

**Sayona Mining Limited**  
**(ASX: SYA)**

December 2017

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**Note:** This report is based on information provided by the company as at December 19, 2017

Investment Profile	
Share Price as at 18 Dec 2017	A\$0.045
Price Target	A\$0.102
Issued Capital:	
Ordinary Shares	1,468m
Listed Options	0.0m
Unlisted Options	0.0m
Performance Rights	0.0m
Fully Diluted	1,468m
Market Capitalisation	A\$66.07m
12 month L/H	A\$0.011/\$0.060
Cash - 30 September 2017	A\$0.413m
Subsequent Raisings	A\$4.87m

Board and Management	
Mr Dennis O'Neill: Managing Director	
Alan Buckler: Non-executive Director	
James Brown: Non-executive Director	
Paul Crawford: Executive Director and Company Secretary	
Mr Corey Nolan: Chief Executive Officer	
Mr Jonathon Gagne: Country Manager - Canada	
Mr Simon Attwell: Exploration Manager - WA	

Major Shareholders	
Paul Crawford - Direct and Indirect	6.60%
Alan Buckler - Direct and Indirect	6.54%
Terryjoy P/L	6.32%
Dennis O'Neill - Direct and Indirect	5.90%
Citicorp Nominees	5.32%
Board and Management	20.04%
Top 20	44.96%



Senior Analyst – Mark Gordon

The investment opinion in this report is current as at the date of publication. Investors and advisers should be aware that over time the circumstances of the issuer and/or product may change which may affect our investment opinion.

## SOLID PROGRESS ON ALL FRONTS

Sayona Mining Limited (ASX: SYA, "Sayona" or "the Company") has made solid progress on all fronts since our July, 2017 initiation report. The key developments have been in the completion of the optimised Authier Pre-Feasibility Study ("PFS") in December, which incorporated upgraded Resources and Reserves and significantly improved metallurgy; other activities at Authier have included progressing permitting activities and the completion of a conceptual study that highlighted the value add potential of downstream processing of spodumene concentrates.

Sayona is now progressing into the Definitive Feasibility Study ("DFS") at Authier, with this slated for completion in the 2nd quarter of 2018; the Company is currently undertaking a 3,000m to 4,000m drilling programme to provide samples for pilot scale metallurgical test work and to upgrade and expand resources amongst others.

In Western Australia, the Company has received encouraging results from exploration over the Pilbara lithium projects, and in addition work over the Deep Well application has indicated the presence of rocks potentially prospective for the recent conglomerate-hosted gold mineralisation that has been the cause of a recent exploration "rush" in the Pilbara.

## KEY POINTS

**December optimised PFS improves on an already low cost, robust project:** Results of the December optimised PFS have highlighted the potential of Authier as a low cost, robust hard-rock lithium project, which returned a pre-tax NPV of C\$221 million and an IRR of 56% for an estimated initial capital outlay of C\$64 million.

**Optimised metallurgy:** The study incorporated the results of ongoing metallurgical optimisation work, which has highlighted the opportunity to increase concentrate grades to over 6.00% Li<sub>2</sub>O (5.75% was used in the initial study) and recoveries to 82% (with 80% used in the initial study); there is the potential for these figures to be higher, and the Company has a pilot scale test work programme planned for over the northern winter.

**Downstream processing:** A positive conceptual study was completed investigating the production of the value add products of lithium carbonate and/or lithium hydroxide, taking advantage of Quebec's world class infrastructure, cheap power and skilled workforce; there is also the opportunity to team up with other potential spodumene concentrate producers to build an expanded plant to take advantage of economies of scale.

**Permitting advanced:** Permitting activities, including environmental studies and stakeholder engagement have continued to be advanced, with the Company expecting to complete these and have environmental permitting for a 700,000tpa operation completed in early 2018 - the approval of the mining lease will then be dependent upon the completion of the DFS, expected before June, 2018.

**Strategic Alliance MoU:** Sayona has signed a MoU with Changan Lico Co Ltd ("Changan"), a battery manufacturer and subsidiary of the major Minmetals Group to enter into a strategic alliance to look at fast tracking project development, concentrate offtake and financing amongst others.

**Australian projects:** Very positive results have been gained from Sayona's lithium exploration portfolio in Western Australia, with these including prospective but relatively under explored properties as exemplified by the Mallina discovery; in addition reconnaissance work over the Deep Well application has highlighted the possibility for conglomerate hosted gold, however more work is required to confirm this.

**Continuing strong lithium markets:** Demand, and hence pricing for lithium remains strong, with this forecast to continue; for example 2017 has seen offtake pricing for Australian 6% Li<sub>2</sub>O concentrate in the order of US\$840 to US\$905/tonne FOB.

**Steady News Flow:** Ongoing activities should provide steady news flow in 2018, with this including the Authier development studies and WA exploration.

## VALUATION SUMMARY

We have updated our valuation for Sayona, with this resulting in a base case risked Company valuation of A\$194 million, or A\$0.102/share, up 15% from our previous valuation of A\$0.088/share. The share structure has been diluted for a conceptual funding model for Authier. We would expect this valuation to increase with ongoing project de-risking.

## ACTIVITIES UPDATE

- ◆ The report presents an update to our initiation report published in July 2017, and available from IIR's and the Company's websites.
- ◆ Activities have largely been concentrated at Authier in Quebec, with exploration, including drilling, being completed at Mallina and the other Western Australian projects.

## CAPITAL RAISING

- ◆ In November 2017 the Company raised A\$4.874 million before costs at A\$0.01/share through an oversubscribed 1 for 2 renounceable rights issue, with this being partially underwritten by Patersons Securities Limited.
- ◆ There were subscriptions for 625.9 million new shares, with significant trading in the rights prior to closure.
- ◆ Funds raised will be used largely to progress activities at Authier, including the current DFS.

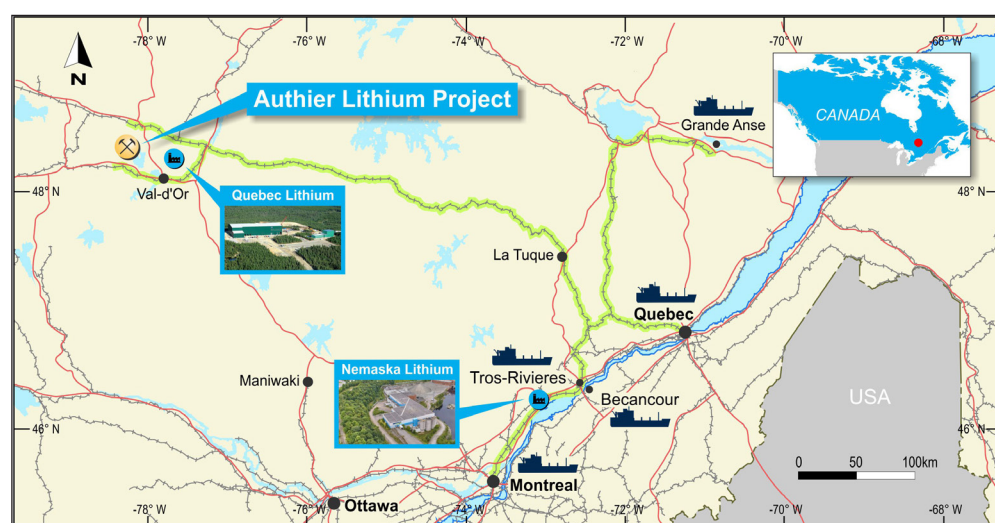
## STRATEGIC ALLIANCE

- ◆ On November 9, 2017, the Company announced that it had entered into a Memorandum of Understanding ("MoU") to enter into a strategic alliance with Changan, a subsidiary of the major Minmetals Group and a battery producer.
- ◆ The alliance will be aimed towards fast tracking development of Authier, and will explore marketing, technical and financial development options for the Project, with these aspects including:
  - The purchase of up to 100,000tpa of spodumene concentrate,
  - Exploring downstream processing opportunities, including for the value adding production of lithium hydroxide and or lithium carbonate, and,
  - Funding and investments for the Company and the Project.

## AUTHIER LITHIUM PROJECT

- ◆ Activities at Authier have largely been related to delivering the optimised PFS, with this now leading into a DFS; associated activities have included Resource and Resource upgrades, ongoing metallurgical test work and ongoing permitting and environmental surveys and studies.
- ◆ Authier is located near the town of Val-d'Or in Ontario, Canada (Figure 1), with the Company targeting first production in late 2019.

Figure 1: Authier project location map



Source: Sayona

## Resources and Reserves

- ◆ An updated Mineral Resource Estimate ("MRE") was released to the market on December 11, 2017, with this shown in Table 1.
- ◆ This included the 0.274Mt Northern Pegmatite, which was not included in the previous estimate, and also used refined solid models.

- ◆ This resulted in a 5% increase in tonnage from 17.4Mt to 18.35Mt, with the grade remaining constant; the proportion of Measured and Indicated Resources also remained constant at ~88%.

**Table 1: Authier Mineral Resource Estimate (0.45% Li<sub>2</sub>O lower cut)**

Authier Mineral Resource Estimate (0.45% Li <sub>2</sub> O lower cut)				
Category	Tonnes (Mt)	Grades %Li <sub>2</sub> O	Contained Li <sub>2</sub> O	% of total
Measured	5.86	1.01%	59,186	32.0%
Indicated	10.19	1.03%	104,957	55.6%
Inferred	2.30	0.99%	22,810	12.3%
<b>Total</b>	<b>18.35</b>	<b>1.02%</b>	<b>186,953</b>	<b>100.0%</b>

Source: Sayona

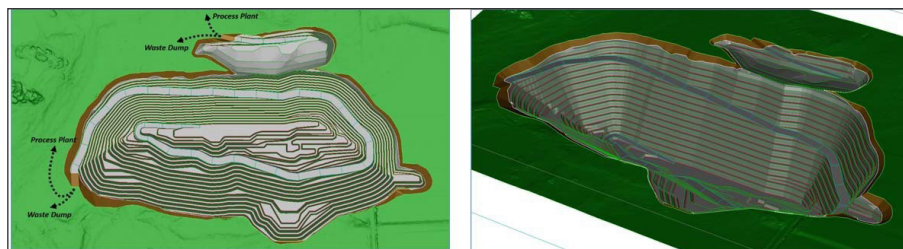
- ◆ There is upside to this resource, with both strike potential and some gaps to be filled in the current resource area; in addition it is still open down dip however this would require significantly higher incremental strip ratios to extract.
- ◆ As part of the optimised PFS, Sayona also re-estimated and expanded ore reserves for Authier (Table 2) – these used a 2% mining dilution and 5% ore loss and resulted in a reasonable resource to reserve conversion of 75% (with dilution and loss taken into account) of the December 2017 MRE.
- ◆ The updated Reserve also took account of increased concentrate prices and increased operating costs (largely due to increased concentrate transport costs).

**Table 2: Authier Ore Reserve Estimate**

Authier Ore Reserve Estimate				
Category	Tonnes (Mt)	Grades %Li <sub>2</sub> O	Contained Li <sub>2</sub> O	% of total
Proven Reserve	5.59	0.99	55,341	46.1%
Probable Reserve	6.07	1.06	64,363	53.9%
<b>Total Reserves</b>	<b>11.66</b>	<b>1.03</b>	<b>120,098</b>	<b>100%</b>

Source: Sayona

- ◆ The expanded reserves occur in a pit ~1,000m long by 600m wide by 200m deep.

**Figure 2: Authier proposed open pit**

Source: Sayona

## Metallurgy

- ◆ The Company has been undertaking ongoing metallurgical optimisation work, with a summary of recent results shown in Table 3.
- ◆ A key aspect of the latest two rounds of work is the potential to produce a +6% concentrate at recoveries of over 80%, higher than the figures used in the original PFS of a 80% recovery to a 5.75% Li<sub>2</sub>O concentrate.
- ◆ This has a number of financial benefits, including the potential for a higher price for the concentrate, and cheaper transport, with less concentrate being produced for the same contained Li<sub>2</sub>O.
- ◆ Part of the improvement has come from managing dilution, with diluting material having a deleterious effect on metallurgical performance - in response to this, a dilution study was completed as part of the optimised PFS.
- ◆ Another aspect is that local ground water (which is plentiful) has been shown to be suitable for metallurgical purposes.



**Table 3: Authier metallurgical test work - better results**

Authier metallurgical test work better - results			
Sample	Description	Concentrate Grade %Li <sub>2</sub> O	Metallurgical Recovery %
F6	Grind 150 µ, 2nd -Cleaner concentrate	6.32	83
	Grind 150 µ, 1st -cleaner concentrate	5.95	85
F8	Grind 180 µ 2nd -Cleaner concentrate	6.58	83
	Grind 180 µ 1st -cleaner concentrate	6.31	85
F1	Grind 180µ, tap water	6.30	74
F2	Grind 150µ, tap water	6.03	81
F3	Grind 180µ, Authier site water	6.10	80
F4	Grind 150µ, Authier site water	5.95	80

F6 and F8 were samples from August 2017 program. F1 to F4 were from the October 2017 program

Source: Sayona

### Pre-Feasibility Study Optimisation

- ◆ Results and inputs for the optimised PFS are presented in Tables 4 to 6, where the figures from the original PFS and optimised study are compared - this incorporated the Reserves and metallurgical results as discussed above.
- ◆ For all intents and purposes this is a similar operation to that described in the original PFS, however, given the increase in reserves, has a two year longer life and there will be no requirement for pre-stripping, stockpiling and treating stockpiles at the end of the life of the operation.
- ◆ The Project will produce a chemical grade concentrate, suitable for a number of applications, including battery, lubricants, aluminium smelting and pharmaceuticals.
- ◆ The rate of 700,000tpa has been maintained and is to allow for a processing rate of less than 2,000tpd, which under Quebec legislation, avoids a costly and lengthy EIA.
- ◆ The Company will however explore the feasibility of an expanded operation once the 2,000tpd permit has been granted - our modelling has used a conceptual expanded operation.
- ◆ Key input differences include:
  - Higher metallurgical recoveries and a higher grade concentrate,
  - Higher concentrate price - US\$614/tonne vs US\$515/tonne, based both on higher price forecasts (we have seen recent offtake contracts for between US\$840 and US\$905/tonne of 6% Li<sub>2</sub>O concentrate FOB Western Australia) and the higher grade negating the requirement to discount the sales price,
  - Higher strip ratio, due to the increased margins allowing the pit to go deeper,
  - Higher operating costs - the main difference here are the concentrate transport costs which have increased from an estimated C\$38/tonne to C\$60/tonne and a higher mining cost, due to the higher strip ratio.
- ◆ Capital costs have not materially changed, and given the relatively low figure of C\$64 million, including contingency, should be relatively easy to finance; the main change here has been the removal of the requirement for pre-stripping.
- ◆ The overall capital cost (including sustaining capex) is C\$67/tonne of concentrate produced, with a capital intensity of C\$674/annual tonne.
- ◆ In our view the costs are reasonable, and rate favourably with published estimates for other development projects.
- ◆ This has returned a robust project, with a pre-tax NPV<sub>8</sub> of C\$221 million and an IRR of 56%.

**Table 4: Authier PFS parameters and outcomes**

Authier PFS parameters and outcomes			
Description	Unit	Value - Original PFS	Value - Updated PFS
Average Annual Plant Treatment Rate	tonnes	700,000	686,000
Annual Average Spodumene Production	tonnes	99,000	96,000
Life of Mine/Processing	years	13/15	17/17

Authier PFS parameters and outcomes			
Description	Unit	Value - Original PFS	Value - Updated PFS
Life of Mine Strip Ratio	waste to ore	6:01	6.95
Average Spodumene Price	US\$/tonne	515	614
Development Capital Costs	C\$ million	66	64
Total Life of Mine Capital Costs	C\$ million	113	110
Total Net Revenue (real terms)	C\$ million	978	1,322
Total Project EBITDA (real terms)	C\$ million	449	624
Average Life of Mine Cash Costs (Montreal Port FOB basis)	C\$/tonne	367	430
Net Present Value (real terms @ 8% DR)	C\$ million	140	221
Pre-Tax Internal Rate of Return	%	39	56
Project Payback Period	years	2.2	2.5
Exchange Rate	CAD:USD	0.76	0.76
Metallurgical Parameters			
Process Plant Throughput Rate	tonnes pa	700,000	700,000
Metallurgical Recovery	% of mill feed	80%	82%
Average Annual Concentrate Produced	tonnes	99,000	95,000
Lithium Concentrate Grade	Li <sub>2</sub> O	5.75%	6.00%
Iron Grade in Concentrate	% Fe <sub>2</sub> O <sub>3</sub>	1.41	1.0 to 1.3

Source: Sayona

Table 5: Authier PFS capital cost estimate

Authier PFS Initial Capital Cost Estimates		
Cost Area	Cost C\$ million - Original PFS	Cost C\$ million - Updated PFS
Site Establishment	3.7	3.16
Mine Development (pre-stripping)	5.6	N/A
Process Plant Supply and Install	34.9	35.50
Process Plant Support Infrastructure	1.1	1.59
Non-Process Infrastructure	4.6	6.79
In-directs Costs (including EPCM and working capital)	9.2	8.96
Contingency	4.3	5.54
Mining Fleet Leasing (1st year – pre-production)	2.2	2.70
<b>Total Development Capital Costs</b>	<b>65.6</b>	<b>64.18</b>
Authier Sustaining Capital Cost Estimates		
Mining Fleet Leasing (after commencement of commercial production)	35.2	38.48
Mine Sustaining Capital	4.6	
Mill Sustaining Capital	4.8	4.78
Rehabilitation and Closure Costs	2.5	2.50
<b>Total Sustaining Capital Costs</b>	<b>47.1</b>	<b>45.76</b>

Table 6: Authier PFS LoM cash operating cost estimates

Authier PFS LoM cash operating cost estimates		
Cost Area	Cost C\$/tonne Concentrate - Original PFS	Cost C\$/tonne Concentrate - Updated PFS
Mining	141	178
Processing	137	134
Transportation FOB Port of Montreal	38	60
Vendor Royalties	37	19
General, Administration and Marketing	14	39
<b>Total Cash Operating Costs</b>	<b>367</b>	<b>430</b>

Source: Sayona



## Permitting Activities

- ◆ The Company has made good progress on permitting and environmental studies, with these including a hydrogeological survey, various environmental surveys and completion of the mining lease ground survey.
- ◆ Hydrogeological work has included a ten hole drilling programme, which is being used to assess hydrogeological conditions, and to assess the potential impacts of the project on the water table; it will also be used to assess pumping requirements and to provide information for geotechnical engineering.
- ◆ It is expected that final environmental reports will be completed in the first quarter 2018, with the Autumn surveys now complete - the environmental certification is one of the few items left now to complete for the mining lease application; the others include a DFS and rehabilitation plan.

## Downstream Processing Concept Study

- ◆ The Company has completed a conceptual downstream processing study looking at value add opportunities - this followed on from the successful conversion of Authier concentrates to  $\beta$ -spodumene, a key intermediate compound in the conversion of spodumene concentrates to either lithium hydroxide or lithium carbonates.
- ◆ These tests, which included conversion of alpha to beta spodumene in a decrepitation kiln followed by extraction of the lithium by sulphuric acid roasting and leached resulted in the recovery of up to 96.8% of the contained lithium, and compare favourably with benchmark data from spodumene projects with similar testing conditions.
- ◆ The Company is of the view that the results increase the confidence that battery grade lithium carbonate will be able to be produced from Authier concentrates.
- ◆ Results of the conceptual study are presented in Table 7 - this incorporated the February 2017 PFS and has not as yet been updated to reflect the optimised PFS.

**Table 7: Authier conceptual downstream study results**

Authier downstream conceptual study results			
Description	Unit	Lithium Carbonate	Lithium Hydroxide
Annual Production Capacity	Tonnes	13,000	14,000
Ave Cash operating Costs*	C\$ per tonne	6,331	6,032
Ave Cash Operating Costs*	US\$ per tonne	4,812	4,585
Price forecast	US\$ per tonne	10,200	12,000
Initial Capital#	C\$ million	223	240
Total Capital#	C\$ million	284	301
Pre-tax NPV @ 9%DR	C\$ million	426	794
Pre-Tax IRR	%	31	44
Exchange rate	CAD\$:US\$	0.76	
* Cash Operating Costs includes mining, processing, administration, royalties, transport, and downstream processing # Capital expenditure includes all mine, concentrator and downstream process plant			

Source: Sayona

- ◆ The results of the study highlight the downstream processing potential to deliver significant returns, and the Company will also explore options to partner with companies with other deposits in the region to take advantage of expected strong economies of scale that would result from an expanded facility.
- ◆ Quebec has natural advantages in having low energy costs and well developed infrastructure as well as a skilled work force and mining/processing friendly attitude.
- ◆ Sayona plans to complete a PFS on the downstream potential in parallel with the Authier concentrate DFS - this will include converting Authier concentrates to lithium carbonate/hydroxide, site selection and commencement of permitting.

## Ongoing and Upcoming Work

- ◆ Activities are concentrated on the Authier DFS, with completion targeted for Q2, 2018.
- ◆ This includes the current Phase 3 3,000m to 4,000m drilling programme, which has been designed to collect a large sample for pilot scale metallurgical test work to be operated at SGS Lakefield in December/January, geotechnical analysis and further optimisation of the Resources and Reserves, including Resource upgrades and possible expansions.

- ◆ Finalisation of the environmental and permitting requirements (with the exception of the DFS) is planned for early 2018, with this including stakeholder engagement.
- ◆ Negotiations are also progressing with Changuan and other potential offtake partners.

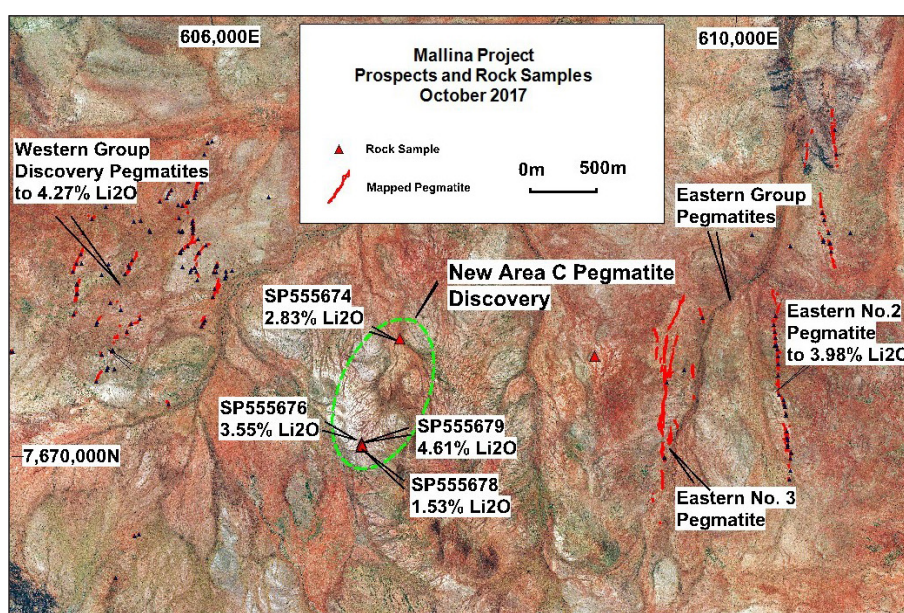
## WESTERN AUSTRALIAN LITHIUM PROJECTS

- ◆ Work on Sayona's Western Australian projects has concentrated on the Pilbara, with no work being completed at the Mt Edon Project in the Yilgarn.

### Mallina Lithium Project

- ◆ Mallina is the site of an early 2017 pegmatite discovery by Sayona, with seven groups of pegmatites now being identified (Figure 3) - the most extensive of these is the Eastern Number 2 pegmatite, which extends for a strike length of ~1.3km.
- ◆ Work has included geological mapping, geochemical sampling (rock chip and soils) and a maiden, 19 hole 1,343m reverse circulation ("RC") drilling programme, with the drilling lightly testing five of the pegmatites in the western and eastern areas (which have a combined strike length of 4.5km).

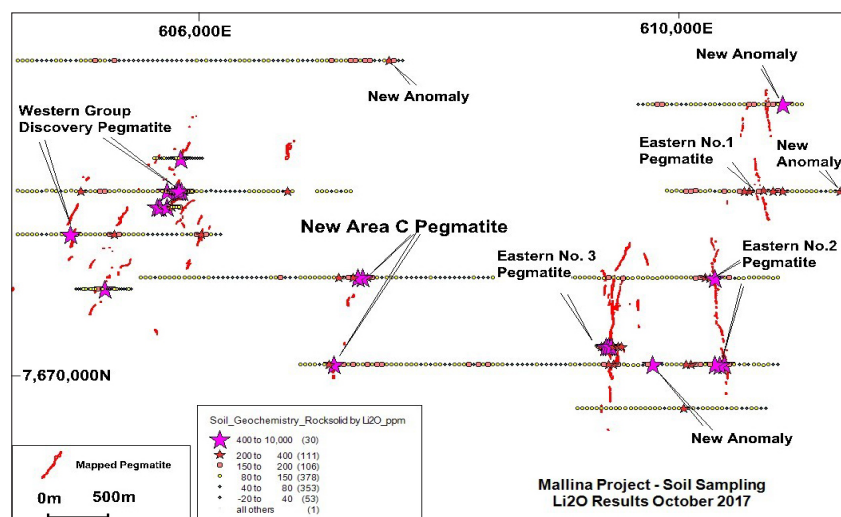
Figure 3: Pilbara Lithium Project



Source: Sayona

- ◆ The drilling intersected pegmatite at each target, with the eastern group returning the broadest intersections of up to 19m.
- ◆ Lithium assay grades corresponded with logged spodumene, however, possibly due to a late silicification event that has replaced spodumene with silica the downhole intercepts did not reflect surface sampling, which returned mineralisation across the full width of the pegmatite outcrops.
- ◆ The best intersection was 5m @ 1.00%  $\text{Li}_2\text{O}$  from 46m in hole SMRC012, with a peak assay of 1m @ 1.62%  $\text{Li}_2\text{O}$  from 27m in hole SMRC005.
- ◆ Subsequent petrological work has identified alteration of spodumene to mica-quartz-feldspar, due to late pegmatite fluids, with lithium being remobilised back into the magmatic fluid.
- ◆ The Company however considers that there is the potential for preserved spodumene mineralisation in a number of areas.
- ◆ To further assess the potential, Sayona completed a soil geochemical survey, with 331 samples being collected (Figure 4), with the Area C pegmatites being discovered during this work (Figures 3 and 4); pegmatites now occur over an area of some 5km by 3km.
- ◆ The soil sampling identified some areas of lithium anomalism with no identified source; also the broadest anomaly is in the northern part of the Area C anomaly.
- ◆ Given the results of the initial soil sampling programme, a further 354 samples were collected for which results are still awaited.

Figure 4: Mallina prospect geology and sampling results

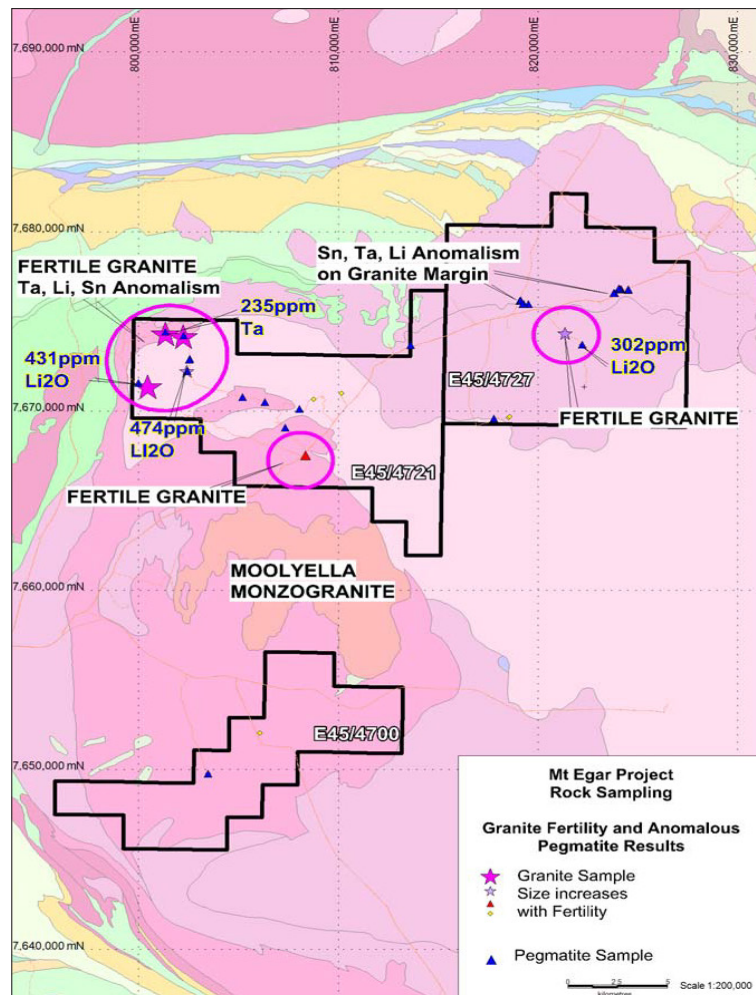


Source: Sayona

### Mt Edgar Lithium Project

- ◆ Rock chip sampling and geological reconnaissance at Mt Edgar has identified a number of granites with geochemistry typical of those that are the source for spodumene pegmatites (Figure 5), with assaying returning anomalous lithium (up to 474ppm  $\text{Li}_2\text{O}$ ), tantalum (up to 236ppm  $\text{Ta}_2\text{O}_5$ ) and tin (up to 45ppm).
- ◆ This first pass work has identified a number of target areas that now require follow up, and in addition, identified tenements to the south and east of the Mt Edgar batholith that returned no significant results, and thus have been surrendered or withdrawn from the Great Sandy Option Agreement.

Figure 5: Mt Edgar sampling results



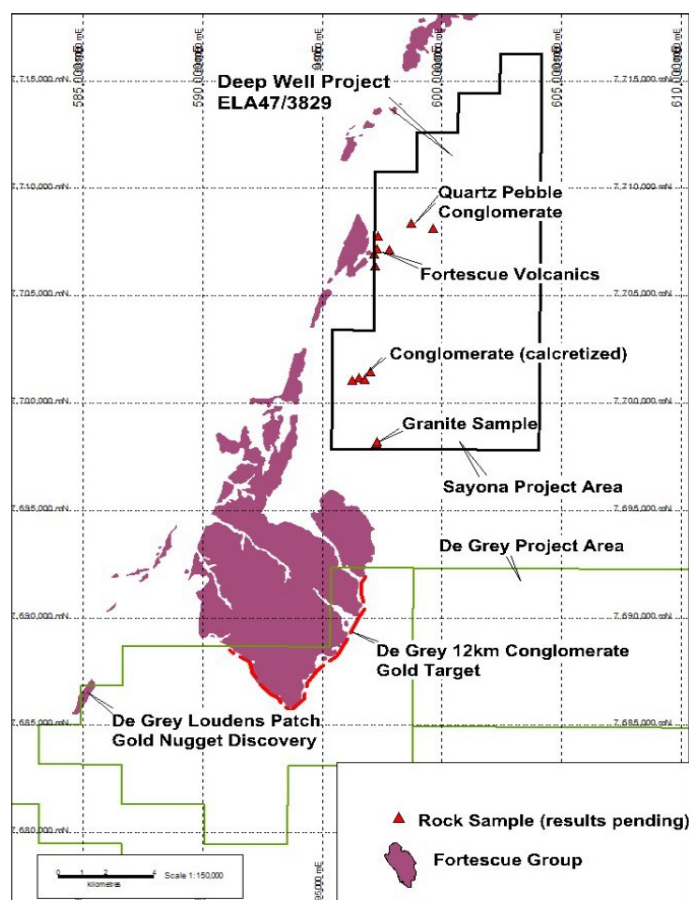
Source: Sayona



## Deep Well Project

- ◆ The Deep Well application of 119km<sup>2</sup> is located approximately 80km SW of Port Hedland, and readily accessible via Highway 1.
- ◆ Although initially and primarily pegged for pegmatite mineralisation, with a similar setting to Mallina, reconnaissance work identified previously unmapped pillow basalts, flows and mafic fragmentals typical of the Fortescue aged Mt Roe Basalt, which GSWA mapping shows to the west and south of the tenement (Figure 6).
- ◆ Poorly outcropping and highly weathered quartz and mafic pebble conglomerates have been mapped to the east of the volcanics (Figure 6), with geological relationships suggesting that they may be equivalent to the conglomerates that have recently been identified as hosting gold mineralisation in the region, including by Artemis Resources (ASX: ARV) and De Grey Mining (ASX: DEG) and which have generated considerable excitement in the markets.

Figure 6: Deep Well project



Source: Sayona

## Ongoing Work - Western Australia

- ◆ A possible round of drilling is planned for Mallina, with the upcoming results of the most recent soil sampling to be used to help plan the programme.
- ◆ Further reconnaissance work is planned for Deep Well and Mt Edgar, with the work at Deep Well to be concentrated on the potential for conglomerate gold.

## CORKWOOD GRAPHITE PROJECT

- ◆ Limited work on Corkwood, located in the East Kimberley some 240km from Wyndham included reconnaissance mapping and sampling.
- ◆ Rock chip samples from areas that have historically returned elevated cobalt, returned up to 0.275% Co, 2.7% Cu and 2.42% Ni; these are interpreted as being associated with weathered pyroxenite intrusives, and are considered encouraging.
- ◆ They are being reviewed along with EM data to determine the potential for conductors associated with base metal and cobalt mineralisation to be present at depth.

## VALUATION

- ◆ We have updated our Sayona valuation, again using the same “sum of the parts” method as used in our initiation report (Table 8).
- ◆ In the update, we have updated the costs and spodumene prices to reflect those as used in the updated PFS, however again we have used a conceptual operation, with six years of mining at 700,000tpa followed by 9 years of mining at 1,400,000tpa, for a total of 16,800,000 tonnes being mined.
- ◆ This assumes that all inferred mineralisation is upgraded, and a high Resource to Reserve conversion - we have also used a higher strip ratio than previous following on from the results of the upgraded PFS.
- ◆ The economics are reasonable sensitive to strip ratio - an increase in 1 (e.g. from 6:1 to 7:1 waste:ore results in an additional 7.5 tonnes of waste needing to be mined for each tonne of concentrate, resulting in an additional cost of C\$23/tonne of concentrate.
- ◆ We note that in our previous valuation we used a higher spodumene concentrate price of US\$550/tonne than the US\$515/tonne as used by Sayona; in the current valuation we have used the same figure of US\$614/tonne, therefore our price increase is C\$83/tonne, broadly similar to the cost increases (C\$60/tonne in the upgraded PFS + ~C\$25/tonne to allow for our higher strip ratio).
- ◆ As such our post-tax, funded Authier valuation has remained largely similar to that of our initiation un-risked valuation of A\$226 million.
- ◆ We have increased our Pilbara lithium valuation at A\$15 million, to reflect the general increase in value of lithium stocks over the past six months, and the addition of Deep Well, reflecting the recent interest in the Pilbara conglomerate gold story.
- ◆ Again we have used a 40% equity, 60% debt funding scenario, with equity raised at A\$0.06/share (previously A\$0.05/share); our previous model also assumed pre DFS funding of A\$5 million at A\$0.02/share, where in fact this was at A\$0.01/share.
- ◆ This results in a diluted share base of 1.9 billion shares.

**Table 8: Sayona valuation**

Sayona valuation					
Item	Total (A\$m)	Risk Factor	Riskd (A\$m)	Riskd/Share	Notes
Authier	\$235.69	80%	\$188.55	\$0.099	NPV <sub>8</sub>
Pilbara Lithium	\$15.00	100%	\$15.00	\$0.008	Nom
Mt Edon	\$1.50	100%	\$1.50	\$0.001	Nom
Head Office	-\$14.90	100%	-\$14.90	-\$0.008	NPV <sub>8</sub>
Cash	\$4.00	100%	\$4.00	\$0.002	Est
<b>Total</b>	<b>\$241.29</b>		<b>\$194.15</b>	<b>\$0.102</b>	

Source: IIR analysis

- ◆ Sensitivity tables are presented below, showing that Authier is robust and can absorb 20% adverse movements in key inputs.

**Table 9: Authier per share sensitivity - post tax, funded**

Authier per share sensitivity - post tax, funded				
Change	Price	Site Costs	Recovery	Capex
-20%	\$0.051	\$0.110	\$0.054	\$0.112
-10%	\$0.072	\$0.101	\$0.074	\$0.105
0%	\$0.093	\$0.093	\$0.093	\$0.099
10%	\$0.113	\$0.084	\$0.112	\$0.092
20%	\$0.134	\$0.075	\$0.131	\$0.085

Source: IIR analysis

**Table 10: Authier per share sensitivity - post tax, funded**

Authier per share sensitivity - post tax, funded						
		Change in Site Operating Costs				
		-20%	-10%	0%	10%	20%
Con Price US\$/Tonne	US\$500	\$0.07	\$0.06	\$0.05	\$0.05	\$0.04
	US\$550	\$0.09	\$0.08	\$0.07	\$0.06	\$0.05
	US\$600	\$0.11	\$0.10	\$0.09	\$0.08	\$0.07
	US\$650	\$0.12	\$0.11	\$0.10	\$0.10	\$0.09
	US\$700	\$0.14	\$0.13	\$0.12	\$0.11	\$0.10
	US\$750	\$0.16	\$0.15	\$0.14	\$0.13	\$0.12

Source: IIR analysis

## RISKS

- ◆ **Exploration:** This is the key risk for any exploration company, with survival largely based on the results of exploration. This is largely mitigated in the case of Sayona in having the near development Authier Project, and also given the results of work to date on the Western Australian projects.
- ◆ **Permitting:** This is a risk for any near development project, and for Sayona is applicable at Authier; our view however is that the risk here should not be failure to permit, but time frames being longer than expected.
- ◆ **Funding:** This is a perennial issue for junior explorers and developers, with Sayona also facing the prospect of having to look to fund development of Authier (with project funding markets currently being tight) - this however should be somewhat mitigated by the expected relatively low up-front capital for Authier. On the other hand, with the recent raising, the Company is well funded for the DFS.
- ◆ **Markets:** Although relatively buoyant at the moment, markets can turn on a dime and funding for juniors can dry up very quickly.
- ◆ **Sovereign:** Both Quebec and Western Australia are well developed and regarding mining jurisdictions - Western Australia ranked 3rd globally in the 2016 Fraser Institute survey, with Quebec 6th - Western Australia was the highest ranked Australian state and Quebec the third ranked Canadian province.

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