

2 Sep 2016

## BIRIMIAN LTD

### Large spodumene potential in Mali

Birimian Ltd is developing the Bougouni spodumene (lithium) project in Mali. The project is pre-resource, but drilling to date is very encouraging, and there had already been metallurgical bulk test work completed by CSA Global consultants in 2007. The project comprises a large license area spanning some 250km<sup>2</sup>, and hosts the high-grade, potential bulk-tonnage Goulamina lithium deposit. Drilling at the Main Zone has now defined mineralisation over ~700m of strike, with the West Zone appearing to be at least equal potential.

A maiden JORC-compliant resource is expected in October. We see potential for a very large deposit at good grades (1.6-1.8% Li<sub>2</sub>O), on the limited drilling to date. If the deposit is as anticipated, there is potential it could be developed into a 285-430ktpa (40-60ktpa LCE) operation over time, subject to lithium demand growing enough such that it could be absorbed into the market (the earliest we see potential for Bougouni product sales is CY19).

### Located in Mali, but infrastructure okay

The project is located in Southern Mali, and hence access and political risk is lower (there are other operating Western gold miners in the area). Spodumene is a reasonably low volume bulk production (i.e. a large operation would be ~250ktpa of product). Consequently, logistics chains are relatively simple. With current high margins for spodumene, we believe logistics costs will not be an impediment to project development. This is particularly true given that it appears the project could have a good strip ratio and head grade.

### Current exploration program: resource is expected in October

Drill results to date have a weighted average head grade of ~1.7% Li<sub>2</sub>O, with average widths of 20 metres (up to 57 metres). The deposit is close to surface, with hole GMRC040 reporting 56m at 1.91% Li<sub>2</sub>O from 14 meters, including 8m @ 2.35 % Li<sub>2</sub>O and 10m @ 2.19 % Li<sub>2</sub>O. The "Main Zone" deposit is over approximately 700 metres of strike, suggesting there could be ~20Mt. The "West Zone" (125m west of Main Zone) appears to be of a similar size, suggesting Bougouni could be a very significant spodumene deposit.

### Potential for gold divestments

BGS has been operating in Mali for several years. It has a resource exploration target for 8Mt @ 1.5g/t for 0.4Moz gold at the Massigui Gold project. The project is ~25km from Randgold's underutilised Morila 4Mtpa gold mine and processing plant. We believe that a sale or toll-treatment is a distinct possibility, and hence attribute meaningful value (US\$30m) despite it still being at resource definition stage.

### Initiate with high risk Speculative Buy

BGS is still at the early phase of development, however, it appears it could have a substantial project. The location in Mali may require some discount (versus the West Australian deposits), but the grade and size suggest it is still an enviable project. We initiate with a Speculative Buy. We have a twelve month price target of 60cps, which is part way between cash backing (~5cps) and our speculative and highly diluted preliminary valuation (70cps). BGS is high risk, but for those that have bullish view on the next several years for spodumene demand, it could have significant upside.

Share Price	\$0.290
Prelim. Valuation	\$0.70
Price Target (12 month)	\$0.60

#### Brief Business Description:

Excellent, but early stage, spodumene project in Mali (Bougouni) plus a good advanced gold exploration portfolio, also in Mali.

#### Hartleys Brief Investment Conclusion

Appears to have a large undeveloped and good grade spodumene project. Under valued if the project can be developed.

#### Chairman & MD

Winton Willesee (Chairman)

Kevin Joyce (Managing Director)

#### Major Shareholders

#### Company Address

Suite 9, 5 Centro Avenue  
West Perth, WA 6008

Issued Capital	178.2m
- fully diluted	212.3m

Market Cap	A\$51.7m
- fully diluted	A\$61.6m

Cash (30 Jun 16a)	A\$8.6m
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Debt (30 Jun 16a)	A\$0.0m
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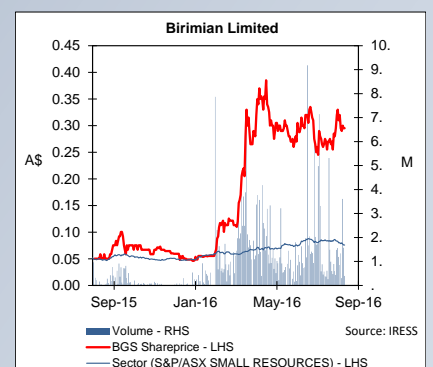
EV	A\$43.1m
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#### EV/Resource Spod.

#### EV/Reserve Spod.

	Prelim. (A\$m)	FY19e
Prod (spod Mt)	nm	
Op Cash Flw	nm	
Norm NPAT	loss	
CF/Share (cps)	nm	
EPS (cps)	nm	
P/E	nm	

	Mt	Li <sub>2</sub> O	Spod.
Resources (Li <sub>2</sub> O)			
Reserve (Li <sub>2</sub> O)			



Trent Barnett

Head of Research

Ph: +61 8 9268 3052

E: trent\_barnett@hartleys.com.au

Hartleys has completed a capital raising in the past 12 months for Birimian Gold Limited ("Birimian") for which it has earned fees. Hartleys has provided corporate advice within the past 12 months and continues to provide corporate advice to Birimian for which it expects to earn fees. See back page for details.

## SUMMARY

Birimian Limited BGS		Share Price \$0.290		Sep-16 Speculative Buy	
<b>Key Market Information</b>				<b>Directors</b>	
Share Price		\$0.290		<b>Company Details</b>	
Market Capitalisation		\$51.7m		Winton Willesee (Chairman)	Suite 9, 5 Centro Avenue
Market Capitalisation - full dil.		\$51.9m		Kevin Joyce (Managing Director)	West Perth, WA 6008
Net Cash (Debt)		\$4.2m		Hugh Bresser (Director)	+61 8 9286 3045
Listed Investments (est)		\$0.0m		Beverley Nichols (Comp Secretary)	+61 8 9226 2027
Issued Capital		178.20m			
Options		0.7m			<a href="http://www.birimiangold.com">http://www.birimiangold.com</a>
Issued Capital (fully diluted all options)		178.9m			
EV - incl. listed invest		\$47.5m			
EV - full diluted, option cash		\$41.4m			
Price Target		\$0.60			
<b>Projects</b>				<b>Top Shareholders</b>	
<b>Projects</b>	<b>Interest</b>	<b>Location</b>	<b>Commodity</b>	<b>m shs</b>	<b>%</b>
Bougouni	100%	Mali	Li		
Massigui	100%	Mali	Au		
Dankassa	100%	Mali	Au		
Basawa	100%	Liberia	Au		
Waite Kauri	100%	WA	Ni/Co		
<b>JORC Resources</b>				<b>Investment Summary</b>	
	<b>Mt</b>	<b>Grade</b>	<b>Metal (oz)</b>	Early stage development of lithium (spodumene) project in Mali. Additional gold projects in West Africa.	
Massigui Au	none				
	Target	8.00	1.5	400,000	
Bougouni Li <sub>2</sub> O	none				
<b>P&amp;L</b>				<b>Newsflow</b>	
	<b>FY2017F</b>	<b>FY2018F</b>	<b>FY2019F</b>	<b>Project</b>	
Net Revenue	na	na	na	October	JORC Resource
Total Costs	na	na	na	Q4 CY16	Scoping Study
EBITDA	na	na	na	CY17	Broader exploration program
Deprec/Amort	na	na	na	Mid-CY17	Feasibility Study Completed
EBIT	na	na	na		
Net Interest	na	na	na		
Pre-Tax Profit	na	na	na		
Tax Expense	na	na	na		
NPAT	na	na	na		
Abnormal Items	na	na	na		
Reported Profit	na	na	na		
				<b>Unpaid Capital</b>	
				<b>No (m)</b>	<b>\$ (m)</b>
				<b>Ave Pr</b>	<b>% Ord</b>
				<b>Options</b>	
				30-Jun-17	0
				30-Jun-18	16
				30-Jun-19	1
				30-Jun-20	4
				30-Jun-21	0
				30-Jun-22	7
				<b>Total</b>	<b>28.90</b>
					<b>6.29</b>
					<b>0.218</b>
					<b>14.5%</b>
				<b>Comments</b>	
Analyst: Trent Barnett				Last Updated: 02/09/2016	
Phone: +61 8 9268 3052					
Sources: IRESS, Company Information, Hartleys Research					

## BUSINESS OVERVIEW

*BGS has been operating as a gold explorer in Mali for several years*

BGS has been operating as a gold explorer in Mali for several years. In late 2015, through its relationships in country, it purchased the Bougouni early stage lithium project, which it is progressing through development.

### BOUGOUNI LITHIUM PROJECT (100%)

The Bougouni Lithium Project is in southern Mali. The project was identified in the mid-2000's, but had little subsequent work. BGS acquired the project in late 2015.

A maiden program (42 holes) commenced in May 2016, and results to date suggest a large, high grade deposit exists.

Drill results to date have a weighted average head grade of 1.7% Li<sub>2</sub>O, with average widths of 20 metres (up to 57 metres). The deposit is close to surface, with hole GMRC040 reporting 56m at 1.91% Li<sub>2</sub>O from 14 meters, including 8m @ 2.35 % Li<sub>2</sub>O and 10m @ 2.19 % Li<sub>2</sub>O.

The main zone deposit is over approximately 700 metres of strike, suggesting there could be ~20Mt. The West zone could be of a similar size, suggesting Bougouni could be a very significant spodumene deposit.

In 2007, CSA Global did some preliminary test work, funded by a World Bank Development Project. The test was done on a 3 tonne sample (2.2% Li<sub>2</sub>O, iron oxide 0.5-0.8% Fe<sub>2</sub>O<sub>3</sub>). The results demonstrated the spodumene concentrate that was produced from screening and heavy media separation had a grade of 6.7% with recoveries of spodumene (lithium) of 84.7%. More metallurgical work will obviously need to be completed, but this is encouraging.

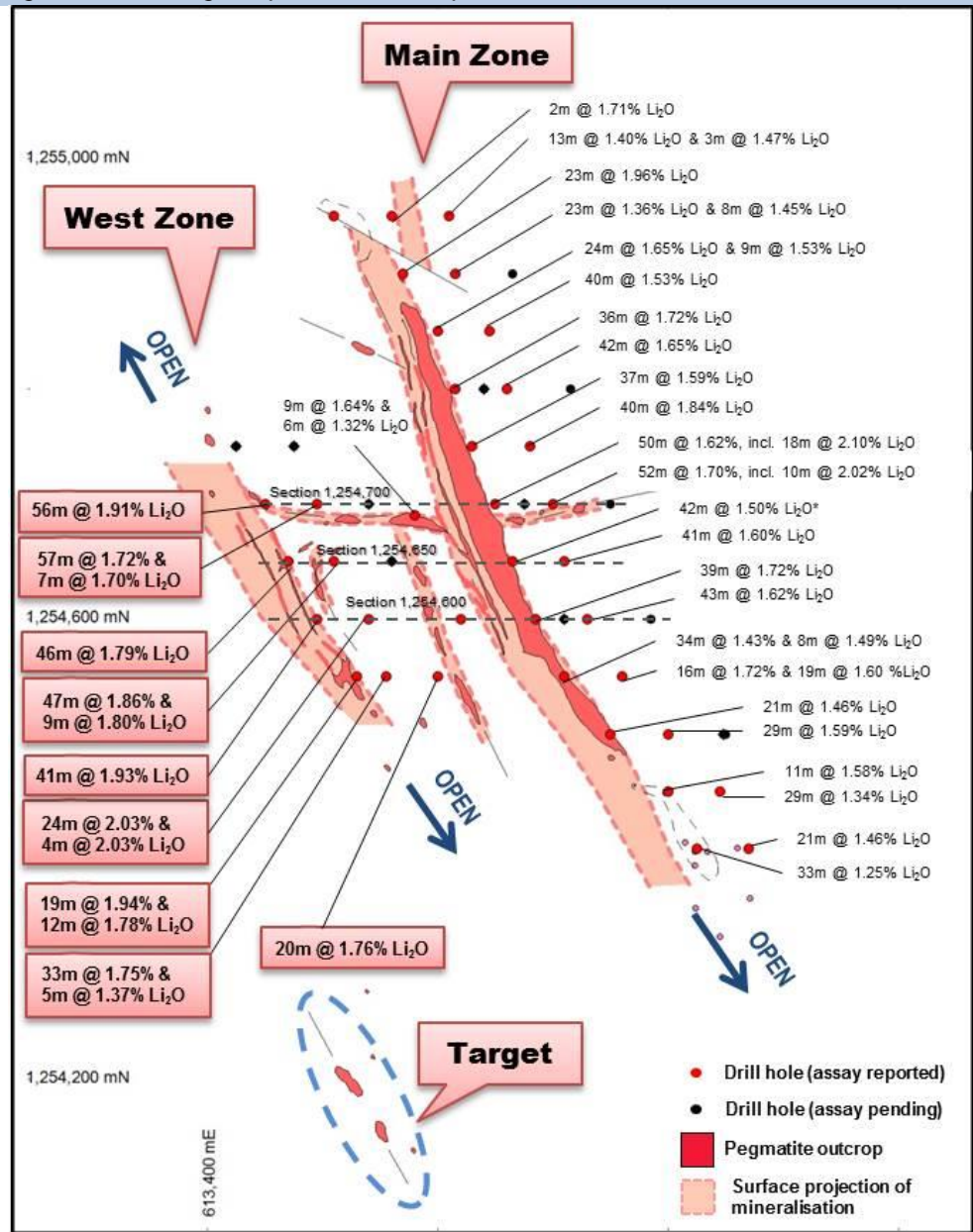
The deposit is situated in close proximity to a sealed highway, grid power and abundant water, with the Selingue hydroelectric power station located some 45km to the North West. We assume that product will be trucked to either the port of Abidjan Port in Cote d'Ivoire and Dakar Port in Senegal. Given export should be backfilled loads, we do not expect transportation to be a cost impediment, despite Mali being landlocked.

Fig. 1: Timeline

	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017
Bougouni Project Acquisition	✓					
Maiden drilling programme at Goulamina			✓			
Establish Maiden JORC Resource at Goulamina			✓			
Open pit mining study				✓		
Project Scoping Study				✓		
Exploration Program on broader project area						✓
Feasibility Study Work Program						✓

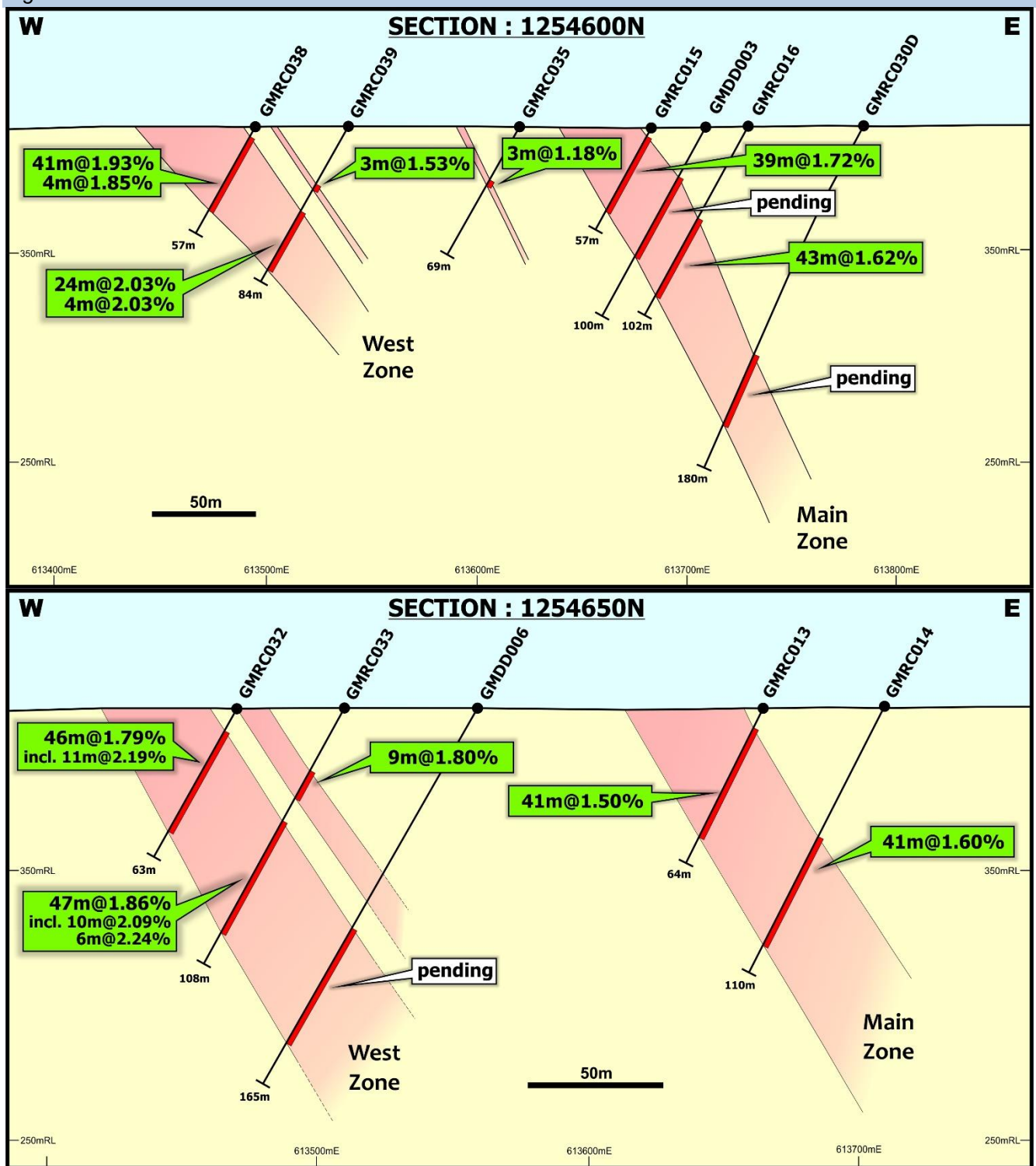
Source: BGS.

Fig. 2: Large spodumene deposit



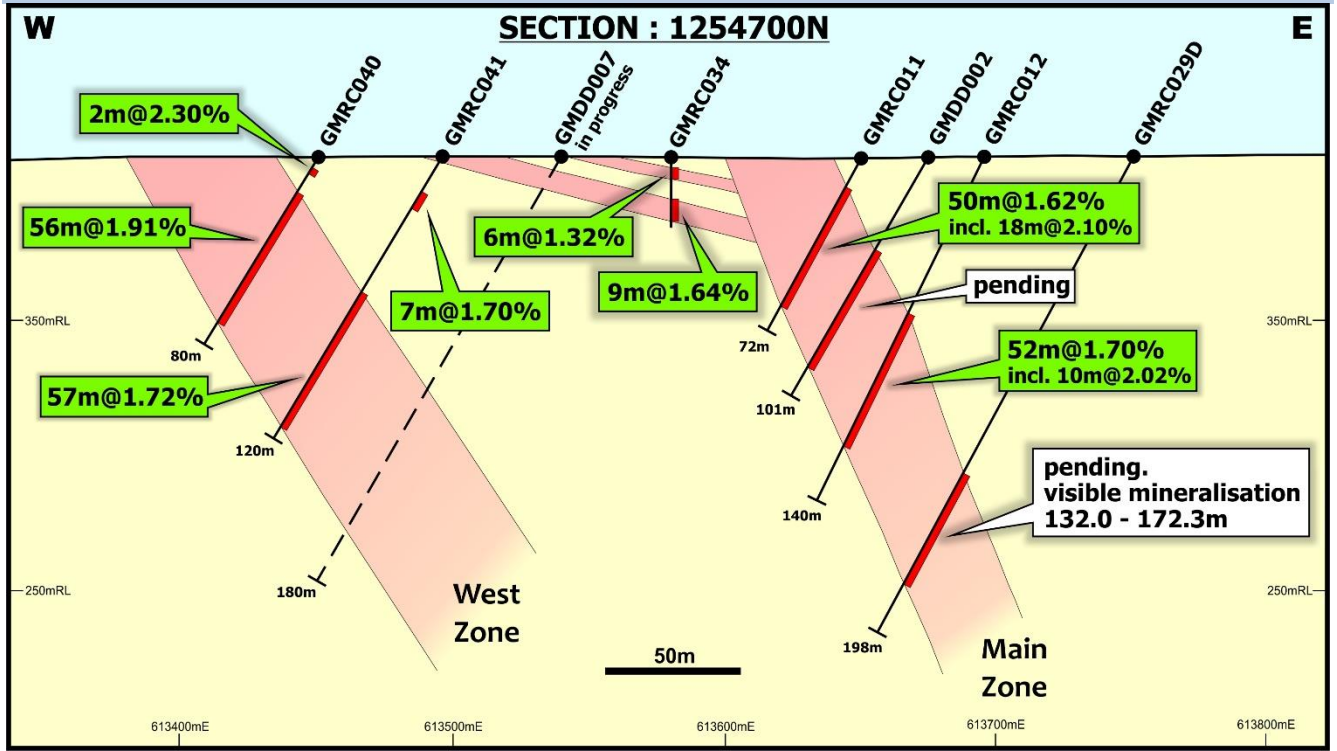
Source: BGS.

Fig. 3: Cross Sections



Source: BGS.

Fig. 4: Cross Sections



Source: BGS.

Fig. 5: Coarse grained "crowded" spodumene rock at Goulamina



Source: BGS.

Fig. 6: Drill results to date

Table 1. Reported drill holes at the Bougouni Project, Mali, and significant intercepts.

Hole_ID	North	East	Dip	Azm	Hole Depth	From	To	Width	% Li <sub>2</sub> O
GMRC015	1254600	613685	-60	265	57	6	45	39	1.72
GMRC016	1254600	613730	-60	265	102	49	92	43	1.62
GMRC017	1254550	613710	-60	265	60	1	9	8	1.49
and						12	46	34	1.43
GMRC018	1254550	613760	-60	265	108	50	66	16	1.72
and						76	95	19	1.6
GMRC019	1254500	613750	-60	265	64	7	9	2	1.59
and						31	52	21	1.46
GMRC020	1254500	613800	-60	265	75	70	75 <sup>(4)</sup>	5	2.35
GMRC021	1254500	613801	-60	265	96	67	96 <sup>(9)</sup>	29	1.59
GMRC022	1254450	613800	-60	265	93	39	68	29	1.34
and						72	82	10	1.46
GMRC023	1254450	613845	-60	265	125	94	105	11	1.58
GMRC024	1254400	613825	-60	265	75	34	67	33	1.25
GMRC025	1254400	613870	-60	265	114	72	74	2	1.06
and						84	105	21	1.46
GMRC026	1254950	613510	-60	265	54				NSI
GMRC032	1254650	613470	-60	265	63	6	52	46	1.79
GMRC033	1254650	613510	-60	265	108	10	12	2	1.6
and						28	37	9	1.8
and						48	95	47	1.86
GMRC034	1254690	613580	-60	180	51	4	10	6	1.32
and						19	28	9	1.64
GMRC035	1254600	613620	-60	265	69	28	31	3	1.18
GMRC036	1254550	613530	-60	265	48	3	22	19	1.94
and						25	37	12	1.78
GMRC037	1254550	613555	-60	265	75	23	28	5	1.37
and						32	65	33	1.75
GMRC038	1254600	613495	-60	265	57	4	45	41	1.93
and						50	54	4	1.85
GMRC039	1254600	613540	-60	265	84	31	34	3	1.53
and						46	70	24	2.03
and						74	78	4	2.03
GMRC040	1254700	613450	-60	265	80	8	10	2	2.3
and						14	70	56	1.91
GMRC041	1254700	613495	-60	265	120	19	26	7	1.7
and						57	114	57	1.72
GMRC042	1254550	613600	-60	265	120	83	91	8	1.07
and						94	100	6	1.77
and						103	114	11	2.11

1) Intercepts are calculated as weighted average grades of 1m sample intervals using a 1% Li<sub>2</sub>O cut-off, allowing for 2m maximum internal waste.

2) Intercepts are reported from 1m samples submitted to ALS Bamako for analysis by Sodium Fusion ICP.

3) QAQC standards, blanks and duplicate samples were routinely inserted/collected at every 10th sample.

Source: BGS.

Fig. 7: Coarse grained "crowded" spodumene rock at Goulamina



Source: BGS.



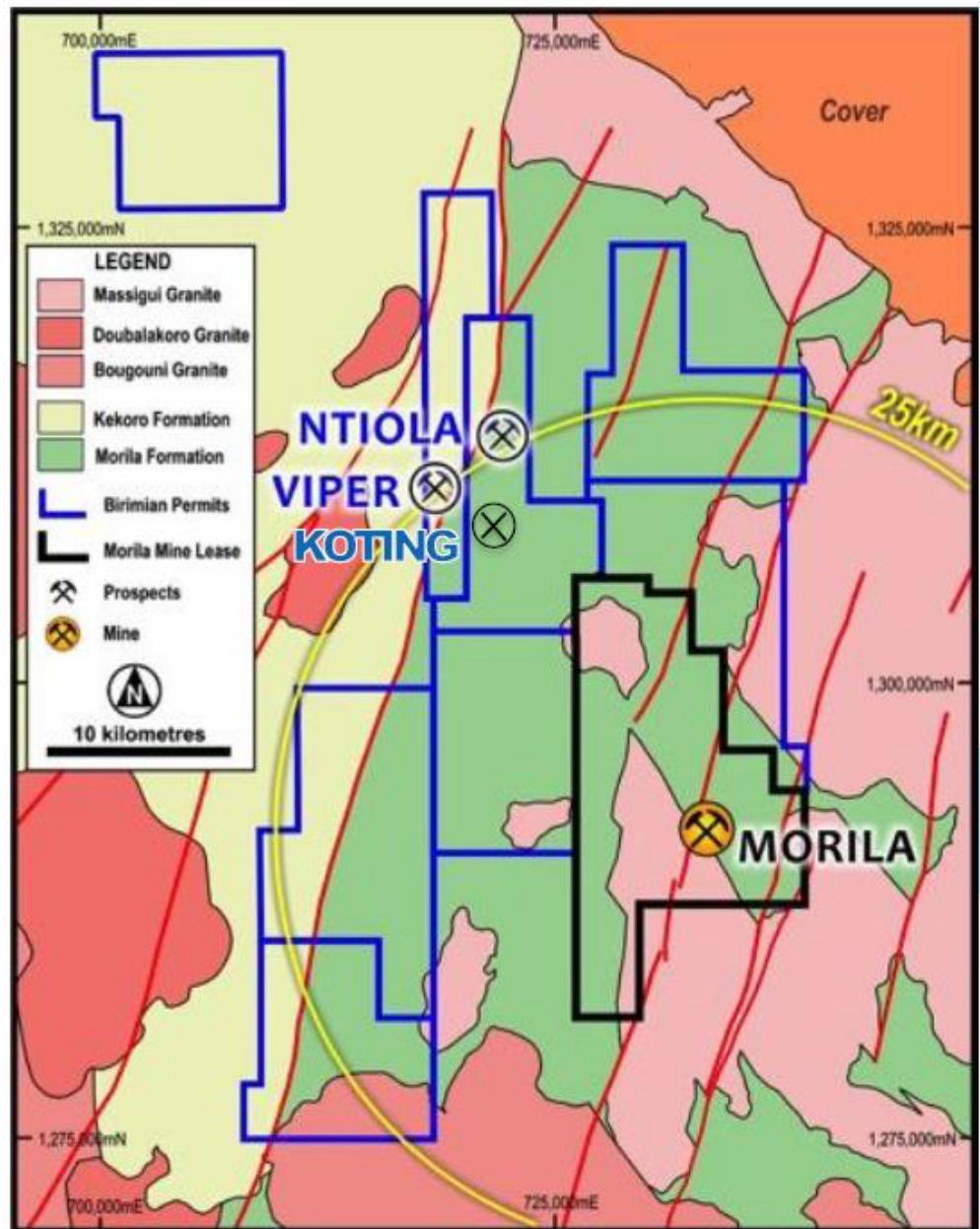
## MASSIGUI GOLD PROJECTS

The Massigui Gold deposits (Ntiola, Viper, and Koting) are all ~25km from the Morila 4Mtpa gold mine (Randgold Resources 40% (Operator), AngloGold Ashanti 40%, Government of Mali 20%).

The Company has a combined resource exploration target at Ntiola, Viper, Koting for 8Mt @ 1.5g/t for ~400koz gold.

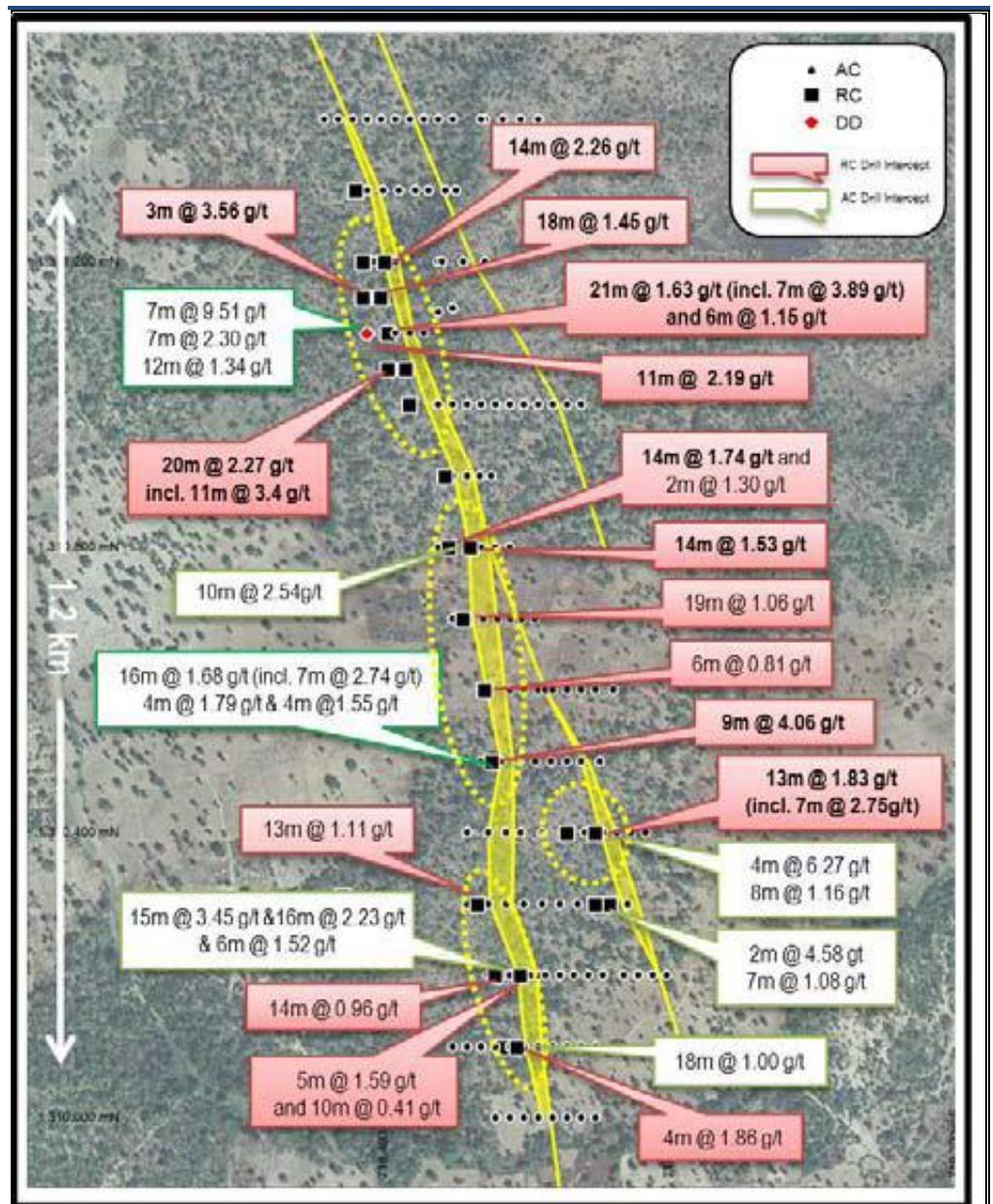
Given the prospect to be fed into the Morila mill (if an agreement can be reached), we view the project as material to BGS. If the exploration target is realised, then we could speculatively derive a value of ~US\$120m based on no capex and ~US\$300/oz margin. We attribute value to BGS speculatively at US\$30m.

Fig. 8: Massigui Gold Project



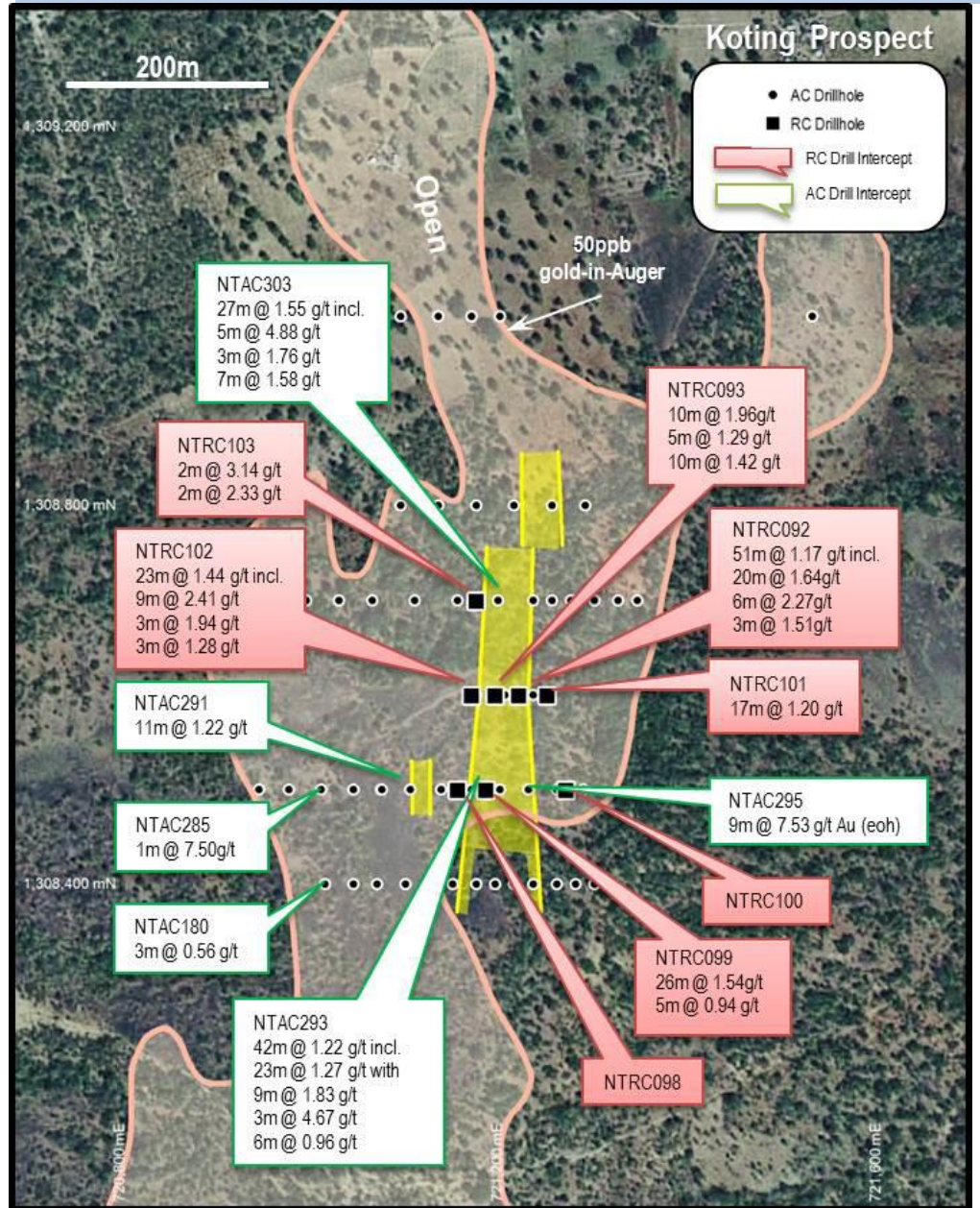
Source: BGS

Fig. 9: Viper Prospect Significant Drill Intersections



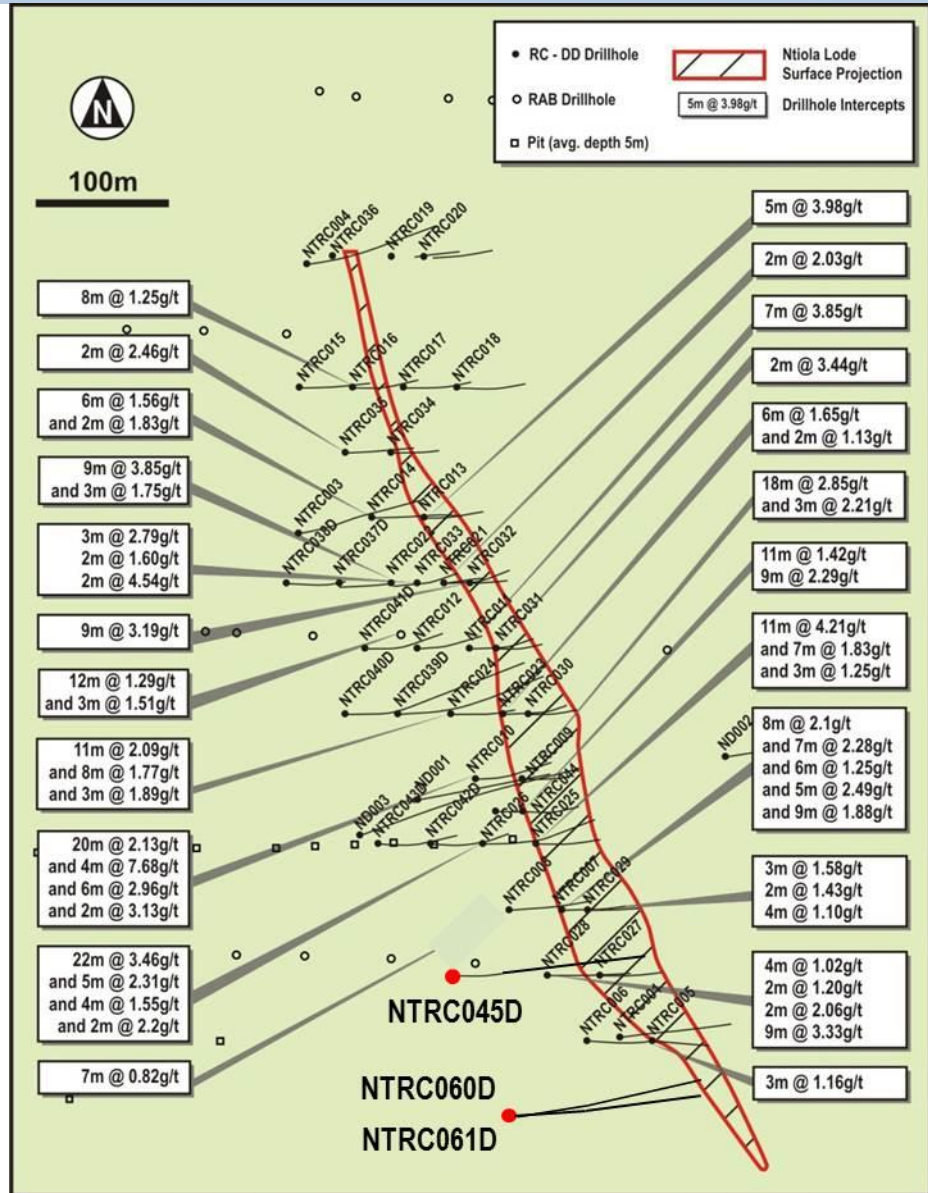
Source: BGC Annual Report Sept 2015

Fig. 10: Koting Prospect. Significant Intersections



Source: BGS

Fig. 11: Ntiola Prospect. Significant Intersections



Source: BGS

## INDUSTRY EXPOSURE

*BGS is exposed to the spodumene price. Consequently, BGS is exposed to the lithium carbonate price.*

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Current demand for LCE is ~200ktpa, which is satisfied by current supply. However, demand is expected to grow significantly. Forecasts depend largely on the take up of lithium battery cars, for which industry is uncertain. However, most forecasts assume ~100ktpa of additional LCE is required by 2020 (50% increase). The world has enough resources to satisfy the demand, and hence there is a short window to get into production. Those mines likely to enter production will be those that can sign offtakes. Offtake partners normally want high quality product (low impurities), low sovereign risks, long mine life and robust projects (basically security of supply).

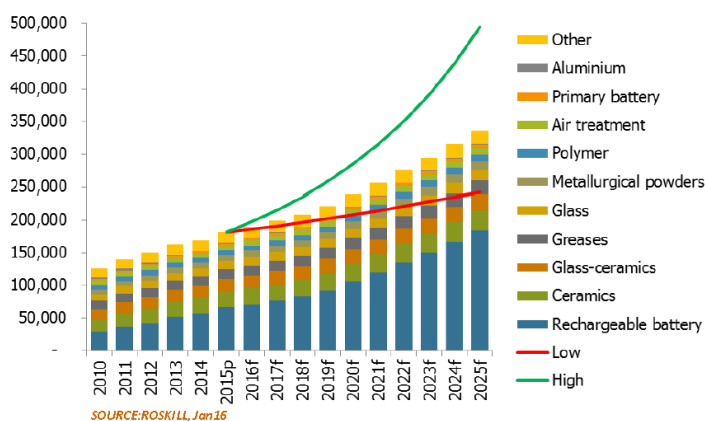
We estimate that if electric vehicle market share is around 11% by 2025 (currently ~1.5%) then global LCE demand will be ~400kt, which seems to be close to consensus estimates for demand. However, if market share increases faster (~extra 100bp pa), such that penetration is 17% by 2025 then global LCE demand could be 500kt by 2025. If demand truly accelerated, and penetration reaches ~45% by 2025, then LCE demand would be 900kt. If penetration rates are slower, then the point at which demand reaches 500kt pa may be deferred, but ultimately the structural demand for LCE is still very strong.

Some expectations are for 100% market share by 2030, which could mean substantially higher LCE demand, although if autonomous vehicles market share is also very high then it is possible that global new car sales actually begin to decline given individual car ownership is likely to decline and be replaced by a hire/shared car pool.

Fig. 12: Lithium Carbonate outlook

### Strong Demand Outlook

#### World forecast demand for Lithium by first use (t LCE)

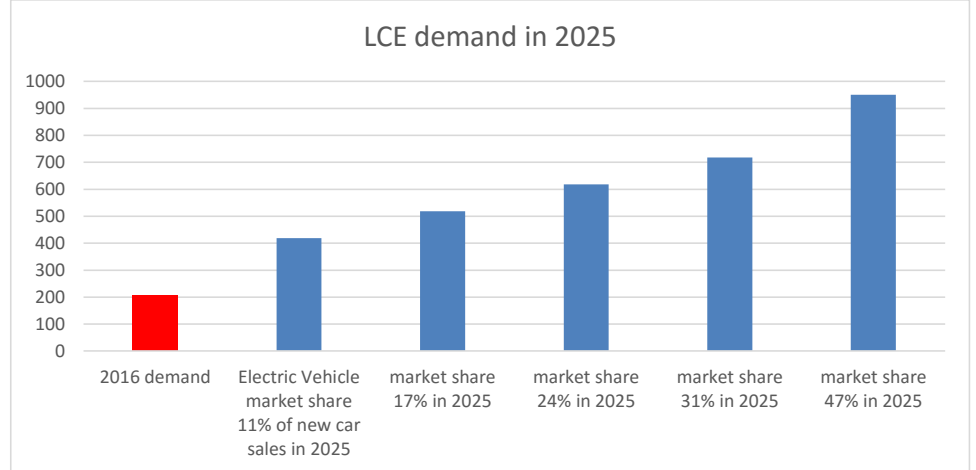


- ▶ Lithium-ion batteries driving demand
  - ▶ 20%+ annual growth since 2000
  - ▶ Currently 30% of global market
- ▶ Electric Vehicles and E-Bikes
  - ▶ Currently 3% of global lithium market
  - ▶ Accelerated growth expected from 2015
- ▶ Conventional applications
  - ▶ Currently 70% of global market
  - ▶ Glass & ceramics typically use technical-grade concentrate

**Large format batteries for electricity grid stabilization and home power storage.....**  
**Potentially significant future demand growth**

Source: PLS

**Fig. 13: Hartleys simple LCE demand forecasts**



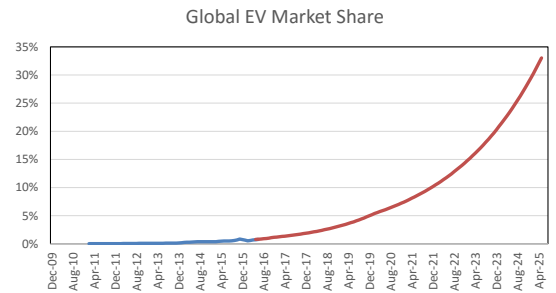
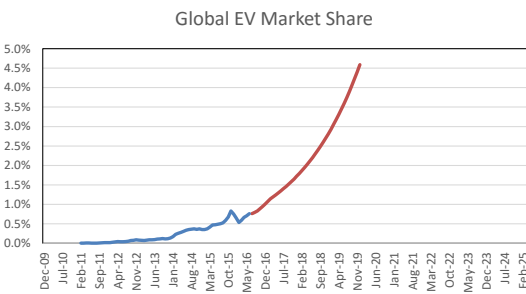
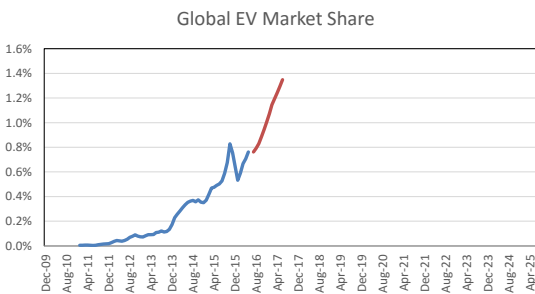
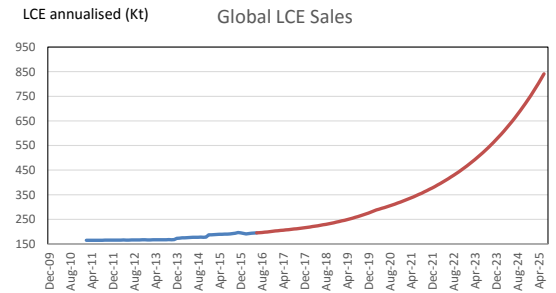
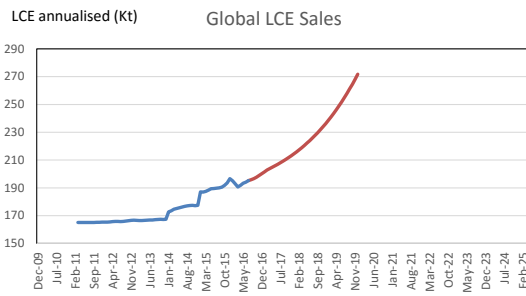
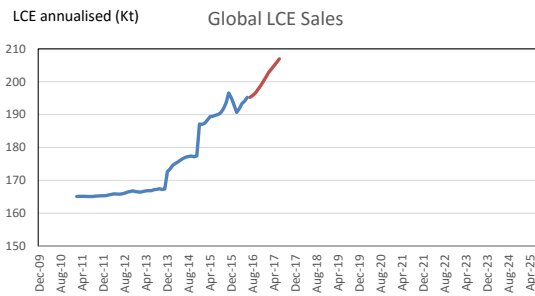
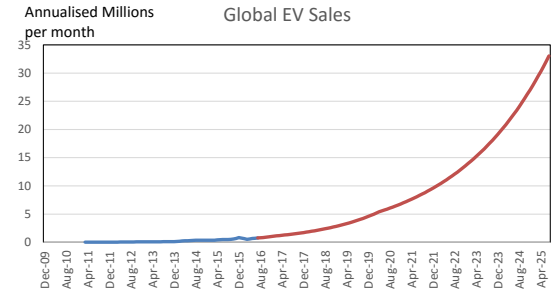
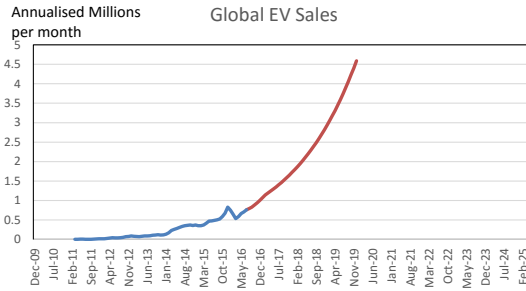
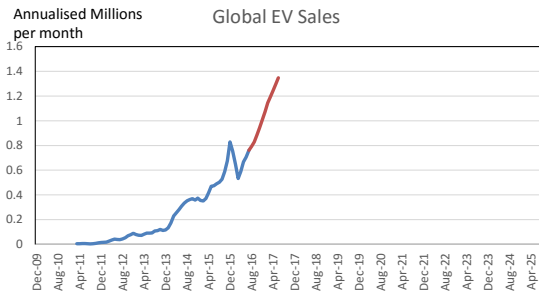
Source: Hartleys

**Fig. 14: Tesla Giga Factory**



Source: <http://electrek.co/2016/06/02/tesla-gigafactory-update-aerial-shots-gallery-june-2016/#jp-carousel-17490>

Fig. 15: Global EV sales momentum should rebound after a few weak months....

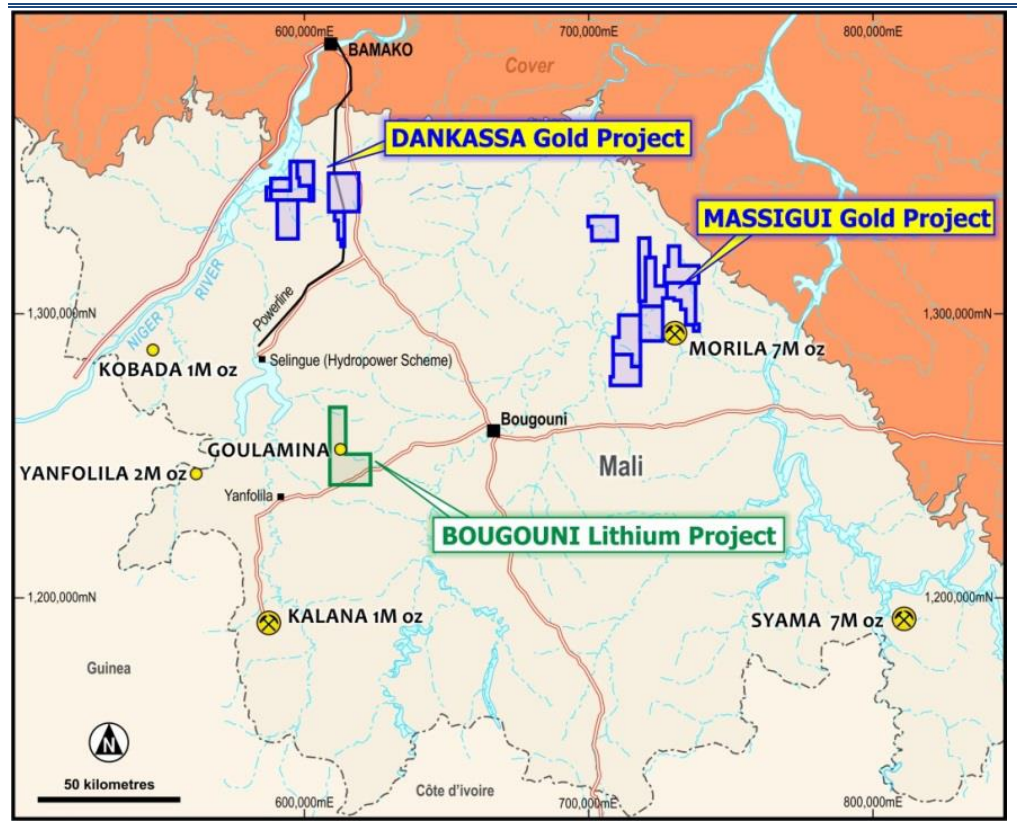


Source: Hartleys, insideevs.com

## GEOGRAPHIC EXPOSURE

BGS main assets are located in Mali.

Fig. 16: Location of Birimian Ltd's projects in southern Mali, WA



Source: BGS March Quarter update

Fig. 17: Location of Birimian Ltd's projects in southern Mali, WA



Source: bing maps



## PEERS AND COMPETITORS

Fig. 18: Lithium Competitor Comparison

Company	Ticker	Last	Quot. Mkt (Status)	Flagship Li Asset
<b>ASX Listed</b>				
1. Mineral Resources Limited	MIN	11.14	2,059 Producer (Spod.)	Mt Marrion
2. Orocobre Limited	ORE	3.83	800 Producer (Brine)	Olaroz
3. Galaxy Resources Limited	GXY	0.405	679 Producer (Spod.) & Developer (Brine)	Mt Cattlin & Sal De Vida
4. Pilbara Minerals Limited	PLS	0.565	638 Developer (Spod.)	Pilgangoora - B
5. General Mining Corporation Limited	GMM	0.655	209 Producer (Spod.)	Mt Cattlin
6. Neometals Ltd	NMT	0.34	186 Producer (Spod.)	Mt Marrion
7. Altura Mining Limited	AJM	0.1475	172 Developer (Spod.)	Pilgangoora - A
8. Kidman Resources Limited	KDR	0.31	90 Explorer (Spod.)	Mt Holland
9. Prospect Resources Limited	PSC	0.049	76 Explorer (Spod.)	Arcadia
10. Global Geoscience Limited	GSC	0.062	62 Explorer (Clay / dried brine)	Rhyolite Ridge Lithium - Boron
11. Birimian Limited	BGS	0.29	53 Explorer (Spod.)	Bougouni
12. European Metals Holdings Limited	EMH	0.35	46 Developer (Spod.)	Cinovec
13. Lithium Australia NL	LIT	0.205	45 Explorer (Spod.)	Lepidolite Hill
14. Poseidon Nickel Limited	POS	0.052	41 Explorer (Spod.)	Lake Johnston
15. Crusader Resources Limited	CAS	0.135	32 Explorer (Spod.)	Manga
16. Pioneer Resources Limited	PIO	0.025	25 Explorer (Spod.)	Mavis (Canada) & Phillips River (Ravensthorpe)
17. Metalicity Limited	MCT	0.055	25 Explorer (Spod.)	Greenbushes
18. Plymouth Minerals Limited	PLH	0.185	24 Explorer / Developer (Muscovite)	San Jose
19. Exterra Resources Limited	EXC	0.083	23 Explorer (Spod.)	Moolyella
20. Platypus Minerals Ltd	PLP	0.013	23 Explorer (Spod.)	Euriowie & Lemare
21. Sayona Mining Limited	SYA	0.025	19 Explorer (Spod.)	Pilbara (Tabba Tabba) and Murchison
22. Dakota Minerals Limited	DKO	0.058	19 Explorer (Spod.)	Lynas Find
23. Argosy Minerals Limited	AGY	0.029	19 Explorer (Spod.)	Mt Paris
24. Cazaly Resources Limited	CAZ	0.095	17 Explorer (Spod.)	Kangaroo Hill
25. Zenith Minerals Limited	ZNC	0.1	17 Explorer (Spod.)	Mt Alexander & Smith Bore
26. Lithium Power International Limited	LPI	0.335	16 Developer (Brine)	Maricunga
27. Hannans Ltd	HNR	0.016	16 Explorer (Spod.)	Skelleftea-Boliden
28. Kairos Minerals Limited	KAI	0.043	16 Explorer (Spod.)	Pilgangoora & Wodgina East
29. Ardiden Ltd	ADV	0.018	15 Explorer (Spod.)	Seymour Lake
30. Marindi Metals Limited	MZN	0.012	14 Explorer (Spod.)	Forrestania
31. Liontown Resources Limited	LTR	0.015	10 Explorer (Spod.)	Bynoe & Mohanga (A)
32. Peninsula Mines Limited	PSM	0.024	10 Explorer (Spod.)	Korea
33. Venus Metals Corporation Limited	VMC	0.15	9 Explorer (Spod.)	Pilgangoora and Greenbushes
34. Venture Minerals Limited	VMS	0.029	9 Explorer (Spod.)	Greenbushes
35. Core Exploration Limited	CXO	0.033	9 Explorer (Spod.)	Finnis River
36. Kingston Resources Limited	KSN	0.014	9 Explorer (Spod.)	Arunta
37. Walkabout Resources Ltd	WKT	0.004	8 Explorer (Spod.)	Strathmore & Mohanga (B)
38. Argonaut Resources NL	ARE	0.012	7 Explorer (Brine)	Lake Blanche
39. Cullen Resources Limited	CUL	0.003	7 Explorer (Spod.)	Ostrobothnia / Pilgangoora / Mt Cattlin
40. Maximus Resources Limited	MXR	0.004	7 Explorer (Spod.)	Spargoville
41. Paynes Find Gold Limited	PNE	0.083	6 Developer (Spod.)	Wolfsberg
42. Traka Resources Limited	TKL	0.025	6 Explorer (Spod.)	Ravensthorpe
43. Silver City Minerals Limited	SCI	0.033	5 Explorer (Spod.)	Broken Hill
44. Mithril Resources Limited	MTH	0.007	4 Explorer (Spod.)	Leaky Bore
45. Quantum Resources Limited	QUR	0.021	3 Explorer (Spod.)	Thomson Brother Lithium Project

\*Market cap is quoted ordinary shares from IRESS. It does not dilute for options, escrow shares, performance shares, convertible notes, recent placements etc. These can be meaningful adjustments that should be taken into account.

Source: Hartleys, IRESS

## KEY SUPPLIERS & CUSTOMERS

BGS uses local drilling contractors. Assays for the lithium project are performed in Australia. In the medium term, BGS will need to procure off-take agreements if it is to develop the project. The location in northern Africa suggest that European offtakes seem possible.

# MANAGEMENT, DIRECTORS AND MAJOR SHAREHOLDERS

Economic Exposure of Board and key management				Total	
		Total Options	Shares	Economic	
	Position		#	Exposure	rank
				millions	
<b>Directors</b>					
Winton Willesee	Chairman	5,340,000	2,636,042	7,976,042	2
Kevin Joyce	MD	7,600,000	4,738,252	12,338,252	1
Hugh Bresser	Non-Exec Director	2,400,000	1,105,980	3,505,980	3

Source: BGS

## Directors (as summarised from Birimian's website)

*Board of Directors have several years of experience with successful mining explorers and producers including in Mali, West Africa*

### Winton Willesee, Chairman

Mr Winton Willesee joined the board of Birimian Gold on 31 January 2013. Winton has formal business and commerce qualifications and brings a broad range of skills and experience to the board of Birimian Gold having served as a director and company secretary for several public companies. He is a Fellow of the Financial Services Institute of Australasia, a Member of CPA Australia and a Chartered Secretary.

Winton is currently the Chairman of Cove Resources Limited, Mining Group Limited and BioProspect Limited, and a director and company secretary of Base Resources Limited, Coretrack Limited, Newera Resources Limited and Otis Energy Limited.

### Kevin Joyce, Managing Director

Kevin has approximately 23 years experience working in the resources industry. He holds an honours degree in geology from the University of Western Australia. He has worked extensively in Australia and Africa on a broad range of exploration, development and mining projects, primarily focused on gold.

Kevin has previously held technical positions with Renison Goldfields Consolidated, Goldfields Ltd, and Placer Dome Asia Pacific. More recent management positions have been with Agincourt Resources (Oz Minerals) and Resolute Mining Limited in Indonesia and West Africa.

He was Exploration Manager in Mali for Resolute Mining, a position he held for approximately four years. During this time he was involved in a range of project generation, acquisition, and exploration initiatives in the West African countries of Mali, Burkina Faso and Cote d'Ivoire.

### Hugh Bresser, Director

Hugh has more than 25 years experience working in the resources industry. He holds an honours degree in Economic and Metalliferous Geology from James Cook University and an MBA from the Mt Eliza Business School, Melbourne.

Hugh spent ten years working with BHP Billiton and Billiton, generating and evaluating exploration projects in a variety of commodities within Australia, Asia, Southern Africa and South America. He was involved with Billiton's successful Junior Alliance Strategy in Australia and post merger held senior positions within BHP Billiton's Global Exploration Division, including three years in Exploration Global Strategy, Business Planning and Risk Management.

Hugh held a senior role within the BHP Billiton Iron Ore Group, working on supply chain optimisation and new capital implementation. Mr Bresser has previously held

technical positions with Pancontinental Mining Ltd, Renison Goldfields Consolidated and Goldfields Ltd.

## MAJOR SHAREHOLDERS

There are no substantial shareholders.

## OPTIONS, CONVERTIBLES AND UNPAID CAPITAL

*Fig. 19: Options on issue or to-be-issued*

Unpaid Capital	\$ (m)	No (m)	Ave Pr \$
<b>Options</b>			
30-Jun-21	\$0.0	5.2	\$0.00
Dec-16	\$0.200	1.5	\$0.20
Dec-17	\$0.210	1.5	\$0.21
Apr-17	\$0.250	14.0	\$0.25
Apr-17	\$0.140	0.7	\$0.14
Jun-18	\$0.336	4.0	\$0.34
Feb-21	\$0.10	7.3	\$0.10
<b>Total</b>	<b>34.1</b>	<b>8.1</b>	<b>\$0.18</b>

Source: BGS

## VALUATION CONSIDERATIONS AND PRICE TARGET METHODOLOGY

### VALUATION

We have a speculative preliminary pre-tax valuation of A\$975m. This is based on a speculative mining inventory of 24Mt at 1.55% that could produce ~40-60ktpa of LCE. It is based on a NPV14 and we assume capex of A\$310m. We highly dilute our valuation given its early stage to arrive at ~70cps.

We emphasise that the valuation is highly speculative given the Company is yet to complete a resource or any study work. As study work is progressed, and we have more confidence in the parameters, we would hope we can increase our valuation.

**Fig. 20: Key Assumptions and Risks for valuation**

Assumption	Risk of not realising assumption	Downside risk to valuation if assumption is incorrect	Comment
An economic spodumene deposit can be defined.	Moderate	Extreme	This appears reasonable based on drilling to date, but still very speculative
Selling prices remain strong enough for spodumene mines to be viable	High	Extreme	We assume selling prices and demand remain strong enough for new spodumene mines to be developed
Company can obtain capital	Moderate	High	We assume BGS can continue to raise capital for development and exploration
Exploration value	Moderate	Meaningful	We assume modest exploration value.
<b>Conclusion</b>			
<i>We have used speculative assumptions to derive a highly speculative valuation. Hence, we view BGS as very high risk</i>			

Source: Hartleys

### PRICE TARGET

We have a price target of 60cps, which has a blend of several speculative scenarios.

Price Target Methodology	Weighting	Spot	12 mth out
NPV base case, assuming significant equity dilution	33%	\$0.70	\$0.80
NPV at spot commodity and fx prices	33%	\$0.87	\$0.98
Net cash	34%	\$0.05	\$0.05
<b>Risk weighted composite</b>		<b>\$0.54</b>	
<b>12 Months Price Target</b>		<b>\$0.60</b>	
Shareprice - Last		\$0.290	
<b>12 mth total return (% to 12mth target + dividend)</b>		<b>108%</b>	

Source: Hartleys Estimate

# RECOMMENDATION & RISKS

## INVESTMENT THESIS & RECOMMENDATION

*There are an increasing number of spodumene projects, however BGS's appears one of the few quality projects given its potential scale and high grade.*

We initiate with a Speculative Buy recommendation. There are an increasing number of spodumene projects, however BGS's appears one of the few quality projects given its potential scale and high grade. It is still early in the development stage, and hence is high risk. However, should it be developed as per our speculative expectations, then there is substantial upside.

## RISKS

Exploration success is the largest risk for BGS.

Adjacent to this risk, is the ability for the Company to sign offtakes for the product to provide certainty for financiers. Additionally, the prices for spodumene are a risk. Eventually, other risks are similar to most developers: the outcomes of more detailed studies, management key-man risk, obtaining finance, relevant government approvals, political risk, commodity prices, commissioning success and the asset performance versus nameplate design.

## SIMPLE S.W.O.T. TABLE

Strengths	Large size potential Good grade Early metallurgical work suggest good recoveries
Weaknesses	Located in Mali Still early stage
Opportunities	Exploration potential Sale of gold assets
Threats	Metallurgical test work Outcomes of study work Exploration success Funding risk Offtake and speed to market

Source: Hartleys Research

# HARTLEYS CORPORATE DIRECTORY

## Research

Trent Barnett	Head of Research	+61 8 9268 3052
Mike Millikan	Resources Analyst	+61 8 9268 2805
Scott Williamson	Resources Analyst	+61 8 9268 3045
Simon Andrew	Energy Analyst	+61 8 9268 3020
Janine Bell	Research Assistant	+61 8 9268 2831

## Corporate Finance

Dale Bryan	Director & Head of Corp Fin.	+61 8 9268 2829
Richard Simpson	Director	+61 8 9268 2824
Paul Fryer	Director	+61 8 9268 2819
Ben Wale	Associate Director	+61 8 9268 3055
Ben Crossing	Associate Director	+61 8 9268 3047
Stephen Kite	Associate Director	+61 8 9268 3050
Scott Weir	Associate Director	+61 8 9268 2821
Rhys Simpson	Manager	+61 8 9268 2851

## Registered Office

### Level 6, 141 St Georges Tce Postal Address:

PerthWA 6000	GPO Box 2777
Australia	Perth WA 6001
PH:+61 8 9268 2888	FX: +61 8 9268 2800
www.hartleys.com.au	info@hartleys.com.au

*Note: personal email addresses of company employees are structured in the following manner:firstname\_lastname@hartleys.com.au*

## Hartleys Recommendation Categories

Buy	Share price appreciation anticipated.
Accumulate	Share price appreciation anticipated but the risk/reward is not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a price level at which it may become a "Buy".
Neutral	Take no action. Upside & downside risk/reward is evenly balanced.
Reduce / Take profits	It is anticipated to be unlikely that there will be gains over the investment time horizon but there is a possibility of some price weakness over that period.
Sell	Significant price depreciation anticipated.
No Rating	No recommendation.
Speculative Buy	Share price could be volatile. While it is anticipated that, on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the investment is considered high risk.

## Institutional Sales

Carrick Ryan	+61 8 9268 2864
Justin Stewart	+61 8 9268 3062
Simon van den Berg	+61 8 9268 2867
Chris Chong	+61 8 9268 2817
Digby Gilmour	+61 8 9268 2814
Veronika Tkacova	+61 8 9268 3053

## Wealth Management

Nicola Bond	+61 8 9268 2840
Bradley Booth	+61 8 9268 2873
Adrian Brant	+61 8 9268 3065
Nathan Bray	+61 8 9268 2874
Sven Burrell	+61 8 9268 2847
Simon Casey	+61 8 9268 2875
Tony Chien	+61 8 9268 2850
Tim Cottee	+61 8 9268 3064
David Cross	+61 8 9268 2860
Nicholas Draper	+61 8 9268 2883
John Featherby	+61 8 9268 2811
Ben Fleay	+61 8 9268 2844
James Gatti	+61 8 9268 3025
John Goodlad	+61 8 9268 2890
Andrew Gribble	+61 8 9268 2842
David Hainsworth	+61 8 9268 3040
Neil Inglis	+61 8 9268 2894
Murray Jacob	+61 8 9268 2892
Gavin Lehmann	+61 8 9268 2895
Shane Lehmann	+61 8 9268 2897
Steven Loxley	+61 8 9268 2857
Andrew Macnaughtan	+61 8 9268 2898
Scott Metcalf	+61 8 9268 2807
David Michael	+61 8 9268 2835
Jamie Moullin	+61 8 9268 2856
Chris Munro	+61 8 9268 2858
Michael Munro	+61 8 9268 2820
Ian Parker	+61 8 9268 2810
Charlie Ransom	+61 8 9268 2868
Conlie Salvemini	+61 8 9268 2833
Mark Sandford	+61 8 9268 3066
David Smyth	+61 8 9268 2839
Greg Soudure	+61 8 9268 2834
Sonya Soudure	+61 8 9268 2865
Dirk Vanderstruyf	+61 8 9268 2855
Samuel Williams	+61 8 9268 3041
Jayme Walsh	+61 8 9268 2828

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Hartleys has completed a capital raising in the past 12 months for Birimian Gold Limited ("Birimian") for which it has earned fees. Hartleys has provided corporate advice within the past 12 months and continues to provide corporate advice to Birimian for which it expects to earn fees. Hartleys has a beneficial interest in 4 million options in Birimian

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