain. Admiralty Resources NL (ADY) tried unsuccessfully to produce commercial LCE at Salar del Rincon before selling it in 2008 to the Sentient Group. Since then, the Enirgi Group (a Sentient Group company) performed a Definitive Feasibility Study (DFS) in accordance with the Canadian National Instrument 43-101 and in July 2016 released the results. The DFS was performed by SRK Consulting (SRK). The study concluded that Enirgi's Project has Probable Reserves of 1.2Mt LCE capable to produce 50kt LCE per annum for 24.5 years after a US\$720m capital investment with a NPV @9% of US\$1.36bn. We believe that AGY has a sound and conservative business thesis at Rincon when taking into consideration past history

and recent studies. If Dr. Alurralde's process proves capable of commercially producing LCE, then AGY has potentially a case to have a company-making project.

Figure 2: Map of the Rincon project and its tenements



Source: Argosy Minerals Limited

## KEY INVESTMENT HIGHLIGHTS

**Sensible Approach to Production:** AGY has staged plans following a conservative and methodical approach to production at Rincon. We positively value the farm in agreement and its three stages to full commercial production. Currently, AGY will earn 50% of the JV by funding Stage 1. The Company expects a pilot plant to be fully operational in September 2017. Testing 100-150 tonnes LCE, the trial is expected to take less than 12 months. Stage 2 will grant AGY 77.5% of the JV after expanding production to 1,500 tpa LCE. In theory, AGY could by-pass Stage 1 and start directly with Stage 2. However, the Company has decided to start from a lower base to reduce risks. We believe that this short-term opportunity cost and time to production could be quickly outweighed by the knowledge gained from an in-situ Stage 1 pilot plant. As a result, AGY will have a better understanding of potential operational and capital costs much earlier, which will assist in risk management. Stage 3 should unfold as a natural step into production if things go according to plan. Once Stage 3 is completed, AGY should own 90% of the JV. Production targets and timing to full commercial production remain unknown at this stage.

**Key Local Partnership and Chemical Solution to Rincon:** AGY's JV partners could potentially fast track Rincon to production. Dr Alurralde has solid experience in lithium brines and has a conceptual solution to Rincon's chemistry to produce LCE. As important as the previous point is, the fact that Dr. Alurralde is a local resident of Salta and will be responsible for the Stage 1 execution is equally pivotal.

**Rincon's Stage 1 is Fully Funded:** AGY recently raised A\$3m in order to fully fund Stage 1 and corporate commitments. A successful Stage 1 will help to partially fund further expenditure.

**Rincon is located close to Existing Infrastructure:** Rincon could benefit from its location and nearby infrastructure. Rincon is close to an existing gas pipeline that runs north of the project, which could provide gas for power if required.

**Upside Exposure to Lithium Brine Projects:** AGY has two other lithium brine projects in northern Argentina that potentially could provide further production upside. AGY has exploration plans on the Pocitos' project c22km<sup>2</sup> of tenements. Pocitos is relatively close to Rincon and also located in the same jurisdiction of Salta. If Pocitos proves to be economically successful, then it could provide substantial synergies to AGY by having two nearby operating units. The Mina Teresa project is a less advanced project located in the bureaucratic region of Jujuy. The project has c24km<sup>2</sup> of tenements with promising historical values.

**Argentina is Open for Foreign Investment:** Since December 2015, Argentina has a new pro-investment government which contrasts from its predecessor. Among critical improvements we can highlight the free float exchange rate of the Argentinian Peso vs. US Dollar, removal of all capital controls to foreign investment and



dividend repatriation, and removal of most export duties and trade controls. Given these positive changes, the International Monetary Fund will audit Argentina's accounts for the first time in nearly a decade.

## ASSETS

### Rincon Lithium JV Project (Argentina):

Rincon is AGY's most advanced and best understood lithium brine project. The project is located in the northern region of Santa, Argentina at RL 3,700 metres and close to the border with Chile. The project can be serviced from the city of Salta, located 230km east of Rincon by road.

The Company is committed and funded to execute Stage 1, as part of the agreed farm-in for AGY to earn the initial 50% of the JV. The agreement includes building a Pilot Plant at Rincon with capacity to produce up to 100-150 tonnes of LCE. Works at Rincon are already underway and contemplates the following work plan:

- Environmental studies and regulatory approvals/permits – target completion during December 2016 quarter;
- Pond construction and associated works– target completion during March 2017 Quarter;
- Pond lining and associated works – target completion during March 2017 Quarter;
- Brine extraction, pumping, storage and transportation works - target completion end of September Quarter 2017;
- Pilot plant construction and test-works, including brine processing, analysis and laboratory treatment of the lithium concentrate - target completion end of September 2017 Quarter;
- Pending success of the Stage 1 development works, produce LCE product - target completion during December 2017 Quarter.

It is too early in our opinion to comment on of the total lithium content at the reservoir, lithium recovery rates and lithium product specifications. However, there is a study performed at the same Salar released by the Enirgi Group (Enirgi), a company dependent of the Sentient Group. In July 2016, a DFS was published in accordance with NI 43-101. The study was performed by SRK. Probable reserves with lithium grades in the high 300's mg/l were reported. If similar grades were encountered at AGY's Rincon, then it could provide a platform to potentially reach LCE production.

We highlight that this project does not intend to use evaporation ponds to concentrate lithium and produce LCE. Enirgi is looking to apply a new edge technology by producing LCE within 24 hours, in contrast to the normal concentration and evaporation process in ponds that can take around 6 months. The Enirgi Group has worked in cooperation with the Australian Nuclear Science and Technology Organisation ("Ansto") to develop this new technology. Enirgi has plans to start an in-situ project pilot plant in March 2017 Quarter.

**SRK Consulting Presentation on Lithium Resources:** SRK presented in August 2016 at the Lithium Congress held in Perth, Australia. In this presentation, SRK catalogues world-wide lithium known resources ranking them from Small to Extra-large. Salar del Rincon, is the 4<sup>th</sup> largest undeveloped lithium resource in the world as illustrated next on Figure 3. This places AGY's Rincon in the right place to target LCE production.

SRK also highlights the importance of the chemistry on brine deposits. Salar del Rincon, has a ratio of 8.6 - 16.0 magnesium to lithium (Mg/Li), which is considered high. Generally, in the lithium brine industry, this ratio translates to higher operational costs to extract the magnesium present in the brine in order to produce a clean LCE. Hence, the importance of testing AGY's pilot plant during Stage 1. In our view, Dr. Alurralde has a pivotal role in solving this chemical challenge and successful execution of project on time and budget.

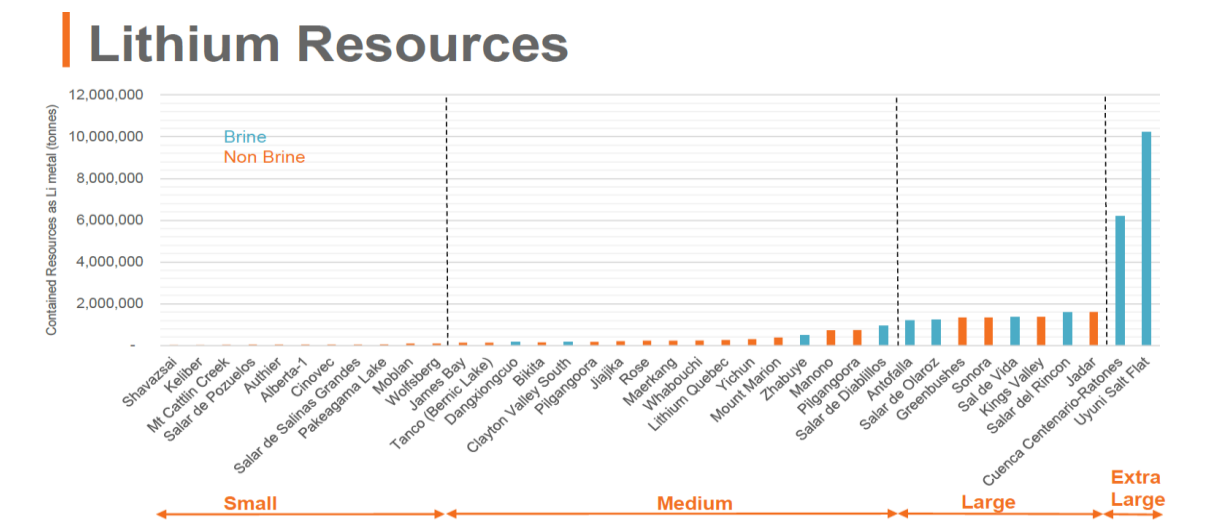
### Pocitos Lithium Project (Argentina)

The Pocitos project is located south west of Rincon with c.22km<sup>2</sup> of tenements on Salar de Pocitos in the Salta Province in northern Argentina. AGY's exploration plans for the Project consist on historical data review, which has now been completed, followed by two exploration stages:

- Exploration Works Stage 1 consists of a trenching and sampling program, with the objective of targeting delineation of a JORC inferred Resource.
- Exploration Works Stage 2 requires geophysical surveying and drilling, targeting a JORC resource estimate.

Pocitos also has the potential of being a "company maker" competing with Rincon. Pocitos could host more lithium, this is due to its larger tenement size and apparent location in the middle of the Salar. There are no budgets or time lines for when the exploration plan will be executed at Pocitos'. We believe that, given the closeness of Rincon, Pocito's Exploration Works Stage 1 may commence during 2017.

Figure 3: World's known lithium resources



Source: SRK Consulting, Development of Lithium Brine Projects, Perth, WA, 16 August 2016.

**Mina Teresa Lithium Project (Argentina):** Mina Teresa has c.24km<sup>2</sup> of Tenements at the Salinas Grandes Salar in Jujuy Province in northern Argentina. AGY's short term plans are to perform trenching/pitting/sampling with the objective to perform test-work to determine potential production strategies.

**Other Projects:** AGY has two projects in Australia: the Wee MacGregor Project (Cu-Au-Co) with the right to earn up to 80%, and a hard rock lithium project in Tasmania, the Mt Paris Project, with a two year option to acquire 100% interest. Lastly, AGY has the Erongo graphite project in Namibia, currently under review.

## LITHIUM OUTLOOK

We hold a positive outlook for the long term LCE price with a range of US\$9,000-10,000/t. We expect that prices will remain at these indicated levels due to the growing demand for electric and hybrid cars which currently require lithium-based batteries to power them. On the supply side, there are several new projects and expansions that we think will continue to match the increases in lithium demand maintaining our indicated price range.

## COMPANY FINANCIALS

AGY has 744,750,788 shares on issue and 12.5m options @ 0.09 expiring 13 June 2017, with only one shareholder owning more than 5% (9.2%). The Company has c.\$3m in cash and budgets to spend up to \$2.5m for the Stage 1 pilot plant and other brines projects in Argentina during 2017.

## RISKS

AGY essentially has sufficient funds to execute Stage 1 at the Rincon Project and other commitments to late 2017. We outline the key risks to AGY's plans:

**Lithium Reservoir:** Results may differ materially from those outlined by SRK at Salar del Rincon due to changes in the geology of the reservoir at AGY's tenements. Salar de Pocitos and Salinas Grandes Salar could prove to be immature salars and may not be economic.

**Failure of Stage 1 Pilot Plant:** Whilst we believe that AGY's plans for the Stage 1 pilot plant are sound, there is a risk that the conceptual design may not perform as expected. As a result, this has the potential to affect AGY's plans to become a lithium brine producer.

**Commodity Price:** The majority of future revenues may be derived from the sale of LCE. Fluctuations in the Lithium price could affect the Company's ability to extract LCE at a profitable margin in the future. We expect the long term lithium price to continue to hold at similar levels to the current contract prices. However, we note that the current world trend to find other ways of storing energy and substitute lithium could adversely impact lithium prices.

**Permitting/Environmental:** While all the permitting has been achieved for Stage 1 at the Rincon Project, further permitting will be required for Stages 2 and 3. There is a small risk that this may not be achieved.

**Country Risk:** Whilst AGY's Joint Venture partners have significant experience operating in Argentina, there is still risks associated with operating in a country with a troubled history of significant changes in macroeconomic policies.

**Exchange Rate:** AGY has an Argentinian project and is an Australian company. This means it is subject to fluctuations in foreign currency exchange rates between the Australian dollar, Argentinian Peso and US dollar, which have the potential to decrease the profitability of the Company.

## BOARD

### Mr Alexander Molyneux (Non-Executive Chairman)

Mr. Molyneux is an experienced resources industry executive. Mr. Molyneux currently serves as CEO of uranium producer, Paladin Energy Limited (ASX:PDN). He is a Co-Founder of Azarga Resources Group and Non-Executive Chairman of Azarga Metals Corp. (TSX-V:AZR). Mr. Molyneux was previously President, CEO and Director of SouthGobi Resources (TSX:SGQ, HKEX:1878) (2009 - 2012), an Ivanhoe Mines Group company, and a Non-Executive Director of Goldrock Mines Corp. (2012 - 2016).

Prior to joining SouthGobi, Mr. Molyneux had a 10-year career as a natural resources investment banker, including as Managing Director, Head of Metals and Mining Investment Banking, Asia for Citigroup. Mr. Molyneux holds a Bachelor degree in Economics from Monash University in Australia.

### Jerko Zuvela (Managing Director)

Mr Zuvela is a Chartered Professional Geologist having spent over 20 years in the mining and resources industry. Mr. Zuvela has held executive management roles for private and public resources companies, with operational and corporate experience in various commodities covering exploration, project development, business development, finance, commercial and corporate activities involved with projects in Australia, Asia, Africa and South America.

Mr. Zuvela has considerable experience in building junior resources companies and understands the requirements working within this sector, including fundamental parameters, strategic drivers and market requirements within the junior resources industry. Mr. Zuvela played a key role in transforming Kangaroo Resources Ltd to an ASX300 company taken over by Bayan Resources. Other executive roles have included Managing Director at Indicoal Mining Australia, Technical Director at OZ Coal, General Manager at Strike Resources and Alara Resources, and Chief Geologist at Fireside Resources.

Mr. Zuvela is currently a director of ASX listed Discovery Africa Limited. He is a Chartered Professional (Geology) Member of the Australasian Institute of Mining and Metallurgy and holds a Bachelor of Science in Applied Geology from Curtin University in Western Australia.

### Ranko Matic (Non-Executive Director)

Mr Matic is a Chartered Accountant with over 25 year experience in the areas of financial and executive management, accounting, audit, business and corporate advisory. Mr Matic is a director of a chartered accounting firm and a corporate advisory company based in Perth, and has specialist expertise and exposure in areas of audit, corporate services, due diligence, mergers and acquisitions, and valuations.

Mr Matic is currently a director of several ASX listed companies including Valmec Ltd, Celsius Coal Ltd, East Energy Resources Limited and Antilles Oil and Gas NL. Mr Matic has also acted as Chief Financial Officer and Company Secretary for companies in the private and public sector and currently holds several CFO and company secretarial roles with publicly listed companies.

### Andrea Betti (Non-Executive Director & Company Secretary)

Ms. Betti is an accounting and corporate governance professional with over 18 year experience in accounting, corporate governance, finance and corporate banking. She has a Bachelor of Commerce, Graduate Diploma in Corporate Governance, Graduate Diploma in Applied Finance and Investment and a Masters of Business Administration. Ms. Betti has acted as Chief Financial Officer and Assistant Company Secretary for companies in the private and public sector, as well as senior executive roles in the banking and finance industry.



1300 582 256

patersons@psl.com.au

www.psl.com.au

## Research

Rob Brierley - Head of Research  
Hira Sakrani - Research Assistant  
Brad Seward - Associate Analyst

Phone: (+61 8) 9263 1611  
Phone: (+61 3) 9242 4052  
Phone: (+61 8) 9225 2835

Email: rbrierley@psl.com.au  
Email: hsakrani@psl.com.au  
Email: bseward@psl.com.au

## Strategy & Economics

Tony Farnham - Economic Strategist / Analyst  
Andrew Quin - Research Strategy Coordinator  
Kien Trinh - Senior Quantitative Analyst

Phone: (+61 2) 9258 8973  
Phone: (+61 8) 9263 1152  
Phone: (+61 3) 9242 4027

Email: tfarnham@psl.com.au  
Email: aquin@psl.com.au  
Email: ktrinh@psl.com.au

## Commodities

Simon Tonkin - Senior Analyst  
Juan Pablo (JP) Vargas de la Vega - Analyst

Phone: (+61 8) 9225 2816  
Phone: (+61 8) 9225 2818

Email: stonkin@psl.com.au  
Email: jpvargas@psl.com.au

## Industrials

Martyn Jacobs - Analyst  
Jon Scholtz - Analyst

Phone: (+61 3) 9242 4172  
Phone: (+61 8) 9225 2836

Email: mjacobs@psl.com.au  
Email: jscholtz@psl.com.au

## Institutional Dealing

Dan Bahen  
Michael Brindal  
Artie Damaa  
Paul Doherty  
Chris Kelly  
Stuart Murray  
Jeremy Nugara  
George Ogilvie  
Phil Schofield  
Josh Welch  
Sandy Wylie

Phone: (+61 8) 9263 1274  
Phone: (+61 8) 9263 1186  
Phone: (+61 2) 8238 6215  
Phone: (+61 3) 8803 0108  
Phone: (+61 3) 9242 4078  
Phone: (+61 2) 8238 6210  
Phone: (+61 3) 8803 0166  
Phone: (+61 8) 9263 1627  
Phone: (+61 2) 8238 6223  
Phone: (+61 8) 9263 1668  
Phone: (+61 8) 9263 1232

Email: dbahen@psl.com.au  
Email: mbrindal@psl.com.au  
Email: adamaa@psl.com.au  
Email: pdoherty@psl.com.au  
Email: ckelly@psl.com.au  
Email: smurray@psl.com.au  
Email: jnugara@psl.com.au  
Email: gogilvie@psl.com.au  
Email: pschofield@psl.com.au  
Email: jwelch@psl.com.au  
Email: swylie@psl.com.au

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