

# BREAKAWAY MINING RESEARCH

## *DAILY REPORT*

Friday 15<sup>th</sup> September 2017\*

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

### OVERNIGHT COMMENTARY

#### Markets

U.S. stocks slipped and the US dollar retreated as investors weighed renewed threats from North Korea. Oil topped US\$50 a barrel for the first time in a month, reports Bloomberg.

The S&P 500 Index edged off an all-time high even as oil's rally boosted energy shares. The Dow Jones Industrial Average rose a fifth straight day to a fresh record. The greenback weakened versus most major peers, while the pound jumped as the Bank of England signaled the possibility of stimulus reduction. Treasuries fell after U.S. inflation quickened, supporting an uptick in expectations for an increase in borrowing costs this year.

#### Commodities

Commodity prices fell across the board apart from oil and thermal coal.

China released weaker than expected macro data for August on Thursday, reports Macquarie. Both industrial production (IP) and fixed asset investment (FAI) had a slower growth last month, with IP growth falling to 6% YoY from 6.4% YoY in July and single months FAI growth dropped from 6.5% to 3.8%, which is a multi-year low. The FAI growth was dragged lower by a drop in infrastructure investment growth though manufacturing investment showed small improvement. The decline in IP growth is perhaps less worrisome (from a commodity demand perspective), being largely due to weaker mining output.

Commodity Prices	Price	Daily Change	Market Movements	Price/Level	Daily Change
<b>Base Metal Prices (US\$/lb)</b>			<b>Broad Market Indices</b>		
Copper	2.93	-0.8%	DJIA	22,203.48	0.2%
Lead	1.03	0.8%	FTSE-100	7,295.39	-1.1%
Zinc	1.36	-0.4%	Nikkei 225	19,807.44	-0.3%
Nickel	5.05	-1.3%	HK Hang Seng	27,777.20	-0.4%
Aluminium	0.94	-0.5%	Shanghai Composite	3,371.43	-0.4%
Tin	9.36	0.1%			
Cobalt	27.51	0.0%	<b>S&amp;P/ASX 200</b>	<b>5,738.70</b>	<b>-0.1%</b>
<b>Precious Metal Prices (US\$/oz)</b>			<b>Mining and Energy Indices</b>		
Gold	1325	-0.2%	S&P/ASX 200 Resources	3,644.50	-0.7%
Silver	17.75	-0.9%	S&P/ASX 300 Metals & Mining	3,261.10	-1.1%
Platinum	983	0.4%	S&P/ASX 200 Energy	9,201.20	0.7%
Palladium	933	-1.0%	S&P/ASX All-Ordinaries Gold	4,661.40	-0.6%
<b>Energy</b>			<b>Global Mining</b>		
Oil WTI (US\$/bbl)	50.10	1.6%	S&P/TSX Global Mining	66.87	-0.5%
Thermal coal (US\$/t)	83.40	3.6%	FTSE 350 Mining	16,815.85	-3.1%
Uranium (US\$/lb)	20.65	0.0%	AIM Basic Resources	2,555.42	-0.5%
<b>Steel making</b>			<b>Commodity Indices</b>		
Iron ore (US\$/t)	72.30	0.0%	CRB Index	185.58	0.2%
Metallurgical coal (US\$/t)	208.90	0.0%	LME Index	3174.90	-0.4%
Molybdenum (US\$/lb)	7.09	0.0%	S&P GSCI	2265.05	0.1%
Tungsten ATP (US\$/t)	310.00	0.0%	Baltic Dry	1361.00	1.8%
<b>Exchange Rates</b>			<i>Sources include:</i>		
AUD/USD	0.798	-0.1%	<i>Bloomberg, Reuters, TradingEconomics, S&amp;P, yahoo finance</i>		
EUR/USD	1.188	-0.2%	<i>Commsec, Xe.com, marketindex.com, Macquarie, Breakaway Research</i>		
USD/ZAR	13.14	0.0%			
USD/CNY	6.56	0.4%			

## MARKET REVIEW

### New Deals (Including In Progress, Completed Or Terminated) & New Tenure.

ASX Code	Company Name	Details
CXO	CORE EXPLORATION	Have acquired additional tenure from ASX-LSR in the Boyne Lithium District NT. The acquisition includes the historic tin pegmatite at Grants which CXO feel can be fast tracked to a DSO operation. It also includes the Sandra Prospect where drilling has returned 42m @ 1%Li <sub>2</sub> O and adds up to a further 50 untested pegmatite targets.
DGR	DGR GLOBAL	DGR and ASX-AJQ have entered into an agreement over an application made by AJQ for the Kanywataba Block, Uganda. AJQ will retain 16.82% while DGR will fund a 2 year work program for an 83.18% interest. The work program involves geology and geophysics programs including 100 line kms 2D Seismic. The Block occurs in the Albertine Graben where 101 out of 115 historic wells have intersected hydrocarbons.
PCL	PANCONTIN OIL GAS	Have closed a transaction with TSXV-AFE (associated with the Lundin Group) who will inject US\$7.7M into PCL's local subsidiary that holds a 30% in PEL 37 Oil & gas Block Offshore Namibia. The first \$US 2.2M is due on closure of the agreement and \$US5.5M at spud of the next well. The deal will see AFE have an indirect 10% interest in the project and PCL 20%.
PLL	PIEDMONT LITHIUM	The Company has increased its tenure at the Piedmont historic Tin - Spodumene Project North Carolina USA, by 26% to a total 715 acres. The new tenure offers a number of pegmatite targets. Phase 2 drilling program is nearing completion and assays are due in coming weeks.
RND	RAND MINING	Have extended the Company's option by 12 months, to September 18, over an iron ore project covering 600 sq km within the Liberian – Guinean Iron Ore Province, West Africa
AUC	AUSGOLD	Have completed the acquisition of the 461 sq km Dumblebung Au Project, close to AUC existing Katanning Au Project WA.

### Production Or Emergent Production News (From Completed DFS/BFS Onwards)

ASX Code	Company Name	Details
MMI	METRO MINING	Have awarded the Mining Contract at the Bauxite Hills DSO Bauxite Mine to SAB Mining. SAB are already on site undertaking civils. Mine construction commenced at Bauxite Hills Mine in July and MMI report that it is on schedule for a commencement of mining in April 2018.
NSL	NSL CONSOLIDATE	Have completed the commissioning of the thickener circuit at the Company's Indian Iron Ore Beneficiation Plant. The annual production is expected to be 200,000tpa.
MNC	METMINCO	Have received Environmental Approval from the Colombian Govt, to commence 2000m of underground development of the Miraflores Au Project Colombia.

**Evaluation Studies (DFS, PFS, Scoping, Pilot, Appraisal & Metallurgical Testing)**

ASX Code	Company Name	Details
GGG	GREENLAND MINERALS	Recent activities at the Kvanefjeld RRE Project Greenland has focused on data generation and stakeholder meetings in order to completed Environmental Impact Assessment. GGG are of the view that they will be the largest producer of key rare earths including neodymium, praseodymium and dysprosium essential for high powered magnets used in EV's.
SO4	SALT LAKE POTASH	Bench scale test work on samples from the Lake Wells Potash Project WA, suggests recoveries of 92% potassium in a Sulphate of Potash (SOP) that SO4 suggests exceeds industry benchmarks of 52% K2O and 54% SO4.

**New Drilling Intersections As Confirmed By Assays**

ASX Code	Company Name	Details
TMT	TECHNOLOGY METALS	Initial RC drilling at the Southern Tenement (Gabanintha Vanadium Project WA) has intersected massive magnetite hosted mineralization. TMT note 2 intersections associated with the magnetite 28m @ 1.06% V2O5 from 129mdh. In addition 2 intersections are noted in the hanging wall including 52m @ 0.89%V2O5 from 77mdh. A Maiden Resource Estimate is planned for post drilling.
MYL	MYANMAR METALS	The first drilling program since the 1980's has been completed at the Bawdwin Pb Zn Ag Cu Project Myanmar. The DD program comprises 21 holes (2965m) and was supported by channel sampling in the shallow historic open pit. MYL have noted 14 intersections including 25m @ 9.5%Pb 2.5% Zn 189g/t Ag from 56mdh and 30.5m @ 11.5%Pb 7.5% Zn 291g/t Ag from 41mdh. MYL also noted 12 channel intervals including 11.9m @ 7.2% Pb 5.2% Zn 1.1% Cu 126g/t Ag. A Resource Estimate and Scoping Study is pending.
SEG	SEGUE RESOURCES	The maiden AC and RC drilling program (4715m) at the Barlee Au Project, located in the Southern Cross Region of WA, has tested the T1 and T2 Prospects which had been identified by soils sampling and magnetics. 2 intersections were noted by SEG which includes 15m @ 1.48g/t Au from 12mdh at T1 and 48m @ 0.67g/t Au from 27mdh. Further drilling is now planned to test Targets T6, T8 and T11.
GXY	GALAXY RESOURCES	Further assays from a 33,000m drilling program at the James Bay Spodumene Lithium Project Quebec Canada includes 6 intersections which include 41m @ 1.8%Li2O from 26mdh. The drill program is now complete and final results are expected by the end of September.
VAL	VALOR RESOURCES	Drilling at the Berenguela Cu Ag Project Southern Peru has returned 4 intersections noted by VAL including 55m @ 1.87% Cu 252g/t Ag 0.51% Zn 13.5% Mn. The other 3 intersections are similarly encouraging and an updated resource estimate is expected in coming weeks.
ENR	ENCOUNTER RESOURCES	Assays from a 4-hole DD program (736m) at the Fold Closure Target (East Thomson's Dome Au Project WA) have returned 4 intersections noted by ENR including 2.9m @ 7.7g/t Au from 127mdh. Further drilling planned for October and will test the Fold Closure mineralization along strike and also targeting a 2kms long coincident Au – Cu soils anomaly

GWR	GWR GROUP	Assays from 5 RC holes at the Hit and Miss Prospect (Hatches Creek Tungsten Project NT) has returned 4 assays noted by GWR including 9m @ 2.03%WO <sub>3</sub> , 0.18% Cu, 0.05% Mo from 93mdh. The mineralization is open along strike and to depth. The results of a further 28 holes are pending.
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#### Drilling Pending, Underway OR Completed with Assays Pending

ASX Code	Company Name	Details
PMY	PACIFICO MINERALS	DD has been completed at Mariner, Coppermine Creek Prospects (Borrooloola West Cu Zn Pb Co Ag JV Project NT – 51% PMY 49% ASX –SFR). Assays pending.
EYM	ELYSIUM RESOURCES	Have recently completed 2 RC holes in the NE of Lloyd's Prospect (Burruga Cu Project NSW). Assays pending
CMY	CAPITAL MINING	A 9-hole (1600m) Phase 1 RC drilling has commenced at the Scotia Co Ni Project in the Eastern Goldfields of WA. The drilling will test the Ringlock North, Ringlock and Red Dam Prospect.

#### Drill Targeting & Exploration News (Geological, Geochemical & Geophysical)

ASX Code	Company Name	Details
THR	THOR MINING	THR are evaluating the historic Kapunda Cu Project SA held by SX-TZN ahead of funding test work and feasibility studies over the next 3 years. The Company has invested in a Company with Insitu Recovery Technology and feels that the technique may have application at Kapunda. The Stage 1 activities include a Resource Estimate; stakeholder meetings; bench scale tests, with Stage 2 to follow that will involve some insitu testing.
ZNC	ZENITH MINERALS	Auger based soil sampling has outlined 2 targets at the Split Rocks Au Prospect in the Forrestania Area of WA. The targets are Mawson, which is 1.4kms long and is coincident with a major jog in the regional shear zone. The Casey Target is 3kms long and 500m wide and associated with similar structure. The targets are untested and RAB drilling is being planned. The samples collected will now be tested for lithium.
NML	NAVARRE MINERALS	Have commenced a program of soils and rock chip geochemical to assist drill targeting at the Irvine Au Project Vic. The results will be used to plan the next stage of drilling which will comprise 7000m of AC to test new targets.
TMX	TERRAIN MINERALS	Have provided a review of recent exploration at the Great Western Au Project 76kms N of Leonora to the market. TMX consider that the Great Western has potential for an open pit development and an RC drilling program is to be planned to upgrade the present resource of around 60koz Au at grades around 2.7g/t Au. Historic intersections include 7m @ 4.4g/t Au from 18mdh.
TKM	TREK METALS	The Company is reviewing historic information on the Krossou Zn JV Project Gabon, where it is earning an interest from ASX-BAT. The review has identified historic drilling at the Niambokamba Prospect include 3 intervals noted by TKM including 5m @ 6.3%Zn Eq from 2mdh and 2 intervals from the Dikaki Prospect including 24.7m @ 2.9%Zn Eq from 2mdh. The drilling at the former prospect coincides with a large soils anomaly. Infill soils sampling is nearly completion and IP surveys are being planned.

RMX	RED MOUNTAIN	RMX are planning to commence exploration at the Mukabe-Kasari Co Cu Project in the DR Congo. The Phase 1 program will focus on areas of outcropping mineralization and include RC drilling.
PM1	PURE METALS	The exploration licence over the battery Hub Manganese Project WA has been granted. Drilling to commence as soon as required approvals have been received. The Company's Manganese Prospects cover more than 30kms of strike.

### Capital Raisings & Financing > \$1M

ASX Code	Company Name	Details
TNR	TORIAN RESOURCES	Have secured commitments for \$2M by way of a placement at 8.5 cents per share. The funds will be used to explore the Company's Zuleika and Malcolm Projects in the Goldfields Area of WA.
CCZ	CASTILLO COPPER	Have received commitments via CPS capital to raise \$3.4M by way of a placement at 3.2 cents per share. The funds will be used to advance the Historic Cangai Cu Co Projects and other cobalt focused projects in NSW and Qld.
SMI	SANTANA MINERALS	Have received commitments of \$1.6M by way of a placement at 3 cents per share. The funds to advance the Cuitaboca Ag Au Project in Mexico.
NIU	NIUMINCO GROUP	Spinout TNT Mines has closed its IPO capital raising prior to listing on the Official List of the ASX. The Company has raised \$5.5M at 20 cents. Paterson securities were Lead Managers. TNBT will repaid NIU \$775k in final settlement of loans made.

### Corporate News (with a potential effect on projects)

ASX Code	Company Name	Details
EGO	EMPIRE OIL & GAS	Have received a Notice of Default and Demand and Deed of Appointment of Receivers & Managers from ASX – MIN in relation to a \$15M working capital facility extended by MIN to the WA subsidiary of EGO.

### Investor Presentations (Does Not Include AGM Presentations)

ASX Code	Company Name	Details
COI	COMET RIDGE	COI is the operator at the Mahelo South Bowen Basin (40% COI; 30% APLNG, 30% Santos), where the current drill program is focused on increasing the 2P coal seam hosted gas reserve of 30PJ and the 3C resource of 2187PJ. The Company considers Mahelo as a near term production option. COI also holds 3C Resources of 2200PJ gas contained in coals and sandstone reservoirs within 9700 sq km of tenure within the Galilee Basin Qld, which the Company regard as a Medium Term Production Option. As a Longer Term Project the Company holds 17000 sq km of tenure within the Gunnedah Basin NSW to the north of the ASX-STO Narrabri Project. The JV partners at Mahelo have drilled 6 pilot holes at Mira Gas Field in order to test the gas extraction rates. The Mira



		Pilots has flowed around 450mcfpd since mid- 2016. Recently under reaming at Mira 3 and 4 wells has been completed. Mira 2 previously under reamed is now being prepared for horizontal well intercept. Mira 6 well is to be spudded in October. Humboldt South 1 core hole has spudded in the Mahalo Block Bowen Basin Qld. The well is 6kms ENE of the Mira Pilot Scheme. The TD is 280m targeting all coal units within the Bandana Formation in order to gather more information on net coal thickness, gas content and reservoir productivity. It will also provide information for an updated 2P Reserve assessment. The initial production target is 25TJ/d. The project is only 14kms from the nearest pipeline.
ARE	ARGONAUT RESOURCES	ARE hold the Torrens IOCG Project JV SA (30% are and operator and 70% ASX-AIS) focused on a 130 sq km gravity anomaly within the Torrens Hinge Zone considered a continental scale zone of structural weakness on the Gawler Craton Margin. The Company hopes to be able to get access to the tenure by December and drilling is planned from January. ARE also holds the Higginsville Au Project WA over multiple Au and Ni targets. Drilling is planned in October. ARE also holds the Lumwana West Cu Co Project Zambia; the Krommit An Cu Project Qld and the Crescent Lake Li Project in Canada.
CE1	CALIMA ENERGY	CE1 is farming into the 51,000 acre Montney Oil and Gas Project, which forms part of the 130000 sq km Montney Basin, which is partly BC and partly in Alberta Canada. The Basin is estimated to have 449Tcf of gas, 14.4B bls condensate and 1.1B bbls oil. The CE1 farm in contributions are staged, achieving an ultimate 55% WI by spending \$C25M undertaking 3D seismic and drilling 3 wells to 2000m each, which are planned during 2018/19. There is a historical well database of more than 60 well penetrations through the Montney within 35 kms. CE1 report that typically the Montrey has 200-300m of unconventional plays, with ideal rock for fracture stimulation. Breakeven costs estimated at \$US1.69/mcfe in the liquids rich window of the Montney Play.
AWE	AWE LIMITED	AWE has 2P Reserves of 51.9MMboe, most of which is gas. The 2C Resources are 109.5MMboe. The majority of the Reserves are held within the Waitsia Gas Project Northern Perth Basin WA. The remainder is contained within the Casino and BassGas Projects. Gas has been produced from Stage 1 at Waitsia since August 2016. Stage 1 involves 2 production wells (Senecio -3 producing from the Kingia Sandstone and Waitsia -1 from the High Cliff Sandstone). Current gas sales are 9.6TJ/d. Stage 2 involves Waitsia 3 and 4 appraisal wells currently being drilled. Stage 2 FEED commenced in June, with AWE targeting FID in later 2017. Stage 2 is expected to deliver 15 TJ/d and a gas sale term sheet has bene signed with AGL. Regional exploration potential exists beyond Stage 2. AWE holds 25% in the Casino Project Offshore Otway Basin Vic. The Company also holds the Trefoil Field in the Bass Basin Offshore Tas. AWE also 50% in the Ande Ande Lumut Project Indonesia. An appraisal well has been completed and AWE consider the project an option at improved oil price.
PIO	PIONEER RESOURCES	PIO current focus is the development of the Sinclair Zone Caesium Resource and Lithium targets at the Pioneer Dome WA and Lithium exploration in Canada at the Mavis Lake and Raleigh Projects. The Pioneer Dome tenure totals 341 sq km, within which PIO have outlined a resource of 19.5Kt of pollucite grading 17.1% Cs2O. The Company has identified 4 drill ready targets. Mining studies have commenced and a 5kt bulk sample is being obtained for H2 17 metallurgical testing. PIO is in discussion with off takers. Drilling elsewhere at Pioneer Dome has returned a number of lithium intersections including 11m @ 2.6% Li2O, hosted in lepidolite and spodumene. Agreed has been reached with ASX-LPD whereby LPD can earn 75% by defining a lepidolite lithium resource > 500kt @ 1.2 % Li2O within 2 years@ 1.2%. Drill intersections include 12m @

		<p>2.2% Li<sub>2</sub>O. PIO is earning 80% in the Mavis Lake Lithium Project. Recent drilling has returned 17.9m @ 1.47% Li<sub>2</sub>O from 80mdh. At the Raleigh Project PIO is earning 51% interest. Historic drilling has intersected 8.5M @ 2.38% Li<sub>2</sub>O from 153mdh. PIO also hold the Blair Dome project prospective for cobalt associated with nickel mineralization. PIO own 80% of the Acra Au Project located near Kanowna Belle WA. ASX – NST is earning 75% by spending \$3M over 3 years. Past drilling has intersected intersections including 10m @ 6.38g/t Au.</p>
HZN	HORIZON OIL	<p>HZN hold oil &amp; gas assets in PNG, NZ and China, with a net production of around 4000 bopd, at a breakeven AISC of \$US32/bbl. The Company holds a 26.95% interest in the Beibu Gulf Fields Offshore China which produce a net 3200 bopd and a 10% interest in the Maari/Manaia Fields Offshore New Zealand (800bopd). Net operating cash flow for FY 17 was \$US 51.7M and net debt \$US108.5M. The Beibu Field is operated by CNBOOC (51%) and has 2P Reserves of 35MMboe plus 2C Resources of 11MMboe. The JV plan to expand production through a phased development involving up to 3 additional production platforms. The Maari/Manaia 2P Reserves are 55MMBoe and 2C 69MMBoe. The Company holds an average 28% interest within the Western Forelands Fields in PNG, from where gas from the Stanley, Elevala/Ketu and Ubuntu Fields is to be the foundation supply for a Western Province Gas Aggregation Scheme. The JV will pipe gas and condensation to a proposed Liquefaction Facility to be built near Daru Island Western Province. The 2C resources are 2.2Tcf gas and 62 MMbbls condensate, spread over 4 tenures. HZN holds 30% in 3 tenures and 20% in the fourth. The JV target is to have the Pre – FEED work completed by the end of 2017; the FEED in 2018/19 and FID 2019.</p>
FAR	FAR LIMITED	<p>FAR hold 16.7% interest in the SNE Oil &amp; Gas Field Offshore Senegal. Cairn Energy 40% is the operator. The SNE 2C resources are 641MMbbls (96MMbbls net to FAR). The partners have only taken 21 months from discovery to statement of commerciality, with 8 successful wells drilled to date. Appraisal wells confirmed that the field extends over 350 sq km and that reservoirs can flow at commercial rates, with a 97m gross oil column. The project is in the final stages of appraisal before commencement of FEED. The JV plan to tie all the well back to a single production platform. First oil production is expected in 2021-23. Planned production 75-125kbopd. Breakeven Oil price is estimated to be &lt; \$US35/bbl. FAR sees further potential further south offshore Senegal and has a farm into an 80% WI (with operator rights) over an extension to the SNE shelf edge trend south in The Gambia.</p>
PCL	PANCONTINE	<p>PCL holds Oil &amp; Gas Assets within the Sacramento Gas Basin California USA, Perth Basin WA and Namibia. PCL sees growth in the California Gas Market. PCL has a 10% interest in the Dempsey -1 Well currently being drilled. The well is targeting stacked reservoirs in a large 3D defined structure below an existing producing field. Elsewhere in the Sacramento Basin PCL has a 13.3% interest in the Tulainyo – 2 Well, to be drilled from Mid-October, that will appraise an untested gas prospect. In addition PCL is earning a 15% interest in the Alvaras Gas Discovery, made in 1982 on a &gt;16 sq km structure, with 3 gas columns totaling 150m reported. Elsewhere PCL have the right to earn 70% into the Walyering Gas Field Perth Basin WA, where Jurassic Sandstone reservoirs occur below 3000m. 4 wells drilled to date but from 3D seismic it appears that the anticlinal crestal closure is undrilled. PCL has a 20% equity free carried through the next well, covering a predicted oil generating fairway within the Walvis Basin Offshore Namibia. JV partner Tullow has spent \$US34M to date and have located multiple 3D targets with a P50 Prospective Resource totaling 915MMbbls. 4 main prospects have been defined with 3 strong oil leads defined from seismic.</p>



SRZ	STELLAR RESOURCES	SRZ hold the Heemskirk Tin Project West Coast Tas, under a granted mining lease. The current resource is 72kt contained tin at a grade of 1.13%Sn. The deposit is open at depth. Next step is infill drilling to upgrade the resource. SRZ expect to complete a resource update by mid-2018 and a DFS by Late 2018. The Production target in mid-2019. Feasibility Studies to date suggest an underground mine and either a standalone plant or toll treatment. Mining Lease has been granted.
ELK	ELK PETROLEUM	ELK has become an oil & gas producer after closing the acquisition of 14% in the Madden/Lost Cabin Oil & Gas Project, a conventional gas operation, with CO2 and Sulphur by products located in Wyoming USA. Jan 17 production was 4,175boe/day and the 2017 forecast free cash flow \$US 7M. The 2P reserves for the Madden Oil & Gas Field have been increased 10% to 20.5MMboe. ELK also has a 49% WI in the Greive Project Wyoming, where carbon dioxide enhancement is to be used in the redevelopment of a producing conventional oil field. Project construction is 85% complete. ELK share of the remaining construction work is \$US55M, which is fully funded. Operating cost is estimated to be \$US10-13/bbl. The 2P reserves are 5.3MMbbls net to ELK and the 3C resource 7Mbbbls. LOM 20 years.
RLE	REAL ENERGY	RLE hold the 4,932 sq km Windorah Oil & Gas Project in the Cooper Basin. Total Mean Gas in place is estimated at 13.8TCF gas. Maiden 3C non contracted gas resource of 672BCF from 2 discoveries (Tamarama -1 7 Queenscliff -1) within a shallow part of the basin, within the Permian Toolachee/Patchawarra Formation. Gas produced in excess of 70mmcf to date. Basin centered gas may be present at depths of 2,200 to 3,000m over the tenure. The Company is targeting the East Coast gas market.
COE	COOPER ENERGY	COE holds Oil & gas Assets in the Otway and Gippsland Basin Vic for gas and Cooper Basin SA for Oil. FY 17 production from the Otway and Cooper was 1MMboe. Total 2P reserves are now 52.4MMboe (Gas 90% of the total). COE have a 50% interest in the Casino – Henry Gas Fields Offshore Otway Basin (Operator in JV with AWE & Mitsui) with 2P reserves of 10.4MMBoe contained within 7 offshore fields. COE has a 10% interest in the Minerva Gas Plant that processes Otway gas. In total COE have contracted 188PJ of gas and has 227PJ of uncontracted gas. COE also hold the Sole and Manta Gas Field Offshore Gippsland Basin Vic with combined 2C resources of 354PJ. COE plan to have the Sole Fields operational by 2019. COE’s estimated capex is \$355M to supply 24PJpa. Long lead items have been ordered and a contract awarded for fabrication and installation of subsea infrastructure and tie back to the Orbost Gas Plant onshore, where owner APA is undertaking a \$250M upgrade in order to process Sole Gas. COE plan to have the Manta Gas Field in production from around 2023. In the Cooper Basin SA COE produced 0.19MMbbls of oil in the 9 months to end March, at \$29.78/bbl. The 2P reserves in the Cooper Basin are 1.1MMboe.
VMY	VIMY RESOURCES	VMY hold the Mulga Rock Uranium Project, considered the second largest uranium deposit in WA. The Contained Reserves are 42.3Mlbs U3O8. Contained Resources 90Mlb U3O8 at 570ppm U3O8, 50% of which is Measured and Indicated. The resource is hosted within a flat lying lignite, typically at depths around 40-45m. Supergene RedOx uranium enrichment at average depth of 40-45m. A PFS has been completed and estimated a 16 year mine life on the basis of 3Mlb U3O8. The development has WA Government approval. The 2017 focus is complete the DFS, secure offtake terms and complete the engineering designs. Early construction of access roads and associated infrastructure is already underway. The DFS is expected to be completed late 2017. VMY is targeting 2020 first production. A free dig large strip mining operation with in pit crushing is envisaged, followed by acid leach beneficiation to produce “Yellow Cake”

		(Uranyl Peroxide) to be shipped via Adelaide. The initial development will be centred on the Ambassador and Princess Pits.
WBE	WHITEBARK ENERGY	WBE hold a 20% interest in production and exploration oil & gas assets covering 210,000 net acres within known hydrocarbon areas in Alberta Canada. The project includes 65 producing wells and a 70MMcf/d gas plant and associated infrastructure and pipelines. The 1P reserves are 3.9MMboe. The main reservoir is at 1600m depth. The partners plan to drill 3 wells in the next 3 months to improve production. Drilling at the Thorsby Project commenced on 8th September to reactive stranded well from the same platform and further opportunity has been identified to reactive stranded wells at Paddle River. WBE is acquiring a 15% interest the Xanadu JV in the Perth Basin WA, which has an unrisks prospective recoverable resource of 160MMbbbls. WBE is funding 20% of the Xanadu - 1 Well which spud in early September. WBE hold a current 57% interest (diluting down to 35%) in the 1.5Tcf unconventional Warro Gas Field Perth Basin WA, which unfortunately is effected by the WA Govt moratorium of fracture stimulation.
LIO	LION ENERGY	LIO hold Oil & Gas Assets in 2 areas within Indonesia, with 2P Reserves are 0.12MMboe and 2C Resources 0.52MMBoe. LIO hold a 40.7% interest in South Block A in the Nth Sumatra Basin. Underexplored 1579 sq km of tenure on trend with major fields. 183 line kms of seismic has shot in 2014 and the Company is planning to drill the Amanah Timur - 2 Appraisal Well in January 2018. The P50 estimate is 3.3MMbbls Oil/Condensate and 6Bcf Gas from 3 separate zones. The seismic has also outlines the Jerneh Prospect with future gas/condensate potential. A number of other unconventional targets have been identified. LIO also holds a 2.5% interest in the Seram Field Offshore Seram Is, which produces 3600bopd at US\$11.85bbl. The Company has a small interest in the Lofin Gas Field with 2Tcf of gas which may be developed into an LNG operation.

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Austex Mining Principal 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 of impact of many announcements, for example those involving new discoveries, drill results or resource upgrades and tracks the progress of companies on their various exploration or 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 both corporate and technical capacity to assist in identifying resource investments that will directly benefit our subscribers.



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