



2019 EXPLORATION PROGRAMME UPDATE

Highlights

- 10,000m of 20,000m Phase 1 drilling programme completed to date on Antipa's 100% owned Paterson Province tenements
- Phase 1 has tested 19 of 28 priority AEM targets, aiming to deliver large-scale discoveries based on Telfer, Winu, Havieron and Nifty analogues
- Initial assay results from 12 targets returned anomalous zones of mineralisation and approximately 6 targets will require follow up drilling in the Phase 2 programme
- New RC drill rig currently testing 5 of the remaining high priority AEM targets located
 8 to 15km north along strike from Rio Tinto's Winu copper-gold-silver deposit
- Phase 2 exploration programme scheduled to commence in August includes:
 - Follow up RC drill testing of high priority Phase 1 AEM targets;
 - RC drill testing of Havieron high-grade gold-copper deposit lookalike aeromagnetic anomalies;
 - Large 600km² AEM survey; and
 - Model Earth geoscience consultants structural, mineral systems and targeting project

Antipa Minerals Limited (ASX: AZY) ("Antipa", "the Company") is pleased to provide an update in relation to its ongoing Paterson Province exploration programme, whereby drilling is progressing on the 28 currently identified aerial electromagnetic conductivity (AEM) targets on Antipa's 100% owned ground. The drilled targets are located approximately 2 to 32km north of Minyari Dome (refer Figure 1) and below shallow cover. Encouraging initial assay results from multiple targets have been received. Antipa is planning follow up exploration activities which may include RC drilling on these targets as part of the Phase 2 exploration programme.

The Company's AEM and aeromagnetic targets are concealed beneath generally shallow cover and were generated during an expanded 2018 greenfields exploration programme that utilised geophysical methods that have successfully identified deposits including Rio Tinto's Winu discovery, Calibre and Magnum that form part of Antipa's Joint Venture with Rio Tinto, and Greatland Gold's Havieron deposit. The geophysical targets will continue to be systematically evaluated this year with the aim of making a world-class discovery in Western Australia's under explored Paterson Province.

EXPLORATION PROGRAMME UPDATE

The first phase of the 2019 exploration programme, including 20,000m of Air Core (AC), slim-line RC and RC drilling, is underway. The programme consists of systematically testing up to 28 greenfield AEM geophysical targets and one brownfield prospect, Turkey Farm. Surface geochemical sampling and geological mapping programmes will also be carried out focusing mainly

on brownfield target areas. The programme will be subject to continuous monitoring and will be adjusted according to results and field conditions.

Greenfield Phase 1 Exploration Programme

To date, the drill programme has tested 19 greenfield AEM targets with assay results from the first 12 targets providing encourging results for multiple targets summarised in Tables 2 and 3 and Figures 1 to 6. At this preliminary stage of the Company's review, approximately 6 targets will require follow up RC drilling, including AEM target # 28 where strong Cu-Zn-Co-Au-Ag anomalism was intersected across 350m by shallow drilling above the EM target (Figure 2). The distribution of several metals in the Paterson Province is shown by Appendix 1 highlighting the mineral system significance of these initial assay results. Follow up exploration activities, including RC drilling, will be determined on the basis of the findings of an ongoing review of all available information including pending results for remaining AEM targets.

Antipa will continue to systematically test the remaining priority 1 and priority 2 AEM targets. Due to low drill metre production rates and depth penetration limitations, particularly in fresh rock, the air core slim-line RC drill rig was recently replaced with a dedicated RC drill rig which commenced testing the 5 priority AEM targets located 8 to 15km north along trend from Rio Tinto's Winu copper-gold-silver deposit on 15 July. Drill samples will continue to be batched and sent for assay on a periodic basis and announcements will be made periodically as assays are received.

For further greenfield target details refer to the Company's ASX releases dated 15th October 2018, 14th February 2019, 27th March 2019, 7th May 2019 and 18th June 2019.

Greenfield Phase 2 Exploration Programme

Components of the Phase 2 greenfield exploration programme planned to commence in August include an additional AEM survey covering approximately 600km² to define further priority AEM targets, RC follow up drill testing of priority Phase 1 AEM targets and RC drill testing of Havieron high-grade gold-copper deposit lookalike aeromagnetic anomalies. In addition, Antipa recently engaged highly regarded geoscience consultants, Model Earth, to complete a Paterson Province structural, mineral system and targeting project.

Brownfield Exploration Programme

The Company's evaluation of historic data during 2018 identified several high priority brownfields prospects which have the potential to deliver additional shallow high-grade gold satellite resources. Turkey Farm, the Triangle area and the Pajero area, along with Tim's Dome and Chicken Ranch resources, are all located within 25 to 40km of the Company's existing Minyari-WACA resource.

Phase 1 of Antipa's 2019 exploration programme involved the completion of 12 air core holes for 1,305m of air core drill testing of the Turkey Farm prospect, located just 1km west of the Chicken Ranch resource (Figure 7 and Tables 1 and 3). Assay results have been received, and whilst a material shallow high-grade gold zone was not identified at Turkey Farm, the significant scale of the gold and copper mineralisation warrants further evaluation, including possible geophysical surveys.

Surface geochemical sampling and geological mapping programmes focussed on the Pajero and Triangle brownfield target areas are planned for Phase 2 of the 2019 exploration programme.

For further information, please visit www.antipaminerals.com.au or contact:

Roger Mason
Managing Director
Antipa Minerals Ltd
+61 (0)8 9481 1103

Stephen Power
Executive Chairman
Antipa Minerals Ltd
+61 (0)8 9481 1103

Luke Forrestal						
Senior Account Director						
Media & Capital Partners						
+61 (0)8 9389 4270						

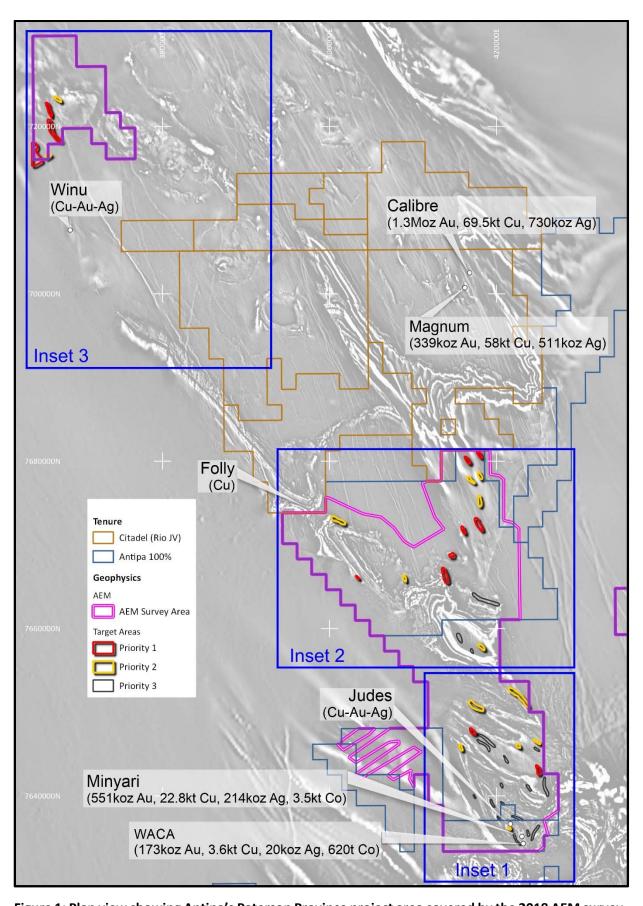
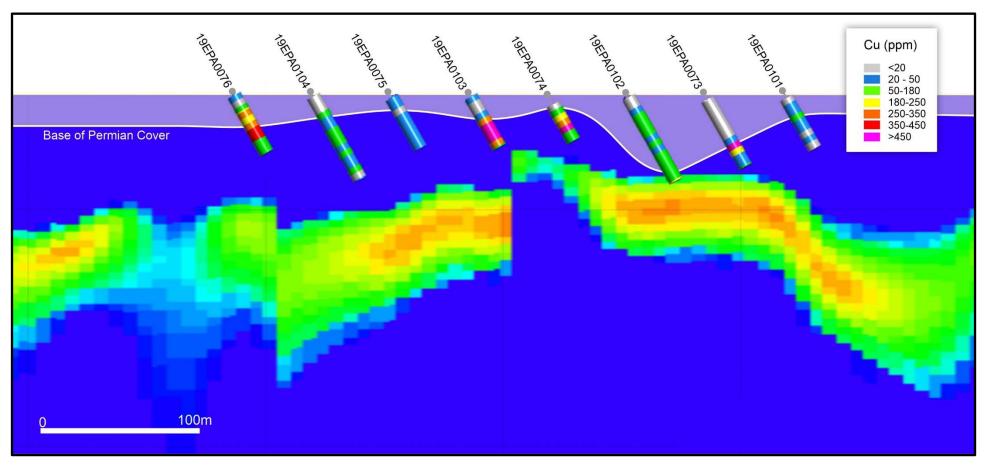
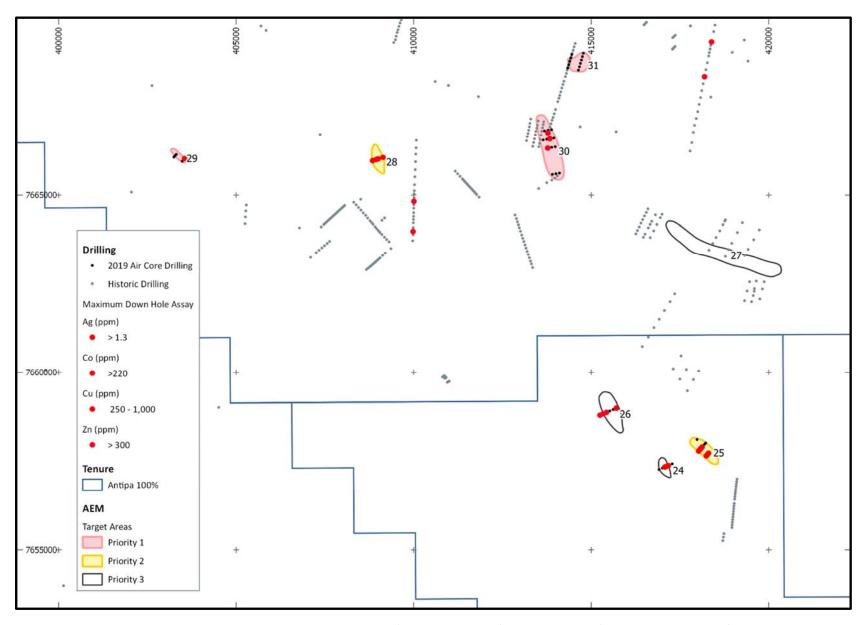


Figure 1: Plan view showing Antipa's Paterson Province project area covered by the 2018 AEM survey, deposit and prospect locations, EM targets and Figures 4 to 6 inset areas. NB: Over Airborne magnetic image (50m flight-line spacing at an altitude of 30m; Grey-scale First Vertical Derivative) and Regional GDA94 / MGA Zone 51 coordinates, 20km grid.



personal use only

Figure 2: AEM Target # 28 cross section showing 2019 air core drill hole defined 350m wide copper - cobalt - zinc ± gold ± silver anomaly (drill holes annotated by copper assay results) and AEM conductivity depth image. Anomaly is located near surface beneath shallow cover ranging from approximately 10 to 40m, is open in all directions (just a single drill line and average drill hole depth of only 44m) and sits above the AEM conductivity target zone – i.e. EM target remains untested. Cross section looking to 154° and scale bar for reference.



or personal use only

Figure 3: Plan highlighting anomalous maximum downhole assay results for AEM Targets from a portion of the central region of the 2019 Phase 1 air core drill programme area. For a detailed breakdown of these AEM Target anomalies refer to assay results in Table 2. Individual metal grade anomaly thresholds selected on the basis of eastern Paterson Province regional drill hole data (refer to Appendix 1). Regional GDA94 / MGA Zone 51 co-ordinates, 5km grid.

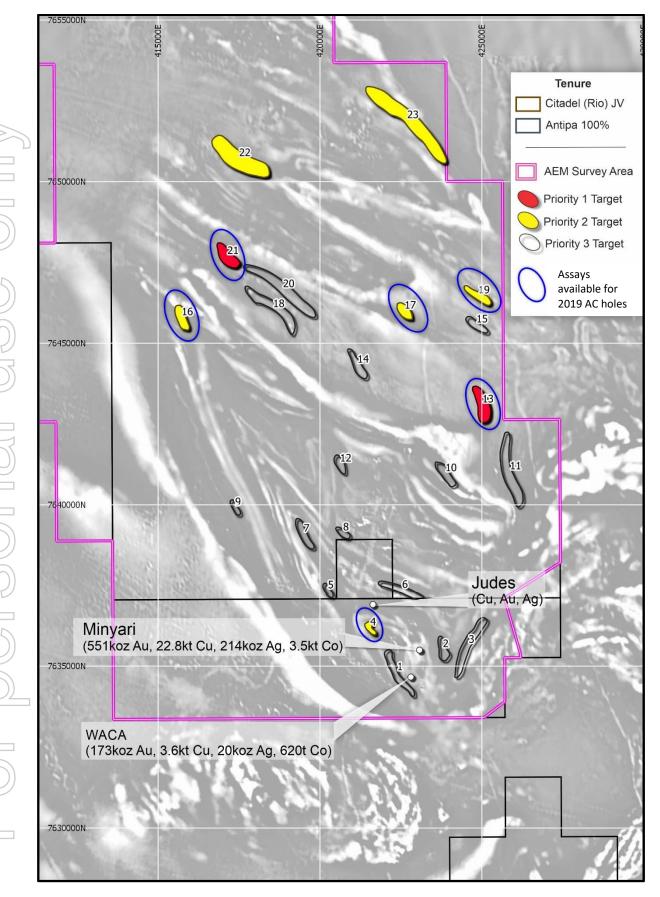


Figure 4 (Inset 1): Plan view showing southern portion of 2018 AEM survey area with deposit and prospect locations and EM targets including target ID number (NB: Priority 1 and 2 AEM targets to be tested during the 2019 Phase 1 drilling programme). NB: Over Airborne magnetic image (50m flight-line spacing at an altitude of 30m; Grey-scale First Vertical Derivative) and Regional GDA94 / MGA Zone 51 co-ordinates, 5km grid.

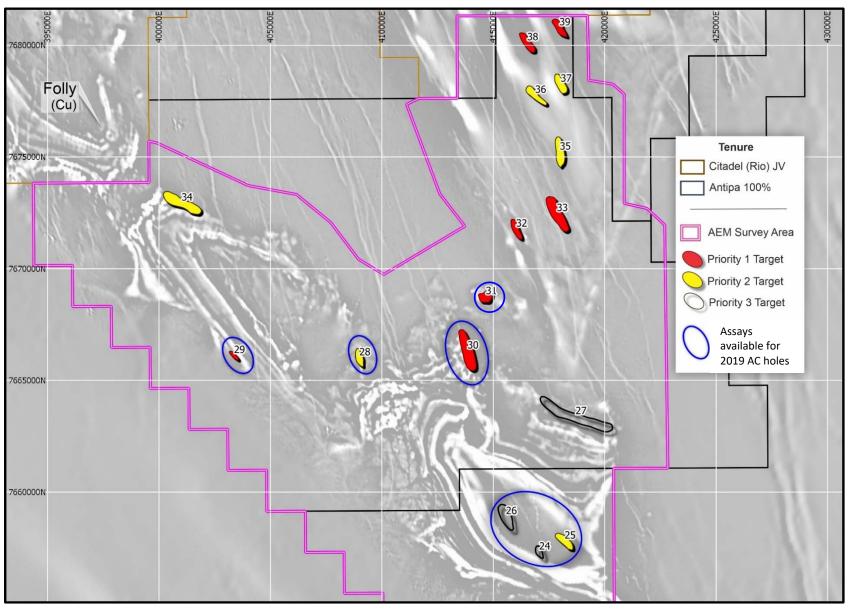


Figure 5 (Inset 2): Plan view showing northern portion of 2018 AEM survey area with deposit and prospect locations and EM targets including target ID number (NB: All Priority 1 and 2 AEM targets plus Priority 3 targets # 24 and 25 to be tested during the 2019 Phase 1 drilling programme). NB: Over Airborne magnetic image (50m flight-line spacing at an altitude of 30m; Grey-scale First Vertical Derivative) and Regional GDA94 / MGA Zone 51 co-ordinates, 5km grid.

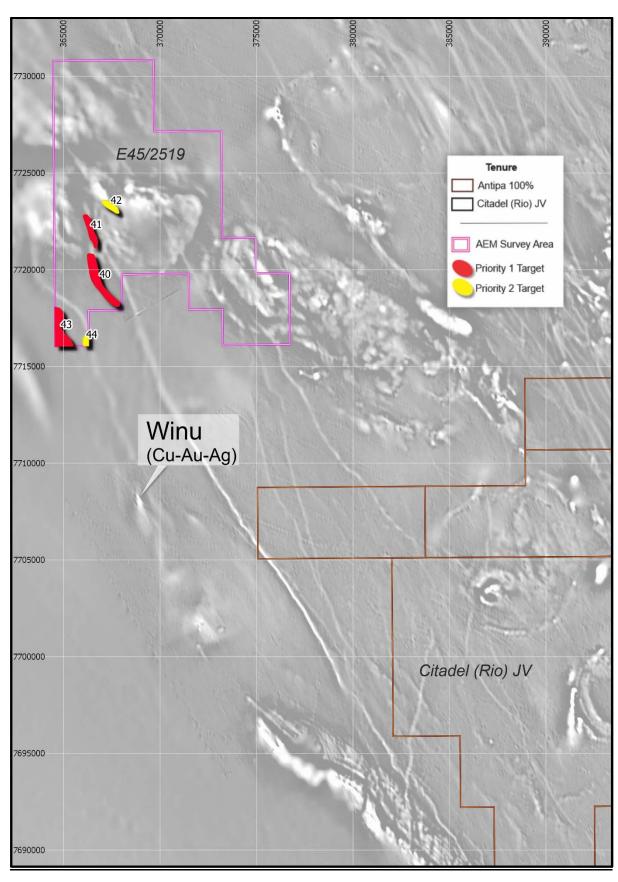


Figure 6 (Inset 3): Plan view showing northern portion of 2018 AEM survey area with deposit and prospect locations and ranked EM targets including target ID number (NB: Priority 1 and 2 AEM targets to be tested during the 2019 Phase 1 drilling programme). NB: Over Airborne magnetic image (50m flight-line spacing at an altitude of 30m; Grey-scale First Vertical Derivative) and Regional GDA94 / MGA Zone 51 co-ordinates, 5km grid.

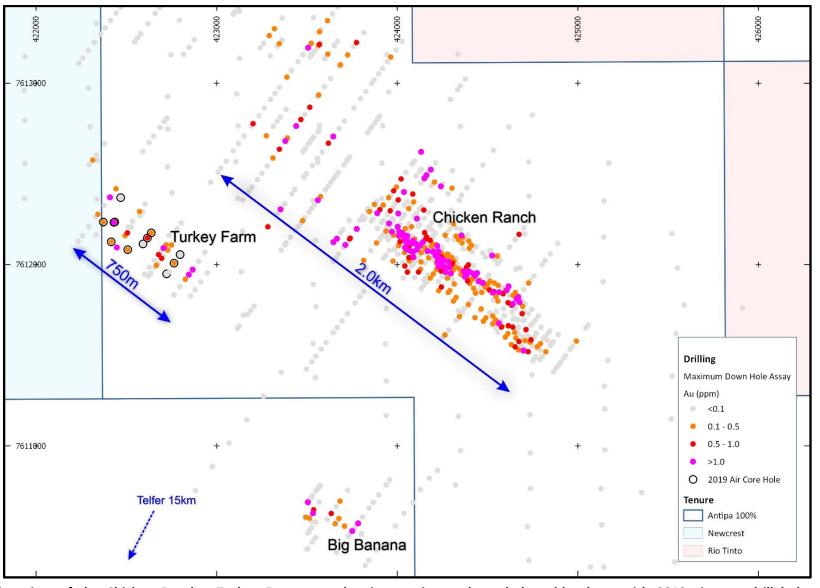
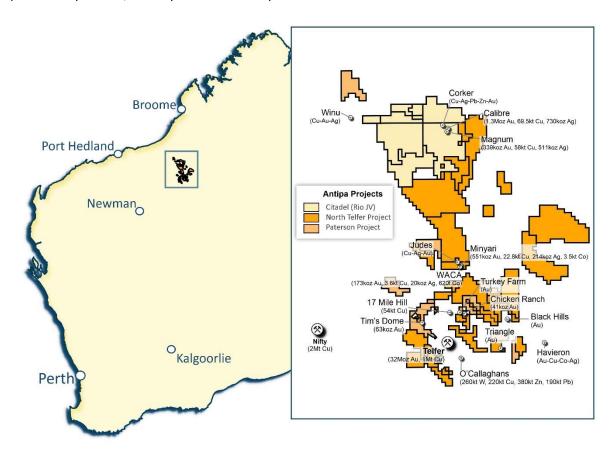


Figure 7: Plan view of the Chicken Ranch - Turkey Farm area showing maximum down hole gold values, with 2019 air core drill holes annotated. Regional GDA94 / MGA Zone 51 co-ordinates, 1km grid.

About Antipa Minerals: Antipa is a mineral exploration company focused on the Paterson Province in north-west Western Australia, home to Newcrest Mining's world-class Telfer gold mine, Rio Tinto's recent Winu copper discovery and other significant mineral deposits. Having first entered the Paterson in 2011 when it was a less sought-after exploration address, the Company has used its early mover advantage to build an enviable tenement holding of approximately 5,000km², including the 1,330km² Citadel Project that is subject to a Farm-in and Joint Venture Agreement with Rio Tinto. Under the terms of the Farm-in and Joint Venture Agreement, Rio Tinto can fund up to \$60 million of exploration expenditure to earn up to a 75% interest in Antipa's Citadel Project. Unlike certain parts of the Paterson where cover can extend to kilometres, making for difficult exploration, the Company's tenements feature relatively shallow cover: approximately 80% are under less than 80 metres. The Citadel Project lies within 5km of the Winu discovery and contains a Mineral Resource of 1.64 million ounces of gold and 128,000 tonnes of copper spread across two deposits, Calibre and Magnum. The Company has also established a Mineral Resource on its 100%-owned tenements, known as the North Telfer and Paterson Projects, with the Minyari, WACA, Tim's Dome and Chicken Ranch deposits containing 827,000 ounces of gold and 26,000 tonnes of copper. Extensive drilling is planned for 2019 across Antipa's Paterson tenements as the company pursues a dual strategy of targeting tier-one greenfields discoveries and growing its existing resources through brownfields exploration.

References to Rio Tinto: All references to "Rio Tinto" or "Rio" in this document are a reference to Rio Tinto Exploration Pty Limited, a wholly owned subsidiary of Rio Tinto Limited.



Competent Persons Statement – Exploration Results: The information in this document 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'. 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 announcements.

Various information in this report which relates to Exploration Results have been extracted from the following announcements:

- Report entitled "Calibre and Magnum Deposit Mineral Resource JORC 2102 Updates" created on 23 February 2015;
- Report entitled "Minyari/WACA Deposits Maiden Mineral Resource" created on 16 November 2017;
- Report entitled "Calibre Deposit Mineral Resource Update" created on 17 November 2017;
- Report entitled "Antipa to Commence Major Exploration Programme" created on 1 June 2018;
- Report entitled "Major Exploration Programme Commences" created on 25 June 2018;
- Report entitled "2018 Exploration Programme Update" created on 16 July 2018;
- Report entitled "2018-19 Exploration Programme Overview and Update August" created on 15 August 2018;
- Report entitled "Multiple High Grade Gold-Copper Targets Identified" created on 15 October 2018;
- Report entitled "Expanded Greenfield Programme in Paterson Province Commences" created on 10 December 2018;
- Report entitled "Resource Growth Potential and Additional Brownfields Targets" created on 11 December 2018;
- Report entitled "Greenfield Programme Identifies Havieron Lookalike Anomalies" created on 14 February 2019;
- Report entitled "Antipa to Commence Major Greenfields Exploration Programme" created on 18 February 2019;
- Report entitled "Major Greenfields Drilling Programme Commences" created on 7 May 2019;
- Report entitled "Chicken Ranch and Tims Dome Maiden Mineral Resources" created on 13 May 2019; and
- Report entitled "Antipa Provides Update on 2019 Exploration Programme" created on 18 June 2019.

All of which are available to view on www.antipaminerals.com.au and www.asx.com.au.

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 announcements.

Competent Persons Statement – Mineral Resource Estimations for the Minyari-WACA Deposits, Tim's Dome and Chicken Ranch Deposits, Calibre Deposit and Magnum Deposit: The information in this document that relates to relates to the estimation and reporting of the Minyari-WACA deposits Mineral Resources is extracted from the report entitled "Minyari/WACA Deposits Maiden Mineral Resources" created on 16 November 2017, the Tim's Dome and Chicken Ranch deposits Mineral Resources is extracted from the report entitled "Chicken Ranch and Tims Dome Maiden Mineral Resources" created on 13 May 2019, the Calibre deposit Mineral Resource information is extracted from the report entitled "Calibre Deposit Mineral Resource Update" created on 17 November 2017 and the Magnum deposit Mineral Resource information is extracted from the report entitled "Calibre and Magnum Deposit Mineral Resource JORC 2012 Updates" created on 23 February 2015, all of which are available to view on www.antipaminerals.com.au and www.asx.com.au. 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 announcements.

Gold Metal Equivalent Information - Calibre Mineral Resource AuEquiv cut-off grade: Gold Equivalent (AuEquiv) details of material factors and metal equivalent formula are reported in "Calibre Deposit Mineral Resource Update" created on 16 November 2017 which is available to view on www.antipaminerals.com.au and www.asx.com.au.

Gold Metal Equivalent Information - Magnum Mineral Resource AuEquiv cut-off grade: Gold Equivalent (AuEquiv) details of material factors and metal equivalent formula are reported in "Citadel Project - Calibre and Magnum Deposit Mineral Resource JORC 2012 Updates" created on 23 February 2015 which is available to view on www.antipaminerals.com.au and www.asx.com.au.

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.

Table 1: 2019 Phase 1 Turkey Farm Air Core - Slim-line RC Drill Hole Key Assay Results:

Gold-Copper-Silver-Cobalt

(i.e. \geq 1.0m with Au \geq 0.4 g/t and/or Cu \geq 1,000ppm and/or Co \geq 100ppm and/or Ag \geq 0.5 g/t)

Hole ID	Deposit	From (m)	To (m)	Interval (m)	Gold (g/t)	Copper (ppm)	Silver (g/t)	Cobalt (ppm)
19CRA0003	Turkey Farm	0	4	4	0.33	54	0.68	4
19CRA0003	Turkey Farm	8	12	4	4.00	58	1.69	2
19CRA0003	Turkey Farm	26	32	6	1.16	966	1.42	143
	including	29	30	1	1.69	1,276	1.84	277
	including	31	32	1	2.08	1,031	2.39	213
19CRA0003	Turkey Farm	117	118	1	0.01	447	0.52	21
19CRA0004	Turkey Farm	100	104	4	0.44	483	0.28	3
19CRA0006	Turkey Farm	0	4	4	0.08	54	0.66	8
19CRA0006	Turkey Farm	68	69	1	0.01	256	0.57	28
19CRA0007	Turkey Farm	69	70	1	0.03	734	0.60	106
19CRA0008	Turkey Farm	36	37	1	1.00	893	0.33	31
19CRA0008	Turkey Farm	52	56	4	0.06	266	0.60	20
19CRA0008	Turkey Farm	56	60	4	0.01	260	0.69	23
19CRA0009	Turkey Farm	72	76	4	0.04	789	0.72	59
19CRA0010	Turkey Farm	0	4	4	0.02	48	0.82	8
19CRA0010	Turkey Farm	4	8	4	0.02	52	0.58	5
19CRA0010	Turkey Farm	101	102	1	0.01	100	0.56	2

Notes (Intersection Tables above): Table 1 Intersections are composited from individual assays using the following criteria:

Intersection Interval = Nominal cut-off grade scenarios:

- \geq 0.4 g/t gold which also satisfy a minimum down-hole interval of 1.0m; and/or
- ≥ 0.5 g/t silver which also satisfy a minimum down-hole interval of 1.0m; and/or
- ≥ 1,000ppm (0.1%) copper which also satisfy a minimum down-hole interval of 1.0m; and/or
- ≥ 300ppm (0.03%) cobalt which also satisfy a minimum down-hole interval of 1.0m.
- NB: In some instances, zones grading less than the cut-off grade/s have been included in calculating composites or to highlight mineralisation trends.
- NB: For the purpose of highlighting significant (generally isolated) results some intersections may be included in this Table which do not satisfy the criteria above.
- No top-cutting has been applied to assay results for gold, copper, cobalt or silver;
 - * Unless specified otherwise where a 27 g/t gold top-cut has been applied.
- Intersections are down hole lengths, true widths not known with certainty.

Table 2: 2019 Phase 1 AEM Target Air Core - Slim-line RC Drill Hole Key Assay Results: Copper-Cobalt-Zinc-Silver-Gold

(i.e. \ge 1.0m with Cu \ge 180ppm and/or Zn \ge 200ppm and/or Co \ge 100ppm and/or Ag \ge 0.50 ppm and/or Au \ge 15ppb)

-			-			-		-	
Hole ID	AEM	Fuo.us (ms)	To /m)	Interval	Copper	Zinc	Cobalt	Silver	Gold
noie iD	Target #	From (m)	To (m)	(m)	(ppm)	(ppb)	(ppm)	(ppm)	(ppb)
19MYA0002	AEM4	8	12	4	211	15	12	0.07	2
19MYA0002	AEM4	12	16	4	264	31	59	0.01	12
19MYA0002	AEM4	16	20	4	280	21	43	0.00	0
19MYA0002	AEM4	20	21	1	234	18	1,100	0.85	2
19MYA0003	AEM4	16	20	4	267	7	18	0.12	0
19MYA0003	AEM4	20	24	4	584	57	96	0.23	6
19MYA0003	AEM4	24	28	4	332	35	365	1.68	23
19MYA0003	AEM4	28	29	1	83	28	24	0.25	19
19MYA0003	AEM4	29	30	1	112	33	77	0.97	66
19EPA0001	AEM13	0	4	4	17	8	8	0.65	0
19EPA0001	AEM13	20	24	4	301	43	49	0.13	0
19EPA0001	AEM13	30	31	1	42	47	65	0.81	2
19EPA0002	AEM13	4	8	4	195	54	52	0.12	0
19EPA0002	AEM13	8	12	4	188	57	37	0.10	1
19EPA0002	AEM13	12	16	4	205	58	42	0.02	2
19EPA0002	AEM13	16	18	2	336	63	33	0.04	0
19EPA0002	AEM13	18	20	2	229	62	34	0.02	1
19EPA0002	AEM13	20	24	4	220	63	33	0.03	2
19EPA0002	AEM13	30	31	1	157	50	36	0.52	0
19EPA0003	AEM13	0	4	4	13	5	7	0.76	0

Note Description From (m) To (m) (ppm) (pp		AEM	_ , ,	_ , .	Interval	Copper	Zinc	Cobalt	Silver	Gold
195PA0003 AEM13 16 20 4 233 31 11 0.00 0 195PA0003 AEM13 20 21 1 359 66 143 0.01 2 195PA0003 AEM13 21 22 1 241 117 261 0.00 2 195PA0003 AEM13 22 23 1 241 117 261 0.00 2 195PA0003 AEM13 28 32 4 708 77 56 0.04 1 195PA003 AEM13 36 36 4 4 45 6 8 37 3 0.03 4 195PA003 AEM13 36 36 4 4 45 6 8 37 3 0.03 4 195PA003 AEM13 36 44 4 45 6 8 37 3 0.03 4 195PA003 AEM13 36 44 4 4 45 6 8 37 3 0.03 4 195PA003 AEM13 48 52 4 185 38 18 0.03 4 195PA003 AEM13 48 52 4 185 38 18 0.03 4 195PA003 AEM13 23 24 1 157 41 142 0.00 0 195PA003 AEM13 23 24 1 157 41 142 0.00 0 195PA0003 AEM13 23 24 1 157 41 142 0.00 0 195PA0005 AEM13 15 16 1 361 41 19 0.04 0 195PA0006 AEM13 15 16 1 361 41 19 0.04 0 195PA0006 AEM13 15 16 1 361 41 19 0.04 0 195PA0008 AEM13 15 16 1 361 41 19 0.04 0 195PA0008 AEM13 15 16 1 361 41 19 0.04 0 195PA0008 AEM13 15 16 1 361 41 19 0.04 0 195PA0008 AEM13 15 16 1 361 41 19 0.04 0 195PA0008 AEM13 15 16 1 361 41 19 0.04 0 195PA008 AEM13 16 20 4 236 54 32 0.04 4 195PA008 AEM13 16 20 4 236 54 32 0.04 4 195PA008 AEM13 3 6 4 4 4 4 4 4 4 4 195PA008 AEM13 3 6 4 4 4 4 4 4 4 4 4	Hole ID	Target #	From (m)	To (m)	(m)		(ppb)	(ppm)	(ppm)	(ppb)
1995 1996	19EPA0003	AEM13	16	20	4	233		11	0.00	
195FA0003 AEM13 22 23 1 193 89 36 0.00 1 195FA0003 AEM13 32 36 4 345 57 34 0.03 4 195FA0003 AEM13 36 4 345 57 34 0.03 4 195FA0003 AEM13 40 44 4 356 93 53 0.03 9 195FA0003 AEM13 40 44 4 356 93 53 0.03 9 195FA0003 AEM13 40 44 4 356 93 53 0.03 9 195FA0003 AEM13 48 52 4 185 38 38 0.03 4 195FA0003 AEM13 48 52 4 185 38 38 0.03 4 195FA0003 AEM13 12 15 4 4 4 4 13 10 0.05 0 195FA0003 AEM13 12 15 4 4 4 4 13 10 0.05 0 195FA0003 AEM13 12 15 5 3 12 12 12 0.05 0 195FA0003 AEM13 12 15 5 3 12 12 12 0.05 0 195FA0003 AEM13 12 15 1 12 12 14 14 10 0.05 0 195FA0003 AEM13 12 15 1 12 15 1 12 14 14 14 0.05 0 195FA0003 AEM13 12 15 1 1 1 361 4 1 1 1 0.05 0 195FA0003 AEM13 12 15 1 1 361 4 1 1 1 0.05 0 195FA0003 AEM13 20 24 4 201 50 26 0.04 3 195FA0003 AEM13 20 24 4 201 50 26 0.04 3 195FA0003 AEM13 20 24 4 201 50 26 0.04 3 195FA0003 AEM13 20 24 4 201 50 26 0.04 3 195FA0003 AEM13 20 21 4 20 1 50 26 0.04 3 195FA0003 AEM13 20 21 4 20 1 50 26 0.04 3 195FA0003 AEM13 20 21 4 20 1 50 26 0.04 3 195FA0002 AEM16 3 9 1 11 31 139 0.11 0 195FA0002 AEM16 37 38 1 11 28 8 0.57 0 195FA0022 AEM16 37 38 1 11 28 38 0.05 0 195FA0003 AEM13 0 0 0 0 0 0 0 0 195FA0003 AEM15 0 0 0 0 0 0 0 0 0										
1919 1919										
1915 1916										
19EPA0003 AEM13 36 40 4 446 81 34 0.04 4 4 356 93 53 0.03 9 19EPA0003 AEM13 44 48 4 222 91 59 0.03 3 3 19EPA0003 AEM13 14 48 4 222 91 59 0.03 3 3 19EPA0004 AEM13 12 16 4 4 4 4 3 0.81 0.0 0 0 0 0 0 0 0 0										
195PA0003										
19FA0003 AEM13 48 52 4 185 38 18 0.03 4 19FA0005 AEM13 12 16 4 4 4 3 0.81 0 19FA0006 AEM13 12 15 3 253 37 19 0.06 0 19FA0006 AEM13 15 16 1 361 41 19 0.04 0 0 19FA0006 AEM13 15 16 1 361 41 19 0.04 0 0 19FA0008 AEM13 15 16 1 361 41 19 0.04 0 0 19FA0008 AEM13 16 20 4 236 54 32 0.04 4 3 19FA0008 AEM13 16 20 4 236 54 32 0.04 4 3 19FA0008 AEM13 24 28 4 211 52 27 0.12 1 19FA0008 AEM13 24 28 4 211 52 27 0.12 1 1 1 1 1 1 1 1 1	19EPA0003	AEM13		44	4					
195PA00004 AEM13										
19EPA0005 AEMI3										
1919-00006 AEM13 12 15 3 253 37 19 0.06 0.0 1919-00006 AEM13 12 16 4 2772 79 127 0.05 32 1919-00008 AEM13 12 16 4 2772 79 127 0.05 32 1919-00008 AEM13 20 24 4 2011 60 26 0.04 34 1919-00008 AEM13 20 24 4 2011 60 26 0.04 34 1919-00008 AEM13 20 24 4 2011 52 27 0.12 1 1919-00017 AEM16 8 9 1 11 51 139 0.11 0.0 1919-0002 AEM16 36 37 1 9 29 7 1.15 0.0 1919-0002 AEM16 37 38 1 11 28 8 0.57 0.0 1919-0002 AEM16 38 39 1 11 30 10 0.62 0.0 1919-0002 AEM16 39 40 1 8 27 8 1.03 0.0 0.62 0.0 1919-0002 AEM16 39 40 1 8 27 8 1.03 0.0 0.67 0.0 1919-0003 AEM16 0 4 4 9 20 6 0.62 0.0 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM16 16 18 2 131 12 11 0.07 29 1919-0003 AEM17 0 4 4 12 4 10 0.86 0.00 1919-0003 AEM17 0 4 4 12 4 10 0.86 0.00 1919-0003 AEM17 0 4 4 12 4 10 0.86 0.00 1919-0003 AEM17 0 4 4 12 4 10 0.86 0.00 1919-0003 AEM17 0 4 4 2 7 7 7 1.53 0.00 1919-0003 AEM17 0 4 4 2 5 4 1.00 0.00 1919-0003 AEM17 0 4 4 2 5 3 1 0.00 1919-0003 AEM19 0 0 0 0 0 0 0 0										
1919PA0000										
1919PA0008 AEMI3										
19EPA0008 AEM13 20 24 4 201 60 26 0.04 3 19EPA0008 AEM16 8 9 1 11 31 139 0.11 0 19EPA0022 AEM16 36 37 1 9 29 7 1.15 0 19EPA0022 AEM16 38 39 1 11 30 10 0.62 0 19EPA0022 AEM16 38 39 1 11 30 10 0.62 0 19EPA0022 AEM16 38 39 1 11 30 10 0.62 0 19EPA0022 AEM16 39 40 1 8 27 8 1.03 0 19EPA0023 AEM16 0 4 4 9 20 6 0.62 0 19EPA0036 AEM16 0 4 4 9 20 6 0.62 0 19EPA0037 AEM16 16 18 2 131 12 11 0.07 29 19EPA0037 AEM16 16 18 2 131 12 11 0.07 29 19EPA0037 AEM16 16 18 2 131 12 11 0.07 29 19EPA0037 AEM16 18 19 1 94 15 11 0.05 31 19EPA0037 AEM16 18 19 1 94 15 11 0.05 31 19EPA0038 AEM17 4 8 4 3 3 3 2 0.55 0 19EPA0039 AEM17 4 8 4 3 3 3 2 0.55 0 19EPA0039 AEM17 4 8 4 3 3 3 2 0.55 0 19EPA0034 AEM17 28 32 4 55 31 10 0.81 0 19EPA0034 AEM17 28 32 4 55 31 10 0.81 0 19EPA0024 AEM19 16 20 4 2 6 4 1.08 0 19EPA0024 AEM19 76 80 4 108 204 18 0.13 0 19EPA0024 AEM19 76 80 4 108 204 18 0.13 0 19EPA0024 AEM19 88 92 4 28 231 55 0.12 0 19EPA0026 AEM19 88 92 4 28 231 55 0.12 0 19EPA0027 AEM19 88 92 4 28 231 55 0.12 0 19EPA0028 AEM19 16 20 4 4 12 4 0.06 0 19EPA0029 AEM19 32 36 4 108 204 18 0.13 0 19EPA0029 AEM19 38 12 4 120 222 21 0.03 1 19EPA0029 AEM19 38 32 4 35 33 30 0.0 0 19EPA0029 AEM19 38 32 4 184 100 44 0.05 3 19EPA0029 AEM19 30 30 4 4 100 4 0.05 3 3 19EPA0029 AEM19 30 30 4 4 100 4 0.05 3 3 19EPA0029 AEM19 30 30 30 30 30 30 30	19EPA0008	AEM13		16	4	272	79	127	0.03	32
19FPA0007 AEM16 8 9 1 11 31 139 0.11 0 19FPA0017 AEM16 36 37 1 9 29 7 1.15 0 19FPA0022 AEM16 36 37 1 9 29 7 1.15 0 19FPA0022 AEM16 38 39 1 11 28 8 0.57 0 19FPA0022 AEM16 38 39 1 11 30 10 0.62 0 19FPA0022 AEM16 38 39 1 11 30 10 0.62 0 19FPA0023 AEM16 4 8 4 13 31 10 0.67 0 19FPA0023 AEM16 12 16 4 183 38 14 0.13 35 19FPA0037 AEM16 12 16 4 183 38 14 0.13 35 19FPA0037 AEM16 16 18 2 131 12 11 0.07 29 19FPA0037 AEM16 18 19 1 94 15 11 0.05 31 19FPA0037 AEM16 18 19 1 94 15 11 0.05 31 19FPA0038 AEM17 0 4 4 12 4 10 0.86 0 19FPA0039 AEM17 12 16 4 2 3 1 0.88 0 19FPA0034 AEM17 12 16 4 2 3 1 0.88 0 19FPA0034 AEM17 12 16 4 2 3 1 0.88 0 19FPA0034 AEM17 28 32 4 55 31 1 0.81 0 19FPA0034 AEM17 28 32 4 55 31 1 0.81 0 19FPA0034 AEM17 93 94 1 28 57 111 0.21 0 19FPA0024 AEM19 16 20 4 2 6 6 4 108 0 19FPA0024 AEM19 96 4 2 7 17 1.53 0 19FPA0024 AEM19 76 80 4 108 20 4 2 6 6 4 108 0 19FPA0024 AEM19 97 80 84 4 115 335 37 0.06 0 19FPA0024 AEM19 98 84 4 115 335 37 0.06 0 19FPA0024 AEM19 92 96 4 30 321 42 0.12 0 19FPA0026 AEM19 92 96 4 30 321 42 0.12 0 19FPA0027 AEM19 16 20 4 48 43 3 0.22 2 19FPA0028 AEM19 92 96 4 30 321 42 0.12 0 19FPA0029 AEM19 12 16 4 153 85 123 0.02 2 19FPA0029 AEM19 12 16 4 153 85 123 0.02 2 19FPA0029 AEM19 12 16 4 153 85 123 0.02 2 19FPA0029 AEM19 12 16 4 153 85 123 0.06 0 19FPA0029 AEM19 12 16 4 153 85 1										
19FPA0027										
19EPA0022										
19EPA0022										
19FPA0022										
19EPA0023										
19EPA0036										
19EPAO037 AEM16	19EPA0023	AEM16							0.67	
19EPA0037 AEM16										
19FPA0037										
19EPA0034 AEM17										
19EPA0034 AEM17										
19EPA0034 AEM17										
19EPA0024 AEM17 93 94 1 28 57 111 0.21 0 19EPA0024 AEM19 16 20 4 2 6 4 1.08 0 19EPA0024 AEM19 20 24 4 2 7 17 1.53 0 19EPA0024 AEM19 76 80 4 108 204 18 0.13 0 19EPA0024 AEM19 80 84 4 115 335 37 0.06 0 19EPA0024 AEM19 88 92 4 28 231 55 0.12 0 19EPA0024 AEM19 92 96 4 30 321 42 0.12 1 19EPA0025 AEM19 8 12 4 120 222 21 0.03 1 19EPA0026 AEM19 12 16 4 153 85 123 0.02 2 19EPA0028 AEM19 16 20 4 435 215 44 0.06 0 19EPA0028 AEM19 20 24 4 484 232 294 0.02 0 19EPA0028 AEM19 24 28 4 190 142 54 0.03 0 19EPA0028 AEM19 28 32 4 184 100 44 0.05 3 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0000 AEM21 31 32 1 289 92 37 0.07 3 19EPA0011 AEM21 4 8 4 4 78 72 4 4 4 4 4 4 4 4 4					4					
19EPA0024 AEM19 16 20 4 2 6 4 1.08 0 19EPA0024 AEM19 20 24 4 2 7 17 1.53 0 19EPA0024 AEM19 76 80 4 108 204 18 0.13 0 19EPA0024 AEM19 80 84 4 115 335 37 0.06 0 19EPA0024 AEM19 88 92 4 28 231 55 0.12 0 19EPA0024 AEM19 92 96 4 30 321 42 0.12 1 19EPA0025 AEM19 8 12 4 120 222 21 0.03 1 19EPA0026 AEM19 12 16 4 153 85 123 0.02 2 19EPA0028 AEM19 16 20 4 435 215 44 0.06 0 19EPA0028 AEM19 20 24 4 484 232 294 0.02 0 19EPA0028 AEM19 24 28 4 190 142 54 0.03 0 19EPA0028 AEM19 28 32 4 184 100 44 0.05 3 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 38 12 4 201 44 33 0.03 2 19EPA0029 AEM19 8 12 4 201 44 33 0.03 2 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 19EPA0029 AEM19 20 24 4 186 82 38 0.03 4 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 16 20 4 183 69 31 0.06 1 19EPA0011 AEM21 16 20 4 183 69 31 0.06 1 19EPA0012 AEM21 16 20 4 215 48 38 0.05 1 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0014 AEM21 38 32 4 38 30 0.05 4 19EPA0015 AEM21 38 32 4 38 30 0.05 4 19EPA0015 AEM21 16 20 4 38 33 30 0.05 4 19EPA0015 AEM21 16 20 4 38 33 30 0.05 4 19EPA0015 AEM21 28 32 4 32 35 5 4 0.04 2 19EPA0015 AEM21 16 20 4 38 33 30 0.05 4 19EPA0015 AEM21 28 32 4 323 3	19EPA0034	AEM17		32	4		31	10	0.81	
19EPA0024 AEM19 76 80 4 108 204 18 0.13 0.19EPA0024 AEM19 80 84 4 115 335 37 0.06 0.19EPA0024 AEM19 80 84 4 115 335 37 0.06 0.19EPA0024 AEM19 88 92 4 28 231 55 0.12 0.0 0.19EPA0024 AEM19 92 96 4 30 321 42 0.12 1.19EPA0025 AEM19 8 12 4 120 222 21 0.03 1.19EPA0026 AEM19 12 16 4 153 85 123 0.02 2.19EPA0028 AEM19 16 20 4 435 215 44 0.06 0.00 0.19EPA0028 AEM19 16 20 4 435 215 44 0.06 0.00 0.19EPA0028 AEM19 24 28 4 190 142 54 0.03 0.03 0.19EPA0028 AEM19 28 32 4 184 100 44 0.05 3.19EPA0028 AEM19 32 36 4 201 112 70 0.04 4.19EPA0028 AEM19 32 36 4 201 112 70 0.04 4.19EPA0028 AEM19 32 36 4 201 112 70 0.04 4.19EPA0028 AEM19 8 12 4 201 44 32 0.01 1.19EPA0029 AEM19 8 12 4 201 44 32 0.01 1.19EPA0029 AEM19 8 12 4 201 44 32 0.01 1.19EPA0029 AEM19 16 20 4 190 80 27 0.03 5.19EPA0029 AEM19 16 20 4 190 80 27 0.03 5.19EPA0029 AEM19 16 20 4 186 82 38 0.03 4.19EPA0009 AEM19 17 12 16 4 183 69 31 0.06 1.19EPA0009 AEM21 12 16 4 183 69 31 0.06 1.19EPA0009 AEM21 12 16 4 183 69 31 0.06 1.19EPA0009 AEM21 31 32 1 289 92 37 0.07 3.19EPA0010 AEM21 31 32 1 289 92 37 0.07 3.19EPA0010 AEM21 31 32 1 289 92 37 0.07 3.19EPA0010 AEM21 31 32 1 289 92 37 0.07 3.19EPA0010 AEM21 31 32 1 289 92 37 0.07 3.19EPA0010 AEM21 34 34 34 35 5 0.08 0.05 1.19EPA0013 AEM21 34 34 34 35 5 0.08 0.05 1.19EPA0013 AEM21 34 34 34 35 36 9 0.66 0.08 2.19EPA0014 AEM21 34 34 34 35 35 30 0.06 4.19EPA0014 AEM21 34 32 34 35 35 30 0.06 4.19EPA0015 AEM21 36 32 32 4 35 35										
19EPA0024 AEM19 76 80 4 108 204 18 0.13 0 19EPA0024 AEM19 80 84 4 115 335 37 0.06 0 19EPA0024 AEM19 88 92 4 28 231 55 0.12 0 19EPA0025 AEM19 8 12 4 20 22 21 1 0.03 1 19EPA0026 AEM19 12 16 4 153 85 123 0.02 2 19EPA0026 AEM19 12 16 4 153 85 123 0.02 2 19EPA0028 AEM19 16 20 4 435 215 44 0.06 0 19EPA0028 AEM19 20 24 4 484 232 294 0.02 0 19EPA0028 AEM19 24 28 4 190 142 54 0.03 0 19EPA0028 AEM19 23 36 4 190 142 54 0.03 0 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 8 12 4 201 4 32 0.01 1 19EPA0028 AEM19 8 12 4 201 44 32 0.01 1 19EPA0028 AEM19 16 60 62 2 214 46 33 0.03 2 19EPA0028 AEM19 10 60 62 2 214 46 33 0.03 2 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 12 16 4 183 69 31 0.06 1 19EPA009 AEM19 12 16 4 183 69 31 0.06 1 19EPA009 AEM21 12 16 4 183 69 31 0.06 1 19EPA009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0010 AEM21 16 20 4 190 80 27 0.07 3 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 14 8 4 249 81 266 0.08 2 19EPA0014 AEM21 14 8 4 249 81 266 0.08 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 12 16 4 188 83 30 0.05 4										
19EPA0024 AEM19 88 89 4 28 231 55 0.12 0.12 1.19EPA0024 AEM19 92 96 4 30 321 42 0.12 1.19EPA0025 AEM19 8 12 4 120 222 21 0.03 1.19EPA0026 AEM19 12 16 4 153 85 123 0.02 2.19EPA0028 AEM19 16 20 4 435 215 44 0.06 0.19EPA0028 AEM19 20 24 4 484 232 294 0.02 0.19EPA0028 AEM19 24 28 4 190 142 54 0.03 0.05 3.19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 4.19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 4.19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 4.19EPA0028 AEM19 8 12 4 201 44 32 0.01 1 1.19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 1.19EPA0029 AEM19 12 16 4 224 85 236 0.02 3.19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 1.19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 1.19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 1.19EPA0009 AEM19 12 16 4 183 69 31 0.06 1 1.19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 1.19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 1.19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 1.19EPA0011 AEM21 31 32 1 289 92 37 0.07 3 1.19EPA0011 AEM21 34 84 378 72 343 0.06 1 3.19EPA0013 AEM21 34 34 4 34 4 34 4 34 4										
19EPA0024 AEM19 92 96 4 30 321 42 0.12 0 19EPA0025 AEM19 92 96 4 30 321 42 0.12 1 19EPA0026 AEM19 12 16 4 120 222 21 0.03 1 19EPA0028 AEM19 12 16 4 153 85 123 0.02 2 19EPA0028 AEM19 16 20 4 435 215 44 0.06 0 19EPA0028 AEM19 20 24 4 484 232 294 0.02 0 19EPA0028 AEM19 24 28 4 190 142 54 0.03 0 19EPA0028 AEM19 28 32 4 184 100 44 0.05 3 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 20 24 4 186 82 38 0.03 4 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 31 32 1 289 92 37 0.07 3 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0015 AEM21 18 12 4 258 128 62 0.02 2 19EPA0016 AEM21 16 20 4 258 128 62 0.02 2 19EPA0017 AEM21 18 12 4 258 128 62 0.02 2 19EPA0018 AEM21 16 20 4 258 128 62 0.02 2 19EPA0019 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0015 AEM21 28 32 4 192 65 22 0.04 2 19EPA0015 AEM21 20										
19EPA0025 AEM19 12 16 4 153 85 123 0.02 2 19EPA0026 AEM19 12 16 4 153 85 123 0.02 2 19EPA0028 AEM19 16 20 4 435 215 44 0.06 0 19EPA0028 AEM19 20 24 4 484 232 294 0.02 0 19EPA0028 AEM19 24 28 4 190 142 54 0.03 0 19EPA0028 AEM19 28 32 4 184 100 44 0.05 3 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 8 12 4 201 44 32 0.01 1 19EPA0028 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 13 32 1 289 92 37 0.07 3 19EPA0009 AEM21 16 20 4 215 48 38 0.05 1 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0013 AEM21 12 26 4 253 107 45 0.26 2 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0015 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2										
19EPA0026 AEM19 12 16 4 153 85 123 0.02 2 19EPA0028 AEM19 16 20 4 435 215 44 0.06 0 19EPA0028 AEM19 20 24 4 484 232 294 0.02 0 19EPA0028 AEM19 24 28 4 190 142 54 0.03 0 19EPA0028 AEM19 28 32 4 184 100 44 0.05 3 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 19EPA0029 AEM19 10 10 10 10 10 10 10 10 10 10 10 10 10	19EPA0024	AEM19	92	96	4	30	321	42	0.12	1
19EPA0028 AEM19 16 20 4 435 215 44 0.06 0 19EPA0028 AEM19 20 24 4 484 232 294 0.02 0 19EPA0028 AEM19 24 28 4 190 142 54 0.03 0 19EPA0028 AEM19 28 32 4 184 100 44 0.05 3 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 60 62 2 214 46 33 0.03 2 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 19EPA0029 AEM19 12 16 4 183 69 31 0.06 1 19EPA0029 AEM11 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0013 AEM21 12 16 4 20 4 215 48 38 0.05 1 19EPA0013 AEM21 12 16 4 20 4 215 48 38 0.05 1 19EPA0013 AEM21 12 16 4 20 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 20 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 20 4 20 22 11 1.09 0 19EPA0014 AEM21 14 8 4 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 16 20 4 255 107 45 0.26 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 16 20 4 265 25 0.04 2 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4										
19EPA0028 AEM19 20 24 4 484 232 294 0.02 0 19EPA0028 AEM19 24 28 4 190 142 54 0.03 0 19EPA0028 AEM19 28 32 4 184 100 44 0.05 3 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 60 62 2 214 46 33 0.03 2 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 16 20 4 188 36 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 28 31 3 326 67 25 0.12 4 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 12 16 4 13 36 9 0.06 1 19EPA0013 AEM21 12 16 4 215 48 38 0.05 1 19EPA0013 AEM21 12 16 4 215 48 38 0.05 1 19EPA0014 AEM21 4 8 4 77 15 12 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4										
19EPA0028 AEM19 24 28 4 190 142 54 0.03 0 19EPA0028 AEM19 28 32 4 184 100 44 0.05 3 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 60 62 2 214 46 33 0.03 2 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 19EPA0029 AEM19 20 24 4 186 82 38 0.03 4 19EPA0029 AEM19 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 13 13 22 1 289 92 37 0.07 3 19EPA0009 AEM21 11 16 20 4 215 48 38 0.05 1 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0015 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0015 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0015 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0015 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 258 128 62 0.02 2 19EPA0014 AEM21 1 12 16 4 258 128 62 0.02 2 19EPA0014 AEM21 1 12 16 4 258 128 62 0.02 2 19EPA0014 AEM21 1 16 20 4 205 85 33 0.06 4 19EPA0015 AEM21 1 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 1 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 1 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 1 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 1 16 20 4 188 83 36 0.04 2										
19EPA0028 AEM19 28 32 4 184 100 44 0.05 3 19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 60 62 2 214 46 33 0.03 2 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 20 24 4 186 82 38 0.03 4 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 28 31 3 326 67 25 0.12 4 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 16 20 4 258 128 62 0.02 2 19EPA0014 AEM21 16 20 4 205 85 33 0.06 4 19EPA0015 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 205 85 33 0.06 4 19EPA0015 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2										
19EPA0028 AEM19 32 36 4 201 112 70 0.04 4 19EPA0028 AEM19 60 62 2 214 46 33 0.03 2 19EPA0029 AEM19 8 12 4 201 44 32 0.01 1 19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 20 24 4 186 82 38 0.03 4 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 28 31 3 326 67 25 0.12 4 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0009 AEM21 16 20 4 215 48 38 0.05 1 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 4 8 4 20 22 11 1.09 0 19EPA0015 AEM21 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0015 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0015 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0014 AEM21 1 12 16 4 13 36 9 0.66 0 19EPA0015 AEM21 1 12 16 4 258 128 62 0.02 2 19EPA0014 AEM21 1 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 1 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 1 16 20 4 258 128 62 0.02 2 19EPA0014 AEM21 1 16 20 4 258 128 62 0.02 2 19EPA0015 AEM21 1 16 20 4 205 85 33 0.06 4 19EPA0015 AEM21 1 16 20 4 205 85 33 0.06 4 19EPA0015 AEM21 1 16 20 4 205 85 33 0.06 4 19EPA0015 AEM21 1 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 20 24 4 188 83 30 0.05 4										
19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 16 20 4 186 82 38 0.03 4 19EPA0029 AEM19 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 28 31 3 326 67 25 0.12 4 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 12 8 32 4 192 65 22 0.04 2 19EPA0015 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2		AEM19								
19EPA0029 AEM19 12 16 4 224 85 236 0.02 3 19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 20 24 4 186 82 38 0.03 4 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 28 31 3 326 67 25 0.12 4 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 10 0 4 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0014 AEM21 4 8 4 24 29 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 12 16 4 258 128 62 0.02 2 19EPA0014 AEM21 1 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 1 8 12 4 258 32 4 192 65 22 0.04 2 19EPA0015 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 1 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 1 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 1 6 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 6 20 4 188 83 36 0.04 2 19EPA0015 AEM21 1 6 20 4 188 83 36 0.04 2 19EPA0015 AEM21 1 6 20 4 188 83 36 0.04 2 19EPA0015 AEM21 1 6 20 4 188 83 36 0.04 2 19EPA0015 AEM21 1 6 20 4 188 83 36 0.04 2 19EPA0015 AEM21 1 6 20 4 188 83 36 0.04 2	19EPA0028	AEM19		62	2		46		0.03	2
19EPA0029 AEM19 16 20 4 190 80 27 0.03 5 19EPA0029 AEM19 20 24 4 186 82 38 0.03 4 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 28 31 3 326 67 25 0.12 4 19EPA0009 AEM21 16 20 4 215 48 38 0.05 1 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 12 16 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 258 128 62 0.02 2 19EPA0014 AEM21 16 20 4 258 128 62 0.02 2 19EPA0014 AEM21 16 20 4 258 128 62 0.02 2 19EPA0014 AEM21 16 20 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0014 AEM21 18 12 4 258 128 62 0.02 2 19EPA0015 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2										
19EPA0029 AEM19 20 24 4 186 82 38 0.03 4 19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 28 31 3 326 67 25 0.12 4 19EPA0010 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 0 4 4 20 22 11 1.09 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
19EPA0009 AEM21 12 16 4 183 69 31 0.06 1 19EPA0009 AEM21 28 31 3 326 67 25 0.12 4 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 10 0 4 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 24 28 4 5 20 8 0.63 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 25 85 33 0.06 4 19EPA0014 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 1 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 1 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 1 6 20 4 188 83 30 0.05 4 19EPA0015 AEM21 1 6 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 24 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 24 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 24 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 24 4 188 83 30 0.05 4										
19EPA0009 AEM21 28 31 3 326 67 25 0.12 4 19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 0 4 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 4 8 4 249 81 266 0.08 2										
19EPA0009 AEM21 31 32 1 289 92 37 0.07 3 19EPA0010 AEM21 16 20 4 215 48 38 0.05 1 19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 0 4 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 28 32 4 5 20 8 0.63 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 205 85 33 0.06 4 19EPA0014 AEM21 1 6 20 4 205 85 33 0.06 4 19EPA0014 AEM21 1 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 18 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 4 188 83 36 0.04 2 19EPA0015 AEM21 16 20 24 188 83 36 0.04 2										
19EPA0011 AEM21 4 8 4 178 72 143 0.06 1 19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 0 4 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 28 32 4 5 20 8 0.63 0 19EPA0013 AEM21 28 32 4 5 20 8 0.63 0 19EPA0013 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2	19EPA0009								0.07	
19EPA0012 AEM21 52 53 1 18 235 5 0.08 0 19EPA0013 AEM21 0 4 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 28 32 4 5 20 8 0.63 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 16 20 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 205 85 33 0.06 4<										
19EPA0013 AEM21 0 4 4 20 22 11 1.09 0 19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 28 32 4 5 20 8 0.63 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 205 85 33 0.06 4 19EPA0015 AEM21 8 12 4 192 65 22 0.04 2<										
19EPA0013 AEM21 12 16 4 13 36 9 0.66 0 19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 28 32 4 5 20 8 0.63 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 205 85 33 0.06 4 19EPA0014 AEM21 28 32 4 192 65 22 0.04 2 19EPA0015 AEM21 8 12 4 274 144 163 0.07 <										
19EPA0013 AEM21 24 28 4 7 15 12 0.62 0 19EPA0013 AEM21 28 32 4 5 20 8 0.63 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 205 85 33 0.06 4 19EPA0014 AEM21 28 32 4 192 65 22 0.04 2 19EPA0015 AEM21 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05										
19EPA0013 AEM21 28 32 4 5 20 8 0.63 0 19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 205 85 33 0.06 4 19EPA0014 AEM21 28 32 4 192 65 22 0.04 2 19EPA0015 AEM21 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 20 24 4 183 83 36 0.04										
19EPA0014 AEM21 4 8 4 249 81 266 0.08 2 19EPA0014 AEM21 8 12 4 258 128 62 0.02 2 19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 205 85 33 0.06 4 19EPA0014 AEM21 28 32 4 192 65 22 0.04 2 19EPA0015 AEM21 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 20 24 4 183 83 36 0.04 2 19EPA0041 AEM21 28 32 4 183 83 36 0.04										
19EPA0014 AEM21 12 16 4 253 107 45 0.26 2 19EPA0014 AEM21 16 20 4 205 85 33 0.06 4 19EPA0014 AEM21 28 32 4 192 65 22 0.04 2 19EPA0015 AEM21 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 20 24 4 183 83 36 0.04 2 19EPA0041 AEM21 28 32 4 233 55 47 0.03 7		AEM21	4	8	4	249	81	266	0.08	2
19EPA0014 AEM21 16 20 4 205 85 33 0.06 4 19EPA0014 AEM21 28 32 4 192 65 22 0.04 2 19EPA0015 AEM21 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 20 24 4 183 83 36 0.04 2 19EPA0041 AEM21 28 32 4 233 55 47 0.03 7										
19EPA0014 AEM21 28 32 4 192 65 22 0.04 2 19EPA0015 AEM21 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 20 24 4 183 83 36 0.04 2 19EPA0041 AEM21 28 32 4 233 55 47 0.03 7										
19EPA0015 AEM21 8 12 4 274 144 163 0.07 4 19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 20 24 4 183 83 36 0.04 2 19EPA0041 AEM21 28 32 4 233 55 47 0.03 7										
19EPA0015 AEM21 16 20 4 188 83 30 0.05 4 19EPA0015 AEM21 20 24 4 183 83 36 0.04 2 19EPA0041 AEM21 28 32 4 233 55 47 0.03 7										
19EPA0015 AEM21 20 24 4 183 83 36 0.04 2 19EPA0041 AEM21 28 32 4 233 55 47 0.03 7										
19EPA0041 AEM21 28 32 4 233 55 47 0.03 7										
19EPA0041 AEM21 32 36 4 205 46 37 0.02 5		AEM21	28					47		7
	19EPA0041	AEM21	32	36	4	205	46	37	0.02	5

AIUO BSN IBUOSIBO 101

Hole ID	AEM	From (m)	To (m)	Interval	Copper	Zinc	Cobalt	Silver	Gold
19EPA0042	Target # AEM24	49		(m) 1	(ppm) 92	(ppb) 39	(ppm) 15	(ppm) 0.66	(ppb)
19EPA0042 19EPA0044	AEM24	0	50 4	4	19	39 5	8	0.58	2
19EPA0044	AEM24	12	16	4	8	9	5	0.70	1
19EPA0044	AEM24	36	40	4	216	242	35	0.18	0
19EPA0044	AEM24	40	44	4	456	397	51	0.23	0
19EPA0044	AEM24	44	48	4	261	357	49	0.10	2
19EPA0044	AEM24	48	52	4	54	343	45	0.08	3
19EPA0044	AEM24	112	113	1	31	43	21	1.03	0
19EPA0045 19EPA0045	AEM24 AEM24	36 40	40 44	4	230 280	302 432	43 48	0.10 0.08	2 13
19EPA0045	AEM24	44	44	4	183	432	33	0.08	5
19EPA0045	AEM24	48	52	4	89	259	25	0.07	5
19EPA0045	AEM24	52	56	4	42	222	35	0.06	2
19EPA0045	AEM24	104	108	4	34	80	24	6.58	2
19EPA0045	AEM24	108	112	4	41	73	21	0.53	1
19EPA0045	AEM24	116	118	2	25	52	18	2.26	2
19EPA0048	AEM25	64	68	4	168	283	30	0.05	2
19EPA0048 19EPA0048	AEM25 AEM25	68 72	72 76	4 4	28 39	244 245	34 38	0.04 0.05	2 1
19EPA0048	AEM25	76	80	4	28	243	25	0.05	0
19EPA0048	AEM25	84	88	4	82	224	38	0.15	3
19EPA0048	AEM25	88	89	1	66	281	28	0.11	4
19EPA0049	AEM25	64	68	4	99	218	24	0.03	2
19EPA0049	AEM25	68	72	4	13	274	23	0.03	0
19EPA0049	AEM25	72	76	4	41	240	23	0.05	2
19EPA0049	AEM25	76	77	1	20	287	24	0.04	2
19EPA0049	AEM25	77	78	1	11	422	36	0.06	0
19EPA0049 19EPA0049	AEM25 AEM25	78 79	79 80	1	10 15	452 365	36 51	0.38 0.49	2 14
19EPA0049	AEM25	80	81	1	25	544	36	0.49	3
19EPA0049	AEM25	81	82	1	20	292	29	0.15	2
19EPA0049	AEM25	88	89	1	17	94	103	0.68	2
19EPA0050	AEM25	52	53	1	257	229	22	0.02	32
19EPA0050	AEM25	53	54	1	156	139	16	0.02	19
19EPA0050	AEM25	54	55	1	207	260	33	0.01	11
19EPA0050 19EPA0050	AEM25 AEM25	55 56	56 60	1 4	50 33	282 231	44 33	0.02 0.02	6 1
19EPA0050	AEM25	60	64	4	43	203	28	0.02	2
19EPA0050	AEM25	72	76	4	35	201	28	0.03	1
19EPA0050	AEM25	76	80	4	91	233	34	0.14	4
19EPA0050	AEM25	80	81	1	29	246	18	0.05	2
19EPA0050	AEM25	81	82	1	30	243	23	0.09	2
19EPA0053	AEM25	54	55	1	243	108	5	0.09	64
19EPA0053	AEM25	55 57	56	1	273 463	175	8	0.05 0.05	5
19EPA0053 19EPA0053	AEM25 AEM25	58	58 59	1 1	247	506 334	49 36	0.03	5 2
19EPA0053	AEM25	108	109	1	17	245	60	0.04	1
19EPA0053	AEM25	109	110	1	120	125	66	0.16	6
19EPA0054	AEM25	0	4	4	10	8	5	1.47	0
19EPA0054	AEM25	4	8	4	3	5	1	0.53	2
19EPA0056	AEM25	20	24	4	9	7	1	1.43	0
19EPA0056	AEM25	44	48	4	72	214	34	0.49	9
19EPA0056 19EPA0057	AEM25 AEM25	48 28	52 32	4	49 47	213 210	35 8	0.15 0.16	3 1
19EPA0057	AEM25	40	44	4	99	295	48	0.18	45
19EPA0057	AEM25	48	49	1	9	127	26	1.39	3
19EPA0058	AEM25	64	68	4	63	258	26	0.08	1
19EPA0058	AEM25	72	76	4	51	205	39	0.10	2
19EPA0058	AEM25	76	80	4	28	215	22	0.11	1
19EPA0058	AEM25	80	84	4	45	303	34	0.16	0
19EPA0059	AEM25	60	64	4	34	296	35	0.03	2
19EPA0060 19EPA0060	AEM26 AEM26	61 62	62 63	1 1	40 122	343 228	104 64	0.06 0.04	2 1
19EPA0060	AEM26	64	65	1	227	135	34	0.04	1
19EPA0060	AEM26	65	66	1	100	223	76	0.02	1
19EPA0061	AEM26	52	56	4	102	223	22	0.08	0
19EPA0061	AEM26	56	60	4	91	333	53	0.11	0
19EPA0062	AEM26	12	16	4	38	241	9	0.07	0
19EPA0062	AEM26	28	32	4	27	265	12	0.08	0
19EPA0062	AEM26	64	68	4	46	616	66	0.10	0
19EPA0062	AEM26	72	73	1	74	412	27	0.12	3

MIUO BSM IBUOSIBÓ 10

Hele ID	AEM	Fuo.m. (m.)	To /m\	Interval	Copper	Zinc	Cobalt	Silver	Gold
Hole ID	Target #	From (m)	To (m)	(m)	(ppm)	(ppb)	(ppm)	(ppm)	(ppb)
19EPA0062	AEM26	73	74	1	42	508	19	0.15	0
19EPA0062	AEM26	74	75	1	42	265	31	0.24	1
19EPA0063	AEM26	0	4	4	7	6	4	0.85	0
19EPA0065	AEM26	0	4	4	3	6	2	1.42	3
19EPA0065	AEM26	68	69	1	152	310	27	0.03	0
19EPA0065	AEM26	69	70	1	257	571	62	0.03	0
19EPA0065	AEM26	70	71	1	73	396	43	0.05	0
19EPA0073	AEM28	0	4	4	14	4	6	0.63	0
19EPA0073	AEM28	32	36	4	480	356	38	0.25	0
19EPA0073	AEM28	36	40	4	221	239	38	0.10	7
19EPA0074	AEM28	12	16	4	221	93	32	0.05	0
19EPA0074	AEM28	16	20	4	339	209	168	0.07	0
19EPA0074	AEM28	20	24	4	700	248	179	0.05	6
19EPA0076	AEM28	11	12	1	181	41	10	0.03	0
19EPA0076	AEM28	12	16	4	252	61	21	0.53	0
19EPA0076	AEM28	16	20	4	233	108	30	0.13	0
19EPA0076	AEM28	20	24	4	289	94	33	0.15	0
19EPA0076	AEM28	24	28	4	447	117	40	0.15	0
19EPA0076	AEM28	28	32	4	370	149	57	0.08	10
19EPA0076	AEM28	32	36	4	149	137	105	0.49	7
19EPA0101	AEM28	20	24	4	48	105	182	0.03	0
19EPA0102	AEM28	4	8	4	4	9	2	0.55	0
19EPA0102	AEM28	20	24	4	64	35	12	0.79	0
19EPA0102	AEM28	60	61	1	200	60	23	0.09	3
19EPA0103	AEM28	16	20	4	262	104	29	0.25	1
19EPA0103	AEM28	20	21	1	633	332	247	0.18	0
19EPA0103	AEM28	21	22	1	586	168	103	0.18	22
19EPA0103	AEM28	22	23	1	771	168	109	0.33	80
19EPA0103	AEM28	23	24	1	550	164	105	0.35	15
19EPA0103	AEM28	24	28	4	568	129	51	0.07	5
19EPA0103	AEM28	28	32	4	507	60	29	0.10	11
19EPA0103	AEM28	32	36	4	277	59	24	0.08	3
19EPA0068	AEM29	12	16	4	3	5	1	0.89	0
19EPA0071	AEM29	22	23	1	54	46	61	3.04	1
19EPA0072	AEM29	60	63	3	82	218	25	0.07	1
19EPA0080	AEM30	20	24	4	65	113	201	0.03	0
19EPA0080	AEM30	24	28	4	45	135	232	0.04	0
19EPA0081	AEM30	20	24	4	37	85	123	0.00	0
19EPA0083	AEM30	28	32	4	69	270	120	0.00	0
19EPA0083	AEM30	32	36	4	77	249	158	0.00	0
19EPA0084	AEM30	40	44	4	65	96	186	0.02	5
19EPA0084	AEM30	44	48	4	51	115	149	0.03	0
19EPA0087	AEM30	20	24	4	46	117	161	0.02	0
19EPA0088	AEM30	24	28	4	51	148	236	0.03	0
19EPA0089	AEM30	28	32	4	113	183	162	0.02	0

Notes (Intersection Tables above): Table 1 Intersections are individual assays reported using the following criteria: Intersection Interval = Nominal cut-off grade scenarios:

- ≥ 180ppm copper which also satisfy a minimum down-hole interval of 1.0m; and/or
- ≥ 200ppm zinc which also satisfy a minimum down-hole interval of 1.0m; and/or
- ≥ 100ppm cobalt which also satisfy a minimum down-hole interval of 1.0m; and/or
- ≥ 0.5ppm g/t silver which also satisfy a minimum down-hole interval of 1.0m; and/or
- ≥ 15ppb gold which also satisfy a minimum down-hole interval of 1.0m.
- No top-cutting has been applied to assay results for copper, zinc, cobalt, silver or gold.
- Intersections are down hole lengths, true widths not known with certainty.

Table 3: 2019 Phase 1 Air Core Drill – Slim-line RC Hole Collar Locations (MGA Zone 51/GDA 94)

Hole ID	Deposit / Target Area	Northing (m)	Easting (m)	RL (m)	Hole Depth (m)	Azimuth (°)	Dip (°)	Assay Status
19CRA0001	Turkey Farm	7,612,269	422,395	250	102	213.2	-60	Received
19CRA0002	Turkey Farm	7,612,370	422,469	250	138	213.2	-60	Received
19CRA0003	Turkey Farm	7,612,237	422,434	250	120	213.2	-60	Received
19CRA0004	Turkey Farm	7,612,277	422,463	250	105	213.2	-60	Received
19CRA0005	Turkey Farm	7,612,145	422,429	250	102	213.2	-60	Received
19CRA0006	Turkey Farm	7,612,092	422,513	250	102	213.2	-60	Received
19CRA0007	Turkey Farm	7,612,122	422,597	250	102	213.2	-60	Received
19CRA0008	Turkey Farm	7,612,162	422,626	250	120	213.2	-60	Received
19CRA0009	Turkey Farm	7,612,203	422,656	250	102	213.2	-60	Received
19CRA0010	Turkey Farm	7,612,203	422,744	250	105	213.2	-60	Received
	Turkey Farm	7,612,022	422,744	250	103	213.2	-60	Received
19CRA0011	•		•					
19CRA0012	Turkey Farm	7,612,063	422,802	250	105	213.2	-60	Received
L9EPA0001	AEM13	7,642,829	424,905	250	31	0	-90	Received
L9MYA0001	AEM4	7,636,350	421,572	250	21	0	-90	Received
L9MYA0002	AEM4	7,636,067	421,503	250	21	0	-90	Received
L9MYA0003	AEM4	7,636,195	421,467	250	30	0	-90	Received
19EPA0002	AEM13	7,642,842	425,005	250	31	0	-90	Received
19EPA0003	AEM13	7,642,854	425,105	250	57	0	-90	Received
19EPA0004	AEM13	7,642,867	425,205	250	45	0	-90	Received
19EPA0005	AEM13	7,643,329	424,735	250	36	0	-90	Received
19EPA0006	AEM13	7,643,342	424,834	250	17	0	-90	Received
19EPA0007	AEM13	7,643,354	424,934	250	60	0	-90	Received
19EPA0056	AEM25	7,657,638	418,239	250	64	0	-90	Received
19EPA0057	AEM25	7,657,677	418,272	250	49	0	-90	Received
19EPA0058	AEM25	7,657,715	418,304	250	105	0	-90	Received
19EPA0059	AEM25	7,658,104	417,980	250	79	0	-90	Received
19EPA0060	Taco	7,658,790	417,380	250	67	0	-90	
								Received
19EPA0061	Taco	7,658,829	415,338	250	71	0	-90	Received
L9EPA0062	Taco	7,658,869	415,430	250	94	0	-90	Received
L9EPA0063	Taco	7,658,909	415,523	250	64	0	-90	Received
19EPA0064	Taco	7,658,949	415,615	250	58	0	-90	Received
19EPA0065	Taco	7,658,989	415,707	250	76	0	-90	Received
19EPA0066	AEM29	7,666,066	403,244	250	58	0	-90	Received
19EPA0067	AEM29	7,666,103	403,277	250	52	0	-90	Received
19EPA0068	AEM29	7,666,141	403,311	250	48	0	-90	Received
19EPA0069	AEM29	7,665,950	403,478	250	64	0	-90	Received
19EPA0070	AEM29	7,665,987	403,512	250	40	0	-90	Received
19EPA0071	AEM29	7,666,025	403,545	250	37	0	-90	Received
19EPA0072	AEM29	7,666,049	403,568	250	64	0	-90	Received
19EPA0073	AEM28	7,665,972	408,858	250	49	253.0	-60	Received
19EPA0074	AEM28	7,666,002	408,955	250	31	253.0	-60	Received
19EPA0075	AEM28	7,666,032	409,051	250	37	253.0	-60	Received
19EPA0075	AEM28	7,666,062	409,031	250	42	253.0	-60	Received
19EPA0076	AEM30	7,665,587	413,906	250	42	259.0	-60	Received
19EPA0077					43			
	AEM30	7,665,604	414,006	250		259.0	-60	Received
L9EPA0008	AEM13	7,643,367	425,034	250	54	0	-90	Received
L9EPA0009	AEM21	7,647,450	417,161	250	32	0	-90	Received
L9EPA0010	AEM21	7,647,506	417,244	250	49	0	-90	Received
L9EPA0011	AEM21	7,647,563	417,327	250	48	0	-90	Received
L9EPA0012	AEM21	7,647,620	417,410	250	54	0	-90	Received
L9EPA0013	AEM21	7,647,767	416,916	250	57	0	-90	Received
L9EPA0014	AEM21	7,647,823	416,999	250	42	0	-90	Received
L9EPA0015	AEM21	7,647,880	417,082	250	59	0	-90	Received
19EPA0016	AEM21	7,647,936	417,165	250	69	0	-90	Received
L9EPA0017	AEM16	7,645,607	415,896	250	9	0	-90	Received
L9EPA0018	AEM16	7,645,564	415,805	250	10	0	-90	Received
L9EPA0019	AEM16	7,645,521	415,714	250	12	0	-90	Received
19EPA0020	AEM16	7,646,104	415,788	250	24	0	-90	Received
19EPA0021	AEM16	7,646,061	415,697	250	75	0	-90	Received
19EPA0021	AEM16	7,646,019	415,606	250	45	0	-90	Received
19EPA0023	AEM16	7,645,976	415,515	250	28	0	-90	Received
19EPA0024	AEM19	7,646,305	424,898	250	108	0	-90	Received
L9EPA0025	AEM19	7,646,388	424,955	250	48	0	-90	Received
19EPA0026	AEM19	7,646,470	425,012	250	44	0	-90	Received
19EPA0027	AEM19	7,646,553	425,068	250	34	0	-90	Received
L9EPA0028	AEM19	7,646,612	424,498	250	63	0	-90	Received
L9EPA0029	AEM19	7,646,691	424,559	250	55	0	-90	Received
19EPA0030	AEM19	7,646,770	424,621	250	22	0	-90	Received

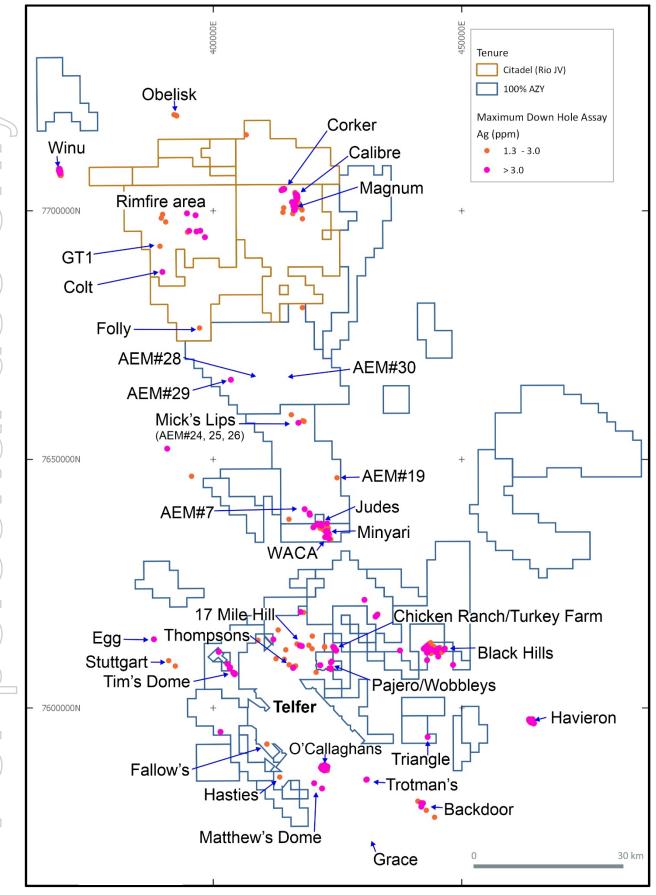
Hole ID	Deposit / Target Area	Northing (m)	Easting (m)	RL (m)	Hole Depth (m)	Azimuth (°)	Dip (°)	Assay Status
19EPA0031	AEM17	7,646,174	422,739	250	38	0	-90	Received
19EPA0032	AEM17	7,646,082	422,702	250	40	0	-90	Received
19EPA0033	AEM17	7,645,984	422,673	250	105	0	-90	Received
19EPA0034	AEM17	7,645,889	422,639	250	94	0	-90	Received
19EPA0035	AEM17	7,645,784	422,604	250	144	0	-90	Received
19EPA0036	AEM16	7,645,766	415,647	250	40	0	-90	Received
19EPA0037	AEM16	7,645,724	415,556	250	19	0	-90	Received
19EPA0038	AEM16	7,645,874	415,875	250	33	0	-90	Received
19EPA0039	AEM16	7,645,831	415,784	250	15	0	-90	Received
19EPA0040	AEM21	7,647,625	417,063	250	47	0	-90	Received
	AEM21		•		38	0	-90	
19EPA0041		7,647,682	417,146	250				Received
19EPA0042	AEM24	7,657,262	416,911	250	55	66.4	-60	Received
L9EPA0043	AEM24	7,657,302	417,003	250	99	66.4	-60	Received
L9EPA0044	AEM24	7,657,342	417,096	250	113	246.5	-60	Received
19EPA0045	AEM24	7,657,382	417,188	250	119	246.5	-60	Received
L9EPA0046	AEM24	7,657,422	417,280	250	54	246.5	-60	Received
L9EPA0047	AEM25	7,658,002	418,222	250	79	0	-90	Received
L9EPA0048	AEM25	7,657,926	418,156	250	90	0	-90	Received
L9EPA0049	AEM25	7,657,889	418,123	250	91	0	-90	Received
9EPA0050	AEM25	7,657,851	418,090	250	84	0	-90	Received
19EPA0053	AEM25	7,657,813	418,057	250	112	0	-90	Received
9EPA0054	AEM25	7,657,775	418,024	250	105	0	-90	Received
19EPA0055	AEM25	7,657,964	418,189	250	109	0	-90	Received
19EPA0079	AEM30	7,665,622	414,105	250	49	259.0	-60	Received
19EPA0080	AEM30	7,666,325	413,787	250	46	259.0	-60	Received
19EPA0080		7,666,343	•	250	50	259.0	-60	Received
	AEM30		413,887					
L9EPA0082	AEM30	7,666,360	413,986	250	56	259.0	-60	Received
19EPA0083	AEM30	7,666,814	413,683	250	83	259.0	-60	Received
.9EPA0084	AEM30	7,666,832	413,782	250	67	259.0	-60	Received
.9EPA0085	AEM30	7,666,850	413,881	250	45	259.0	-60	Received
.9EPA0086	AEM30	7,666,555	413,646	250	55	259.0	-60	Received
.9EPA0087	AEM30	7,666,572	413,746	250	56	259.0	-60	Received
9EPA0088	AEM30	7,666,590	413,845	250	55	259.0	-60	Received
.9EPA0089	AEM30	7,666,608	413,944	250	48	259.0	-60	Received
.9EPA0090	AEM 31	7,668,785	414,395	250	145	197.0	-60	Received
.9EPA0091	AEM 31	7,668,689	414,366	250	130	197.0	-60	Received
.9EPA0092	AEM 31	7,668,593	414,337	250	100	197.0	-60	Received
L9EPA0093	AEM 31	7,668,881	414,424	250	100	197.0	-60	Received
19EPA0094	AEM 31	7,668,977	414,452	250	61	197.0	-60	Received
19EPA0095	AEM 31	7,668,629	414,667	250	85	197.0	-60	Received
19EPA0096	AEM 31		414,639	250	76	197.0	-60	Received
		7,668,533	•					
.9EPA0097	AEM 31	7,668,725	414,695	250	76	197.0	-60	Received
19EPA0098	AEM 31	7,668,821	414,723	250	49	197.0	-60	Received
19EPA0099	AEM 31	7,668,918	414,751	250	64	197.0	-60	Received
.9EPA0100	AEM 31	7,669,014	414,779	250	59	197.0	-60	Received
9EPA0101	AEM28	7,665,957	408,810	250	37	253.0	-60	Received
.9EPA0102	AEM28	7,665,987	408,906	250	61	253.0	-60	Received
.9EPA0103	AEM28	7,666,017	409,003	250	37	253.0	-60	Received
9EPA0104	AEM28	7,666,047	409,099	250	61	253.0	-60	Received
.9EPA0105	AEM39	7,680,539	417,937	250	66	55.0	-70	Pending
9EPA0106	AEM39	7,680,598	418,018	250	69	55.0	-70	Pending
.9EPA0107	AEM39	7,680,658	418,099	250	76	55.0	-70	Pending
.9EPA0108	AEM39	7,680,687	418,140	250	79	55.0	-70	Pending
9EPA0109	AEM39	7,680,895	417,999	250	145	55.0	-70	Pending
.9EPA0110	AEM39	7,680,835	417,918	250	103	55.0	-70	Pending
9EPA0111	AEM39	7,680,776	417,837	250	67	55.0	-70	Pending
.9EPA0111	AEM39	7,680,776	417,837	250	83	55.0	-70	Pending
								_
9EPA0113	AEM38	7,680,189	416,355	250	127	233.0	-60	Pending
.9EPA0114	AEM38	7,680,249	416,435	250	127	233.0	-60	Pending
.9EPA0115	AEM38	7,680,309	416,516	250	130	233.0	-60	Pending
19EPA0116	AEM38	7,680,299	416,076	250	118	0	-90	Pending
9EPA0117	AEM38	7,680,263	416,021	250	130	0	-90	Pending
9EPA0118	AEM38	7,680,080	416,624	250	112	233.0	-60	Pending
9EPA0119	AEM37	7,678,186	417,779	250	94	234.0	-60	Pending
9EPA0120	AEM37	7,678,245	417,860	250	94	234.0	-60	Pending
9EPA0121	AEM37	7,678,305	417,941	250	90	234.0	-60	Pending
19EPA0122	AEM37	7,678,364	418,023	250	85	234.0	-60	Pending
19EPA0122	AEM37	7,678,424	418,104	250	103	234.0	-60	Pending
19EPA0123	AEM36	7,678,424		250	93		-60	Pending
	ALIVION	7.077.828	416,691	250	93	233.0	-60	renaing

AJUO BSN IBUOSJBO JOL

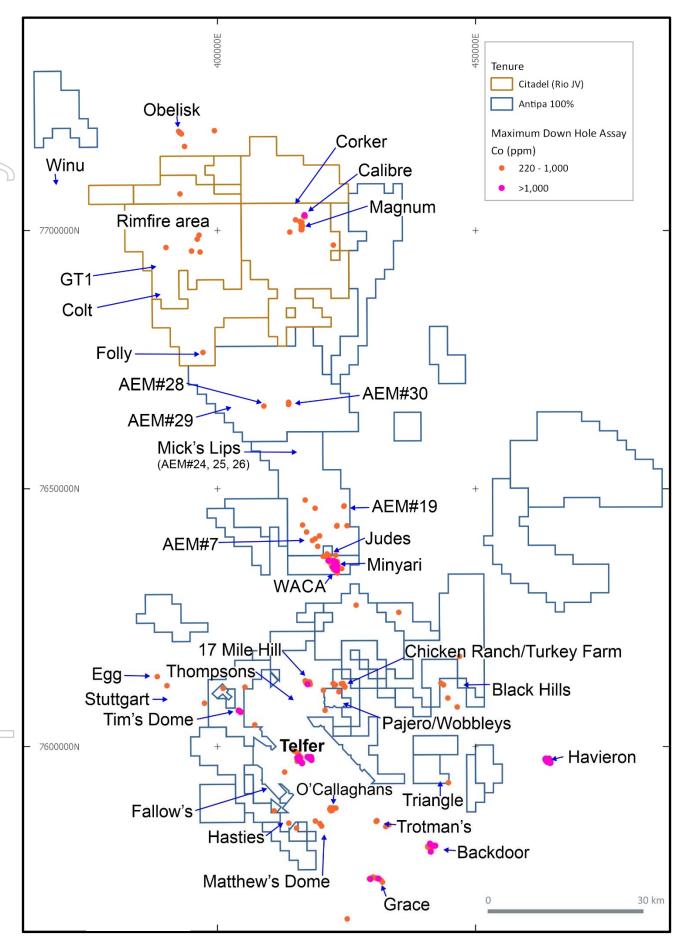
Hole ID	Deposit / Target Area	Northing (m)	Easting (m)	RL (m)	Hole Depth (m)	Azimuth (°)	Dip (°)	Assay Status
19EPA0126	AEM36	7,677,949	416,852	250	79	233.0	-60	Pending
19EPA0127	AEM35	7,675,257	418,201	250	68	87.5	-60	Pending
19EPA0128	AEM35	7,675,248	418,000	250	72	87.5	-60	Pending
19EPA0129	AEM33	7,672,597	418,053	250	114	66.0	-60	Pending
19EPA0130	AEM33	7,672,515	417,869	250	109	66.0	-60	Pending

AIUO BSN IBUOSIBO 101

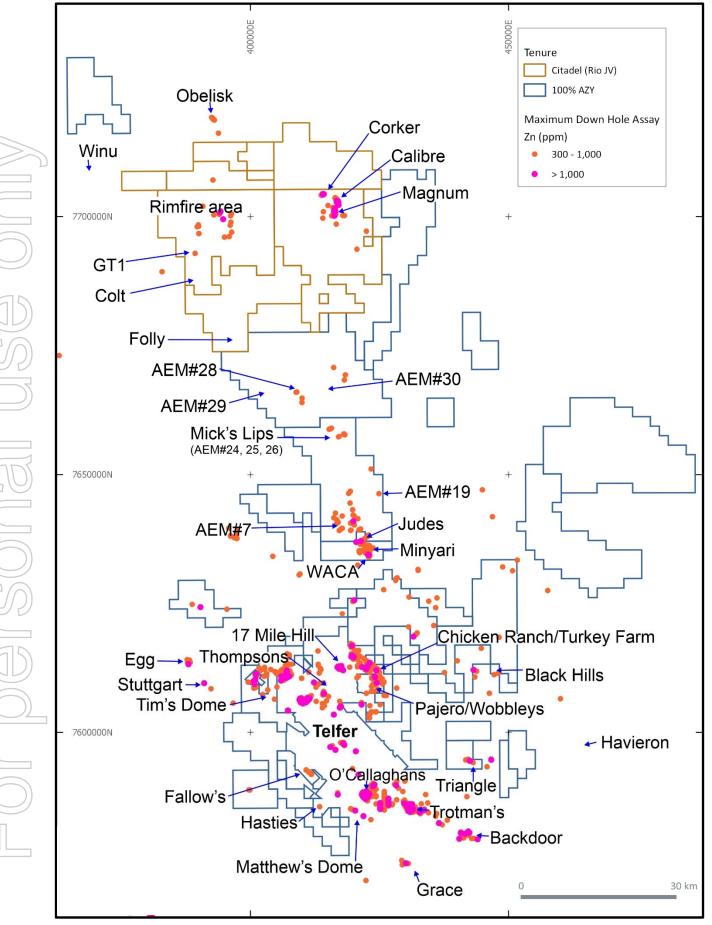
APPENDIX 1:



Eastern Paterson Province plan view showing silver distribution and highlighting association with known mineral deposits / mineral systems. Regional GDA94 / MGA Zone 51 co-ordinates, 50km grid.



Eastern Paterson Province plan view showing cobalt distribution and highlighting association with known mineral deposits / mineral systems. Regional GDA94 / MGA Zone 51 co-ordinates, 50km grid.



Eastern Paterson Province plan view showing zinc distribution and highlighting association with known mineral deposits / mineral systems. Regional GDA94 / MGA Zone 51 co-ordinates, 50km grid.

PATERSON PROVINCE – 2019 Air Core and Slim-Line Reverse Circulation Drill Hole Sampling

JORC Code 2012 Edition: Table 1 - Section 1 Sampling Techniques and Data (Criteria in this section shall apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	 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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. 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 (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. 	 2019 Air Core (AC) and Slim-Line Reverse Circulation (SLRC) Drilling Prospects/targets have been sampled by 143 AC and SLRC drill holes, totaling 10,022 m, with an average drill hole depth of 70.0 m. Assays have been received for 117 2019 AC and SLRC drill holes. AC and SLRC drill holes were generally drilled on a range of hole spacings along line and across line, testing geophysical (AEM ± aeromagnetic) ± geochemical targets. Drill hole locations and orientations for all 2019 holes are tabulated in the body of this report. AC and SLRC Sampling AC and SLRC Sampling was carried out under Antipa protocols and QAQC procedures as per industry best practice. One metre samples were collected from a cyclone into a plastic bucket and then laid out on the ground in rows of 10. Compositing AC and SLRC samples in lengths between 2 to 4 m was undertaken via combining 'Spear samples of the 1.0 m intervals to generate a 2 kg (average) sample. Areas of anomalous portable XRF Device (Niton or Olympus) ('pXRF') results or zones of encouraging geological observations were sampled as single metres. All samples are pulverised at the laboratory to produce material for assay.
Drilling techniques	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).	 Air Core and Slim-line Reverse Circulation Drilling Drilling was undertaken with a Bostech Drillboss 200 4WD truck mounted rig. The rig has a depth capacity of approximately 150 m with an on-board compressor producing 600 cfm at 250 psi and separate axillary booster to 1400 cfm at 700 psi. Depending on the local target area geometries inclined drill holes were directed towards various azimuths ranging from 55° to 260° (GDA94 MGA Zone 51 co-ordinates), with inclination angles ranging from vertical to -60°. Air Core Drilling All drill holes were completed using an 85 mm AC blade. Slim-Line Reverse Circulation Drilling When hard drilling conditions were encountered a 85 mm "Slim-Line" RC hammer with a crossover sub (not face sampling) was utilised; this drilling technique was variously required/utilised.
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and 	 AC and SLRC Drill Samples AC and SLRC sample recovery and sample quality was recorded via visual estimation of sample volume and condition of the drill spoils. AC and SLRC sample recovery typically ranges from 90 to 100%, with only very occasional samples

Criteria	JORC Code explanation	Commentary
	grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	 with less than 70% recovery. AC and SLRC sample recovery was maximized by endeavoring to maintain a dry drilling conditions as much as practicable; the AC samples were almost exclusively dry. Relationships between recovery and grade are not evident and are not expected given the generally excellent and consistently high sample recovery. AC and SLRC sample recovery and sample quality was recorded via visual estimation of sample volume and condition of the drill spoils. AC and SLRC results are generated for the purpose of exploration and potentially for Mineral Resource estimations.
Logging	 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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	 AC and SLRC Drill Logging Geological logging of 100% of all AC and SLRC sample intervals was carried out recording colour, weathering, lithology, mineralogy, alteration, veining and sulphides. Logging includes both qualitative and quantitative components. All logging is entered directly into a 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. Selected AC and SLRC sample intervals were measured for magnetic susceptibility using a handheld Magnetic Susceptibility meter. AC and SLRC samples are generally analyzed in the field using a pXRF for the purposes of geochemical and lithological interpretation and the selection of sampling intervals.
Sub-sampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. 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. Whether sample sizes are appropriate to the grain size of the material being sampled. 	 AC and SLRC Samples One metre samples were collected from a cyclone into a plastic bucket and then laid out on the ground in rows of 10 or 20. Compositing AC and SLRC samples of between 2 to 4 m was undertaken via combining 'Spear' samples of the intervals to generate a 2 kg (average) sample. Areas of anomalous pXRF results or anomalous geological observations were sampled as single metres. All samples are pulverised at the laboratory to produce material for assay. AC and SLRC Sample Preparation Sample preparation of AC and SLRC samples was completed at MinAnalytical Laboratories in Perth following industry best practice in sample preparation involving oven drying, coarse crushing of the AC and SLRC sample down to approximately 10 mm, 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 subsample/s for analysis. The sample sizes are considered to be appropriate to correctly represent the sulphide style of mineralisation encountered in the region, the thickness and consistency of the intersections and the

	Criteria	JORC Code explanation	Commentary
			sampling methodology.
For bersonal use only	Quality of assay data and laboratory tests	 The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. 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. 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. 	 The sample preparation technique for both AC and SLRC samples are documented by Antipa Mineral Ltd's standard procedures documents and is in line with industry standards in sample preparation. The sample sizes are considered appropriate to represent mineralisation. Sample preparation checks for fineness were carried out by the laboratory as part of its internal procedures. AC and SLRC Analytical Techniques All samples were dried, crushed, pulverised and split to produce a sub–sample for a 10-gram sample which are digested and refluxed with nitric and hydrochloric ('aqua regia digest') acid suitable for weathered AC and SLRC samples. Aqua regia can digest many different mineral types including most oxides, sulphides and carbonates but will not totally digest refractory or silicate minerals. Analytical methods used were both ICP–OES and ICP–MS (Au, Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Fe, Ga, Hf, In, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Pd, Pt, Rb, Re, Sb, Sc, Se, Sn, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn and Zr). For samples which returned Au greater than 4,000 ppb Au (upper detection limit) with the aqua regia digest, a lead collection fire assay on a 50-gram sample with Atomic Absorption Spectroscopy was undertaken to determine gold content with a detection limit of 0.005ppm. Ore grade ICP–OES analysis was completed on samples returning results above upper detection limit. No geophysical tools were used to determine any element concentrations in this report. Handheld portable XRF analyser (Niton XL3t 950 GOLDD+ or Olympus Professional) devices are used in the field to investigate and record geochemical data for internal analysis. However, due to 'spatial' accuracy/repeatability issues this data is generally not publicly reported for drill holes, other than for specific purposes/reasons. Field QC procedures involve the use of commercial certified reference materi
	Verification of sampling and assaying	 The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. 	Significant intersections have been visually verified by one or more alternative company personnel and/or contract employees.
	accaying	 Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. 	 All logging is entered directly into a 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

Criteria	JORC Code explanation	Commentary
	Discuss any adjustment to assay data.	allow invalid logging codes to be entered. Further data validation is carried out during upload to Antipa's master SQL database. No adjustments or calibrations have been made to any assay data collected.
Location of data points	 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. Specification of the grid system used. Quality and adequacy of topographic control. 	 km = kilometre; m = metre; mm = millimetre. Drill hole collar locations are surveyed using a handheld Garmin 64S GPS which has an accuracy of ± 3 m. The drilling co-ordinates are all in GDA94 MGA Zone 51 co-ordinates. Vertical AC and SLRC drill holes do not require for drill rig set-up azimuth checking. Inclined AC and SLRC drill holes are checked for drill rig set-up azimuth using Suunto Sighting Compass from two directions. Drill hole inclination is set by the driller using a clinometer on the drill mast and checked by the geologist prior the drilling commencing. AC and SLRC drill hole down hole surveys No downhole surveys are undertaken for AC and SLRC drill holes. The Company has adopted and referenced one specific local grid across the Chicken Ranch — Turkey Farm area ('Chicken Ranch Grid') which is defined below. Chicken Ranch Local Grid 2-Point Transformation Data: Point # 1 = Chicken Ranch Local Grid 10,000m east is 424,724.5m east in GDA94 / MGA Zone 51; Chicken Ranch Local Grid 10,000m east is 422,694.5m east in GDA94 / MGA Zone 51. Point # 2 = Chicken Ranch Local Grid 10,000m east is 422,694.5m east in GDA94 / MGA Zone 51; Chicken Ranch Local Grid 8,600m north is 7,613,433.2m north in GDA94 / MGA Zone 51; Chicken Ranch Local Grid North (360°) is equal to 303° in GDA94 / MGA Zone 51. Chicken Ranch Local Grid elevation is equal to GDA94 / MGA Zone 51. Chicken Ranch Local Grid elevation is equal to GDA94 / MGA Zone 51. If defaulted, the topographic surface is set to 250m RL.
Data spacing and distribution	 Data spacing for reporting of Exploration Results. 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. Whether sample compositing has been applied. 	 AC and SLRC drill sample compositing is sometimes applied for the reporting of the exploration results. Turkey Farm Area: Drill lines are east-west "Chicken Ranch" local grid oriented. "Chicken Ranch" local grid drill lines are each spaced approximately 100 m apart with an average drill hole spacing on each section between 25 to 50 m. The typical section spacing/drill hole distribution is not considered adequate for the purpose of Mineral Resource estimation. Regional Geophysical Targets (AEM ± aeromagnetic):

	Criteria	JORC Code explanation	Commentary
<u> </u>	٥		 Drill spacing was variable depending on target rank, target dimensions (along strike and/or across strike); if more than one drill line per target then drill lines were generally spaced approximately 250 to 750 m apart with an average drill hole spacing on each section between 50 to 100 m The typical section spacing/drill hole distribution is not considered adequate for the purpose of Mineral Resource estimation.
	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. 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. 	 The location and orientation of the Chicken Ranch drilling is appropriate given the strike, dip and morphology of the mineralisation. No consistent and/or documented material sampling bias resulting from a structural orientation has been identified at Turkey Farm or for the "regional" geophysical targets at this point in time. However, both folding, multiple vein directions and faulting have been variously recorded in the region via diamond drilling and surface mapping.
3	Sample security	The measures taken to ensure sample security.	 Chain of sample custody is managed by Antipa to ensure appropriate levels of sample security. Samples are stored on site and delivered by Antipa or their representatives to Port Hedland and subsequently by Toll Ipec Transport from Port Hedland to the assay laboratory in Perth.
	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. Consultants Snowden, during completion of the 2013 Calibre Mineral Resource estimate, undertook a desktop review of the Company's sampling techniques and data management and found them to be consistent with industry standards.

PATERSON PROVINCE – 2019 Air Core and Slim-Line Reverse Circulation Drill Hole Sampling

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. 	 Tenement E45/4867 was applied for by Antipa Resources Pty Ltd on the 19th of January 2017 and was subsequently granted on the 3rd of January 2019. Antipa Minerals Ltd has a 100% interest in E45/4867 and no existing royalties or prior agreements apply. North Telfer Project tenement E45/3917 was applied for by Antipa Resources Pty Ltd on the 18th of May 2011 and was subsequently granted on the 18th February 2014. North Telfer Project tenements E45/3918 and E45/3919 were applied for by Antipa Resources Pty Ltd on the 18th of May 2011 and was subsequently granted on the 24th April 2013. Antipa Minerals Ltd has a 100% interest in E45/3918, E45/3918 and E45/3919 and a 1% net smelter royalty payable to Paladin Energy on the sale of product on all metals applies to these tenements as a condition of a Split Commodity Agreement with Paladin Energy in relation to the Company's North Telfer Project.

	Criteria	JORC Code explanation	Commentary
			 Tenements E45/3917, E45/3918, E45/3919 and E45/4867, including the Minyari, WACA, Chicken Ranch and Turkey Farm deposits, are not subject to the Citadel Project Farm-in Agreement with Rio Tinto Exploration Pty Ltd. All tenements are contained completely within land where the Martu People have been determined to hold native title rights. To the Company's knowledge no historical or environmentally sensitive sites have been identified in the area of work. Land Access and Exploration Agreements are in place with the Martu People. Antipa maintains a positive relationship with the Martu People, who are Native Title parties in the area. The tenements are in 'good standing' and no known impediments exist.
or personal use	Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	 The exploration of the Chicken Ranch and Turkey Farm and North Telfer Project areas was conducted by the following major resources companies: Newmont Pty Ltd (early 1970s to 1986); Carr Boyd Minerals Limited (1973 to 1975); Geopeko Limited (IV with Carr Boyd) (1975 to 1978); Marathon Petroleum Australia Limited (1979); Western Mining Corporation Limited (WMC) (1980); Duval Mining (Australia) Limited (Carr Boyd JV with Picon Exploration Pty Ltd) (1984 to 1986); Mount Burgess Gold Mining Company N.L. (1989 to 2001); Carpentaria (MIM JV with Mount Burgess) (1990 to 1996); Normandy (JV with Mount Burgess) (1998 to 2000); Newcrest Mining Limited (2009 to 2015); Quantum Resources Limited (2012 to 2016); and Antipa Minerals Limited (2016 to current). The exploration of the Chicken Ranch and Turkey Farm and North Telfer Project areas was conducted by the following major resources companies: Western Mining Corporation Ltd (1980 to 1983); Newmont Holdings Pty Ltd (1984 to 1990); MIM Exploration Pty Ltd (1990 to 1991); Newcrest Mining Limited (1991 to 2015); and Antipa Minerals Ltd (2013 onwards).
	Geology	Deposit type, geological setting and style of mineralisation.	North Telfer Project Tenement Area: • 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.

	Criteria	JORC Code explanation	Commentary
Dersonal use only			 Chicken Ranch and Turkey Farm Tenement Area: The geology of the Turkey Farm area is dominated by a northwest trending sequence of moderate to steeply east dipping meta-sediments, including siltstone, carbonate siltstone, dolomite, and subordinate fine-grained sandstone of the Puntapunta Formation. This sequence occurs on the northeast flank of the Camp Dome complex, a regional scale doubly plunging anticline. Regional mapping undertaken by previous explorers indicates that the Chicken Ranch prospect may be related to a parasitic fold on the flank of the Camp Dome, or a separate fold structure altogether. High-grade gold with minor copper mineralisation as gossanous zones within and related to northwest trending, steeply dipping quartz veins hosted by deeply oxidized meta-sediments, including goethite pseudomorphs after massive pyrite alteration (some cubic ex-pyrite oxide pseudomorphs up to 2cm in size, similar in size to those collected in the early 1970's associated with the then outcropping Telfer gold mineralisation). The entire zone is deeply oxidized. Main zone consists of two or more northwest trending zones of mineralisation within a corridor up to 70m in width. The southwest lens of mineralisation is more persistent and has a strike length of approximately 1,300m. Several additional northwestern trending mineralisation zones to the east and west of the main zone. The Turkey Farm prospect occurs 800m west-northwest of the Chicken Ranch deposit, and gold with minor copper mineralisation within northwest trending, steeply dipping quartz ironstone veins and possible shallow (25° to 30°) east dipping zones hosted by deeply oxidized meta-sediments. The area is prospective for high-grade Telfer 'Reef Style' gold mineralisation and vein and/or stockwork style mineralisation. North-south striking fault zones (possible Telfer "Graben Fault" generation), appear to offset s
	Drill hole Information	 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: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent 	 A summary of all available information material to the understanding of the exploration region exploration results can be found in previous Western Australia (WA) DMIRS publicly available reports. All the various technical and exploration reports are publicly accessible via the WA DMIRS' online WAMEX system. The specific WA DMIRS WAMEX and other reports related to the exploration information the subject of this public disclosure have been referenced in previous public reports. Antipa Minerals Ltd publicly disclosed reports provide details of all exploration completed by the Company since 2011; these reports are all available to view on www.antipaminerals.com.au and www.asx.com.au.

Criteria	JORC Code explanation	Commentary
	Person should clearly explain why this is the case.	
Data aggregation methods	 In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	 Any reported aggregated intervals have been length weighted. No density or bulk density is available and so no density weighting has been applied when calculating aggregated intervals. No top-cuts to gold or copper have been applied (unless specified otherwise). A nominal 0.40 g/t gold or 1,000 ppm (0.10%) copper lower cut-off grade is applied. Higher grade intervals of mineralisation internal to broader zones of mineralisation are reported as included intervals. Metal equivalence is not used in this report.
Relationship between mineralisation widths and intercept lengths	 These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known'). 	 Turkey Farm Area: Given the variety of drill hole types and distribution, the intersection angles for the various historic drilling generations are likely to be quite variable. The reported downhole intersections are estimated to commonly be in the range of 30% to 70% ± 10% of the true width. Regional Geophysical Targets (AEM ± aeromagnetic): The drill section spacing and sampling, at this stage, is insufficient to establish the geometrical relationships between the drill holes and any mineralised structures. Therefore, at this stage the reported intersection lengths are down hole in nature and the true width, which will be dependent on the local mineralisation geometry/setting, is not known.
Diagrams	 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. 	 All appropriate maps and sections (with scales) and tabulations of intercepts are reported or can sometimes be found in previous WA DMIRS WAMEX publicly available reports. Antipa Minerals Ltd publicly disclosed reports provide maps and sections (with scales) and tabulations of intercepts generated by the Company since 2011; these reports are all available to view on www.asv.com.au.
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.	 All significant results are reported or can sometimes be found in previous WA DMIRS WAMEX publicly available reports. Antipa Minerals Ltd publicly disclosed reports provide details of all significant exploration results generated by the Company since 2011; these reports are all available to view on www.antipaminerals.com.au and www.asx.com.au.
Other substantive exploration data	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	 All meaningful and material information has been included in the body of the text or can sometimes be found in previous WA DMIRS WAMEX publicly available reports. Zones of mineralisation and associated waste material have not been measured for their bulk density. Multi element assaying was conducted variously for a suite of potentially deleterious elements

Criteria JORC	Code explanation	Commentary
Criteria JORC contaminating substant	es.	including arsenic, sulfur, lead, zinc and magnesium. To date no downhole 'logging' surveys have been completed for the 2019 drill holes. Geotechnical logging (e.g. Recovery, RQD and Fracture Frequency) is not possible for AC and SLRC drill material and none was obtained from the WA DMIRS WAMEX reports. Limited downhole information on structure type, dip, dip direction, alpha angle, beta angle, gamma angle, texture and fill material were obtained from the Company's pre-existing SQL database and WA DMIRS WAMEX reports. Metallurgical test-work results available on these particular tenements is restricted to the Minyari-WACA gold-copper-silver-cobalt deposits. Preliminary metallurgical test-work results are available for both the Minyari and WACA deposits. Details of this 2017 metallurgical test-work programme can be found on the ASX or Antipa websites – Public release dated 13 June 2017 and titled "Minyari Dome Positive Metallurgical Test-work Results". In summary both oxide and primary gold mineralisation (with accessory copper and cobalt) responded very satisfactorily to conventional gravity and cyanidation processes, with flotation to recovery copper and cobalt by-products the subject of ongoing evaluation. These reports are all available to view on www.asx.com.au . In addition, the following information in relation to the Minyari deposit metallurgy was obtained from WA DMIRS WAMEX reports: Newmont Holdings Pty Ltd collected two bulk (8 tonnes each) metallurgical samples of oxide mineralisation in 1987 (i.e. WAMEX 1987 report A24464) from a 220m long costean across the Minyari deposit. The bulk samples were 8 tonnes grading 1.5 g/t gold and 8 tonnes grading 3.57 g/t gold from below shallow cover in the costean. However, it would appear the Newmont metallurgical test-work for these two bulk samples was never undertaken/competed as no results were subsequently reported to the WA DMIRS; Newmont Holdings Pty Ltd also collected drill hole metallurgical samples for Minyari deposit o
	•	the metallurgical test-work was never undertaken/competed. Newcrest Mining Ltd describe the Minyari deposit gold-copper mineralisation as being typical of the Telfer gold-copper mineralisation. In 2004 and 2005 (WAMEX reports A71875 and A74417) Newcres commenced metallurgical studies for the Telfer Mine and due to the similarities with the Minyari mineralisation a portion of this Telfer metallurgical test-work expenditure was apportioned to the then Newcrest Minyari tenements. Whilst Telfer metallurgical results are not publicly available, the Telfer Mining operation (including ore processing facility) was materially expanded in the mid-2000's and continues to operate with viable metallurgical recoveries (for both oxide and primary
The state of the s	planned further work (e.g. tests for oth extensions or large-scale step-out	 mineralisation). Planned further work: Ongoing review and interpretations of the 2019 and historical exploration data;

Criteria	JORC Code explanation	Commentary
)	 drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	 Planning and potential future execution of follow-up exploration activities to identify potential high-grade mineralisation; Geophysical data modelling (including AEM and Aeromagnetics); and Full geological interpretation including 3D modelling. All appropriate maps and sections (with scales) and tabulations of intercepts are reported or can sometimes be found in previous WA DMIRS WAMEX publicly available reports.

For personal use only