Monday, July 30, 2018

HALLGARTEN & COMPANY

Coverage Update

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Neometals

(ASX: NMT, NYSE:RDRUY, FSE: 9R9)

Strategy: Long

Key Metrics			
Price (AUD)	$ 0.285		
12-Month Target Price (AUD)	$ 0.42		
Upside to Target	47%		
12mth hi-low	$0.26-$0.505		
Market Cap (AUD mn)	$ 154.90		
Shares Outstanding (mns)	543.5		
	FY17	**FY18e**	**FY19e**
Consensus EPS		n.a	n.a
Hallgarten EPS		$0.023	$0.040
Actual EPS	$0.0085		
P/E Ratio	**33.5**	**12.4**	**7.1**
Dividend Per Share	$0.010	$0.02	$0.02

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Neometals

Upsetting the Established Lithium Order

- + Neometals and its partner MinRes cut canny back-in offtake deals for themselves when they sold out their majority of the Mt Marion lithium project to Ganfeng in 2016
- + Mt Marion is now churning out Lithium concentrate and generating income for the partners
- + The retained right to 12.37% of the production of Mt Marion from February 2020 means that Neometals has a potential flow of ore that it now wants to upgrade and keep the value-added
- + A plan for a Lithium Hydroxide plant in West Australia has been formulated, and the land secured, with a study now under way. Investment decision comes early in 2019
- + Potential for Neometals to join the small "club" of non-Chinese Lithium producers, comprised of only SQM, Albemarle and FMC
- × Project is early stage therefore economics and capex remain unknowns to the investing public and analysts
- × There is the danger that Neometals succumb to a tempting buyout offer from Ganfeng leaving investors and state politicians severely disappointed
- × Company is dragging its feet on demerging non-Lithium interests into another entity

Turning the Tables on the Chinese

The idea that the Chinese are the new Masters of the Universe has much currency these days in Western mining circles and is a view that the Chinese are not wont to disabuse. The common (and not mistaken) perception is that the Chinese policy is to rip ore out of the ground, (at best) concentrate it and then ship it back to the Mother-Ship for conversion to finished metal, keeping the value-added and maintaining a vice-like grip on supply with the goal of also moving the whole mid-to finished product chain "in-country". The Rare Earths space being the classic case-study on this front.

In the Lithium space this was harder to achieve with the three long-term cartel players being Western (and even worse, two of them being US companies). However, the goal in this age of steeply rising incremental demand for the "new' market for EV batteries is that the incremental supply shall be corralled in China even if the historical base supply is unalienable from its Western owners. To this end the agents of the Chinese policy have fanned out, particularly into the "soft touch" market of Australia, and hoovered up available-to-produce assets such as Talison's Greenbushes mine, the Mt Marion project of Neometals/MinRes and in an indirect way, Galaxy's Mt Cattlin mine.

However the strategy has now run into problems. We are not privy to the terms of the private deal that was concocted between Tianqi and Albemarle/Rockwood for Talison's takeover but we have the sneaking suspicion that it had elements that allowed the non-Chinese partner to challenge the processing chain of Greenbushes output particularly as it relates to transfer-pricing and value-added. These two factors are stock in trade of the Greater Chinese Co-Prosperity Sphere and the non-Chinese partner has clearly baulked and exercised some hitherto unknown or unnoticed rights on siting of elaboration facilities. Ergo Talison is now building a Lithium processing plant in Western Australia which is entirely inconsistent with the Mother-Ship Processing Policy and thus something that appears to have been forced upon Tianqi rather than undertaken willingly.

And then there is Mt Marion. We shall discuss the terms of the original deal anon but essentially it gave MinRes and Neometals back-in rights over the production after a certain period. The presumption was that they would be taken out prior to this becoming relevant or that the Lithium price would stay in the doldrums and they could be picked off at leisure by Ganfeng. Wrong… This plan backfired badly and no Neometals (at least) is determined to use its right over a share of production to not only take that share and elaborate the concentrate so that the value-added go to Neometals (and the greater economic benefit of Western Australia). This is what Chinese nightmares are made of.

In this research note we shall review the progress and the implications of this evolution of events.

Albemarle Shows the Way

As mentioned the partners in the Talison mine are now building a lithium hydroxide plant at Kwinana outside Perth. As we have hinted at this looks to be the exercise of some as yet unrevealed right that Albemarle possessed to force part of Greenbushes production to be processed outside China.

Talison's CGP2 project in Kwinana is scheduled to produce 48,000 tpa of Lithium Hydroxide. Below can be seen a mockup of how the completed complex will look.

Source: MSP Engineering

Work is very advanced and now currently on Stage 2 with the project expected to be completed in the second quarter of 2019.

Mount Marion

The Mount Marion lithium project was added to the Neometals portfolio in September 2009. It is one of Australia's largest high-grade lithium spodumene occurrences. It is located some 40km south of Kalgoorlie in the Goldfields region of Western Australia.

From the 1960's through to the 1980's, Western Mining (which was taken over by BHP-Billiton in 2005) carried out extensive exploration on the Mount Marion tenements. It completed a study that considered mining, beneficiation and chemical processing to produce 5,000 tpa of lithium carbonate over a mine life of 10 years. In 1996, Associated Minerals Pty Ltd completed a pre-feasibility study to produce lithium and potassium products. Pilot test work produced spodumene concentrates grading at 6.5 to 7 % Li~~2~~O, with lithium recoveries of between 75% and 83%. After that time the deposit was held by a private individual, with no further meaningful exploration activities conducted until Neometals (then known as Reed Resources) came into the picture in 2009.

After that time, Reed started to develop the property with more extensive exploration work and brought in Mineral Resources Ltd (MIN.ax) as a partner in a vehicle which held the asset, Reed Industrial Minerals (RIM). This vehicle was 70% held by Neometals (the other 30% being held by Mineral Resources).

The Ganfeng Deal

Back in July 2015, before Lithium had pulled out of its swoon that began in 2010, it was announced that Neometals and MinRes had entered into a conditional Memorandum of Understanding with Ganfeng group on the Mt Marion project.

The key terms of the deal were:

- Ganfeng would acquire an initial 25% shareholding in RIM by way of share sale and equity subscription leaving Neometals with 45% of RIM, and MIN with 30% of RIM.
- Neometals would net around US$19.5 million from the sale of some of its RIM position to Ganfeng
- MinRes and Ganfeng would be granted options by Neometals which allows them to increase their respective shareholdings in RIM to 43.1% by around Q4 of 2016 by way of share purchase from Neometals. If these options were fully exercised, Neometals will be left holding 13.8% of RIM
- MinRes maintained the right to build, own and operate the Mount Marion mining, crushing and beneficiation infrastructure and equipment pursuant to a fixed price mining services contract

- Ganfeng would have a long-term offtake for 100% of the spodumene produced from the Mt Marion at benchmarked market prices subject to an agreed price floor. Under the agreement, from Year 4 onwards RIM reserved the right to take 51% of the total production *if greater commercial benefit* can be derived from such product
- There would be put in place prudential corporate governance arrangements for RIM between Ganfeng and RIM's existing shareholders with equal board representation for all shareholders

The equity subscription would be around US$9mn to refund MinRes and Neometals shareholder loans to the RIM venture. This was to be on top of the amount Ganfeng had to pay Neometals to acquire 16% of existing shares. Ergo, Ganfeng was to pay out US$25mn for 25% putting a valuation of US$100mn on the project at that point in time. This was rather impressive considering that ground has not even been broken.

Retention of Rights

At the time of the deal in 2015 we published a research note in which we pointed out that this deal only encompassed the Mount Marion Mine and concentration plant. The deal that Neometals has with MinRes (on a 70/30 basis) for on-processing of lithium concentrate using the ELi technology remained unchanged and Neometals (and MinRes) will be able to channel their share of the Mount Marion production to whatever facility they eventually develop together.

Subsequent Developments

In January of 2016 Neometals announced to the market that metallurgical test work had identified an additional spodumene product can be generated through the addition of a flotation circuit to the current beneficiation plant. It was advised that Ganfeng had agreed to expand the scope of the offtake arrangements to take-or-pay an additional 80,000 tpa of spodumene concentrate of between 4% and 6% Li_2O content, generated by flotation at agreed discounts to the market prices for the 6% Li_2O product.

Then in May of 2016 it was advised that Ganfeng had agreed to further expand the scope of the offtake arrangements from 80,000 tpa to 200,000 tpa of spodumene concentrate of between 4% and 6% Li_2O content, generated by additional beneficiation at agreed discounts to the market prices for the 6% Li_2O product.

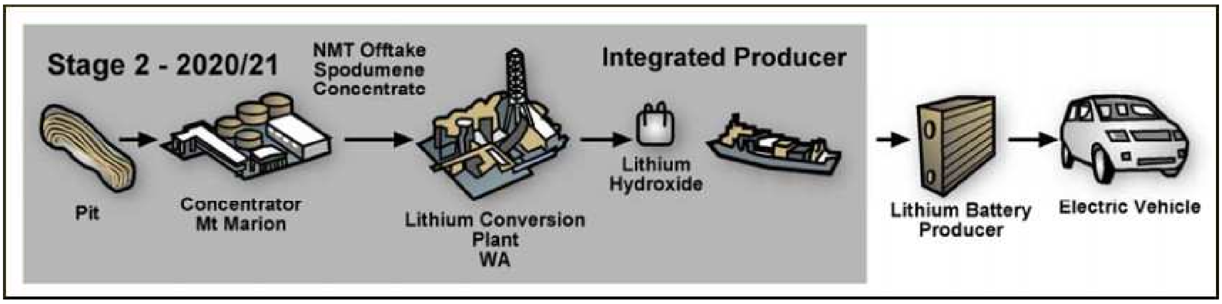
Then in June 2016 the pace started heating up when MinRes exercised a call option to acquire an additional 13.1% of RIM from Neometals, taking its shareholding in RIM to 43.1%. From this Neometals received US$19.65mn. As a result the joint venturers' equity interests became Ganfeng with 43.1%, Process Minerals International Pty Ltd (MinRes's wholly-owned subsidiary) with 43.1% and Neometals with only 13.8%. However, the clawback rights over output remained untouched.

In September of 2016 a MOU was signed with MinRes in which the JV Partners agreed to jointly assess the technical and commercial feasibility of the construction and operation of a plant with nameplate capacity of 20,000 – 25,000 tpa of lithium carbonate equivalent production, utilising the conventional sulphate/caustic soda process. The proposed process route would have eliminated the need for pilot testing as Ganfeng would be processing Run-of-Mine concentrates at commercial scale from the December Quarter 2016.

Then in February of 2016 the partners varied the Mining Services Agreement to upgrade sub-6% Li_2O products to all +6% Li_2O product, resulting in 400,000tpa of +6% Li_2O concentrates.

In something of an opening gambit, in late March of 2017, Neometals gave notice to its joint venturers in the Mt Marion Lithium Project that it proposed to sell all of its 13.8% stake in the project vehicle for a price of US$96,001,080. This would have put a valuation of slightly over US$800mn on the whole project. Under the terms of the Shareholders' Agreement for RIM, the other shareholders, MinRes and Ganfeng had 30 days to decide whether to exercise their pre-emptive right to buy Neometals' shares in RIM at the nominated price. If there was no exercise of those rights, then Neometals was able to offer the shares to third parties. At the time we heard that MinRes were similarly trying to market their stake. As time would show Ganfeng did not bite on the baited hook and no third party, seemingly, wished to end up as a minority in partnership with Ganfeng.

By December of 2017, when Neometals gave the market an update on the progress of its downstream strategy all mention of MinRes being involved in the Lithium Hydroxide plans had disappeared. The company released a graphic on how it saw the product flow for the 12.37% of production from Mt Marion that it was entitled to take from February of 2020.



The Refinery Plan

Neometals is planning to build a processing plant to produce 10,000tpa of lithium hydroxide to provide a secure, reliable supply to the EV and storage battery sector from 2021, and moreover process its "share" of the Mt Marion output.

To this end, in early June of 2018 Neometals announced it has entered into an option agreement with the City of Kalgoorlie-Boulder to sub-lease a 40 hectare site in a new industrial estate at West Kalgoorlie on the Great Eastern Highway, 70km by road from the Mt Marion mine.

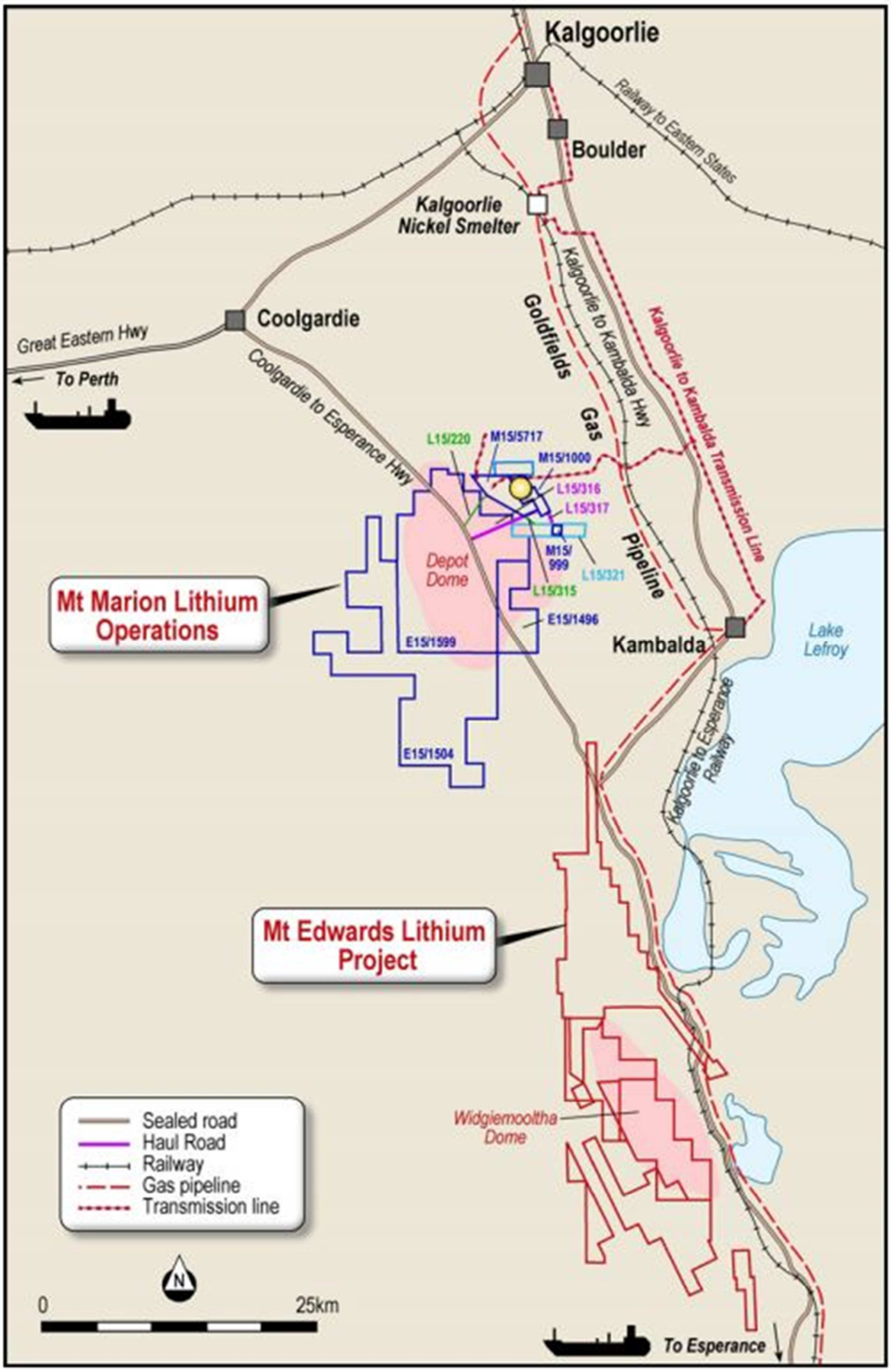
The agreement provides Neometals with a two-year option over the site (with provision for an additional two-year extension), during which time it will undertake due diligence and Front End Engineering Design (FEED) studies as part of a broader project feasibility study for the refinery which is underway.

Further, Neometals and the CKB executed a Memorandum of Understanding providing for assistance in procurement of infrastructure and utilities for the proposed Kalgoorlie Lithium Refinery.

The company has signaled that it is proceeding with a FEED study for the KLR which will be integrated into the Feasibility Study for the KLR. Neometals plans to make a final investment decision on KLR plant construction in the June quarter of 2019.

Next key steps for Neometals to advance its lithium business arm objectives include:

- Continuing due diligence, FEED and feasibility studies for the KLR Advance offtake dialogues and the formal partner selection process;
- Working with the City of Kalgoorlie Boulder to progress fundamental service agreement terms including provision of access roads, reclaimed water pipeline etc for the KLR
- Finalising the KLR funding strategy

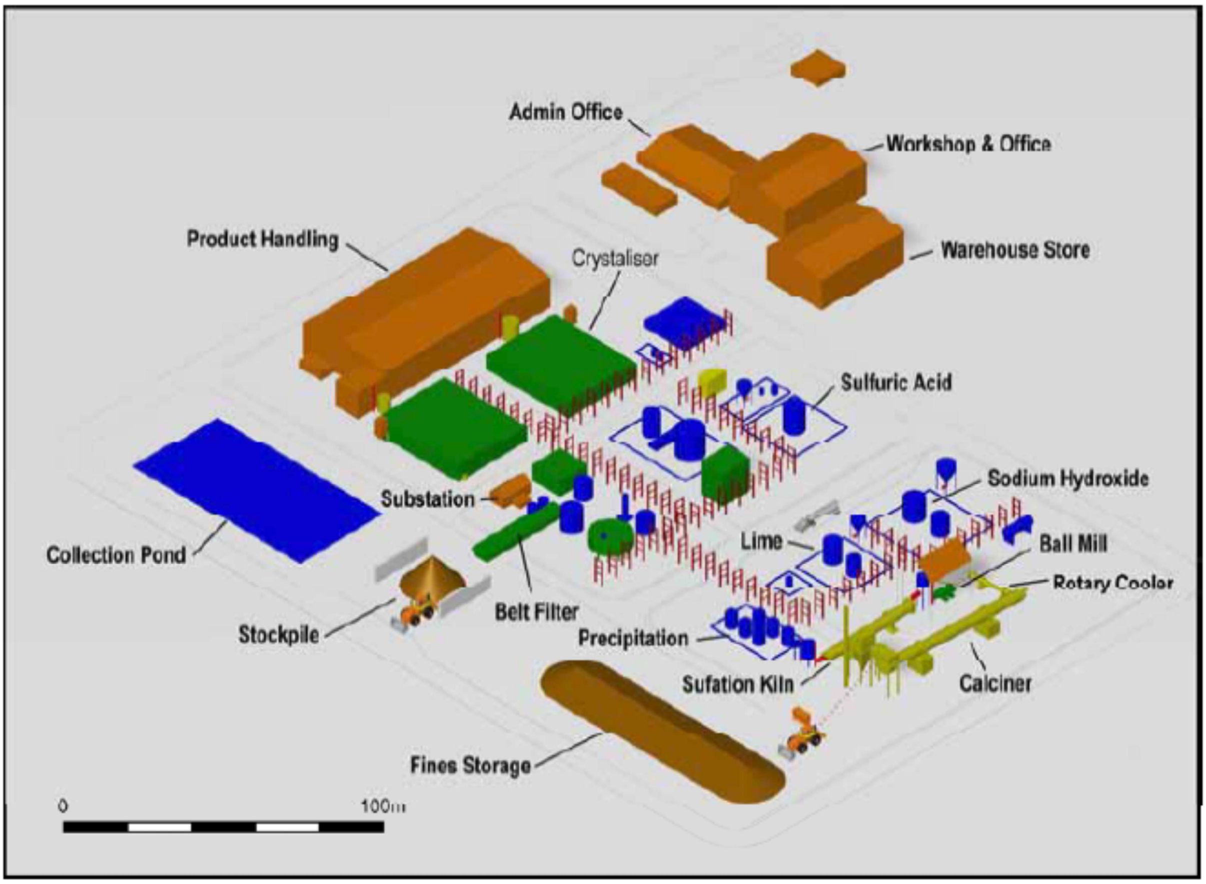


Kalgoorlie
Boulder
Railway to Eastern States
Kalgoorlie Nickel Smelter
Coolgardie
Great Eastern Hwy
To Perth
Coolgardie to Esperance Hwy
Goldfields Gas Pipeline
Kalgoorlie to Kambalda Hwy
Kalgoorlie to Kambalda Transmission Line
L15/220
M15/5717
M15/1000
L15/316
L15/317
M15/999
L15/321
L15/315
E15/1496
E15/1599
E15/1504
Depot Dome
Mt Marion Lithium Operations
Kambalda
Lake Lefroy
Kalgoorlie to Esperance Railway
Mt Edwards Lithium Project
Widgiemooltha Dome
Sealed road
Haul Road
Railway
Gas pipeline
Transmission line
N
0
25km
To Esperance

Neometals expects to make an investment decision in relation to the KLR in the June quarter of 2019 and the table below shows the current timeline:

Vendor Testwork/Updated Cost Study	March 2018	*Completed*
Commence FEED Study	May 2018	*Underway*
Source suitable plant location	May 2018	*Completed*
FEED Study Results	March Q 2019	
Feasibility Study Results and Investment Decision	June Q 2019	
Start Commissioning (subject to Investment Decision)	Mid 2021	

The schematic on the following page shows a tentative layout of the Lithium Hydroxide complex.



Process

Neometals is proposing to use a modern, conventional direct-conversion Sulphate process to produce battery quality lithium hydroxide from spodumene. Leading Chinese producers use this direct sulphate conversion process, including Ganfeng. The proposed process that will be used at the proposed plant will convert spodumene concentrate to be supplied from the Mt Marion Mine under the Offtake Option Agreement.

Neometals has already conducted a Pre-feasibility Study based on a conventional sulphate process and another study based on its patented ELi chloride process. The ELi process requires further risk-reduction process development before it can be deployed in commercial operation.

The direct sulphate process is a mature technology, and the process testing is being used to determine process design criteria, material balances, capital costs estimates and operating cost estimates that will be integrated into the project Front-End Engineering Design (FEED Study) and Feasibility Study.

Test Work

In April of 2018, Neometals announced the results from the vendor process testing from Veolia Water Technologies that, in its view, validated the proposed direct lithium hydroxide process from Mt Marion spodumene concentrates. The test work produced a very high-quality lithium hydroxide product suitable for the lithium ion battery sector.

Test work was conducted on a 300kg sample of Mt Marion spodumene concentrate (6% Li_2O) representative of regular production and involved calcining, leaching, solution purification and product crystallisation to produce lithium hydroxide ($LiOH.H_2O$) directly, and a sodium sulphate by-product using sulphate process chemistry. Tests were performed at SGS Lakefield, Canada and Veolia's HPD Chicago, USA facilities with contributions by Veolia HPD, SGS and FLSmidth.

The following indicative battery grade lithium hydroxide specification for cathode material was used as an objective for commercial product grade in the tests:

Specifications of High Purity 'Battery Grade' $LiOH.H_2O$					
Lithium	LiOH	>56.5%	Calcium	Ca	<10 ppm
Chloride	Cl	<20 ppm	Iron	Fe	<10 ppm
Lead	Pb	<10 ppm	Nickel	Ni	<10 ppm
Sodium	Na	<10 ppm	Silica	Si	<20 ppm
Magnesium	Mg	<10 ppm	Sulphate	SO_4	<10 ppm
Aluminium	Al	<10 ppm	Potassium	K	<10 ppm

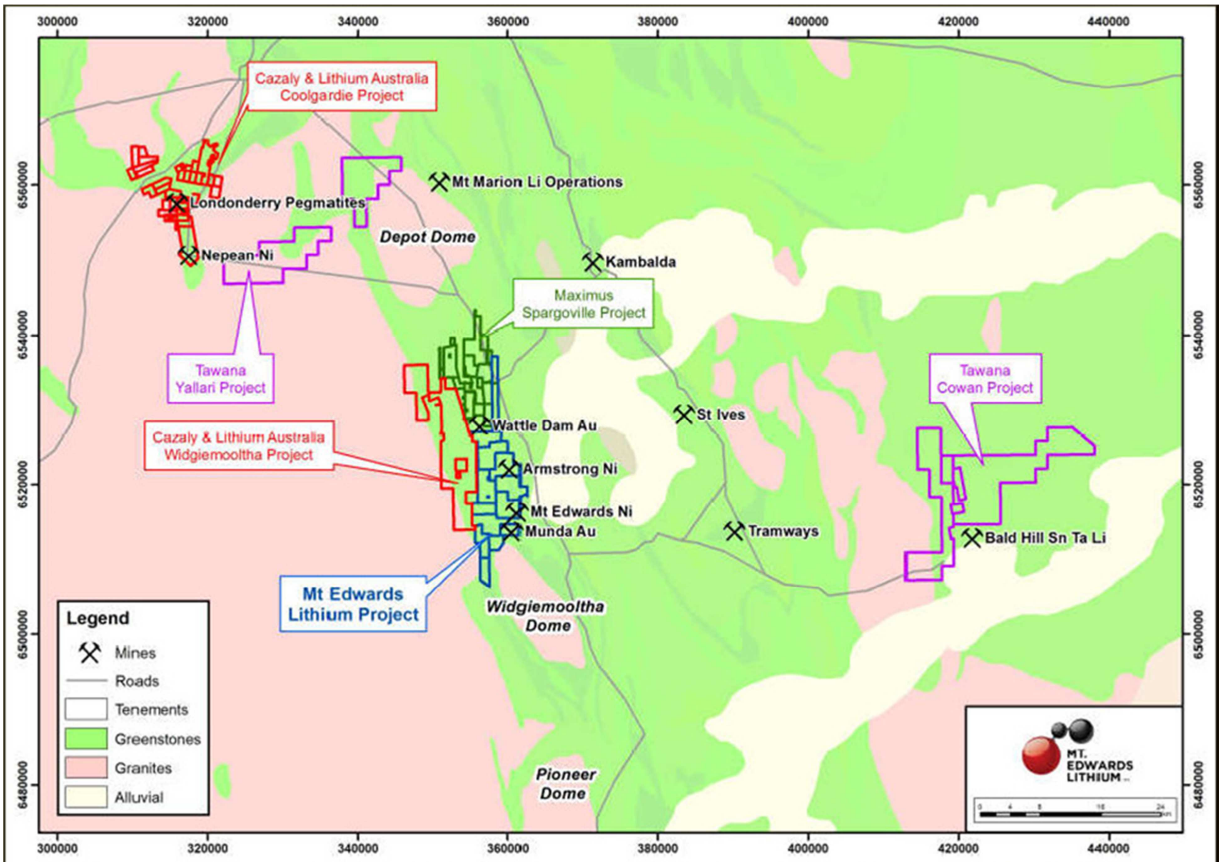
The spodumene leaching showed excellent lithium recovery and solubility, whilst filtration tests were performed to determine the appropriate media and conditions. Recommendations were made for the selection of reagents and resins for solution purification. Veolia completed the mass balance for the commercial scale plant to facilitate the specification of equipment for such a plant.

The final LiOH.H2O crystal impurity analysis from the tests was:

Cl	<10 ppm	Fe	<1 ppm
Pb	<1 ppm	Ni	<1 ppm
Na	9 ppm	Si	8-12 ppm
Mg	<1 ppm	S	<10 ppm
Al	<1 ppm	K	<2 ppm
Ca	<1 ppm		

Mt Edwards Lithium Project

In mid-March of 2018 Neometals announced the acquisition of the Mt Edwards Lithium Project from Estrella Resources and a minority partner. The project covers 240 square kilometres and is located 40 kilometres south of Mount Marion.



Location of Mt Edwards in relation to commercial centres and other lithium and nickel projects.

The purchase included Mt Edwards Lithium Pty Ltd (MEL), which holds the lithium right interests at Mt Edwards, for an aggregate purchase price of up to $2.7M (subject to satisfaction of certain milestones) plus an ongoing royalty over future Lithium mining.

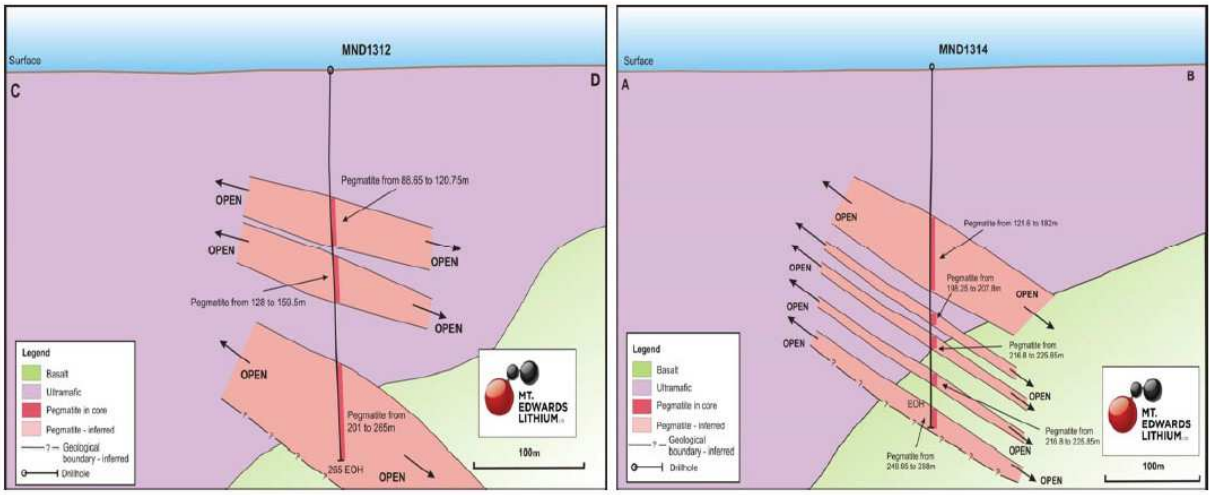
The terms of the deal were that Neometals would pay to Estrella:

- $700,000 on completion
- $1,000,000 upon definition of a JORC resource of two million tonnes of ore at greater than 1% of Li_2O (uncut) on the tenements
- $1,000,000 upon the processing of two million tonnes of ore at greater than 1% of Li_2O (uncut) from the tenements
- a royalty in the amount of $0.50 per tonne of 75% of the amount of lithium-bearing ore processed from the tenements

Neometals also agreed to acquire the underlying tenements and nickel rights package for $1.8mn from Apollo Phoenix Resources Pty Ltd related to the Mt Edwards Lithium Project.

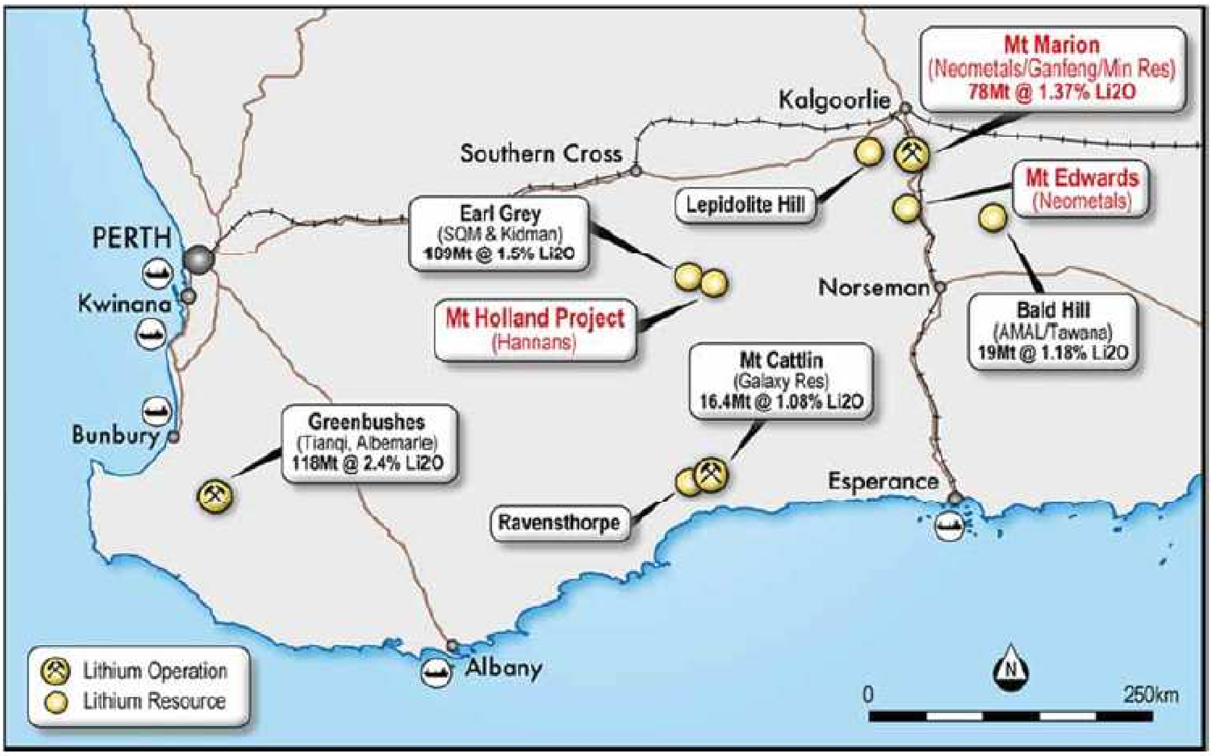
While Neometals has not said much on Mt Edwards itself, some sleuthing turned up some historic work

On the following page can be seen some cross-sections of drilling on the Axis part of the deposit which intersected pegmatites. These showed significant widths of 78m and 60m ending in mineralisation. The drill hole on the left is MND1312 and on the right is MND1314.



Neometals views Mt Edwards as a strategic addition to its spodumene sourcing pipeline to support its planned lithium hydroxide business.

Below can be seen the distribution of major lithium projects across the southern part of the state of Western Australia. All of these, except Greenbushes represent potential feed for the Lithium Hydroxide plant that Neometals is working on.



A Tightrope Walking Exercise

There are always advantages in getting the political class involved in the development of one's projects. There can however be disadvantages if one wishes to backtrack or cancel at some future date. The pullback may be financially beneficial to the company but is almost always damaging to the politician that went out on a limb to promote the project (and bathe in its reflected glory).

MinRes and Neometals are well-known entities in WA and have access to ministers and the Premier of the state if they have something of relevance to say or propose. However if for some reason one or both of them decide to suddenly accept an offer "too good to refuse" from Ganfeng and then ditch the plans for further elaboration of lithium within the state then they should not think themselves free from the opprobrium of politicians that supported the scheme(s).

Risks

Amongst the risks at the current time are:

- Lithium price risk
- Some sort of legal challenge from Ganfeng
- Excessive CapEx
- Financing is still tenuous and dependent upon sentiments towards Lithium
- Project economics may not be robust

Unlike some of the less informed Wall Street investment banks we are NOT bears on the Lithium price outlook. We see that many of the currently mooted projects will not leave the drawing board until the first half of next decade and maybe even farther off. The price retreat in many stocks has reduced their financing abilities thus making this a self-fulfilling prophecy. We do NOT see a Lithium oversupply.

We cannot see grounds for a legal challenge from Ganfeng and such a move would be very politically unwise on their part.

The budget for Talison's aforementioned CGP2 project in Kwinana is not public information but it is scheduled to produce 48,000 tpa of Lithium Hydroxide. We would posit that the investment is in excess of $200mn. We would expect the Neometals KLR to come in at between AUD$50-$100mn, which is an accessible number considering Neometals cash position, its access to bank finance and the potential of battery industry offtakers (e.g. Japanese or Korean) to acquire a strategic stake in the operation.

Project economics should be robust unless there is a substantial blow-out in the capex requirement.

Price Action

We have been following Neometals for the best part of a decade now. In the depths of the Lithium slump the stock was trading at 3 cts but then soared in 2016 to around 50 cts upon developments, ironically all before Lithium became fashionable again. The stock then slumped back into the low 30 cts range and has dawdled about there, irrespective of developments in the company or the mineral, with only a fleeting recovery to 50cts in November of 2017 and has dwindled again back to around 30cts.

Conclusion

The Chinese may be able to wrongfoot and outsmart the *gualin* when they are on home territory with few remedies at the disposal of the hapless interloper. When it comes to Chinese outreach to other countries the boot, so to speak, can be on the other foot if the local company is canny in ensuring that back-in rights and prohibitions on transfer pricing are enshrined in the original agreement. Neometals and MinRes did this in their dealings with Ganfeng with seemingly the Chinese group thinking it could circle back and take out the minorities at its leisure. It has proven to be grievously mistaken in this and Neometals looks to be the next global producer of elaborated Lithium.

The company is following the correct and exciting path on Lithium but seemingly cannot resist muddying the waters with DSO Titanium and miscellaneous other minor projects. These used to be seen by us as hidden value (and they are) but they actually represent a reason to discount the stock. There needs to be a pure Lithium play here and the company is not serving up what the market wants. The time for a demerger is now.

Our only fear on the current strategy is that it may be a gambit saying to Ganfeng "take us out or we will be competitors of yours, depriving the mothership of content". If Neometals were to sell out to Ganfeng this would be a bitter disappointment to ourselves (and the WA government) and we would finally cut our ties to this story.

However, at this point, the company is in full-steam-ahead mode and doing all the right things. We have had Neometals in our Model Mining Portfolio since last decade as a **Long** call and we reaffirm our twelve-month target price of $0.45.

Important disclosures

I, Christopher Ecclestone, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers.

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