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# BREAKAWAY MINING RESEARCH

## DAILY REPORT

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Wednesday 8<sup>th</sup> February 2017\*

*\*prepared based on announcements made by ASX Listed Resource Companies on the preceding day.*

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### OVERNIGHT COMMENTARY

#### Summary

Relatively flat overnight markets. Banks have provided some strength in early trade.

#### Commodity Prices

Prices were generally softer across the board with oil down 3.5% overnight. Workers at Escondida (Chile) have planned to strike on Thursday Escondida produced 6% of copper in 2015.

#### Today's Events

Rio Tinto release full year result with consensus NPAT between US\$4.8b and US\$5.05b. This compares with a loss of US\$866 million in the previous corresponding period with the increase in the iron ore price driving the expected improvement.

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**COMMODITY PRICE MOVEMENTS**

Commodity Prices	Price	Daily Change	Market Movements	Price/Level	Daily Change
<b>Base Metal Prices (US\$/lb)</b>			<b>Broad Market Indices</b>		
Copper	2.62	-1.0%	DJIA	20052.42	0.0%
Lead	1.06	-0.3%	FTSE-100	7189.22	0.2%
Zinc	1.27	0.0%	S&P/ASX 200	5638.20	0.8%
Nickel	4.67	-0.9%	<b>Mining and Energy Indices</b>		
Aluminium	0.82	-0.4%	S&P/ASX 200 Resources	3501.20	0.5%
Tin	8.57	-1.5%	S&P/ASX 300 Metals & Mining	3123.00	1.0%
Cobalt	17.35	1.3%	S&P/ASX 200 Energy	8964.70	-1.0%
Molybdenum	6.76	0.0%	S&P/ASX All-Ordinaries Gold	4790.40	3.0%
<b>Precious Metal Prices (US\$/oz)</b>			<b>Global Mining</b>		
Gold	1231	0.3%	S&P/TSX Global Mining	71.74	0.0%
Silver	17.6	0.0%	<b>Exchange Rates</b>		
Platinum	1005	-0.3%	AUD/USD	0.765	0.0%
<b>Bulks &amp; Oil</b>			USD/EUR	0.935	0.4%
Oil WTI (US\$/bbl)	52.00	-3.5%	USD/ZAR	13.44	1.3%
Thermal coal (US\$/t)	81.30	-1.8%	<b>Overnight snapshot</b>		
Iron ore (US\$/t)	82.50	-1.2%	Sources include Bloomberg, Macquarie, TradingEconomics, S&P, Commsec, Xe.com, marketindex.com, Reuters, Breakaway Research		
<b>Commodity Indices</b>					
CRB Index	192.70	-0.9%			
LME Index	2818.40	-0.6%			
S&P GSCI	2374.37	-1.5%			
Baltic Dry	714.00	-5.1%			

## MARKET REVIEW

### New and Existing Deals & New Tenure Announcements

ASX Code	Company Name	Details
AZS	AZURE MINERALS	Teck Resources (TSX Listed) has provided notice to Azure exercising its right to earn back an ownership interest in the Alacran Ag Project in Mexico. (Teck to earn 51% by sole funding \$US10M)
MAU	MAGNETIC RESOURCES	Have acquired 5 new tenements totaling 82 sq km along the Mertondale Shear, south of the Mertondale Au Project near Leonora WA, increasing the holding in the area to 177sq km.
OGX	ORINOCO GOLD	AngloGold Ashanti (ASX-AGG) will make a \$19M cornerstone investment for 15% of OGX (at 7 cents a share) and will enter into a regional JV over OGX's new Goldfields Project surrounding the Cascavel Mine (0.13M) spending \$US9.5M over 3 years to earn a 70% interest. AGG can also earn 50% in the Cascavel Mine.
RMR	RAM RESOURCES	Have acquired an option to acquire an 8% interest in the advanced Keel Zn Project Ireland, covering 66 sq km of tenure. The project includes 2 main mineralized horizons over 1km in length. There is 10,000m of historical drilling and intersections include 28m @ 8%Zn 0.35%Pb and 32.7g/tAg.
ARE	ARGONAUT RESOURCES	Has farmed into a prospective Cu Ni tenure in the Higginsville area of WA. ARE can earn an 8% interest by spending \$0.5M over 2 years in exploration.

### New Listing

ASX Code	Company Name	Details
ARL	ARDEA RESOURCES	Have listed on Feb 17 with Euroz Securities as Lead Manager

**Production & Emergent Production News**

ASX Code	Company Name	Details
RED	RED 5	Have suffered a significant movement of material from the north wall of the Siana Open Pit Phillipines and the Company is assessing the impact.
EMX	ENERGIA MINERALS	EMX plans to recommence mining and processing operations at the Gorno Zn Project Italy has received community support
MIN	MINERAL RESOURCES	The first shipment of 15,000t of lithium concentrate produced at the Mt Marion Li Project WA has been loaded on a ship at the Port of Kwinana. The project is ramping up to 400,000tpa concentrate at full capacity.

**Resources News**

ASX Code	Company Name	Details
RWD	REWARD MINERALS	Revised in situ SOP Resource estimates at Lake Disappointment WA have been increased to 596Mt SOP and the extracted resource to 153Mt SOP brine at an average grade of 11.35Kg SOP/m <sup>3</sup> brine. Drilling to upgrade the resource to a reserve is underway.
CVS	CERVANTES CORPORATIO	The Maiden Resource at Henry Heath north of Meekatharra is 390kt @ 2.1g/t Au for 27koz Au
SWJ	STONEWALL RESOURCES	Has updated the M&I resource at Reitfontein Au Project South Africa to 720kt @ 10g/t Au for 40koz Au and Inferred Resource of 1.8Mt @ 11.4g/t Au for 672koz Au. A Scoping study is underway to assess the viability of trucking ore from Reitfontein to the TGME Plant

**Drilling News**

ASX Code	Company Name	Details
NZC	NZURI COPPER	Initial drilling at the Fold & Thrust Belt JV (NZC earning up to 98%) has returned 3 intersections highlighted by NZC including 18m @ 1.84% Cu at the Kalongwe Cu Co Project DR Congo.
CXO	CORE EXPLORATION	drilling at Ahoy East Prospect within the Finniss Li Project NT has returned 12m @ 1.33% Li <sub>2</sub> O. Further results pending.
IRC	INTERMIN RESOURCES	Follow up drilling at Jacques Find Prospect 0.5kms S of the Teal Au Mine, 11kms south of Kalgoorlie WA has returned 4 intersections highlighted by IRC including 5m @ 6.9g/t Au from 89mdh.

<b>Drilling News Continued...</b>		
CDV	CARDINAL RESOURCES	Up-dip shallow drilling at the Namdini Au Project Ghana have returned 3 intersections highlighted by CDV including 30m @ 2.2g/t Au, plus strike extension drilling that has returned 52m @ 1.7g/t Au and depth extensions that returned 34m @ 2.5g/t Au. 4 rigs are drilling at Namdini with the current focus on the down dip depth extension.
WSA	WESTERN AREAS	Initial RC drilling at the Neptune Ni Prospect (Cosmos Complex) has intersected 65m of ultramafic hosted disseminated sulphides, including 17m @ 1.3%Ni.
DCN	DACIAN GOLD	385 shallow drill holes at Cameron's Well Syerston Complex Prospect (Mt Morgans Au Project WA) have outlined a gold anomaly 2.6km x 4km. Intersections include 8m @ 1.3g/t Au from 20mdh. A 335 hole AC/RC infill program will commence this week ahead of RC & DD programs next quarter
MZM	MONTEZUMA MINING	Have completed 20 RC hole program (2,000m) at the Yamanak Au Project 20kms along strike from the Gruyere Au Project. Several holes intersected anomalies associated with quartz veining and sulphides. However, the best intersection reported was only 1m @ 1.2g/t from 91mdh.
NXM	NEXUS MINERALS	Results from a 2,425m 22 hole Pinnacle West drilling program include intersections of 6m @ 11.5g/t Au. Drilling was part of a program to provide geotechnical information for an open pit mine.

**Upcoming & Current Drilling Programs**

ASX Code	Company Name	Details
QUR	QUANTUM RESOURCES	Permits have been received to drill at the Thompson Bros Li Project Manitoba Canada and site preparation is expected to be completed by the end of February, ready for drilling immediately thereafter.
PIO	PIONEER RESOURCES	A 1500 hole maiden drilling program is underway at the Mavis Lake Li Project Canada to test for pegmatite targets.
ICG	INCA	Drillers have been engaged for an upcoming Phase 1 DD program of 5,675m (22holes) at the Queza Zn Ag Pb Project in Peru.
AGS	ALLIANCE RESOURCES	Have commenced drilling with Weednanna Prospect (Wilcherry Au JV Project WA) 49%AGS 49% ASX-TYX). The drilling will test the continuity of 3 possible high grade gold mineralisation shoots.

**Other Announcements on Existing Projects**

ASX Code	Company Name	Details
WKT	WALKABOUT RESOURCES	A DFS has been completed for a proposed open pit mine and flotation plant at the Lindi Jumbo Graphite Project SE Tanzania. The estimated up front capex is \$US38.7M and the project cash cost is estimated at \$US292/t FOB. The estimate revenue used was \$US1687/t. The FEED for the project is now being discussed with preferred partners.
VKA	VIKING MINES	Anomalous soil samples and rock chip samples have been returned at the Khao Soon Tungsten Project Thailand. A prospective zone has been identified over 1.3kms and up to 100m wide. Drilling is being planned.
OKU	OKLO RESOURCES	Have completed an 1400 line airborne geophysical survey at Koussala Au Project Western Mali. The results are expected in late February
FAR	FAR LIMITED	Have identified over 1.5Bm of undrilled oil prospective from interpretation of 3D seismic Offshore Senegal. FAR has a 15% interest in 7,500 sq km of tenure with discoveries at FAN-1 SNE wells and subsequent successful appraisal of the SNE Oil Field.

**Financings/Capital Raisings (\$1M)**

ASX Code	Company Name	Details
ORN	ORION GOLD	Proposed annual convertible note issue raising at a face value of 2.6 cents per note to fund the acquisition of 73.3% over the historic Prieska Cu Mine and Marydale Au Cu Project South Africa. In A separate announcement the Company advised that it had received regulatory permission to access underground workings at Preiska

**Investor Relations**

ASX Code	Company Name	Details
SWJ	STONEWALL RESOURCES	Entitled "Reawakening a Giant Goldfield" - SWJ objective is to become one of Sth Africa's lowest cost Au Producers. The Company's assets include the TGME Plant, 62kHa tenure with 43 historical mines and associated infrastructure. The contained resources are 44Moz, with 905koz at the Reitfontein Au Project. A scoping study is in progress at Reitfontein based on a 200ktpa high grade underground mine to be trucked <30kms to the TGME CIL Plant. Studies are also in progress to develop other mines including Beta HardRocks/ PMR also close to the TGME Plant.

<i>Investor Presentations Continued...</i>		
IBG	IRONBANK ZINC	Entitled "Developing the Citronen Zn Project Greenland" - The total resources are 30Mt @ 7.6%Zn + Pb for contained 5.7Mt Zn. A BFS has been completed and a Mining Licence granted. Financing & Engineering works have commenced with a major Chinese Firm.( China Non Ferrous). The mine is predominantly underground room and pillar followed by a flotation plant to produce Zn and Pb concentrates. The project is planned to operate year round with a 3 month shipping window for concentrates due to weather.
STA	STRANDLINE RESOURCES	Entitled "Tanzania focussed emerging heavy mineral sands developer" - STA are developing a HMS project based on palaeo strand lines in coastal areas of Tanzania. A DFS is in progress on the Fungoni Zr Project 39kms from Dar es Salaam. The resource is 16Mt @ 3.1%THM. The HMS assemblage is 22%Zr, 5%Rt & 44% Ilmenite. Planning 2018 production Also undertaking exploration over the broader coastline of Tanzania where the Tanga Project has a resource of 40Mt @ 3%THM comprising 68% Ilmenite, 10% Rutile, 10% Lx and 5% Zr.
AJM	ALTURA MINING	Entitled "Charging ahead with Lithium" - AJM have completed a DFS over its Pilgangoora Lithium Project WA with reserves of 1.8Bt @ 1.2%Li <sub>2</sub> O (resources 39Mt). Mining approvals are expected during Q1 17 & construction of open pit mine is planned to commence in Q2 with commissioning & production planned by Q4 17. LOM of 13 years, producing 90,000t of 6% Li spodumene concentrate at a cash cost of \$A316/t FOB. A Chinese Battery manufacturer to subscribe \$41M in a placement for 19.9% of AJM. The Company is diversifying its core assets in Indonesia.
MLM	METALLICA	Entitled "Australia's Next Bauxite Producer" - MLM have completed a PFS into the Urquhart Bauxite Project Central York Qld (50% MLM) and is fast tracking the development to commence mining in July 2017. The PFS suggested that the total saleable product is 1.5Bt @ 50% Al <sub>2</sub> O <sub>3</sub> . The pre - production capex is estimated to be \$1.1M. MLM expects average price of \$45.24/ dry tonne FOB and costs of \$A32.72/t. MLM will employ contractors to truck the BSO Product to a barge loading facility for transshipping offshore to bulk carriers. MLM is expecting the final approvals late in Q1 17.
FAR	CAIRN LIMITED	Entitled "World Class Oil Story" - FAR report that the SNE discovery is the largest oil discovery in 2015 and was one of a number of recent discoveries offshore Senegal. FAR has 16.7% and the 2C resources are 641mmbbls. Cairn Energy 40% is the operator. The SNE 2015/16 appraisal wells confirmed that the field extends over 350 sq km and that reservoirs can flow at commercial rates, with an approx. 100m gross oil column. Drilling of SNE-5 commenced in January to be followed by SNE-6 designed to allow flow testing of fields not yet tested.
DCN	DACIAN GOLD	Entitled "Building Australia's next significant mid-tier gold producer" DCN has commenced mine construction at the Mount Morgan's Au Project WA, funded by a \$150M Project Facility and \$26M of equity at \$2.50 per share. The expected capex pre-production is \$220M. Gold production is targeted for Q1 18. In preparation for the development DCN have completed 90,000m of infill and extensional drilling project which has increased the contained resource to 3.3Moz Au (of which M&I Resource is 2.2Moz). DCN have also completed a Feasibility Study delivering a Reserve of 1.2Moz Au at a grade of 2g/t Au.



<i>Investor Presentations Continued...</i>		
MSR	MANAS RESOURCES	<p>Entitled "Victoria Gold Project – Rediscovering Value" – MSR acquiring the Victoria Au Mine from ASX-RGS for \$US 1.8 and \$US2m MSR script. The Mine was operated by RSG. MSR will target 4 known deposit areas with drill ready targets plus multiple exploration targets. . Of immediate interest is the Nyakafuru Reefs a near surface high grade vein swarm with sheared greenstones near a granite contact. Also of interest is the Kanegele Prospect comprises a series of Au deposits south of the Victoria Mine. Drilling and a Feasibility Study is proposed.</p>
TGS	TIGER RESOURCES	<p>Entitled "Copper Production and a Re-set for Debt Reduction" – TGS operate the Kipoi Heap leach SX-EW Cu Mine located in the DR Congo. 111,000 Cu were produced in CY 16 from 1.29Mt of ore stacked at 1.48%Cu. The AISC was \$US1.76/lb. The realized Cu Price was \$US4,849/t (\$US 2.16.lb). A SLS pond failure in 2016 affected production and a debottling capital works program is expected to improve production. 1.1km mineralized strike has been outlined near the mine and testing is currently evaluating its potential. The Company is also undertaking studies to achieve cobalt recovery from the project.</p>
AVL	AUSTRALIAN VANADIUM	<p>Entitled "Investing in the energy storage future with Australian Vanadium" - AVL is championing the development of vanadium and lithium batteries on the basis of its holding of the Gannintha V2O5 project in WA and option to acquire 50.3% of the Blesberg Li Ta Project in South Africa. Gannintha has a contained resource 750kt Va2O5 at 0.82% V2O5 10% TiO2 &amp; 1.5% Fe. The deposits amenable to open pit mining and has a discrete high grade if economics dictate. Concept study completed and the Company is now moving to a feasibility study. Vanadium electrolyte pilot plant due for arrival at a WA uranium site. The plant will evaluate the use of vanadium ores from various sources in the production of various types of vanadium electrolytes. A resource upgrade is expected in Q1 17. The historic Blesberg Mine within one of the more prominent mineralized pegmatite deposits in the southern Cape pegmatite belt. Historic samples corrected returned up to 15%Li2O. Drilling is being planned for March.</p>
EGA	EGAN RESOURCES	<p>Entitled "Investor Update" EGA hold the Rothsay Au Project with a contained resource of 226koz Au at 11.3g/t Au. A scoping Study into an underground mine development suggests an LCC of 3.75 years with a capex upfront of \$20.4M and a n expected AISC of \$1.5/oz. There is 10kms of prospective strike at the project, largely untested.</p>
PDI	PREDICTIVE MINING	<p>Entitled "Project Generator Strategy for New Gold Discoveries in West Africa" PDI hold &gt;6,000sq km in tenure in Cote D'Ivoire, which includes the Toro JV Au Project (on which ASX listed Toro is earning 65%), where a 1.2km long Au mineralised systems has been outlined. ( best intersections 20m @ 10.5g/t Au). The Bobosso Au Project (PDI 37%) is a 1.5sq km gold in soils anomaly with shallow drill intersections that include 5m @ 21g/t Au. Further drilling is expected to start next week. PDI also hold tenure in Burkina Faso with a contained resource of 96koz Au at 4.8g/t Au and 90 selected drill targets</p>



## BREAKAWAY RESEARCH

### Breakaway Research Pty Ltd

Breakaway Research is an authorised representative of the Breakaway Investment Group Pty Ltd AFSL 290093. Breakaway has been researching mining and energy companies for more than 10 years and successfully combines technical and financial evaluation of resource companies to provide superior research.

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The team at Breakaway Research comprise experienced analysts with more than 25 years of experience in geology and investment banking.

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Austex Mining Principal Consultant Rob Murdoch is an Australian geologist who has specialised in the management of junior resource companies for 30 years. His experience enables Rob to provide a quick and valid assessment on the potential impact of many announcements, for example those involving new discoveries, test results or resource upgrades and tracks the progress of companies on their various exploration and development projects.

Austex maintains an extensive database on all ASX listed resource companies, their corporate situations and the status of their various projects. This database helps to identify industry and investment trends which may not be apparent otherwise. Breakaway Research is extremely pleased to be able to utilise Rob's extensive experience in his corporate and technical capacity to assist in identifying resource investments that will directly benefit our subscribers.



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