



HALLGARTEN & COMPANY

Coverage Update

Christopher Ecclestone
ceccestone@hallgartenco.com

Reed Resources (ASX: RDR) Strategy: LONG

Key Metrics						
Price (AUD)	\$	0.019				
12-Month Target Price (AUD)	\$	0.17				
Upside to Target		795%				
12mth hi-low		\$0.017-\$0.07				
Market Cap (AUD mn)	\$	9.95				
Shares Outstanding (mns)		523.5				
Fully diluted*		567.2				
		FY13	FY14e	FY15e	FY16e	FY17e
Consensus EPS			n.a	n.a	n.a	n.a
Hallgarten EPS			(\$0.01)	(\$0.01)	(\$0.01)	\$0.03
Actual EPS		(\$0.14)				
P/E		n.a	(2.0)	(2.4)	0.0	0.0
Dividend		n/a	n/a	n/a	n/a	\$0.005
Yield		0.0%	0.0%	0.0%	0.0%	26.3%

* post cancellation of MLX-held shares and including potential convertible exercise

Reed Resources

Two Global Scale Technology Minerals Projects

- + The company has narrowed down its focus dramatically with the main emphasis being on specialty metals (lithium and titanium)
- + Selling Meekatharra and Comet Vale exits Reed from the torpid gold space
- + The low \$30-40mn capex for the Mt Marion lithium project (Phase 1) outcompetes all other proposals we have seen in the industry
- + All the minebuild capex falls on the substantial contractor, Mineral Resources, on a BOO basis
- + The weakening of the USD against the AUD has strengthened the hand of Reed in competitiveness terms on its lithium project
- + The revival of interest in nickel has given new impetus to Mt Finnerty and a recent acquisition should allow Reed to create a nickel “vertical” with critical mass
- + The company has an estimated \$7mn in cash on hand, excluding a further \$6.2mn in term deposits
- ✘ Many of the principal offtakers have already found “partners for the dance” leaving fewer for Reed to choose from
- ✘ New process technologies, both own (lithium) and licensed (titanium) are undergoing continuous test work to prove the scalability to commercial operations – metallurgical risk

Competing Interests

Reed Resources has long had the look of a cross between a project generator and a putative producer. Its real aim is becoming clearer now as it has thinned down its asset mix (recently exiting from gold) and turning up the attention paid to its technology minerals projects, both of which are significant on an international scale.

The current project portfolio of Reed includes:

- ❖ Mount Marion – Lithium
- ❖ Barrambie – Titanium/Vanadium
- ❖ Mt Finnerty – Nickel
- ❖ Lake Johnston – Nickel JV
- ❖ Mt Finnerty – Iron Ore (up for sale)

First off the rank is Mount Marion, with Barrambie the much larger and more complex project being positioned to exploit expected future supply deficiencies in the Titanium market. Mt Finnerty is up for sale or some other outcome. Its perspectives have been helped by good infrastructure and the resurgence of interest in nickel this year

Lithium - Beyond the Boom

Lithium started to get up a head of steam in the second half of 2008, boomed through the first half of 2009 (as a concept, but not price-wise in the physical), lost momentum as gold hogged the headlines and the herd moved on to the Rare Earth space.

The Canadian lithium space was, briefly, very crowded but the Australian scene was less transited and yet arguably more serious. Beyond Reed's participation, which we shall discuss at length, there was the long-term producer in the form of Talison Lithium (formerly Greenbushes) which merged with Salares Lithium. It then became subject to a lucrative bidding battle between the Chinese (Chengdu Tianqi Industry Group) and Rockwood, eventually succumbing to an offer from the Chinese group of CAD\$848 mn. There is Orocobre (ORE.ax) that has lithium *salares* (brine lakes) in Argentina and has found a sugar-daddy in the form of Toyota Tyoshu to help it move that forward. Finally there is Galaxy Resources, which constructed a lithium mine in Western Australia and a processing plant in China and ended up mothballing the mine rather swiftly after it had opened and selling its Chinese plant to its biggest competitor Chengdu Tianqi.

Mount Marion – A Better Class of Spodumene

This Mount Marion lithium asset was a bolt-on to Reed's asset family 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. The project is comprised of two Mining Leases, M15/999 and M15/1000, which cover the outcropping pegmatites.

Prior Work

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 % Li₂O, 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 Reed came into the picture.

Geology

The Mt Marion mineralisation is hosted in pegmatite units which occur in a 9km long / 600m wide, north-west striking intrusive package.

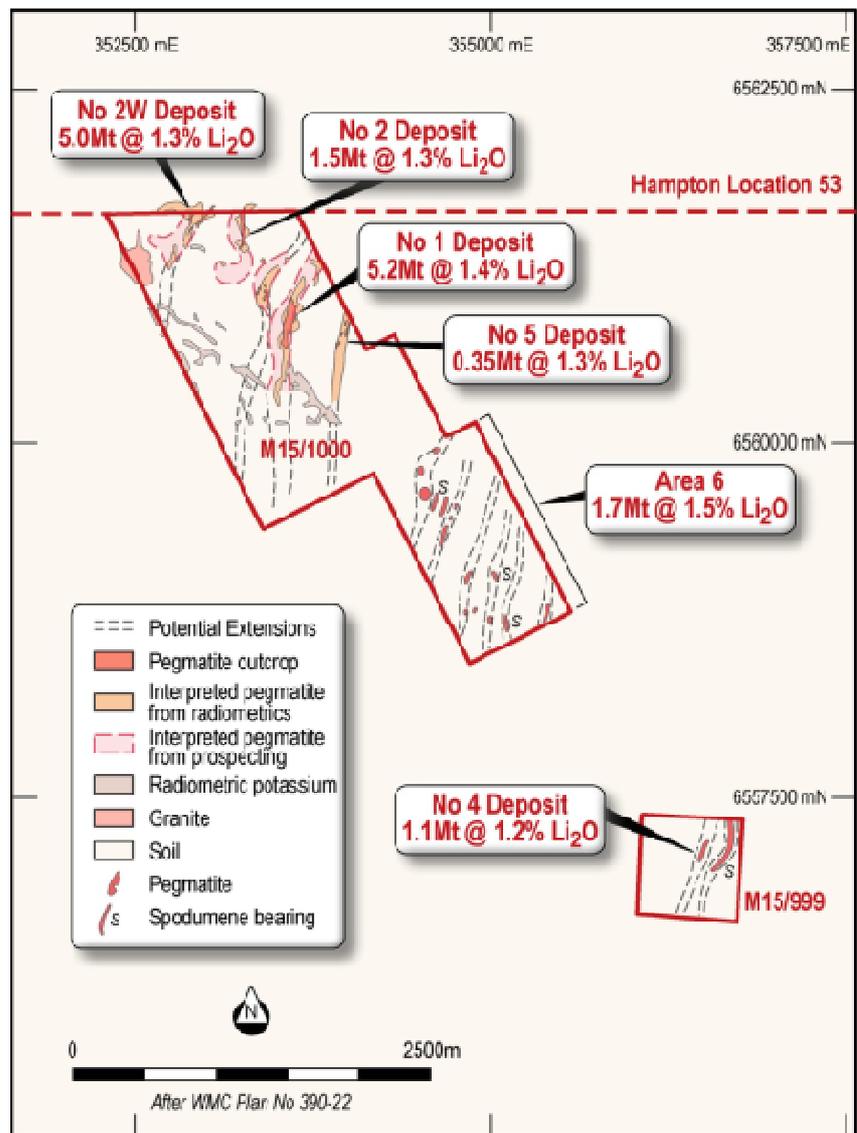
- Pegmatite units internally trend north 50° east, but are frequently observed to deviate from this bearing by as much as 150° to 200° both west and east. The pegmatites are essentially flat dipping attaining a maximum dip of up to 200m to the north of north-west.
- The host units within the main mineralised zone are fine to medium grained pegmatites which intrude strongly sheared fine grained greenstones. A coarse grained pegmatite intrusive into coarse grained greenstone occurs at the northern end of the belt

- A sequence of north-west trending regional faults and fracture zones disrupt and intersect the continuity of the pegmatite bodies. Locally a set of conjugate secondary faults and fractures largely trending north-west and north-east dissect, truncate and modify the geometry of the pegmatite bodies.
- The fine to medium grained pegmatites in the main project areas contains spodumene, quartz, feldspar and muscovite without any significant zoning of mineral assemblages. The spodumene occurs as elongate, mainly vertically aligned crystals, coloured either pale pink or pale green. The crystals are usually less than 10cm long and 1.5cm in diameter.
- The coarse grained pegmatite contains spodumene, quartz, feldspar, muscovite, columbite and beryl. There are four well defined zones; quartz-spodumene; quartz-spodumene-muscovite-feldspar (Lepidolite zone); quartz-spodumene-muscovite-feldspar-columbite; and pure feldspar. Spodumene crystals can reach lengths of up to 1m in length and may be up to 30cm in diameter and tend to be aligned vertically.

The Lithium Asset

At the time of the purchase Reed felt there was potential for a mineral resource of 4-5 mn tonnes of spodumene pegmatite at a grade of 1.5-2% Li₂O but there had been insufficient exploration to define it as a mineral resource. The company felt from the beginning that the Mount Marion pegmatite group had potential for resources additional to the historical resource/reserve estimates, which were based on only four of the outcropping pegmatite bodies. The other outcropping pegmatites had not been fully tested, particularly in the southern half of M15/1000.

A comprehensive drill program to enable resource estimation and provide metallurgical samples was commenced in the December Quarter of 2009 with a view to coming up with an expended resource.



The company's expectations were based on historical estimates of reserves that were reported as part of the JORC compliant pre-feasibility study dating from 1996. That review confirmed the original resource/reserve estimates by Western Mining Corporation back in the 1970s, supported by some check drilling in the 1990's. This work identified reserves of 1.49 mn tonnes at an average grade of 1.67% Li₂O in the No.1 deposit, including 'proved reserves' of 0.54 mn tonnes at 1.9% Li₂O and 'probable reserves' of 0.95 mn tonnes at 1.5% Li₂O (at a cut-off grade of 1.2% Li₂O and bulk density of 2.8 t/m³).

The latest resource

The modest resource identified before Reed's arrival was surpassed in April 2010 with the publication of the first update in the company's resource since the investigations of the 1970s. Then in July 2011, in a revised JORC-compliant resource prepared by Hellman & Schofield, a further increase (of 39%) was registered.

Mt Marion				
At 0.3% Li ₂ O cut-off				
Category	Tonnage mns	LiO₂ %	F₂O₃ %	LiO₂ tonnes
Measured	2.0	1.5	0.9	29,200
Indicated	4.8	1.4	1.2	66,300
Inferred	8.0	1.3	1.3	105,100
Total	14.8	1.3	1.2	200,600

The new resource added in drill results from Area 6 and the Number 4 deposit. The company at that time estimated that this resource demonstrated a discovery cost of less than 15 cents per resource tonne. It also noted that drilling has not closed off any of the pegmatites either along strike or down dip.

Reed has a current exploration target of an additional 10-15Mt at 1.1-1.3% Li₂O.

Spodumene

The most important of lithium-containing minerals is spodumene (Li₂O, Al₂O₃. 4SiO₂) which has a theoretical Li₂O content of 8.03%. Due to its high lithium content, spodumene is considered the most important lithium ore mineral. A typical run of mine ore can contain 1-2% Li₂O, while a typical spodumene concentrate suitable for lithium carbonate production contains 6-7% Li₂O (75% - 87% spodumene).

Spodumene occurs in lithium rich granites and pegmatites, such as feldspar. These type of deposits are found in locations such as Afghanistan, Australia, Canada, China and the USA (North Carolina & California). Lithium is mainly extracted from spodumene by dissolution in sulphuric acid.

Historically lithium mining from rocks and clay was the dominant source of supply and the lithium industry at the global level was dominated by the US until the 1980s by mining for spodumene, mainly in North Carolina. This industry was made extinct (except in Australia) over a short period by the competition offered by the Chilean and then the Argentine brine lake deposits. The rock (mainly bentonite clay or spodumene) miners of lithium were the most prominent in capital markets in 2009 beating the bushes to generate interest from investors in their stories.

Global production of lithium from spodumene sources is around 80,000 metric tonnes per annum, primarily from the Greenbushes pegmatite of Western Australia, and some Chinese and Chilean sources. The Talison mine at Greenbushes in Western Australia has an estimated reserve of 13 million tonnes.

Production of lithium from pegmatites, assuming the most common acid leach process is used, consists of:

- mining,
- beneficiation to a moderate or high grade of concentrate,
- calcination to produce acid-leachable beta spodumene,
- reaction with sulphuric acid
- conversion of the lithium sulphate solution with sodium carbonate

The costs of acid, soda ash and energy are a very significant percentage of total costs but they can be partly offset if a market exists for the sodium sulfate by-product.

The key thing about Reed is that their new proprietary process, based on a hydrometallurgical process using Lithium Chloride is cheaper both capex-wise and in respect to opex. The mine and facilities, as planned, will initially produce a chemical grade (6.5%) spodumene concentrate for export, initially to other processors but eventually to a value-added facility that will be a JV between Reed and another party. This plant, probably located in Asia will produce Lithium Carbonate.

The JV partner – Mineral Resources (MIN.ax)

No discussion of the prospects of moving Mt Marion forward can ignore the key role of Mineral Resources Limited as this company will essentially make the project happen in a number of ways. The company is a diversified Australian mining services and contracting company operating for over 10 years in the specialist fields of civil contracting, pipe-laying and fabrication, contract crushing, mine services and mineral processing.

Mineral Resources is one of Australia's leading BOO mine builders/operators. For example Mineral Resources subsidiary, Crushing Services International, has just been awarded a 19mn tpa crushing contract for Fortescue's Christmas Creek Iron Ore Project in Western Australia.

Mineral Resources' strategy is to become a major volume player in the contracting and steel making commodity market. MIN's operating divisions are PIHA (its multi-disciplinary pipeline construction and civil engineering business), Crushing Services International (CSI), Polaris Minerals, Mesa Minerals and Process Minerals International (PMI) which operate both in Australia and overseas. The company is well-padded financially with a market cap of over AUD\$1.8bn and trailing twelve month gross revenues of just over AUD\$1.5 billion.

The companies have set up an entity called Reed Industrial Minerals Pty Ltd ("RIM"). The RIM board of directors is comprised of Reed representatives Steven Cole (as Chairman) and Chris Reed, and MIN representatives Chris Ellison and Bruce Goulds.

How the Deal Works

MIN are funding and providing a complete *mine-to-port* solution for the spodumene concentrate (upstream) operation and in exchange for this MIN owns 30% equity in lithium SPV.

The terms of the original JV agreement required that Mineral Resources:

- funded all evaluation and development costs, to be recovered over LOM
- would BOO (build/own/operate) processing plants and operate project
- commence operations by 30th of June 2010 with commercial production by 31st of Dec 2010 for Mineral Resources to earn 40% EBIT
- RDR retain 60% EBIT and right to offtake

However, the decision not to proceed on the original timeline means that the agreement was rejigged and now has as its main features:

- The processing plant is never an asset of the SPV, it is MIN's.
- MIN recovers its 'sunk costs' quarterly over first three years of production. MIN have funded +\$10M so far.
- MIN recovers the cost of the plant by charging a higher per tonne processing cost, circa \$50/t on finished product or \$10mn pa.
- The plant is roughly same size as Galaxy's, which cost \$80-100mn but MIN already owns and assemble the parts themselves.
- With respect to equity participation in the downstream processing, they are funding evaluation including semi-pilot plant in US.
- The *quid pro quo* is that there is a drag/tag along provision so essentially the relationship is always 70/30 but that may be of a minority position in downstream JV

For Reed the transaction keeps the capital exposure very low. If Reed can retain 30-40% of an integrated operation and have expended minimal capital (Reed's project spend to date is sub-\$2mn) then this would be viewed by Reed as a job well done.

The Process – the key to budgets

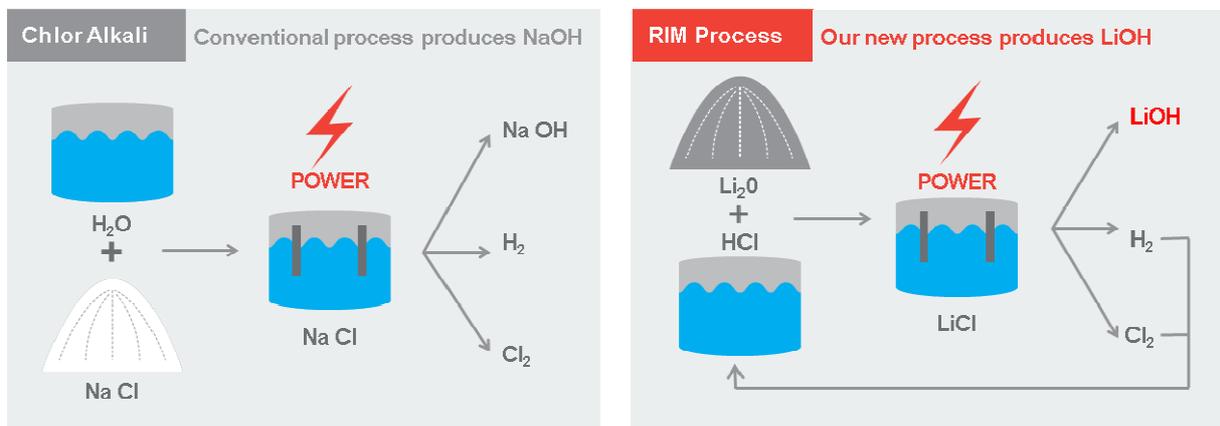
Process is all in lithium these days as budget depends upon process and money is relatively tight. The higher the budget the more likely a project will be passed over for a cheaper option. Estimates of what it costs to set up a spodumene plant are all over the map.

In October 2012 Reed announced the results of its Pre-Feasibility Study investigating the economic viability of producing up to 20,000 tonnes per annum of battery-grade lithium hydroxide monohydrate (57.5% LiOH.H₂O) in Malaysia. The LiOH production costs generated by the PFS are estimated to be

lower than all known LiOH producers.

The production of LiOH involves hydrochloric acid leaching of spodumene concentrate, purification of lithium chloride solution and electrolysis applying proprietary technology owned by RIM/Reed. The process test work was conducted by the CSIRO, SGS Lakefield and Murdoch University.

To move this technology to be implementation-ready, Reed's semi-pilot plant was commissioned in March 2014 and the testwork is expected to be completed by the end of June 2014. This plant will provide key information for process design of a new or existing processing facility. The testwork is scaling up RIM's proprietary hydrometallurgical flowsheet which has produced high purity, battery-grade lithium hydroxide by electrolyzing lithium chloride solutions generated from Mt Marion spodumene concentrates. The electrolysis process is similar to the Chlor-Alkali process used to produce caustic soda (sodium hydroxide) and hydrochloric acid.



For the purpose of the PFS, a kiln feed rate of 147,000 tonnes per annum @ 6% Li_2O was assumed and the following key process steps applied:

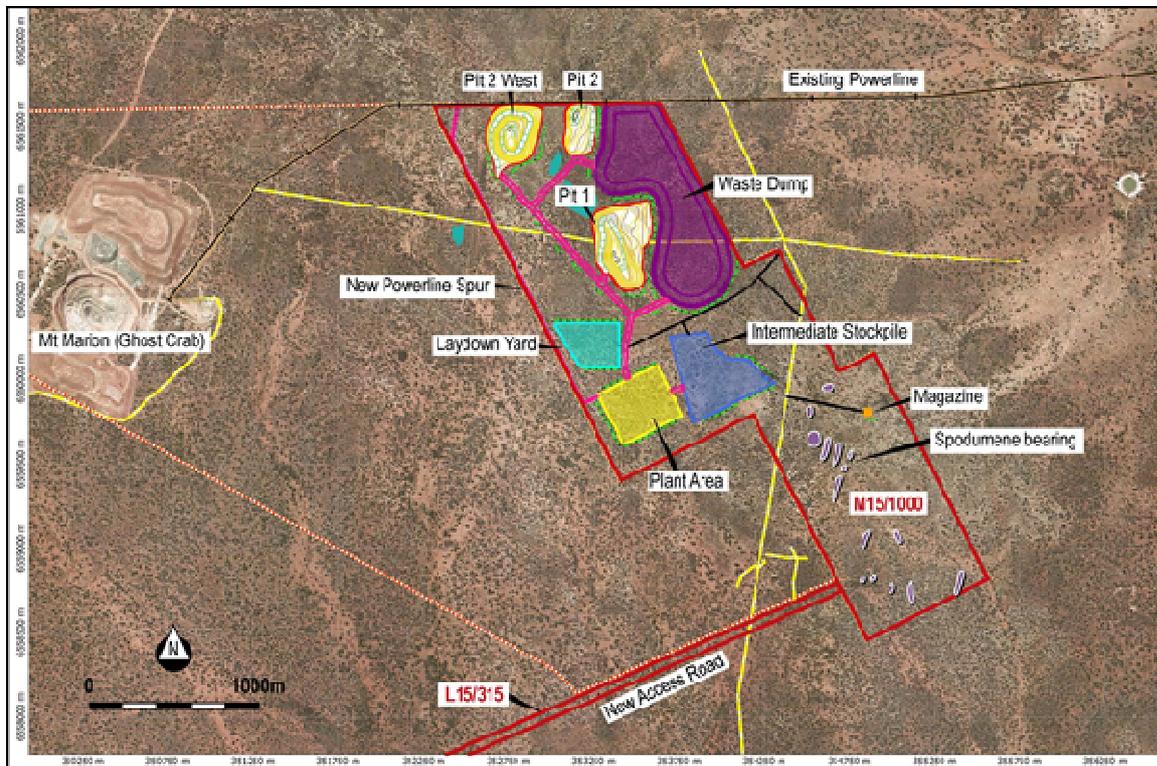
- Decrepitation in a rotary kiln
- Hydrochloric acid leaching of beta spodumene
- Solvent extraction and ion exchange
- Electrolysis (identical to chlor-alkali process)
- Lithium Hydroxide crystallisation and carbonisation to lithium carbonate
- 20 year effective plant life

Firstly initial processing to produce a concentrate will occur at and then exported for further processing overseas with Malaysian costs being used in Reed's PFS. Careful consideration needs to be given to the latter concept because that was the downfall of Lynas in putting their processing plant in Malaysia for "tax reasons". It helps that the Australian national nuclear research and development organisation (ANSTO) has certified the concentrate to be non-radioactive. Then there is the example of Galaxy where the plant (in China) prospered even though the mine turned out to be a failure.

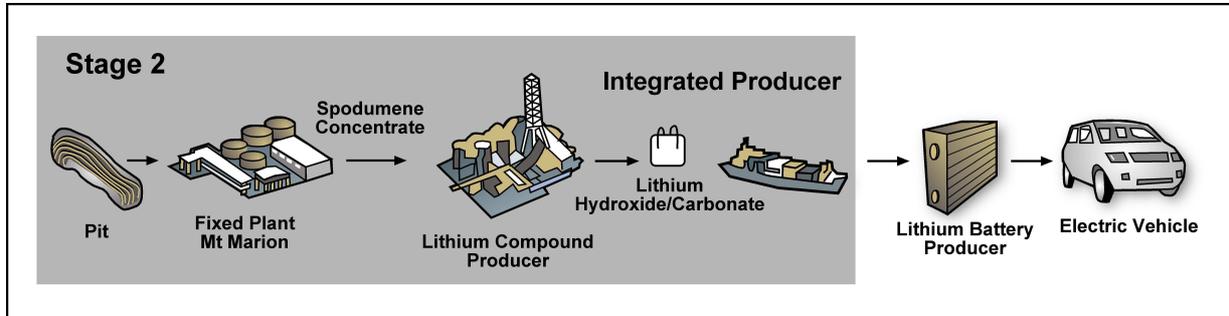
The artist's impression that follows shows an aerial view of the plant site at Mount Marion with the location of the various components. The strip ratio at the mine averages 2.4:1.



Below can be seen the site layout in map form:



This improved value chain is shown in the Stage 2 visualisation that follows:



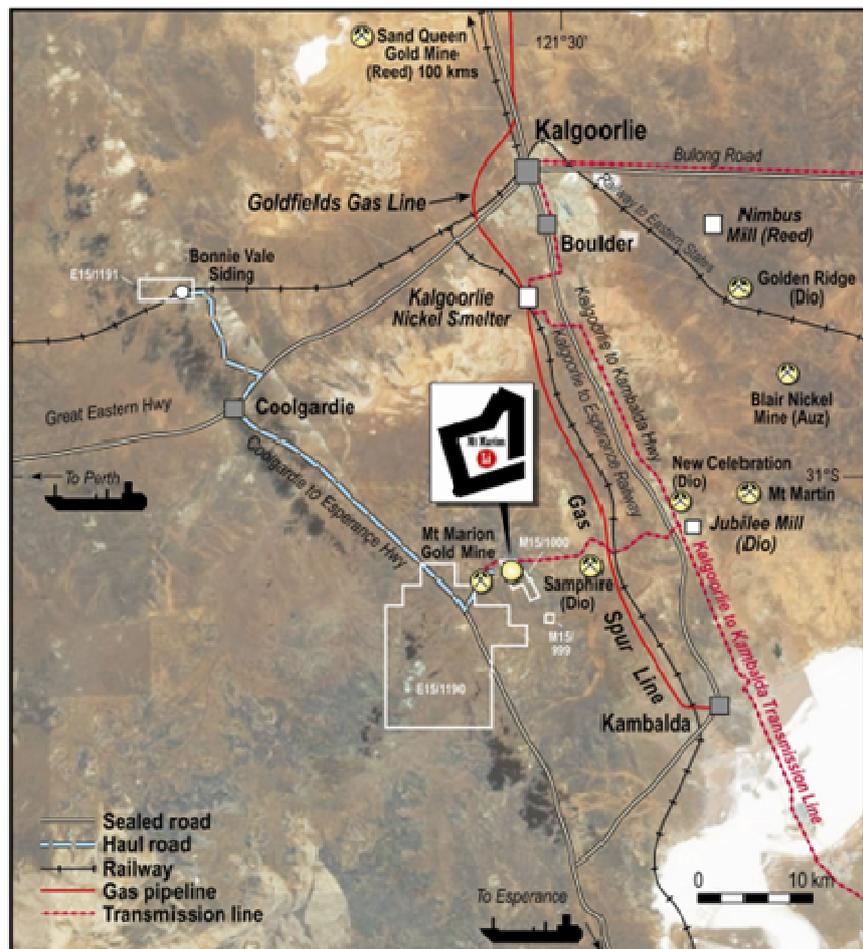
Infrastructure

As a bulk product lithium, particularly in the semi-processed form that Reed envisages at the initial phase, access is key to the economics. If there is one thing that the *salares* of the Andean altiplano have against them it is access. They are located in severely isolated and challenging environments with no workforce and no extant infrastructure. Mount Marion on the other hand is very strategically located in a mining zone with extensive infrastructure at hand.

These elements include:

- ✓ An open-access government-owned high-voltage power line to the minesite
- ✓ abundant process water within 10km
- ✓ access to existing haul roads (at 8 km distance)
- ✓ open rail access to the port of Kwinana (670 kms)

All of this reduces capex significantly particularly when Western Australia has become known (mainly in iron ore projects) for disputes over rail access.



This has resulted in expensive infrastructure spends for those not blessed with the type of positioning Mt Marion possesses.

The Economics

The main metrics thrown out by the PFS were:

- Annual Production 10,000t LiOH and 8,800t Li₂CO₃
- Life of Mine of 20 years
- Life of Mine Revenue of US\$ 3.15 billion
- Pre-tax Cashflow of US\$ 1.19 billion
- Pre-tax NPV (12% discount rate) of US\$ 321 million
- Pre-tax Internal Rate of Return 94%
- Average Net Operating Cost of recovered LiOH of US\$3,878 per tonne
- Average Cost per tonne of Li₂CO₃ of US\$ 4,538
- Total initial capital costs US\$ 83 million
- Payback of capital costs within two years

In WA, a royalty of 5% of the royalty value of lithium concentrate sales is payable for lithium mineral production as prescribed under the Mining Act. The royalty value is the difference between the gross invoice value of the sale and the allowable deductions on the sale.

Moving forward

It has been mooted that Mount Marion might become the second largest spodumene-sourced lithium producer in the world, with potential production of 200,000 tpa of +6.5% Li₂O. The company has scaled back these ambitions and cut its coat to suit its cloth.

Back in the first flush of the Lithium boom the original timetable was for the first shipment of spodumene concentrate to leave Mount Marion in the first quarter of 2011. However the company wisely desisted when it became clear that the price war in response to Talison expanding its capacity from 200-400-750,000 tpa in 2010-11 would blow up the finances of Mount Marion.

Reed was wary of having to mine for a couple of years and losing money on every tonne produced. Instead Reed decided that it wanted to create a downstream plant to take most of Mt Marion's production and not upset the market balance in the process.

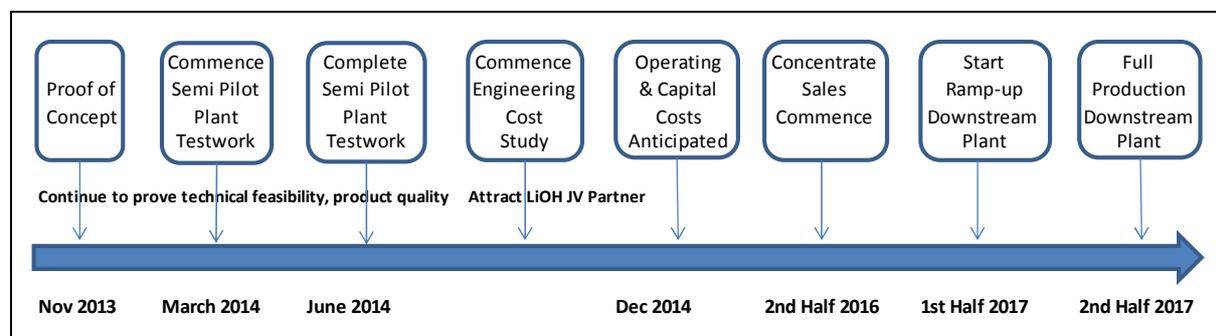
Interestingly when Reed bought the Mount Marion asset it appointed Bill Crossley as project manager for Mount Marion. He had previously held the position of open cut/underground manager for Greenbushes, the world's largest spodumene and tantalum mine, that has since been renamed Talison Lithium.

Commissioned semi-pilot plant in USA for electrolytic lithium hydroxide production.

- Initial results for feed purity and current efficiency exceed Pre-feasibility Study assumptions.
- Test work to produce marketing samples to be completed in June Quarter 2014.

- Independently ranked by SignumBOX as 4th best undeveloped hard-rock lithium project.

The development timetable is below.



Financing the Project

Under the Reed model of strategic partnering it envisages that the company might retain a 49% share of the downstream operation. This might be achieved in a JV or toll-processing operation as Reed has no desire to ship hard currency overseas to capitalize a venture offshore.

The partner and their banks will have to procure Reed's share of financing on a non-recourse basis (except over shares in downstream plant), alternatively a toll-processing or licensing arrangement would achieve same outcome.

As the upstream is fully funded by MIN, Reed will not have to procure finance and or need to have cash reserves on hand to meet obligations.

Earnings outlook from lithium operations

Working from the time line on the preceding page, we are looking for a two year process between where Reed is now and when production starts. In the first instance we are factoring in concentrate production only for the first six months which this output being sold into China. Then a mix of product shall be phased in from the start of 2017 with at least 50,000 tpa of spodumene concentrate continuing to be sold to processors and then gradually more of the balance been fed into the value-added plant as it ramps up.

The "known unknowns" of this equation are:

- How much will be received for the spodumene concentrate sold into China?
- How long (depending upon price) it will take to amortise all the investment of MIN and thus release more of the free cash-flow back to Reed?
- How much the "other partner" (in the value-added plant offshore) will have in percentage terms in that entity?
- What the terms of that arrangement will be in terms of price paid for spodumene concentrate in and price for value added product on-sold?

While one can indulge in theoretical costs in consultants reports until the cows come home one of the best measures to use is real live comparisons for similar mines in similar cost jurisdictions. In the case of Mount Marion we have close at hand the positively reinforcing experience of Talison and the “how not to do it” example of Galaxy, both in Western Australia and subject to similar costs issues with the caveat that grades at Greenbushes are slightly better than at Mt Marion while those at Galaxy were inferior to Reed’s project. Another key difference is the more innovative and economical chemical process that Reed and its partner will employ.

The key assumptions that can be formulated from looking at Talison’s operation are evident from their last NI40-101 report that cast their chemical grade concentrate (SC6) costs are around US\$210-220 per tonne after a \$30mn cut-back of pit walls. One must factor in that Reed will have a plant capital recovery fee from MIN on top of that. Therefore it might be reasonable to assume capex of similar plant (ie Galaxy’s), so \$80mn would need be recovered over minelife of (15mn tonnes/1.2 mn tpa) with a conversion to inventory of 2/3rds, or 8 years, may equate to \$10mn pa or \$50 per tonne of product. Then there is the fact of lower grade at Mt Marion which would make it slightly more expensive.

The earnings statement that follows is our approximation of how the revenue flow from Mount Marion might look like from calendar year 2016 through to 2018 (it should be remembered that Reed has a June-end FY).

Mt Marion			
In '000s of AUD (calendar year)			
	2016	2017	2018
Revenues	24,733	169,614	175,819
Spodumene	24,733	23,885	22,832
LiOH		79,500	83,460
Li2CO3		66,229	69,528
Mining Costs	9,000	19,800	21,600
Gross Profit	15,733	149,814	154,219
Shipping costs to processing	1,750	5,500	6,000
Processing	1,917	59,499	61,337
LiOH		29,085	29,984
Li2CO3		30,414	31,352
Selling Expense	4,667	4,507	4,232
Depreciation/Amortization	1,237	8,481	8,791
Net processing expenses	9,570	77,986	80,360
Net Product Sales Revenues	6,163	71,828	73,860
Tonnes Mined	500,000	1,100,000	1,200,000
Spodumene Production	83,333	183,333	200,000
Spodumene Con for Sale	58,333	56,333	52,900
Tonnes of 6% LiO2 as Feed		127,000	147,100
LiOH		10,000	10,000
Li2CO3		8,800	8,800

The current price of SC6 is around US\$400/t. We would also note that prices might have firmed up on improvements in the global economy by year-end when the mine reaches production.

The end result of employing these assumptions is to produce an operating profit of around \$3.5mn in the initial half FY of production with this rising exponentially in the second year. It must be remembered that 70% of the EBIT at the project pertains to Reed with the rest accruing to Mineral Resources.

We expect that capex will be accrued back to Mineral Resources over a nominal mine life of seven years. Tax is not a consideration in the first two years of operations due to loss carry-forwards.

Lithium – A Fluctuating Flavour

With lithium mainly mentioned in popular culture as drug to control moods swings it is somewhat amusing to reflect upon the manic-depression of the promoters in the metals in recent years. Many needed more lithium in their medicine cabinet than in their portfolios.

The Lithium story started to get up a head of steam in the second half of 2008, boomed through the first half of 2009 (as a concept, but not price-wise in the physical), lost momentum as gold hogged the headlines and the momentum crowd moved on to the Rare Earth space.

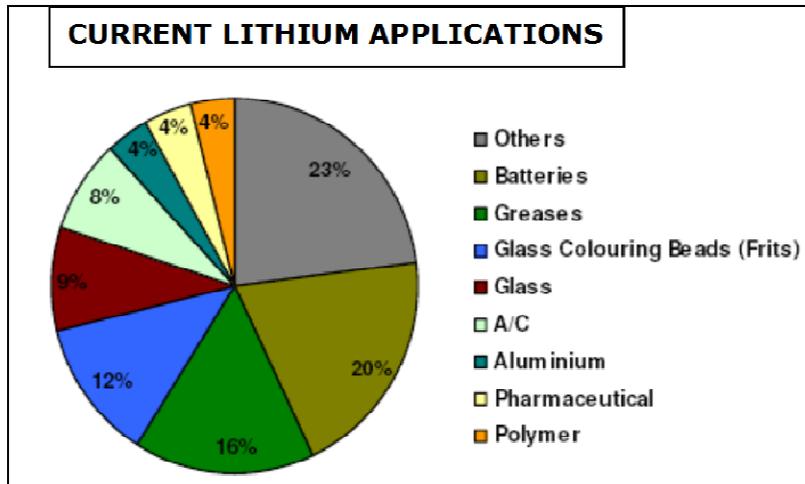
Lithium was never a product to inspire much enthusiasm due to its linkage in the popular imagination to psychiatric drugs even though its real attraction is in applications related to lithium-ion battery applications (cellphone, laptop, automotive) amongst other high tech uses. The spotlight had been turned upon the metal by the rising perception that lithium supplies were relatively limited in the short-term and that demand was burgeoning both from the electronics and the automotive industries.

The upsurge of interest resulted in a stampede in early 2009 into the few names that were already in the space and the creation of a blizzard of extra players via new listings or the recycling of miners from other sub-sectors into this new area. Several players that were positioned in Latin American mining found it easy to switch on to the new buzz.

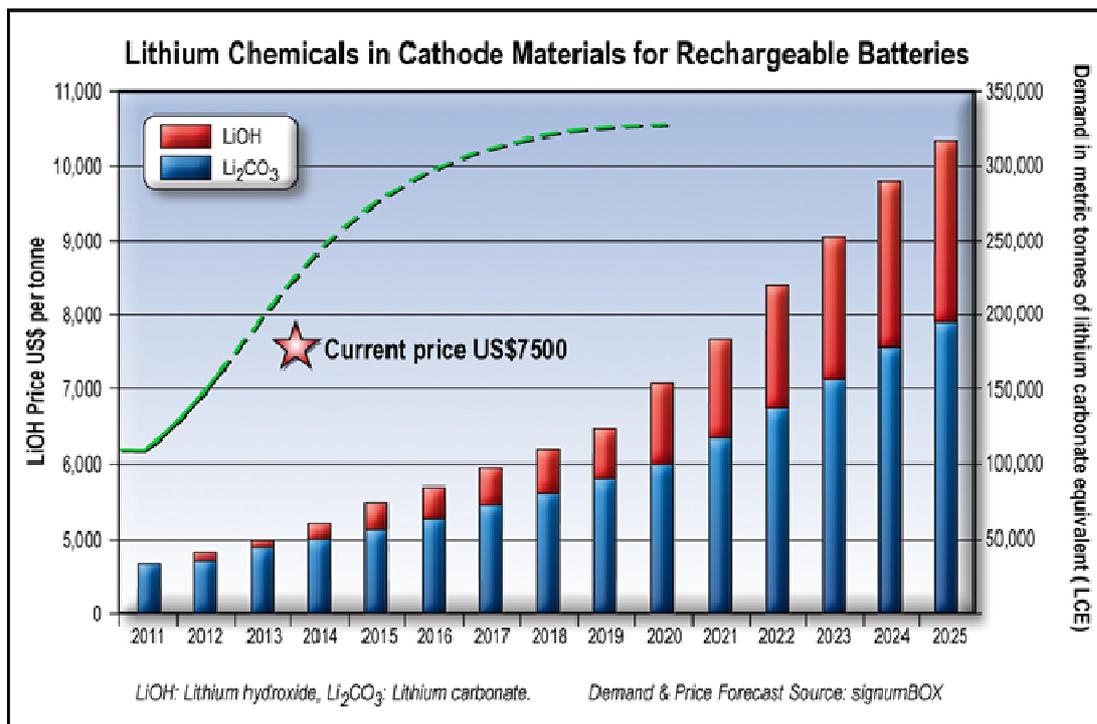
The sector was firmly divided into two types of companies, those with exposure to lithium in brines (essentially where the metal has upwelled in liquids through the Earth's crust) and those with exposure to lithium in rock/clays. The latter long dominated the space (particularly during the period when the US was the dominant producer) but had been eclipsed in recent decades by the cheaper to extract brine lithium that largely came from Chile and Argentina.

Lithium Uses & Demand

Lithium compounds have long been used for various applications, though they were primarily marketed to the glass and ceramics industries. Thus the metal has moved to a new level of interest in recent times with the dynamics of firstly the laptop and cellular phone producers, with their demand for lightweight batteries, and more recently the massive upsurge in hybrid automobile demand and production. A long-term negative for the electric powered auto niche had been the weight of batteries involved.



Demand for lithium (according to the consultants Roskill) displayed strong growth in the mid-2000s, with world consumption estimated to have increased annually by 4-5% since 2002.



The estimates for lithium demand growth below come from the esteemed consultants TRU Group. They show the 2009 recession-induced consumption dip before demand powers higher over the next decade.



Source: TRU Group

The new applications for lithium produced a surge in demand with the usage of lithium in secondary batteries rising at a compound annual growth rate of 25% in the early part of the new century. Nearly all mobile phones and over 90% of laptop computers incorporate lithium-based secondary batteries due to their higher energy density and lighter weight than nickel-cadmium and nickel-metal hydride products. TRU are predicting that batteries will make up 40% of total lithium demand by 2020.

Beyond battery usage, most observers feel that demand from the core traditional users, the glass, ceramic and pharmaceutical industries will not grow more than the GDP growth rates in the Western economies. TRU are estimating growth from glass/ceramics to be only 2.4% p.a. in the period 2007-2020. Thus scenarios of massive lithium demand expansion (and its corollary the need for more production) are almost entirely battery-linked.

Lithium minerals are largely converted into lithium chemicals in China. The majority of these chemicals are consumed domestically in China; however, lithium carbonate, lithium hydroxide and high purity lithium chemicals sourced from minerals are also exported by the Chinese chemical converters.

Sources – the key to understanding

The lithium industry at the global level was dominated by the US until the 1980s with hard rock mining from spodumene, mainly in North Carolina. This industry was made extinct (except in Australia) over a short period by the better economics offered by the Chilean and then the Argentine, brine lake deposits. Better pricing in the last decade however allowed the dusting off and reactivation of hard-rock projects.

Roskill estimated total global lithium production in 2010 to be approximately 123,000t LCE. Roskill estimated that in 2010 Talison was the world's largest producer of lithium, with an approximately 28% market share, and Sociedad Quimica y Minera de Chile SA (SQM) was the world's second largest producer, with an approximately 25% market share.

World production of lithium via spodumene is around 80,000 metric tonnes per annum. The major global producers of lithium from mineral deposits are:

- Talison
- Sociedade Mineira de Pegmatite, LDA, located in Portugal
- Bikita Minerals (Pvt) Ltd, located in Zimbabwe
- Various producers located in China
- The currently shuttered plant of Galaxy Resources Limited, located in Western Australia.

The chief problem for the hard-rockers is that they have is large capital costs to get going (a formidable hurdle in current financial markets) and the fact that their production cost is around \$2 per lb compared to around \$1 per lb for the brine exploitation process.

The Brine Players

Latin America is not the only place with lithium rich brines and salt-pans but it was the focus of the first wave of *de novo* attention on the lithium space in 2009. Since then it has become obvious that the US also hosts such deposits and that in fact it's only current lithium output comes from a saltpan in Nevada that is exploited by Chemetall. However the bulk of Western supply currently comes from the brine lakes of the southern Andes.

The Puna plateau covers a portion of Argentina, Chile and Bolivia. It is at an elevation of around 4,000m and contains the largest concentration of economic evaporate deposits in the world. In the first flush of lithium enthusiasm the mid-Andean region became a hot spot for its ample resource of lithium/potassium brine lakes, called *salares* by the locals. The evaporate deposits are formed by intense evaporation under hot dry air in a closed basin. The brine, under the crust formed on the surface of the salt lakes, contains high concentrations of sodium, lithium, potassium, magnesium and boron (the major element of borax).

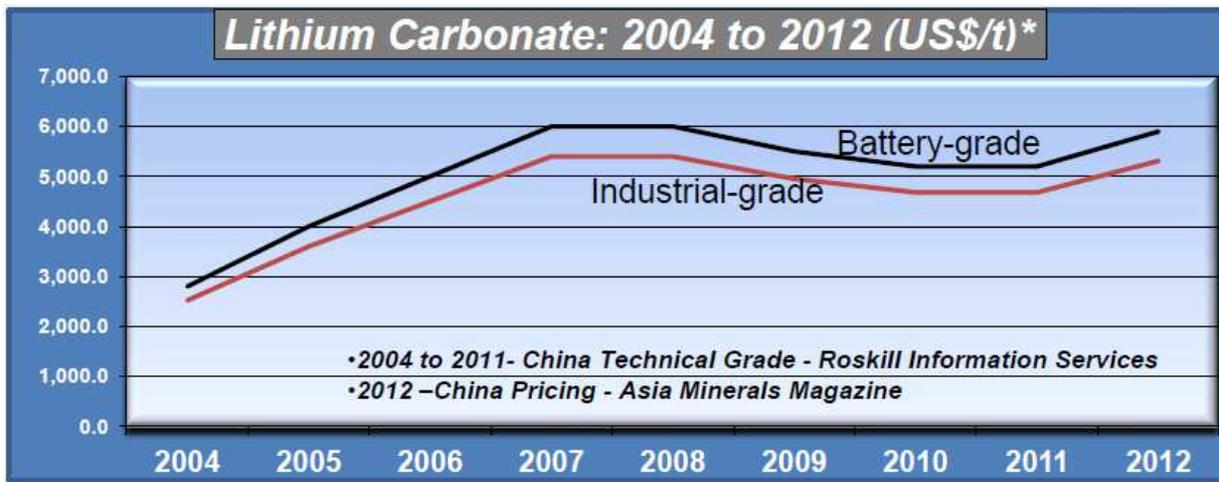
The major global producers of lithium from brine lakes are:

- Soquimich (SQM), which has operations in the Salar de Atacama region in Chile
- Rockwood Lithium (previously known as Chemetall GmbH), which has operations in Chile adjacent to SQM's Salar de Atacama facility, as well as the Silver Peak plant in Nevada, United States of America
- FMC Corporation, which has operations at the Salar del Hombre Muerto in north west Argentina
- Tibet Zabuye Lithium Industry High Technology Co., Ltd., which has operations in Zabuye Salt Lake in western Tibet
- Qinghai CITIC Guoan Science and Technology Co., Ltd., which has operations near Golmud in central Western China

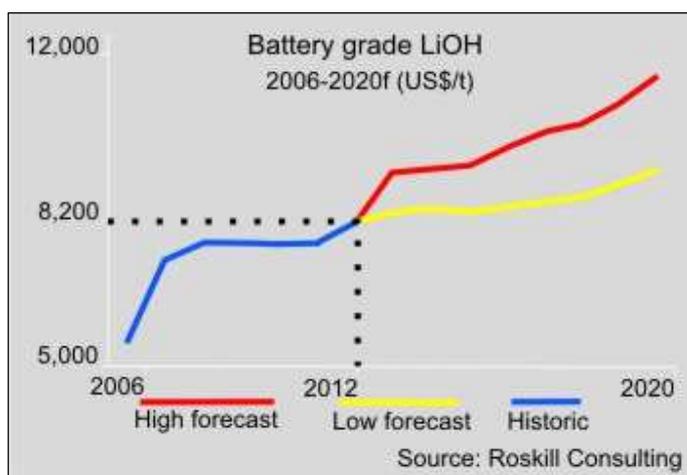
Supply and Pricing

One interesting feature of the supply side of the market is its opaqueness. Some refer to it as an oligopoly, the less polite call it a cartel.

Demand from the battery market and higher production costs spurred a recovery in lithium carbonate prices from 2003, peaking in 2008 before a slight pullback and then a return to a slight uptrend.



Many of the *salares*-based lithium projects being contemplated in the Argentine *altiplano* have the potential to become meaningful contributors to global lithium supply (or maybe over-supply). Balancing this lithium production increase are markets that are anticipated to grow solidly owing in part to the expanded uptake for lithium batteries utilized in hybrid motor vehicles and other major applications in the glass and ceramics industries.



Recently Industrial Minerals reported that prices for lithium compounds were reported to be creeping above 2013 averages for the first time this year, following months of positive predictions by producers.

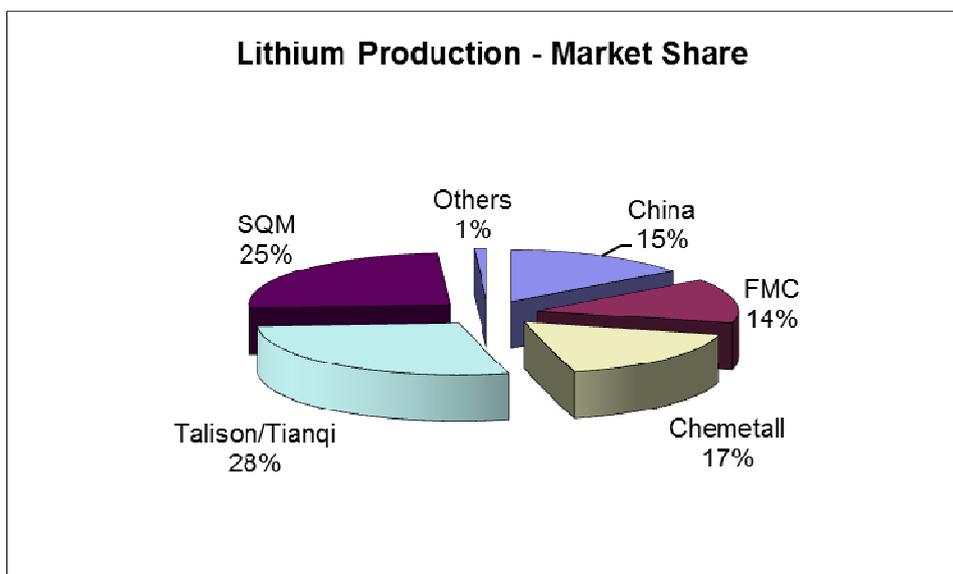
One of the biggest global producers of LiOH, US-based FMC Corp announced on 15 April 2014 that it would increase prices for all grades of lithium hydroxide (LiOH) by 10%. The current median prices for Chinese lithium hydroxide and lithium carbonate is US\$6,900 and US\$6,500 per

tonne on a CIF basis to US or Europe (source: Industrial Minerals 17 April 2014). Industrial Minerals also said more recently that sources had indicated that the price range for lithium hydroxide (56.5-57.5% LiOH) had widened upwards to \$7-\$8 per kg from \$7-\$7.20 per kg in Europe.

The “Cartel”

The lithium space is a small club indeed if one is talking of actual producers with four producers constituting ~80% of the total.

This group controls the market and it has been a very lucrative market for them. The



biggest players are the sometime emerging market investor darling Soquimich (which trades as an ADR under the symbol SQM) and the German company, Chemetall (formerly associated with the ill-fated Metallgesellschaft) that is now part of the low-key US chemicals company, Rockwood. As mentioned earlier, the latter tried to make a takeover of Talison (the producer in Western Australia that had previously merged with Salares Lithium, but they were gazumped by a Chinese group, Tianqi, with a whopping CAD\$848mn bid).

Meanwhile in Argentina, the US agrochemical major FMC controls the only major mine (thus far) in the country while Rincon (controlled by the mining hedge fund, Sentient) is looking to move into commercial production shortly (it currently has a test production facility), as is Orocobre. FMC announced that it would be dividing into two companies both listed on the NYSE, with one focused on the lithium and alkaline chemicals part of the current entity. The parent would remain focused on its agriculture, health and nutrition units. The split is expected to take place in early 2015. Interestingly it alluded to bulking up through acquisitions.

These majors look far more like diversified specialty chemicals companies than mining companies. However, mining analysts and investors that do not include them in their field of vision risk getting blindsided by commercial reality. They ARE the “lithosphere”.

A Cunning Thought

The bid by Rockwood for Talison was regarded by us as vindication of our long-held stance that the cartel would eventually detail one of its members to go out and pick off any upstarts to ensure that undisciplined markets did not ensue from added players in the field that did not stick to the cartel’s directives.

This has a number of effects for our discussions here. The first is a general one in that it shows to would-be lithium producers that the best time to sell out is when production has commenced. Any receptiveness to offers ahead of production would massively undershoot the potential price achieved by the vendor. This is possibly the reason why Orocobre is still a contender for being taken over. Secondly, with the Chinese having taken over Talison, Reed's project appearing on the scene as the next Australian producer would present a challenge for the cartel. This would be even more challenging to the cartel if Reed also had a downstream component that potentially broke with the existing model of the Chinese dominating the mid-stream. The question then is at what point the cartel cannot be tempted any longer into paying up to maintain their control. Open-ended spending for the cause of unity can end up with debacles for all concerned, such as what happened to the International Tin Council, which was hoarding stocks of tin rather than buying up errant producers.

Despite Reed wanting to hold out for a higher price, the smartest thing for the cartel to do would be to pick off Reed early in the piece while it still has a lowish market cap.

The Barrambie Titanium/Vanadium Project

This project is 100% owned by Reed and is a Ti-Fe-V deposit. Barrambie was pushed out of the limelight in Reed's portfolio during the period in which gold was the main focus. Nevertheless it continued to move forward slowly despite, since 2008, it has been harder to access funding for a project of this nature.

Some Background

This project is by no means new having been spawned in the late 1960s when everyone, literally, was pawing over territory in Western Australia looking for nickel in the boom for that metal at that time. Drilling at Barrambie began in 1968 and continued to the most recent campaigns in 2008.

Companies having undertaken drilling campaigns on this target are Greenstone Investments Pty Ltd (GSI), Ferrovandium Corporation NL (FVC), Great Australian Resources Ltd (GAR), Trans Global Resources (TGR), Precious Metals Australia (PMA) and finally Reed. Drilling techniques have included rotary air blast (RAB), open hole percussion (OHP), reverse circulation (RC) and diamond drilling (DDH). Some of the campaigns were exploration for gold and therefore had no vanadium, titanium, iron or minor element assays.

In 2007, Reed completed three diamond drill programs, three RC drilling campaigns and a campaign of bulk sampling using a Caldwell bucket drill rig. In 2008, a RC and a diamond drilling campaign were completed.

In addition, in December 2009, Reed concluded the acquisition of two exploration licenses (E57/769, E57/770) that contain magnetite bearing formations along strike and to the west of the Barrambie deposit. The total consideration for these was AU\$2 million dollars and 600,000 ordinary shares.

Reed has a DFS on both the high-grade Vanadium Central Band and the high-grade Titanium Eastern Band. The market's mood swings on these two metals in recent years makes it difficult to decide which

one should be developed first. The decision is made easier at the current time as Vanadium's linkage to the steel industry has made its price performance less than scintillating in recent times. Titanium is thus the strongest prospect at the moment.

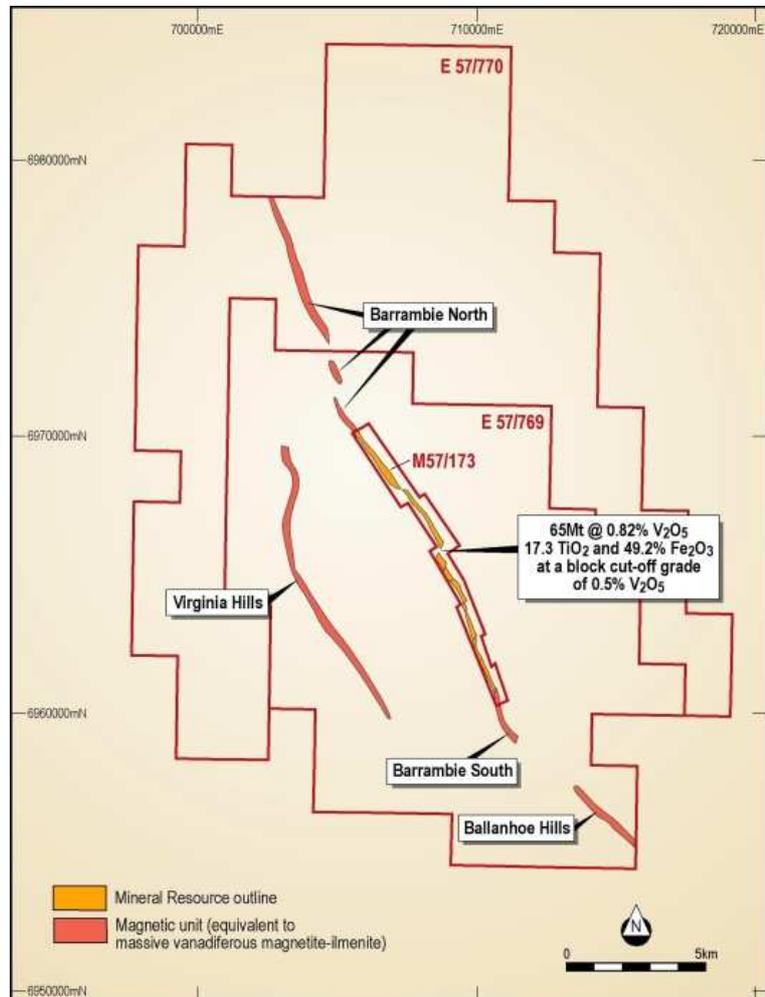
Geology

The ferrovanadium titanium (Ti-V-Fe) deposit occurs within the Archaean Barrambie Greenstone Belt, which is a narrow, NNW-SSE trending greenstone belt in the northern Yilgarn Craton. The linear greenstone belt is about 60 km long and attains a maximum width of about 4 km. It is flanked by banded gneiss and granitoids. The mineralisation is hosted within a large layered, mafic intrusive complex (the Barrambie Igneous Complex), which has intruded into and is conformable with the general trend of the enclosing Greenstone Belt. From aeromagnetic data and regional geological mapping, it appears that this layered sill complex extends over a distance of at least 25 km into tenements to the north and south of M57/173 that have also been acquired by Reed. The layered sill varies in width from 500 m to 1700 m.

Exposure is poor due to deep weathering, masking by laterite, widespread cover of transported regolith (wind-blown and water-borne sandy and silty clay), laterite scree and colluvium. Where remnant laterite profiles occur on low hills, there is ferricrete capping over a strongly weathered material that extends down to depths of 70 m.

Ti-V-Fe mineralisation occurs as bands of cumulate aggregations of vanadiferous magnetite (martite)-ilmenite (leucoxene) in massive and disseminated layers and lenses.

The resource estimate, dating from December 2013, shows that Barrambie is one of world's highest grade titanium deposits, containing total Indicated and Inferred Mineral Resources as shown below, at a cut-off grade of 15% TiO₂.



Barrambie						
JORC- compliant Resource (December 2013)						
15% TiO ₂ Cut-off						
Category	Tonnage (Mt)	TiO₂ (%)	V₂O₅ (%)	Fe₂O₃ (%)	Al₂O₃ (%)	SiO₂ (%)
Indicated	34.70	22.25	0.64	46.77	9.48	14.95
Inferred	12.50	21.99	0.58	46.51	9.32	15.40
Total	47.20	22.18	0.63	46.70	9.44	15.07

Titanium Potential – all in the process

According to Reed, Barrambie's Eastern Band is the world's second highest grade Titanium deposit after Rio's Lac Tio. According to the company its Fe/Ti ratio is 2:1 whilst those of Argex is 4:1, TNG (TNG.ax) is 5:1 and Speewah is 6:1. Iron is essentially the costliest element to remove while Ti is 75% of revenue while V is 25%. The process for doing so was pioneered at McGill University, after which the inventors split. Similar technology is now the property of Canadian Titanium Ltd (CTL) which is half-owned by Argex. The advent of these technologies is the most significant change in Ti processing since the Kroll process and thus is regarded by Titanium mavens as a game changer.

During the March quarter of 2014 Reed began construction of a mini-pilot plant in Canada to demonstrate a successful transition from laboratory-scale batch testing to continuous operation.

The plant will test a proprietary chloride-based process for the recovery of titanium as titanium dioxide, (TiO₂), vanadium pentoxide (V₂O₅) and iron as hematite (Fe₂O₃) from run of mine ore at a feed rate of 10 kilograms per day and be completed in July 2014. Sufficient information will be generated to allow for a rigorous process model to be compiled, which will enable both capital and operating costs to be estimated at a Pre-feasibility Study level.

The process, pioneered in Canada, has produced high purity (>99%) titanium dioxide from Barrambie oxide ores and concentrates at high recoveries. Reed, in December 2013, licensed the patented process to extract all the metals of value from its Barrambie deposit. During the period the Company executed an agreement to license a patented acid leach process to extract all valuable metals from the Barrambie Titanium-Vanadium-Iron deposit, this process was evaluated in the Snowden Scoping Study. In exchange for the non-exclusive license, Reed will pay a royalty of 5% of gross revenue. In addition, the patent holders will also receive up to 20% of the value of any transaction that involves a significant change in control of AVC.

The Preliminary Economic Assessment (Scoping Study)

A Scoping Study by Snowden Mining Industry Consultants in October 2013, based on this process, indicated the potential for a viable hard-rock titanium and vanadium mining and processing operation and recommended progression to a Pre-Feasibility Study. Average net operating costs per tonne of titanium dioxide recovered were estimated at AUD\$1,214 per tonne with an indicative accuracy of ±35%, the long term price assumption used in the study was US\$3,000 per tonne.

Key metrics for the proposed Titanium operation are:

- Annual Production 13,000 tonnes of TiO₂ & 300 tonnes of V₂O₅
- Life of Mine of 27 years
- Life of Mine Revenue of AUD\$ 1,143 million
- Pre-tax Cashflow AUD\$ 516 million
- Pre-tax NPV (12% discount rate) AUD\$ 87 million
- Pre-tax Internal Rate of Return 24%
- Average Net Operating Cost per tonne of recovered TiO₂ AUD\$ 1,214
- Total initial capital costs of AUD\$ 109 million
- Payback of capital costs within four years

The Vanadium Prospect

This was one of the most advanced of Reed's projects in 2010 but the Vanadium outlook has clouded due to price considerations, driven in part by replacement with Niobium, and also due to the dimmer prospects in the steel space. Thus Barrambie, as noted earlier, is now being advanced for its Titanium merits. The closest parallel to Barrambie is the Windimurra Vanadium project of Atlantic Ltd (also located in Western Australia), which has been troubled since its inception. This has been a negative in colouring investor's view of Vanadium projects in Australia but at the same time has been a cost-and error-saving exercise in "what not to do" for Reed.

A key point to note is that while the tonnage at Barrambie is a fraction of that at Windimurra the grade at Barrambie is a multiple of that at the larger deposit, naturally implying less ore needed to be mined to produce the same output of V₂O₅.

The current resource at Barrambie is:

- Initial mining reserve of 39.7 mn tonnes of ore at a grade of 0.82% V₂O₅.
- Indicated and Inferred Resource of 65 mn tonnes of vanadium ore at a grade of 0.82% V₂O₅

Reed had gone as far as a Definitive Feasibility Study on Barrambie, which was released in May 2009 and contained the following principal findings:

- Average EBITDA per annum of AUD\$105 million using an average ferrovanadium price of US\$30/kg and an exchange rate of AUD\$1=USD\$0.60 (though it is currently around US\$1.04)
- Operating costs of less than USD\$20/kg of vanadium.
- Minimum of 12 years mine life at throughput of 3.2Mt per annum.
- Capital cost estimated at AU\$628.9 million.

The company revealed back in 2009 that a MOU had been entered into for the sale and marketing of the entire annual vanadium production with a leading vanadium marketer (believed to be Glencore) for the first ten years of production, at not less than Metal Bulletin's low price.

A Public Environmental Review (PER) document was approved in 2011.

The issue here was not the attractiveness of the project vis-à-vis Windimurra, it was the capex that at over AU\$620mn was a mighty amount of money to raise either by debt, equity or a mixture thereof.

How to Move Barrambie Forward

Firstly we should say that this will ONLY move forward with Titanium as the primary product, with vanadium relegated to a by-product as in most profitable vanadium production. Reed's take on Vanadium prices is rather close to ours, looking for flat at best in the near to medium term. The company also posits that massive substitution with ferro-niobium courtesy of expansions at CBMM (the dominant Niobium producer in Brazil) financed at first by the Japanese/Korean steel makers and then Chinese steelmakers (Ansteel, Baosteel, Shougang) have boosted Nb supplies and those of alternatives. There was also a massive build-up of slag processing capacity by China's Panzhihua complex. One consolation is that the majority of vanadium pentoxide produced in China is not suitable for chemical or energy storage applications.

This is why Reed elected to not proceed with Vanadium project as Reed feels that being a standalone primary producer is too energy intensive in the high energy cost environment of current times.

With Titanium as the primary goal now the potential field of offtakers becomes clearer with paint and pigment manufacturers being the most obvious parties to partner with. The capex at only AUD\$109mn brings this alternative much more into the realms of reality than the Vanadium path would have offered.

Other Projects

Reed used to have, frankly, too many disparate projects on the go. Now that it has narrowed down its focus, the only one of the old portfolio left of consequence is the Mt Finnerty property which actually consists of two different projects, one in nickel and one in iron ore.

The Gold Interests

Reed's holdings in the gold space in recent times have consisted of two assets, the Meekatharra gold district and the Comet Vale property. The latter consists of the Sand Queen gold mine, located near Kalgoorlie. Both have been divested in recent months.

It's easier to deal with the smaller transaction first. After a false start in trying to sell the Comet Vale property in 2013 to Crest Exploration, Reed announced in February 2014 that it had accepted a binding cash offer for the conditional sale of its subsidiary Sand Queen Gold Mines Pty Ltd to a private company. Reed received a non-refundable deposit of \$100,000 and was to receive \$1 million on completion of the transfer of the shares in SQGM, plus up to a further \$900,000 in instalments. In recent days Reed received the \$1mn payment and a further \$60,000 in recovery of a bond. Completion of the sale was achieved, with the payment of a final \$750,000, on June 27th.

An even more welcome divestment was the sale of the Meekatharra gold project, which is located in central Western Australia. It was acquired by Reed for \$28.4mn in January 2011 and was placed into voluntary administration on August 16, 2013. Reed had purchased the project from Mercator Gold which had itself come to grief in the 2008 financial crisis because it had become overburdened with debt

on this project.

Reed almost straight away raised \$40mn to get Meekatharra working again but clearly this was not enough with the low gold price (and high Australian dollar in 2013) making Meekatharra unviable and resulting in Reed deciding to shed this asset and exit the gold space.

Reed, in May 2014 announced a transaction between Metals X (MLX.ax) and the Deed Administrators of GMK Exploration Pty Ltd (the vehicle through which Meekatharra was owned) for the sale and purchase of the assets comprising the Meekatharra Gold Project.



The key terms of the Purchase/Sale Agreement were:

- an estimated purchase price of around \$7.7million comprised of:
 - \$9.4mn cash
 - the transfer of 24 million shares held by MLX in Reed (which, on a 10-day VWAP prior to this announcement, would be valued at approximately \$500,000)
- it is subject to approval by the creditors of GMKE, Foreign Investments Review Board, ministerial consent and assignment of third party interests
- completion prior to 30 June 2014

A competing offer to that of Metals X appeared on the scene, so they hiked their offer to \$9.4mn in cash plus the shares being returned to Reed. The creditors' meeting approved the Sale Agreement, along with a revised deed of company arrangement. So it looks like Reed has received, under the Revised DOCA Proposal, gross value of around \$5.1mn (an increase of \$1.1mn) composed of:

- the transfer and buy back of 24M shares in Reed
- a balance of around \$4.6mn in cash

Reed understands that under the Revised DOCA Proposal a pool of funds is expected to be available for the remaining unsecured creditors of around \$4.6mn (an increase of \$1.1M), which under the statutory adjudication process is currently expected to be distributed by the Deed Administrators of GMKE in the

second half of 2014.

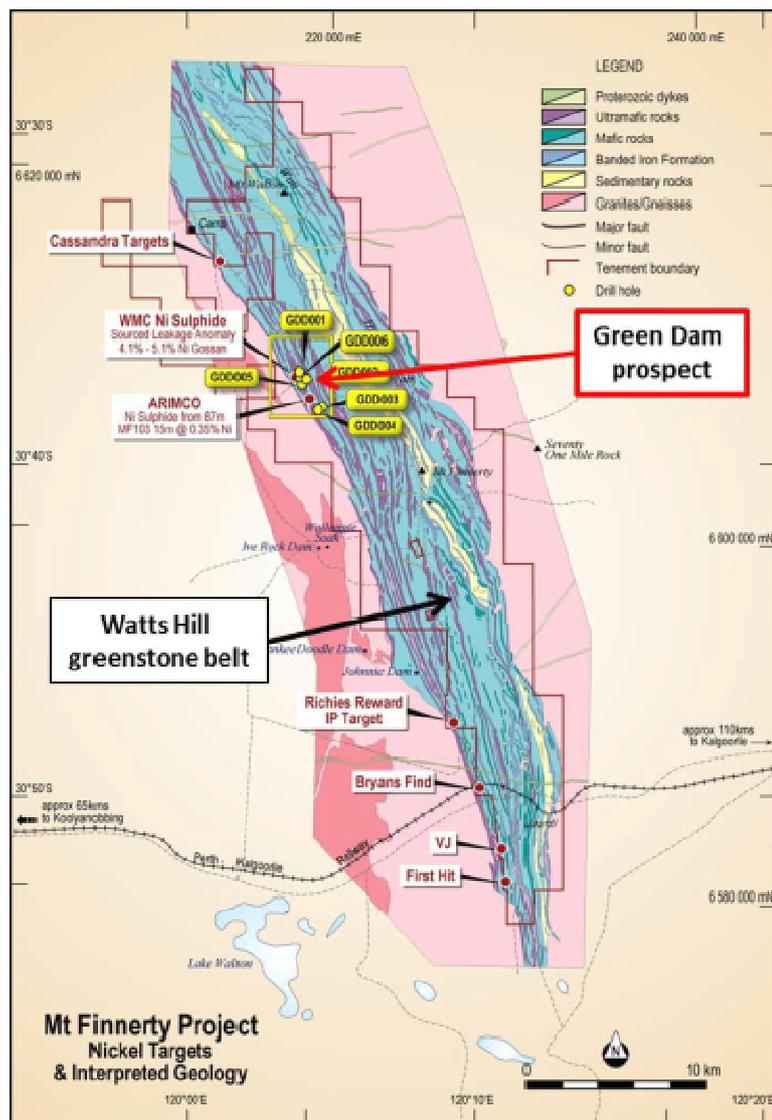
Nickel - Mt Finnerty & Lake Johnston

The most attractive of the remaining assets is the nickel deposit at Mt Finnerty. Only a few months ago we would not even have said that but nickel is currently undergoing a price surge with a re-rating of the attractiveness of projects with this metal. The price rise was triggered by the Indonesian government's restrictions on the export of nickel concentrate which has removed a sizeable amount of global supply.

This property was for a long time under joint venture agreement with Western Areas, first signed in 2007, to explore for nickel sulphides. Western Areas (WSA.ax) was entitled to earn a 51% interest by expending \$1.5m before 26 February 2010, however as WSA had expended only \$1.32m by that date its right to earn an interest expired and the Heads agreement lapsed.

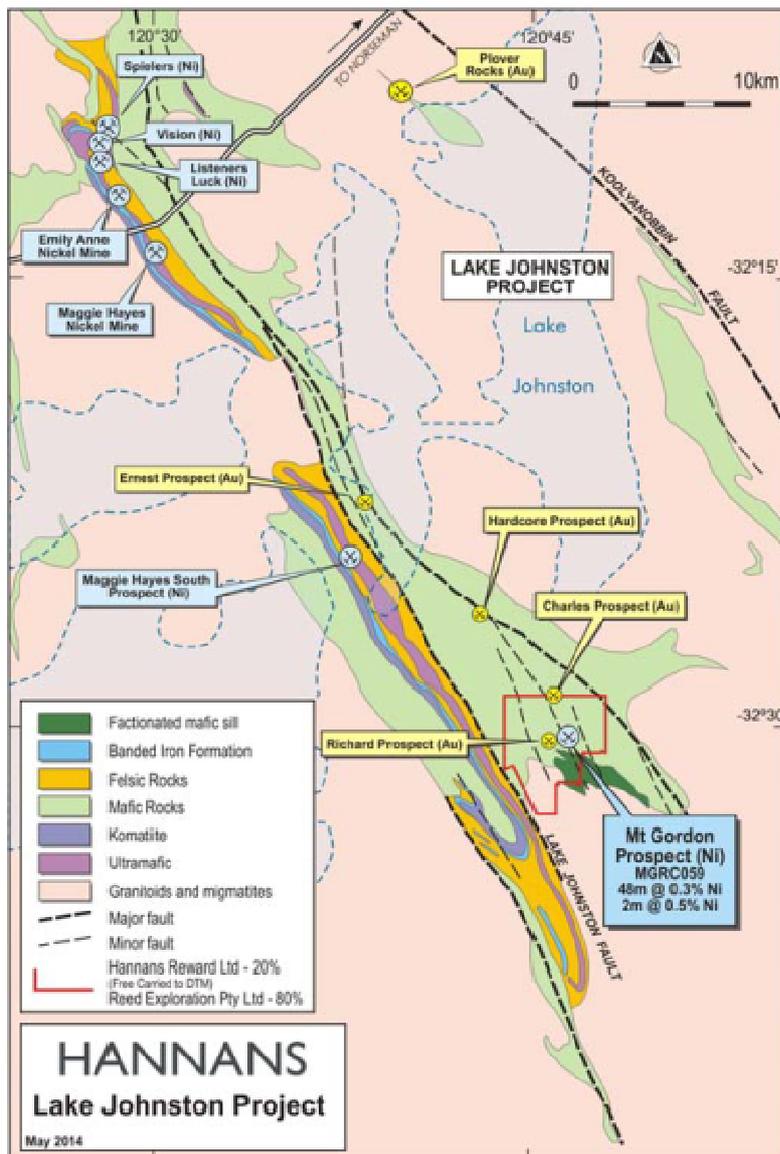
Work history on the project included previous exploration in the area by Western Mining Corporation (which was subsequently acquired by BHP-Billiton) during the 1970s which discovered a gossan; and two vertical drill holes in a subsequent drilling program intersected 1.34% Ni and 1.14 % Ni each over an interval of three metres.

Drilling in March 2008 returned 25m of 0.91% Ni, plus anomalous Pt & Pd and two strong "end of line" anomalies were identified during geophysical work carried out in the same quarter. Exploration has targeted four highly anomalous soil geochemical anomalies that are coincident with the basal ultramafic/basalt contact and spread over 10 kms of strike have been identified.



Exploration on three nickel sulphide target areas has shown there to be:

- Anomalous geochemical signatures (up to 1% nickel and 400ppm copper) in previous, shallow RAB drilling of strongly weathered ultramafic units.
- 4km long soil nickel anomaly (>250ppm nickel) and a coincident 2 km long copper anomaly (>170ppm copper), revealed by recent reconnaissance soil lines over the intact basal contact.
- Favourable geological settings where intact basal contacts of high MgO ultramafic sequences with potential channel embayments are effectively untested by previous drilling.



In recent weeks Reed has entered in a joint venture with Hannans Reward (HNR.ax) on the Mt Gordon portion of the Lake Johnston nickel sulphide project, located west of Norseman in Western Australia. The basis of the deal is that Hannans is not required to fund expenditure until such time as a Decision to Mine is made by Reed Resources. If Hannans elects not to contribute at that time, its interest will convert to a 2% Net Smelter Return royalty.

Interestingly Hannans attributed its decision to do a deal with Reed to the nickel expertise that Reed has on board, most notably the veteran nickel sulphide specialists Gordon Kelly (geochemist) and Richard Stuart (geophysicist). The latter was a partner in ANPC, the organisation that founded Western Areas NL (Reed's former partner in Mt Finnerty), both had commenced their nickel exploration careers with Western Mining Corporation in the late 1960's and were long term employees of Western Areas, Mr Kelly in the role of Senior Nickel Project Geochemist/Geologist and Mr Stuart as Exploration Manager.

Hannans has made significant progress exploring for nickel sulphide mineralisation at Lake Johnston. In 2012 Hannans intersected nickel sulphide mineralisation in a single reverse circulation drillhole drilled to test the coincident copper-nickel auger geochemistry results. The drillhole results included 48metres at 0.3% Ni and two metres at 0.56% Ni.

Tuesday, July 8, 2014

Lake Johnston lies almost directly south of Mt Finnerty and Reed's geologists feel that plausibly the Watts Hills greenstone belt at Mt Finnerty is the strike continuation of the Lake Johnston greenstone belt.

Many (including us) had thought Reed likely to exit the nickel space as the price, until the beginning of this year, was torpid to say the least. The actions of the Indonesians in restricted exports of unprocessed ore have electrified the price and revived interest. However Reed's interest is not just a rushed decision as the company has undertaken extensive due diligence on Hannans' portfolio of nickel sulphide exploration projects during the last 15 months, and in particular the Mt Gordon nickel sulphide prospect at Lake Johnston.

Mt Finnerty Iron Ore – One the Sale Block

The other aspect of Mt Finnerty is its iron ore potential. This project hosts an iron ore resource and several prospective exploration targets. It is conveniently located adjacent to Mineral Resources Ltd's Carina Iron Ore Operation and close to existing rail infrastructure. There is a JORC-compliant inferred resource of 4.66Mt @ 53.5% Fe at a 50% cutoff dating from 2009.

In October 2013 Reed announced the resumption of 100% of the iron rights at its Mt Finnerty Project following the amicable termination of the "Mt Finnerty Iron Ore Joint Venture" with a subsidiary of Cliffs Resources. The deposit is located 65 km east of the Cliffs Koolyanobbing Iron Ore Operations. The transaction was a legacy of an original deal with Portman mining in the middle of last decade, which was subsequently taken over by Cliffs.

Reed's strategy for the moment is to undertake a re-interpretation of the geophysical data undertaken by Cliffs, which in early 2010 generated several new prospects (Gray, Mt Watt East, Mt Watt South, Mt Finnerty). High-grade rock chip sampling of these prospects provided encouragement to progress exploration aimed at defining additional resources.

Meanwhile iron ore has now re-entered its periodic doldrums and, while possessing a resource with a good grade, it does not look like something that Reed will want to develop itself. It does have, however, good rail links and that is a major positive in this age of infrastructure wars in the Western Australian iron ore scene. Reed has appointed a boutique corporate advisory firm to handle the potential sale or other deals on this property.

Finances

While we have declared elsewhere that production is king in the current market, we would also add that cash is also princely. Reed currently has cash resources and near term receivables from vended assets that add up to around its current market, meaning that the two major projects embedded in the corporate structure are essentially free in any investor's equation. The liquids on the balance sheet at the current time are:

- ✓ Cash at Bank \$8.7M [31 March 2014]
- ✓ Comet Vale \$1.91M cash sale, deposit of \$100,000 at signing, received \$1.06mn on the 23rd of

Tuesday, July 8, 2014

- June with a further \$750,000 due before the 27th of June
- ✓ Meekatharra sale proceeds of \$4.6mn cash and the cancellation of 24mn RDR shares

The share cancellation (which was confirmed in an announcement on the 27th of June) will reduce shares on issue by around 4-5%. The cash when it is all collected will EXCEED the company's current market capitalization.

The company also feels something might be achieved in the relatively short term with regard to the sale of the Mt Finnerty Iron ore prospect. As to how much that might bring in can only be conjectured.

The Chairman, David Reed committed to provide a standby facility to support Reed Resource's working capital position, with definitive agreements executed and announced on the 27th September 2013. As at 31 December 2013 the Company had drawn down \$2mn on the stand by facility. As a result two million convertible notes were issued to David Reed that may be converted into 66,666,667 fully paid ordinary shares.

Management

Perth, the major city of Western Australia, has evolved in recent decades into the equivalent of Vancouver in mining circles. It is the capital of Australian junior mining. Not that it is the only place that has such companies, for Melbourne, the traditional mining capital has more than its fair share as well.

The Reed family has been front and center in this evolution of Perth largely because their original activity was stockbroking. The family firm RW & DJ Reed merged with TE Eyres in 1981 and became Eyres Reed Ltd which was subsequently purchased by CIBC Wood Gundy in 1997. The family has subsequently focused on mining.

With the acquisition of the Meekatharra asset in 2012, Reed appointed Luke Tonkin as the Managing Director/CEO in May of that year. In October 2013, Luke Tonkin was gone and Chris Reed resumed the role. He had remained a director during the Tonkin leadership period. He started in the mining industry in 1990 and co-founded Reed Resources in 2001. Chris holds a Bachelor of Commerce from the University of Notre Dame and a Graduate Certificate in Mineral Economics from WA School of Mines. He is a Member of the AusIMM and Vice-President of the Association of Mining & Exploration Companies.

The non-executive Chairman is David Reed who was born and raised in Kalgoorlie, in the vicinity of which are most of the company's prospects. He commenced stockbroking in 1963, qualified as an accountant in 1967 and became a member of the Perth Stock Exchange in 1971. He is a director of CIBC Australia Ltd. David has been a prospector, former secretary of the Amalgamated Prospectors and Leaseholders Association and private mine owner. In 1984 David founded Mt. Martin Gold Mines NL, which with partner Newmont Australia developed the New Celebration Gold Mine. Mt. Martin merged with nickel producer Titan Resources NL (TIR.ax) and he became Chairman (1991 to 1997).

The Deputy Chairman is Steven Cole who is a lawyer with 35 years of professional, corporate and business experience through senior legal consultancy, as well as a range of executive management and non-executive appointments.

The board has thinned down in the wake of Luke Tonkin's departure as a cost-saving measure with two other directors also parting company.

Substantial shareholders

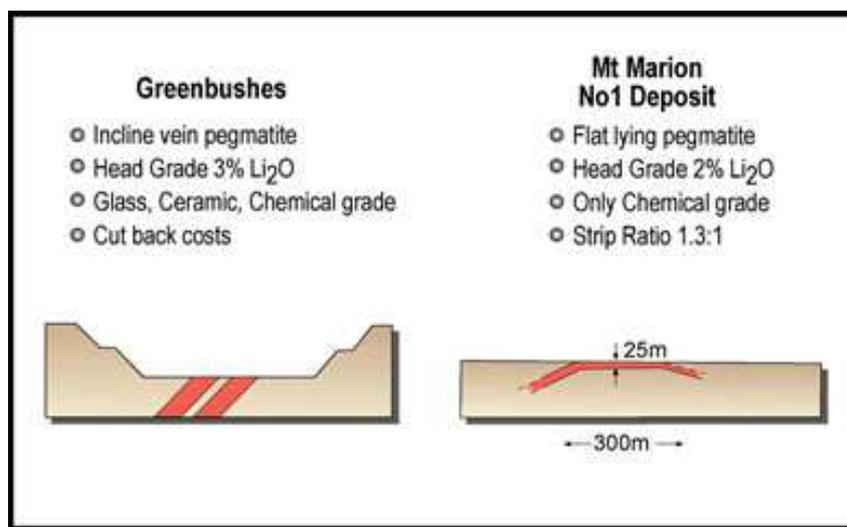
Note should be made of the shareholding structure. As a company founded by the Reed family they remain substantial shareholders. Either directly or indirectly the Chairman, David Reed, holds 28,121,259 shares or 5.37% of the issued capital.

Vanguard's Mining Fun holds a position of over 70mn shares. M&G, the UK asset manager holds 67.3mn shares and a stake has been accumulated in recent times by a Panamanian company, Melaid, which expanded its holding from 27mn shares in late January to over 37 mn by mid-March. The Lithium ETF managed by Global X Management Fund, LLC has a relevant interest and voting power in respect of 14,047,677 shares, representing 2.68% of the Reed's issued capital.

On shares on issue, it is expected that 24mn that are coming back from Metals X will be cancelled in early August, taking the total issued to just under 500mn. There exist one million options exercisable at \$1, and potentially 66.66mn shares issuable should David Reed exercise the conversion option on the debt he holds.

The Talison Comparison

With Australia's existing producer, Talison, being outside the public eye due to having been taken over it is not as easy to draw comparisons as previously. The other comparative was Galaxy but as its mine has come to grief due to its inferiority to either Talison or Mount Marion, it is no longer a useful specimen. The comparative cross-sections below are illuminating.

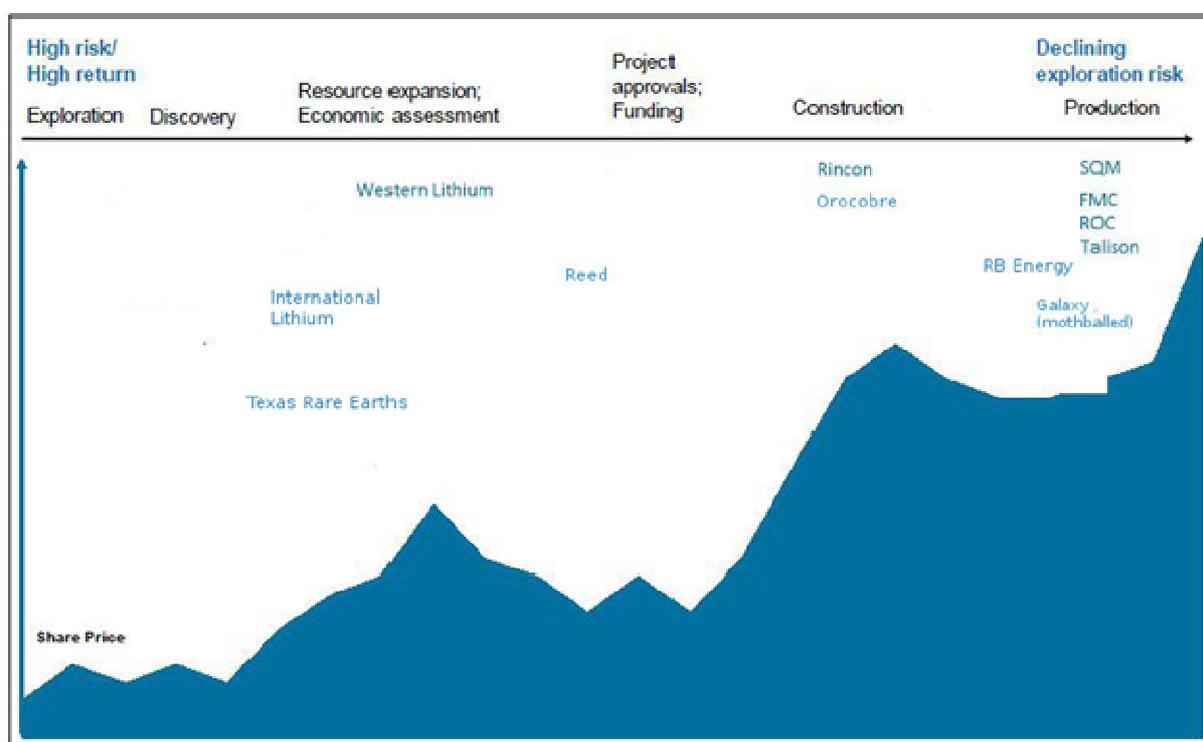


Greenbushes is the long-producing property of Talison. While Talison has the more problematical property logistically, this is compensated by a good grade. Mt Marion has the advantage of a minimal

strip ratio. Strip ratios for the Mt Marion deposits range from 1:1 to 2:1. Talison’s mine has an estimated reserve of 13 million tonnes.

	Ticker	Market Cap	Resource mn tonnes	Grade Li2O	Contained Li2O 000 tonnes	Mkt Cap per tonne Li2O
Stria Lithium	SRA.v	3.24	0.0	0%	-	n/a
RB Energy	RBI.to	172.86	17.1	0.94%	160	1,091
Talison	n/a	848.00	61.5	2.80%	1,722	492
Critical Elements	CRE.v	28.97	26.5	0.98%	259	97
Nemaska Lithium	NMX.v	16.20	28.0	1.57%	439	35
Reed Resources (70%)	RDR.ax	8.90	14.8	1.30%	192	85

Talison was sold for over AUD\$800mn to the Chinese, however we would note that this was just the mine. Reed’s strategy is to have both the mine and downstream processing which would free it, to a large extent, from the Chinese stranglehold on the Lithium mid-stream. The key question then would be the potential valuation (presumably greater than Talison’s) once the various elements are up and running.



The Lithium Lifecycle

Unlike other specialty metal “lifecycle” charts we have produced, the one for lithium has long had a well-populated (and profitable – immensely so) right side with the cartel members firmly in control of production.

Galaxy briefly joined the group then dropped the ball with an inferior mine proving to be its Achilles heel. RB Energy (the former Canada Lithium) is on the verge of production with small quantities already being stockpiled for export in recent weeks.

Over on the left-side we have International Lithium, which despite having a powerful Chinese partner is not particularly progressed. Western Lithium has heard the siren song of fracking and is focusing on producing hectorite as a money-spinner in the short-term. Texas Rare Earths have a substantial prospective lithium by-product stream from Round Top that they have not decided whether to advance with or not.

Rincon and Orocobre (the former owned by the hedge fund, Sentient and the latter a long-time Model Portfolio constituent) are both nearing production with their brine lakes in Argentina.

This leaves Reed as next project off the starting blocks and the only up and coming spodumene producer.

Risk Factors

Specialty metals always bring the danger of wider price oscillations than larger-volume traded minerals. Lithium though does have the advantage of a cartel instilling discipline in its ranks. This does not remove the issue as a real risk or as a source of concern or uncertainty at least. More critical though are financing issues in the currently tough environment for project finance.

- Weakness in lithium price either from potential over-supply or cartel actions to punish/discourage new entrants
- Financing difficulties with the lithium project’s more advanced stage
- Budget overruns on the lithium project and/or construction delays
- Renewed strength in the Australian dollar
- Financing delays in the capex-intensive Titanium project

For the moment the Australian dollar is weak and playing very much in favour of miners. However, it has been known to turn around swiftly in the event of a recovery of mining markets, with which the currency is closely linked.

Financing looms as the most obvious potential pitfall for both the Lithium and Titanium projects. While an element of financing outlook is dependent upon price, this can be obviated in some circumstances with financing supported by an offtaker. That shall be the main challenge for the Lithium project, as the first mover, over the coming twelve months.

Conclusion

The narrowing down of Reed's portfolio to its key components is now at hand. Rightly the company has cast aside its gold digression and returned to its focus in large-deposit specialty metals, Lithium, Titanium and Vanadium with its exploration efforts concentrated on the revived Nickel space.

Lithium has gone through various morphings in recent years. Firstly it was "hot" and mysterious, a swathe of names appeared to cultivate the trend, and then it was pushed off the front page by the Rare Earths boom with the collateral benefit that not so many investors lost their shirts in Lithium. Thus there is less of a bad aftertaste. Now the field has become clearer with most players having disappeared and a smaller more serious group soldiering on towards production. This Darwinian process means that at least there is less of a crush of players and almost all are serious in their intent. Reed was around before the boom and is still here after and the price of lithium has begun an uptrend and Reed is positioned to ride it.

To avoid capital risk in the Lithium venture Reed is taking an approach of stacking JV upon JV and laying off exposure onto partners and largely obtaining for itself a free carry on the project. Thus far it has had no capex expense for the project as that all falls on the JV partner in exchange for a share of EBIT. When compared to the mind-boggling multi-hundreds of millions of dollars budgets for the TSX-listed spodumene pretenders, it is "no-contest".

The Titanium-Vanadium project is primed for a financing push should the pricing planets align in those particular metals. Nickel is a longer fuse but has the current impetus of the Indonesian induced squeeze.

Reed's current market cap is a substantial discount to the cash holdings alone. The market, at the current valuation, gives no value at all to the lithium project let alone the bundle of advanced and/or highly prospective assets that Reed has on hand. This is clearly an anomaly that will be corrected by an upward move in the share price now that the gold industry baggage has been jettisoned and the focus has swung to Lithium in the first instance. The experience of Talison and RB Energy shows the massive share price uplift that occurs in Lithium projects once they hit the path to production.

We regard Reed Resources at current levels as a **Long** call and our twelve-month target price of \$0.17.

Tuesday, July 8, 2014



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. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Hallgarten's Equity Research rating system consists of LONG, SHORT and NEUTRAL recommendations. LONG suggests capital appreciation to our target price during the next twelve months, while SHORT suggests capital depreciation to our target price during the next twelve months. NEUTRAL denotes a stock that is not likely to provide outstanding performance in either direction during the next twelve months, or it is a stock that we do not wish to place a rating on at the present time. Information contained herein is based on sources that we believe to be reliable, but we do not guarantee their accuracy. Prices and opinions concerning the composition of market sectors included in this report reflect the judgments of this date and are subject to change without notice. This report is for information purposes only and is not intended as an offer to sell or as a solicitation to buy securities.

Hallgarten & Company or persons associated do not own securities of the securities described herein and may not make purchases or sales within one month, before or after, the publication of this report. Hallgarten policy does not permit any analyst to own shares in any company that he/she covers. Additional information is available upon request.

Hallgarten & Company acts as a strategic consultant to Reed Resources and as such is compensated for those services, but does not hold any stock in the company nor has the right to hold any stock in the future.

© 2014 Hallgarten & Company, LLC. All rights reserved.

Reprints of Hallgarten reports are prohibited without permission.

Web access at:

Research: www.hallgartenco.com

60 Madison Ave, 6th Floor, New York, NY, 10010