

## **TOPTUNG LIMITED**

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Australia Securities Exchange Exchange Centre 20 Bridge Street Sydney NSW 2000

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#### ADDITIONAL ASSAYS - TORRINGTON TUNGSTEN AND TOPAZ PROJECT

Additional assays for diamond core (DC) Hole 277 increases mineralised zone to 26m at 0.51% W (6,384ppm WO<sub>3</sub>).

The mineralised intercept in vertical diamond core (DC) hole 277 at Wild Kate previously reported (ASX 18th August 2017) as 19m at 0.51% W from 19 to 38m downhole has been extended a further seven metres to 45m depth.

Interval	Fusion XRF	Fusion XRF
(metre)	W%	WO <sub>3</sub> ppm
19-20	0.186	2,344
20-21	0.497	6,262
21-22	0.557	7,018
22-23	0.417	5,254
23-24	0.347	4,372
24-25	0.684	8,618
25-26	0.605	7,623
26-27	0.431	5,431
27-28	0.908	11,441
28-29	0.979	12,335
29-30	0.395	4,977
30-31	0.778	9,803
31-32	0.699	8,807
32-33	0.495	6,237
33-34	0.592	7,459
34-35	0.584	7,358
35-36	0.706	8,896
36-37	0.349	4,397
37-38	0.773	9,740
38-39	0.339	4,271
39-40	0.504	6,350
40-41	0.327	4,120
41-42	0.429	5,405
42-43	0.178	2,243
43-44	0.220	2,772
44-45	0.195	2,457
26 metre	0.507	6,384

#### Discussion:

Tungsten mineralisation at Torrington occurs within a silexite host rock, a quartz-topaz greisen associated with the regional Mole granite basement. The silexite occurs as intrusive pipes, dykes and sills and tungsten mineralisation is highly variable in grade and distribution within silexite. Drilling to date has been predominantly targeting old workings and outcropping silexite, but DC hole 277 highlights the potential of buried silexite as a future target. Drilling to date has tested only about 10% of the potentially mineralised surface area and many of the earlier holes around Mt Everard were terminated at 14m if silexite was not intersected.

In previous ASX updates attention has been drawn to a variable thickness (up to 12m) layer of clay overlying portions of the silexite sills at Wild Kate. In the case of DC hole 277 it was 11m thick. The clay is kaolinitic and free digging and although the Company has previously said it may have a negative financial impact on the Project where present, research into its potential uses and markets indicate it may contribute some value.

### DC Hole 277 core photographs:

**NOTE:** The core samples shown in these photographs have been retained as specimens and have therefore not been included in the assay data listed in the table above.



Photo 1: Hole T277C – 25m: Weathered fractured silexite with disseminated tungsten (ferberite) through silexite and on fractures. Pitting - weathered out ferberite and kaolin (muscovite). Metre interval assayed 8,618ppm WO<sub>3</sub>.



Photo 2: Hole T277C – 29m: Silexite host rock with coarse grained tungsten (ferberite) and quartz vein. Metre interval assayed 1.23% (12,335ppm) WO<sub>3</sub>.



Photo 3: Hole T277C – 42m: Silexite host rock with coarse grained tungsten mineralisation (ferberite) and white feldspar pegmatite (right). Metre interval assayed 5,405ppm WO<sub>3</sub>.

For, and on behalf of, the Board of Directors of TopTung Limited

Dr Leon Pretorius Executive Chairman TopTung Limited

### For any enquiries please contact

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#### **Competent Person Statement**

The information in this ASX announcement that relates to Exploration Results is based on information compiled by Dr Leon Pretorius. Dr Pretorius is the Executive Chairman of TopTung Ltd and is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM) (CP) and a Member of the Australian Institute of Geoscientists (MAIG). Dr Pretorius has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activities, which he is undertaking. This qualifies Dr Pretorius as a "Competent Person" as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012). Dr Pretorius consents to the inclusion of information in this announcement in the form and context in which it appears. Dr Pretorius holds shares TopTung Ltd.

**Attachments:** 

Appendix 1 - JORC Table 1

## **APPENDIX 1**

# 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> <li>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.</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 (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30g 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.</li> </ul>	<ul> <li>The RC samples were collected from a trailer mounted cyclone in green plastic bags in 1m intervals. A 1kg representative sample is passed through a cyclone and cone splitter system, collected in a calico bag and placed on top of the green plastic for that metre interval.</li> <li>All sampling of RC holes was undertaken using TopTung's sampling procedures and QAQC in line with industry best practice which includes standard and duplicate samples on average every 20 samples.</li> <li>The RC rig provides a sample at the end of each metre of drilling. A 1kg sample is collected from the cone splitter which is representative of that metre drilled.</li> <li>Each calico bag is scanned with a portable XRF analyser for tungsten (W) content as a guide to selection of samples to be submitted to the laboratory for XRF analysis.</li> <li>Drill core is cut with a diamond saw and half core samples submitted to the laboratory for XRF analysis. Full core was also submitted for assay with representative chips retained after crushing in chip trays for each metre.</li> </ul>
Drilling techniques	<ul> <li>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).</li> </ul>	diameter of 5.25inches (133mm).

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>RC: The RC samples were collected dry. RC recoveries were visually estimated, and recoveries recorded in the log as a percentage. Recovery of the samples was good, generally estimated to be 100%, except for some sample loss at the top of the hole. All RC holes have been dry.</li> <li>DD: Drillers measure core recoveries for every drill run completed using three metre core barrels. The core recovered is physically measured by tape measure and the length recovered is recorded for every three metre "run". Core recovery can be calculated as a percentage recovery. Generally 100% recoveries were achieved.</li> <li>No sampling bias has been identified in the data at this stage.</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>Resolve-Geo contract geologists geologically logged all chips and drill core, using TopTung's logging scheme.</li> <li>Sample logging is both qualitative e.g. logging of colour, grainsize, weathering, structural fabric, lithology and alteration type; and quantitative e.g. % mineral present depending on the feature being logged.</li> <li>RC: Logging of RC chips records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All samples are wet-sieved and stored in a chip tray.</li> <li>DD: Logging of drill core records lithology, mineralogy, mineralisation, weathering, colour and other features of the samples. All core is photographed in the cores trays, with individual photographs taken of each tray both dry, and wet, and photos uploaded to the TopTung database.</li> <li>All holes were logged in full at the drill site and data entered into digital templates at the project office.</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> </ul>	<ul> <li>Core was cut with a diamond saw with the same half always sampled and the other half retained in core trays. The 50% sampling is considered appropriate for the majority of mineralisation intersected to date.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>For all sample types, the nature, quality, and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling 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>Dependent on the style of mineralisation full core was also submitted for assay with representative pieces of each metre sampled being retained.</li> <li>All RC sub-samples are collected via a cone splitter as part of the trailer mounted cyclone system. All samples are dry and pass through the cyclone – splitter system as required.</li> <li>The trailer mounted cone splitter is adjusted to ensure that the 1m split sample weighs on average 1kg. The cyclone and cone splitter is cleaned using an air nozzle after every drill rod – 6m. Sampling equipment and sample bags are kept clean at all times.</li> <li>TopTung's sampling procedures and QAQC is used to maximise representivity of samples.</li> <li>TopTung has undertaken an analysis of the QAQC of the Torrington drilling which has included the use of certified reference materials (standards) and unmineralised samples (blanks).</li> <li>The 1kg sub-samples are considered appropriate for the style of tungsten mineralisation being targeted at Torrington.</li> <li>Some duplicate sampling has also been undertaken.</li> <li>Half core and full core samples over 1m length were crushed ALS in Brisbane or at Townes Contracting Tenterfield NATA laboratory to 100% passing 5mm and a representative 1kg subsample split off for assay.</li> <li>At the ALS Brisbane, the 1kg sub-samples were pulverized to 90% passing 75 microns from which a pressed powder aliquot was prepared for assay.</li> </ul>
Quality of assay data and laboratory tests	<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 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 (e.g. standards,</li> </ul>	<ul> <li>Samples from drilling were submitted to ALS in Brisbane.         Samples were analysed for tungsten (W) by pressed powder XRF. Samples with W values &gt;5,000ppm were re-assayed by fusion XRF.</li> <li>External quality assurance of the laboratory assays was monitored by the insertion of blanks, duplicates and certified reference materials (CRM).</li> <li>Field duplicates consisting of a split sub-sample of the original</li> </ul>

Criteria	JORC Code explanation	Commentary
	blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	<ul> <li>crushed sample material are also submitted for assay.</li> <li>Two CRMs are alternated through the sample stream and where possible matched to the material being drilled.</li> <li>Two blanks are inserted into the sample sequence</li> <li>No external laboratory checks have been carried out at this stage.</li> <li>The Company uses a handheld XRF analyser to select samples for laboratory assay. This instrument is calibrated twice daily using CRMs. For the first batch of samples submitted to ALS for assay a comparison between the laboratory XRF results and the scanned values show excellent correlation.</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>The Competent Person (CP) is TopTung's Executive Chairman Dr. Leon Pretorius is personally supervising the drilling and sampling.</li> <li>The CP and TopTung's Technical Director have reviewed the laboratory data and have confirmed the calculation of significant intersections.</li> <li>At least two different company personnel and the contract geologist have visually verified intersections in the collected drill chips. A representative sample of each metre is collected and stored for further verification if needed.</li> <li>Drill core or core photos are used to verify drill intersections in diamond core samples.</li> <li>No twin holes have been drilled at this early stage in the programme.</li> <li>No adjustments are made to the primary assay data imported into the database.</li> </ul>

Criteria	JORC Code explanation	Commentary
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>All hole collars were surveyed in GDA94 Zone 56 (Southern Hemisphere) using a handheld GPS.</li> <li>The drill hole collars will be re-surveyed by a qualified surveyor using a differential GPS which may result in minor adjustments to coordinate data.</li> <li>Vertical holes and shallow angle holes were not downhole surveyed.</li> <li>Topographic control is from a detailed LiDAR survey flown over the Project area. The laser system provided vertical accuracy of ± 6cm.</li> <li>The LiDAR survey also mapped the abandoned workings, waste dumps, shallow trenches and tracks from the historic mining.</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>Drill hole location is in part determined by access to the historic workings. Drilling away from workings was initially on a 25 by 50m grid, but that has been abandoned in favour of targeted drilling in future. This can be seen in figures 1 and 2</li> <li>Insufficient assay data has been collected to map grade distribution at this time although such drilling is in part complete.</li> <li>No assay compositing has 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>Angle holes were drilled perpendicular to perceived mineralisation trends defined by historical workings.</li> <li>Both vertical and angle holes test the depth extent of the silexite host rock within larger bodies of mineralisation.</li> <li>Vertical holes test for the presence of silexite host rock beneath the flat laying metasediment cover.</li> <li>No orientation based sampling bias has been identified in the data at this stage.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>The CP manages the chain of custody of RC sub-samples and drill core delivered to the Company's exploration facility in Torrington (7km from site) daily. Once processed, samples are bagged and transported by the CP to ALS Brisbane.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>Sample pulps and coarse rejects are stored at ALS Brisbane as an interim measure and collected for return to Torrington base as return loads.</li> <li>In Torrington, samples are kept in a secure yard fitted with CCTV. Tracking sheets have been set up online to monitor the progress of batches of samples through the laboratory. Representative chip trays from the RC drilling and drill core are securely stored in a shipping container.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Sampling and assaying techniques are industry-standard. No specific audits or reviews have been undertaken at this stage in the programme.</li> <li>For the first batch of samples submitted for assay by ALS both powder and fusion XRF analyses were done on each sample before deciding on using powder XRF with random and routine checks by fusion XRF. The ALS results compare well to the sample scanning / selection method from the Company's portable XRF analyser.</li> </ul>

# **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> <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 Torrington Tungsten and Topaz Project comprises granted EL 8258 and EL 8355 owned by Torrington Minerals Pty Ltd a wholly owned subsidiary of ASX listed TopTung Limited (TTW).</li> <li>The tenements are in good standing and no known impediments exist.</li> </ul>
Exploration done by other	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>The Company's website (<u>www.toptung.com.au</u>) details historical mining and exploration at Torrington</li> </ul>

Criteria	JORC Code explanation	Commentary
parties		
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Tungsten mineralisation at Torrington is hosted by silexite in the Torrington Pendant. Silexite is a quartz-topaz the late intrusive phase of the Mole Granite.</li> <li>Tungsten occurs mainly as ferberite, the Fe rich wolframite end member. It appears as either disseminated euhedral-anhedral (fine to coarse grained) crystals in silexite bodies and quartz veins or as euhedral crystals &lt;5cm in length and in bungs within silexite bodies or quartz veins.</li> <li>Topaz which constitutes between 15-20% of the silexite may add positive economic value to the project.</li> </ul>
Drill hole Information	<ul> <li>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> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul>	Refer to Table 1 in Appendix 1 of this ASX release.
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Intercepts presented only include intersections with a minimum 3m width averaging over 1,200ppm W. Widths in excess of 6m averaging over 1,000ppm W are also presented. No high-grade cuts have been applied to the assay data at this stage.</li> <li>There are no metal equivalents used.</li> </ul>

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	<ul> <li>All intersections reported are downhole widths.</li> <li>Only assumed widths (i.e. vertical extent) of the silexite bodies are known. True widths of the silexite dykes/veins intersected will only be known after further drilling to determine the geometry of the mineralisation.</li> </ul>
Diagrams	<ul> <li>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.</li> </ul>	<ul> <li>Drill hole location plans are shown as Figures 1 and 2 in Appendix 1.</li> </ul>
Balanced reporting	<ul> <li>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.</li> </ul>	<ul> <li>Significant results only are reported in the text at this time.</li> <li>Narrow and low grade intercepts will be targeted by follow-up drilling.</li> </ul>
Other substantive exploration data	<ul> <li>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.</li> </ul>	<ul> <li>The Company's website (<u>www.toptung.com.au</u>) details historical mining and exploration, geology, mineralisation, JORC Resources and exploration and recent metallurgical testwork completed by the Company at Torrington.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Follow up drilling is in progress as discussed in the text.