

Niuminco Group Limited

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# QUARTERLY ACTIVITIES REPORT MARCH QUARTER 2017

## HIGHLIGHTS AND SIGNIFICANT EVENTS

- The initial 48 metres of the first hole (EDD 024) in the Karuka/Enterprise potential bulk-tonnage zone produced results indicating strong continuity of mineralization and high-grade intercepts:
  - EDD 024 intercepted <u>48 metres @ 1.72 g/t</u> Au from surface, including:
    - 3.2 metres @ 16.75 g/t Au from 39.1m, including a section of,
    - 1.3 metres at 32.1 g/t Au from 41.0 metres
- Assays for the remainder of EDD 024, which ended at a depth of 219 metres, showed extensive further, lower grade mineralization, indicating that the concept of a large, disseminated gold-bearing system is correct.
- The second hole in the Enterprise / Karuka stock-work and diatreme system, EDD 025, has been completed at a depth of 126.5metres. Assays are awaited.
- Edie Creek production for the Quarter was 3490 grams (112.2 ounces) of gold and 3540 grams (113.8 ounces) of silver for sales of AUD\$176,734(PGK425,558).
- 1012 wet tonnes of ore processed at an average grade of 3.4 grams per processed tonne of ore.
- Share Placement managed by Patersons Securities Limited which raised \$600,000 before issue costs.
- Continued delivery and installation of new processing equipment to significantly increase throughput and consistency of operations.

 Encouraging drill results and discussions commenced on a possible corporate transaction for Niuminco's 72.54% owned TNT Mines Ltd

## **PAPUA NEW GUINEA PROPERTIES**

Edie Creek Mine Mining and Production Update



Installation of the new 5 tph ball mill

Production for the period 1 January to 31 March, 2017 was 3490g (112.2 ounces) of gold and 3540g (113.8 ounces) of silver for total sales of AUD\$176,734 (PGK425,558).

A total of **1,012** wet tonnes of ore was processed at an average grade of **3.4** grams per processed tonne of ore.

At the Surmans vein system significant further development work was undertaken to access higher-grade ore. A recent landslip subsequent to the end of the Quarter has necessitated further development work.

The Company's short term strategy is to achieve increased, consistent mining and processing throughput of 40 to 60 tonnes per day. In line with this, during the Quarter delivery was taken of new processing equipment items, including a 10-15 tph roller crusher, a 5 tph ball mill and a 2 tph centrifugal concentrator.



At current gold prices and exchange rates the current operating cost break-even production level at Edie Creek is approximately 2580 grams (83 ounces) of gold per month.

Following the installation and commissioning of all the new processing plant and equipment, the Company believes it will achieve these significantly higher production levels during the current quarter.



### DRILLING AT EDIE CREEK

**During the Quarter Niuminco Group Limited** ("Niuminco" or "the Company") completed the second hole, EDD 025, of the planned 10 hole drilling program of the potential bulk-tonnage Karuka -Enterprise stock-work and diatreme zone. The hole was finished at a depth of 126.5 metres.

This target has a strong gold anomaly defined by 1,366 continuous chip samples of weathered rock outcrop in trenches over a **cumulative length of 2,732m**, which averaged 0.53g/t Au. This sampling was confined to a broadly elliptical shaped zone with dimensions 600m by 300m, defined by the yellow circle in the NW of *Figure 3*.



Figure1: Niuminco drill rig and team drilling hole EDD 024 at the Karuka/Enterprise stockwork and diatreme.

The Screen Fire Assay results for drill-hole EDD 024 have confirmed the presence of coarse gold by showing a **weighted average grade of 1.72g/t Au for the first 48m**, and demonstrated gold values to a maximum of 0.2g/t Au in a number of sections throughout the balance of the hole. This low order tenor was consistent throughout the sections assayed, **indicating that the concept of a large disseminated gold-bearing system is correct.** These results will assist in further drill-hole targeting for the balance of the program.

EDD 025 was collared towards the Eastern-end of the Karuka-Enterprise stock-work and diatreme zone, to the west (left) of Slate Creek between the Karuka and Enterprise flags in *Figure 2* below.



Figure 2: Edie Creek oblique Google Earth view showing location of infrastructure, vein systems and main targets.

Hole EDD 025 had the following parameters:

HOLE	E	Ν	RL (m)	AZ AMG	DIP	END DEPTH (m)
EDD 025	462,040	9,186,940	2050	220	60	126.5

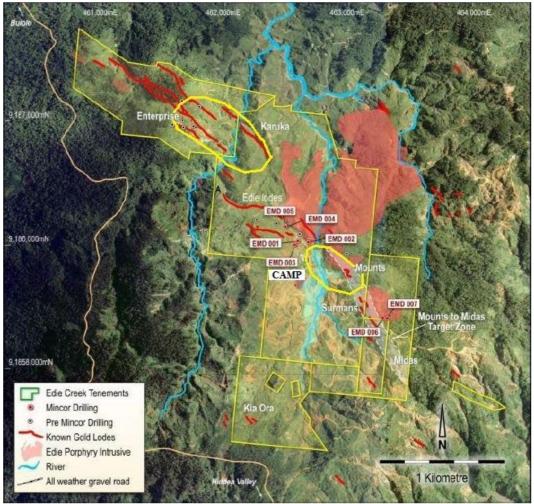


Figure 3: Google earth image showing leases boundaries, main targets & potential stockwork zones.

This program will be recommenced following completion of the upcoming Bolobip and May River drilling programs.

# **Bolobip and May River Exploration Licences**

Planning for the upcoming exploration programs continued during the Quarter for both the highly prospective May River and Bolobip exploration licences (EL1441 and EL1438 respectively). This included finalizing quotes for camp repair works and transportation of the drilling rig and equipment, and the purchase of drilling and ancillary equipment.

The Company expects to mobilize a drill rig to Bolobip in the near future.

## TNT MINES LIMITED

Niuminco Group Limited owns 72.54% of and manages, TNT Mines Limited (TNT). TNT holds a suite of advanced exploration areas in northern Tasmania prospective for tin and tungsten.

During the March Quarter the 2<sup>nd</sup> (LDD 002) and 3<sup>rd</sup> (LDD 003) holes of the planned 10 hole drilling program at EL 27/2004 (the "Aberfoyle-Rossarden-Royal George" tenement) were completed.

As previously advised, Niuminco Group Limited's 72.54% owned TNT Mines Ltd is drill testing known mineralised systems adjacent to the major historic tin and tungsten mine at Aberfoyle in Northeast Tasmania.

The program aims to test the medium depths below the outcropping Kookaburra and Johnson mineralised quartz vein systems, and to intersect the major Lutwyche system approximately halfway between outcropping surface mineralisation and the 300-400m depth at which it was historically extensively explored and developed.

Three holes have been completed – LDD001, LDD002 and LDD003 (Refer Figure 4 below).

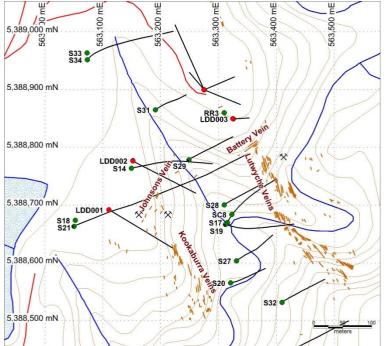


Figure 4: Holes LDD001 and LDD002 tested the Kookaburra and Johnston systems and both have encounted widespread tin and lesser tungsten mineralisation associated with quartz veins (current and planned drill holes in red).

Assays have returned from LDD 001, which was drilled to 198 m or about 150 m vertically. It returned peak values of 8.9% tin, 6.3% tungstate, 582ppm silver, 2480ppm copper and 1.41% zinc. Assays are summarised in the following Table 1.

Hole_ID	From (m)	To (m)	Interval (m)	Sn XRF %	WO₃ %	Sn% Equiv	Interval Comment
	00.00	404.50	44.00	0.07	0.04	0.40	All mineralised intervals
LDD001	80.20	124.50	44.30	0.07	0.04	0.10	included
LDD001	80.20	86.50	6.30	0.32	0.00	0.32	
including.	80.20	81.20	1.00	0.22	0.00	0.22	
including.	86.30	86.50	0.20	8.90	0.01	8.91	
LDD001	90.00	91.00	1.00	0.17	0.00	0.17	
LDD001	99.70	106.00	6.30	0.08	0.26	0.22	
including.	99.70	100.65	0.95	0.28	1.35	1.02	
including.	99.70	99.90	0.20	0.64	6.30	4.07	
including.	105.80	106.00	0.20	0.78	1.64	1.67	
LDD001	111.70	115.00	3.30	0.16	0.03	0.18	
including.	111.70	112.30	0.60	0.54	0.05	0.57	
including.	113.80	115.00	1.20	0.18	0.03	0.20	

Table 1. Significant Tin and Tungsten Intersections from LDD001. NB: Sn(%) Equivalent is based uponmetal prices on 23/1/2017, being US\$9.163/Lb Sn and \$US4.99/Lb WO3; The formula used is Sn(%)Equivalent = Sn(%) + 0.54461 X WO3% (source:- <a href="https://www.metalprices.com/dailysnapshots/Index">https://www.metalprices.com/dailysnapshots/Index</a> ).

The tin and tungsten mineralisation is present within numerous narrow sheeted veins principally between 80m and 130m down-hole, and probably corresponding with the Johnson's vein system.

Hole LDD002 was terminated at 190.1 m following a zone of strongly visible tin, tungsten and copper mineralisation, and having intersected numerous other veins with visible tin and tungsten mineralisation further up-hole.



Photo: (Left) coarse grained cassiterite at 184.65m and quartz chalcopyrite-wolfram at 185.35m. (Right) LDD002, view to SSE

Hole LDD003 targeted the Lutwyche vein system at about 100 m vertically. Cassiterite and wolfram mineralised veins were intersected within the intervals 3 to 11m, 21 to 23m, 52 to 59m and 65 to 69m, with a cassiterite vein at 75.1m (see photo below).



Photo: Quartz-Cassiterite vein at 75.1m in LDD003.

Hole_ID	East (GDA94)	North (GDA94)	RL (m)	Azimuth (TN)	Dip	Depth (m)	Date Commenced	Date Completed
LDD001	563111	5388692	607	121	-50	198	22/11/2016	9/12/2016
LDD002	563152	5388777	606	117	-50	190.1	10/12/2017	30/01/2017
LDD003	563325	5388850	610	87	-74	98.1	31/01/2017	27/02/2017

Table 2: Hole parameters of holes LDD001, LDD002 and LDD003

Previous mine operator, Aberfoyle NL, undertook very significant evaluation and development on the system at about 400 m depth. It was intending to begin mining operations from there in the early 1980s but the tin price collapsed and the entire operation was shut down.

Assays from LDD002 and LDD003 will be reported when they become available.

Niuminco is very encouraged by the results to date and is currently reviewing strategic options for TNT Mines Ltd, including potential corporate opportunities.

## CORPORATE

In January \$600,000 (before issue costs) was raised through a share placement managed by Patersons Securities Limited.

The Board and Management continued to advance all the Group's Papua New Guinea projects, and commenced discussions on advancing a corporate transaction for the Group's 72.45% owned TNT Mines Ltd.

The resource drilling program at TNT Mines' Aberfoyle tenement in Tasmania was put on hold following completion of the 3<sup>rd</sup> drill-hole, whilst a corporate transaction is investigated and advanced.

In PNG management continues to focus on increasing the quantity of ore mined and processed at Edie Creek as well as advancing the highly prospective Bolobip and May River projects.

Therefore, the Company has temporarily paused the drilling program at Edie Creek as it prepares to commence drilling its targets at Bolobip and completes the installation and commissioning of the new plant and equipment at Edie Creek during the current quarter.

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Mark Ohlsson Company Secretary 28 April, 2017

The information in this report that relates to exploration results is based on Information reviewed by John Nethery (BSc Dip Ed.) who is a Fellow of the Australasian Institute of Mining and Metallurgy (Chartered Professional) and a Fellow of the Australian Institute of Geoscientists. Mr Nethery has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. He consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

### SCHEDULE OF TENEMENTS

Permit Type	Number	Location	Held Via	Beneficial %	Agreement Type
NIUMINCO GRO		- PAPUA NE\	W GUINEA ASSE	ſS	
Exploration licence	EL 1438	Bolobip	Niuminco (ND) Limited	100	
Exploration licence appl'n	ELA 2363	Hotmin	Niuminco (ND) Limited	100	
Exploration licence	EL 2365	Ama	Niuminco (ND) Limited	100	
Exploration licence appl'n	ELA 2364	Wameimin	Niuminco (ND) Limited	100	
Exploration licence	EL 2362	Fagobip	Niuminco (ND) Limited	100	
Exploration licence	EL 1441	May River	Niuminco (ND) Limited	100	
Mining lease	ML 144	Edie Creek	Niuminco Edie Creek Limited	83	Joint venture
Mining lease	ML 380	Edie Creek	Niuminco Edie Creek Limited	83	Joint venture
Mining lease	ML 384-392	Edie Creek	Niuminco Edie Creek Limited	83	Joint venture
Mining lease	ML 402-410	Edie Creek	Niuminco Edie Creek Limited	83	Joint venture
Mining lease	ML 444-446	Edie Creek	Niuminco Edie Creek Limited	83	Joint venture
Mining lease	ML 462	Edie Creek	Niuminco Edie Creek Limited	83	Joint venture
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#### Exploration Aberfoyle **TNT Mines** EL27/2004 100 Storeys licence Limited Creek Royal George Retention RL2/2009 TNT Mines 100 Great Pyramid Limited licence

\* Niuminco Group Limited has a 72.54% interest in TNT Mines Limited.

## JORC Code, 2012 Edition – Table 1 report to accompany ASX release Mar 2017.

## **Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Sampling reported for Edie Creek is for ½ PQ, HQ or NQ diameter diamond drill core.</li> <li>Holes were generally steeply dipping (&gt;60°)</li> <li>Hole azimuths were generally planned to perpendicularly intercept, or intersect at a high angle, any known or inferred veins, mineralized zones or structural trends.</li> <li>Sampling was done on sawn half core.</li> <li>Consistency of sampling method was maintained by reference to a written protocol.</li> <li>Sampling method is considered appropriate for vein style epithermal gold mineralisation.</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).</li> </ul>	<ul> <li>All holes drilled by Niuminco are triple tube diamond core. Holes were drilled using HQ size core. The core was un-oriented.</li> </ul>

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>Recoveries recorded on a drill run and sample length basis.</li> <li>There were some zones of poor recovery in near surface leached and oxidized zones and in intensely altered shear zones.</li> <li>Overall recovery is acceptable but needs improvement. Most holes average 85% recovery. Recovery in the fresh mineralized zones averages 65%, recovery in oxidised mineralisation is 55%.</li> <li>Could be grade loss with low recovery in fine gold in wad.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All holes were geologically and geotechnically logged to a detail and standard appropriate for mineral resource estimation.</li> <li>The logs are qualitative/semi-quantitative and record lithology, alteration, mineralogy, mineralization, weathering, strength, fracture numbers and their orientations and other relevant features of the core.</li> <li>All core recovered is logged</li> </ul>
Sub- sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Samples are taken by cutting the core in half using a diamond saw.</li> <li>No non-core samples were taken.</li> <li>Samples were taken based on geological observations of changes in mineral intensity or type.</li> <li>Sampling protocol is documented with a flow sheet.</li> <li>Half core samples bagged and dispatched to Intertek Lae/Townsville for crushing, grinding and assay.</li> <li>All sampling methods and sample sizes are deemed to be appropriate and are similar to sampling protocols used on epithermal gold deposits.</li> </ul>
Quality of assay data and	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF</li> </ul>	<ul> <li>All drill core samples were assayed using a 50g fire assay for Au, Screen Fire Assay of suspected coarse grained gold sections and ICP method for Ag and other elements.</li> <li>The gold is determined by fire assay by using lead</li> </ul>

Criteria	JORC Code explanation	Commentary
laboratory tests	<ul> <li>instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>collection technique with a 50 gram sample charge weight.</li> <li>Assaying carried out by Intertek Lae/Townsville, an accredited lab.</li> <li>QAQC program involved standards submitted to the laboratory. No lab check carried out to date as the program has only recently started. Outcomes indicate acceptable precision and no obvious bias.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Significant intersections have been verified by the Competent Person and the Edie Creek mine geologists</li> <li>There were no twinned holes.</li> <li>Niuminco has a series of written protocols relating to sampling, logging, data entry, data checking and data storage</li> <li>There have been no adjustments to the assay data.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Drillhole collars were located by theodolite survey. Drill collar elevations were also calculated from the theodolite survey conducted by Niuminco over the Edie Creek Mining Leases area.</li> <li>Expected accuracy is +/-0.1 m for northing and easting and +/-0.1 m for elevation coordinates</li> <li>WGS84, zone 56S for local GPS work.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>This is the first hole of a proposed 10 hole program on the Enterprise – Karuka stockwork zone.</li> <li>Drilling in this report is of a scout nature and did not follow regular spacing or azimuth.</li> <li>Downhole sampling is dependent upon intensity of mineralisation.</li> <li>Compositing has not been applied.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>Drilling orientation is believed appropriate with no bias. Where some control to mineralisation distribution is suggested, the drill hole is oriented to perpendicular to the controlling feature.</li> <li>Where multiple structures of unequal proportions or grade are identified, the drillhole is oriented perpendicular to the higher grade structure</li> <li>Where multiple structures of equal proportions or grade</li> </ul>

Criteria	JORC Code explanation	Commentary
		are identified, the drillhole is oriented to bisect each structure at the highest possible angle.
Sample security	The measures taken to ensure sample security.	<ul> <li>Chain of custody is managed by Niuminco. Samples are collected and stored on site by Niuminco personnel. Half core samples are shipped directly to Intertek Lae by mine courier. Tracking sheets track the progress of sample batches.</li> </ul>
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>No audits or reviews have been carried out at this stage.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The results reported relate to exploration carried out within Mining Lease Number 462. This is one of the contiguous Mining Leases held by Niuminco collectively known as the Edie Creek Leases. They are ML, 144, 380, 384 - 392, 402 - 410, 444 - 446 &amp; 462. The Leases are issued under the Authority of the PNG Mining Act (1992).</li> <li>Niuminco holds an 83% interest in the ML's. Mincor holds 17%.</li> <li>A royalty on production of Kina10/oz up to 20,000oz and Kina5/oz is payable to Barrick. (2.5 Kina are approximately equal to 1\$Aus).</li> <li>The tenements are in good standing and no known impediments exist.</li> </ul>