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WEEKLY RESOURCE REPORT by Gavin Wendt

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Sector Review

Gold-studded fungus discovered in Western Australia could help miners hit pay dirt

ABC News reported this week that a fluffy pink fungus that decorates itself with gold nanoparticles has been found in the gold fields of Western Australia. The fungus that's found in soil at Boddington, 130km southeast of Perth, is a strain of the filamentous Fusarium oxysporum, according to a report in this week's Nature Communications. "If you go to a gold-mining area you will find a lot of fungi growing in the soil," author and geomicrobiologist Tsing Bohu of CSIRO said.

Dr Bohu and his colleagues carried out lab experiments and imaging to find what the microbes in the gold-rich Boddington soil were up to. They discovered that this particular fungus produces a chemical called superoxide, which is able to dissolve gold. It is also able to mix this dissolved gold with another chemical to turn it back into solid gold, in the form of tiny nanoparticles. "We observed the precipitation of gold on the surface of the fungus," Dr Bohu said. "There is an underlying biological benefit from this reaction," Dr Bohu said. "We found gold-loving fungi can grow faster and bigger relative to other fungi that don't work with gold." The team's theory is that the gold acts as a catalyst that helps the fungus digest some forms of carbon food.

Dr Bohu said the hope is to use gold-loving fungi as an indicator and help miners narrow down the area where exploratory drilling would be most worthwhile. It is possible that gold could be harvested from the gold-loving fungi and provide a greener approach to gold mining gold. There is also the potential for the use of microbes to mine metals like copper, silver and gold from e-waste or sewage sludge.

Iron ore keeps on surging

Iron ore prices have continued to rally to multi-year highs, with supply disruptions and strong Chinese steel production helping to underpin price gains. Chinese iron ore port inventories fell last week to their lowest level since October 2017.

According to Metal Bulletin, the spot price for benchmark 62% fines reached just over $105 a tonne, its highest level since May 7, 2014. Since late November last year, the price has surged by 65%.

Like the benchmark price, large gains have also been generated in lower and higher grade ore, with 58% fines just above $85 a tonne and 65% ore above $119 a tonne. Both grades also sit at multi-year highs, having jumped 116% and 47% respectively since the end of November 2018.

Supply disruptions in Brazil and soaring steel production in China, both the largest consumer of iron ore and largest producer of steel globally, have helped to fuel price gains over recent months, resulting in a steep decline in Chinese iron ore port inventories. Mirroring the move in spot markets, Dalian iron ore futures have hit their highest level on record.

Turn on the gas, Liveris urges Morrison

Former Dow Chemicals chief executive, Andrew Liveris, says the soaring cost of gas on the east coast is “killing manufacturing” and has lamented Australia’s failure to compete internationally by tapping its vast natural resources.

In an interview with *The Australian*, Mr Liveris, who retired last year after 14 years as chief of the US-based chemicals group that became DowDuPont, said Australia had not been using its natural resources and energy to its advantage. He urged the new Morrison government to make energy policy one of its top priorities. “It is a tragedy that manufacturing in Australia is being hit by high electricity prices when we have abundant energy. It is a situation which should be remedied as fast as possible.”

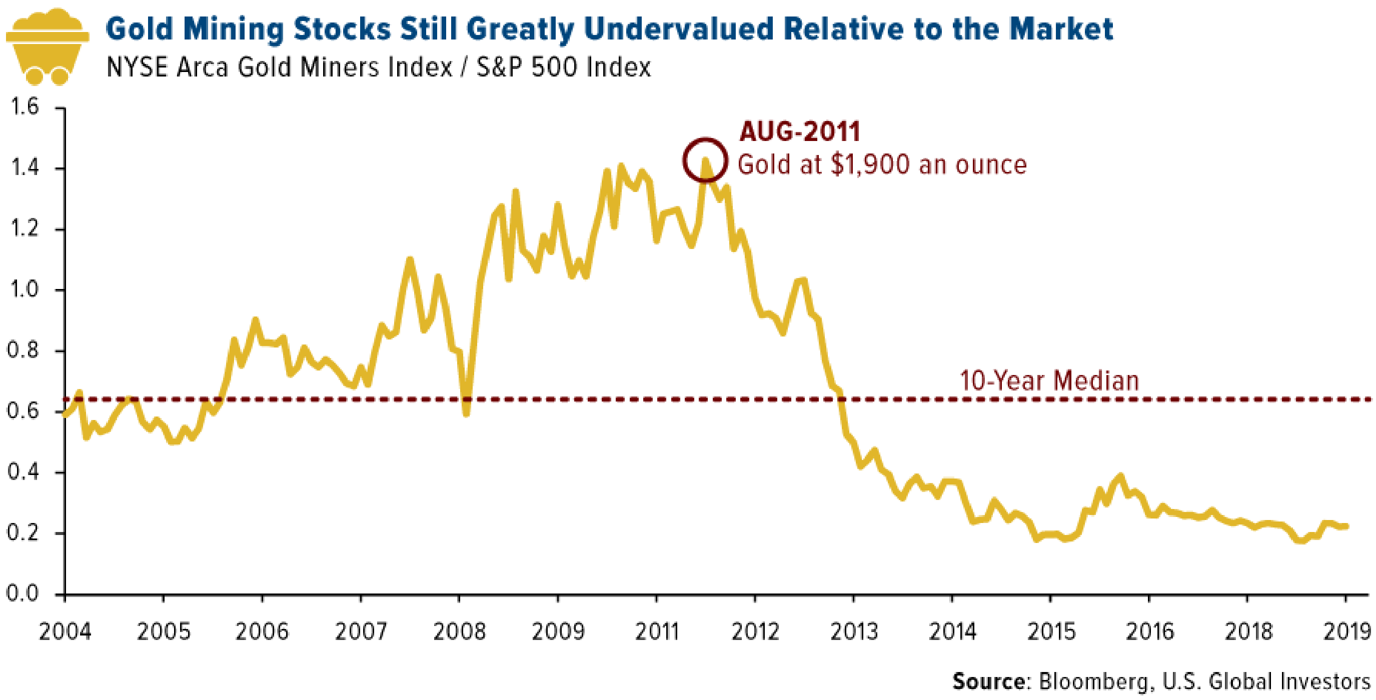
Mr Liveris cited the potential of the Northern Territory’s Beetaloo Basin, some 500km southeast of Darwin, which was “the third-largest shale gas deposit on the planet”. “There is a lot more gas onshore in Australia which could be produced. There is a lot of gas sitting under the ground in Australia onshore (which could be tapped by) working with state governments,” according to Mr Liveris, who is currently advising the Northern Territory government on developing its gas industry.

Mr Liveris called on the federal government to consider a US-style system where natural gas is sold by a range of producers feeding into a central hub. He criticised the current system, where two major companies supply gas to the east coast of Australia using their own pipelines. “It’s a regulated oligopoly,” he said. “What the US does is to build pipelines which everyone can use. Companies can pay a fee, put the gas into the pipeline and send it to a hub — in the US it is called the Henry Hub and people pull the gas from there. “The price is set on a daily basis, depending on how much demand there is.”

Gold miners must focus on returns, mergers to attract investment

Gold miners must focus on maximising returns and more mergers to attract investors seeking to diversify after years of under-investing in mines, Barrick Gold's chief executive told Reuters this week.

"The industry is in decline and we have put ourselves in a very a tight spot because we haven't invested in exploration and our future," said Mark Bristow, who took the helm in January at Barrick after its takeover of Africa's Randgold. "The supply side of our industry is very tight."



Gold miners have for years been accused of eroding profits through expensive deals, but the takeovers of Randgold by Barrick and Goldcorp by Newmont Mining have spurred speculation about a pick-up in long-dormant gold M&A. Bristow said of the recent consolidation "while (it) is important, we have got to become relevant."

"We have to be better we have to be more focused on returns if we going to attract investment around our industry," Bristow told delegates at a conference. "The world has never been more chaotic economically than it is today … people are searching for alternative reserve currencies and gold will play a natural role as it has done."

Gold has recently failed to fully capitalise on its traditional role as a hedge against financial and political uncertainties, with investors betting more on a run in riskier assets such as stocks.

WA resource traffic is flying high

Passenger traffic within Western Australia to resources centres is surging, as the green shoots of a recovery take root. Figures just released by the Bureau of Infrastructure, Transport and Regional Economics for the year ended March 31 show that traffic between Perth and Kalgoorlie was up 15.4%, Newman 8.3%, Port Hedland 7.6% and Karratha 2.2%.

Those numbers are even more significant against the backdrop of a meagre 0.7%increase for national domestic passenger traffic. And for the same 12-month period, Perth Airport recorded an increase of 6.7% of domestic passengers — the highest of the big four domestic airports. Traffic on the Melbourne to Perth route was also up by 3.6%, while Sydney to Perth was flat.

On intra-WA routes, the surge in traffic means that both major airlines will review aircraft sizes and “up-gauge” from 100-seat Fokker 100s and 125-seat Boeing 717s to 174-seat Boeing 737s and A320s depending upon the airline.

Australian gold miners moving into North America

Recent data shows that Australian gold miners are increasingly looking at M&A opportunities in North America, driven by the incentive to purchase reserves and production ounces at a discount to current ASX multiples. Corporate advisory group GTT Ventures has analysed recent ASX-listed gold company transactions that imply a purchase price of US$310 per reserve ounce and US$2,900 per production ounce in North America. These metrics are at a significant discount to current ASX gold company metrics of US$365 per reserve ounce and US$3,875 per production ounce in Australia.

Furthermore, with the A$ gold price at record highs (close to A$1,900/oz), Australian gold miners equity prices are towards the top of their value ranges. Although many of the recent M&A transactions have involved cash, the companies involved have been able to raise equity for a large part of the required funding.

Recent M&A transactions include:

SBM M&A with TSX-listed company Atlantic Gold for US$538M (with Moose River, Nova Scotia reserves of 1.9Moz and current production <100,000ozpa (with growth to +200,000ozpa).

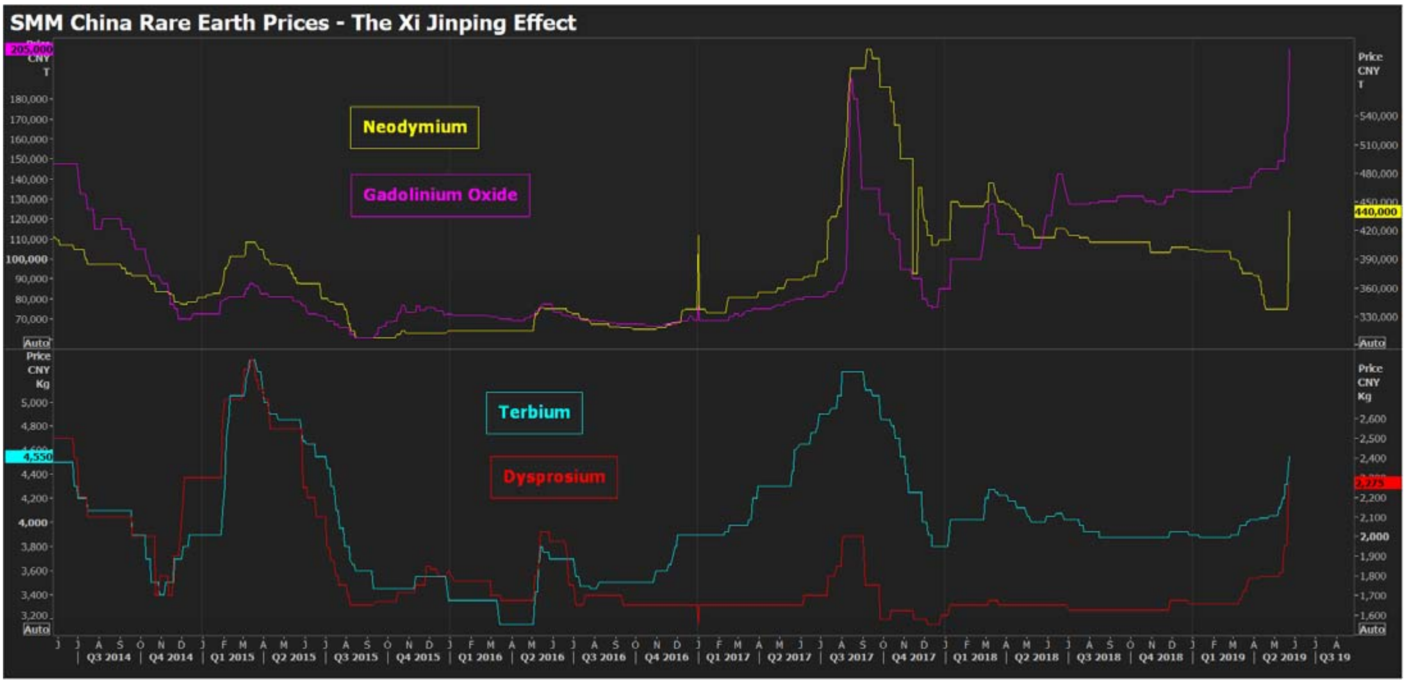
NST acquisition of the Pogo UG mine, Alaska for Japanese metals trading house Sumitomo for US$260M (for reserves of 0.8Moz and current production ~275,000ozpa (with growth to ~300,000ozpa).

NCM acquisition of a 70% interest the Red Chris OC mine, British Columbia from TSX-listed Imperial Metals for US$806M (for resources of 20Moz Au (& 13Bnlbs Cu) and current production ~110,000oz Au_Eqv pa (with growth of OC & UG production to ~250,000oz Au_Eqv pa).

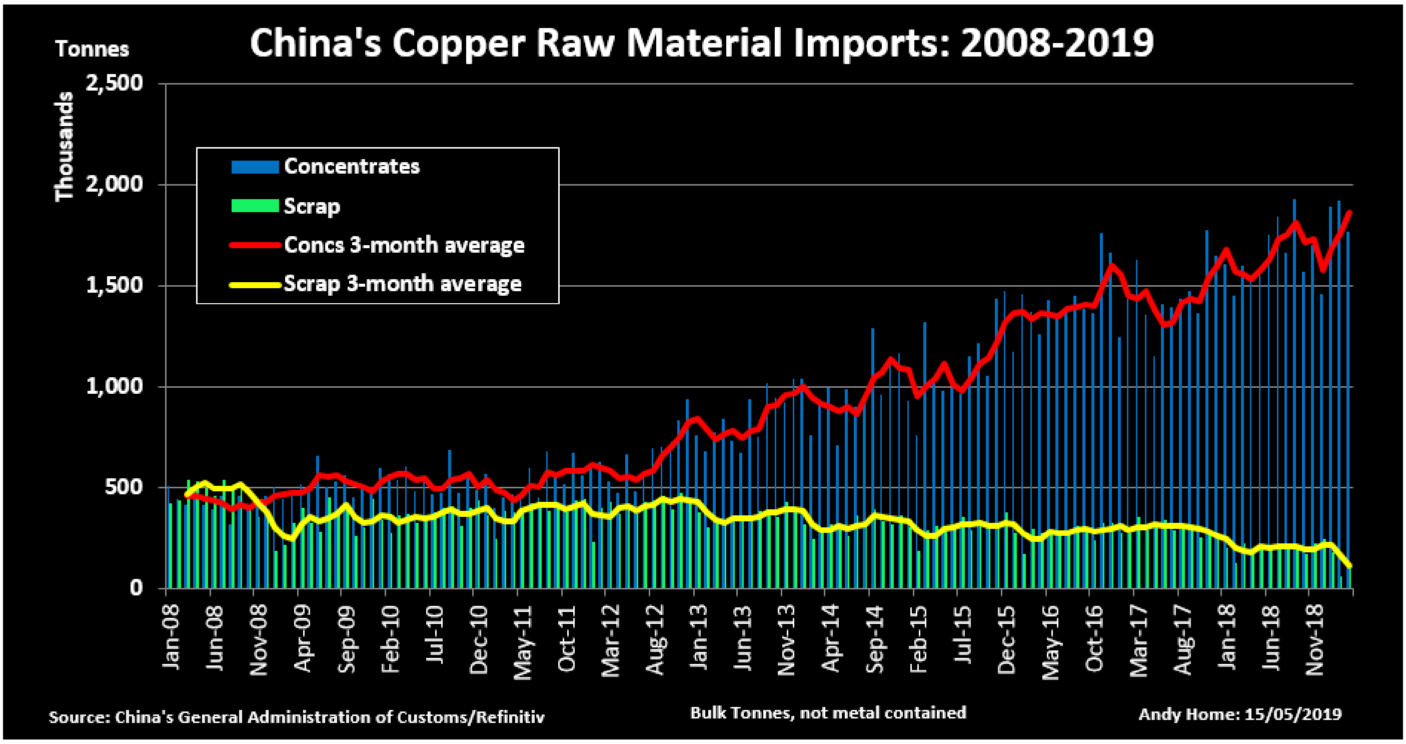
OGC M&A with TSX-listed company Romarco Minerals Inc for US$642M (with Haile, South Carolina reserves of 2.0Moz and production at that time of ~100,000ozpa (with growth to +200,000ozpa).

Charts of the Week

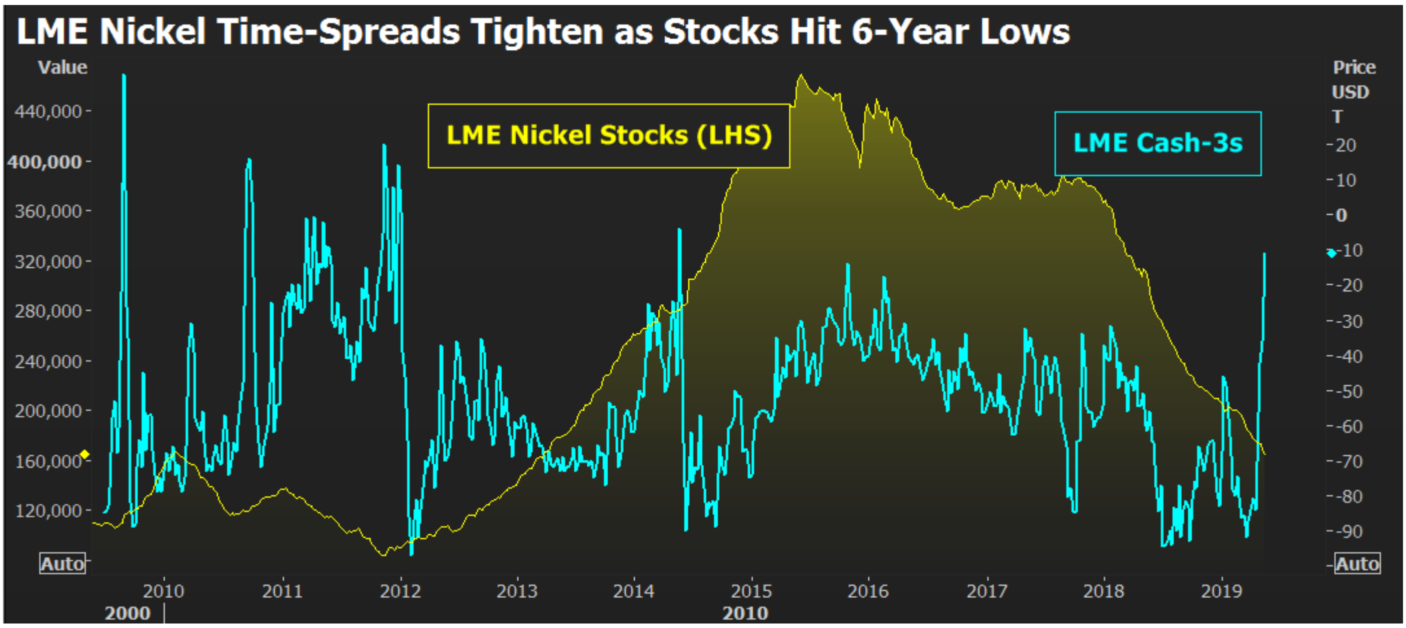
1. Is China about to weaponise its global dominance of rare earths production in an escalation of the trade dispute with the United States? Graphic showing the impact of China's recent rhetoric on prices of key rare earths.



2. A lack of mine supply growth will lead to shortages in the refined copper market both this year and next, according to the International Copper Study Group (ICSG). The group has in fact lifted its 2019 deficit assessment to 189,000 tonnes from a forecast 65,000 tonnes at its last biannual meeting in October 2018. Next year's deficit is expected to be wider at 250,000 tonnes.



3. The London Metal Exchange (LME) nickel market has been gripped by the most acute tightness in a decade. Time-spreads flexed into backwardation as a long-running downtrend in exchange stocks squeezed short position holders. Falling inventory and tighter spreads are normally strong bull signals in a commodity market. And in nickel's case they seem to tally nicely with the International Nickel Study Group's (INSG) forecast that supply will fall short of usage for the fourth successive year in 2019.



Let's now take a look at the three coverage stocks we've reviewed over the past week.

Lake Resources (LKE) – Coverage Initiated @ $0.045 in July 2017

Its Kachi project in Argentina ranks amongst the top 10 global lithium brine resources, comprising a large lithium brine-bearing basin and one of the few salt lakes in Argentina fully controlled by a single owner.

Corporate Details

Status: Advanced Explorer

Size: Small Cap

Commodities: Lithium

Share Price: $0.049

12-month Range: $0.047 - $0.14

Issued Shares: 388m

Top 20: 48%

Net Cash & Liquids: $1.7m

Market Value: $19m

Quarterly Statistics	
Q1 2019 Exploration Spend: $0.990m	Q2 2019 Forecast Exploration Spend: $0.796m
Q1 2019 Admin & Corp Spend: $0.583m	Q2 2019 Forecast Admin Spend: $0.161m
Exploration Spend 63%, Admin Spend 37%	Exploration Spend 83%, Admin Spend 17%

Recent Catalyst

More conductive brines intercepted with higher readings at approximately 186m depth, which compare favourably with publicly-available results from an adjoining major project.

LKE's share price has seen enormous volatility since our coverage initiation around $0.045 during July 2017, at one stage hitting a high of $0.30 in late December 2018. The company's fortunes are representative of unpredictable sentiment within the lithium sector generally, with a somewhat more pragmatic outlook now prevailing in terms of pricing and supply assumptions. Nevertheless, LKE has maintained steady appraisal of its Kachi Project, recently announcing a maiden resource of 4.4 million tonnes lithium carbonate equivalent (LCE), within an exploration target of 8-17 million tonnes LCE (one of the Top 10 largest lithium brine resources globally). While LKE is continuing with resource expansion drilling, it has also kicked off a Pre-feasibility Study (PFS) to examine the project's viability, and has also appointed international engineering firm, Hatch, to provide project engineering and design services.

The Kachi PFS commencement is an important milestone in terms of the project appraisal process. LKE has reviewed various technologies, but considers Lilac as offering a compelling opportunity that will be reviewed in tandem with conventional methods. LKE is already in discussions with a number of parties with respect to production development funding and partnership at its Kachi project that would assist with financing the full feasibility study that is likely to follow on from the PFS.

Bardoc Gold (BDC) – Coverage Initiated @ $0.11 in July 2017

Undergone a major corporate rejuvenation involving board and management changes and aggressive takeover activity that's positioned it to become a mid-tier gold producer in WA's Eastern Goldfields region.

Corporate Details

Status: Emerging Producer

Size: Small Cap

Commodities: Gold

Share Price: $0.064

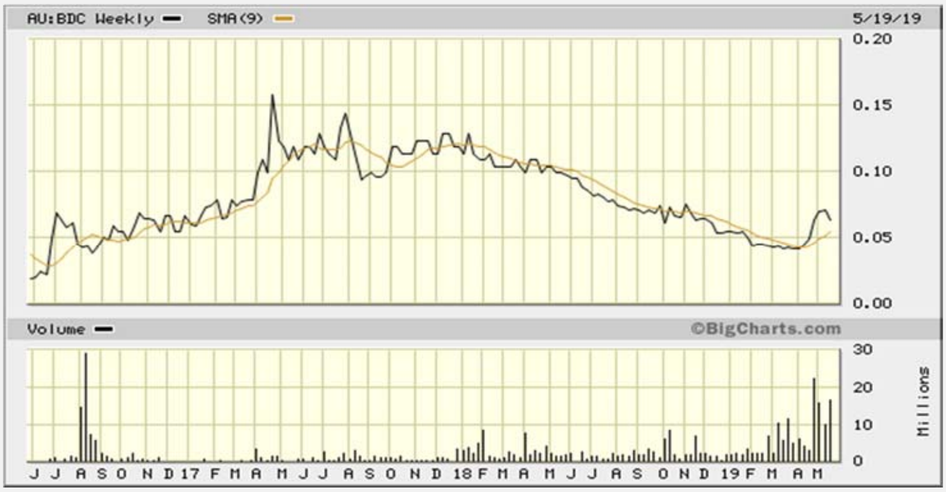
12-month Range: $0.04 - $0.103

Issued Shares: 1.216b

Top 20: 64%

Net Cash & Liquids: $6.7m

Market Value: $78m



Quarterly Statistics	
Q1 2019 Exploration Spend: $1.456m	Q2 2019 Forecast Exploration Spend: $2.679m
Q1 2019 Admin & Corp Spend: $0.527m	Q2 2019 Forecast Admin Spend: $0.394m
Exploration Spend 73%, Admin Spend 37%	*Exploration Spend 87%, Admin Spend 13%*

Recent Catalyst

Purchase of contiguous tenement package in and around the 2.6Moz Bardoc Gold Project in WA, further strengthens BDC's pipeline of exploration and discovery opportunities.

BDC has been part of our coverage universe since mid-2017, with the company undergoing a major corporate rejuvenation following the appointment of former key Pilbara Minerals' (ASX: PLS) executives, Neil Biddle and John Young. BDC has since been at the forefront of consolidation within the WA junior gold sector, implementing separate mergers with formerly-listed Aphrodite Gold and Excelsior Gold, with the aim of becoming a recognised mid-tier Australian gold producer in the Eastern Goldfields region. The company now has the combined asset base, team, corporate backing and shareholder support to fast-track the development of its Bardoc Gold Project into production and cash-flow at a time when both US$ and A$ gold prices are demonstrating resilience. Current activity is focused on upgrading the current 2.6M oz gold resource base, both by extending existing deposits and discovering entirely new ones.

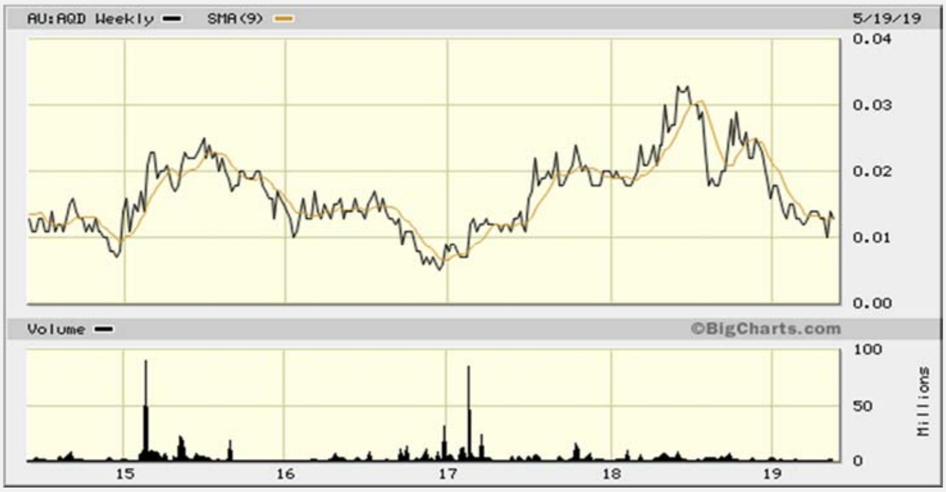
In my opinion there is a clear contradiction between the company's share price performance and the significant amount of energy that has been invested in putting together an Eastern Goldfields growth story. BDC has also undertaken a significant $12M capital raising and has made significant changes to its board and management team, which sees it well placed to assemble a major combined Resource base in WA's Eastern Goldfields region in combination with a centralized processing hub.

AusQuest Limited (AQD) – Coverage Initiated @ $0.017 in Sep 2015

Big-picture explorer with interests in large porphyry copper targets in southern Peru and zinc-nickel-copper in WA, combined with a unique exploration funding arrangement with heavyweight South32 (ASX: S32).

Corporate Details

Status*:* Sophisticated Explorer
Size: Small Cap
Commodities: Base Metals
Share Price: $0.013
12-month Range: $0.01 - $0.038
Issued Shares: 549m
Top 20: 47%
Net Cash & Liquids: $1.8m
Market Value: $7m



Quarterly Statistics	
Q1 2019 Exploration Spend: $0.633m	Q2 2019 Forecast Exploration Spend: $1.2m
Q1 2019 Admin & Corp Spend: $0.210m	Q2 2019 Forecast Admin Spend: $0.15m
Exploration Spend 75%, Admin Spend 25%	*Exploration Spend 88%, Admin Spend 12%*

Key Catalyst

Results awaited from initial two diamond drill-hole program in Western Australia at Yallum Hill Copper Prospect, along with positive review of data from 2018 Peru drilling program.

AQD has remained a mainstay of our coverage universe on the back of its bold exploration ambitions and its success in recruiting 'big brother' joint ventures partners with deep pockets to help fund its exploration activities. AQD's strategy of exclusively targeting Tier 1 exploration discoveries has differentiated it from the vast majority of its junior peers, together with the fact that it seeks to minimize equity dilution via its JV farm-outs. AQD has most recently revitalised the 'big brother' concept via a unique Strategic Alliance Agreement (SAA) with diversified miner South32 (ASX: S32), where AQD has developed a pipeline of high-potential exploration opportunities, with South32 funding all exploration activity. The SAA with South32 represents an exciting opportunity to work alongside one of the world's most successful diversified miners. Importantly, AQD has drilling programs on the go in Western Australia and Peru. The company's recent share price performance (it's dropped from a high of $0.038 reached 12 months ago) is disappointing, considering the high level of exploration activity AQD is continuing to maintain.

We await the release of drill results from the Yallum Hill Copper Prospect in Western Australia, where the company is targeting the potential for Ernest Henry-style mineralisation. It is the first of three Australian projects where drilling is being undertaken over the next few months, thus providing significant news-flow.