



# ASX ANNOUNCEMENT



31 OCTOBER 2016

## SEPTEMBER 2016 QUARTERLY REPORT

### Highlights

- Authier Lithium project acquisition completed
- \$7.1 million capital raising completed to fund the Authier acquisition
- Metallurgical and drill testing, and Pre-Feasibility Study commenced at Authier
- Expanded WA Lithium tenement coverage to over 1,100 km<sup>2</sup>

**Sayona Mining Limited (ASX: SYA) ("Sayona" or the "Company")** is pleased to announce activities for the quarter including the completion of the Authier acquisition, a \$7.1 million capital raising, commencement of a pre-feasibility study and a 4,000 metre drilling program on the Authier lithium project in Canada.

### Authier, Canada

#### Authier Acquisition and Capital Raising

During the period, the Company completed the due diligence and entered into formal transaction documents for the CAD\$4 million acquisition of the Authier lithium Project. The acquisition was completed on the 20 July 2016.

To fund the Authier acquisition, the Company completed a share placement and a fully underwritten Rights totalling A\$7.1 million.

The funds (together with the net proceeds from the Rights Issue and the Company's existing cash) were applied to:

- Acquisition of the Authier lithium Project;
- On-going feasibility expenditure on the Authier lithium Project;
- Exploration expenditure on the Australian Projects; and
- Administration and working capital requirements.

#### Authier JORC Mineral Resource Estimate

As part of its due diligence on the proposed Authier acquisition, an independent JORC Mineral Resource estimate, totalling 9.12 million tonnes containing 87,302 tonnes of Li<sub>2</sub>O was reported.

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The Company has independently undertaken a detailed audit of all the available data to verify the previous work and convert the foreign estimate to a JORC 2012 compliant Mineral Resource estimate, tabulated below at a 0.5% Li<sub>2</sub>O cut-off grade.

Table 1 – Authier JORC Mineral Resources Estimate (0.5% Li <sub>2</sub> O cut-off grade)			
Category	Million Tonnes	Grades Li <sub>2</sub> O	Contained Li <sub>2</sub> O
Measured	2.08	0.95%	19,730
Indicated	5.16	0.97%	50,092
Inferred	1.88	0.93%	17,480
Total	9.12	0.96%	87,302
Cautionary Note - Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into a Mineral Reserves estimate.			

For the full details of the JORC resource please see ASX release, “Authier JORC Mineral Resource Estimate, 5 July 2016.

### Authier Work Program

The Company's primary strategy is to focus on completing the studies required to commence the development of the project. Authier is a near-term development project and cash-flow generation opportunity. The Company believes it will create significant share value-uplift potential for shareholders as the project is advanced towards development.

The key attractions of the Authier lithium project, include:

- **Extensively drilled** - mineralisation hosted in a spodumene-bearing pegmatite intrusion with more than 15,000 metres of drilling in 123 holes;
- **Simple deposit** - 825 metres long with an average thickness of 25 metres dipping at 40 degrees, amenable to low-cost, open-cut mining techniques;
- **Defined resources** – JORC Mineral Resources totalling 9.12 million tonnes at 0.96% Li<sub>2</sub>O containing 87,302 tonnes of Li<sub>2</sub>O at a 0.5% cut Li<sub>2</sub>O (Table 1);
- **Simple metallurgy** - extensive metallurgical testing and flowsheet designed to produce a 5-6% Li<sub>2</sub>O concentrate at an 85% metallurgical recovery;
- **Well studied** - a NI43-101 Technical Report – Preliminary Economic Assessment – completed in 2013, demonstrated the technical and commercial viability of developing the deposit, and selling lithium concentrates;
- **Excellent infrastructure** – situated 45 kilometres from mining support services, and links to road and rail networks, including the Quebec export port; and
- **Large sunk cost** – significant investment in drilling, geophysics and development studies.

### **Authier Metallurgical Testing Program**

Metallurgical testing using 410 kilograms of drill core from a previous diamond drilling commenced at SGS Lakefield in Canada. SGS Lakefield have over 70-years' experience in metallurgical testing and design, and considerable experience in the lithium industry.

Authier has been the subject of several metallurgical test work programs that have successfully demonstrated the ability to produce high grade concentrates using conventional flotation technology. The primary focus of this metallurgical program is to demonstrate whether Authier spodumene ore is amenable to concentration using Dense Media Separation.

In addition to the DMS testing program, the metallurgical testing program will include mineralogical analysis using QEMSCAN, further grindability testing, and batch and locked cycle flotation testing. Following completion of the metallurgical testing program, Bumigeme Inc will prepare an updated flow sheet, and capital and operating cost estimates for incorporation into a Pre-Feasibility Study.

### **Authier Pre-Feasibility Study (PFS)**

During the quarter, the Company commenced a PFS to assess the development potential of a simple, low strip ratio, open-cut mining operation and processing facility producing spodumene concentrate.

The PFS will be prepared by SGS Canada and Bumigeme who together have significant experience and expertise in all aspects of lithium resource definition, mining, processing and infrastructure requirements in Quebec. The PFS will assess the technical and economic viability of developing the Authier project, and expands on the Authier NI43-101 Technical Report, Preliminary Economic Assessment, completed in 2013.

### **Authier Drilling program**

During the period, a 4,000 metre diamond drilling program commenced with the overall objectives, including:

- Converting the inferred mineral resources to measured and indicated through further drilling;
- Increasing the drill density to convert mineral resources to reserves;
- Exploring for extensions to the existing mineral resources and other potential mineralisation within the tenement package;
- Collecting geotechnical and hydrological data for incorporation in the Authier Feasibility Studies; and
- Collecting additional drill core for any additional metallurgical testing that may be required to complete a Bankable Feasibility study, planned for 2017.

The drilling program has been designed to improve the overall quality and expand on the size of its existing JORC 2012 compliant Mineral Resource estimate (Table 1). The project has more than 15,000 metres of diamond drilling in 123 holes, and 2,143 assay samples (Figure 1).



Subsequent to the end of the quarter, the Company announced the results of the first two drill holes, discovery of a new pegmatite and successful delineation of mineralisation within the gap zone between the eastern and western sectors.

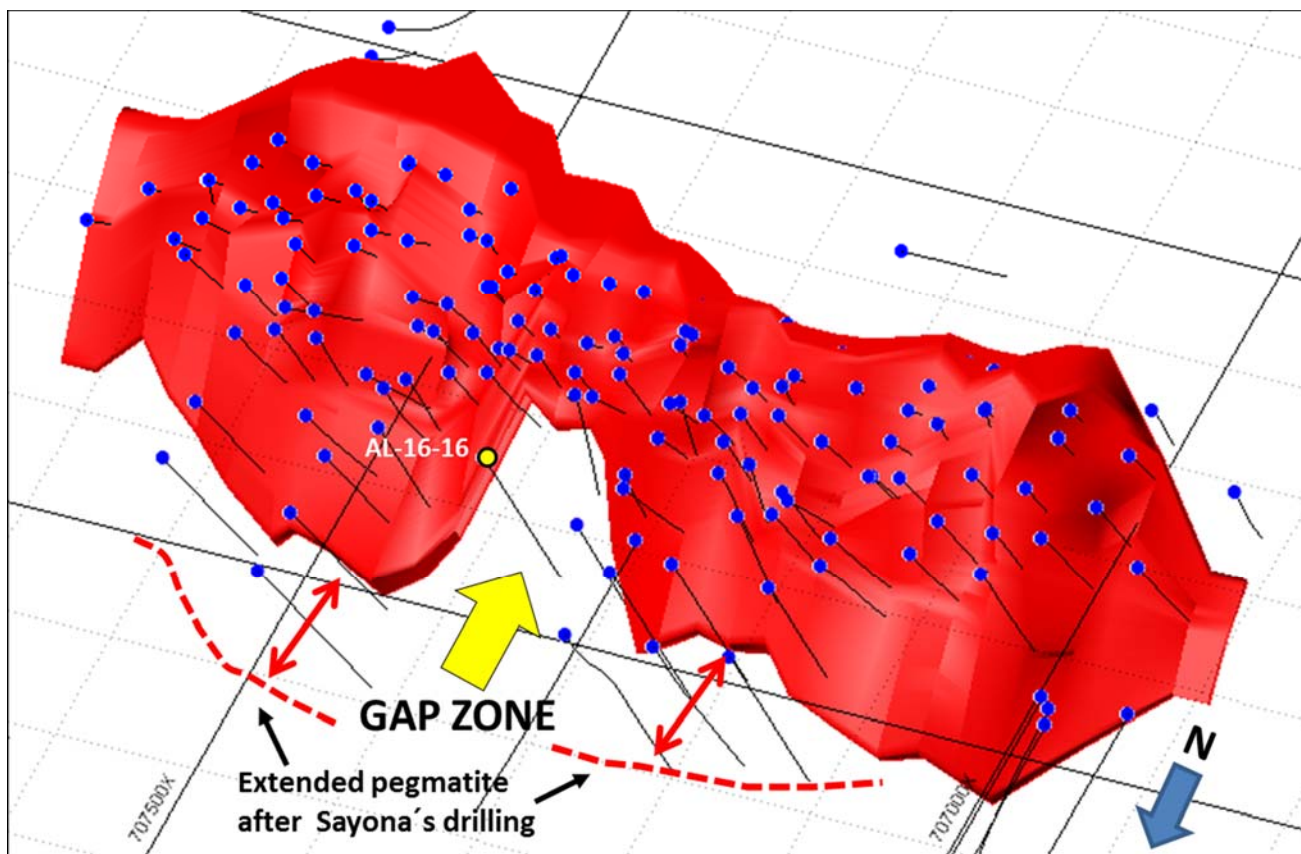
- Hole 1 - 62 metres at 1.35 %  $\text{Li}_2\text{O}$  from a downhole depth of 12 metres, and includes 16 metres at 1.65 %  $\text{Li}_2\text{O}$  from a downhole depth of 27 metres; and
- Hole 2 - 49 metres at 1.18 %  $\text{Li}_2\text{O}$  from a downhole depth of 50 metres (vertical depth of 30 metres) including, 17 metres at 1.49 %  $\text{Li}_2\text{O}$  from a downhole depth of 81 metres.

Within the gap zone, hole 16 has intersected a 40 metre thick zone of spodumene mineralisation in the main pegmatite at a downhole depth of 160 metres. Historical drilling has previously failed to intersect mineralisation within the middle to deep levels of the gap zone, and it was interpreted that the resource didn't connect between the eastern and western zones (see Figure 1). Spodumene mineralisation was visible throughout the intersection and interpreted as medium to high grade lithium, and drill core has been sent to the laboratory for assaying.

- Adding additional resource. The mineralisation within the zone is interpreted to extend approximately 150 metres in strike length and down to 200 metres depth; and
- Simplify the mine plan and optimisation of the life-of-mine stripping ratio.

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In addition, the discovery of a second pegmatite body, located 400 metres north of the Authier pegmatite, highlights the potential for discovering new pegmatites within the large tenement package. The new pegmatite, not visible from the surface, was intersected at shallow levels between 15 metres to 21 metres downhole depth and contained visible spodumene mineralisation



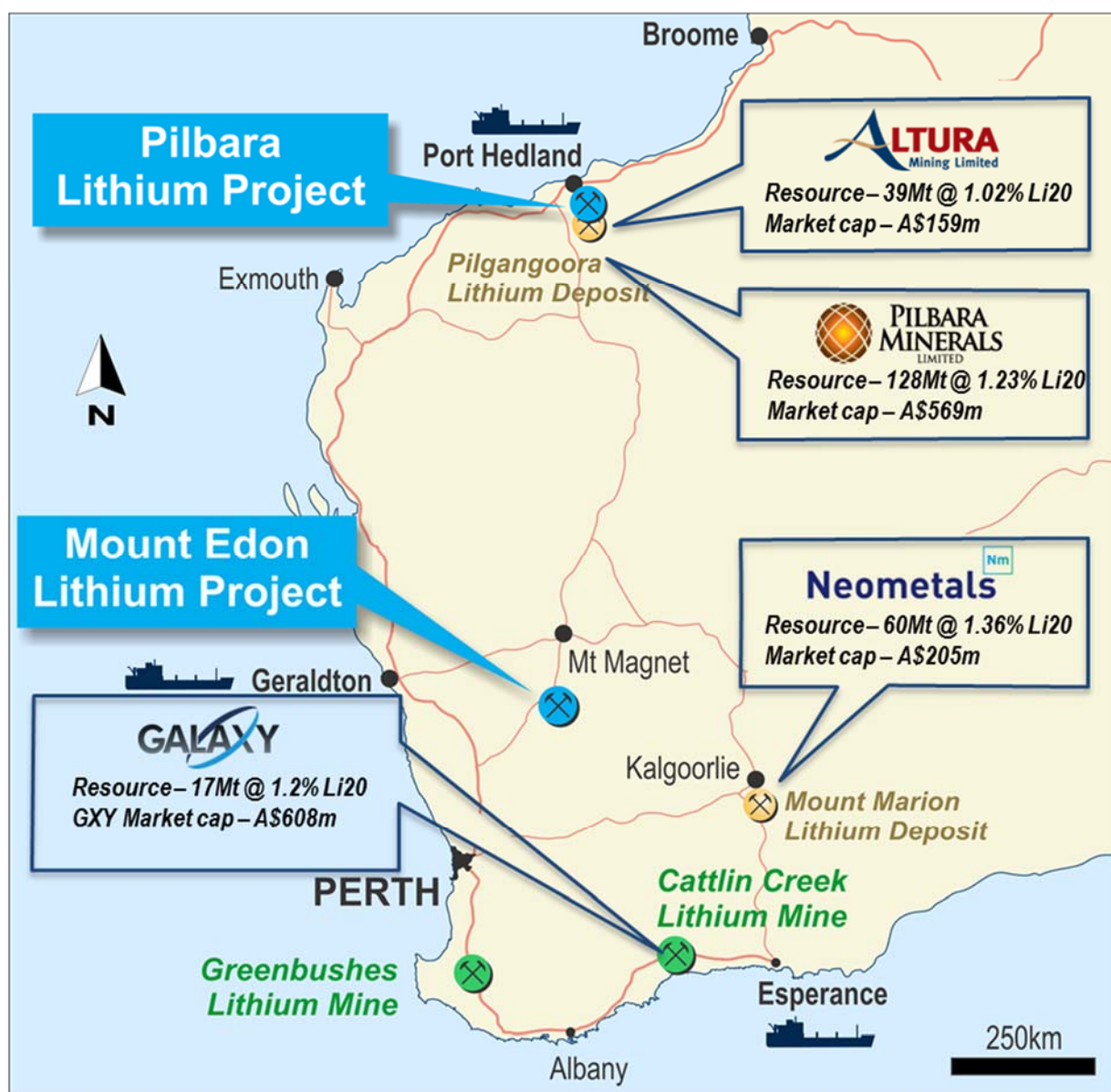
**Figure 2:** 3D view of Authier pegmatite showing drill hole 16 location in the gap zone and the approximate boundaries of the main pegmatite following the current drilling program



## Western Australian Lithium Projects

Western Australia is a premium lithium province with world-class, high-grade lithium deposits associated with rare metal pegmatites. The Company has secured two regional project areas covering a total 1065 km<sup>2</sup> (see figure 3) as part of its strategic move into lithium exploration.

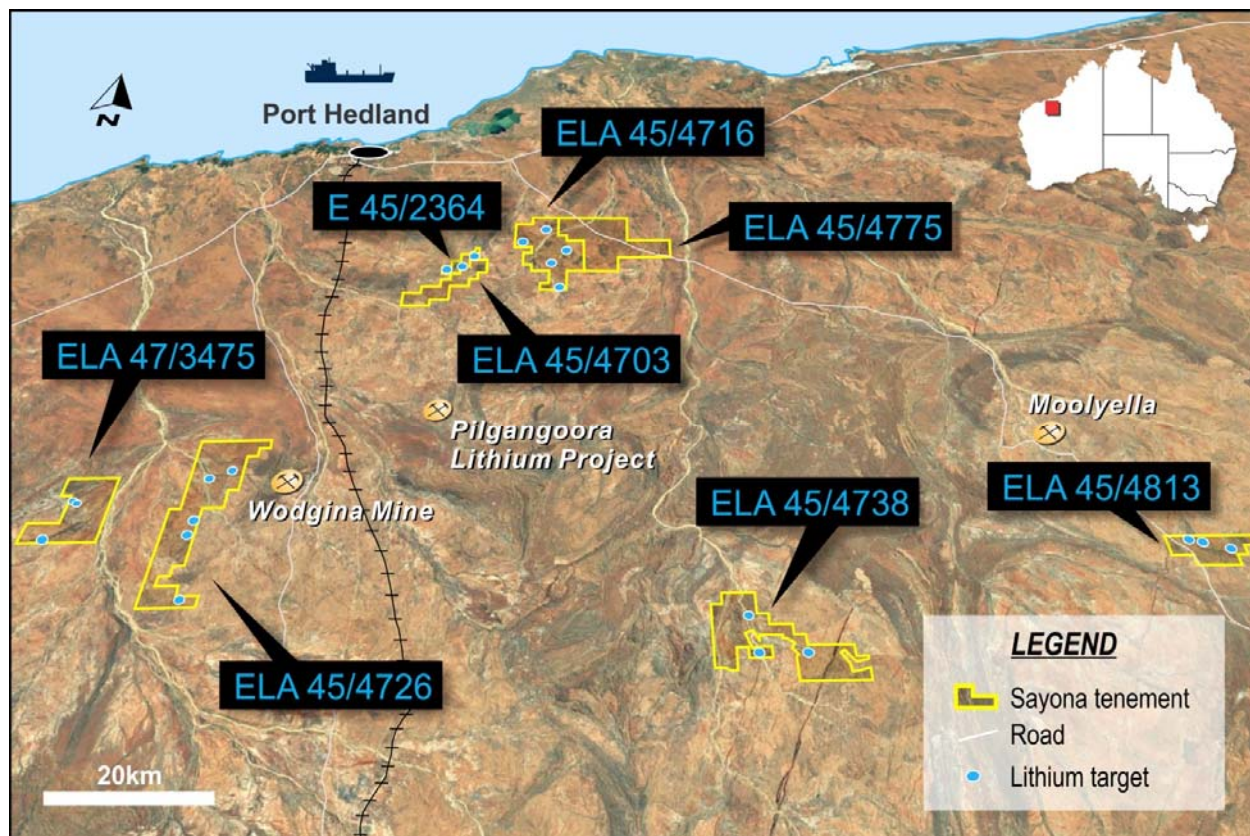
During the quarter the company continued to carry out first pass exploration over its tenure, complimented by the pegging of one new tenement at Moolyella in the Pilbara.



**Figure 3:** Project location and significant lithium mines and deposits in Western Australia

### Pilbara Lithium Project, Pilgangoora district

The Pilbara tenure covers 1047km<sup>2</sup> and covers areas of tin-tantalum mineralised pegmatites with no past lithium exploration. The company is exploring these targets for spodumene bearing pegmatite. Target areas are shown on the figure below.



**Figure 4:** Pilbara lithium tenements

#### ***Tabba Tabba Area -E45/2364 (pegmatite rights only) and ELA45/4703.***

The Tabba Tabba project, located north of Pilgangoora is prospective for spodumene bearing pegmatites, similar to those located at Pilgangoora and Mount Cassiterite at Wodgina.

Sayona has focused its exploration over granted E45/2364, where it has an option to acquire 100% of the pegmatite rights. The tenement covers a 10 km strike extent of the greenstone stratigraphy to the south of the Tabba Tabba tantalum mine and has not been explored for its lithium potential in the past.

Within E45/2364 and adjoining ELA45/4703 the Company has carried out geochemical orientation with collection of a total 69 pegmatite rock samples, 88 soil samples and 11 stream samples.

Results define three new zones of anomalous pegmatites within greenstone, (maximum 357ppm tantalum, 428ppm cesium and 3,000ppm rubidium). The peak lithium value in sampling is 387ppm Li<sub>2</sub>O. The Company is encouraged by the discovery of previously unidentified target rare metal pegmatites within the project area.



A second trend of pegmatites and geochemical anomalism, marginal to granite along the Tabbatabba shear, has also been noted by explorers to the south west and remains to be systematically sampled. Historic stream sampling in this area recorded up to 5,000ppm tantalum and 1,700ppm tin.

A large number of target areas have been identified for systematic follow up exploration.

***Red Rock Project; ELA45/4716, ELA45/4775***

The Red rock project (415km<sup>2</sup>), is located to the east of Tabbatabba and covers the northern extension of the Pilgangoora belt, securing the Red Rock pegmatite as well as greenstone remnants and old dredging claim areas, indicative of past tin-tantalum prospecting.

A new application ELA45/4775 was made following processing of magnetic and radiometric data. This work suggests remnant greenstone lithologies adjacent to a favourable granite contact may host lithium prospective pegmatites. The bedrock geology is obscured over much of the application area. The Company intends applying its developing exploration methodology to identify those areas of highest prospectivity.

***Cooglegong Project (ELA45/4738)***

The Cooglegong project is a new application for the quarter. It covers 140 km<sup>2</sup> of the northern part of the Shaw River tin field, an area of historic tin mining. The area is host to albite pegmatites associated with younger, post tectonic granite with lithium potential.

First pass geological traversing and broad spaced sampling (75 pegmatite samples collected) has identified a large number of pegmatites. Assay results define three areas of elevated Ta-Rb-Cs-Nb, indicative of more fractionated, rare metal pegmatite. The maximum lithium result of 166ppm Li<sub>2</sub>O is also elevated. Further reconnaissance and detailed sampling over the three target areas is planned.

***Wodgina Project (Friendly Creek, ELA47/3475 and West Wodgina ELA45/4726)***

The project areas at Friendly Creek (ELA47/3475) and West Wodgina (ELA45/4726) cover 339km<sup>2</sup>, and secure areas of past tin and tantalum prospecting activity. The bedrock rare metal pegmatite hosts have not been subject to modern exploration or assessment for their lithium potential. The project areas show similarities with the tin pegmatites at Mt Cassiterite in the Wodgina field which host spodumene bearing albite pegmatites, the Company's target exploration focus.

***Moolyella Tenement Acquisition***

During the quarter, the Company announced that it has continued to develop its lithium exploration ground holding with a new tenement application in the Moolyella district, Western Australia.

The new project area at Moolyella (ELA45/4813) covers 61 km<sup>2</sup>, and secures part of the southern portion of the Mt Edgar batholith. Rare metal pegmatites associated with post tectonic granites intruding this batholith have been the source rocks for historic tin-tantalum mining. Importantly, spodumene bearing pegmatites have recently been identified in the Moolyella area (1). The companies Moolyella application, located to the south and east is targeting similar occurrences. It has not been previously explored for its lithium potential.

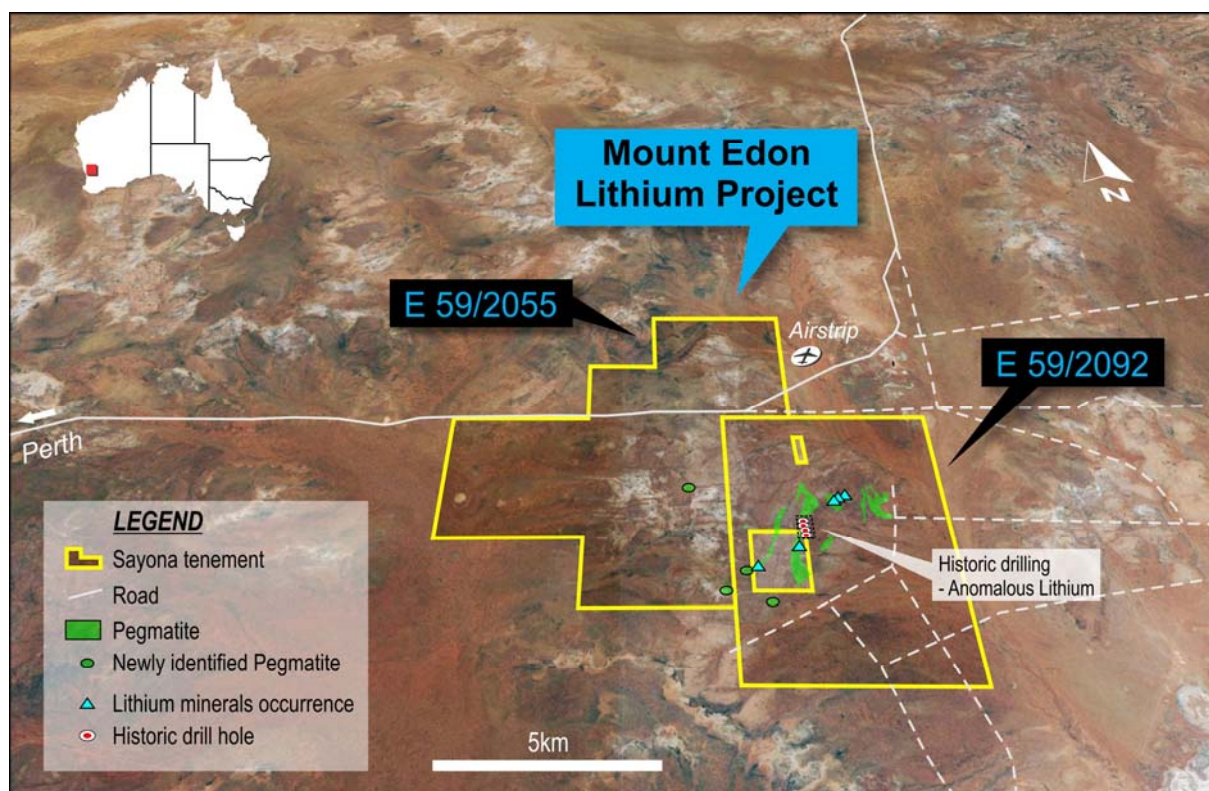


Government mapping indicates the lithium pegmatites in the Moolyella Tin Field are associated with north south structures, and a number of these have been identified from detailed airborne magnetics within the Company's new application. These targets will be the focus of initial exploration.

The Company now has 1047km<sup>2</sup> of tenure in the Pilbara (Figure 3) district which is prospective for spodumene bearing pegmatites.

### Mount Edon Project

Mount Edon covers the southern portion of the Paynes Find greenstone belt, South Murchison, which are host to an extensive swarm of pegmatites. The pegmatites have not previously been assessed for their lithium potential but have been variably prospected and mined for tantalum, mainly within an excised mining lease (see Figure 4).



**Figure 5:** Mt Edon project location

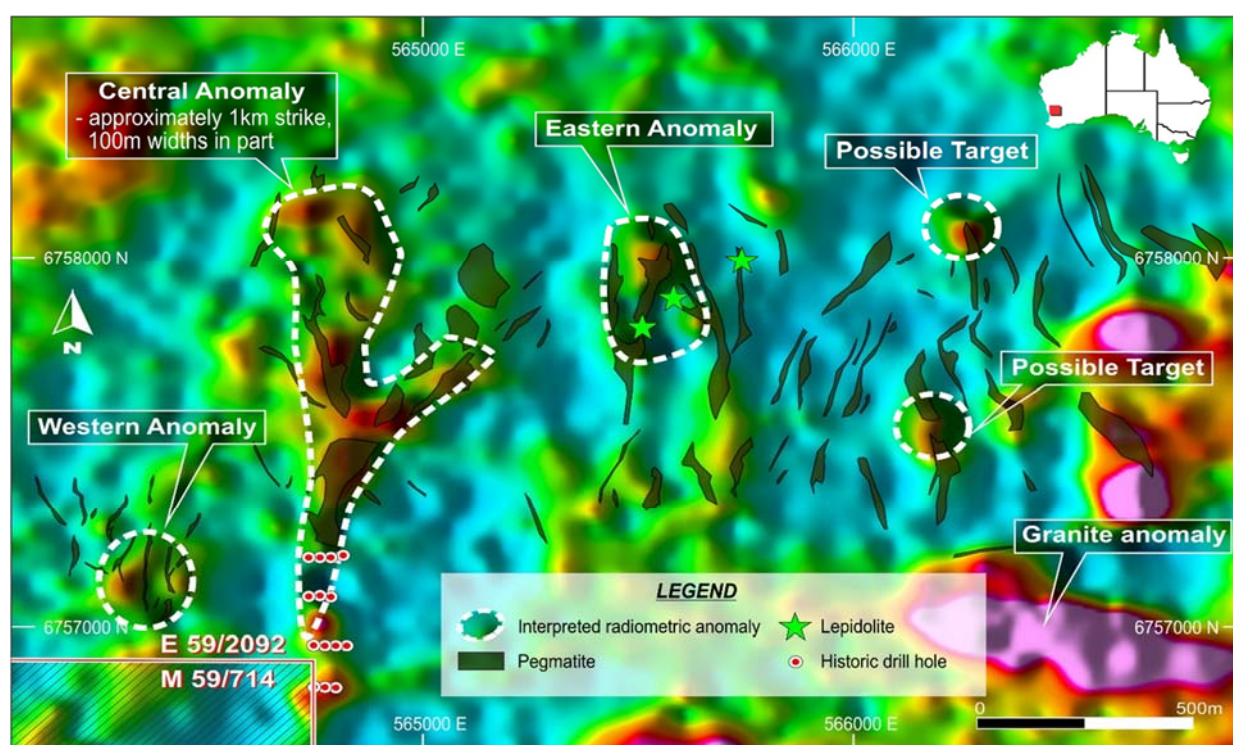
The Mt Edon pegmatites range from simple microcline feldspar dominated occurrences to evolved rare metal albite types, mineralised with tantalum niobium and lithium. The Company is exploring the project for its potential to host the albite – spodumene class of rare metal pegmatite, similar to other greenstone hosted occurrences in the Yilgarn.

Pegmatites range from five metres to over 100 metres in surface width, arranged in swarms of up to 1 kilometre in strike extent. The pegmatites have variable outcrop and are in part obscured by colluvium.

Over 70 pegmatites have been identified during reconnaissance mapping, spread out over a 4km zone. Others are present further to the north and west but outcrop in these areas is poor and these systems are poorly defined at present.

A total of 95 pegmatite rock samples have been collected during reconnaissance work and have returned a peak assay of 1.57% Li<sub>2</sub>O. The pegmatites also contain anomalous tantalum, rubidium and cesium, indicative of rare metal pegmatites. Other anomalous lithium results nearby define a 400metre wide package of pegmatites which is a high priority target (Figure below – eastern anomaly).

Rubidium assays to 2.6% Rb have been returned in association with lithium and cesium. Since rubidium is radiogenic, high-quality airborne radiometrics data has been reprocessed to help identify minerals with rubidium that occur in association with lithium mineralisation. This data is being used as a low-cost exploration methodology to cover the large project area, but is only effective in areas of outcrop. The radiometric data over the central portion of the project is displayed below.



**Figure 6:** Mt Edon project radiometrics

A soil orientation sampling programme delayed during the last quarter due to rain was completed and assay results are pending.

## Itabela, Brazil

During the quarter, the Company completed its review of all the drilling information and project acquisition terms to determine whether the project will meet its investment criteria, and whether it can structure a long-term arrangement to continue exploration and development the project.

The study concluded that the project couldn't meet the Company investment hurdles and advised that the Option-to- Purchase, to acquire the Itabela graphite project from Brazil Graphite SA would not be renewed.



## Capital Raising

During the quarter, the Company completed a private placement and fully underwritten, accelerated rights offering to raise \$7.1 million. The terms of the capital raising, included:

- a private placement of 133,067,264 shares at an issue price of \$0.027 per share and 66,533,638 free attaching options, exercisable at \$0.03 and expiring 30 December 2016 ;
- a 1 for 5 entitlement offer at an issue price of \$0.027 per share;
- 1 free attaching option, exercisable at \$0.03 and expiring 30 December 2016, for every 2 shares applied for;
- a placement, pursuant to shareholder approval of 22,222,222 shares at an issue price of \$0.027 per share and 11,111,111 free attaching options, exercisable at \$0.03 and expiring 30 December 2016; and
- the issue of 5,000,000 listed options in part settlement of raising management and underwriting fees.

## For more information, please contact:

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Sayona Mining Limited is an Australian, ASX-listed (SYA), company focused on sourcing and developing the raw materials required to construct lithium-ion batteries for use in the rapidly growing new and green technology sectors. Please visit us as at [www.sayonamining.com.au](http://www.sayonamining.com.au)

## Competent Person Statement

**East Kimberley, Mt Edon and Pilbara** - The information in this report that relates to Exploration Results is based on information compiled by Mr Simon Attwell, a Competent Person, and who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Attwell is an employee of Attgold Pty Ltd ("Attgold") which provides geological services to Sayona. Mr Attwell is a financial beneficiary, being a director and shareholder of Attgold if Sayona exercises its option to purchase the East Kimberley Graphite project or Tabbata lithium project.

Mr Attwell has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Attwell consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



**Authier** - The information in this report that relates to Exploration Results is based on information compiled by Dr Gustavo Delendatti, a member of the Australian Institute of Geoscientists. Dr Delendatti is an independent consultant, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which it is undertaking to qualify as a Competent Person as defined in the JORC Code (2012 Edition) of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves." Dr Delendatti was responsible for the design and conduct of this exploration drilling campaign, supervised the preparation of the technical information in this release and has relevant experience and competence of the subject matter. Dr Delendatti, as competent person for this announcement, has consented to the inclusion of the information in the form and context in which it appears herein.

## Tenement Schedule

Tenement	Name	Status	Interest at Beginning of Quarter	Interest at end of Quarter
E59/2092	Mt Edon	Granted	80%, with rights to 100% of pegmatite minerals*	80%, with rights to 100% of pegmatite minerals*
E59/2055	Mt Edon West	Granted	100% (pegmatite minerals)	100% (pegmatite minerals)
E45/2364	Tabba Tabb	Granted	Rights to 100% of pegmatite minerals*	Rights to 100% of pegmatite minerals*
ELA45/4703	Tabba Tabb East	Application	100%	100%
E45/4716	Red Rock	Application	100%	100%
ELA45/4726	West Wodgina	Application	100%	100%
ELA47/3475	Friendly Creek	Application	100%	100%
ELA45/4738	Cooglegong	Application	100%	100%
ELA45/4775	Carlindie	Application	0%	100%
E80/4511	Western Iron	Granted	100% (Graphite)	100% (Graphite)
ELA80/4949	Corkwood	Application	100%	100%
ELA80/4959	Killarney	Application	100%	100%
ELA80/4968	Keller	Application	100%	100%
ELA45/4813	Moolyella	Application	0%	100%
2116146	Authier claim	Granted	0%	100%
2116154	Authier claim	Granted	0%	100%
2116155	Authier claim	Granted	0%	100%
2116156	Authier claim	Granted	0%	100%
2183454	Authier claim	Granted	0%	100%
2183455	Authier claim	Granted	0%	100%
2187651	Authier claim	Granted	0%	100%
2192470	Authier claim	Granted	0%	100%
2192471	Authier claim	Granted	0%	100%
2194819	Authier claim	Granted	0%	100%
2195725	Authier claim	Granted	0%	100%
2219206	Authier claim	Granted	0%	100%

Tenement	Name	Status	Interest at Beginning of Quarter	Interest at end of Quarter
2219207	Authier claim	Granted	0%	100%
2219208	Authier claim	Granted	0%	100%
2219209	Authier claim	Granted	0%	100%
2240226	Authier claim	Granted	0%	100%
2240227	Authier claim	Granted	0%	100%
2247100	Authier claim	Granted	0%	100%
2247101	Authier claim	Granted	0%	100%

\*Option-to-Purchase pegmatite rights only, subject to Attagold and Bruce Legendre agreements

### Previous Disclosure - 2012 JORC Code

Certain Information relating to Mineral Resources, Exploration Targets and Exploration Data associated with the Company's projects in this September 2016 Quarterly Report has been extracted from the following ASX Announcements:

- "Authier JORC Mineral Resource Estimate, 5 July 2016.
- High grade lithium intersected over wide widths at Authier, 24 Oct, 2016
- Drilling intersects thick zone of mineralisation in the gap zone, 25 Oct 2016

Copies of these reports are available to view on the Sayona Mining Limited website [www.sayonamining.com.au](http://www.sayonamining.com.au). These reports were issued in accordance with the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.