

31 JANUARY 2017

## **DECEMBER 2016 QUARTERLY REPORT**

## Highlights

- Authier Phase 1 drilling expands high-grade zones of spodumene mineralisation throughout the deposit including a drill intersection of, 23 metres @ 1.77% Li<sub>2</sub>O
- Significant expansion of the Authier JORC Resource
- Metallurgical testing and Pre-Feasibility Study commenced at Authier
- Enhanced portfolio in Pilgangoora lithium district with Option to acquire Great Sandy Pty Ltd tenure with newly discovered spodumene-bearing pegmatites at Mallina, grades up to 2.13% Li<sub>2</sub>0
- WA lithium tenement coverage increases to 1,987 km<sup>2</sup>

Sayona Mining Limited (ASX: SYA) ("Sayona" or the "Company") is pleased to announce the activities report for the quarter, including completion of the Authier Phase 1 drilling program, JORC Resource update, commencement of a metallurgical testing program and Pre-Feasibility Study ("PFS") for the Authier lithium project, Canada. In Australia, the Company completed an Option-to-Purchase contract to acquire projects from Great Sandy Pty Ltd, which includes newly discovered spodumene pegmatite and 871 km<sup>2</sup> of exploration ground prospective for spodumene mineralisation.

# Authier, Canada

During the quarter, the Company's primary focus was on the development of the Authier project. The Company's activities included, a diamond drilling program, expanding the JORC Resource base, and commencement of a PFS.

## **Authier Work Programs**

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.

## Authier Pre-Feasibility Study

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.

The PFS is due for completion in early 2017.

# Authier Metallurgical Testing Program

Metallurgical testing using 410 kilograms of drill core from a previous diamond drilling program 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 the PFS.

## Authier Phase 1 Drilling Program

During the quarter, the Company completed the Phase 1 diamond drilling program at Authier of 18 holes for 3,967 metres with the objectives, including:

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

The final diamond drill holes all intersected high-grade spodumene mineralisation, including:

- AL-16-001 (East zone) 62 metres @ 1.35% Li2O from 12 metres including, 16 metres @ 1.65% Li2O from 27 metres (reported in previous Quarterly Report);
- AL-16-002 (East zone) 49 metres @ 1.18% Li2O from 50 metres including, 17 metres @ 1.49% Li2O from 81 metres (reported in previous Quarterly Report);
- AL-16-003 (East zone) 27 metres @ 1.46% Li2O from 170 metres including, 11 metres @ 1.66% Li2O from 181 metres, and a second intercept of, 10 metres @ 1.24% Li2O from 213 metres including, 3 metres @ 1.63% Li2O from 218 metres;
- AL-16-004 (East zone) 50 metres @ 1.13% Li2O from 156 metres including, 11 metres @ 1.40% Li2O from 157m and 5 metres @ 1.89% Li2O from 200m;



- AL-16-005 (East zone) 5 metres @ 1.44% Li2O from 197m and 25 metres @ 1.08% Li2O from 218 metres including, 14 metres @ 1.18% Li2O from 218 metres;
- Al-16-006 (East zone) 44 metres @ 1.02% Li2O from 16 metres including, 19 metres @ 1.45% Li2O from 16 metres;
- AL-16-007 (East zone) 40.19 metres @ 1.27% Li2O from 3.81 metres including, 20 metres @ 1.47% Li2O from 13 metres;
- AL-16-008 (East zone) 36 metres @ 0.93 % Li2O from 162 metres including, 10 metres @ 1.32 % Li2O from 163 metres;
- AL-16-009 (West zone) 38 metres @ 1.10 % Li2O from 192 metres including, 23 metres @ 1.35 % Li2O from 192 metres;
- AL-16-011 (West zone) 46 metres @ 1.26 % Li2O from 135 metres including, 24 metres @ 1.62 % Li2O from 137 metres;
- AL-16-012 (East zone) 47 metres @ 1.05 % Li2O from 161 metres including, 27 metres @ 1.31 % Li2O from 167 metres;
- AL-16-013 (West zone deep) 24 metres @ 1.25 % Li2O from 184 metres and 8 metres @ 0.91 % Li2O from 216 metres;
- AL-16-014 (East zone) 45 metres @ 1.08 % Li2O from 148 metres including, 8 metres @ 1.36 % Li2O from 149 metres and 18 metres @ 1.34 % Li2O from 171 metres;
- AL-16-015 (West zone, 50 metres step-back of hole AL-16-013) 20 metres @ 1.32 % Li20 from 242 metres including, 11 metres @ 1.61 % Li2O from 248 metres;
- AL-16-016 (Middle of Gap Zone) 28 metres @ 1.20 % Li2O from 158 metres including, 18 metres @ 1.39 % Li2O from 162 metres;
- AL-16-017 (West Zone Deep) 45 metres @ 1.28 % Li2O from 190 metres including, 23 metres @ 1.77 % Li2O from 190 metres; and
- AL-16-018 (West edge of Gap Zone) 10 metres @ 1.20 % Li2O from 218 metres including, 6 metres @ 1.48 % Li2O from 219 metres and two upper intervals of 4 m @ 0.99 % Li2O from 197 metres and 7 m @ 0.95 % Li2O from 206 metres.

The lithium mineralisation at Authier project is related to multiple pulses of spodumene bearing quartz-feldspar pegmatite. Higher lithium grades are related with high concentrations of mid to coarse spodumene crystals (up to 4 cm long axis) in a mid to coarse grained pegmatite facies.



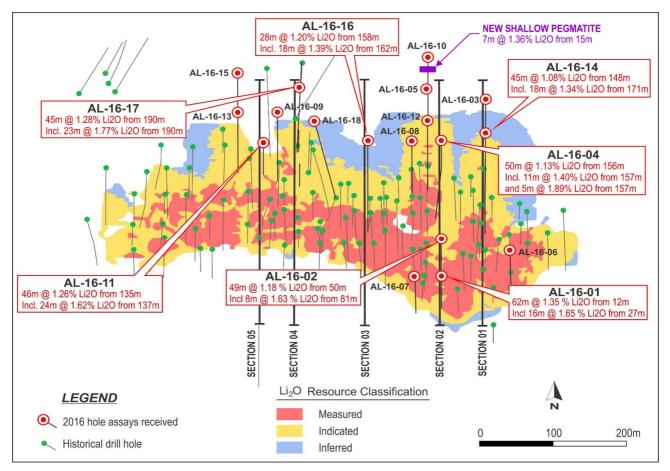


Figure 1: Drill hole collar location plan and significant intersections

The drilling program has successfully achieved the overall objective, including:

- Increasing the size of the potential resource and improving confidence in the JORC Mineral Resource categories;
- Gaining a deeper understanding of the upside resource potential;
- Demonstrating the potential for improving the grade of the overall resource; and
- Improving the knowledge of the geotechnical conditions for incorporation into the Pre-Feasibility Study.

The following points summarise the outcome of each of the holes drilled during the program:

- Holes 01, 02, 06 and 07 have successfully tested the geometry of the Authier pegmatite at shallow levels in the eastern and central sectors in order to upgrade the resource categories from indicated to measured;
- Hole 16 has intersected a thick zone of spodumene mineralisation in the gap zone, between eastern and western zones of main pegmatite. This area which was previously interpreted not to contain any mineralisation and will provide a meaningful increase in the JORC resource;



- Holes 03, 04, 05, 08, 10, 12 and 14 have extended the lithium mineralisation in the eastern sector of main Authier pegmatite beyond 200 metres of vertical depth;
- Hole 10 intercepted a new pegmatite at shallow levels between 15 to 22 metres downhole depth, not visible from surface, located 400 metres north of main Authier pegmatite. Such pegmatite returned high grade lithium mineralisation (see *"High-grade Mineralisation in the New Pegmatite Discovered at Authier", 08 November 2016*); and
- Holes 09, 11, 13, 15, 17 and 18 have extended the lithium mineralisation in the western sector of the main Authier pegmatite beyond 200 metres of vertical depth.

#### Authier JORC Resource Upgrade

During the quarter, the Company completed an updated indepedent JORC Mineral Resource estimate for the Authier lithium project following the completion of the Phase 1 drilling program.

The significantly expanded, JORC 2012 compliant Mineral Resource estimate, tabulated below, follows a successful 3,967 metre drilling campaign. The contained lithium dioxide Mineral Resource has increased by 68% from 87,302 tonnes to 146,700 tonnes compared to the July 2016 JORC Mineral Resource estimate. The average grade has increased from 0.96% Li<sub>2</sub>0 to 1.07% Li<sub>2</sub>O, and 86% of the contained Mineral Resource is categorised within the Measured and Indicated Mineral Resource categories.

Table 2 – Authier JORC Mineral Resources Estimate (0.5% Li <sub>2</sub> 0 cut-off grade)				
Category	Tonnes (Mt)	Grades Li <sub>2</sub> 0	Contained Li <sub>2</sub> 0	
Measured	4.72	1.03%	48,519	
Indicated	7.13	1.10%	78,280	
Inferred	1.90	1.05%	19,901	
Total	13.74	1.07%	146,700	

The Mineral Resource has been estimated and reported in accordance with the guidelines of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012). A summary of the estimation methodology and competent person statement is included in this announcement.

The mineralisation remains open in all directions (see Figure 2).



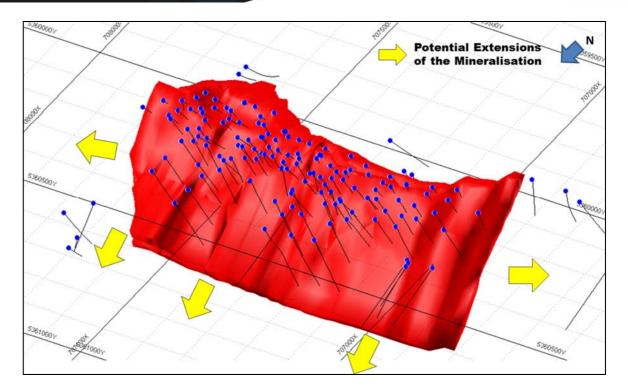


Figure 2: Lithium solid showing the location of all the historical drill holes and the potential areas for expansion of the resource in a future drilling program

Subsequent to the end of the quarter, the Company commenced a 4,000 metre drilling program. The program is expected to take two months to complete. The Company believes there is excellent potential to both expand the size of the existing resource and to optimise and improve the existing resource. In addition the company is planning to further expand the total project area resource by drilling the recently discovered lithium pegmatite and undertaking exploration for further mineralised pegmatites.

The mineralisation remains open in all directions and follow up drilling is being planned with the objectives, including:

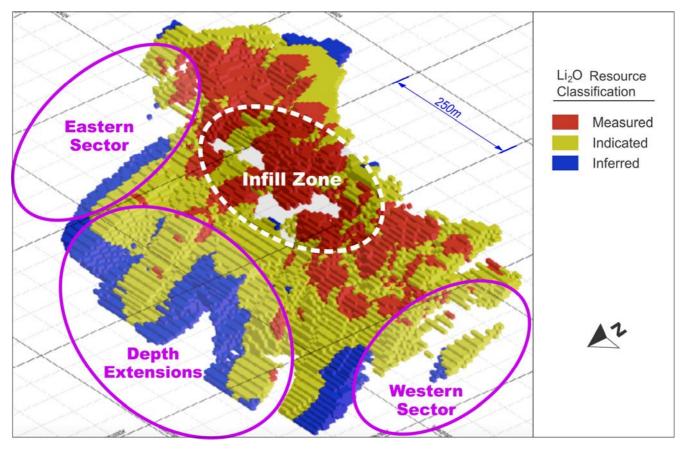
- Defining the mineralised boundaries and lifting the resource categories in the western sector that was not accessible during the 2016 drill program. The 2016 drilling program in the western zone highlighted wide intervals of high grade lithium dioxide including 46m @ 1.26% Li<sub>2</sub>O from a depth of 190 metres including 24m @ 1.62% Li<sub>2</sub>O from 190 metres;
- Testing for mineralisation in the eastern and western strike extensions;
- Infill definition drilling within the main resource zone (Infill zone on Figure 3) where the mineralisation is not well defined and is currently treated as waste;
- Assessing the resource potential of the new northern pegmatite which intersected 7m @ 1.36% Li<sub>2</sub>0 from 15 metres. Any new mineralisation within the new pegmatite is likely to fall within the main Authier open-cut pit shell and significantly improve the waste to ore ratio in a future operation; and



• Pegmatites generally occur in "swarms" and the company's aim is to locate additional mineralised pegmatites in the area.

The drilling program has been designed with three aims (also see Figure 3):

- To improve the overall quality and expand on the size of its JORC 2012 compliant Mineral Resource estimate. The project now has nearly 19,000 metres of diamond drilling in 141 holes. The Company's plan is to increase the size and confidence levels of the resource and to study the merits of an expansion and/or the value adding potential of the project beyond what has been studied in the current Pre-Feasibility Study which is nearing completion;
- Assess the resource potential of the newly discovered pegmatite; and



• Locate additional lithium mineralised pegmatites.

Figure 3: Main target zones within the main resource area for the 2017 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. During the quarter, the Company expanded its lithium portfolio to 1,987 km<sup>2</sup> on entering an option over 871 km<sup>2</sup> of tenure from Great Sandy Pty Ltd. This option includes the Mallina Project containing a newly discovered Spodumene bearing pegmatite.



**Figure 4**: Project location and significant lithium mines and deposits in Western Australia (Note: GXY resource exclude James Bay in Canada)



## Mallina Project

The Mallina project is located 80 kilometres west of the Pilgangoora lithium deposits of Altura Mining and Pilbara Minerals, and compliments the Company's other 1,000 km<sup>2</sup> lithium exploration portfolio in the Pilbara region

The Mallina project overlies Archaean sediments and mafic volcanics which have been intruded by post tectonic monzogranite. The area does not appear to have been prospected for pegmatite mineralisation before the recent discovery, despite the combination of post tectonic granite, structure and proximity to the Wodgina / Pilgangoora lithium discoveries to the east.

The discovery pegmatite was recently identified during routine reconnaissance of the area. Twenty-two rock samples were collected from granite and pegmatite. Two of the samples, NEAC1362 and NEAC1363 returned assays of 5,755 ppm lithium (1.23% Li<sub>2</sub>O) and 3,969ppm lithium (0.85% Li<sub>2</sub>O), together with highly anomalous rubidium, caesium, tin and tantalum results (see table 2). The geochemical results are indicative of complex, rare metal highly fractionated, LCT pegmatite. Petrology and XRD analysis confirmed the lithium mineralisation is present as the mineral spodumene.

Subsequent sampling of the discovery area confirmed anomalous lithium, with the highest of the 10 samples returning up to 9,910 ppm lithium (2.13% Li<sub>2</sub>O) and extending the strike of the pegmatite to over 500 metres. Of the 10 samples collected over the discovery pegmatite to date along its 500m strike the average assay is 1.28% Li<sub>2</sub>O.

The Discovery area is displayed in the figure below.



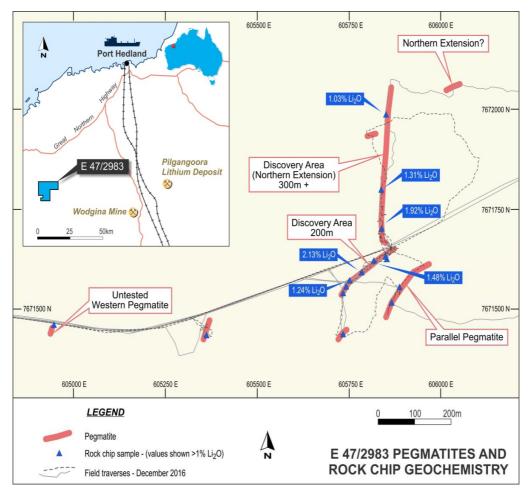


Figure 5 Discovery Pegmatite Area, Mallina Project

The pegmatite is weathered, in part silicified and has poor outcrop, typically visible over widths of 3 to 5 metres and up to 8 metres, but without the contacts to adjacent greenstone rocks being observed. Its true width is not known.

The pegmatite typically has fine grained as well as very coarse portions. Petrology has identified that the fine pegmatite material contains up to 25% spodumene, as well as being present in the coarser grained pegmatite. Lepidolite has not been observed to date.



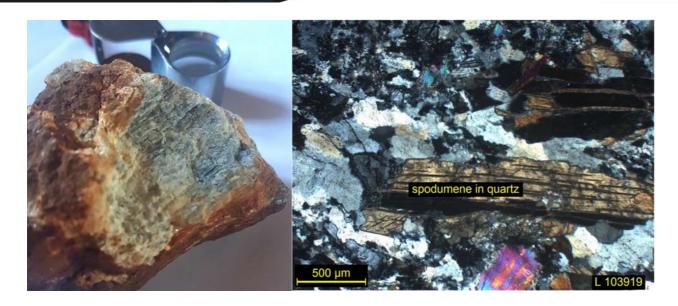


Figure 6:Spodumene from theFigure 7:Spodumene crystals in fine graineddiscovery pegmatitepegmatite

Multiple pegmatites have been observed in the area but have not been systematically mapped or sampled. Significantly, a separate pegmatite in the swarm, located 800 metres to the west, has returned 1,970ppm lithium (0.42% Li<sub>2</sub>O), indicating multiple mineralised pegmatites are present in the system. There is very good potential for additional discoveries in the area of the discovery pegmatite and within the greater 140km<sup>2</sup> tenement area.

Subsequent to the end of the quarter, the Company has undertaken first pass assessment and geochemical sampling at the Mallina spodumene discovery area. Results of this work are pending.

The Great Sandy Option also includes three other project areas, comprising 8 tenements (see Table 3 below). The Mt Edgar project, located east of Marble Bar comprises 6 exploration licence applications covering 440 km<sup>2</sup> adjacent to the Moolyella tin-tantalum field and post tectonic monzogranite. The Dorrington's project is located 15 kilometres to the south east of Nullagine. It covers the post tectonic Split Rock granite and eluvial tantalite workings. The White Springs project is located 170 kilometres south of Port Hedland and secures historic tin and tantalite prospects, associated with Split Rock granite pegmatites.

All the project areas remain virtually unexplored for lithium mineralisation despite evidence of fertile pegmatite systems being present.



Table 3 - Option Tenement Schedule			
Project	Tenements	Status	Area (blocks)
Mallina	E47/2983	Granted 13/8/2014	44
Dorringtons	E46/1103	Granted 10/8/2016	40
White Springs	E45/4687	Pending, applied 22/1/2016	30
Mt Edgar	E45/4721	Pending, applied 15/3/2016	39
Mt Edgar	E45/4727	Pending, applied 21/3/2016	42
Mt Edgar	E45/4787	Pending, applied 27/5/2016	8
Mt Edgar	E45/4788	Pending, applied 27/5/2016	25
Mt Edgar	E45/4700	Pending, applied 8/2/2016	23
Mt Edgar	E45/4723	Pending, applied 17/3/2016	23

The tenements included in the option agreement are tabulated below.

# **Option Terms**

The Heads of Agreement with Great Sandy Pty Ltd includes the following terms:

- \$30,000 non-refundable deposit paid on signing;
- 24 month Option period whereby Sayona may acquire 80% of the tenements with Great Sandy retaining a 20% Free Carried Interest to Decision to Mine ("FCI");
- Option Payments of \$300,000 after 12 months and \$300,000 after 24 months from date;
- Sayona also has the option to acquire 80% at any time for \$500,000 within the first 18 months;
- \$100,000 minimum expenditure within first 12 months;
- Great Sandy may convert its 20% FCI to 2% Gross Production Royalty at any time;
- SYA may withdraw from the agreement at any time after the expenditure of \$100,000 in exploration;
- SYA to acquire rights to all pegmatite related minerals (including Li, Sn, Ta, W) with Great Sandy retaining the rights to all non-pegmatite minerals (including gold and base metals);
- A 10 kilometre Area of Influence will be in place around all tenements included in the agreement. Any tenements applied for or acquired by either party after the signing of the initial agreement within this 10 kilometre zone will form part of the agreement;
- Pegmatite mining activities will always take priority over other mining activities; and
- SYA to keep tenements in good standing.



# Pilbara Lithium Project, Pilgangoora district

# 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.

Tenement E45/2364, where the company has an option to acquire 100% of the pegmatite rights, covers a 10 km strike extent of the greenstone stratigraphy to the south of the Tabba Tabba tantalum mine. Lithium mineralisation is recorded in pegmatites elsewhere within the belt.

During the quarter exploration included rock sampling and soil orientation sampling, with 72 rocks and 115 soil geochemical samples collected. Results define three zones of tantalum anomalous rare metal pegmatites, (maximum 357ppm tantalum, 387ppm Li<sub>2</sub>O, 428ppm cesium and 3,000ppm rubidium) and a 3km corridor of lithium anomalous pegmatites in the south east of the tenement area (maximum 990ppm Li<sub>2</sub>O). Geology and anomalous pegmatites are displayed in the figure below.

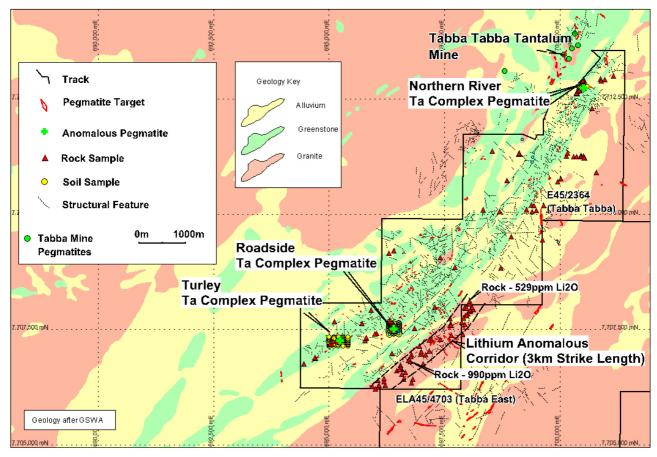


Figure 9, Tabba Tabba Project Geology and Targets



Outcrop over much of the south western tenement area is poor with bedrock being obscured by recent cover. Further soil geochemistry along strike to test areas of cover is planned.

## Other Pilbara Project Areas

The remainder of the companies Pilbara tenure are applications and work continued to identify targets for field follow up in the 2017 season.

The Red Rock project (ELA45/47/16 and ELA45/4775), is located to the east of Tabba Tabba 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.

The Cooglegong project (ELA45/4738) 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.

Broad spaced rock sampling (128 pegmatite samples collected to date) 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 168ppm Li<sub>2</sub>O is also elevated. Further reconnaissance and detailed sampling over the three target areas is planned.

The Friendly Creek (ELA47/3475) and West Wodgina (ELA45/4726) projects 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.

The Moolyella (ELA45/4813) project covers 61km<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. A total of 18 pegmatite rock samples have been collected during geological reconnaissance. Results indicate these pegmatites are not anomalous in lithium or other indicators of complex, rare metal pegmatites.

## Mount Edon Project – South Murchison District

Mount Edon covers the southern portion of the Paynes Find greenstone belt, South Murchison, and is 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.



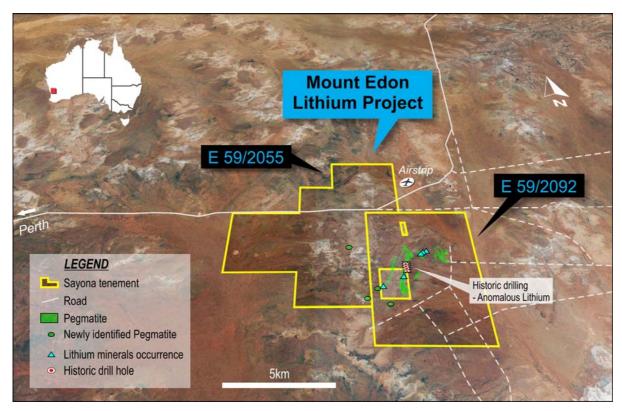


Figure 10: Mt Edon project location

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 width at surface (true width unknown), and are arranged in swarms of up to 1 kilometre in strike extent. The pegmatites have variable outcrop and are in part obscured by colluvium and lateritic gravels.

Over 70 pegmatites have been identified during reconnaissance mapping. A total of 126 pegmatite rock samples have been collected to date and have returned a peak assay of 1.57% Li<sub>2</sub>O in lepidolite rich pegmatite. During the quarter results were received for 500 soil geochemical samples, collected as an orientation survey over the main pegmatite area. Samples of various size soil fractions on line spacing of 100m to 400m were completed. Results define six main areas of geochemically elevated lithium and tantalum geochemistry. Results are displayed on the figure below.



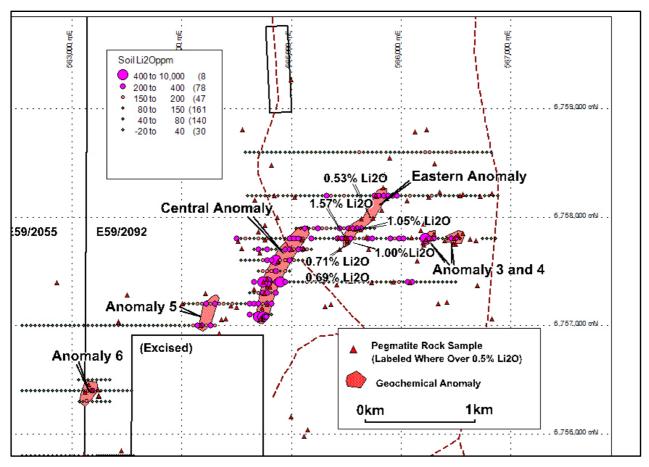


Figure 11 Mt Edon Geochemical Anomalies

Results are continuing to be evaluated and further follow up sampling is required to determine the source of the lithium anomalism and define any zonation within the more prospective pegmatites that can be used to vector into spodumene mineralisation if present. Much of the broader tenement areas remain unexplored.

# **Corporate – Option Exercise**

During the quarter, 43,660,320 listed options exercisable at 3 cents were exercised by option holders. Proceeds (before costs) of \$1,309,810 were received by the Company.

Pursuant to the option expiry underwriting agreement announced on 12 December 2016, the underwriter SMSF Specialists (SA) Pty Ltd has placed 19,000,000 shares, raising an additional \$570,000.

The remaining listed options expired on the 31 December, 2016.

## 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

## Competent Person Statement

**Western Australia** - The information in this report that relates to Exploration Results in Western Australia 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 Tabba Tabba 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.

## Previous Disclosure - 2012 JORC Code

Certain Information relating to Mineral Resources, Exploration Targets and Exploration Data associated with the Company's projects in this September2016 Quarterly Report has been extracted from the following ASX Announcements:

- Authier Lithium Project JORC Significantly Expanded, 23 November, 2016.
- Drilling Results demonstrate potential to Expand JORC, 17 November, 2016

Copies of these reports are available to view on the Sayona Mining Limited website 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.

# **Tenement Schedule**

Interest at				
Tenement	Name	Status	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 Tabba	Granted	Rights to 100% of pegmatite minerals*	Rights to 100% of pegmatite minerals*
ELA45/4703	Tabba Tabba 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	100%	100%
E80/4511	Western Iron	Granted	100%	100%
ELA80/4949	Corkwood	Application	100%	100%
ELA80/4959	Killarney	Application	100%	100%
ELA80/4968	Keller	Application	100%	100%
ELA45/4813	Moolyella	Application	100%	100%
	Pty Ltd Option			
E47/2983	Mallina	Granted	0%	Option Rights to 80%
E46/1103	Dorringtons	Granted	0%	Option Rights to 80%
E45/4687	White Springs	Application	0%	Option Rights to 80%
E45/4721	Mt Edgar	Application	0%	Option Rights to 80%
E45/4727	Mt Edgar	Application	0%	Option Rights to 80%
E45/4787	Mt Edgar	Application	0%	Option Rights to 80%
E45/4788	Mt Edgar	Application	0%	Option Rights to 80%
E45/4700	Mt Edgar	Application	0%	Option Rights to 80%
E45/4723	Mt Edgar	Application	0%	Option Rights to 80%

# JORC Code, 2012 edition - Table 1 (section 1; Sampling Techniques and Data)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	<ul> <li>Geochemical samples have been collected as a first pass assessment and orientation of project areas, as described in the main body text of this announcement. The samples have an irregular spacing reflecting the reconnaissance nature of the assessment.</li> <li>Samples are grab samples.</li> <li>The presence or absence of mineralisation was initially determined visually by the field geologist.</li> <li>The type of geochemical sampling is a standard</li> </ul>



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	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	approach during the initial style reconnaissance.
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>Not applicable, no drilling has been carried out</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Not applicable, no drilling has been carried out</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Not applicable, no drilling has been carried out. This information is of insufficient detail to support any Mineral Resource Estimation.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Not applicable, no drilling has been carried out</li> <li>No measures have been taken to ensure sampling is statistically representative of the in situ sampled material. The collection methodology is considered appropriate for this early stage assessment of the project.</li> <li>The sample size is considered appropriate to the early stage of exploration carried out.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg</li> </ul>	<ul> <li>Analysis was carried out by ALS, Brisbane which is a certified laboratory in compliance with AS/NZS-9001:2000. Analysis, of a 48 element suite, was determined by mixed acid digest followed by ICP-MS. High values have been further tested by ME-MS85 fusion. This is considered a total digest appropriate to the samples submitted.</li> <li>For the Mallina project analysis was carried out by</li> </ul>



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	standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	<ul> <li>Bureau Veritas, Perth which is a certified laboratory in compliance with AS/NZS-9001:2000. Analysis was determined by sodium peroxide fusion followed by ICP-OES. This is considered a total digest appropriate to the samples submitted.</li> <li>Not used</li> <li>No additional quality control measures beyond that of the Laboratory QA/QC were implemented.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>The results are considered acceptable and have been reviewed by multiple geologists. The company conducts internal data verification protocols which have been followed.</li> <li>For the Mallina project assay results have been provided by the vendor party. Site visit by a Sayona geologist has confirmed spodumene mineralisation at surface in the areas of elevated lithium assay results, consistent with reported assay grades. Independent laboratory check sampling has not been carried out.</li> <li>Li has been converted to Li<sub>2</sub>O for the purposes of reporting. The conversion used was Li<sub>2</sub>O = Li x 2.153. No other adjustments to assay data has been undertaken</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Samples were located during collection by handheld GPS</li> <li>The grid system used is Australian Geodetic MGA Zone 50 (GDA94).</li> <li>The level of topographic control offered by the handheld GPS is considered sufficient for the work undertaken</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>There was no predetermined grid spacing to the rock sampling program. Soil geochemistry was carried put on MGA grid</li> <li>The data spacing and distribution is not sufficient to establish the degree of geological and grade continuity appropriate for Mineral Resource estimation procedures.</li> <li>Samples have not been composited.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>Sampling was carried out over small areas of the project and it is not known if they are representative.</li> <li>Not applicable, no drilling has been carried out</li> </ul>
Sample security	• The measures taken to ensure sample security.	Industry standard sample collection and storage have been reported by the vendor geologist.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	No audits or reviews of the data have been conducted at this stage

JORC Code, 2012 edition – Section 2 Reporting of Exploration Results



(Criteria listed in the preceding section also apply to this section.)

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<i>Mineral tenement and land tenure status</i>	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The Option terms and tenement details are reported within the main text of this ASX release.</li> <li>There are no impediments that have been identified for operating in the project areas</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>At Mallina past exploration has focused on the gold and base metal potential of the area. The reported lithium mineralisation has been provided by the vendor geologist, Mr. Brian Richardson.</li> <li>Together with government data provided by GSWA past information has allowed recognition of the projects potential.</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	• Lithium is being targeted within rare metal pegmatites which represent the most fractionated and evolved pegmatite type. Sayona's main focus is in discovery of albite-spodumene pegmatite types which host high grade lithium mineralisation. Rare metal pegmatites are uncommon, typically hosted in greenstone rocks near to granite intrusion.
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<ul> <li>Drilling has not been carried out.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No variation to laboratory reported assays has been made.</li> </ul>
Relationship between mineralisation	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are</li> </ul>	<ul> <li>Exploration is at an early stage and information contains insufficient data points to allow these relationships to be reported</li> </ul>



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widths and intercept lengths	reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Sample plans are attached
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>All relevant assay results are reported herein.</li> </ul>
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul> <li>The exploration reported herein is at a very early stage but results are consistent with geological and geophysical data</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale stepout drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Further more detailed mapping and follow up sampling is required to identify lithium targets and mineralisation</li> </ul>