### WEEKLY RESOURCE REPORT by Gavin Wendt



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#### Week in Review

When the Federal Reserve raised interest rates in December, the first hike in nearly a decade, many experts thought it to be *gold's* final curtain call. Yet fast forward to this past week. The metal broke the \$1,300-an-ounce barrier for the first time since January 2015 and then we had weaker-than-expected U.S. April employment data helping to boost gold prices while pressuring the U.S. dollar.

Not everyone was ready for the big payrolls miss. Goldman Sachs on Thursday put out a strongly aboveconsensus estimate of 240,000 – the same gold perma-bear Goldmans that back in February 2016 also forecast the 12-month price of gold to be around \$1,000 per ounce. Gold has risen 21.9% since the year began and managed a 5.8% increase during the month of April.



And last week's rate cut has seen the Aussie dollar gold price soar past A\$1,750 and towards A\$1,800/oz.

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This is above gold's previous all-time high of around \$A1,730 reached in 2011, a time when the U.S. price hit \$US1,900/oz but the Australian dollar was trading around \$US1.10.

Meanwhile, long-time resources journo Barry Fitzgerald hit the nail on the head in his regular Monday column in *The Australian* with respect to *ASIC's* latest bout of over-regulation as applied to the resources sector. "Life has been hard enough in the last couple of years for the cash-strapped junior exploration sector without the corporate plod getting in the way. But that's just what the Australian Securities & Investments Commission has done with the release last month of an overly prescriptive interpretation of the rules on forward-looking statements."

Quite simply, companies won't be able to automatically release the results of Scoping Studies to the market. "Unless you have reasonable grounds for making statements about scoping studies or preliminary results, these should not be disclosed. The Corporations Act prohibits disclosure of misleading statements — that is, statements without reasonable grounds."

ASIC wants Scoping Studies based on mineable reserves, not lower-level resource estimates, but this of course ignores the reality that a Scoping Study is an early-stage tool that helps determines whether a project is worth pursuing. Projects at this stage simply won't have identified reserves, because companies won't get to that point unless the numbers stack up. A classic case of putting the cart in front of the nag.

It's therefore ironic that resource companies continue to get saddled with more and more regulatory hoops that in reality offer little extra protection for investors and in fact take away from them the means to make well-informed decisions. At the same time gamblers can lose tens or hundreds of thousands of dollars at pokies, casinos, clubs and all the other myriad forms of gambling that are available – destroying marriages, lives and families and along the way – yet the all the gambling industry has to do to remain in business is proffer a two-word disclaimer, "Gamble Responsibly."

The government of Luxembourg is moving forward with an ambitious plan to profit from *asteroid mining* by signing a deal with two US space research companies that will be conducting missions to prospect for water and minerals in outer space. The tiny European country, which has been studying possible involvement in the sector since 2013, announced in February it was officially joining the race to develop a space mining industry.

The nation, which aims to become a global centre for asteroid mining, has signed a deal with Californiabased Deep Space Industries to develop Prospector-X, a small and experimental spacecraft to be built in Luxembourg, which will test technologies for prospecting and mining near Earth asteroids after 2020.

The government is also in the final stages of negotiations with another US group, Planetary Resources, a pioneer in the field whose shareholders include known names such as Google's CEO Larry Page & Executive Chairman Eric Schmidt, Virgin founder Richard Branson and several other Silicon Valley-based entrepreneurs.

### Antipa Minerals (AZY) – Current Portfolio Stock (Bt @ \$0.024)

The company boasts a sizeable gold-copper resource at its advanced Citadel project in WA's Pilbara region, where Rio Tinto is farming-in and can fund exploration activity worth up to \$60 million.

Corporate Details Status: Advanced Explorer Size: Gold Commodity Exposure: Alumina Share Price: \$0.026 12-month Range: \$0.004 - \$0.028 Shares: 661m, Options: 284m Top 20: 39% Net Cash: \$1.6m Market Value: \$17m



Key Parameters	Rating (✓ out of 5)	Quarterly Statistics	
Management Quality	$\checkmark\checkmark\checkmark\checkmark\checkmark$	Q1 2016 Expl'n & Dev't Spend: \$0.403m	
Financial Security	$\checkmark \checkmark \checkmark \checkmark \checkmark$	Q1 2016 Administration Spend: \$0.196m	
Project Quality	$\checkmark$ $\checkmark$ $\checkmark$ $\checkmark$	Exploration Spend 67%, Admin Spend 33%	
Exploration / Resource Potential	$\checkmark \checkmark \checkmark \checkmark \checkmark$	Q2 2016 Forecast Exploration Spend: \$0.792m	
Project Risk	$\checkmark \checkmark \checkmark \checkmark$	Q2 2016 Forecast Admin. Spend: \$0.237m	

Antipa Minerals has a strategy of identifying under-explored mineral projects in mineral provinces that offer the potential to host world-class mineral deposits, thereby offering high-leverage exploration potential. Accordingly, the company maintains several packages of prospective tenements within the Proterozoic-age Paterson Province of Western Australia. Rio Tinto can fund up to \$60 million of exploration expenditure to earn up to a 75% interest in Antipa's Citadel Project.

The Citadel Project is the company's most advanced project, comprising a 1,111 sq km package of prospective granted tenements (and a further related 225 sq km of tenement applications) known as. The project lies 75km north of Newcrest's giant Telfer gold-copper-silver mine and includes the gold-copper-silver±tungsten Mineral Resources at the Calibre and Magnum deposits - for a combined 1.2 million ounces of gold and 139,000 tonnes of copper, with mineralisation open at both deposits.

The other significant project at present is the North Telfer Project, which extends from the southern boundary of the Citadel Project to within 20km of the Telfer mine and 30km of the O'Callaghans tungsten and base metal deposit. The North Telfer Project hosts a number of historically-defined gold ± copper prospects, including immediate drilling targets at the high-grade Minyari deposit, WACA deposit and Judes prospects. Work at Minyari is set to commence this month.

### Latest Activity

### Minyari Project Update

The company's Minyari deposit Phase 1 RC drilling program is scheduled to commence over the coming weeks.

The main objectives of the program are to investigate potential extensions to the limits of the current Minyari gold-copper mineralisation over a total strike length of approximately 450 metres from near-surface to vertical depths of up to 240 metres, whilst potentially identifying further regions of high-grade gold-copper mineralisation.

The Phase 1 RC program will involve the completion of between 60 to 70 RC drill-holes for up to 10,000 metres of drilling and comprise:

- a. Strike-Test Including Extensions: RC drilling along a 450m strike length of the Minyari deposit on 50metre north-south spaced cross-sections, including extensional drilling 100 metres to the south and 150 metres to the north of the mineralisation in regions of limited/no drilling or ineffective drilling.
- **b.** Oxide Mineralisation Extensions: Test for high-grade gold-copper oxide mineralisation, including updip to the east to depths of between 5 metres to 60 metres vertically below the surface beneath shallow cover.
- **c.** Primary Mineralisation Extensions: Test for high-grade gold-copper primary mineralisation beneath the oxide mineralisation, up-dip to the east and down-dip to the west to depths of between 60 metres to 240 metres vertically below the surface.
- d. Induced Polarisation 'Extensional' Targets: Four to six RC drill-holes testing Induced Polarisation (IP) chargeability anomalies approximately 300 metres south and 150 metres north of the main region of Phase 1 RC drilling, extending the total strike length investigated by the Phase 1 RC drilling program to 900 metres.
- e. Verification Drilling: Approximately seven RC 'verification' drill-holes aimed at validating a selection of the circa 1980's Minyari drill-hole intersections.
- f. Metallurgical Sample Collection: Sample material for the completion of preliminary Minyari metallurgical test-work will be obtained from a selection (i.e. oxide, transitional and primary zones) of the Phase 1 RC drill-holes, historic drill-core and also the existing large costean.

### **Technical Significance**

The Phase 1 Minyari RC program is expected to be completed during July, with final laboratory assays to be received within two months. The company will then review the results with the aim of carrying out followup activity necessary in order to potentially advance the project towards Scoping Study status. Antipa anticipates being able to announce the results of such a review and commence any Phase 2 exploration program activities during Q4 2016.

Antipa has also received funding approval for \$147,000 from the Western Australian Government's Exploration Incentive Scheme (EIS) for exploration at Minyari. The government funding relates to 2016 exploration activities at the Minyari deposit and contemplates the completion of an 11-hole RC drilling program for up to approximately 3,000 metres, to be 50% EIS co-funded. This will form part of the Phase 1 Minyari RC drilling program.



Figure 1: Antipa's Paterson Province Projects identifying major deposits and mines (20km GDA94 / MGA Zone 51 grid and 10km radial zones centred on Minyari).

### Minyari and WACA Data Review

Back in February, Antipa announced the completion of a review of its just-acquired 100%-owned Minyari and WACA tenements, revealing significant high-grade gold (with copper) mineralization, along with strong exploration upside.

Some of the best intercepts from prior drilling include:

- Diamond hole MHC086-3 38.0 metres at 4.47 g/t gold and 0.05% copper from 88.0 metres downhole
- RC hole MHR065-7 35.5 metres at 3.16 g/t gold and 0.56% copper from 9.0 metres down-hole.

Antipa's share price was up 40% during trade at the time we wrote our Antipa note on 8<sup>th</sup> February, on the back of this particular news release.

#### Minyari Dome Consolidation

During Q4 2015, Antipa amalgamated the Minyari Dome (which includes the Minyari and WACA deposits) into its 100%-owned North Telfer Project. Since then it has been reviewing existing drilling and geophysical exploration data relating to the Minyari Dome.

The Minyari deposit has been drilled along 250 to 300 metres of strike and 160 metres across strike and is currently open in all directions. Meanwhile, the WACA deposit by comparison has received only very limited drilling along 430 metres of strike and is open in several directions.

There is potential for strong exploration upside, as only six drill-holes have been drilled deeper than 140 metres below the surface at the Minyari and WACA deposits – yet all have intersected significant high-grade mineralisation.

Both deposits are situated close to surface (mineralization commonly commences from just 1 metre to 10 metres below surface) and are therefore potentially open-pittable. Both deposits are also close to infrastructure, with Newcrest's Telfer mine situated just 40km away.

This is the first time in more than 20 years that the Minyari Dome region has been consolidated into the hands of one owner - and when combined with the results of the existing exploration data - the company believes it has acquired an extremely valuable 'brownfields' exploration asset that could provide it with its best near-term development opportunity.

#### **Rio Tinto Farm-in**

Antipa in October 2015 announced a hugely significant farm-in agreement with Rio Tinto Exploration, whereby Rio can invest up to \$60 million on exploration over 10 years in order to earn up to a 75% stake in Antipa's Citadel gold and copper project in Western Australia.

As part of the initial Stage I \$3 million expenditure commitment that's due within 18 months, Rio Tinto plans to complete follow-up Phase II RC drilling at the Calibre project during the calendar year. The program will involve the completion of up to 30 RC drill-holes for around 5,000 metres over three stages, with the aim of extending the limits of the North Calibre gold-copper mineralisation to a total strike length of between 1.6km and 3.9km.

In order to proceed to Stage II, Rio Tinto will be required to fund a further \$8 million in exploration expenditure on the tenements within three years in order to earn a 51% interest. Upon Rio Tinto earning a 51% interest in the Citadel project, the companies will become parties to a joint venture agreement.

Rio Tinto can fund a further \$14 million in exploration expenditure within three years to earn a 65% joint venture interest if it plans to proceed to Stage III. By funding a further \$35 million during Stage IV, Rio Tinto can earn a 75% joint venture interest.

The significance of the Rio Tinto farm-in deal is obvious. Aside from the credibility of having a world-class project partner in the form of Rio Tinto and the potential for tens of millions of dollars in project spending, the deal provides near-term certainty for investors. It also enhances the prospects for the potential development of a successful mining operation within the Citadel project area. Rio is only interested in Tier One assets, so this is a strong reflection of the potential of Citadel.

By this I mean that shareholders are guaranteed that at least \$3 million worth of focused RC drilling will be undertaken, ensuring both activity and potential for share price appreciation. This is something that most exploration companies lack in the current market environment.

### **Project Overview**

The company's Citadel and North Telfer projects are located within the Paterson Province in northwest Western Australia, 400 km east of Port Headland. The Paterson Province is considered to be highly prospective, but grossly underexplored. It hosts several world-class mineral deposits situated within 150 km of Antipa's Citadel and North Telfer projects – with the most prolific including Australia's third-largest producing gold-copper mine - Newcrest's Telfer operation, as well as Aditya Birla's Nifty copper mine.

The company's 1,111 sq km Citadel project is located approximately 100km north of Newcrest's giant Telfer gold, copper and silver mine and includes the drill defined gold, copper, silver +/- tungsten Calibre and Magnum deposits and a combined Mineral Resources of 1.2 million ounces of gold and 139,000 tonnes of copper, which are open in all directions.

- Calibre deposit JORC Code (2012 Edition) Inferred Mineral Resource of 47.8 million tonnes at 0.56 g/t Au, 0.17% Cu, 0.60 g/t Ag and 0.03% W for 867,000 oz gold, 80,800 tonnes of copper, 918,000 ounces of silver and 14,200 tonnes of tungsten.
- Magnum deposit JORC Code (2012 Edition) Inferred Mineral Resource of 16.1 million tonnes at 0.66 g/t Au, 0.36% Cu and 0.99 g/t Ag for 339,000 oz gold, 57,800 tonnes of copper and 511,000 ounces of silver.

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Around 85% of the prospective Paterson Province Proterozoic stratigraphy is concealed beneath younger transported rocks. The Citadel and North Telfer projects are covered by between 20 metres and 100 metres of transported sediments, masking an extensive area prospective for a range of world-class mineral deposit styles.

Under the terms of Farm-in and Joint Venture agreements, announced in October 2015, Rio Tinto can fund up to \$60 million of exploration expenditure to earn up to a 75% interest in Antipa's Citadel Project.

Located less than 4km north-northwest of Magnum, Corker was an Antipa greenfields 2012 highgrade silver-lead-zinc-copper-gold±W discovery based on a 2011 VTEM helicopter electromagnetic survey bulls-eye late-time EM conductivity anomaly. Corker contains relatively shallow-dipping strata-bound polymetallic mineralisation, with mineralisation thickening to the north and west which extends for +300 metres by 150 metres and is open in all directions. Continued exploration success could lead to a high-grade underground development opportunity.

The company's North Telfer Project covers an additional 1,311 sq km of prospective granted exploration licences located approximately 20km north of the Telfer mine. Its Paterson and Telfer Dome Projects cover an additional combined 1,631 sq km of prospective granted exploration licences and 80 sq km of exploration licence applications located as close as 5km from the Telfer mine.

#### Summary

We introduced Antipa Minerals to our Portfolio around \$0.024 during October 2015 and the company remains an intriguing investment proposition with seemingly enormous 'blue sky'.

Antipa's share price has firmed spectacularly from a 12-month low of \$0.004 to a recent high of \$0.028. This is largely as a result of the recent Rio farm-in deal and anticipation surrounding exploration activity – both in terms of the JV and also work sole-funded by Antipa, such as at Minyari. The JV with Rio is a major breakthrough for Antipa and reflects the underlying resource potential of the Citadel project, which lies just 75km north of Newcrest's Telfer gold-copper-silver deposit. The upcoming drilling program at Minyari is of strong market interest, as the project is situated just 40km away from Telfer's infrastructure.

The company is well advanced in terms of its exploration status, boasting a sizeable existing 1.6M gold-eq oz JORC-compliant resource. There's little doubt the resource will continue to grow, so it now becomes a question of scale, grades, potential development economics. The Rio farm-in deal provides near-term funding certainty and also ensures active exploration, whilst the Minyari – WACA data review provides further growth potential.

With Minyari drilling commencing for the first time under Antipa's control, investor interest should continue to build ahead of the commencement of work during May. Accordingly, Antipa Minerals will remain firmly held within our Portfolio.

### Matsa Resources (MAT) – Current Portfolio Stock (Bt @ \$0.16)

A diversified exploration company that's generating interest on various fronts – including multiple prospective gold and nickel exploration opportunities within Western Australia and copper in Thailand.



Status: Advanced Explorer Size: Small Cap Commodities: Nickel & Copper Share Price: \$0.155 12-month Range: \$0.125 - \$0.30 Shares: 144m, Options: 8m Top 20: 52% Net Cash & Liquids: \$9m Market Value: \$22m



Key Parameters	Rating (✓ out of 5)	Quarterly Statistics	
Management Quality	$\checkmark \checkmark \checkmark \checkmark \checkmark$	Q1 2016 Exploration Spend: \$0.842m	
Financial Security	$\checkmark \checkmark \checkmark \checkmark \checkmark$	Q1 2016 Administration Spend: \$0.556m	
Project Quality	$\checkmark \checkmark \checkmark \checkmark \checkmark$	Exploration Spend 60%, Admin Spend 40%	
Exploration / Resource Potential	$\checkmark \checkmark \checkmark \checkmark \checkmark$	Q2 2016 Forecast Exploration Spend: \$0.516	
Project Risk	$\checkmark$	Q2 2016 Forecast Admin Spend: \$0.482m	

Matsa Resources is a diverse exploration company, with interests in a range of exploration plays within Western Australia and Thailand that are at varying levels of advancement - encompassing nickel, gold and copper. The company boasts a well-credentialed exploration team that's led by an experienced and energetic Managing Director, Paul Poli, whilst also being cashed-up for exploration via a recent asset sale that's left it with around \$9 million in cash and liquid investments.

One of the most interesting projects from a market perspective is the Killaloe project, which is located 35km northeast of Norseman within the Kambalda domain of the Yilgarn Craton. The project lies adjacent and just south of S2 Resources' (ASX: S2R) Polar Bear gold project, where a new corridor has been defined that includes new gold discoveries at Baloo, Monsoon and Nanook – discovered by the same enormously successful exploration team that made the Nova-Bollinger sulphide nickel discoveries.

Elsewhere, Matsa has recommenced exploration activity in recent weeks on a number of fronts within both Western Australia and Thailand. Previous drilling at Killaloe by Matsa and others has mostly taken the form of shallow RAB drilling with only very limited shallow RC drilling. Matsa has undertaken a review of all past gold exploration at Killaloe with a view to identifying high priority targets for immediate IP surveys and follow-up drilling. Work is also underway at Mt Day and Dunnsville in WA and Paisali in Thailand.

### **Recent Activity**

### Announcement Detail – Exploration Update

Matsa has over recent weeks provided updates with respect to various exploration projects within its portfolio, where there is significant activity on the go. I have covered these four major project developments in the following coverage in what I would approximate to be their order of potential market significance.

#### 1. Gold Potential Highlighted at Killaloe

Matsa has advised that the high-grade gold intersection announced recently by S2 Resources (ASX: S2R) at its Monsoon prospect has had the effect of also highlighting the gold potential within Matsa's Killaloe project. A corridor as illustrated by S2R can be seen to include the new gold discoveries at Baloo, Monsoon and Nanook within S2R's Polar Bear project.



It can be also seen that the corridor can be extended to the SE over a distance of ~20km into the Killaloe project area, thereby highlighting extensive soil gold anomalism and some very interesting shallow gold intersections in previous drilling including 2 metres @ 6 g/t in hole KRC023 at the Cashel prospect. Past drilling for gold at Killaloe by Matsa and others has mostly taken the form of shallow RAB drilling with only

very limited shallow RC drilling. Matsa has undertaken a review of all past gold exploration at Killaloe with a view to identifying high priority targets for immediate IP surveys and follow-up drilling.

### 2. Ground EM Survey Commences Mt Day Nickel Project

Matsa has announced the commencement of a ground EM survey at its 100%-owned Mt Day nickel project located 25km NW of Poseidon's Emily Anne and Maggie Hayes nickel mines near Forrestania.



A detailed review of past exploration data over the Mt Day project has identified significant untested nickel potential within this highly prospective greenstone belt, including a number of shallow drill intersections in weathered ultramafic rocks containing significant nickel values up to 1.51% Ni with supporting copper values up to 0.17%Cu.

The target area is located in the southernmost of the two blocks, making up Matsa's E63/1710. The planned EM survey is intended to cover the southern end of an 8km long belt of komatiite lavas in interpreted early-stage fold closures, which Matsa believes to be a structurally favourable location for nickel mineralisation in the Maggie Hays area.

The prospective belt of komatiite lavas coincides with a high-amplitude NS trending magnetic anomaly which can be seen in aeromagnetic data. Only the northern part of this komatiite unit has been previously explored by ground EM surveys and the presence of komatiite lavas was confirmed by mostly shallow air-core drill holes. Matsa has commenced the first of 5 planned lines for a planned ~12.5 line-kilometre moving

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loop EM (MLEM) survey over two areas which have received minimal exploration to date and follow up EM surveys may be carried out to better define any targets which are identified by this survey.

### 3. RC Drilling Commences at Dunnsville Gold Project

Matsa has announced having commenced RC drilling at its Dunnsville gold project, with drilling planned to test the large (2.7km x 0.93km) well-defined Big Red gold target and associated underlying magnetic anomaly.



Matsa discovered gold mineralisation at the Big Red prospect during 2009. The prospect is located 48km NW of Coolgardie and 70km NW of Kalgoorlie within the Bullabulling Terrane of the Eastern Goldfields. It is located within EL's 16/294 and 16/390, which form part of Matsa's wholly owned Dunnsville gold project. Big Red is located in an area with up to 50 metres of cover comprising colluvium and weathered basement, with only minimal surface exposures.

Previous RAB drilling by Matsa at Big Red obtained a number of significant narrow gold intercepts at shallow depth, which included 1 metre @7.85 g/t Au and 1 metre @ 6.33 g/t Au. Best gold assays from diamond drilling include 1.1 metre @ 2.56 g/t Au and 3.6 metres @ 0.89 g/t Au in 2011/2012. 3D inversion modelling of detailed aeromagnetic data has shown that the magnetic anomaly which is located beneath the Big Red gold anomaly remains untested by existing drill-holes.

The current program of drilling seeks to test the concept that mineralisation improves below the depth of current drilling and that the very large soil anomaly is indicative of significant gold mineralisation. The first of 10 planned RC drill holes to a nominal 250 metres depth has commenced at Big Red in order to test structural targets within the magnetic body that underlies the soil gold anomaly. The RC drilling will target

structurally controlled vein-hosted gold mineralisation within and close to the magnetic body, which underlies and coincides with the outline of the gold anomaly at surface.

### 4. New Copper Target in Thailand

Matsa has provided an update on exploration activities at its Paisali base metals project in Central Thailand, where a new target has been located within the Nakhon Sawan province, 50km from Matsa's previously announced Siam 1 and Siam 2 targets (in the province of Petchabun).

Results have been received for 60 follow-up auger soil samples in an area where Matsa had previously detected highly-anomalous copper values of up to 795ppm Cu within widely-spaced reconnaissance soil samples. Auger soil samples have defined a broad ~1km x 1.8km soil-copper anomaly (Chang 1), with values of up to 1100ppm Cu, which remains open to the west and south.

While underlying bedrock is mostly concealed by soil cover, field observations were made of sparse exposures of deeply weathered diorite in shallow (<5 metres depth) excavations.

Matsa has commenced planning an IP survey that will be carried out as soon as possible, as a means to focus drilling on targets interpreted to be copper sulphide mineralisation. Further sampling has commenced over and adjacent to Chang 1 in order to close-off the soil copper anomaly and to potentially detect additional mineralisation nearby. All provincial government and local government authorities have provided written consent for exploration to proceed.

### Symons Hill Project

The Symons Hill Project is located within Matsa's 100%-owned E69/3070, encompassing an area of 96 sq km. The project is located within the Fraser Range Tectonic zone, 6km SSW of Independence Group's (ASX: IGO) Nova nickel mine.

Matsa has been actively exploring the project since 2012 - with air-core, RC and diamond drilling confirming the presence of nickel anomalous (0.2 - 0.3% Ni) olivine-bearing gabbro at targets SHG02, SHG03 and SHG11, which exhibit near-surface enrichment in the weathered profile of up to 1.3% Ni. Matsa has entered into a collaborative research project managed by the CSIRO which is intended to integrate geochemical data, drilling data and airborne and ground geophysical data to provide a more complete understanding of geological processes in this highly prospective belt and develop new targets.

### Summary

We introduced Matsa Resources to our Portfolio around \$0.16 during August 2015. Matsa currently holds cash, receivables and liquid assets of approximately \$9M, which puts it in a very sound financial position to maintain relevant funding on all its exploration projects. Interest in the stock seems directly related to its overall level of exploration activity and after a six-month hiatus from late 2015 through to April 2016, interest has once again picked up. The company is one of our favourite exploration exposures and will remain firmly held within our Portfolio.

### Pilbara Minerals (PLS) – Current Portfolio Stock (Bt @ \$0.175)

The nation's largest and most high-profile domestic emerging lithium play, having grown rapidly in size as a direct result of aggressive project evaluation and appraisal activity over the past 12 months.

Corporate Details Status: Emerging Producer Size: Mid Cap Commodity Exposure: Lithium Share Price: \$0.745 12-month Range: \$0.048 - \$0.79 Shares: 1.012b, Options: 41m Top 20: 28% Net Cash: \$12m Market Value: \$754m



Key Parameters	Rating (✓out of 5)	Quarterly Statistics	
Management Quality	$\checkmark \checkmark \checkmark \checkmark \checkmark$	Q1 2016 Expl'n & Dev't Spend: \$2.664m	
Financial Security	$\checkmark\checkmark\checkmark\checkmark\checkmark$	Q1 2016 Administration Spend: \$0.662m	
Project Quality	$\checkmark$	Exploration Spend 80%, Admin Spend 20%	
Exploration / Resource Potential	$\checkmark \checkmark \checkmark \checkmark \checkmark$	Q2 2016 F'cast Expl'n & Dev't Spend: \$3.9m	
Project Risk	$\checkmark \checkmark \checkmark \checkmark \checkmark$	Q2 2016 Forecast Admin. Spend: \$0.62m	

Pilbara Minerals is generating strong market interest and share price appreciation as a result of successful exploration, appraisal and pre-production activity on its Western Australian tantalum and lithium resource assets. The company's key attraction is its low-risk exposure to lithium via its Pilgangoora project - a major component in modern high-tech battery applications. Pilgangoora has now been identified as one of the world's largest undeveloped lithium ore deposits and also one of the highest-grade deposits globally.

Pilbara Minerals' share price hit an all-time high during Monday's trade of \$0.79 – a far cry from its low of just \$0.048 a year ago. This extraordinary performance has been driven by the achievement of key project evaluation milestones – most recently a sizeable resource upgrade that confirms Pilgangoora as one of the biggest new lithium ore (spodumene) deposits in the world; the release of the much-anticipated Pre-Feasibility Study (PFS), demonstrating a financially robust project; and the commencement of a full (DFS).

On the back of these key achievements, the company has announced a \$100 million capital raising, which of course represents a huge vote of confidence in the company and its Pilgangoora project, situated in an ultra low-risk jurisdiction. The raising will comprise an \$85 million placement at \$0.38 each to sophisticated investors, along with a \$15 million fully-underwritten Share Purchase Plan (SPP) to existing shareholders. Funds raised will be applied to completion of the DFS and assisting with project development capex.

### Latest Activity

### **Pilgangoora Mineralised Extensions**

Pilbara has reported further outstanding results from ongoing in-fill and extensional drilling at its flagship Pilgangoora lithium-tantalum project, confirming significant extensions of the deposit beyond the current resource boundary. This in turn has enabled the calculation of a substantially upgraded project Exploration Target.

The latest results include thick intersections of spodumene mineralisation along the Central and Western Pegmatites, including highly significant results from two holes (PLS 542 and PLS 546) that confirm the Central Pegmatite extends to the north and remains open along strike and at depth beyond the current Mineral Resource boundary.

Exploration Target <sup>1</sup>	Tonnes (Mt)	Grade Li <sub>2</sub> O %	Grade Ta₂O₅ ppm
Northern Area (including Monster)	40-50	1.2 - 1.5	200 - 250
Central & Southern Area	90-100	1.2 - 1.5	150 - 200
TOTAL	130-150	1.2 - 1.5	175 - 225

### Table 1 – Pilgangoora Tantalum-Lithium Exploration Target<sup>1</sup> on E45/2232 and M45/333

### **Technical Significance**

As a result of this work, the company has upgraded its Exploration Target to 130-150Mt grading 1.2-1.5%  $Li_2O$  and 175-225  $Ta_2O_5$ , compared with the previously published Exploration Target of 100-110Mt at 1.2-1.5%  $Li_2O$  and 175-225  $Ta_2O_5$ .

Due to the success of the current extensional program, an additional 16,000-metre RC drilling program has been approved to start on 10<sup>th</sup> May, with drilling scheduled to continue through to June with a focus on further extensions and improvement in the resource categories. Six RC rigs will be operating from mid-May onwards.

The aim will be delineating the additional mineralisation now identified outside of the current Mineral Resource and Ore Reserve. A significant component of this expanded program will be achieving further upgrades to the Resource classifications, thereby adding value to the project by enhancing the Pilgangoora Reserve inventory and further reducing the final pit's strip-ratios.

So far, 12,524 metres of RC drilling has been completed as part of the current Definitive Feasibility Study (DFS) to in-fill, upgrade and expand the current global Indicated and Inferred Resource and grow the Ore Reserve inventory.

Further assay results have been received from RC drilling targeting the north-west extension of the known mineralisation, within the proposed Central-Western Pit. All of this mineralisation from 7670100mN was previously classified as Inferred and therefore lies outside of the current Ore Reserve. The results from hole PLS542 clearly demonstrate the potential of this zone to add significant resources to the Pilgangoora project.



### Figure 1: Extensional RC Drill Section 7670200mN, EL45/2232

In-fill drilling has also been completed on over the Central and Western Pegmatites within the current pit design. This program is designed to covert a significant portion of the Indicated category in the Resource statement to Measured. Results from a further 16 holes have been received, with assay results continuing to demonstrate excellent continuity, width and grade

### \$100M Capital Raising

The company is undertaking a combined \$100 million capital raising to fund its lithium development activities - comprising firstly an \$85 million placement of 223.68 million ordinary shares at \$0.38 each to sophisticated investors, along with a \$15 million fully-underwritten Share Purchase Plan (SPP) that is being offered to existing shareholders.

The placement shares will be issued via two tranches – the first comprising 142 million shares to raise \$54 million under the company's existing placement capacity – whilst the second tranche will raise \$31 million

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via the issue of 81.68 million shares (subject to shareholder approval). The issue price of the shares under the placement and SPP represents a discount of 9.3% to the 10-day VWAP on the ASX of \$0.419 prior to 5 April 2016.

The scale of the raising represents a very strong vote of confidence of the quality of Pilbara's lithium asset package, its location in a low-risk political jurisdiction and of course the strong growth outlook for lithium.

The proceeds of both the placement and SPP, together with Pilbara's existing cash reserves of \$12 million, will boost Pilbara's cash balance to around \$106 million (after capital raising costs), putting it in a very strong position to advance Pilgangoora through to production status. The Pilgangoora DFS remains on track for completion in August 2016.

### Pilgangoora Pre-Feasibility Study

Pilbara recently announced the completion of the Pre-Feasibility Study (PFS) for its Pilgangoora project. The PFS was completed to a high standard, with the assistance of a group of highly experienced independent consultants and contractors.

The results are outstanding and confirming the project to be on track to become a globally significant new source of lithium concentrates for several decades. The study outlines an extremely robust development with low operating costs, capable of generating exceptional returns.

The PFS includes an initial maiden Ore Reserve for Pilgangoora of 29.5Mt @ 1.31% Li<sub>2</sub>O, 134ppm Ta<sub>2</sub>O<sub>5</sub> and 1.18% Fe<sub>2</sub>O<sub>3</sub>, underpinning a 2Mtpa stand-alone mining and processing operation over an initial 15-year mine life. Encouragingly, there is considerable potential to extend the mine life and/or increase the production rate in the future, via additional pit inventory not currently included in the PFS Ore Reserve.

As we discussed earlier, drilling currently underway is expected to further increase the resource and reserve inventory across the project, most importantly within the existing defined reserve pit limits.

The key financial parameters of the project include forecast pre-production capital expenditure of  $\pm$ \$184 million (including mine pre-strip, 2Mtpa concentrator and all surface infrastructure) and projected annual average EBITDA of A\$103 million annually based on forecast life-of-mine (LOM) pricing - generating a forecast project Net Present Value (NPV10%, post tax) of A\$407 million and IRR of 44%.

These outcomes are based on a conservative life-of-mine average spodumene price of US\$456/tonne CFR (well below the current spot price of approximately US\$600/tonne). An AUD/USD exchange rate of 0.75c has been applied over the LOM.

#### Key PFS Outcomes

 Forecast annual production of approximately 330ktpa of 6% spodumene concentrates (48ktpa of Lithium Carbonate Equivalent or LCE) and 274,000lbs p.a. of tantalite

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- Current Mine Reserve underpins an initial mine life of 15 years with further growth expected from the 15,000-metre drilling campaign currently underway as part of the DFS
- Initial metallurgical test-work confirms ability to produce +6% spodumene concentrates with estimated Lithia (Li<sub>2</sub>O) recovery of 77%; further work is underway to improve flotation recoveries
- Eight product off-take MoU's already signed with leading chemical and technical grade customers for 100% of forecast mine production capacity
- o Development schedule demonstrates plant commissioning from Q4 2017
- Outstanding life-of-mine operating cash costs of only USD\$205/tonne of spodumene concentrate FOB (including by-product credits for Ta<sub>2</sub>O<sub>5</sub> production)
- o EBITDA over the first 5 years of operations of approximately A\$120M annually
- PFS based on life-of-mine average spodumene price of US\$456/t CFR2 current spot price +US\$600/tonne CFR
- o Project payback in approximately 2 years
- Project NPV of A\$407M (10% discount rate, post tax) and IRR of 44% (PFS Reserve basis)
- Project capital estimate of A\$184M (±25%)

The PFS adds significant momentum to the ongoing Definitive Feasibility Study (DFS) for Pilgangoora, which commenced in January and is on track for delivery during Q3 2016. The strong project fundamentals and financial returns are underpinned by a relatively modest capital cost estimate, together with low forecast cash operating costs - which reflects the inclusion of significant tantalite by-product credits. This should ensure that the project will be capable of generating very strong operating margins and cash flows, as well as producing a high-quality product that should be in high demand, based on the high level of interest shown by the company's existing customer base.

### **Project Overview**

Pilgangoora has now been confirmed as the world's second largest lithium deposit - and even more significantly one of the highest-grade deposits globally – with the added advantage of having a significant tantalite component that can help reduce operating costs by providing a valuable by-product credit.

The DFS is being undertaken on the basis of developing a standalone operation at Pilgangoora with an annualised ore throughput rate of 2Mtpa, producing lithium concentrates targeting the glass and ceramics industry and the rapidly growing global lithium-ion battery market. As the Pilgangoora deposit also contains tantalum, the DFS will also encompass production of tantalum concentrates, which will provide a by-product credit that will offset the production costs of the lithium concentrate.

Lithium and its chemical compounds have a wide range of industrial applications resulting in numerous chemical and technical uses. A key growth area is its use in lithium batteries as a power source for a wide range of applications including consumer electronics, power station-domestic-industrial storage, electric vehicles and power tools.



#### <u>Summary</u>

We initially covered and introduced Pilbara Minerals to our Portfolio at a price around \$0.175 during September 2015 - representing a gain of 340% so far.

The company's rapidly growing, high-grade Pilgangoora project provides investors with relatively low-risk exposure (both geopolitically and technically) to lithium. End-users lie within the emerging high-tech battery and energy storage industries, along with a host of other traditional applications. By contrast, the majority of lithium-brine projects are higher-risk due to their location in questionable jurisdictions, particularly South America.

The company's aim is to have Pilgangoora in full production by 2018, positioning it to capitalise on the extremely robust market outlook for lithium. The company's key recent project milestones – comprising a sizeable resource upgrade, PFS completion and \$100m capital raising – put it well on track to achieve its production goal. Accordingly, Pilbara Minerals will remain firmly within our Portfolio.

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