



11 October 2021

## VANADIUM RESOURCES SECURES STRATEGIC PLACEMENT AT SIGNIFICANT PREMIUM

### HIGHLIGHTS

- ◆ Strategic investment of A\$4.6m at \$0.104c per share, representing a 64% premium to the 30 day vwap by global South African based and JSE-listed infrastructure development, materials supply and mining services group Raubex Group Ltd (JSE: RBX)
- ◆ Cash position ~A\$6.1M: VR8 is fully funded through DFS and up to Final Investment Decision
- ◆ Mining services agreement to conduct mining operations at Steelpoortdrift entered into at arms-length terms between Vanadium Resources (Pty) Ltd (an associate company of VR8) and Raubex. Agreement underpins confidence in the potential of VR8's mining operations
- ◆ VR8 well positioned to continue seeking interest for off-take and construction finance

Vanadium Resources Ltd (“the Company” or “VR8”) is pleased to confirm that the Company has entered into a subscription agreement with Raubex Pty Ltd (a subsidiary of JSE listed Raubex Group Ltd) (“Raubex”), an international infrastructure development, mining services and materials supply group, to place A\$4.6m at \$0.104c per share, representing a significant premium to the Company’s 15 and 30 day vwap. In return for the investment premium, Vanadium Resources (Pty) Ltd (“VANRES”) (an associate company of VR8 which owns the Steelpoortdrift Vanadium Project), has entered into an arms-length mining services agreement (“Mining Services Agreement”) with Raubex’s wholly owned contract mining subsidiary SPH Kundalila (Pty) Ltd (“SPH”), in terms of which SPH would provide contract mining services including drilling, blasting, haulage, stockpile management, backfilling and supply of equipment to conduct relevant activities.

**Jurie Wessels Chairman of VR8 commented** *“We are very pleased with the belief shown in our operations by a company of the calibre of the Raubex Group and are also delighted to welcome them to the team of stakeholders that plans to build Steelpoortdrift into possibly the largest Vanadium mine in the world.”*

**Robert Shedlock Group Commercial Executive of Raubex commented** *“We are pleased to have reached agreement with VR8 to invest in this world class asset. As a group Raubex provide contract mining and construction services both in South Africa and internationally and have done so for 45 years. As such we are always on the look-out for opportunities where we can add value and receive a significant return from our investment. We have the balance sheet and capacity to be a valued part of the team to possibly build Steelpoortdrift into a notable resource enterprise”.*

**Jurie Wessels continued:** *“Combined with the attractive financial metrics from the project PFS, the untouched large high grade resource at Steelpoortdrift has attracted significant attention from*

*industry participants. This created strong support for the Company to close its first strategic investment with a business that understands mining in South Africa and provided VR8 with both the capital it requires to complete the feasibility study and the confidence to embark on a process to prepare itself for the eventuality of a final investment decision.*

*The Company is well positioned to capitalise from its world class asset, and will continue to ensure that the right mix of funding mechanisms is secured to realise the intrinsic potential of Steelpoortdrift. The project has now been firmly placed under the magnifying glass with this investment and the results from our PFS, which point to a very low capital expenditure requirement to construct a mine. This, coupled with the unequalled optionality the large resource lends to increasing volumes as market conditions may demand, gives us a greater measure of comfort that Steelpoortdrift could possibly be the most competitive producer of Vanadium in the world.”*

**Robert Shedlock continued:** *“After having undertaken a due diligence process and relying on our extended experience in the mining industry, we have concluded that Steelpoortdrift has all the hallmarks of a world class operation. For that reason a key part of negotiating this investment with VR8 was the inclusion of a mining services agreement and one for which we were happy to pay a premium. We are pleased to now be a shareholder and are looking forward to building a relationship with VR8”.*

## STRATEGIC PLACEMENT

The total number of shares to be issued is 44,230,769 and represents a significant premium to the Company’s 15 and 30 day vwap:

- 15 day vwap of ~\$0.067 representing ~55% premium at \$0.104c
- 30 day vwap of ~\$0.063 representing ~64% premium at \$0.104c

The placement means the Company is now fully funded to complete a Definitive Feasibility Study (“DFS”) at Steelpoortdrift up to Final Investment Decision (“FID”). With placement funds now received, as at the 11<sup>th</sup> October 2021 the Company has ~A\$6.1M and no debt.

## About Raubex Group Ltd (JSE: RBX)

Raubex is one of South Africa’s leading infrastructure development and construction materials supply groups, celebrating over 47 years in the infrastructure industry since it was established in 1974. Raubex listed on the JSE in March 2007 and operates across South Africa as well as throughout Southern Africa. Raubex also entered the Western Australian market through the acquisition of Westforce Construction in December 2017.

The group consists of three divisions, namely the Materials Division, the Roads and Earthworks Division and Infrastructure Division.

Raubex operates in South Africa, Namibia, Botswana, Zimbabwe, Zambia, Mozambique, Cameroon and Western Australia.

<https://www.raubex.co.za/>

### **MINING SERVICES AGREEMENT**

The Mining Services Agreement allows SPH to provide open-cast mining by excavation and ancillary services such as drilling, blasting, hauling (ROM and waste), stockpile management and backfilling for the duration of the life of mine of the Steelpoortdrift Vanadium Project completed in accordance with its DFS.

The services will be rendered at arm's length terms i.e., at generally accepted market related commercial terms applicable to open cast mining and materials handling operations operated by public companies in South Africa, and at a consideration that will be commensurate with a Bills of Quantities and Rates LOM ("**Bills of Quantities**") that was proposed by SPH during the Pre-Feasibility Study ("**PFS**") as part of a competitive bidding process. The Mining Services Agreement will be modified from time to time during every 36 month contract cycle in accordance with a basket of indices applicable to the mining industry in South Africa.

The agreement includes the following additional terms:

- In the event of a take-over offer being received by VanRes, or by VR8, which includes a condition that the Mining Services Agreement be terminated, then SPH must agree to termination subject to the offeror purchasing, at market related cost, from SPH all movable plant, equipment and machinery SPH acquired to render the Services, and the offeror paying for the costs of any fixed infrastructure installed by SPH plus a cancellation fee equal to 20% of the NPV of the mining contract.
- If VanRes is (or at least two directors of VanRes are) of the view, in its sole and unfettered discretion, that the consideration for the Mining Services Agreement are not on arms-length terms, then and in that event, VanRes has (or the two directors have) the right to refer the calculation of the consideration to an independent expert estimator (agreed to by both parties) for final adjudication and adjustment;
- Working capital expenditure towards mining equipment will be amortised over the lifetime of the mining equipment and only for the period the equipment is used at Steelpoortdrift.
- Payment terms will be 60 days from statement, however, to facilitate start-up of the Steelpoortdrift mining operation, payment can be delayed to up to 90 days, at the prime lending rates in South Africa plus 2%.

- Following a decision by VanRes to develop a mine at Steelpoortdrift, SPH will have the first right of refusal to exclusively conduct the services at the arms-length consideration adapted for inflation (as described above), which right of first refusal must be exercised within the first 3 months from the date a decision to mine has been made by VANRES (to conduct mining operations). This right is renewable every 36 month cycle.

### **About SPH Kundalila Pty Ltd**

SPH Kundalila was founded in Saldanha Bay in the Western Cape in 1969, with just one wheel loader. By 1985 SPH had managed to expand from the Western Cape, into the Northern Cape and Northwest Province, establishing operations at the Black Mountain Mine (Vedanta) and at Goldfields operations and Anglo Gold's Vaal River operation. Forty nine years later the SPH fleet has grown exponentially to include more than 300 vehicles suited to a host of applications.

<https://sphkundalila.co.za/>

### **DFS PROGRESS AND FUNDING REVIEW PROCESS**

The Company has been advancing its DFS, having to date completed its first Ore Reserve Statement (refer announcement 20th July 2021) and entered into a Joint Development Agreement with Senergy Africa (Pty) Ltd, a subsidiary of DRA Global Ltd, in order to develop a Photovoltaic Solar energy supply solution for its Steelpoortdrift Vanadium project (Refer announcement 6th of July 2021). With the DFS funding now secured, the Company will look to rapidly advance the DFS process and anticipates completion in financial year quarter 3 - 2022 (July-September 2022).

Following the completion of the PFS, the Company undertook a strategic funding review process around May 2021 by dispatching a marketing flyer to parties whom had shown interest in the Steelpoortdrift project, with the aim of seeking interest for funding the Company's DFS, securing long term offtake agreements to assist with underwriting any proposed debt funding or to potentially provide a strategic equity investment; and expressions of interest from project debt financiers to ultimately secure debt funding for the development of the Project.

The funding for the DFS has now been secured through the strategic placement to Raubex, but the process to secure construction finance is expected to continue through until FID, with the aim of delivering funding in time for the investment decision to develop the World Class Steelpoortdrift project towards a mining operation.

*This announcement has been authorised for release by the directors of Vanadium Resources Limited.*

**For and on behalf of the board:**

Kyla Garic  
Company Secretary

**DISCLAIMER**

Some of the statements appearing in this announcement may be in the nature of forward looking statements. You should be aware that such statements are only predictions and are subject to inherent risks and uncertainties. Those risks and uncertainties include factors and risks specific to the industries in which VR8 operates and proposes to operate as well as general economic conditions, prevailing exchange rates and interest rates and conditions in the financial markets, among other things. Actual events or results may differ materially from the events or results expressed or implied in any forward looking statement. No forward looking statement is a guarantee or representation as to future performance or any other future matters, which will be influenced by a number of factors and subject to various uncertainties and contingencies, many of which will be outside VR8's control.

VR8 does not undertake any obligation to update publicly or release any revisions to these forward looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions or conclusions contained in this announcement. To the maximum extent permitted by law, none of VR8, its Directors, employees, advisors or agents, nor any other person, accepts any liability for any loss arising from the use of the information contained in this announcement. You are cautioned not to place undue reliance on any forward looking statement. The forward looking statements in this announcement reflect views held only as at the date of this announcement.

This announcement is not an offer, invitation or recommendation to subscribe for, or purchase securities by VR8. Nor does this announcement constitute investment or financial product advice (nor tax, accounting or legal advice) and is not intended to be used for the basis of making an investment decision. Investors should obtain their own advice before making any investment decision.

**BACKGROUND ON VANADIUM**

Current day demand for vanadium arises from its established use in strengthening steel via various alloys. Consumption is currently increasing with the recent implementation of stricter standards on the strength of steel to be used in construction (specifically rebar). The use of vanadium in steel making accounts for over 90% of current vanadium demand in today's market.

The most commonly traded vanadium product is 98% V<sub>2</sub>O<sub>5</sub> flake, as it can be used directly in steel making or converted to ferrovandium for additional uses in steel making. Higher purity vanadium products are either produced by a modern plant (such as being planned by VR8) or are further processed from 98%

V<sub>2</sub>O<sub>5</sub> flake for speciality uses in chemical industries, energy storage and high performance alloying technologies.

Such speciality uses are expected to provide additional longer term demand for vanadium. Vanadium redox flow battery (“VRFB”) technology was developed in Australia and has a number of advantages in large scale energy storage requirements. The global move towards renewable energy solutions will require a vast increase in energy storage installations, which in turn is forecast to result in an increase in the amount of VRFBs being manufactured and installed around the world.

Another emerging use of vanadium is in high-performance light weight alloys. Supply of such alloys is increasing in the aerospace industry, with aeroplanes such as the Boeing Dreamliner 787 and the Airbus A350 now incorporating up to 75-100 tons alloys containing vanadium per aircraft.

This month 98% V<sub>2</sub>O<sub>5</sub> flake trades around \$8.10/lb Europe; (SP Angel daily bulletin).

## BACKGROUND ON THE STEELPOORTDRIFT VANADIUM PROJECT

The Steelpoortdrift titaniferous magnetite deposit is located in the prolific Bushveld Geological Complex surrounded by known mineral and vanadium production facilities within reach of proven processing plants, railway and road options and ports.

The Steelpoortdrift Vanadium project is licensed with a mining right and the Company is in the process of conducting work towards becoming fully permitted (such as acquiring a water use license) for production and towards studies to verify a pathway of options to produce high purity V<sub>2</sub>O<sub>5</sub> flake and other niche products from the suite of elements present in the Titano-magnetite (V, Ti and Fe). The PFS demonstrated the viability of producing high purity V<sub>2</sub>O<sub>5</sub> flake from the Project.

The Steelpoortdrift Vanadium Project compares highly favourably to other vanadium deposits globally (Figure 1), as the largest published global undeveloped Mineral Resource (662 million tonnes at an in situ grade of 0.77% V<sub>2</sub>O<sub>5</sub>, defined above an in-situ grade of 0.45% V<sub>2</sub>O<sub>5</sub>), as well as the largest published high grade undeveloped resource (188 million tonnes at an in situ grade of 1.23% V<sub>2</sub>O<sub>5</sub>, defined above an in situ resource grade of 1% V<sub>2</sub>O<sub>5</sub>) (refer ASX Announcement 29 April 2020). A sizeable portion of this high grade resource (68Mt at 1.37% V<sub>2</sub>O<sub>5</sub>) is hosted in a discrete, massive magnetite unit which outcrops along 4km of strike within the project area. The Company confirms that all material assumptions and parameters underpinning the Mineral Resource Estimate reported in the ASX announcement dated 29 April 2020 continue to apply and have not materially changed, and that it is not aware of any new information or data that materially affects the information that has been included in this announcement.

The Steelpoortdrift Vanadium Project is expected to produce a high-quality concentrate containing approximately 2.2% V<sub>2</sub>O<sub>5</sub>, 12% TiO<sub>2</sub> and 58% Fe (ASX Announcements 18 March 2019 and 24 June 2020).

On the 22 June 2021 the Company announced a key milestone for the Company, being the completion and delivery of a high-quality PFS on the Steelpoortdrift Vanadium Project in South Africa. The PFS returned improved financial metrics in comparison with the previous scoping study and was completed with the VR8's internal subject matter experts with the assistance from various industry leading companies, further information is included in the market release.

The PFS investigated several production options with a view to optimising NPV, minimising investment risk and recognising potential changes in future market forecasts. From trade off studies performed as part of the PFS, a preferred base case production profile was selected. In conjunction with the preferred base case scenario, two alternative options were also identified and evaluated, with the two options aimed at mitigating investment and market volatility risks.

As detailed in the ASX market release on 22 June 2021 the financial evaluation was based on contract mining operations with the concentrator and salt roast plant to be owner operated. The preferred base case economic evaluation for the Project was based on a 1,600 ktpa ROM HG mill feed rate, allowing for the initial production of approximately 720ktpa of vanadium concentrate, which in turn will be fed into a conventional SRL to produce an initial 12.5ktpa (12.30ktpa over LoM) of vanadium pentoxide (V<sub>2</sub>O<sub>5</sub>) Flake (>98 % contained V<sub>2</sub>O<sub>5</sub>). In year 6, the Concentrator capacity and feed rate will be increased by an additional 1,600ktpa (i.e., up to 3,200ktpa) to process MG ore from stockpiles concurrently to the ROM HG ore. This will increase concentrate production to approximately 1.1mtpa concentrate (up from 720ktpa), which subsequently will also require the expansion of the SRL plant capacity by 520kt through the addition of a second SRL processing circuit. This preferred base case option was selected based on the following:

- It allows flexibility to increase the tonnage of concentrate produced, without changing the mine plan (the material for the production increase is already mined and on stockpile as MG ore);
- The additional capacity increases of the concentrator and SRL facility can be funded from operational cash flow, and/or debt if necessary, thus reducing Project Capex exposure;
- The option to supply concentrate to a third party could be adopted should the proposed second SRL build not be considered risk appropriate; and
- The option to feed the additional concentrate into a different technological refining plant is available if such technology is developed prior to the decision point for the second SRL build in year 5 (i.e., VR8 are currently investigating such new technologies).

The long term V<sub>2</sub>O<sub>5</sub> (98 %) price assumed was US\$ 9.03/lb or US\$ 19.90/kg. The price selected was based on the mean long term sales prices as at December 2020 over the period January 2004 to December 2020 available in the public domain.

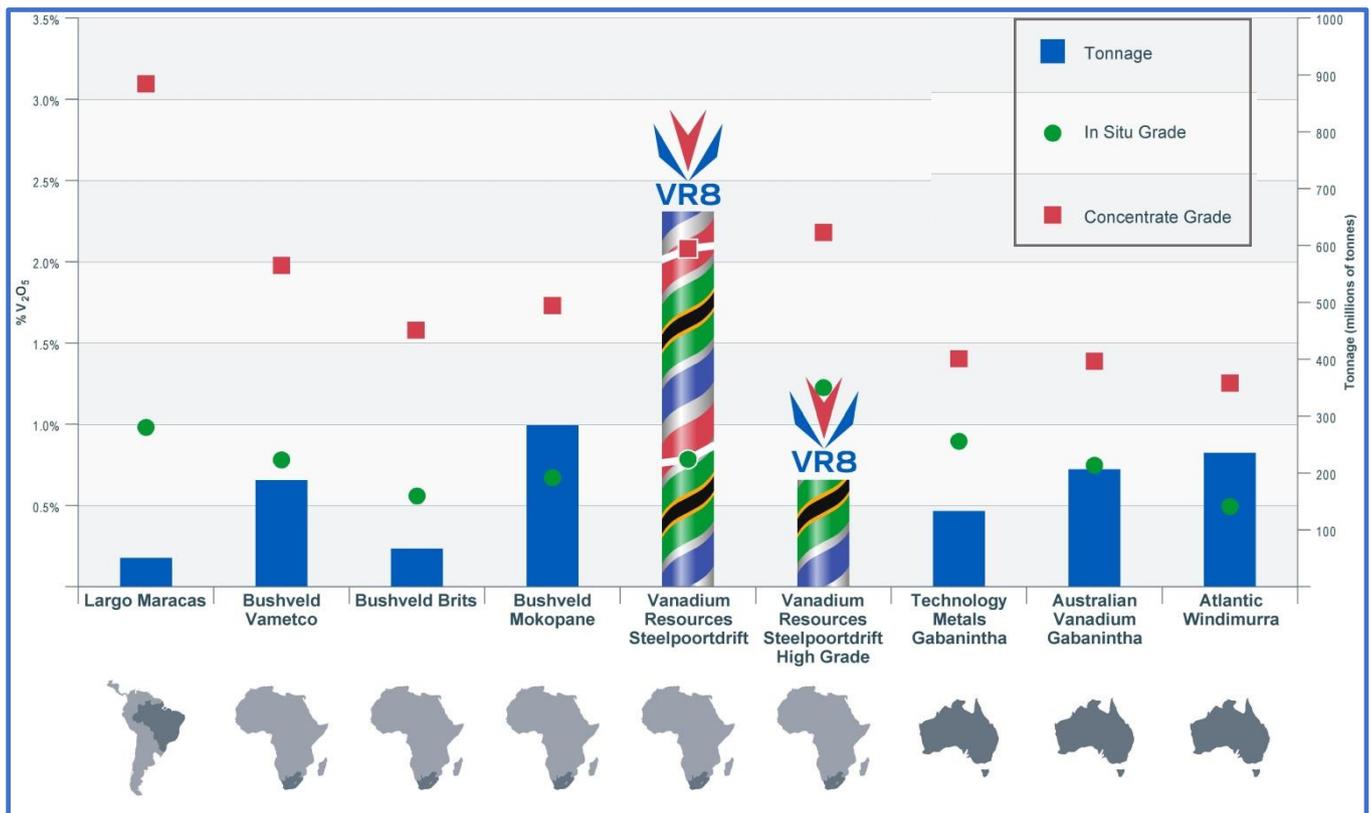
Study Outcomes	Based on existing 50% ownership	Based on final 73.95% ownership	Total Project as reported in PFS
EBITDA LoM (US\$M)	N/A	N/A	US\$5 777m
EBITDA per annum (US\$M)	N/A	N/A	US\$231m
NPV <sub>8%</sub> (US\$M, post-tax)	US\$598m	US\$884m	US\$1.196bn
IRR (US\$, post-tax, 100% equity)	N/A	N/A	45%
Payback Period	N/A	N/A	25 months
LoM (Mining schedule)	N/A	N/A	25 years
Pre-production CAPEX (US\$, incl. contingency)	N/A	N/A	US\$201m
Expansion CAPEX (US\$, incl. contingency)	N/A	N/A	US\$147.2m
Sustaining CAPEX LoM (US\$)	N/A	N/A	US\$99.4m
Average cash operating costs (US\$/lb V <sub>2</sub> O <sub>5</sub> ) <sup>1</sup>	N/A	N/A	US\$3.08/lb
Annual V <sub>2</sub> O <sub>5</sub> production over LoM (Mlbs)	N/A	N/A	39m lbs
Vanadium Price (US\$/lb)	N/A	N/A	US\$9.03/lb
Average LoM Strip Ratio	N/A	N/A	1.92
Processing Rate Mtpa	N/A	N/A	1.6 (initial) - 3.2 (post expansion) Mtpa

The techno-economic parameters of the PFS were sourced from capital expenditure and cash operating cost estimates which were generated by various and specialist project consultants and are shown in the graphs below. The selected base case scenario was based on the construction of the mine and concentrator, concurrent with an SRL plant, followed by a subsequent concentrator (year 4) and SRL expansion build in year 5 of operations. It is anticipated that the expansion will be self-funded with cash flows from the early operations. Material from the medium grade ore stockpiles will constitute the feed to the expanded concentrator and salt roast facilities.

On the 22 July 2021 the Company declared a Maiden Ore Reserve (refer to Annual Mineral Resource and Ore Reserve Statement as at 30 June 2021 announced on 29 September 2021 for additional information).

### Compliance Statement

The Company confirms that the information in this announcement that relates to Exploration Results, including the Mineral Resources contained within the Production Target (and forecast financial information derived from the production targets) at the Steelpoortdrift project has previously been released to the ASX on 22 June 2021 continue to apply and have not materially changed, and that it is not aware of any new information or data that materially affects the information that has been included in this announcement. The Company confirms that all material assumptions and parameters underpinning the Mineral Resource Estimate reported in the market announcement dated 29 April 2020 continue to apply and have not materially changed and that it is not aware of any new information or data that materially affects the information that has been included in this announcement. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcements.



**Figure 1.** Global vanadium projects categorised by resource grade and grade in concentrate. Chart compares resources reported under different codes and companies at different stages of development as detailed in Appendix 1. Only resources with a quoted in situ grade > 0.45% V<sub>2</sub>O<sub>5</sub> are shown in figure.

**APPENDIX 1: Data and sources for Peer Comparison (Figure 1)**

Company	Project	Stage	Resource Category	Resource Tonnes	Resource Grade	Concentrate Grade	Information Source
<b>Largo</b> LGO.TSX	Maracas	Production	Measured, Indicated & Inferred (43-101)	49.25	0.99	3.10	43-101 Technical Report dated 26/10/2017 <a href="http://www.largoresources.com/operations/maracas-menchen-mine">http://www.largoresources.com/operations/maracas-menchen-mine</a>
<b>Bushveld</b> BMN.LSE	Vametco	Production	Indicated & Inferred	186	0.78	1.98	Competent Persons' Report on the Vametco Vanadium Mine Jan 2020 <a href="https://www.bushveldminerals.com/technical-reports/">https://www.bushveldminerals.com/technical-reports/</a>
	Brits	Development	Indicated & Inferred	66.8	0.56	1.58	Competent Persons' Report on the Brits Vanadium Project Jan 2020 <a href="https://www.bushveldminerals.com/technical-reports/">https://www.bushveldminerals.com/technical-reports/</a>
	Mokopane	Development	Indicated & Inferred	285	0.68	1.75	Mokopane PFS Study Report Jan 2016 <a href="https://www.bushveldminerals.com/technical-reports/">https://www.bushveldminerals.com/technical-reports/</a>
<b>TNG</b> TNG.ASX	Mt Peake	Development	Measured, Indicated & Inferred	160	0.28	1.20	ASX Announcement 26/03/2013
<b>King River</b> KRR.ASX	Speewah	Development	Measured, Indicated & Inferred	4,712	0.30	2.11	ASX Announcement 01/04/2019 06/11/2019
<b>Pursuit Minerals</b> PUR.ASX	Koitelainen Vosa	Development	Inferred	116.4	0.11	2.25	ASX Announcement 06/02/2019
<b>Pursuit Minerals</b> PUR.ASX <b>Australian Vanadium</b> AVL.ASX	Airijoki	Development	Inferred	44.3	0.23	1.70	ASX Announcement 08/03/2019
	Gabanintha	Development	Measured, Indicated & Inferred	208.2	0.74	1.39	ASX Announcement 04/03/2020, 17/03/2020
<b>Technology Metals</b> TMT.ASX	Gabaninth	Development	Indicated & Inferred	131	0.90	1.36	ASX Announcement 29/03/2019