

# **ASX/Media Announcement**

07 September 2016

## POTENTIAL VHMS SETTING REINFORCED AT IMPALER

Thundelarra is pleased to announce that the latest diamond ("DD") drilling programme at its Red Bore Project is complete. Two holes delivered a total advance of 1,361m. Down-hole electromagnetic ("DHEM") surveys were carried out on the full length of both holes.

TRBDD016 intersected mineralised peperitic volcaniclastics (Figure 1) of the Narracoota Formation, which hosts the VHMS mineralisation at DeGrussa (Sandfire) and Monty (Sandfire/Talisman) nearby.



Figure 1. Disseminated chalcopyrite (brassy yellow) and pyrrhotite (light brownish) within hyaloclastite breccia at 281m downhole in TRBDD016 (Impaler).

Selected intervals of core were sent to the laboratory to be cut and assayed and results are pending.

The geophysical survey data will be processed and collated with the geological logs and assay data from the drillholes. The resulting interpretations will be incorporated with the conclusions from the recently-completed RC programme and reported to the market in due course. Appropriate follow-up programmes will be designed as necessary to continue testing any new targets identified.

The programme comprised one hole of 907m drilled below Gossan to test a deep gravity anomaly; and a second hole of 454.2m drilled below Impaler to test the prospective sequence of Narracoota volcanics previously identified there.

TRBDD016 successfully intercepted a volcaniclastic unit displaying typical peperitic textures (Figure 2). Disseminated chalcopyrite and pyrrhotite was intersected between 280m to 292m downhole within hyaloclastite breccia (Figure 1). The footwall dolerite was intersected at 390m downhole.

The hole was terminated at 454.2m in massive medium-grained dolerite. Assay results are pending and will be evaluated in conjunction with interpretation of the DHEM survey results.



Figure 2. Peperitic texture within hyaloclastite at 284.5m downhole in TRBDD016 (Impaler).

The presence of mineralised volcaniclastics displaying peperitic textures within a package of rocks bounded by footwall and hanging wall doleritic sills, as reported by Sandfire and Talisman as being the setting for the Monty VHMS mineralisation, is highly positive. The multi-element geochemistry from samples currently with the laboratory, when evaluated together with the geological, structural and geophysical signatures obtained from TRBDD016, will allow comparison with previous drilling results from Impaler and help to target follow-up drilling in what is becoming a very exciting setting.

Hole ID	Easting	Northing	RL	Depth	Azimuth	Dip
TRBDD015	735964	7172517	581m	907m	328°	-75°
TRBDD016	735162	7172318	576m	454.2m	330°	-80°

Table 1: Details of the holes drilled in this DD programme at Red Bore. All locations on Australian Geodetic Grid GDA94-50. The Azimuth Column records the magnetic azimuth of the drilling direction.

TRBDD015 was designed to test the deep gravity target centred approximately 170m north-west of the Gossan prospect below 600m vertical depth. The hole intersected three thin volcaniclastic sequences interbedded with three dolerite sills.

The deepest dolerite sill is the thickest (388m thick from 490m to 878m downhole) and appears to account for the gravity anomaly as a density contrast with volcaniclastics above and below. No peperitic textures were noted until 888.3m downhole. Consequently, the prospective host setting for a VHMS environment would appear to be at a very deep level below Gossan. Thin sulphide veins, mostly pyrrhotite with minor chalcopyrite, were noticed cross-cutting dolerite at 547.5m and narrow veins of remobilised sulphides were intercepted at 504.5m within the same thick dolerite sill. This means the location remains prospective but any mineralisation of scale may be at significant depth. The origin of the near-surface high grade remobilised sulphides at Gossan remains unexplained.

Red Bore (M52/597) is 90%-owned by Thundelarra. It is a two square kilometre granted Mining Licence located about 160km NE of Meekatharra in Western Australia's Doolgunna Region.



Figure 3. Drillhole collars and traces shown on TMI magnetic image of Red Bore. TRBRC are Reverse Circulation drillholes; TRBDD are diamond drillholes.

A full analysis of the test findings from the diamond drilling will be provided when all survey and assay data has been received, compiled, and evaluated.

Garden Gully gold prospect drilling results are being collated. The report will provide further context for the excellent result of **7m at 24.5gpt gold** reported in the announcement of 29 July 2016. Plans are also in train to commence investigation of the White Well prospect where rock chips from costeans dug by Murchison Exploration Ltd recorded assays of 17.97, 11.04 and 74.64 gpt Au; and 39.29, 25.92 and 1,281.81 gpt Au (refer page 15, Independent Technical Valuation Report in Notice of General Meeting and Explanatory Memorandum in ASX announcement by THX dated 12 November 2015).

For Further Information Contact:
Mr Tony Lofthouse - Chief Executive Officer
+61 8 9389 6927

THUNDELARRA LIMITED Issued Shares: 423.5M ASX Code: THX

#### **Competent Person Statement**

The details contained in this report that pertain to Exploration Results, Mineral Resources or Ore Reserves, are based upon, and fairly represent, information and supporting documentation compiled by Mr Costica Vieru, a Member of the Australian Institute of Geoscientists and a full-time employee of the Company. Mr Vieru has sufficient experience which is relevant to the style(s) of mineralisation and type(s) of deposit under consideration and to the activity which 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" (JORC Code). Mr Vieru consents to the inclusion in this report of the matters based upon the information in the form and context in which it appears.

### JORC Table 1 Checklist of Assessment and Reporting Criteria

### **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 (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. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1m 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 (eg submarine nodules) may warrant disclosure of detailed</li> </ul>	<ul> <li>This was a diamond drilling (DD) programme. Where selected, DD core was generally sampled at one metre intervals, with core marked up and cut into half and quarter core for duplicates using a large diamond blade saw. Cores were examined visually and logged by the geologist. Any visual observation of alteration or of mineralisation was noted on the drill logs and the relevant interval was tested by hand-held XRF.</li> <li>Duplicate samples are submitted at a rate of approximately 10% of total samples taken (ie one duplicate submitted for every 10 samples). The Delta XRF Analyser is calibrated before each session and is serviced according to the manufacturer's (Olympus) recommended schedule.</li> <li>The presence or absence of mineralisation is initially determined visually by the site geologist, based on experience and expertise in evaluating the styles of mineralisation being sought.</li> </ul>
Drilling techniques	information. 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).	Diamond drilling by a truck-mounted Sandvik DE880 diamond rig with 1150cfm/500psi Sullair compressor. Diamond core was drilled PQ3 from surface, then changed to HQ2 and finally to NQ2 when rock conditions dictated. Core was oriented using NQ, HQ and PQ REFLEX Ori tools. Hole attitude was surveyed using Champ gyro.
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>Sample recovery of the diamond core is recorded on blocks after each run.</li> <li>Diamond drilling samples are half- or quarter-cored using a large diamond blade core saw.</li> <li>No evidence has been observed of a relationship between sample recovery and grade. The excellent sample recoveries obtained preclude any assumption of grain size bias.</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>Core is logged visually by qualified geologists. Lithology, structures when possible, textures, colours, alteration types and minerals estimates are recorded. Diamond core is also geotechnically logged.</li> <li>Each interval of core displaying features of geological interest is photographed and recorded prior to eventual sampling and assay.</li> <li>The entire length of each drillhole is logged and evaluated.</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> </ul>	<ul> <li>Diamond drilling samples are half cored using a large diamond blade core saw and quarter cored when duplicates were taken.</li> <li>Not applicable. Core only.</li> <li>The samples were sent to Intertek in Perth for cutting and for gold and multi-element analysis. Sample preparation techniques are well-established standard industry best practice techniques. Drill core is crushed and pulverised</li> </ul>

	<ul> <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>(whole sample) to 85% of the sample passing -75µm grind size.</li> <li>Field QC procedures include using certified reference materials as assay standards. One duplicate sample is submitted for every 15 samples, approximately.</li> <li>Evaluation of the standards, blanks and duplicate samples assays has fallen within acceptable limits of variability.</li> <li>Sample size follows industry standard best practice and is considered appropriate for these style(s) of mineralisation.</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</li> </ul>	<ul> <li>The assay techniques used for these assays are international standard and can be considered total. Samples were dried, crushed and pulverised to 85% passing -75µm and assayed for base and precious metals using ICP-MS (silver), ICP-OES (copper) and Fire Assay (gold) following a four-acid digest in Teflon tubes of a 25g charge</li> <li>The handheld XRE equipment used is an Olympus Delta XRE</li> </ul>
	instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Analyser and Thundelarra follows the manufacturer's recommended calibration protocols and usage practices but does not consider XRF readings sufficiently robust for public reporting. Thundelarra uses the handheld XRF data as an indicator to support the selection of intervals for submission to laboratories for formal assay.
	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.	• The laboratory carrying out the assays is ISO certified and conducts its own internal QA/QC processes in addition to the QA/QC implemented by Thundelarra in the course of its sample submission procedures. The laboratory uses check samples and assay standards to complement the duplicate sampling procedures practiced by Thundelarra.
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)</li> </ul>	<ul> <li>All significant intersections are calculated and verified on screen and are reviewed by the CEO prior to reporting.</li> <li>The programme included no twin holes.</li> <li>Data is collected and recorded initially on hand-written logs with summary data subsequently transcribed in the field</li> </ul>
	protocols.	to electronic files that are then copied to head office.
Location of	Discuss any adjustment to assay data.	Not applicable. No assay data reported herein.     Caller locations were located and recorded wing hand hold.
data points	(collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	GPS (Garmin 62S model) with a typical accuracy of ±5m. Down-hole surveys were carried out approximately every 20m using a Champ gyro tool.
	<ul><li>Specification of the grid system used.</li><li>Quality and adequacy of topographic control.</li></ul>	<ul> <li>The map projection applicable to the area is Australian Geodetic GDA94, Zone 50.</li> <li>Topographic control is based on standard industry practice</li> </ul>
		of using the GPS readings. Local topography is relatively flat.
Data spacing and distribution	• Data spacing for reporting of Exploration Results.	<ul> <li>Drill hole collars were located and oriented so as to deliver maximum relevant geological information to allow the geological model being tested to be assessed effectively.</li> </ul>
	<ul> <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>These drillholes are part of follow-up programmes to improve the understanding of the geometry and geological controls on the known mineralisation identified in previous programmes reported in 2014 and 2015 and most recently on 26 April and 06 September 2016.</li> <li>No compositing was applied.</li> </ul>
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Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	• The complexity of the local geology, which includes extensive tectonisation / faulting, means that the exact orientation of the mineralisation and controlling structures has not yet been established with confidence. One of the primary objectives of this programme is to generate additional geological data that may assist in clarifying and correctly interpreting these parameters.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to	The holes drilled to date are contributing valuable information that will assist in the interpretation of the
	orientation of key inneralised structures is considered to	mormation that will assist in the interpretation of the

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	have introduced a sampling bias, this should be assessed and reported if material.	attitude and geometry of the mineralisation. The normal thickness of the mineralisation is less than the length of the reported intersections. The exact conversion ratio has not yet been determined due to the complexity of the geology.
Sample security	• The measures taken to ensure sample security.	• When all relevant intervals have been sampled, the samples are collected and transported by Company personnel to secure locked storage in Perth before delivery by Company personnel to the laboratory for assay.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• Internal reviews are carried out regularly as a matter of policy. All assay results are considered to be representative as both the duplicates and standards from work programmes at Red Bore to date have returned satisfactory replicated results.

## 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>Red Bore is a granted mining licence M52/597 2 sq kms in area (2km x 1km). THX (90%) manages the project with 10% (free carried to decision to mine) partner Mr Bill Richmond. The project is located in the Doolgunna pastoral lease in the Doolgunna region of the Murchison of WA.</li> <li>The licences are in good standing and there are no known impediments to obtaining a licence to operate.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	• Regional exploration was carried out in the distant past by Western Mining. Subsequent drilling by Great Australian Resources identified a gold association with the copper mineralisation found by WMC. Mr Richmond pegged the lease over 20 years ago and entered into a JV agreement with THX in April 2010. THX conducted exploration that included mapping, rock chip sampling, geochemical surveys, and geophysical surveys, leading to several drilling campaigns until early 2012. Subsequently THX announced an indicated mineral resource (per the 2004 JORC code) on 04 May 2012 of 48,000t at 3.6% Cu and 0.4gpt Au. No additional work has been carried out on this resource since it was announced to the market.
Geology	Deposit type, geological setting and style of mineralisation.	• THX's exploration includes gravity, induced polarisation and magnetic surveys to 2011 followed by RC and diamond drilling. A horizon interpreted to be a VMS horizon was identified containing strong copper-gold-silver associations that displayed visual and geochemical similarity to Sandfire Resources NL's DeGrussa copper-gold deposit. The drilling carried out since April 2014 established the presence of massive primary copper sulphide (chalcopyrite) and magnetite that were interpreted to be magmatic feeder "pipes" (intrusive origin) at Gossan. New geological and lithological data from this programme indicates that a VHMS origin of the mineralisation at Gossan (previously discounted) is valid and that the primary mineralisation may be remobilised from a VHMS source at depth. The Impaler mineralisation continues to exhibit characteristics of VHMS provenance. The recent discovery at Monty ("5km to the east) has provided further support for the existence of a VHMS field at Doolgunna. The possibility remains that mineralisation at Gossan and Impaler derive from a deeper-seated source. The principal objective of the current and planned future work programmes is to test new targets at depth that are consistent both with the geological setting observed in all past drillholes and also with the recent reinterpretation of historical gravity surveys, potentially leading to an as yet undiscovered larger primary source or new VHMS lens.

Drill hole	<ul> <li>A summary of all information material to the</li> </ul>	<ul> <li>The primary copper mineralisation noted in the "pipes"</li> </ul>
Information	understanding of the exploration results including a	identified provided encouragement for future programmes as
	tabulation of the following information for all material drill	the presence of near-surface chalcopyrite indicates the
	holes:	presence of a primary source somewhere at depth. Whether
	<ul> <li>easting and northing of the drill hole collar</li> </ul>	the mineralisation is indeed in "pipes" or has been
	<ul> <li>elevation or RI (Reduced Level – elevation above sea</li> </ul>	remobilised under the intense structural regime does not
	level in metros) of the drill hele celler	offect the neccibility that primary course material exists at
	rever in metres) of the drift hole conar	driett the possibility that primary source material exists at
	• dip and azimuth of the noie	depth, and the search for such a deeper setting of primary
	<ul> <li>down hole length and interception depth</li> </ul>	mineralisation continues to be the main objective of future
	hole length.	programmes. All details of the collar locations and technical
		parameters of each hole drilled are presented in Table 1.
	<ul> <li>If the exclusion of this information is justified on the basis</li> </ul>	All relevant information has been provided in this report
	that the information is not material and this exclusion does	consistent with the status of the current programme.
	not detract from the understanding of the report, the	
	Competent Person should clearly explain why this is the case.	
Data	In reporting Exploration Results, weighting averaging	<ul> <li>Not applicable. No assay data reported herein. Assay and</li> </ul>
aggregation	techniques, maximum and/or minimum grade truncations (eg	DHFM results are pending.
methods	cutting of high grades) and cut-off grades are usually material	brizin results are pertailig.
methous	and should be stated	
	and should be stated.	<ul> <li>Not applicable. No access data reported horain</li> </ul>
	• Where aggregate intercepts incorporate short lengths of	• Not applicable. No assay data reported herein.
	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.	
	<ul> <li>The assumptions used for any reporting of metal</li> </ul>	<ul> <li>Not applicable. No assay data reported herein.</li> </ul>
	equivalent values should be clearly stated.	
Relationship	<ul> <li>These relationships are particularly important in the</li> </ul>	<ul> <li>Not applicable. No assay data reported herein.</li> </ul>
between	reporting of Exploration Results. If the geometry of the	
mineralisation	mineralisation with respect to the drill hole angle is known,	
widths and	its nature should be reported.	
intercept	<ul> <li>If it is not known and only the down hole lengths are</li> </ul>	<ul> <li>Not applicable. No assay data reported herein.</li> </ul>
lengths	reported, there should be a clear statement to this effect (eg	
	'down hole length, true width not known').	
Diagrams	Appropriate maps and sections (with scales) and	• Drill collar locations: refer to Table 1 and Figure 3.
-	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.	
Balanced	Where comprehensive reporting of all Exploration Results	Not applicable. No assay data reported herein
reporting	is not practicable, representative reporting of the Exploration Results	i not applicables no assay auta reported nerellin
reporting	high grades and/or widths should be practiced to avoid	
	micloading reporting of Exploration Posults	
Other	A Other eveloration data if meaningful and material should	Not applicable. No access data reported horain
Other	Other exploration data, in meaningful and material, should	• Not applicable. No assay data reported herein.
substantive	be reported including, but not limited to: geological	
exploration	observations; geophysical survey results; geochemical survey	
data	results; bulk samples – size and method of treatment;	
	metallurgical test results; bulk density; groundwater,	
	geotechnical and rock characteristics; potential deleterious or	
	contaminating substances.	
Further work	• The nature and scale of planned further work (eg tests for	• Follow-up programmes will be developed when the full
	lateral extensions or depth extensions or large-scale step-out	results of the recently completed programme have been
	drilling).	received, collated and interpreted.
	<ul> <li>Diagrams clearly highlighting the areas of possible</li> </ul>	Not applicable. No results reported herein.
	extensions, including the main geological interpretations and	
	future drilling areas, provided this information is not	
	commercially consitive	
	commercially sensitive.	1

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