

31 January 2019

Preliminary recoveries of up to 70% from simple processing at Kamilombe, DRC.

Taruga Minerals Limited (ASX: **TAR**, **Taruga** or the **Company**) is pleased to announce that provisional metallurgical studies on the DStrat stratigraphic unit demonstrate concentrate grades of 4.1% Co to 12.6% Co and cobalt recoveries between 59% and 70% from the Kamilombe Project in the Democratic Republic of Congo ("DRC").

Six metallurgical samples of roughly 12kg each, collected from artisanal workings, were submitted to ALS Metallurgy in Perth, WA for metallurgical studies. Samples represented the RSC, RSF and DStrat mineralised stratigraphic units as shown in **Figure 1**. Initial studies focused on the identification of a simple beneficiation technique to recover cobalt concentrates from the DStrat unit only, as it occurs as highly friable sandy material and would therefore not require crushing, thus reducing processing costs. The RSC and RSF units are comprised of silica/dolomite and would require a crushing circuit prior to production of a cobalt concentrate. The DStrat unit at Kamilombe is typically 2-3m thick, shallow dipping and lies near surface over a strike length of roughly 500m. The two DStrat samples used were collected roughly 150m apart as shown in **Figure 2**.

Group	Subgroup	Member	Mineralised Zones	Deposits
Kundulungu		Grand Conglomerate		
Roan (R)	Mwashya (R4)	Upper Mwashya		Kipoi, Kamoia
		Lower Mwashya		
	Dipeta (R3)			
	Mines (R2)	CMN (Upper)		Kambove
		CMN (Lower)	Third orebody	
		S.D.S.		
		B.O.M.Z.		Kamoto, Mutoshi
		S.D.B.	Upper Orebody	
		R.S.C.		
		R.S.F.	Lower Orebody	Kolwezi (KOV), Tenke-Fugurume, Kamoto, Mutoshi
		D.Strat		
		Grey R.A.T.		
	R.A.T. (R1)			

Figure 1: Schematic Stratigraphic Section of the Roan Series in the Central African Cobberbelt. All members comprising the Mines (R2) Series are developed at Kamilombe

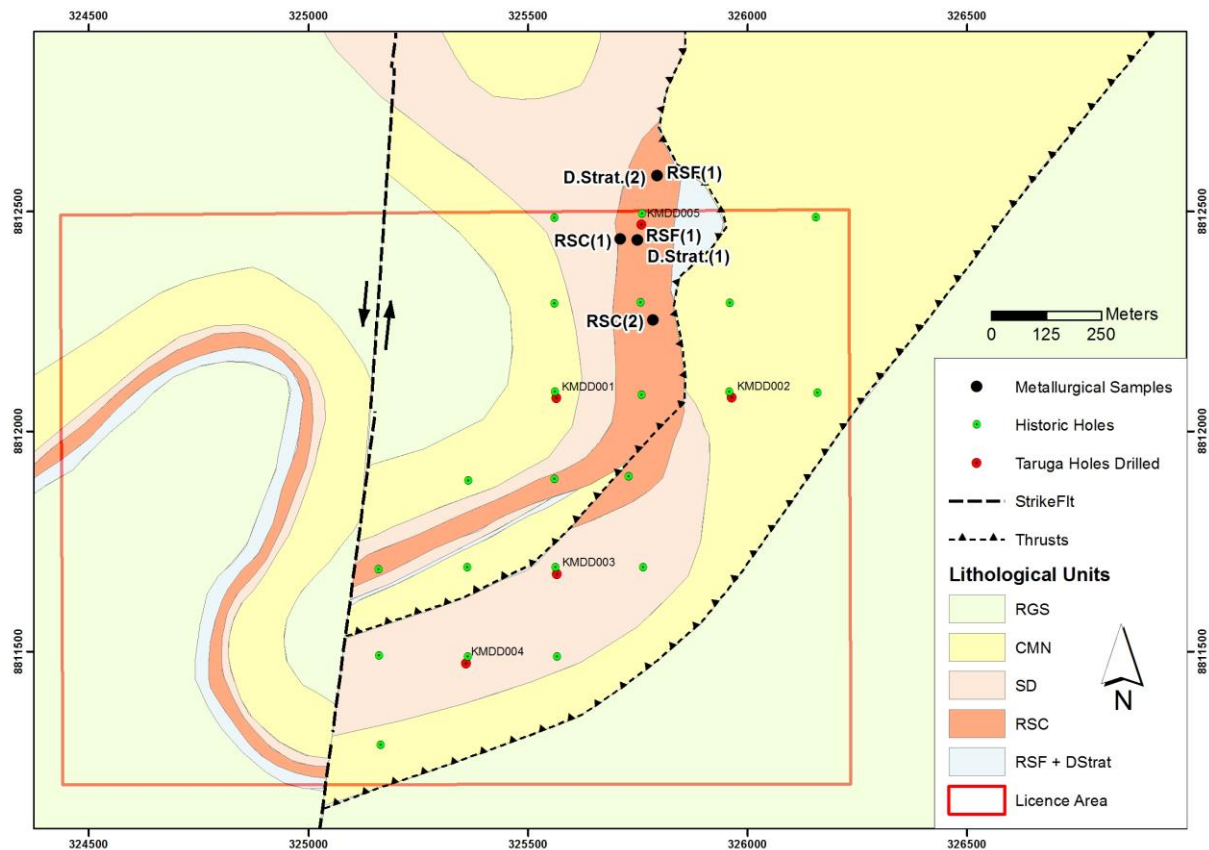


Figure 2: Metallurgical sample and Drill Hole Locations on Geology at Kamilombe

All samples were split and head assays were conducted. The main mineral assays from the DStrat samples ranged from 0.7% to 1.4% Co and 0.08% to 0.15% Cu. Mineralogy work identified heterogenite as the main cobalt mineral, which was relatively clean in one sample but contained varying amounts of Cu, Fe, Mn, V, Al and silica in the second sample. Size assay testing on the clean sample demonstrated that best cobalt grades were obtained by rejecting the finer than 850 micron which resulted in an upgrade of 3.5% Co to 30% of the original mass and recovery of 70% of the cobalt. The clean sample also responded well to HLS (Heavy Liquid Separation) and should respond well to gravity separation techniques. The second sample had a predominance of Co in the very fine fractions and possibly explains why its response to HLS was poor. Shaking table testwork was conducted on a combination of both samples and demonstrated cobalt recovery of 59% and a resultant concentrate grade of 4.1% Co. Magnetic susceptibility testing suggested magnetic separation is not an effective beneficiation process due to the highly oxidised nature of the material which lacks magnetic minerals.

The testwork has provided early indications of how the orebody may be processed to maximise economic returns from an early, shallow mining operation. Cashflow generated from shallow mining would be used towards a deeper resource drilling

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programme and feasibility studies at Kamilombe. Taruga is hopeful that a simple flowsheet and an economical processing facility can be confirmed in more detail following further testwork on exploration drill core.

The Company continues to work with its partners within the DRC on progressing new license agreements for Kamilombe and Mwilu. Fortunately, the Presidential elections were conducted relatively peacefully in the DRC, with the opposition President sworn in on 24 January 2019. Management is confident that the issuing of the new licenses will take place within the month.

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Competent Person's Statement – Exploration Results

The information in this report that relates to exploration results is based on, and fairly represents information and supporting documentation prepared by Mr Mark Gasson, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Gasson is an Executive Director of Taruga Minerals Limited. Mr Gasson has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves". Mr Gasson consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Operating in the Democratic Republic of Congo

The main projects in which Taruga proposes to acquire are located in the Democratic Republic of Congo (**DRC**). The Company will be subject to the risks associated with operating in DRC. Such risks can include economic, social or political change, changes of law affecting foreign ownership, taxation, working conditions, rates of exchange, exchange control, exploration licensing, export duties, repatriation of income or return of capital, environmental protection, mine safety, labour relations as well as government control over mineral properties or government regulations.

Changes to DRC mining or investment policies and legislation or a shift in political attitude may adversely affect the Company's operations and profitability.

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Adverse changes in government policies or legislation may affect ownership of mineral interests, taxation, royalties, land access, labour relations, and mining and exploration activities of the Company. It is possible that the current system of exploration and mine permitting in DRC may change, resulting in impairment of rights and possibly expropriation of the Company's properties without adequate compensation.

Exploration Risk

The mineral licences in which Taruga proposed to acquire are at various stages of exploration, and potential investors should understand that mineral exploration and development are high-risk undertakings.

There can be no assurance that exploration of these licences, or any other licences that may be acquired in the future, will result in the discovery of an economic ore deposit. Even if an apparently viable deposit is identified, there is no guarantee that it can be economically exploited.

The future exploration activities of the Company may be affected by a range of factors including geological conditions, limitations on activities due to seasonal weather patterns, unanticipated operational and technical difficulties, industrial and environmental accidents, native title process, changing government regulations and many other factors beyond the control of the Company.





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JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i> 	<p>Six 12kg samples were collected from artisanal workings at Kamilombe for metallurgical testwork. Two samples were collected from each of the RSC, RSF and DStrat stratigraphic units. Samples were not collected according to "industry standards" due to complexities and access down the artisanal pits and are therefore NOT representative.</p> <p>The aim of the metallurgical testwork programme was to prepare a preliminary flow sheet that may form the basis of a more detailed future testwork programme from representative drill core samples when exploration drilling can commence. This initial testwork focused on attempting to identify a possible simple beneficiation technique to recover a cobalt concentrate.</p> <p>The metallurgical samples were placed in sealed plastic buckets before being shipped to ALS Metallurgy, Perth, WA for metallurgical testwork.</p> <p>Testwork was only carried out on samples from the DStrat stratigraphic unit occurs as it occurs as highly friable sandy material and would therefore not require crushing, thus reducing processing costs.</p>
Drilling techniques	<ul style="list-style-type: none"> <i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i> 	<p>NA. Samples were channel samples collected from artisanal workings.</p>
Drill sample recovery	<ul style="list-style-type: none"> <i>Method of recording and assessing core and chip sample recoveries and results asses</i> <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i> <i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i> 	<p>NA. Samples were channel samples collected from artisanal workings.</p>



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Criteria	JORC Code explanation	Commentary
Logging	<ul style="list-style-type: none"> <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i> <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i> <i>The total length and percentage of the relevant intersections logged.</i> 	The Company's senior exploration geologist identified the different stratigraphic units being mined by artisanal miners from individual vertical pits prior to sampling. Sampling was then conducted to ensure 2 samples were collected for each stratigraphic unit, being the RSC, RSF and DStrat members, although these might not be truly representative.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i> <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	Samples collected were dry riffle split for sub samples and were conducted in the ALS Perth laboratory. Sample preparation was conducted to comply with international standards. Representivity of sub samples maintained strict quality control.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i> <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i> 	The nature and quality of assaying is considered appropriate for the metallurgical testwork. Assay results will not be used in any future resource estimations.



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Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	No verification was carried out and no adjustments were made as the release pertains to channel samples collected in artisanal workings under the control of the Company's senior exploration geologist.
Location of data points	<ul style="list-style-type: none"> <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i> 	<p>All artisanal pits from which metallurgical samples were collected at Kamilombe were located using a Garmin GPS.</p> <p>Coordinates are reported in the WGS84-UTM35N Grid system.</p>
Data spacing and distribution	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> <i>Whether sample compositing has been applied.</i> 	NA. Samples were for metallurgical testwork and will not be used in any Mineral Resource estimations. Spacing was dependent on accessibility and the stratigraphic unit mined.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i> 	It is unlikely that samples are truly representative although caution was used to sample perpendicular to the stratigraphic layering where possible. The Company cannot guarantee that unbiased sampling was achieved due to limited exposure down the artisanal workings.
Sample security	<ul style="list-style-type: none"> <i>The measures taken to ensure sample security.</i> 	<p>Samples were collected by employees of Taruga.</p> <p>Samples were transported to Lubumbashi under the supervision of Taruga's senior employee before being submitted to ALS Metallurgy in Perth, WA for sample preparation and metallurgical testwork.</p>



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Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of sampling techniques and data.</i> 	No audits completed.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i> <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i> 	<p>This announcement relates to channel samples collected from artisanal workings on the Kamilombe Project (portion of PE 11599) located in the Democratic of Congo (DRC). The acquisition and deal terms were announced 1 March 2018. The permit covers an area of roughly 2.8km².</p> <p>The validity of the title has been reviewed on Government databases, however a proper legal opinion on the status of all licences will be provided as part of the Due Diligence process.</p> <p>The agreement is subject to due diligence period of 7 months during which Taruga has committed to short drilling programmes. The due diligence period has subsequently been extended to 3 weeks from the final acquisition of additional tenure at Kamilombe.</p>
Exploration done by other parties	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<p>A diamond drilling programme was carried out by KCC Katanga and Gecamines which ended in 2013 on the Kamilombe project. No detailed information regarding logging, core recoveries, surveys, QAQC has been provided. The Company twinned a selection of these holes during the due diligence period to confirm grades and widths and true thickness of the results reported by Gecamines/KCC Katanga.</p> <p>Early stage exploration consists of geochemical sampling.</p> <p>No other exploration is known to have been completed within the permit areas.</p>
Geology	<ul style="list-style-type: none"> <i>Deposit type, geological setting and style of mineralisation.</i> 	<p>All permits are located within the Central African Copper Belt. The Copper Belt extends over an area of 700km x 400km, from south-eastern DRC into Zambia.</p>



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Criteria	JORC Code explanation	Commentary
		<p>Mineralisation style is sediment hosted Copper-Cobalt mineralisation.</p> <p>Previous geological exploration within the Copper Belt targeted the lower sedimentary sequences (known as the “Mines Group”), however recent work has highlighted mineralisation in the overlying Mwashya and Nguba groups. Significant discoveries include the Kamoa deposit (Ivanhoe Mines) where mineralisation is hosted in the “Grand Conglomerate Formation” at the base of Nguba group (also referred to as the Lower Kundulungu).</p> <p>Locally the geology within the permit areas consist of carbonaceous shales and siltstones of the Kundulungu group and more than 28km of Roan Mines (R2) Series.</p>
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<p>NA. Release refers to channel samples collected from artisanal workings.</p>
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. 	<p>NA. Release refers to channel samples with one assay result calculated for each 12kg sample.</p>



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Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	NA. Release refers to channel samples which were collected perpendicular to the regional stratigraphy.
Diagrams	<ul style="list-style-type: none"> Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views. 	An appropriate stratigraphic section and a plan view channel sample location points are included in this release.
Balanced reporting	<ul style="list-style-type: none"> Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results. 	NA. Release refers to channel samples collected for metallurgical testwork.
Other substantive exploration data	<ul style="list-style-type: none"> Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances. 	<p>Due diligence diamond drilling has been completed at Mwilu and Kamilombe by Taruga. All results were announced 30 Jul 2018, 31 Aug 2018 and 14 September 2018.</p> <p>Drill hole collar data and main intervals were included as tables in the body of the announcements above.</p> <p>Elevation data was recorded using a Garmin handheld GPS. On completion of an infill drilling programme all drill hole collars will be surveyed with a DGPS to accurately establish position and elevation.</p> <p>Historical drilling has been completed at the Kamilombe prospect, however the company has received only preliminary information in the form of geological drill logs. Taruga undertook validation drilling as part of the Due Diligence period and also undertook a review of the historic drilling including survey of collars and creation of a database from geological logs as well as pursuing original geological databases that may contain additional information.</p>

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Criteria	JORC Code explanation	Commentary
Further work	<ul style="list-style-type: none"><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	Historic exploration consists of geochemical sampling and drilling with partial cover of the permits. Taruga has confirmed positive drill results at Kamilombe and Mwilu and will commence infill drilling once the due diligence has been completed. Taruga will conduct soil geochemical and air core drilling programmes on all early stage projects on completion of the initial due diligence programmes. The immediate future work is a process of Due Diligence drilling, geochemical sampling with samples dispatched to a commercial laboratory for analysis and verification of the surface anomalies.