# **ASX ANNOUNCEMENT**



ASX:DRM

## 100,000oz DA VINCI HIGH-GRADE RESOURCE SETS DORAY FIRMLY ON PATH TO ACHIEVE TARGET 1-5-1

Doray Minerals Limited ("Doray" or "the Company") (ASX: DRM) is pleased to announce an upgraded Mineral Resource for the high-grade Da Vinci gold discovery within the Deflector Gold Copper Mine.

The upgraded Da Vinci Mineral Resource is a key step in Doray achieving its **Target 1-5-1** strategic goal of 100,000 ounces Au production per annum, a minimum of five year's mine life and an All-In Sustaining Cost (AISC) of less than \$1,000 per ounce Au.

## HIGHLIGHTS

- Da Vinci's Mineral Resource has been upgraded to 248,000t @ 12.5g/t Au and 0.5% Cu for 100,000oz Au and 1,200t
   Cu, an increase of 61% from the maiden Resource announced 30 June 2018
- Overall Deflector Mineral Resource increased to 2.85Mt @ 8.7g/t Au and 0.6% Cu for 800,000oz Au and 16,600t Cu
- o Mining study commencing to incorporate Da Vinci into Deflector operations
- o Exploration drilling at Da Vinci continues, offering further Mineral Resource upside potential
- Addition of newly discovered ore bodies Da Vinci (100,000oz @ 12.5g/t Au and 0.5% Cu) and Link Lode (122,000oz @ 20g/t Au and 0.6% Cu) positions Deflector for significant production upgrade and potential mine life extension
- These discoveries underpin Doray's **Target 1-5-1** strategic goal to deliver increased and sustained value for shareholders by:
  - Increasing annual production to 100,000 ounces Au;
  - Extending Deflector's mine life to at least 5 years; and
  - ✓ Reducing AISC to less than \$1,000 per ounce Au.
- Doray management will discuss the Company's exploration success and Target 1-5-1 at this month's 2018 Precious Metals Summit Beaver Creek and Denver Gold Forum

Commenting on the Da Vinci Mineral Resource upgrade, Doray Minerals Managing Director Leigh Junk said:

"Following a transformational 2017-18 for Doray during which we managed to strengthen the Company's balance sheet and achieve safe and steady operations at our flagship Deflector Gold Copper Mine, we are now committed to building on that success with a focus on cash flow and production growth.

"Our Target 1-5-1 strategic goal is aimed at delivering sustained value for the Company and our shareholders by maximising the potential of our exceptional Deflector asset. The Link Lode ore body and Da Vinci, which were both delineated last year, will play a pivotal role in the Company achieving this goal.

"Importantly, the Da Vinci Mineral Resource was not included in Doray's significantly improved Life of Mine plan for Deflector, which we announced to the ASX on 23 July 2018, and therefore presents clear potential for future upside.

"In a short space of time, we have managed to increase Da Vinci's Mineral Resource to 100,000 ounces of gold without encountering the end of the mineralisation. This gives us great confidence that we are yet to discover Da Vinci's full potential. A \$10 million near-mine exploration programme is under way to build on these outstanding results."

The Da Vinci Mineral Resource has been upgraded to 248,000 tonnes @ 12.5 g/t Au and 0.5% Cu for 100,000 ounces Au and 1,200 tonnes Cu (see Tables 1 and 2). The Mineral Resource has been classified as Indicated and Inferred in accordance with the JORC Code (2012), with the classification of the main ore zones with respect to drilling illustrated in Figure 2.

The completion of recent underground diamond drilling (see ASX Release 15 August 2018) has provided the basis for the recalculation of the Mineral Resource estimate at Da Vinci. This drill programme was completed in order to increase confidence in the overall continuity of the Da Vinci mineralisation and allow an upgrade of the previously released Inferred Mineral Resource estimate (see ASX Release 10 July 2018). Drilling was extremely successful in intersecting high-grade mineralisation consistent with the interpreted lodes. The majority of the previous Inferred Mineral Resource has now been upgraded to Indicated. Importantly, the head grade of the Indicated Mineral Resource has increased 18% to 14.8g/t Au (and 0.8% Cu).

Two main mineralised lodes were intersected as previously interpreted (east and west), which represents a faulted offset of one single steeply west dipping lode. In addition, a series of high-grade east dipping splays was defined, both in the hanging wall and footwall of the main structures. The majority of these splays has been classified as Inferred and provides potential for future additions to the Mineral Resource.

The Da Vinci mining study is commencing and due for completion by the end of December 2018, with the intent to introduce high-grade Da Vinci ore into the Deflector mine plan as early as possible.

Exploration drilling continues at Da Vinci with a focus on northerly extensions to the mineralisation.

The Da Vinci Mineral Resource upgrade increases Deflector's overall Mineral Resource to 2.85 million tonnes @ 8.7 g/t Au and 0.6% Cu for 800,000 ounces Au and 16,600 tonnes Cu (see Tables 3 and 4).

Deflector produced 64,593 ounces Au and 3,413 tonnes Cu in FY18 at an AISC of \$1,190 per ounce Au, marking the first year that ore was sourced exclusively from underground.

Doray advises that Deflector remains on track to produce 80,000-85,000 ounces Au and 2,250-2,750 tonnes Cu in FY19 at an AISC of \$1,050-1,150 per ounce Au (refer to ASX Announcement 20 June 2018).

GOLD	MEASURED		INDICATED		INFERRED			TOTAL				
	Tonnes (kt)	Au Grade (g/t)	Au Ounces									
Da Vinci	-	-	-	142	14.8	68,000	106	9.6	33,000	248	12.5	100,000
TOTAL RESOURCE	-	-	-	142	14.8	68,000	106	9.6	33,000	248	12.5	100,000

Table 1. Da Vinci Gold Mineral Resource estimate as at 31 July 2018

#### Notes:

o Rounding errors may occur

- $\circ$   $\quad$  Ore tonnes and ounce data is rounded to the nearest thousand
- Mineral Resources reported above 1.0g/t Au lower cut-off

COPPER	MEASURED		INDICATED		INFERRED		TOTAL					
	Tonnes (kt)	Cu Grade (%)	Cu Tonnes	Tonnes (kt)	Cu Grade (%)	Cu Tonnes	Tonnes (kt)	Cu Grade (%)	Cu Tonnes	Tonnes (kt)	Cu Grade (%)	Cu Tonnes
Da Vinci	-	-	-	142	0.8	1,100	106	0.1	100	248	0.5	1,200
TOTAL RESOURCE	-	-	-	142	0.8	1,100	106	0.1	100	248	0.5	1,200

Table 2. Da Vinci Copper Mineral Resource estimate as at 31 July 2018

#### Notes:

• Rounding errors may occur

 $\circ$   $\,$   $\,$  Ore tonnes data is rounded to the nearest thousand and copper tonnes to the nearest hundred  $\,$ 

Mineral Resource reported above 1.0g/t Au lower cut-off

GOLD	MEASURED		D	INDICATED		INFERRED			TOTAL			
PROJECT	Tonnes (kt)	Au Grade (g/t)	Au Ounces									
Western Zone	195	8.7	55,000	329	11.2	119,000	31	7.5	7,000	555	10.1	181,000
Central Lode	177	7.2	41,000	169	8.6	47,000	154	10.4	52,000	500	8.7	139,000
Link Lode	32	21.9	23,000	93	29.1	87,000	64	5.8	12,000	190	20.0	122,000
Contact Lodes	35	5.8	6,000	445	4.6	66,000	278	3.8	34,000	758	4.4	107,000
Western Zone Splays	-	-	-	-	-	-	587	7.9	149,000	587	7.9	149,000
Da Vinci	-	-	-	142	14.8	68,000	106	9.6	33,000	248	12.5	100,000
Stockpiles	13	5.0	2,000	-	-	-	-	-	-	13	5.0	2,000
TOTAL RESOURCE	453	8.7	127,000	1,179	10.2	387,000	1,220	7.3	287,000	2,851	8.7	800,000

## Table 3. Deflector Gold Mineral Resource

 $_{\odot}$  Mineral Resources stated as at 30 June 2018, except Da Vinci which is as at 31 July 2018

• Mineral Resources are inclusive of those modified to estimate Ore Reserves. Rounding errors may occur

 $\,\circ\,$  Ore tonnes and ounce data is rounded to the nearest thousand

 $_{\odot}$  Mineral Resources reported above 1.0g/t Au lower cut-off

COPPER	MEASURED		INDICATED		INFERRED			TOTAL				
PROJECT	Tonnes (kt)	Cu Grade (%)	Cu Tonnes									
Western Zone	195	1.6	3,100	329	0.6	2,000	31	0.3	100	555	0.9	5,200
Central Lode	177	0.8	1,300	169	0.6	1,000	154	0.2	400	500	0.6	2,800
Link Lode	32	2.5	800	93	1.1	1,000	64	0.8	500	190	1.2	2,300
Contact Lodes	35	0.6	200	445	0.2	900	278	0.2	400	758	0.2	1,500
Western Zone Splays	-	-	-	-	-	-	587	0.6	3,500	587	0.6	3,500
Da Vinci	-	-	-	142	0.8	1,100	106	0.1	100	248	0.5	1,200
Stockpiles	13	0.7	100	-	-	-	-	-	-	13	0.7	100
TOTAL RESOURCE	453	1.2	5,500	1,179	0.5	6,000	1,220	0.4	5,000	2,851	0.6	16,600

#### Table 6. Deflector Copper Mineral Resource

#### Notes:

Notes:

 $\circ$  Mineral Resources stated as at 30 June 2018, except Da Vinci which is as at 31 July 2018

 $\circ\,$  Mineral Resources are inclusive of those modified to estimate Ore Reserves. Rounding errors may occur

 $\circ\,$  Ore tonnes data is rounded to the nearest thousand and copper tonnes to the nearest hundred

 $\circ$  Mineral Resources reported above 1.0g/t Au lower cut-off



Figure 1. Deflector Gold Copper Mine – Schematic plan view of the Da Vinci deposit and associated Deflector ore bodies



Figure 2. Da Vinci deposit composite longsection of the main lodes with Mineral Resource classification boundaries

## **Mineral Resource Methodology**

The Mineral Resource estimate is based on all available information as at 6 August 2018 and has been depleted for mining as at 31 July 2018. A total of 35 diamond drill holes (10 surface and 25 underground) and 22 Reverse Circulation (RC) holes were used in the estimate.

The lode interpretations were completed by the Deflector Mine Geology team utilising Leapfrog software. A total of six lodes were estimated using 3D Ordinary Kriging; one main Da Vinci vein dipping steeply to the west and five east dipping splay structures. One metre composites were created and gold values were top-cut prior to estimation.

Variography was modelled in Snowden Supervisor software, with the estimation carried out in Surpac. The parent block size is 1mE x 20mN x 20mRL with sub-celling permitted to 0.25mE x 5.0mN x 5.0mRL to reflect the narrowness of the orebody.

Gold grade continuity is generally strongest at approximately 70° plunging to the north. This northerly plunge follows a similar trend to the high grade continuity of other Deflector ore bodies. Copper grade exhibits a near vertical continuity with a shorter range than gold. Search and estimation parameters were optimised using the Quantative Kriging Neighbourhood Analysis function in Snowden Supervisor.

The Mineral Resource estimate has been classified as Indicated or Inferred in accordance with JORC (2012) guidelines. Classification is based on data density and geological continuity, exposure of the mineralisation through mining and statistical performance of the estimation parameters.

Several checks were run to validate the block grade estimate against the input drill hole data. These included comparing raw mean and composite mean against the mean of the block estimate for each domain. Swath plots were also generated to compare the composite grades to block model grades by northing, easting and RL. Finally, block grades were compared to the drill hole data visually throughout the entire deposit.

-ENDS-

## For further information, please contact:

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## **Competent Persons Statement**

The information in this announcement that relates to Mineral Resources is based on information compiled by Mark Cossom. Mr Cossom is a full time employee of Doray Minerals Ltd and is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Cossom has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activities, which he is undertaking. This qualifies Mr Cossom as a "Competent Person" as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Cossom consents to the inclusion of information in this announcement in the form and context in which it appears. Mr Cossom holds shares and performance rights in Doray Minerals Ltd.

## JORC Code 2012 Edition Summary (Table 1) – Da Vinci Deposit Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> </ul>	<ul> <li>Surface Diamond Drilling HQ2 size core collected in sample trays, core is marked and cut in half. Diamond core samples are collected on a nominal 1m interval, but based on geology. Minimum sample width of 0.3m and a maximum of 1.3m</li> <li>Underground Diamond drilling NQ size core collected in sample trays, core is marked and whole core sampled. Diamond core samples are collected on a nominal 1m interval, but based on geology. Minimum sample width of 0.3m and a maximum of 1.3m</li> <li>Reverse circulation (RC) percussion drill chips collected through a cyclone and sampled at the rig in 1 metre intervals via cone splitter</li> </ul>
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	<ul> <li>Surface DD core is cut in half, with half submitted for assay</li> <li>Underground DD core is whole core submitted for assay</li> <li>RC chips undergo a mass decrease through cone splitting to approximately 3kg. Splitter is levelled at the beginning of each hole</li> </ul>
	• Aspects of the determination of mineralisation that are Material to the Public Report.	<ul> <li>Mineralisation determined qualitatively through: presence of sulphide in quartz; internal structure (massive, brecciated, laminated) of quartz</li> <li>Mineralisation determined quantitatively via fire assay with atomic absorption (AAS) and inductively coupled mass spectrometry and optical emission spectrometry (ICPMS/OES)</li> </ul>
	• 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.	<ul> <li>All samples pulverized to 75 μm and all samples analysed by 50g Fire Assay and AAS finish</li> <li>When visible gold is observed in RC chips or DD core this sample is flagged by the supervising geologist for the benefit of the laboratory</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>Surface DD drilling collected at HQ2 size</li> <li>Undeground DD collected at NQ size</li> <li>RC drilling collected using a face sampling hammer and 127mm (5") bit</li> </ul>
	• Method of recording and assessing core and chip sample recoveries and results assessed.	<ul> <li>DD core recovery data is recorded on core block for each core run</li> <li>RC drill chip recoveries recorded at the time of logging and stored in DRM database</li> </ul>

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• Measures taken to maximise sample recovery and ensure representative nature of the samples.	<ul> <li>Appropriate drilling muds are used to maximise DD core recovery in broken ground</li> <li>RC Drilling: sample splitter is cleaned at the end of each rod to ensure no sample hang- ups have occurred. Sample bag weights are recorded and in general should be approximately 3kg. Wet samples due to excess ground water were noted when present</li> </ul>
	• 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.	There is no known relationship between sample recovery and grade
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.	<ul> <li>Holes logged to a level of detail to support mineral resource estimation: lithology; alteration; mineralization</li> <li>DD drilling is also structurally and geotechnically logged</li> </ul>
	• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	<ul> <li>Qualitative: lithology, alteration, foliation</li> <li>Quantitative: vein percentage; mineralization (sulphide) percentage; assayed for gold and copper, structures</li> <li>All DD core not assayed is retained in core trays and stored</li> <li>All RC holes are chipped and archive</li> </ul>
	• The total length and percentage of the relevant intersections logged.	• All holes logged and for entire length of hole; sampling over 75% of hole length based on observed and expected mineralisation
Sub-sampling	• If core, whether cut or sawn and whether Quarter, half or all core taken.	<ul> <li>Surface DD core is sawn in half, with half submitted for analysis</li> <li>Underground DD core is whole core sampled and submitted for analysis</li> </ul>
techniques and sample preparation	• If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	<ul> <li>RC chips cone split, sampled dry where possible and wet when excess ground water could not be prevented. Sample condition (wet, dry or damp) is recorded at the time of logging</li> </ul>
	• For all sample types, the nature, quality and appropriateness of the sample preparation technique.	<ul> <li>The entire ~3kg sample is pulverized to 75µm (85% passing)</li> <li>Gold analysis is determined by a 50g charge fire assay with an AAS finish. Copper analysis is determined by ICP-MS and ICP-OES techniques (dependent on grade)</li> </ul>
	• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	• Pulp duplicates taken at the pulverising stage and selective repeats conducted at the laboratories discretion
	• 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.	<ul> <li>Surface DD samples are taken via ½ core sawn along the core axis, which is statistically representative of the drill core returned for each metre drilled.</li> <li>Underground DD samples are taken via whole core sample in order to maximize sample volume</li> </ul>
	• Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample size appropriate for grain size of samples material
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Criteria	JORC Code explanation	Commentary				
Quality of assay data and	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	<ul> <li>Fire assay (50g), total digest technique, appropriate for gold</li> <li>AAS determination, appropriate for gold</li> <li>ICP-MS/OES technique, appropriate for copper and silver</li> </ul>				
laboratory tests	• 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.	KT10 handheld magnetic susceptibility meter used				
	• 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.	<ul> <li>Certified reference material standards, 1 in 20 samples</li> <li>Blanks: unmineralised material is inserted following predicted high grade samples (ie. Visible gold)</li> <li>A lab barren quartz flush is requested following a predicted high grade sample (i.e. visible gold)</li> <li>Duplicates:         <ul> <li>Field duplicates on RC samples across mineralised zones are taken on average 1 in every 50 samples</li> <li>Lab: Random pulp duplicates are taken on average 1 in every 10 samples</li> </ul> </li> </ul>				
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel.	<ul> <li>All sampling is routinely inspected by senior geological staff Significant intersections are inspected by senior geological staff and DRM corporate staff</li> <li>2% of samples returned &gt; 0.1g/t Au are sent to an umpire laboratory on a quarterly basis for verification</li> </ul>				
	The use of twinned holes.	No twinned holes utilised				
	• Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	<ul> <li>Data stored in Datashed database on internal company server, logging performed on LogChief and synchronised to Datashed database, data validated by database administrator, import validate protocols in place. Visual validation in Micromine by Doray geologists</li> </ul>				
	Discuss any adjustment to assay data.	<ul> <li>No adjustments made to assay data. First gold assay is utilised for any Resource estimation</li> </ul>				
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.	<ul> <li>Collars: surveyed with DGPS or via total station (underground)</li> <li>Downhole: surveyed with north-seeking Champ Axis Gyro tool</li> <li>Some historic collars were unable to be validated and were removed from the estimation process</li> </ul>				
	• Specification of the grid system used.	• MGA94 - Zone 50				
	• Quality and adequacy of topographic control.	<ul> <li>Topographic control is based on survey pick-ups of drill sites, as well as historical surface surveys of the general area</li> </ul>				
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Criteria	JORC Code explanation	Commentary
Data spacing	• Data spacing for reporting of Exploration Results.	• Drilling planned on targeted features, with an average sectional spacing of 20-40m
and distribution	• 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.	Data spacing considered appropriate for the stage of exploration and geological conditions encountered
	• Whether sample compositing has been applied.	<ul> <li>Samples taken on a 1m basis for RC drilling</li> <li>Diamond core samples are based on logged geology, with a minimum of 0.3m and maximum of 1.3m width taken</li> <li>No Doray sample composites taken</li> <li>Historically composite sampling has been undertaken however these holes are not included in the Resource estimation process</li> </ul>
Orientation of data in	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	• Drill holes are oriented at right angles to strike of deposit, dip optimized for drilling purposes and dip of orebody, sampling believed to be unbiased
relation to geological structure	• 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.	Not Applicable
Sample security	The measures taken to ensure sample security.	<ul> <li>All samples are bagged in a tied numbered calico bag, grouped into larger polyweave bags and cable tied. Polyweave bags are placed into larger bulky bags with a sample submission sheet and tied shut. Consignment note and delivery address details are written on the side of the bag and dispatched from Deflector minesite via Coastal Midwest Transport. The bags are delivered directly to MinAnalytical in Canning Vale, WA who are NATA accredited for compliance with ISO/IEC17025:2005</li> </ul>
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>Performance meetings held between a DRM and MinAnalytical representative are conducted quarterly. QAQC data are reviewed with each assay batch returned, and on regular monthly intervals (trend analysis)</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>Doray Minerals Ltd controls a 100% interest in M59/442 via its 100% owned subsidiary Deflector Gold Pty Ltd</li> <li>M59/442 is covered by the Southern Yamatji Native Title Claim</li> <li>Heritage surveys have been conducted over active exploration areas</li> <li>M59/442 is valid until 4 November 2018</li> <li>M59/442 is subject to the Gullewa Royalty, being a 1% royalty on gross revenue from the tenement, payable to Gullewa Ltd</li> </ul>
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Historic exploration and open pit mining was carried out at Deflector by various parties between 1990 and 2006. Modern exploration, consisting mainly of mapping, sampling and surface drilling, was carried out by Sons of Gwalia Ltd. (1990-1994), National Resources Exploration Ltd. (1995-1996) Gullewa Gold NL Ltd. (1996-2000); King Solomon Mines Pty Ltd./Menzies Gold NL (2001-2002); Batavia/Hallmark Consolidated Ltd. (2003-2008); ATW Gold Corp. Pty Ltd. (2008-2010); Mutiny Gold Ltd. (2010-2014)</li> </ul>
Geology	• Deposit type, geological setting and style of mineralisation.	<ul> <li>Geology consists of Archean aged orogenic style gold copper mineralisation. Mineralisation is hosted in four main vein sets, the Western, Central, Link and Contact Lodes. The main ore lodes are narrow, sub-parallel, fault-hosted, quartz-sulphide veins within a thick sequence of high-Mg basalt intruded by a series of dacitic, dolerite, and lamprophyre dykes. The Da Vinci lode is understood to be a continuation of the Western zone to the north.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	See previous ASX releases

Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No top-cuts have been applied when reporting results</li> <li>First assay from the interval in question is reported (i.e. Au1)</li> <li>Aggregate sample assays calculated using a length weighted average</li> <li>Significant intervals are based on a minimum of 1m @ 1g/t Au (RC drilling) or 0.3m @1g/t Au (diamond drilling), with a maximum of 3m internal dilution (for both). No metal equivalent values are used for reporting exploration results</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 (e.g. 'down hole length, true width not known').</li> </ul>	<ul> <li>Drill holes are oriented at right angles to strike of deposit, dip optimized for drilling purposes and dip of main ore body. However due to the east dipping splay structures, some drillhole intercepts are down hole. Estimate true widths are reported.</li> <li>Strike of main Da Vinci mineralisation is approximately 010° dipping to the West at 75°. Splay structures are modelled as east dipping at approximately 75°.</li> </ul>
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	Refer to plan attached
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 holes used in the Resource update have been reported
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	All meaningful and material data is reported
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	• Further drilling is to be conducted down dip and along strike of significant intersections to test for lateral extensions to mineralisation

Criteria	JORC Code explanation	Commentary
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

## Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>DRM data is hard keyed into LogChief software that contains internal data validation eliminating any keying errors. Data is then synchronized with an internal company server where further validation checks are run</li> <li>A further visual validation of the data is completed in 3D via Surpac software</li> <li>Sample numbers are unique and pre-numbered bags are used</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is</li> </ul>	<ul> <li>Numerous site visits have been conducted by the Competent Person. The deposit area, core logging and cutting facility was inspected with no issues identified</li> <li>Not Applicable</li> </ul>
	the case.	
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	<ul> <li>Confidence in the geological interpretation of the mineral deposit is high with exposure to the mineralised lodes in underground mining</li> <li>Uncertainty inevitably increases as the drill spacing increases which is reflected in the classification of the Resource</li> </ul>
	• Nature of the data used and of any assumptions made.	<ul> <li>All holes used in the estimation were either RC or diamond drilled</li> <li>Historic drill holes met minimum requirements for drilling and sampling</li> </ul>
	• The effect, if any, of alternative interpretations on Mineral Resource estimation.	<ul> <li>No alternative interpretations have been considered in this update as infill drilling confirmed existing interpretation</li> </ul>
	• The use of geology in guiding and controlling Mineral Resource estimation.	<ul> <li>A total of six mineralised lodes were interpreted based on drill hole logging and assay results (see attached diagrams), including one main west dipping Da Vinci lode, and five smaller east dipping splay structures</li> <li>Wireframes were generated in LeapFrog and converted to Surpac dtms for estimation</li> <li>Fault structures are modelled and used to offset the main Da Vinci lode, creating two domains</li> </ul>
	• The factors affecting continuity both of grade and geology.	<ul> <li>Continuity of geology and grade can generally be traced from section to section using geochemical and visual attributes</li> <li>Gold and copper mineralisation occurs in multiple phases, reflected by multiple directions of continuity in geostatistical analysis</li> <li>Gold grade continuity is generally strongest at around 70 degrees plunging to the north</li> <li>Copper grade exhibits near vertical continuity</li> <li>The Karai fault offsets the mineralisation</li> </ul>
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower	<ul> <li>The Mineral Resource covers approximately 200m in strike length, from 20m below surface to 300m below surface</li> <li>6 individual lodes have been interpreted. These vary between 0.3m to 3m in width</li> </ul>

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

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	limits of the Mineral Resource.	Domain continuity was extrapolated to half the average drill spacing				
Estimation and modelling techniques	• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	<ul> <li>Ordinary Block Kriging of 1m composites was used for the grade estimation. A 3D block model consisting of 20mN x 1mE x 20mRL parent cells was created with sub-celling to 5mN x 0.25mE x 5mRL. Data spacing, geometry of mineralised zones and volume fill were the primary considerations taken into account when selecting an appropriate estimation block size. Block discretisation points were set to 5(Y) x 2(X) x 5(Z) points</li> <li>Surpac's block modelling module was used to for the grade interpolation process</li> <li>Data was composited to 1m intervals</li> <li>Statistical analysis and variogram modelling were carried out in Supervisor software. Due to the limited number of samples available for some of the splay domains, the variogram parameters derived from the main lode domains were rescaled to the variance of the splay</li> <li>Top cuts were applied to 1m composites before estimation if determined necessary to restrict the influence of gold and copper outliers</li> <li>Kriging Neighbourhood Analysis was used to aid the selection of relevant estimate and search parameters for both gold and copper estimates</li> <li>A one pass ellipsoidal search strategy was utilized for all estimated domains. Any remaining unestimated blocks within the domain are excluded from the Resource</li> </ul>				
	• The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The estimate is in line with previous conceptual estimation work completed by Doray				
	• The assumptions made regarding recovery of by-products.	<ul> <li>Copper is estimated, and is assumed as recoverable based on existing processing parameters at Deflector. Silver is a recoverable by-product but no assumptions are made regarding recovery, and is not estimated</li> </ul>				
	• Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No non-grade elements have been estimated				
	• In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	<ul> <li>Data spacing was the primary consideration taken into account when selecting an appropriate estimation block size. Data spacing within the mineralised domain is quite variable ranging from less than 10mN x 10mE to 40mN x 40mE</li> <li>A parent block size of 20mN x 1mE x 20mRL parent cells was created with sub-celling to 5mN x 0.25mE x 5mRL</li> </ul>				
	• Any assumptions behind modelling of selective mining units.	No selective mining units were assumed in this estimate				

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	• Any assumptions about correlation between variables.	<ul> <li>Gold and copper are weakly correlated so no assumptions have been made. The two elements have been treated separately from compositing through to variogram modelling and block estimation</li> </ul>
	• Description of how the geological interpretation was used to control the resource estimates.	<ul> <li>Mineralisation is hosted in quartz-sulphide veins. Hard boundaries are enforced between mineralisation and waste rock. Known fault offsets control the limits of lode interpretations where necessary</li> <li>A higher grade copper subdomain was used to for a hard boundary on the copper estimate in domain 1101</li> </ul>
	<ul> <li>Discussion of basis for using or not using grade cutting or capping.</li> </ul>	<ul> <li>Each domain was assessed individually for gold and a top-cut was applied where geostatistical analysis indicated outliers were present</li> <li>Top-cuts were not applied to the copper composites after statistical review, and due to historic production indicating a tendency to underestimate copper in block model estimation</li> </ul>
	• The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	<ul> <li>Plotting and tabulating kriged estimates and mean composite grades were completed as a validation check. Although these two items (kriged values and mean values) are not strictly comparable due to data clustering and volume influences they provide a useful validation tool in detecting any major biases</li> <li>Swath plots showing the estimated tonnes, estimated grade, number of composites and mean cut composite grade (tabulated by northing and RL) were created for all the interpolated mineralisation domains</li> <li>Visual checks are also completed to compare block grades against raw drill hole data</li> </ul>
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnage is estimated on a dry basis
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	• A lower cut of 1.0/t Au was used for reporting
Mining factors or assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral	<ul> <li>The interpretation and reporting of the Da Vinci Resource is based on a geological domain which is assumed to be mineable in its entirety, using standard underground development and long hole stoping techniques</li> </ul>
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	Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
Metallurgical factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	<ul> <li>It is assumed all material will continue to be processed through the Deflector processing facility producing gold in doré and a gold copper concentrate</li> </ul>
Environmental factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	<ul> <li>Current waste rock management onsite is progressing well with the waste dump designed to accommodate all waste rock types from the underground operations. The design and orientation of final landforms will have the overall objective of creating surface conditions which are conducive to the establishment and survival of self-sustaining vegetation</li> <li>Topsoil and laterite storage areas are located on the perimeter of the landforms and in other dedicated locations designed to be close to end use areas</li> </ul>

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Bulk density	•	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether	<ul> <li>Assigned density data was derived from a combination of downhole gamma and water displacement measurements taken on diamond drill core</li> </ul>						
		wet or dry, the frequency of the measurements, the	Descriptio		otion		SG		
		nature, size and representativeness of the samples.	Oxide	)vide	Waste		2.32		
				Oxide	Ore		2.51		
			т	Transitional	Waste		2.62		
			110115	Turisitionui	Ore		2.69		
			P	rimary	Waste		2.96		
			'	i i i i i i i i i i i i i i i i i i i	Ore		3.01		
	•	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	•	Densities are a Modelling of v both RC and d	veathering h iamond drilli	ording to norizons (r ling. Dens	oxidation a oxide, trans ities were a	nd mineralisation coding as per the table above. itional and fresh) were taken from geology logs for ssigned to each of these weathered zones	
Classification	•	The basis for the classification of the Mineral Resources into varying confidence categories.	<ul> <li>Lodes with data spacing of 20mN by 20mN or less were generally classified as Indicated</li> <li>Minor splays were classified as Inferred</li> <li>Estimated blocks with low confidence were excluded from classification</li> </ul>						
	•	Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	•	<ul> <li>There is sufficient confidence in the grade continuity and geological information obtained through underground mining supported by drill information to classify this Resource as Indicated and Inferre</li> </ul>					
	•	Whether the result appropriately reflects the Competent Person's view of the deposit.	•	The Mineral R	esource esti	mate app	ropriately r	eflects the Competent Person's view of the deposit	
Audits or reviews	•	The results of any audits or reviews of Mineral Resource estimates.	•	The Mineral R reviewed	esource esti	mate was	completed	by Doray Minerals Limited and internally peer	

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Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	<ul> <li>The Mineral Resource is considered robust for classification as Indicated and Inferred Resources as per the guidelines of the 2012 JORC code</li> <li>The level of confidence in the estimate is supported by exposure of the lodes through mining, drill data density and results of kriging statistics generated in the estimation process</li> <li>Confidence decreases in the Resource estimate as drill spacing increases at depth and along strike which is reflected by Resource classification</li> </ul>
	• The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	The Mineral Resource estimate at Da Vinci is a global estimate
	• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	• Confidence is high in this Mineral Resource estimate reflecting the high grade trends of the main mineralised lodes. Doray are aware there is metal carried outside of the main lodes in the form of stringer veins and short range splay structures, which does not form part of the current classified Mineral Resource.