

12 May 2020 ASX Announcement

# ARUMA'S NEW

# PILBARA GOLD PROJECTS

# Highlights

- Aruma has applied for leases over two prospective gold projects in the Pilbara Minerals District in WA
- The Melrose Project is located adjacent to Northern Star Resources' Paulsens Gold Mine and covers an area of 100km<sup>2</sup>
- Structural corridors that control Paulsens mineralisation interpreted to continue into Aruma's Melrose Project area
- Initial exploration targets have been identified
- The Saltwater Project covers an area of 312km<sup>2</sup> and previous drilling has delivered elevated anomalous gold and silver results
- Both projects sit within the Nanjilgardy Fault reported as the primary source of mineralisation at the Paulsens and Mt Olympus gold mines

Aruma Resources Limited (ASX: AAJ) (Aruma or the Company) is pleased to announce the generation of a portfolio of gold prospective projects (Portfolio) in the Pilbara region of Western Australia.

The Portfolio consists of the Melrose Gold Project, which is strategically located in close proximity to Northern Star Resources' (ASX: NST) Paulsens Gold Mine, and the Saltwater Gold Project, situated approximately 250 kilometres to the south-east.

Both Projects are interpreted to sit near the same regional structure (the Nanjilgardy Fault) reported as the primary source of gold mineralisation at Paulsens and also at Northern Star's Mt Olympus Gold Mine. (see Figure 1).

The Projects have been applied for following a review by Aruma of its project holdings, designed to rationalise its current project portfolio and to pursue new potentially value-accretive projects. The Exploration Leases were applied for over vacant land after a comprehensive in-house research study of Pilbara gold identified prospective areas.

The study utilised open file data as well as the research papers from the Capricorn Orogeny Study (Geology Survey of WA) which involved major field mapping with integrated geological, geochronological, geochemical and prospectivity studies.

The Company will now embark upon on a detailed initial ground truthing and targeting program to rank priority exploration areas within the new Project areas.

# ASX: AAJ

Capital Structure 709M Shares on Issue 8M Options on issue

Cash: \$740,000 (31/03/2020)

Board of Directors Non-Executive Chairman Paul Boyatzis

Managing Director **Peter Schwann** 

Non-Executive Director Mark Elliott

Company Secretary
Phillip MacLeod

#### Active Gold Projects

SLATE DAM PROJECT

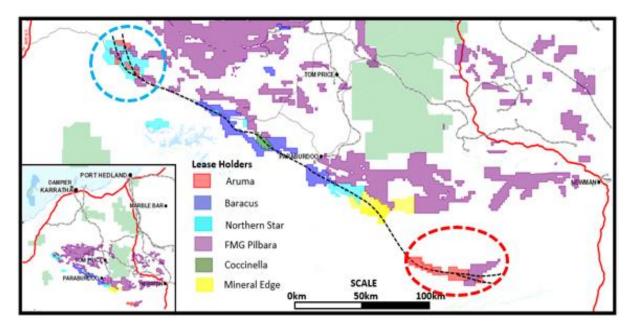
TROJAN RESOURCE

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**Figure 1:** Project Location Map of Melrose (blue circle) and Saltwater (red ellipse) Projects, with Nanjilgardy Fault shown in black dashed line.

### **PROSPECTIVITY RATIONALE**

Both Projects are situated on the regional structure that is reported as the main source of gold mineralisation at the Paulsens Gold Mine and Mt Olympus Gold Mine. The structural corridors that control the Paulsens mineralisation appear to continue into Aruma's Melrose Project area, where initial exploration targets have been identified (shown in Figure 2).

The different ages of the host rocks at Paulsens and Mt Olympus is not seen as critical, and these targets are in similar host rocks in the repeated sediment sequences in the corridors.

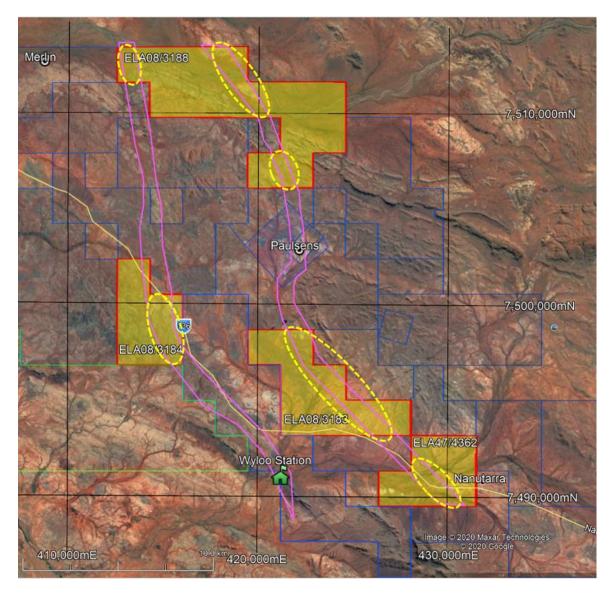
The hydrothermal alteration associated with the deposits indicates that multi-spectral mapping will form a key component of the first stage of work at both Projects, and will provide a guide for follow-up mapping and sampling. These methods use currently available satellite data which, when, combined with the large amount of data from the open file and research reports will be invaluable in targeting future work.

### THE MELROSE PROJECT

The Melrose Gold Project consists of four Exploration Licence Applications (ELA08/3183, ELA08/3184, ELA08/3188 and ELA47/4362) and covers a total area of 90km<sup>2</sup>. It is located approximately 105 km south of the mining town of Pannawonica on the border of the Ashburton and West Pilbara Mineral Fields. Refer Figure 2 and Table 1 below for details of the Melrose ELA's.

Project	Lease	Application	Blocks	km <sup>2</sup>
Melrose	ELA08/3183	20/4/2020	8	25
Melrose	ELA08/3184	20/4/2020	5	16
Melrose	ELA08/3188	21/4/2020	14	43
Melrose	ELA47/4362	21/4/2020	5	16
		Total	32	100





**Figure 2:** Aruma's Melrose leases (in yellow with red border) with initial exploration targets indicated by yellow dash ellipses. Interpreted structural corridors shown in magenta outline. Northern Star Resources leases shown in blue (GDA94)

# Melrose Project Background

The Paulsens Deposit was discovered and mined in the early 1930s and was then called the Melrose Mine. It is situated in a +3M oz. gold camp and most production has come from multiple lodes at the Paulsen Mine.

Modern evaluation and mining of the Paulsens mine by NuStar Mining Corporation commenced in May 2004 and the Paulsens process plant poured the first bar in June 2005. In July 2010, Northern Star Resources took over the mine and successfully mined it until late 2017 producing up to 100,000 oz. Au per year through both existing and new ore shoots.

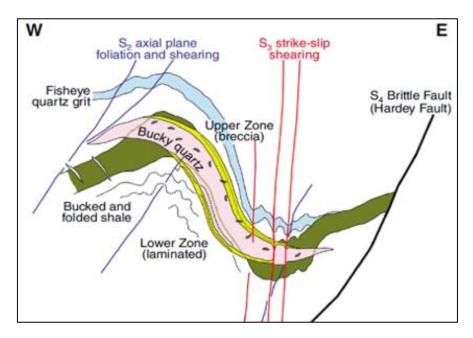
Since 2017 Northern Star have relinquished areas in the Paulsens district following initial exploration, and these areas represent the ground that Aruma has appraised, using "gold in sediment" models to seek stratigraphic repetitions in favourable structures associated with the Nanjilgardy Fault.

Most of the reported historic drilling and sampling was conducted on east-west traverses at a spacing that Aruma believes has left windows of opportunity for the discovery of further gold mineralisation.

# **Geological Assessment**

The Paulsens gold mine is situated at the north-western end of the Wyloo Inlier, within metasedimentary and metavolcanic rocks of the Hardey Formation, near the base of the Fortescue Group. These strata are cut at a low angle by a ~50-metre-thick, folded and faulted, medium-to-coarse-grained mafic dike, known as the Paulsens gabbro, which, over short distances, follows the contact between fine-grained sandstone and laminated carbonaceous shale.

The figure below shows a classic sediment hosted "saddle" or dilational reef scenario and Aruma's geological theory is that these may be repeated in the sediments within its Melrose Project area.



**Figure 3:** Interpretation of Paulsens showing the typical dilation central zone of bucky quartz with the selvedge high-grade laminated or shaly zones (Source: NSR Report).

### THE SALTWATER PROJECT

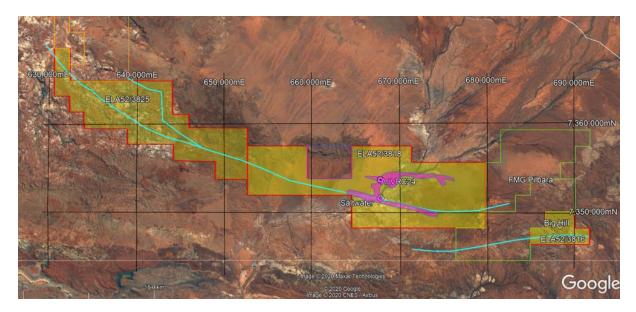
The Saltwater Gold Project consists of three Exploration Licence Applications (ELA52/3816, ELA52/3818 and ELA52/3825) and covers a total area of 311km<sup>2</sup>. It is located approximately 100 kilometres south-west of the regional mining centre of Newman.

Project	Lease	Applied	Blocks	km²
Saltwater	E52/3816	15/4/2020	6	19
Saltwater	E52/3818	17/4/2020	55	171
Saltwater	E52/3825	5/5/2020	39	121
		Total	61	311

Refer Figure 4 and Table 2 below for details of the Saltwater ELA's.

 Table 2: Saltwater Project lease details.

Aruma's interest in the Saltwater Project was instigated by prospectors who have found several gold nuggets in the area and targeting of the area with subsequent Minedex research defined several anomalous areas.



**Figure 4:** Aruma's Saltwater Leases (in yellow with red border) with extensions of the Nanjilgardy Fault shown as a Cyan line. Results of a Tempest airborne electromagnetic survey (Figure 5) are shaded in magenta and overlies the fault in ELA52/3818. FMG Pilbara leases shown in green outline. (GDA94)

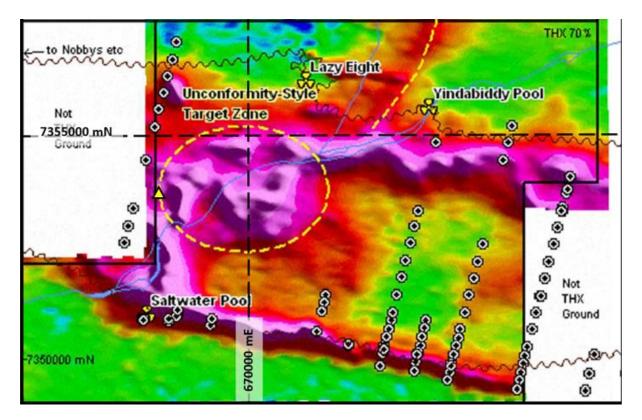
### Saltwater Project Background

Various open file papers have provided some interpretation for crustal geology across the Pilbara and Capricorn Orogens but not in the detail needed for mineral system analysis. The significance of a structure at surface is not always apparent. The location of significant structures that could have acted as focused fluid pathways is an important consideration for exploration of uranium and gold-silver in the region. This choice has outlined the area highlighted on the figure below as an attractive cluster of gold-silver-uranium hydrothermal sediment hosted mineralisation on the Nanjilgardy or splays off it.

In the 1980s several uranium exploration companies explored and drilled the Turee Creek area as part of regional exploration programs. These results only revealed uranium measured by scintillometer and no other geochemistry.

In 2009 drilling was undertaken by U3O8 and targeted an EM target identified from an Airborne Electromagnetic (AEM) survey conducted using the Tempest System which covered a total area of 1088.3 line kilometres (Figure 5).

Reports on the WA government's mines and mineral deposits (MINEDEX) database showed that reverse circulation (RC) drill hole AJVRC24 (location in Table 3) reported low uranium but elevated gold and silver results. The assays are helpful in defining hydrothermal alteration and quartz veining - with anomalous gold and silver values up to 100ppb and 210ppb respectively as well as hydrothermal mineralisation mineralogy and chemical indicators such as tungsten (W), tellurium (Te) and copper (Cu) in a quartz vein in a shale (Table 4: Drill hole assays).



**Figure 5:** Plan of Tempest AEM survey with the pink highs representing the strong structure within ELA3818. The black-yellow triangle is drill hole AJVRC24 from U3O8 Limited in 2009. *Minedex open file data*. (GDA94)

The Report on the AEM Survey said,

"This survey identified a **zone of intense structural deformation** in the Saltwater Pool area."

This survey was used to site the RC holes in the area.

### Historical Drilling at Saltwater

Hole ID	Prospect	Easting	Northing	Azimuth	Dip	End of hole
AJVRC22	Atlantis	667505	7354375	350	-60	58m
AJVRC23	Atlantis	667500	7353530	340	-60	160m
AJVRC24	Atlantis	667860	7353950	360	-60	148m

Table 3: Drill hole locations from Minedex open file data. (GDA94)

Below are the anomalous assays from U3O8 drilling from the Minedex Open File data base (Table 4). They show a definite hydrothermal assemblage and are also in the area of the highly deformed conductor that is the Nanjilgardy Fault.

The yellow and red highlights are considered anomalous and highly anomalous. The quartz veins at the base of hole may be cherts but are highlighted from 120 to 132m. The silver, gold tellurium, arsenic, copper and tungsten are strongly suggestive of hydrothermal mineralisation and backed up by the quartz veining. The lack of copper - phosphorus relationship indicates that the mineralisation may be different from the younger Telfer-Nifty copper - silver deposits, and fits with the Paulsens - Mt Olympus deposit types.

		Drill Hole	Method	Au-AA25	ME-MS41r	ME-MS41r	ME-MS41r	ME-MS41r	ME-MS41r	ME-MS41r
		AJVRC024	unit	ppb	ppb	%	ppm	ppm	ppm	ppm
From	То	Rock	Det Limit	10	11	0.01	0.2	0.2	0.01	2
metres	metres	Туре	Samp ID	Au	Ag	Fe	Ni	Cu	Те	Zn
100	104	Shale	73061	10	100	6.4	80.1	53.3	0.04	176
104	108	Shale	73062	40	90	4.32	67.7	47.4	0.03	122
108	112	Shale	73063	30	130	4.43	59.9	74.4	0.06	112
112	116	Shale	73064	40	110	4.13	59.6	60.6	0.05	110
116	120	Shale	73065	50	210	3.94	86.8	85.3	0.22	94
120	122	Qtz Vein	73066	70	180	4.22	103	94	0.44	99
122	124	Qtz Vein	73067	40	130	3.68	91.9	55.6	0.18	91
124	126	Qtz Vein	73068	20	90	15.15	84.1	115.5	0.04	264
126	128	Qtz Vein	73069	50	80	10.9	108	111.5	0.05	260
128	130	Qtz Vein	73070	100	90	7.17	138.5	102.5	0.11	232
130	132	Qtz Vein	73071	<10	60	7.73	89.7	39.4	0.04	295
132	136	Shale	73072	10	60	6.52	93.8	85.1	0.06	189
136	140	Shale	73073	<10	50	6.54	74.2	67.3	0.04	182
140	144	Shale	73074	<10	90	6.1	72.7	37	0.05	185
144	148	Shale	73075	<10	60	5.55	76.5	39.7	0.05	143
144	148	Shale	73076	<10	50	5.45	76.8	42.4	0.06	137
	A	nomaly Lev	el	≥50	≥150	≥10	≥100	≥100	≥0.20	≥200

**Table 4:** Drill hole AJVRC024 assays from Minedex open file data. The yellow shaded section is the quartz veined shale zone with highlighted anomalous geochemical results showing a hydrothermal signature. (*Minedex open file data*)

Authorised for release by Peter Schwann, Managing Director.

#### FOR FURTHER INFORMATION PLEASE CONTACT:

#### Peter Schwann Managing Director

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**Aruma Resources Limited** is a proud supporter and member of the Association of Mining and Exploration Companies, 2020.

#### **COMPETENT PERSON'S STATEMENT**

The information in this release that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Peter Schwann who is a Fellow of the AIG and Australasian Institute of Mining and Metallurgy. Mr Schwann is Managing Director and a full time employee of the Company. Mr Schwann has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserve'. Mr Schwann consents to the inclusion in the release of the matters based on his information in the form and context in which it appears. All exploration results reported have been sourced from Minedex open file data and reported in a similar format in those reports.

#### James Moses Media and Investor Relations

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#### FORWARD LOOKING STATEMENT

Certain statements contained in this document constitute forward looking statements. Such forwardlooking statements are based on a number of estimates and assumptions made by the Company and its consultants in light of experience, current conditions and expectations of future developments which the Company believes are appropriate in the current circumstances. These estimates and assumptions while considered reasonable by the Company are subject to known and unknown risks, uncertainties and other factors which may cause the actual results, achievements and performance of the Company to be materially different from the future results and achievements expressed or implied by such forwardlooking statements. Forward looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "could", "nominal", "conceptual" and similar expressions. There can be no assurance that Aruma plans to develop exploration projects that will proceed with the current expectations. There can be no assurance that Aruma will be able to conform the presence of Mineral Resources or Ore Reserves, that any mineralisation will prove to be economic and will be successfully developed on any of Aruma's mineral properties. Investors are cautioned that forward looking information is no guarantee of future performance and accordingly, investors are cautioned not to place undue reliance on these forward-looking statements.

# **Section 1 Sampling Techniques and Data**

The following data is in relation to Historic Drill Hole AJVRC024 which was drilled by Orbit Drilling Pty Ltd for the Ashburton Joint Venture (U3O8 Limited/Cameco 50% each) in 2009 and has been taken from their open 2010 Annual Report available as Minedex Report number A77020.

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>RC drill samples are taken from various depth holes and sampled in 4 m intervals</li> <li>Samples from depth down hole.</li> <li>Samples were riffle split for composites and the 1m samples left on site</li> </ul>
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.).	<ul> <li>Drilling was done with RC rigs using industry standard sampling methods.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	The best endeavors were used to ensure sample recovery and splitting gave the best quality possible.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate	All samples were logged geologically and qualitatively.

Criteria	JORC Code explanation	Commentary
Sub compling	<ul> <li>Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>All samples rotary split and noted wet or dry. Where sample quality precluded riffle splitting, the material was tube sampled.</li> <li>The sample size satisfied the Gy size requirements.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul> <li>Laboratory standards and methods are industry standards.</li> <li>Duplicate samples were not taken as any anomalous holes would be assayed in the 1m splits</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>All significant intersections were inspected by at least two competent and relevant geologists.</li> <li>No holes were twinned as this is not required in grass roots exploration.</li> </ul>

Criteria	JORC Code explanation	Commentary
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Initial hole layout was by GPS. Australian Standard licenced surveyors were used to position the drill holes where required.</li> <li>All locations are GDA94</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The spacing was done to look at the Tempest AEM anomaly and identify bedrock</li> <li>Compositing was done on all holes in 4m intervals</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>All holes drilled as close to tangential as possible with rig limit at -60°.</li> </ul>
Sample security	The measures taken to ensure sample security.	All samples logged and numbered on site and checked as drilled, as logged, as loaded to Laboratory and as submitted.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	No audits were done as the U assays were low

# Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>All tenements and issues required are detailed in the reports.</li> <li>All work done under PoWs.</li> </ul>

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	The report is acknowledged in the announcement and is number A77020 in Minedex
Geology	• Deposit type, geological setting and style of mineralisation.	Detailed in the "Gold in Sediments" exploration model published by Aruma in previous announcements and presentations.
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	Complete in Table 3 in the release
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Drill holes are oriented to get intersections as close to true widths as possible.</li> <li>Metal equivalents never used.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>Sections are in the 2010 Report but not used in this announcement by AAJ.</li> </ul>

Criteria	JORC Code explanation	Commentary
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	As done
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>Null results are not reported and minimum intersection grades are reported and detailed in each table.</li> </ul>
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 contaminating substances.	<ul> <li>Tempest Data and figures and the relationship with the Aruma exploration and genesis model are detailed.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	As detailed in the report.