

### MEDIA RELEASE 17 November 2017



### RIO TINTO/ANTIPA – CITADEL PROJECT CALIBRE DEPOSIT MINERAL RESOURCE UPDATE

### Highlights

- Calibre Deposit Inferred Mineral Resource, estimated by Snowden Mining Industry Consultants, delivers a +50% increase in gold grade and ounces with 47.7 million tonnes grading 0.85 g/t gold and 0.15% copper for 1.3 million ounces of gold and 69,500 tonnes of copper.
- Calibre resource extends in excess of 1km and remains open both along strike, at depth and potentially across strike.
- Significant potential to materially increase the resource, including within the Calibre South IP anomaly which is currently being tested as part of the 2017 reverse circulation (RC) drilling programme.
- Existing Magnum Inferred Mineral Resource, located just 1.3km from Calibre, provides an additional 339,000 ounces of gold and 57,800 tonnes of copper.
- Calibre and Magnum combined Inferred Mineral Resources contain 1.64 million ounces of gold and 127,300 tonnes of copper, with both deposits open in several directions.
- 2017 Citadel Project Exploration Programme fully funded by Rio Tinto Exploration Pty Ltd.

Antipa Minerals Ltd ("Antipa") (ASX: **AZY**) is pleased to announce a Mineral Resource update for the Citadel Project's Calibre deposit. The update incorporates the results of further drilling since the previous Mineral Resource estimate for the deposit released in February 2015.

The 2017 exploration programme is fully funded by Rio Tinto Exploration Pty Limited ("**Rio Tinto**"), a wholly owned subsidiary of Rio Tinto Limited.

The funding is part of the second stage of the \$60 million Citadel Project farm-in agreement between Rio Tinto and Antipa Resources Pty Ltd, a wholly owned subsidiary of Antipa (**"Antipa Resources**"). During this stage Rio Tinto has elected to fund \$8 million of expenditure (subject to certain withdrawal rights) to earn an initial 51% interest in the Citadel Project. The Citadel Project is 80km north of Newcrest's world-class Telfer gold-copper-silver mine in the Paterson Province of Western Australia.

#### **Calibre Deposit - Mineral Resource**

The Calibre gold-copper-silver-tungsten deposit is located approximately 100km north of Newcrest's Telfer gold-copper-silver mine in Western Australia's Paterson Province (Figure 6). The Calibre mineralisation bears a number of similarities to the mineralisation of the world-class Telfer deposit. In particular, variations in the hardness of rock units at Calibre, when combined with other structures, give rise to similar styles of mineralisation as that seen at Telfer.

The Mineral Resource estimate for the Calibre Deposit is shown in Table 1 ("Mineral Resource"). The Mineral Resource estimate was compiled by Snowden Mining Industry Consultants ("Snowden") and reported in accordance with guidelines and recommendations of the JORC Code based on a 0.5 g/t gold metal equivalent cut-off. The deposit is considered amenable to open pit mining.

Zone	Resource Category (JORC 2012)	Tonnes (Mt)	Au (g/t)	Cu (%)	Ag (g/t)	W (ppm)	Au (koz)	Cu (t)	Ag (koz)	W (t)
Oxide	N/A	0								
Transitional	Inferred	2.7	0.96	0.12	0.35	210	80	3,100	30	600
Primary	Inferred	45.1	0.84	0.15	0.49	220	1,200	66,300	700	9,800
Total	Inferred	47.7	0.85	0.15	0.48	217	1,300	69,500	730	10,300

 Table 1: Calibre Mineral Resource Statement (JORC 2012)

 November 2017 using a 0.5 g/t gold equivalent cut-off grade

Small discrepancies may occur due to the effects of rounding.

The updated estimate represents a significant increase in the gold grade, with minor decreases in copper, silver and tungsten grades on a similar tonnage compared to the previous estimate (in February 2015) of an Inferred Mineral Resource of 47.8Mt grading 0.56g/t gold (867koz), 0.17% copper (81kt), 0.60g/t silver (918koz) and 0.03% tungsten (14,200t).

#### **Calibre Deposit – Size Opportunities**

The Calibre deposit is a large-scale mineral system which remains open in most directions (Figures 1 and 2). There is significant potential to materially increase the Calibre Mineral Resource, currently 1.3Moz of gold and 69,500 tonnes of copper, via the exploration opportunities outlined below:

- Calibre Northern Zone:
  - 700m strike and open to the north;
  - Resource limited, due to shallow RC drill holes, to a depth of between only 90 to 130m below the post-mineralisation transported cover; and
  - Potentially open east-west across strike.
- Calibre Southern Zone:
  - 300m strike and open to the south including over a 500m diameter IP chargeability anomaly (see below);
  - Resource limited to a depth of between 50 to 470m below the postmineralisation transported cover; and
  - Apparently closed off east-west across strike.

A 500m diameter Gradient Array IP target is situated immediately south of the existing Calibre Mineral Resource (Figure 1). The current 2017 Phase 2 RC drilling programme, which will receive funding of up to \$150,000 by the Western Australian Government through its Exploration Incentive Scheme, will commence evaluation of this geophysical anomaly.

#### **Summary of Material Mineral Resource Information**

#### Calibre Deposit

The Calibre Mineral Resource occurs as a single deposit covered by exploration licence E45/2877, which is held 100% by Antipa Resources and is free of non-government royalties. On 9 October 2015 Farm-in and JV Agreements were executed between Antipa Resources and Rio Tinto, whereby Rio Tinto can earn up to 75% of the Citadel Project by sole funding \$60m of expenditure.

The Calibre Mineral Resource was extrapolated approximately 25m and 75m north-south of the southern and northern drill sections respectively, and 50m east or west of drill holes on each section. At depth the mineralisation was extrapolated to a vertical depth of the deepest drill hole on each section. The extrapolated portions represent approximately 70% of the total Inferred Mineral Resource tonnage.

The geological setting of the Calibre deposit is Paterson Province Proterozoic aged, predominantly meta-sediment hosted hydrothermal shear, fault and strata/contact controlled precious and/or base metal mineralisation which is typically sulphide bearing. The mineralisation in the region is interpreted to be granite related. The deposit lies beneath 70 to 85m of weakly consolidated and lithified cover, largely of Permian age. The Calibre deposit is summarised in plan view and long section view (Figure 1) and cross section view (Figures 3, 4 and 5).

The Calibre Mineral Resource estimate was compiled using relevant drill hole information derived from the ten diamond drill holes (4,482m) and 50 reverse circulation (RC) drill holes (8,489m) completed by the Company, from 2012 to 2015. The nominal diamond drill hole spacing was approximately 50m along strike (north-south) and 100m across strike (east-west). The nominal RC drill hole spacing was approximately 100m along strike (north-south), with some 200 to 300m spaced sections, and 50 to 80m across strike (east-west).

Diamond core was drilled with HQ and NQ2 size and sampled on intervals from 0.1 to 2.0m selected on the basis of geological boundaries. Samples are collected from half-core (if <1.5m) and quarter-core (if >1.5m) using a diamond saw and prepared following industry best practice. RC samples were drilled using a 100 to 125mm diameter face sampling hammer and sampled on intervals of 1.0m using a rig mounted cone splitter from which a 3 kg (average) sample which was pulverised at the laboratory pulverised to produce material for assay. Sample recovery for the diamond drilling averaged 99.6% based on measurements of the recovered core. Visual estimates of the RC drilling suggest overall a good sample recovery was achieved with predominately dry drilling.

Sample analysis for gold used a lead collection fire assay on a 50g sample with Atomic Absorption Spectroscopy (AAS). All other elements (34 in total) were assayed using a four-acid digest, inductively coupled plasma – optical emission spectroscopy technique (ICP-OES).

Bulk density was measured for the zones of mineralisation and associated waste material and range from 2.45 g/cm<sup>3</sup> to 4.23 g/cm<sup>3</sup> determined using the water immersion method. Average bulk densities were assigned to the Mineral Resource block model based on rock type and oxidation, a total of seven density domains were utilised.

The sample sizes are considered to be appropriate to correctly represent the sulphide style of mineralisation at Calibre, the thickness and consistency of the intersections and the sampling methodology.

The drilling has confirmed mineralisation extends across 1.2km along strike, up to 410m across strike and down to a vertical depth below the base of cover of approximately 460m. Mineralisation remains open in all directions.

Datamine software was used to estimate grades for gold, copper, silver and tungsten using ordinary block kriging with top cuts into 25 mN by 12.5 mE by 10 mRL parent cells. Mineralised zone boundaries were treated as hard boundaries for estimation.

The Company's basis for the metal equivalent cut-off grade (and reporting) is summarised in the JORC Code Table 1 Section 2 at the back of this announcement and below based on preliminary metallurgical test-work, detailed mineralogy and observations (see Company public disclosure *"Positive Metallurgical Results for Calibre"* dated 28/05/2014), based on which it is the Company's opinion that all the elements included in the metal equivalent calculation have a reasonable potential to be recovered and sold.

The metal equivalence assumptions (as used for the 0.5g/t gold metal equivalent cut/off grade) are as follows:

- Gold equivalent grade (AuEq or Gold Equiv g/t) is based on the following (6/11/2017) USD metal spot prices;
  - $\circ$  \$1,270.50/oz Au, \$16.87/oz Ag, \$3.12/lb Cu and \$40,000/t for WO\_3 (in concentrate).
  - Currency Exchange Rate AUD to USD = 0.76571
- Grades (for equivalence calculation purposes only) have been adjusted for the metallurgical recoveries as follows;
  - Au = 84.5%, Cu = 90.0%, Ag = 85.4% and W = 50%
  - Note that a factor of 105% has been applied to the recoveries for Au, Cu and Ag to accommodate further optimisation of the metallurgical performance. Antipa believes that this is reasonable given the preliminary stage of the metallurgical test-work.
  - $\circ~$  Note that the tungsten recovery of 50% is considered indicative at this preliminary stage based on the initial metallurgical findings.
  - $\circ$  Conversion of W% to WO\_3% grade requires division of W% by 0.804.
- Gold equivalent grade is calculated using the following formula;
  - Gold equivalent grade = Au (g/t) + ((%Cu x (89.81/53.35) x 0.90/0.845)) + ((Ag (g/t) x (0.71/53.35) x 0.854/0.845)) + ((%W/0.804 x (522.39/53.35) x 0.50/0.845))

The Mineral Resource was classified as Inferred based on geological and grade continuity and drill hole spacing. Snowden's assessment of the criteria that were considered when classifying and reporting the Calibre Mineral Resource are summarised in the JORC Code Table 1 Section 3 at the back of this announcement.

#### For further information, please visit <u>www.antipaminerals.com.au</u> or contact:

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Antipa Minerals Ltd is an Australian public company which was formed with the objective of identifying underexplored mineral projects in mineral provinces which have the potential to host world-class mineral deposits, thereby offering high leverage exploration potential. The Company owns a 1,335km<sup>2</sup> package of prospective granted tenements in the Paterson Province of Western Australia known as the Citadel Project. The Citadel Project is located approximately 75km north of Newcrest's Telfer gold-copper-silver mine and includes the gold-coppersilver±tungsten Mineral Resources at the Calibre and Magnum deposits and high-grade polymetallic Corker deposit. Under the terms of a Farm-in and Joint Venture Agreement with Rio Tinto Exploration Pty Limited ("Rio Tinto"), a wholly owned subsidiary of Rio Tinto Limited, Rio Tinto can fund up to \$60 million of exploration expenditure to earn up to a 75% interest in Antipa's Citadel Project.

The Company has an additional 1,705km<sup>2</sup> of granted exploration licences, known as the North Telfer Project which includes the gold-copper-silver±cobalt Mineral Resources at the Minyari and WACA deposits and extends its ground holding in the Paterson Province to within 20km of the Telfer Gold-Copper-Silver Mine and 30km of the O'Callaghans tungsten and base metal deposit. The Company has also acquired, from the Mark Creasy controlled company Kitchener Resources Pty Ltd, additional exploration licences in the Paterson Province which are now all granted and cover 1,527km<sup>2</sup> and the Company owns a further 223km<sup>2</sup> of exploration licences (including both granted tenements and applications), which combined are known as the Paterson Project, which comes to within 3km of the Telfer mine and 5km of the O'Callaghans deposit.



**Competent Persons Statement – Exploration Results:** The information in this report that relates to Exploration Results is based on and fairly represents information and supporting documentation compiled by Mr Roger Mason, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Mason is a full-time employee of the Company. Mr Mason is the Managing Director of Antipa Minerals Limited, is a substantial shareholder of the Company and is an option holder of the Company. Mr Mason has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being 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'. Mr Mason consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

**Competent Persons Statement – Calibre Mineral Resource:** The information in this report that relates to the estimation and reporting of the Calibre deposit Mineral Resource is based on, and fairly represents, information and supporting documentation compiled by John Graindorge who is a Member of The Australasian Institute of Mining and Metallurgy and a full-time employee of Snowden Mining Industry Consultants Pty Ltd. John Graindorge was engaged by Antipa on a fee for service basis, and is independent of Antipa and holds no shares in the company. John Graindorge 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 Resources and Ore Reserves'. John Graindorge consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

**Competent Persons Statement – Magnum Mineral Resource:** The information in this report that relates to relates to the estimation and reporting of the Magnum deposit Mineral Resource is extracted from the report entitled *"Calibre and Magnum Deposit Mineral Resource JORC 2012 Updates"* created on 23 February 2015 and are available to view on <u>www.antipaminerals.com.au</u>. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Various information in this report which relates to Calibre deposit Mineral Resource reported here is extracted from the following:

- Report entitled "Citadel Project Phase 2 Drilling Programme Twin Success" created on 13 December 2012;
- Report entitled "Citadel Project Calibre Deposit Major Gold-Copper Discovery" created on 4 February 2013;
- Report entitled "Citadel Project 2013 Exploration Programme Calibre Deposit Focus of Phase 1" created on 11 February 2013;
- Report entitled "Calibre Exploration Update" created on 25 February 2013;
- Report entitled "Calibre Deposit Third Drillhole Preliminary Results" created on 7 March 2013;
- Report entitled "Calibre Deposit Third Drillhole Assay Results" created on 27 March 2013;
- Report entitled "Calibre Deposit Assay Results and New DHEM Anomaly" created on 15 April 2013;
- Report entitled "Calibre Deposit Fifth Drillhole Assay Results" created on 19 April 2013;
- Report entitled "Calibre Deposit Sixth Drillhole Assay Results" created on 29 April 2013;
- Report entitled "Calibre Deposit FLEM and Magnetics Survey Results" created on 15 May 2013;
- Report entitled "Calibre Deposit Seventh Drillhole Assay Results" created on 1 August 2013;
- Report entitled "Calibre Deposit Exploration Update" created on 2 September 2013;
- Report entitled "Calibre Deposit Maiden Mineral Resource Estimate" created on 28 October 2013;
- Report entitled "Calibre Deposit Positive Concept Study completed by Snowden" created on 30 October 2013;
- Report entitled "Surveys extend and upgrade Calibre and Corker target areas" created on 26 March 2014;
- Report entitled "Phase 2 Geochemical Surveys Define Calibre and Matilda Drill Targets" created on 28 April 2014;
- Report entitled "2014 Exploration Programme Drilling Commences at Calibre" created on 16 May 2014;
- Report entitled "Positive Metallurgical Results for Calibre" created on 28 May 2014;
- Report entitled "2014 Drilling Programme Update" created on 29 May 2014;
- Report entitled "2014 Drilling Programme Update" created on 25 July 2014;
- Report entitled "Citadel Project Calibre High Grade Opportunity" created on 9 September 2014;
- Report entitled "Calibre & Magnum Mineral Resources JORC 2012 Updates" created on 23 February 2015;
- Report entitled "Calibre Drilling Programme Commenced" created on 15 May 2015;
- Report entitled "Calibre Deposit Drilling Update No. 1" created on 18 June 2015;
- Report entitled "Calibre Deposit Drilling Update No. 2" created on 2 July 2015;
- Report entitled "Calibre Deposit Drilling Update No. 3" created on 10 July 2015;
- Report entitled "Calibre Deposit Drilling Update No. 4" created on 28 July 2015;

- Report entitled "Rio Tinto Antipa Citadel Project Joint Venture" created on 9 October 2015;
- Report entitled "Calibre Drilling October 2015 No. 1" created on 16 October 2015;
- Report entitled "Calibre Drilling October 2015 No. 2" created on 22 October 2015;
- Report entitled "Calibre 2015 Phase 2 Drilling Update No. 3" created on 17 November 2015;
- Report entitled "Calibre 2015 Phase 2 Drilling Update" created on 30 November 2015;
- Report entitled "Calibre 2015 Drilling Phase 2 Results" created on 16 December 2015;
- Report entitled "Citadel Project IP Survey Identifies Multiple Chargeability Anomalies along 20km Calibre Trend" created on 24 June 2016;
- Report entitled "Citadel Project Rio Tinto Funded 2017 Exploration Programme" created on 12 April 2017;
- Report entitled "Rio Tinto Elects to Proceed to Stage 2 of Citadel Farm-In" created on 12 April 2017;
- Report entitled "Citadel Project Exploration Update" created on 2 October 2017; and
- Report entitled "Citadel Project Exploration Update" created on 8 November 2017.

Which are available to view on <u>www.antipaminerals.com.au</u> and <u>www.asx.com.au</u>. The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements.

#### Forward-Looking Statements:

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Antipa Mineral Ltd's planned exploration programme and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "estimate," "expect," "intend," "may," "potential," "should," and similar expressions are forward-looking statements. Although Antipa Minerals Ltd believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that actual results will be consistent with these forward-looking statements.



Figure 1: Calibre Deposit Plan view (top) and west looking Vertical Projection (bottom) showing drill hole gold grade distribution and limit of Calibre Inferred Mineral Resource which covers approximately 1,000m of strike. Note that the 2017 Gradient Array IP chargeability anomaly, associated with possible untested mineralisation, extends approximately 500m southwest of the resource boundary and will be tested during the Phase 2 RC drilling programme.

NB: Over Airborne magnetic image (150m flight-line spacing at an altitude of 30m; Reduced to Pole, NE-Sun illumination, First Vertical Derivative) 200m Calibre Local Grid.



Figure 2: Magnum Dome area plan and composite long section showing maximum downhole gold-copper values, drill intersections, Mineral Resources, deposits, prospects and targets. NOTE: Multiple large size mineral (Au-Cu-Ag±W±Zn±Pb) deposits within 2 to 3km of each other.

NB: Airborne magnetic image (150m flight-line spacing at an altitude of 30m; Pseudo-colour Half Vertical Derivative, Reduced to Pole, northeast sun illumination) Regional GDA94 / MGA Zone 51 coordinates, 2km grid.



Figure 3: Calibre Deposit 11700 North interpreted (schematic) cross-section (100m grid – North looking Calibre Local Grid).



Figure 4: Calibre Deposit 11500 North interpreted (schematic) cross-section (100m grid – North looking Calibre Local Grid).



Figure 5: Calibre Deposit 11350 North interpreted (schematic) cross-section (100m grid – North looking Calibre Local Grid).



Figure 6: Plan showing Antipa's extensive 5,070km<sup>2</sup> exploration land holding in the relatively underexplored world-class Paterson Province of Western Australia. The Company's portfolio includes the Citadel Project, subject of a farm-in agreement between Rio Tinto and Antipa, which hosts the Calibre and Magnum Mineral Resources, the North Telfer Project which hosts the Minyari and WACA Mineral Resources and Paterson Project which hosts the Tim's Dome South and Chicken Ranch gold deposits and comes to within 3km of Newcrest's world-class Telfer gold-copper-silver deposit and mining operation.

HOLE ID	HOLE TYPE	MGA X	MGA Y	MGA Z	DEPTH	HOLE DIP	HOLE MAG AZI
12AMD0029	DDH	416,846.0	7,702,684.0	263.6	375.6	-62	66
12AMD0032	DDH	416,852.0	7,702,686.0	263.6	445.7	-75	20
13AMD0033	DDH	416,755.0	7,702,682.0	264.6	471.7	-66	40
13AMD0034	DDH	416,715.0	7,702,575.0	265.9	564.1	-60	42
13AMD0035	DDH	416,804.0	7,702,784.0	263.8	397.8	-63	42
13AMD0036	DDH	416,800.0	7,702,560.0	264.7	558.2	-62	40
13AMD0037	DDH	416,621.1	7,702,530.3	267.3	665.4	-61	45
13AMD0038	DDH	416,656.5	7,702,707.1	265.8	625.8	-61	43
14AMD0039	DDH	416,995.0	7,702,574.0	263.0	174.0	-58	40
14AMD0040	DDH	417,020.0	7,702,180.0	264.2	203.4	-58	40
15ACC0001	RC	416,938.6	7,702,919.5	262.9	150.0	-60	225
15ACC0002	RC	416,884.5	7,702,865.6	263.0	150.0	-60	225
15ACC0003	RC	416,754.6	7,702,592.4	265.3	150.0	-60	225
15ACC0004	RC	416,699.8	7,702,537.5	266.2	144.0	-60	225
15ACC0005	RC	416,795.0	7,702,495.2	264.9	150.0	-60	225
15ACC0006	RC	416,854.7	7,702,552.9	263.9	150.0	-60	225
15ACC0007	RC	416,911.4	7,702,609.7	263.3	150.0	-60	225
15ACC0008	RC	416,967.2	7,702,665.5	262.9	139.0	-60	225
15ACC0009	RC	417,024.9	7,702,720.3	262.6	151.0	-60	225
15ACC0010	RC	417,079.8	7,702,778.1	262.4	150.0	-60	225
15ACC0011	RC	417,124.0	7,702,822.3	262.5	145.0	-60	225
15ACC0012	RC	416,923.0	7,702,760.7	263.0	150.0	-60	225
15ACC0013	RC	416,975.9	7,702,813.6	262.7	85.0	-60	225
15ACC0014	RC	416,974.0	7,702,812.0	262.7	115.0	-60	225
15ACC0015	RC	417,005.0	7,702,845.0	262.7	151.0	-60	225
15ACC0016	RC	416,888.3	7,703,009.9	262.5	188.0	-60	225
15ACC0017	RC	416,832.5	7,702,956.0	263.5	151.0	-60	225
15ACC0018	RC	416,780.6	7,702,903.1	263.8	151.0	-60	225
15ACC0019	RC	416,832.5	7,702,956.0	263.5	181.0	-60	45
15ACC0020	RC	416,820.9	7,703,082.0	263.3	151.0	-60	225
15ACC0021	RC	416,750.0	7,703,012.0	264.6	163.0	-60	45
15ACC0022	RC	416,798.0	7,703,061.0	263.8	163.0	-60	45
15ACC0023	RC	416,716.0	7,703,120.0	265.1	151.0	-60	65
15ACC0024	RC	416,746.0	7,703,149.0	264.4	205.0	-60	65
15ACC0025	RC	416,871.0	7,702,848.0	263.1	157.0	-60	45
15ACC0026	RC	416,862.0	7,702,982.0	263.0	84.0	-60	45
15ACC0027	RC	416,936.4	7,702,351.9	263.8	151.0	-60	225
15ACC0028	RC	416,895.0	7,702,310.0	264.2	160.0	-60	225
15ACC0029	RC	417,214.0	7,702,414.0	262.4	163.0	-60	45
15ACC0030	RC	416,864.0	7,702,984.0	262.9	163.0	-60	45
15ACC0031	RC	416,782.0	7,703,045.0	264.2	89.0	-60	225
15ACC0032	RC	416,976.0	7,702,824.0	262.6	163.0	-60	225
15ACC0033	RC	416.885.0	7.703.287.0	261.3	210.0	-60	225

#### Table 2: Citadel Project - Calibre Deposit – Drill Holes Information (GDA94 / MGA Zone 51)

	HOLE					HOLE	HOLE
HOLE ID	TYPE	MGA X	MGA Y	MGA Z	DEPTH	DIP	MAG AZI
15ACC0034	RC	416,806.0	7,703,425.0	262.5	246.0	-60	225
15ACC0035	RC	416,757.0	7,703,375.0	263.5	192.0	-60	225
15ACC0036	RC	416,719.0	7,703,336.0	264.3	202.0	-60	225
15ACC0037	RC	416,704.0	7,703,531.0	264.2	204.0	-60	225
15ACC0038	RC	416,662.0	7,703,490.0	265.1	222.0	-60	225
15ACC0039	RC	416,766.0	7,703,598.0	262.8	222.0	-55	225
15ACC0040	RC	416,497.0	7,703,751.0	266.8	228.0	-55	225
15ACC0041	RC	416,413.0	7,703,663.0	268.4	198.0	-70	225
15ACC0042	RC	416,920.0	7,703,183.0	261.6	180.0	-60	225
15ACC0043	RC	416,988.0	7,703,109.0	261.9	198.0	-60	225
15ACC0044	RC	416,788.0	7,703,049.0	264.0	210.0	-60	225
15ACC0045	RC	416,736.0	7,703,141.0	264.6	192.0	-60	225
15ACC0046	RC	416,935.0	7,703,335.0	261.4	229.0	-60	225
15ACC0047	RC	416,722.0	7,702,986.0	264.7	198.0	-60	225
15ACC0048	RC	416,682.0	7,703,300.0	265.0	198.0	-60	225
15ACC0049	RC	416,619.0	7,703,445.0	266.0	198.0	-60	225
15ACC0050	RC	416,305.0	7,703,839.0	270.8	198.0	-55	225
ANK351	AC	416,986.5	7,702,560.8	263.0	86.0	-90	0

*Note: Conversion parameters for regional GDA94 / MGA Zone 51 grid to Calibre Local Grid can be found in the JORC Table 1 – Section 1.* 

#### CITADEL PROJECT – CALIBRE DEPOSIT:

JORC Code 2012 Edition: Table 1 - 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 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.</li> </ul>	<ul> <li>2012 to 2014 Diamond Drilling:</li> <li>The Calibre deposit was sampled by diamond drill holes (DDH), with a total of 10 DDH drilled to date for 4,482m with an average depth of 448m.</li> <li>The DDH programme was drilled across four approximate northeast-southwest sections spaced approximately S0m apart with an average drill hole spacing on each section of between 100 to 200m.</li> <li>Drill hole collar locations were recorded by handheld GPS, which has an estimated accuracy of ± 5m.</li> <li>Holes are angled towards grid northeast to be perpendicular to the strike of both the dominant mineralisation trend and bedding, and at a suitable angle to the dip of the dominant mineralisation.</li> <li>Sampling was carried out under Antipa protocols and QAQC procedures as per industry best practice.</li> <li>Diamond core was drilled with HQ and NQ2 size and sampled on intervals from 0.1 to 2.0m selected on the basis of geological boundaries.</li> <li>If the sample interval is less than 1.5m in length half the core was submitted for assay. If the sample interval is greater than 1.5m in length then quarter of the core is submitted for assay.</li> <li>2015 (NB: Two Phases of Reverse Circulation Drilling):</li> <li>Phase 1 Sim-Line Reverse Circulation Programme:</li> <li>Calibre deposit has been sampled by 32 Air Core (AC) - Sim-line Reverse Circulation (RC) drill holes totaling 4,764m and averaging 149m in total depth, with Air Core (87.5mm diameter) face sampling hammer for the remainder of each drill hole (including the basal portion of the Permian cover to depths ranging from 70 to 90m and Sim-line RC (100mm diameter) face sampling hammer for the remainder of eact drill hole depths of between 84m to 205m.</li> <li>Assays available for all thirty-two AC-RC drill holes.</li> <li>The nominal AC-RC drill hole spacing is a number of east-west sections spaced 100m apart with an average drill hole spacing is a number of east-west section spaced 100m apart with an average drill hole spacing is a number of east-west se</li></ul>

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	Criteria	JORC Code explanation	Commentary
			<ul> <li>Compositing of unmineralised regions (guided by Niton XRF field analysis) of between 2 to 4m was undertaken via combining "Spear" samples of the unmineralised sample intervals to generate a 3 kg (average) sample which was pulverised at the laboratory to produce material for assay.</li> <li>Air Core samples of the Tertiary and Permian cover were drilled using an 87.5mm diameter Air Core bit and sampled on intervals of 1.0m using cyclone "dumps".</li> <li>Compositing of particular regions of the Permian cover were conducted on a 2 to 4m basis and was completed via combining "Spear" samples of the relevant sample intervals to generate a 3 kg (average) sample which was pulverised at the laboratory to produce material for low-level geochemical assay.</li> </ul>
615			Phase 2 Reverse Circulation Programme:
			<ul> <li>Calibre deposit has been sampled by 18 RC drill holes totaling 3,725m averaging 206m in total depth.</li> </ul>
$\square$			• The nominal RC drill hole spacing is a number of east-west sections spaced 100m to 300m apart with an average drill hole spacing on each section of 50m.
			<ul> <li>Drill hole collar locations were recorded by handheld GPS, which has an estimated accuracy of ± 3 horizontal metres.</li> </ul>
			<ul> <li>Holes are angled towards grid southwest or less frequently northeast to be perpendicular to the strike of both the dominant mineralisation trend and bedding, and at a suitable angle to the dip of the dominant mineralisation.</li> </ul>
$\bigcirc$			<ul> <li>RC Sampling was carried out under Antipa protocols and QAQC procedures as per industry best practice.</li> </ul>
			<ul> <li>RC samples were drilled using a 125mm diameter face sampling hammer and split on intervals of 1.0m using a rig mounted cone splitter from which a 3 kg (average) sample which was pulverised at the laboratory pulverised to produce material for assay.</li> </ul>
			<ul> <li>Compositing of unmineralised regions (guided by Niton XRF field analysis) of between 2 to 4m was undertaken via combining "Spear" samples of the unmineralised sample intervals to generate a 3 kg (average) sample which was pulverised at the laboratory to produce material for assay.</li> </ul>
			<ul> <li>RC samples of the Tertiary and Permian cover were drilled using a 125mm diameter face sampling hammer and sampled on intervals of 1.0m using cyclone "dumps".</li> </ul>
			<ul> <li>Compositing of particular regions of the Permian cover were conducted on a 2 to 4m basis and was completed via combining "Spear" samples of the relevant sample intervals to generate a 3 kg (average) sample which was pulverised at the laboratory to produce material for low-level geochemical analysis.</li> </ul>
			2012 to 2015:
			• Proterozoic samples (i.e. in situ material below the Permian cover) were sent to MinAnalytical Laboratory Services Australia Pty Ltd in Perth, where they were dried, crushed, pulverised and split

	Criteria	JORC Code explanation	Commentary
	2		<ul> <li>to produce a sub–sample for a lead collection fire assay on a 50g sample with Atomic Absorption Spectroscopy undertaken to determine gold content with a detection limit of 0.005ppm. All other elements (34 in total) were assayed using a four-acid digest, inductively coupled plasma – optical emission spectroscopy technique (ICP-OES) with various detection limits.</li> <li>Permian cover samples were sent to MinAnalytical Laboratory Services Australia Pty Ltd in Perth, where they were dried, crushed, pulverised and split to produce a sub–sample for a 25g sample for Aqua Regia digest with 61 element inductively coupled plasma – optical emission spectroscopy technique (ICP-OES) or inductively coupled plasma – mass spectrometry technique (ICP-MS) low- level geochemical analysis with various detection limits.</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>	<ul> <li>All Calibre Area Drilling:</li> <li>Diamond drilling accounts for 36%, Air Core - Slim-line Reverse Circulation drilling accounts for 36% and Reverse Circulation drilling accounts for 28% of the current Calibre prospect total drill metres of 12,971m average drill hole depth of 216m.</li> </ul>
		5 , - ,	2012 to 2014 Diamond Drilling:
			Diamond drill holes were completed using HQ and NQ2 sized core. Rock-rolled pre-collar depths
(JD)			<ul> <li>A total of 10 diamond drill holes (DDH) have been drilled totaling 4,482m averaging 448m in total</li> </ul>
			depth.
$\bigcirc$			<ul> <li>Holes are angled towards grid southwest or grid northeast at varying angles to optimally intersect the mineralisation.</li> </ul>
			• The diamond drillcore is oriented using a Reflex ACT electronic orientation tool.
			2015 Phase 1 Slim-Line Reverse Circulation Programme:
(15)			• A total of 32 Air Core - Slim-line RC drill holes have been drilled totaling 4,764m averaging 149m in
			from 70 to 90m and Slim-line RC (100mm diameter) from a sampling hammer for the remainder of
			each drill hole (including the basal portion of the Permian cover and all of the Proterozoic basement)
			<ul> <li>Holes were predominantly angled towards grid southwest, with some toward grid northeast, at an</li> </ul>
$\bigcirc$			inclination angle of between -60 to -70 degrees to optimally intersect the mineralisation.
			2015 Phase 2 Reverse Circulation Programme:
			• A total of 18 RC drill holes were drilled totaling 3,725m averaging 206m in total depth; with an RC (125mm diameter) face sampling hammer for the entire drill hole depth including both the Permian
			cover ranging from 70 to 90m and all of the Proterozoic basement to total drill hole depths of
			between 180m to 246m.
			<ul> <li>noise were predominantly angled towards grid southwest at an inclination angle of between -55 to -</li> </ul>

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Criteria	JORC Code explanation	Commentary
		70 degrees to optimally intersect the mineralisation.
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>Diamond Core:</li> <li>Core recovery is routinely recorded as a percentage. Overall core recoveries averaged 99.6% and there are no core loss issues or significant sample recovery problems except for occasional localised regions either side of the unconformity/base of transported cover.</li> <li>Core recovery is routinely recorded and is generally very good, except for occasional localised regions either side of the unconformity and in the chloritic fault zone within the footwall of the cross-cutting (pre-mineralisation) dolerite dyke.</li> <li>Diamond core is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the drillers.</li> <li>Drillers used appropriate measures to maximise diamond sample recovery.</li> <li>To date, no detailed analysis to determine the relationship between sample recovery and/or and grade has been warranted as the mineralisation is defined by diamond core drilling which has high recoveries</li> </ul>
		<ul> <li>RC (and Air Core) Samples (all generations):</li> <li>RC sample recovery was recorded via visual estimation of sample volume.</li> <li>RC sample recovery typically ranges from 90 to 100%, based on the visual estimates, with only very occasional samples with less than 70% recovery.</li> <li>RC sample recovery was maximized by endeavouring to maintain a dry drilling conditions as much as practicable; the Calibre RC samples were almost exclusively dry.</li> <li>Cone splitter adjustments were made to ensure representative sample volumes were collected.</li> <li>Relationships between recovery and grade are not evident and are not expected given the generally excellent and consistently high sample recovery.</li> <li>Air Core sample recovery was recorded via visual estimation of sample volume.</li> <li>Air Core results are generated solely for the purpose of low-level geochemical exploration (i.e. not for Mineral Resource estimations).</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 diamond drillcore, Air Core and RC material is logged.</li> <li>Logging includes both qualitative and quantitative components.</li> <li>All logging is entered directly into a ruggedized notebook computer using the Antipa Proprietary Logging System which is based on Microsoft Excel. The logging system uses standard look up tables that does not allow invalid logging codes to be entered. Further data validation is carried out during upload to Antipa's master Access SQL database.</li> <li>Geological logging of 100% of all Air Core and RC sample intervals was carried out recording colour, weathering, lithology, mineralogy, alteration, veining, sulphides and (where possible) structure.</li> <li>Geotechnical logging of all core was carried out for Recovery, RQD and Fracture Frequency.</li> </ul>

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	)		<ul> <li>Information on structure type, dip, dip direction, alpha angle, beta angle, gamma angle, texture and fill material is stored in the Company's technical database.</li> <li>All drill holes were logged in full, except for the rock-rolled pre-collar component of the diamond drill holes. The pre-collar in entirely within the transported (younger/post mineralisation) cover material.</li> <li>Snowden considers that the Company's logging is carried out in sufficient detail to meet the requirements of the reporting of exploration results and resource estimation and mining studies.</li> <li>Core was photographed both wet and dry.</li> <li>All Air Core - RC drill holes/samples were filmed (laid out on the ground) in HD-Videos and photography.</li> <li>All Air Core and RC sample intervals were measured for magnetic susceptibility using a hand-held magnetic susceptibility meter.</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 Core:</li> <li>Diamond core was drilled with HQ and NQ2 size and sampled on intervals from 0.1 to 2.0m selected based on geological boundaries.</li> <li>Diamond core is sampled on a nominal 2.0m sample interval within unmineralised zones and on 0.1 to 1.0m intervals within the mineralised zones.</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> </ul>	<ul> <li>Sample intervals are adjusted so that samples do not cross lithological boundaries and samples are collected from the same side of the core.</li> <li>Samples are collected from half-core (if &lt;1.5m) and quarter-core (if &gt;1.5m) using a diamond saw located at the Company's field facility.</li> <li>Samples are selected to weigh less than 2kg to oncure total proparation at the pulserisation stage.</li> </ul>
$\widehat{\mathcal{N}}$		<ul> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	• Samples are selected to weigh less than sky to ensure total preparation at the pulvensation stage.
	1		<ul> <li>RC samples for drill holes 15ACC0001 to 15ACC0032 inclusive were drilled using a 100mm diameter face sampling hammer and sampled on intervals of 1.0m using a rig mounted cone splitter from which a 3 kg (average) sample which was pulverised at the laboratory pulverised to produce material for assay.</li> </ul>
$\overline{\mathbf{D}}$	a		<ul> <li>RC samples for drill holes 15ACC0033 to 15ACC0050 inclusive were drilled using a 120mm diameter face sampling hammer and sampled on intervals of 1.0m using a rig mounted cone splitter from which a 3 kg (average) sample which was pulverised at the laboratory pulverised to produce material for assay.</li> </ul>
			<ul> <li>Compositing of unmineralised regions (guided by Niton field analysis) of between 2 to 4m was undertaken via combining "Spear" samples of the unmineralised sample intervals to generate a 3 kg (average) sample which was pulverised at the laboratory to produce material for assay.</li> <li>Air Core samples of the Tertiary and Permian cover for drill holes 15ACC0001 to 15ACC0032 inclusive were drilled using an 87.5mm diameter Air Core bit and sampled on intervals of 1.0m using cyclone "dumps".</li> <li>Compositing of specific regions of the Permian cover were conducted on a 2 to 4m basis and was</li> </ul>

	Criteria	JORC Code explanation	Commentary
ISE ONIV	Criteria	JORC Code explanation	<ul> <li>Commentary         <ul> <li>undertaken via combining "spear" samples of the relevant sample intervals to generate a 3 kg (average) sample which was pulverised at the laboratory to produce material for low-level geochemical assay.</li> <li>RC samples of the Tertiary and Permian cover for drill holes 15ACC0033 to 15ACC0050 inclusive were drilled using a 125mm diameter face sampling hammer and split on intervals of 1.0m.</li> </ul> </li> <li>Diamond Core and RC (and Air Core) Samples:         <ul> <li>Sample preparation of diamond core, Air Core and RC samples was completed at MinAnalytical Laboratories in Perth following industry best practice in sample preparation involving oven drying, coarse crushing of the core sample down to approximately 10mm, followed by pulverisation of the entire sample (total prep) using Essa LM5 grinding mills to a grind size of 85% passing 75 µm and split into a sub–sample/s for analysis.</li> <li>The sample sizes are considered to be appropriate to correctly represent the sulphide style of mineralisation at Calibre, the thickness and consistency of the intersections and the sampling</li> </ul> </li> </ul>
For personal u	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, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>methodology.</li> <li>The sample preparation technique for diamond drillcore, air core and RC samples is documented by Antipa Minerals Ltd's standard procedures documents and is in line with industry standards in sample preparation.</li> <li>The sample sizes are considered appropriate to represent mineralisation.</li> <li>A lead collection fire assay on a 50g sample with AAS undertaken to determine gold (Au) content with a detection limit of 0.005ppm (for the Proterozoic samples).</li> <li>The samples of Proterozoic material were dried, crushed, pulverised and split to produce a sub- sample for a 25g sample which is digested and refluxed with hydrofluoric, nitric, hydrochloric and perchloric acids ("four acid digest") suitable for silica based samples. This digest is considered to approach a total dissolution for most minerals. Analytical methods used were ICP-OES (Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, K, La, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sn, Sr, Te, Ti, Tl, V, w and Zn).</li> <li>Permian cover samples were dried, crushed, pulverised and split to produce a sub- sample for a 40 a Regia digest with 61 element ICP-OES or ICP-MS (inductively coupled plasma – mass spectrometry) low-level geochemical analysis with various detection limits (Ag, Al, As, Au, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Hf, Ho, In, K, La, Li, Lu, Mg, Mn, No, Na, Nb, Nd, Ni, P, Pb, Pd, Pr, Pt, Rb, Re, Sb, Se, Sc, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Th, Tu, U, V, W, Y, Yb, Zn and Zr).</li> <li>No geophysical tools were used to determine any element concentrations in this report.</li> <li>A handheld portable Niton XRF analyser (XL3 950 GOLDD+) device is used in the field to investigate and record geochemical data for internal analysis. However, due to "spatial" accuracy/repeatability issues this data is not publicly reported.</li> <li>Snowden's analysis of the 2012-2013 QC data for the Calibre deposit found the standard sample results to be acceptable.</li> </ul>

	Criteria	JORC Code explanation	Commentary
use only	5		<ul> <li>Field QC procedures involve the use of commercial certified reference material (CRM's) for assay standards and blanks. Standards are inserted every 30 samples, increasing to every 20 samples in mineralised zones and decreasing to every 50 samples in unmineralised zones. The grade of the inserted standard is not revealed to the laboratory.</li> <li>No field duplicates/second core sampling QC were utilised during the 2012-2014 diamond drilling programme.</li> <li>Field duplicates/repeat RC samples QC was utilised during the 2015 Phase 1 Slim-Line RC and Phase 2 RC drilling programmes with nominally two duplicate RC field samples per drill hole.</li> <li>Inter laboratory cross-checks analysis programmes have not been conducted at this stage.</li> <li>In addition to Antipa supplied CRM's, MinAnalytical includes in each sample batch assayed certified reference materials, blanks and up to 10% replicates.</li> <li>Sample preparation checks for fineness were carried out by the laboratory as part of its internal procedures.</li> <li>Selected anomalous samples are re-digested and analysed to confirm results.</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 of the drilling have been visually verified by the Managing Director.</li> <li>No twinned holes have been drilled at Calibre.</li> <li>All logging is entered directly into a ruggedized notebook computer using the Antipa Proprietary Logging System which is based on Microsoft Excel. The logging system uses standard look up tables that does not allow invalid logging codes to be entered. Further data validation is carried out during upload to Antipa's master SQL database.</li> <li>No adjustments or calibrations have been made to any assay data collected.</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>Drill hole collar locations are surveyed using a hand-held Garmin 60CSx GPS which has an accuracy of ± 5 horizontal metres.</li> <li>The drilling coordinates are all in GDA94 MGA Zone 51 coordinates.</li> <li>The Company has utilised and referenced a local grid at Calibre which is defined below. References in the text and the Calibre deposit diagrams are all in the Local Grid. Table 1 is in GDA94 / MGA Zone 51;         <ul> <li>Calibre Local Grid 0.00m east is 421,535.53m east in GDA94 / MGA Zone 51;</li> <li>Calibre Local Grid 0.00m north is 7,691,393.40m north in GDA94 / MGA Zone 51;</li> <li>Calibre Local Grid North (360°) is equal to 315° in GDA94 / MGA Zone 51;</li> <li>Calibre Local Grid elevation is equal to GDA94 / MGA Zone 51.</li> </ul> </li> <li>Rig orientation was checked using Suunto Sighting Compass from two directions.</li> <li>Drill hole inclination was set by the driller using a clinometer on the drill mast and checked by the geologist prior the drilling commencing.</li> <li>The topographic surface has been compiled using the drill hole collar coordinates.</li> <li>For diamond drill holes downhole surveys were undertaken in-hole during drilling using a 'Reflex EZ Trac Camera' device at 30 to 50 metre intervals (maximum 50 metres) with a final survey at the end</li> </ul>

	Criteria	JORC Code explanation	Commentary
	)		<ul> <li>of the drill hole.</li> <li>Downhole surveys were checked by the supervising geologist for consistency. If required, readings were re-surveyed or smoothed in the database if unreliable azimuth readings were apparent.</li> <li>Survey details included drill hole dip (±0.25° accuracy) and drill hole azimuth (±0.35 accuracy°) Total Magnetic field and temperature.</li> <li>At the time of this report no downhole surveys have been undertaken for the RC drill holes; however, the deeper RC holes have been cased to facilitate future downhole surveying.</li> </ul>
)	Data spacing	Data spacing for reporting of Exploration Results.	2012-2014 Diamond Drilling:
	and distribution	<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>The nominal drill hole spacing is four approximate east-west sections spaced approximately 50m apart with an average drill hole spacing on each section of 100 to 200m.</li> <li>The section spacing is sufficient to establish the degree of geological and grade continuity necessary to support the resource classification of Inferred.</li> <li>For the Mineral Resource estimations all samples were composited using a nominal 1m interval prior to compiling the estimate. Where necessary the composite interval has been adjusted to ensure that there are no residual sample lengths.</li> <li>No diamond drill sample compositing has been applied for the reporting of exploration results.</li> </ul>
			2015 Phase 1 Slim-Line Reverse Circulation Programme:
]			<ul> <li>The nominal RC drill hole spacing is a number of east-west sections spaced 100m apart with an average drill hole spacing on each section of 80m.</li> <li>Air Core and RC drill sample compositing has been applied for the reporting of exploration results.</li> </ul>
			2015 Phase 2 Reverse Circulation Programme:
			<ul> <li>The nominal RC drill hole spacing is a number of east-west sections spaced between 100m to 300m apart with an average drill hole spacing on each section of 50m.</li> <li>RC drill sample compositing has been applied for the reporting of exploration results.</li> </ul>
シ コ シ コ	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>Overall the location and orientation of the Calibre drilling is appropriate given the strike, dip and morphology of the mineralisation.</li> <li>Some drill holes display a low capture angle to dip which has been accounted for during the interpretation of the mineralisation.</li> <li>No consistent and/or material sampling bias resulting from a structural orientation has been identified at Calibre at this point; however, both folding and multiple vein directions have been recorded via diamond drilling.</li> </ul>
	Sample security	• The measures taken to ensure sample security.	<ul> <li>Chain of sample custody is managed by Antipa to ensure appropriate levels of sample security.</li> <li>Samples are stored on site and delivered by Antipa personnel to Sadleirs Nexus Logistics Transport in Port Hedland and then to the assay laboratory in Perth.</li> </ul>

Criteria		JORC Code explanation		Commentary
Audits or reviews	•	The results of any audits or reviews of sampling techniques and data.	•	Sampling techniques and procedures are regularly reviewed internally, as is the data. For the 2013 Calibre Mineral Resource estimate, Snowden, undertook a desktop review of the Company's sampling techniques and data management and found them to be consistent with industry standards.

### CITADEL PROJECT – CALIBRE DEPOSIT:

#### JORC Code 2012 Edition: Table 1 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	•	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. 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.	• • • • • • •	The Calibre deposit Mineral Resource and drill holes are located wholly within Exploration License E45/2877. Antipa currently has a 100% interest in all Citadel Project tenements, including E45/2877, and there are no royalties on these tenements. On 9 October 2015, Farm-in and JV Agreements were executed between Antipa and Rio Tinto Exploration Pty Limited (Rio Tinto). E45/2877 is contained completely within land where the Martu People have been determined to hold Native Title rights. No historical or environmentally sensitive sites have been identified in the area of work. The tenement is in 'good standing' with the Western Australian DMIRS. No known impediments exist, including to obtain a licence to operate in the area.
	Exploration done	•	Acknowledgment and appraisal of exploration by other	Cal	ibre Deposit:
2	by other parties		parties.	•	The Calibre deposit was a greenfield discovery by the Company in 2012. There has been no other
					exploration of the target area or deposit region by other parties.
)				Cit	adel Project:
				•	Prior to 1991 limited to no mineral exploration activities.
_				•	1991 to 1996 BHP Australia completed various regional airborne geophysical surveys (e.g.
_					aeromagnetics, radiometrics, GeoTEM, ground magnetics, surface EM), geochemical Air Core and
5					selected diamond drilling programmes across a significant area which covered the Citadel Project.
リ					Whilst this era of exploration highlighted a number of areas as being variously anomalous, BHP did
					not locate any basement (Proterozoic) precious or base metal mineralisation. In 1995 BHP Minerals
					completed an MMI-A/MMI-B soil programme over an area which was ultimately found to be the
					region within which the Magnum deposit was located.
				•	1997 to 2002 JV partners Croesus-Gindalble completed minor surface geophysical surveys (e.g.
					electromagnetics) and various drilling programmes across parts of the Citadel Project (i.e. 17 x
					denosit and its partial delineation in 1998
					עבריטוו, מווע ווג דמו נומו עבווופמנוטוו, ווו בששט.

	Criteria	JORC Code explanation	Commentary
rsonal use only			<ul> <li>2002 to 2003 JV partners Teck Cominco and Croesus-Gindalbie completed detailed aeromagnetic and radiometric surveys over the entire Citadel Project, Pole-Pole IP over 8 targets and limited drilling (i.e. 4 x Diamond drill holes) within the Citadel Project.</li> <li>2004 to 2005 JV partners NGM Resources and Croesus-Gindalbie completed limited drilling (i.e. 3 x Diamond drill holes) at selected Citadel Project prospects intersecting minor Au-Cu-Ag mineralisation at the Colt prospect.</li> <li>2006 to 2010 Glengarry Resources/Centaurus Metals undertook re-processing of existing data and re-logging of some drillcore. No drilling or geophysical surveys were undertaken and so no new exploration results were forthcoming.</li> <li>2011 to 2015 Antipa Minerals Ltd exploration of the Citadel Project including both regional and prospect/area scale geophysical surveys (i.e. VTEM, ground EM, DHEM, ground magnetics and ground gravity) and geochemical surveys (i.e. MMI-M™ and SGH™ soil programmes) and drilling programmes (i.e. diamond and RC) resulting in two greenfield discoveries in 2012, i.e. Calibre and Corker, and subsequent drilling programmes.</li> <li>October 2015 to March 2017 Antipa Minerals Ltd operators under a Farm-in Agreement executed on the 9 October 2015 between Antipa and Rio Tinto Exploration Pty Limited ("Rio Tinto"), a wholly owned subsidiary of Rio Tinto Limited. RC drilling at Calibre late 2015, and in 2016 an extensive IP survey, a regional target RC drilling programme and single (deep) diamond drill hole were completed.</li> <li>April 2017 (ongoing) Rio Tinto operators under the Farm-in Agreement (see above). To date during 2017, a further extensive IP survey in the southeastern portion of E45/2877, an Air Core drilling Programme in the central region (Rimfire area) of E45/2876 and an aerial electromagnetic survey primarily over E45/4561 have been completed. 2017 exploration activities are ongoing, including an RC drilling programme.</li> </ul>
	Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>The geological setting is Paterson Province Proterozoic aged meta-sediment hosted hydrothermal shear, fault and strata/contact controlled precious and/or base metal mineralisation which is typically sulphide bearing. The mineralisation in the region is interpreted to be granite related. The Paterson is a low grade metamorphic terrane but local hydrothermal alteration and/or contact metamorphic mineral assemblages and styles are indicative of a high-temperature local environment. Mineralisation styles include vein, stockwork, breccia and skarns.</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> </ul> </li> </ul>	<ul> <li>A table summarising all Calibre deposit drill holes is provided in the report.</li> <li>Drill hole intersections relating to exploration results are not the subject of this Mineral Resource report.</li> <li>Additional Calibre exploration results can also be found in previous public reports (refer to full report listing provided by the Competent Persons Statement).</li> </ul>

	Criteria	JORC Code explanation	Commentary
	Data	<ul> <li>hole length.</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> <li>In reporting Exploration Results, weighting averaging</li> </ul>	Drill hole intersections relating to exploration results are not the subject of this Mineral Resource
USE ON	aggregation methods	<ul> <li>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>For the Mineral Resource estimation drill hole data was coded using the mineralisation 3D-wireframe interpretations. Samples were composited to 1m downhole, with composite lengths adjusted to avoid crossing lithological boundaries (refer to Section 3). Where necessary the composite interval has been adjusted to ensure that there are no residual sample lengths (refer to Section 3).</li> <li>Statistical analysis of the domains indicates that top-cutting was necessary for some domains (refer to Section 3).</li> <li>The assumptions used for reporting of metal equivalent values are provided by in the report.</li> </ul>
SONAI	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>Drill hole intersections relating to exploration results are not the subject of this Mineral Resource report.</li> <li>For the Mineral Resource estimation drill hole data was coded (and subsequently composited and top-cut) using the mineralisation 3D-wireframe interpretations (refer to Section 3) and so the relationship between down hole mineralisation intersection lengths and mineralisation true width has been volumetrically rectified.</li> <li>Additional Calibre exploration results can also be found in previous public reports (refer to full report listing provided by the Competent Persons Statement).</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>All appropriate maps (with scales) and tabulations of survey parameters are reported.</li> <li>This release has no reference to previously unreported drill results, sampling, assays or mineralisation.</li> </ul>
	Balanced reporting	• 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.	<ul> <li>The Company believes that the ASX announcement is a balanced report with all material results reported.</li> <li>Additional significant results can be found in previous public reports.</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>All meaningful and material information has been included in the body of the text or previous public reports.</li> <li>The outlines of Induced Polarisation chargeability anomalies can be found in previous public reports.</li> <li>Zones of mineralisation and associated waste material are measured for their bulk density which range from 2.45 g/cm<sup>3</sup> to 4.23 g/cm<sup>3</sup>.</li> <li>Multi element assaying is conducted routinely on all samples for a suite of potentially deleterious elements including arsenic, sulfur, lead, zinc and magnesium.</li> </ul>

Criteria	JORC Code explanation	Commentary
)		<ul> <li>Geotechnical logging was carried out on all diamond drill holes for Recovery, RQD and Fracture Frequency.</li> <li>Information on structure type, dip, dip direction, alpha angle, beta angle, gamma angle, texture and fill material is stored in the Company's technical SQL database.</li> <li>For preliminary metallurgical test results refer to previous public reports.</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>	<ul> <li>At this stage mineralisation identified by diamond and RC drilling is understood across a 1,000 to 1,200m strike extent and is open in all directions and so requires further work/drilling to test for lateral (in particular north-south but also east-west) and vertical extensions and continuity beyond the limits of the Inferred Mineral Resource and additional drilling limits.</li> <li>Diagrams can be found in previous public reports.</li> </ul>

### CITADEL PROJECT – CALIBRE DEPOSIT:

#### JORC Table 1 - Section 3 – Estimation and Reporting of Mineral Resources

#### (Criteria listed in section 1, and where relevant in section 2, also apply to this section)

0	Criteria	JORC Code explanation	Commentary
	Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>All drilling information is entered directly into a ruggedized notebook computer using the Antipa Proprietary Logging System which is based on Microsoft Excel. The logging system uses standard look up tables that does not allow invalid logging codes to be entered. Further data validation is carried out during upload to Antipa's master Access SQL database.</li> <li>The validated data was provided to Snowden in a Microsoft Access SQL database. Snowden undertook a basic check of the database for potential errors as a preliminary step to compiling the resource estimate. No errors were identified.</li> </ul>
	Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	• No site visit has been undertaken by Snowden's Competent Person taking responsibility for the resource estimation. Given the low confidence level (Inferred) of the estimate and no Proterozoic surface exposure due to the younger Permian cover, a site visit was not considered necessary.
$\supset$	Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The interpretations for lithology and mineralisation have been supplied by Antipa and are based on a combination of geological logging and assay results.</li> <li>Differences between previous and current geological interpretations are a result of increased drilling data being available providing a better understanding of the geology. Given the relatively limited drill hole information currently available alternative interpretations of the mineralisation are likely to significantly impact the reported resource.</li> </ul>

tes the Calibre deposit extends for between 1,000 to 1,200m along strike, d to a vertical depth in excess of 540m. The deposit is open in all directions.
ded using the wireframe interpretations. Samples were composited to 1m osite lengths adjusted to avoid crossing lithological boundaries. Where ite interval has been adjusted to ensure that there are no residual sample he domains indicates that top-cutting was necessary for some domains. evarious mineralisation domains were; .0 g/t; .0%; .0 g/t; and 500ppm. as used to estimate grades for gold, copper, silver, tungsten and sulphur using into 25mN by 12.5mE by 10mRL parent cells with sub-celling to 6.25m by bock discretisation of 6 by 3 by 3 was used in the easting, northing and elevation /. ndaries were treated as hard boundaries for grade estimation. search ellipse was based on the geology and extents of the mineralisation as II hole data and directional variography of the southern and northern zones. d using a minimum of 5 and a maximum of 40 samples. If the initial search num number of samples to 2, a third search using quadruple the initial search radii mber of samples to 2, a third search pass were assigned a mean grade based es within each domain. unt of sample data within some of the mineralised domains a fixed grade was to mean grade of samples within these domains (three out of 27domains alidated using: uparison of the block grade estimates to the input drill hole composite data is a reasonable correlation. of moving window average plots of the block grade estimates, declustered and naive composite grades, along with the number of composite samples
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	Criteria	JORC Code explanation	Commentary
			<ul> <li>A global comparison of the estimated block grades to the average composite (naïve) grades for all elements within the mineralised domains. Both sets of results for Au and Cu are within 10% for the Northern and Southern zones.</li> </ul>
	Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	All tonnages are estimated on a dry basis.
)	Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• The Mineral Resource is reported at a 0.5 g/t AuEq grade cut-off.
	Mining factors or assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	<ul> <li>The Calibre deposit is overlain by a layer of weakly lithified Permian sedimentary material which has an average thickness of 84m.</li> <li>Open pit methods are being considered at this stage.</li> </ul>
	Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>Results of initial metallurgical test work carried out by Antipa show:         <ul> <li>Calibre ore responds well to conventional processing techniques.</li> <li>Flotation of the ore produced a concentrate of 24% copper grade at 86% recovery.</li> <li>Gold recovery of 81% was achieved, partially to the flotation concentrate, and the remainder via cyanidation.</li> </ul> </li> <li>Tungsten minerals (mainly scheelite) in the ore are coarse grained, well liberated and potentially recoverable by gravity techniques. Preliminary test-work shows gravity recovery of scheelite to be possible.</li> </ul>

Criteria	JORC Code explanation	Commentary
Environmental factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	<ul> <li>The Calibre project is in the early stages of exploration and therefore, given the small amount of data available considerations regarding environmental factors have not yet been made.</li> </ul>
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> </ul>	<ul> <li>Density measurements were supplied by Antipa and have been determined using the water immersion method. A wax coating was not required as no oxide or porous material is present.</li> <li>Bulk density was measured for the zones of mineralisation and associated waste material and range from 2.45 g/cm<sup>3</sup> to 4.23 g/cm<sup>3</sup>.</li> <li>Average bulk densities were assigned to the Mineral Resource block model based on rock type and oxidation, a total of seven density domains were utilised as per the tabulation below:</li> </ul>
	<ul> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>1.81 Permian cover</li> <li>2.73 Meta-sediments (mineralised and host rock within transitional zone)</li> <li>2.76 Meta-sediments (mineralised and host rock within fresh zone)</li> <li>2.86 Meta-gabbro and mafic intrusions (mineralised and host rock within transitional zone)</li> <li>2.90 Meta-gabbro and mafic intrusions (mineralised and host rock within fresh zone)</li> <li>2.96 Cambrian dolerite dyke within transitional zone</li> <li>3.00 Cambrian dolerite dyke within fresh zone</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> </ul>	<ul> <li>The resources have been classified based on geological and grade continuity, drill hole spacing as well as the information summarised in this table.</li> <li>Model blocks were flagged as Inferred or unclassified. Inferred Mineral Resources were flagged in the model based on the following guidelines:         <ul> <li>Minimum drilling density of approximately 50 - 100m along strike (north-south) and 100m across strike (east-west).</li> <li>Mineralisation is constrained within the estimation domain LENSE and has been extended 25m past the last drill section along strike to the south, 75m past the last drill section along</li> </ul> </li> </ul>

	Criteria	JORC Code explanation	Commentary
	)	• Whether the result appropriately reflects the Competent Person's view of the deposit.	<ul> <li>strike to the north, approximately 50m past the last drill hole on each section and to a vertical depth of equal to the deepest drill hole.</li> <li>Approximately 70% of the Inferred Mineral Resource is based on extrapolated data. This is approximated using the proportion of blocks estimated using the third search ellipse and those assigned a mean grade.</li> <li>The Mineral Resource estimate appropriately reflects the views of the Competent Person with respect to the deposit.</li> </ul>
)	Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• No third-party reviews of the work have been undertaken. This is considered appropriate given the limited amount of work completed to date.
	Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate accuracy and confidence of the procedures used.</li> </ul>	<ul> <li>The relative accuracy and confidence in the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as set out in the JORC Code (2012 Edition).</li> <li>Given the limited drilling information that is available the overall confidence in the local estimates is low.</li> </ul>
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