Red River increases Hillgrove gold resource ahead of production restart

Highlights:

- **Red River completes updated JORC 2012 Compliant Mineral Resource for the Blacklode & Sunlight Lode at Hillgrove Gold Project in NSW**
- **Blacklode and Sunlight Lode combined Mineral Resource of 2.65Mt @ 4.5 g/t Au & 1.1% Sb (6.0 g/t Au Eq.) (387koz contained Au & 30kt contained Sb)**
- **Hillgrove Gold Project JORC 2012 Compliant Mineral Resource increases to 4.75Mt @ 4.4 g/t Au & 1.6% Sb (6.6 g/t Au Eq.) (668koz contained Au & 74kt contained Sb)**
- **Contained gold in the Hillgrove Gold Project JORC 2012 Compliant Mineral Resource increases by 46%, from 459koz Au to 668koz Au**
- **Red River is on track to restart gold production at Hillgrove by end CY2020, with initial production from Bakers Creek Stockpile, transitioning to restart of UG mining operations mid to late CY2021.**

Red River Resources Limited (ASX: RVR) ("Red River" or "the Company") is pleased to announce an updated JORC 2012 compliant Mineral Resource of 2.65Mt @ 4.5 g/t Au & 1.1% Sb & (6.0 g/t Au Eq.) (387koz contained Au & 30kt contained Sb) for the Blacklode & Sunlight Lode at its Hillgrove Gold Project in NSW.

Table 1 Blacklode & Sunlight Lode Mineral Resource at a 3.0 g/t Gold Equivalent cut-off

Lode	Classification	Tonnes	Gold	Antimony	Gold Equivalent (Au Eq.)	Contained Gold	Contained Antimony
		(kt)	(g/t)	(%)	(g/t)	(koz Au)	(kt Sb)
Sunlight	Measured	-	-	-	-	-	-
	Indicated	642	6.7	0.3	6.7	138	2
	Inferred	353	5.1	0.4	5.1	58	1
	Total	**994**	**6.1**	**0.3**	**6.1**	**195**	**3**
Blacklode	Measured	-	-	-	-	-	-
	Indicated	869	4.2	2.1	7.2	118	18
	Inferred	783	2.9	1.1	4.5	74	9
	Total	**1,653**	**3.6**	**1.6**	**5.9**	**191**	**27**
Blacklode & Sunlight	Measured	-	-	-	-	-	-
	Indicated	1,511	5.3	1.3	6.9	255	20
	Inferred	1,136	3.6	0.9	4.7	131	10
	Total	**2,647**	**4.5**	**1.1**	**6.0**	**387**	**30**

Source: Red River Resources Limited 29 July 2020
Tonnages and grades are rounded. Discrepancies in totals may exist due to rounding.
Gold equivalent (Au Eq.) has been calculated using the metal selling prices, recoveries and other assumptions

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The current total JORC 2012 Compliant Mineral Resource for the Hillgrove Gold Project is 4.75Mt @ 4.4 g/t Au & 1.6% Sb (6.6 g/t Au Eq.) (668koz contained Au & 74kt contained Sb). Hillgrove also has a substantial remaining JORC 2004 Compliant Mineral Resource, which Red River is systematically converting to a JORC 2012 Compliant Mineral Resource.

Table 2 Hillgrove Gold Project JORC 2012 Mineral Resource

Lode	Classification	Tonnes	Gold	Antimony	Gold Equivalent (Au Eq.)	Contained Gold	Contained Antimony
		(kt)	(g/t)	(%)	(g/t)	(koz Au)	(kt Sb)
Blacklode & Sunlight Lode	Measured	-	-	-	-	-	-
	Indicated	1,511	5.3	1.3	6.9	255	20
	Inferred	1,136	3.6	0.9	4.7	131	10
	Total	**2,647**	**4.5**	**1.1**	**6.0**	**387**	**30**
Brackin's Spur	Measured	73	5.1	0.9	6.2	12	1
	Indicated	640	4.2	1.8	6.9	86	12
	Inferred	870	4.8	1.3	6.5	134	11
	Total	**1,600**	**4.5**	**1.5**	**6.6**	**231**	**24**
Clark's Gully	Measured	170	1.9	4.2	9.0	10	7
	Indicated	96	2.1	3.1	7.3	6	3
	Inferred	0.4	0.8	3.0	5.8	0	0
	Total	**270**	**2.0**	**3.8**	**8.4**	**17**	**10**
Syndicate	Measured	170	4.4	5.5	13.4	24	9
	Indicated	56	4.7	1.7	7.2	8	1
	Inferred	4	9.3	0.3	9.0	1	0
	Total	**230**	**4.5**	**4.5**	**11.8**	**33**	**10**
Total	Measured	413	3.5	4.2	10.3	46	17
	Indicated	2,303	4.8	1.5	7.0	355	36
	Inferred	2,011	4.1	1.1	5.5	266	21
	Total	**4,747**	**4.4**	**1.6**	**6.6**	**668**	**74**

Blacklode & Sunlight Lode Mineral Resource is estimated at a cut-off grade of 3 g/t Au Eq.
Source: Red River Resources Limited 29 July 2020
Brackin's Spur, Clark's Gully & Syndicate Mineral Resources are estimated at a cut-off grade of 5 g/t Au Eq.
Source: AMC Consultants Pty. Ltd. Hillgrove Mineral Resource Estimate (August 2017)
Tonnages and grades are rounded. Discrepancies in totals may exist due to rounding.
Gold equivalent (Au Eq.) has been calculated using the metal selling prices, recoveries and other assumptions contained in the AMC Estimate and included this announcement.

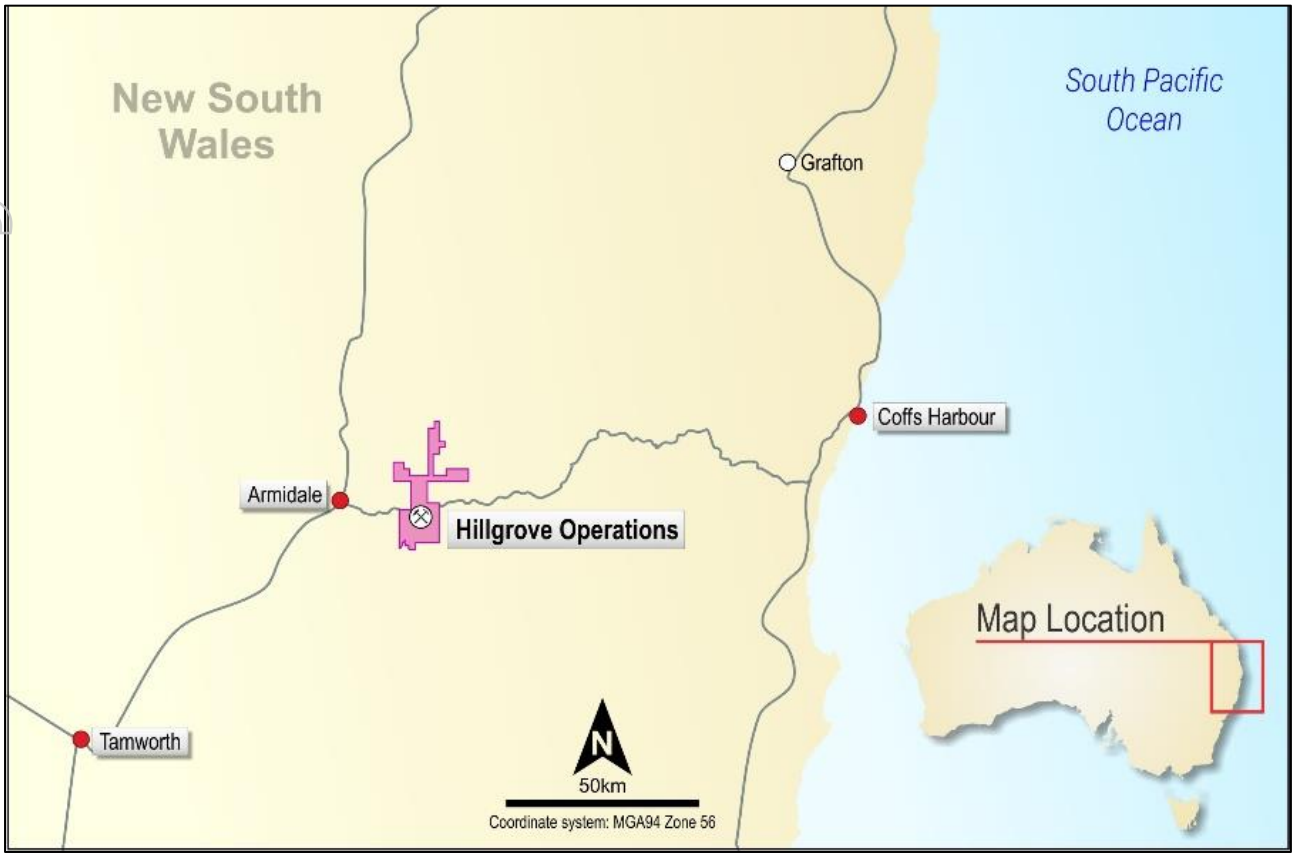
Red River acquired the Hillgrove Gold Project in August 2019 from a private vendor. The vendor placed the Hillgrove Project in care & maintenance at end 2014 due to low commodity prices. Red River plans to restart gold production at Hillgrove by late CY2020 from the Bakers Creek stockpile before resuming underground operations in CY2021.

Hillgrove Project Overview

The Hillgrove Gold Project is located 23km east of Armidale in New South Wales. High-grade gold-antimony-tungsten mineralisation was discovered at Hillgrove in 1857, and modern mining operations commenced at Hillgrove in 1969. To date, Hillgrove has produced more than 730,000 ounces of gold (in bullion and concentrates), over 50,000 tonnes of antimony (as metal and in concentrates) plus material amounts of by-product tungsten (in concentrates).

Figure 1 Hillgrove Gold Project Site, showing processing infrastructure and layout

Figure 2 Hillgrove Gold Project Location

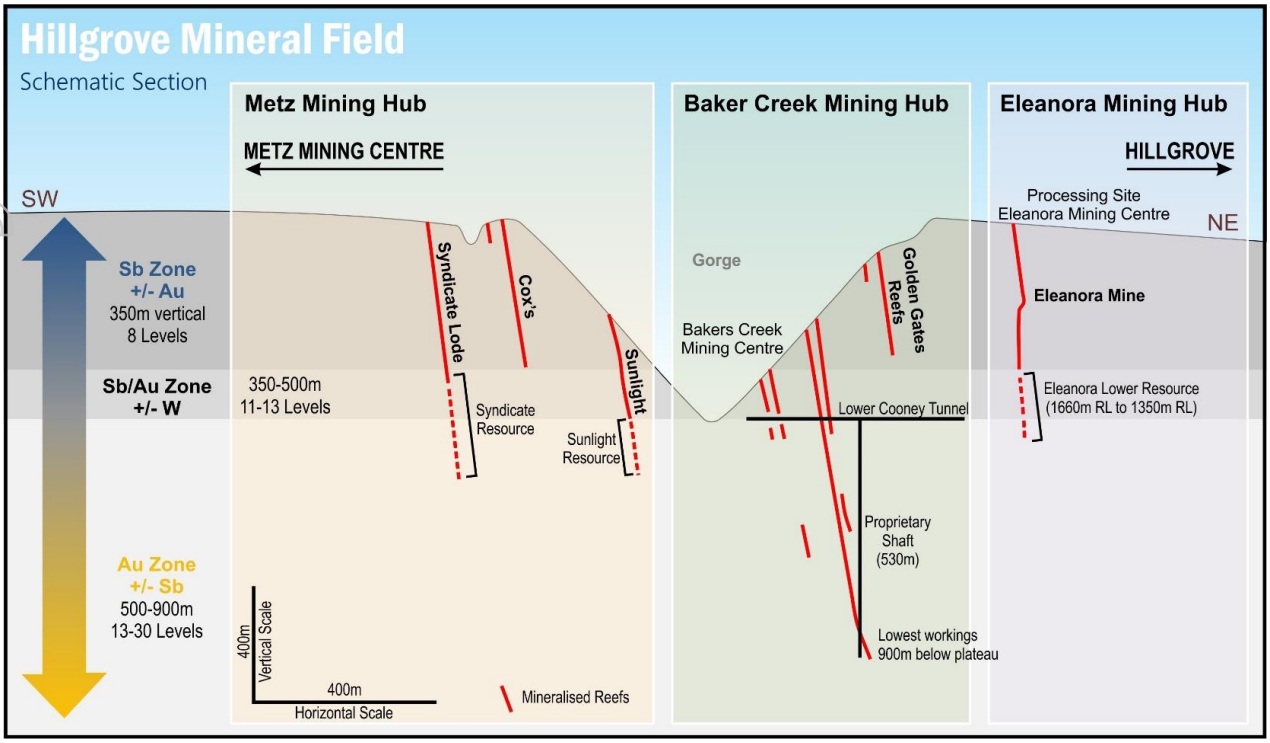


Red River estimates more than $200 million has been invested in the Hillgrove Gold Project since 2004 in key areas:

- 250ktpa capacity processing plant (constructed in 2008/2009), capable of producing saleable gold and gold-antimony concentrates. Additional antimony alkali leach and electrowinning circuit, pressure oxidation circuit, gold cyanide leach circuit and gold room;
- Offices, warehouses, assay lab and maintenance facilities;
- Underground mining fleet and surface vehicle fleet;
- Lined tailing storage facility with approximately 2 years capacity; and
- Extensive underground development (>10km)

Orogenic gold-antimony-tungsten mineralisation at Hillgrove is hosted in multiple steeply dipping vein/shear systems contained within the Hillgrove Mineral Field. There is a strong zonation in the veins, transitioning from shallow antimony dominant mineralisation to gold dominant mineralisation at depth. All known veins are open at depth, with potential transition to high grade gold dominant mineralisation at depth.

Figure 3 Hillgrove Mineral Field Schematic Section



The Hillgrove Mineral Field covers approximately 9km x 6km, with more than 200 individual mineral occurrences identified in field. Red River controls the entirety of the Hillgrove Mineral Field and holds 225km^2 of exploration leases and 17km^2 of mining leases (or equivalent).

Metz Mining Centre

The Blacklode & Sunlight Lodes are located in the Metz Mining Centre. The Syndicate Lode (Mineral Resource of 230kt @ 4.5 g/t Au & 4.5% Sb (11.8 g/t Au Eq.) (33koz contained Au & 10kt Sb) and the Cox's Lode (JORC 2004 Compliant Mineral Resource – refer to "Red River acquires Hillgrove Gold-Antimony project in NSW" dated 3 July 2019) also occur within the Metz Mining Centre. Red River is in the processing of updating the Cox's Lode Mineral Resource to a JORC 2012 Compliant Mineral Resource.

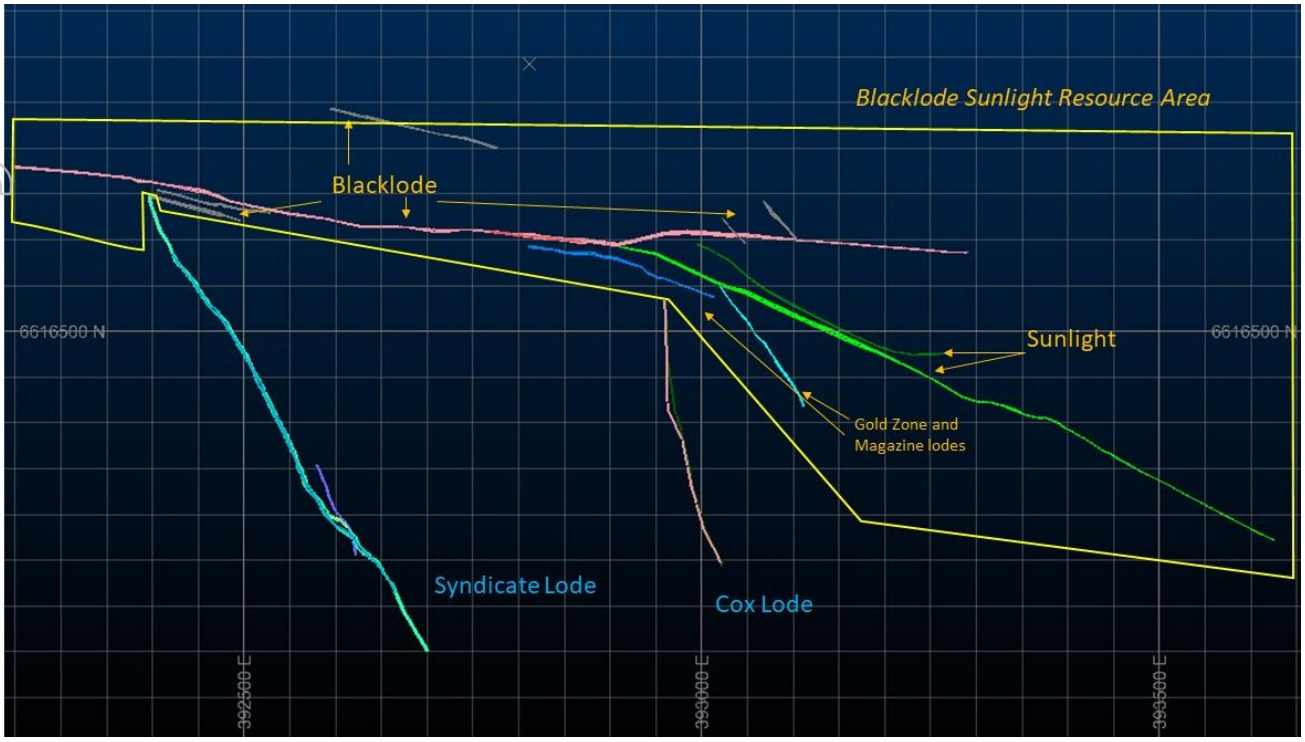
Blacklode

Blacklode is defined over a 1km east-west striking shear structure. It occurs as a cross linking, ductile shear in an area of predominately NW extensional shears (Syndicate, Cox's Lode and Bakers Creek). Blacklode contains east plunging shoots of high antimony and gold mineralisation. Ten lesser sub-parallel or splaying lodes adjacent to the main shear are included in the Blacklode Mineral Resource.

Sunlight Lode

The Sunlight Lode occurs as a major splay away from the Blacklode structure. Sunlight splays to the south-east as generally two parallel shear/breccia lodes. The structure has been subjected to multiple hydrothermal fluid events and structural reactivation. An initial phase of pervasive sericite-silica alteration has been overprinted with a broader ductile event consistent with the quartz-arsenopyrite-pyrite-gold phase. This has resulted in a wider zone of quartz stringer / individual veining to quartz breccias with disseminated refractory gold. Later reactivation causing narrow (up to 2m wide) of brittle deformation has produced distinct hanging wall and footwall breccias with high grade particle (free) gold. These breccias are continuous along strike and depth, potentially joining in a combined breccia zone on the western end of the lode.

Figure 4 Metz Mining Centre (1575mRL Level)



The Magazine and Gold Zone Lodes occur in the immediate southern wall of the Blacklode / Sunlight intersection and are included in the Sunlight Mineral Resource. A lesser lode to the north of the main Sunlight structure and striking parallel is also included.

The intersection of Blacklode and Sunlight Lodes contains high antimony in a small area. The remainder of the Sunlight Lode is gold dominated with low levels of antimony and tungsten and is more analogous to the Bakers Creek style of mineralisation to the east.

The Sunlight Mine operated from 1878 to 1915, to a depth of 300m below surface and an estimated 200,000 tonnes of ore was mined, of which, an estimated 69,800 tonnes of ore grading 35.7 g/t Au was crushed/processed. It is believed most ore not selected for processing was predominantly used as fill in the Sunlight Mine.

The historical miners operated on approximate 50m levels (from 1740Rl to 1400Rl as per mine grid) and used shrinkage stoping methods. Stope widths were from 0.8 to 2m, with an average width of 1m, and the horizontal length of workings were approximately 500m at their longest.

The high-grade gold antimony Blacklode shoot was mined to the 1600mRL (350m depth) by New England Antimony Mines (NEAM) between 1988 and 2000.

The Metz Mining Centre is currently on active care & maintenance, with all infrastructure (ventilation, power, water) in place to support near term restart of mining. Previous owners invested significant capital in development the Metz Mining Centre, with approximately 3,950m of declines and capital development, 3,400m of ore drives in the Syndicate Lode, 500m of ore drives in Blacklode and 320m of ore drives in Cox's Lode.

Figure 5 Metz Mining Centre (Mineral Resource Oblique View)

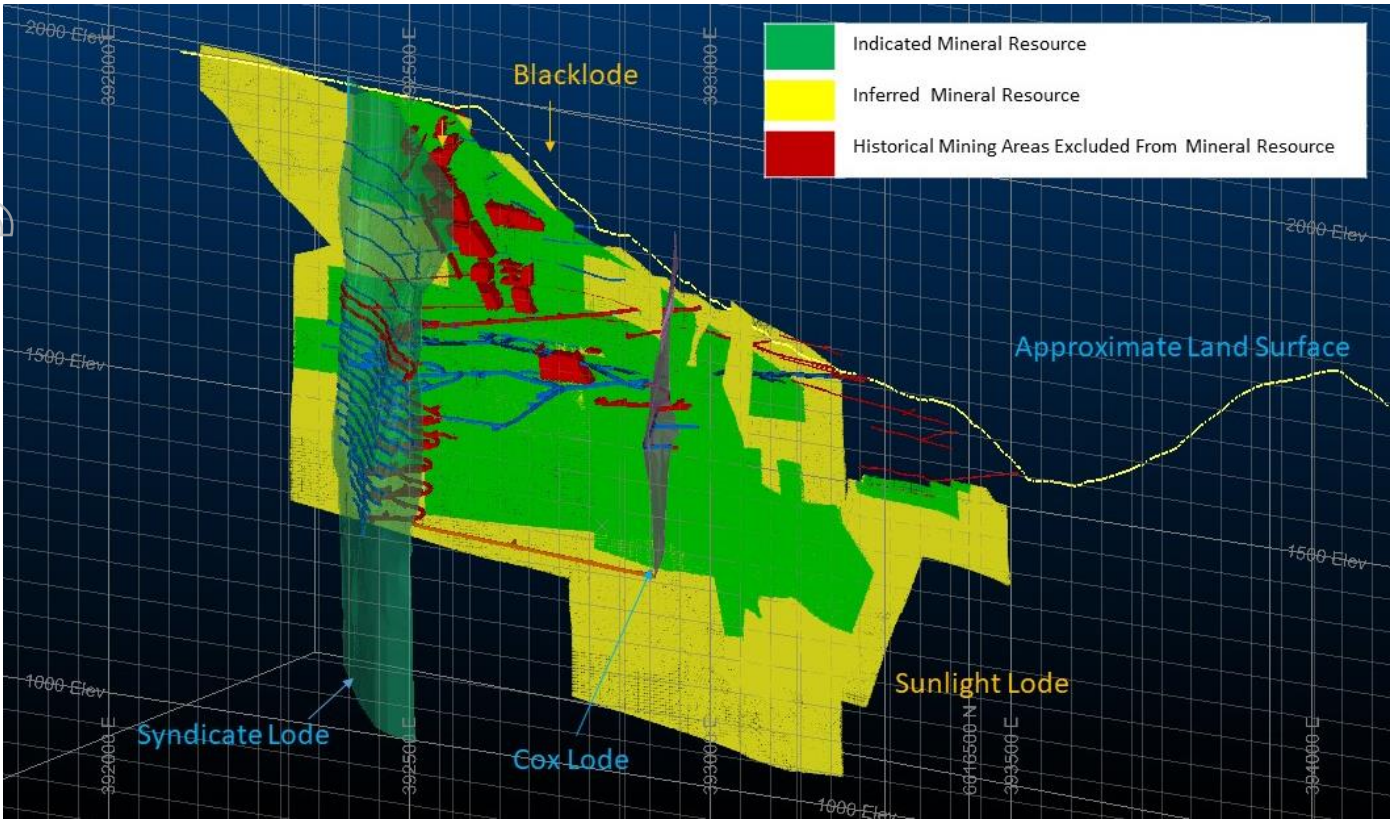


Figure 6 Metz Mining Centre Decline

Figure 7 Metz Mining Centre 1600 Level Substation

Figure 8 Metz Mining Centre UG Maintenance Workshop

The current face of the Cox's Lode Decline (Figure 9) is only 60m from intersecting the Sunlight Lode position (first designed ore drive).

Figure 9 Cox's Lode Decline

Blacklode and Sunlight Lodes Mineral Resource Estimate

Red River has updated the JORC 2004 Compliant Blacklode Mineral Resource and remodelled the JORC 2012 Sunlight Mineral Resource and is reporting a combined JORC 2012 Compliant Mineral Resource of 2.65Mt @ 4.5 g/t Au & 1.1% Sb (6.0 g/t Au Eq.) (387koz contained Au & 30kt contained Sb) for Blacklode & Sunlight Lodes.

Table 3 Blacklode & Sunlight Lodes Mineral Resource at a 3.0 g/t Gold Equivalent cut-off

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Source: Red River Resources Limited 29 July 2020
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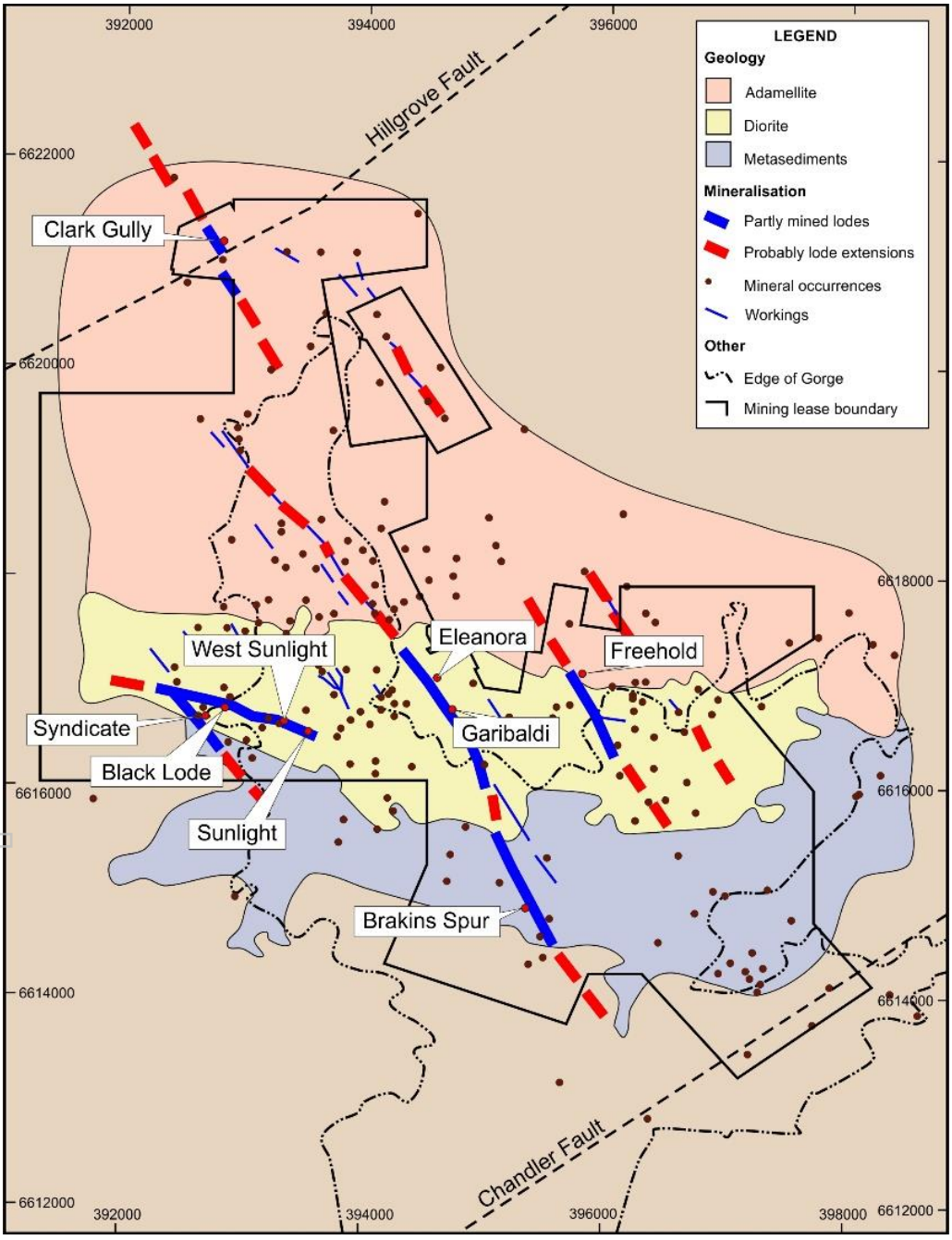
Geology and Geological Interpretation

The Hillgrove Mineral Field is cut by two regional scale faults of ENE strike, the Hillgrove Fault on the northern margin and the Chandler Fault on the southern margin (Figure 10). These faults have a sinistral (left lateral) throw, with interpreted displacements of up to 500m. Both faults pre-date the mineralisation, with late reactivation opening dilation zones along the shear structures between the bounding faults. These dilation zones provide favourable sites for mineralisation. Nearly all the mineralised shears at Hillgrove are associated with a NW trending structural belt between the two faults, with dips commonly 70° to vertical. A major structure running through the centre of the field from Brackin's Spur in the south, through the Garabaldi and Eleanora mines, to the Cosmopolitan deposits in the north can be traced over a strike length of 4kms. The Metz Mining centre is located to the west of this structure.

Figure 10 Hillgrove Regional Geology Plan



Gold and antimony mineralisation at Hillgrove are structurally controlled. The deposits exhibit various styles of hydrothermal activity, with veining ranging from simple single veins through parallel stringers to quartz stockwork and wall rock breccias. All major veins have been intruded along shears with sinistral (left lateral) movement. The shears range in width from millimetre to multiple metre widths. Splits in the veins enclose high grade mineralised zones where tension gash type stringer veins cut across the enclosed rocks. Splay veins enclose similar zones that die out as the vein diverges away from the main lode.

The veins are the result of multi-phase fluid emplacement in the following sequence:

- Barren quartz veins
- Quartz – scheelite ($CaWO_4$) veining
- Quartz – arsenopyrite – pyrite – gold veining
- Quartz – stibnite (Sb_2S_3) – gold veining
- Quartz – stibnite – calcite veining
- Barren quartz-chlorite veining

All phases occur within ore bearing structures, with the first two phases often sealing structures in the granites resulting in restrictions to later phases. The arsenopyrite phase forms a broad halo of fine parallel veins in a siliceous-sericitic alteration. It appears that all wall rock alteration is associated with this phase, as there is little dispersion of stibnite into surrounding rocks. Alteration effects are commonly on the scale of metres around structures, occurring via pervasive fluid flow, with the more focused quartz-stibnite open space filling phase following. The arsenopyrite phase is responsible for most of the refractory gold in the deposits with the particle free gold associated with the quartz-stibnite-gold phase.

Ore grade material in structures is restricted to vertical or steeply plunging ‘ore shoots’, caused by localised flexures forming dilational jogs. The ore shoots generally occupy up to 60% of the structures with good vertical continuity.

Drilling, sampling and sub-sampling techniques

Drilling around the Hillgrove Mineral field is challenging due to steep gorge terrain. Early exploration was limited to underground mine development on mineralised lodes and channel sampling. In recent times predominantly underground drilling followed by mine development and channel sampling has been used to test deposits and define Mineral Resources.

Between 1988 and 2000 mine development in Blacklode by New England Antimony Mines (NEAM) was routinely channel sampled. Sampling exists on 9 levels covering a strike of 250 m and a vertical extent of 350m. Sampling was undertaken by experienced geologists. 1065 face channels were sampled to geological/mineralisation contacts via rock chipping across development drive faces. The channels targeted the central high-grade antimony mineralisation and often do not sample the Au-As edge mineralisation. The channels were sampled perpendicular to the strike of the lode and spaced at 1.5m along strike. Individual samples were generally between 0.1 and 1m in length and 0.5 to 5 kg in size, they were crushed to minus 1cm and riffle split with 100g pulverised and a 10g portion collected for digestion and AAS analysis.

151 face channels were also sampled during Sunlight Level 7 development (1700mRL) in 1999. An additional 78 roof channel samples were taken in the Sunlight historic mine areas (levels 1566, 1557, 1529, 1487) predominantly between 1986 and 1992 (prefix BL01). The database contains 61 additional channels in the Blacklode development taken between 2006 and 2016 (prefix BL01) and 45 channels in the Sunlight development between 1986 and 2016.

The Sunlight Lode and Blacklode were diamond drilled from underground by Straits between 2004 and 2009 and by Hillgrove Mines Limited between 2013 and 2017. A total of 103 holes at Blacklode for 15289 drill metres and 55 holes at Sunlight for 15289 drill metres has been collected. Core sizes range from BQTK, LTK48, NQ2, or HQ3. Drilling was geologically logged and photographed. Sampling to geological intervals was undertaken. Core was cut in half using a core saw.

Table 4 Blacklode and Sunlight Drilling Summary

Drillhole Prefix	Count	Year	Company	Drilling Method	Total Length (m)
BLS001-BLS003	3	2004	Straits	Reverse Circulation - 5.25inch	713
BLS004-BLS007	4	2004	Straits	Diamond	736.1
BLS042-BLS044, BLS46, BLS063	4	2006	Straits	Diamond	929
BLK001-BLK022	22	2006	Straits	Diamond	2848.4
BLK023-BLK024	2	2008	Straits	Diamond	369.7
BLK025-BLK039	15	2009	Straits	Diamond	2191
BLK043-BLK050	8	2010		Diamond	2379.4
BLK051-BLK054	4	2011		Diamond	256.6
BLK055-BLK071	17	2013	Hillgrove Mines Limited	Diamond	2008.4
BLK072-BLK085	14	2014	Hillgrove Mines Limited	Diamond	2872.3
BLK086-BLK095	10	2015	Hillgrove Mines Limited	Diamond	2036.7
BLK096-BLK097	2	2016	Hillgrove Mines Limited	Diamond	482.8
SUN001-SUN002	2	2009	Straits	Diamond	423.3
SUN003-SUN004	2	2013	Hillgrove Mines Limited	Diamond	699.8
SUN005-SUN032	28	2016	Hillgrove Mines Limited	Diamond	7298.6
SUN033-SUN55	23	2017	Hillgrove Mines Limited	Diamond	6867.25

Classification Summary

The Mineral Resources have been classified according to the confidence in sample data, sample spacing and confidence in the modelled continuity of both the thickness and grade of the mineralized material. Indicated and Inferred blocks have been reported.

The resource classification is deemed appropriate in relation to the drill spacing and geological continuity of the mineralized domains, recovery, sample spacing and QAQC results. The classification appropriately reflects the Competent Persons confidence of the estimate of the ore body.

Indicated areas are sampled either through development and channel sampling or diamond drilling generally at 30 m spacing out to an 80 m spacing. Inferred areas are extensions beyond Indicated areas and are drilled out to a 150m drill hole spacing. Extrapolation beyond drill holes is limited to generally 40m.

The previous JORC 2012 Resource at Sunlight classified an area as Measured. It is now considered that the quantification of tonnage and grade in this area should be considered as Indicated. This is due to its considerable contained value, the extreme high and variable grades that occur and the relative amount of supporting information.

The previous JORC 2004 Resource at Blacklode classified an area as Measured. Although this area is supported by development and close spaced channel sampling the lack of QAQC documentation and the possibility of unquantified sample bias being introduced during channel sampling lowers the confidence level of the estimate. For this reason, the area has been classified as Indicated.

Sample Analysis Method

Diamond drilling was the preferred sampling method, with the intervals to be assayed determined by Hillgrove's geologists. Much of the core consists of barren metasediments and volcanics and was not sampled. Sample intervals were selected based on visual identification of the mineralisation, alteration, quartz veining style and all occurrences of sulphides.

All core processing was carried out on-site by geological staff. To provide a consistent sample, the core was cut in half using an Almonte diamond saw along the orientated core mark. Sampling within the ore zone was broken down by mineralisation style, with a minimum sample length of 20cm and a maximum not exceeding 2.0m. Sample length average 0.8m length around the ore zones, and the core was usually sampled to a minimum of 5m away from the mineralisation to provide dilution grade information for potential mining purposes. The northern half of the core was sampled, and each sample length was given a unique sample number and bagged separately before being dispatched to the laboratory.

Laboratory Procedure

For drill hole samples assaying was carried out by the external and independent Australian Laboratory Services (ALS) Brisbane facility, which is ISO 9001 accredited. ALS provide both sample preparation and chemical analysis service and undertake regular internal quality control checks on the assay data reported. Hillgrove regularly tested for a group of ten elements (Ag, As, Au, Cu, Fe, Pb, S, Sb, W and Zn) over the known deposits. Sample preparation at ALS (Brisbane) uses the standard industry method as follows:

- Samples are received, weighed, and dried (four hours at 105^{o}C)
- Samples up to 3.3kg are jaw crushed to a nominal 70% passing 6mm. if weighing more than 3.3kg, the sample is split and 50% of the sample is used
- The entire sample is pulverised to 85% passing 75µm
- The sample is then split and 200g is used for analysis and the remainder is bagged and sent back to Hillgrove

Gold grades were determined by fire assay with an atomic absorption spectroscopy (AAS) finish, by the following procedure:

- A nominal 100g pulverised sample is dispatched to ALS (Townsville) for fire assay
- A 50g sample of pulp is fused with a mixture of flux, inquarted with 6mg of gold free silver, and cupelled to yield a metal bead
- The bead is digested in 0.5ml dilute nitric acid in a microwave oven. A 0.5ml aliquot of concentrate hydrochloric acid is then added and the bead is further digested in the microwave oven.
- The digested solution is cooled then diluted to a total volume of 10ml with water
- The solution is then analysed by AAS against matrix matched standards
- Core samples with visible gold and samples returning an assay greater than 10ppm Au, are also assayed using the screen fire assay method

Antimony, arsenic and tungsten grades were determined by acid digest and analysed by ICP-AES (inductively coupled plasma-atomic emission spectrometry) by the following procedure:

- A 0.25g pulverised sample is oven dried before pre-oxidation and decomposition by fusion with lithium borate flux containing 20% sodium nitrate as an oxidising agent. The resulting melt is poured to produce a fused disk. The disk is analysed using a wavelength dispersive X-Ray fluorescence spectrometer

NEAM utilised the following laboratory procedure for channel sampling. NEAM rock chip channel samples were 0.5 to 5 kg in size, they were crushed to minus 1cm and riffle split with two 100g portions created, one was pulverised and a 10g portion collected for digestion and AAS analysis at the onsite NEAM Laboratory. Routine duplicate coarse crush was sent to an external third-party lab for Quality control via XRF and Fire Assay.

Estimation Methodology

CAE Studio (Datamine) software was used for domain creation, block model construction and grade estimation. Snowden Supervisor software was used for statistical analysis and to develop model parameters.

Domains controlling the resource are based on geology and intensity of mineralisation where the presence of quartz-arsenopyrite veining +/- quartz-breccias and/or the presence of stibnite occurring as massive or in veins indicates lode mineralisation. Two Sunlight domains of breccia and shear/breccia that demonstrate continuity were defined internal to a lower grade envelope. The difference in channel and drillhole sample selectivity was noted and considered during the estimation process. In total 11 domains in Blacklode and 7 in the Sunlight Lode were estimated. Sample compositing within domains to approximate 0.7 m downhole was undertaken on the majority of sampling, low angle intersections were composited to larger intervals to eliminate bias. Anomalously high gold and antimony grade values were top-capped. The use of different sample types (channel and drill hole) was taken into account during the estimation and classification process. Where sufficient data, variography on individual domains was used to develop model estimation parameters. For domains with less data, model parameters were shared from more well-defined domains. A 3D block model rotated to approximate strike of the system was developed, block size of 5 x 2.5 x 5 was considered appropriate for the closest spaced data.

Surveyed underground development was used to exclude mined out material from the model. Underground mining methods assume a selective approach to limit dilution however the actual dimensions are not assumed in the resource models. The correlation between bulk density and antimony is used. Model validation was conducted by visually checking drillhole grades to block grades in plan and section view, and by reviewing. Full width domain intervals were checked against local block model grades. Full width domain intervals were checked against domain thickness, for conservation of volume. Historical Mine production showing a high antimony bias from channel samples was taken into account.

Cut off grade(s), including the basis for selected cut-off grade(s)

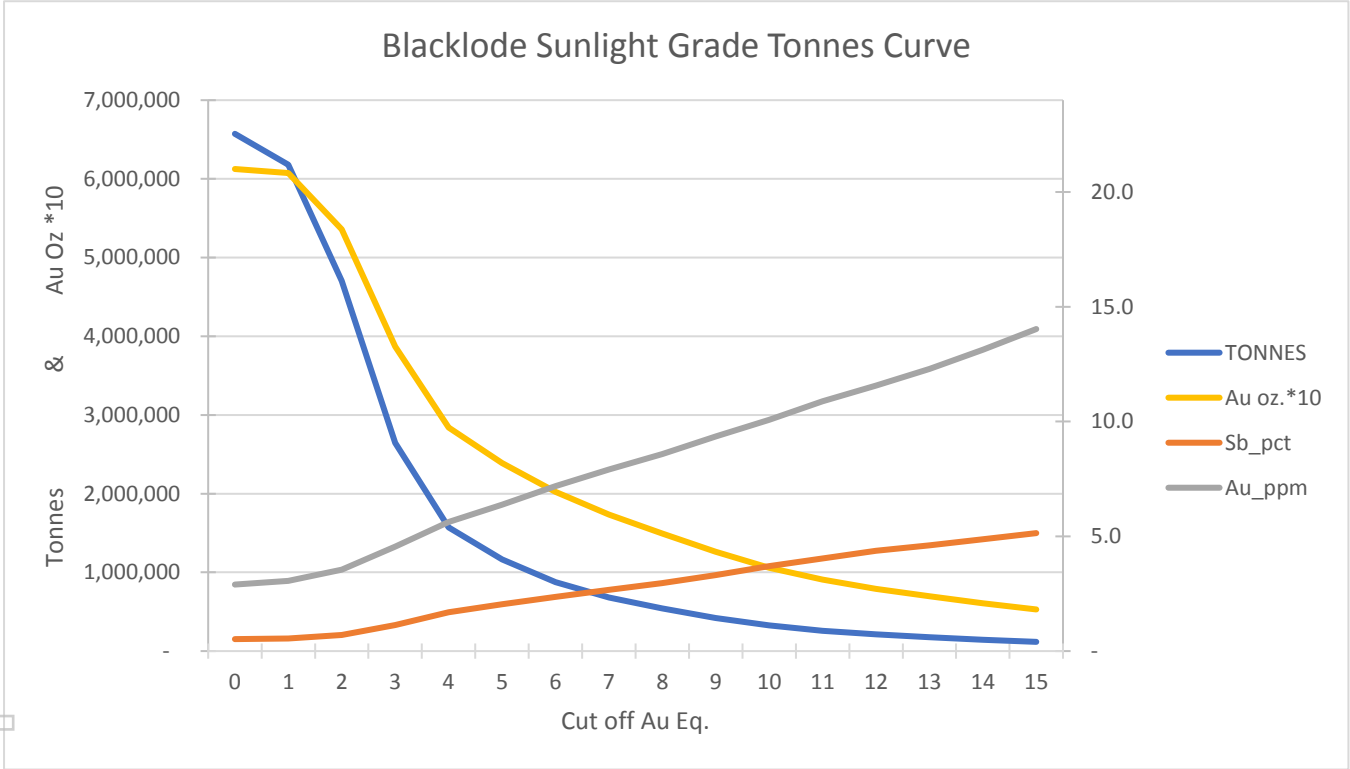
The JORC 2012 Blacklode & Sunlight Mineral Resources are reported above a gold equivalent (Au Eq.) cut-off of 3 g/t Au Eq. The use of a gold equivalent cut-off is appropriate for the multi-element mineralisation at Hillgrove, where the majority of the value is obtained from gold. The Au equivalent allows for a basic level of assessment of deposits and mineralisation styles within the Hillgrove group of deposits.

The Au Eq. value was calculated using a gold price of US$1,234 per oz and an antimony price of US$ 5,650 per tonne where:

Au Eq. (g/t) = (Au g/t) + (1.424 * Sb %)

Preliminary mining investigations indicate that grades of 3 g/t Au Equivalent within the Blacklode and Sunlight Resource areas may have the potential to be economic in the medium term. Ore Reserve calculations shall be carried out on the Indicated Resources.

Figure 11 Blacklode Sunlight Grade Tonnage Curve



Mining and metallurgical methods and parameters and other material modifying factors considered to date

Recent and historical production demonstrate mine extraction is possible. A minimum mining width of 1.5m is expected. Due to the high-grade nature of the mineralised zones, and at times the existence of adjacent parallel lodes, no minimum mining width has been applied to the Mineral Resource. The degree of conversion of the Mineral Resource to Ore Reserve is unknown until mining studies are complete.

Metallurgical test work (carried out in 2016 and 2017) and mill production data demonstrate that total gravity & float recoveries of 91% Au and 86% Sb are achievable. The antimony recovery is applicable where Sb head grades are 1% or greater. The majority of the Sunlight Resource contains an antimony grade of less than 0.5% and therefore antimony recovery is not expected from this material.

The Sunlight deposit has a particle (free) gold component that is amenable to gravity separation that represents at least 20% of total gold recovery.

Competent Persons Statement Blacklode & Sunlight Mineral Resource

The information in this report that relates to the estimation and reporting of the Blacklode & Sunlight Mineral Resource is based on and fairly represents, information and supporting documentation compiled by Mr Peter Carolan who is a Member of The Australasian Institute of Mining and Metallurgy and a full-time employee of Red River Resources Ltd.

Mr Carolan has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr Carolan consents to the inclusion in the report of the matters based on the information in the form and context in which it appears. The information in this report that relates to database compilation, geological interpretation and mineralisation wireframing, project parameters and costs and overall supervision and direction of the Blacklode & Sunlight estimation is based on and fairly represents, information and supporting documentation compiled under the overall supervision and direction of Mr Carolan.

Competent Persons Statement Brackin's Spur, Clark's Gully & Syndicate Mineral Resources

The information in this report that relates to the reporting of the Brackin's Spur, Clark's Gully & Syndicate Mineral Resource Estimate reported in accordance with the JORC 2012 Code is based on and fairly represents, information and supporting documentation compiled by Rodney Webster who is a Member of The Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr Webster is independent of Hillgrove Mines Pty Ltd. and an employee of AMC Consultants Pty Ltd. Mr Webster has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original report and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. 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 report.

Gold Equivalent Calculation

Blacklode & Sunlight Mineral Resources

It is Hillgrove Mines Pty Ltd opinion that all the elements included in the metal equivalent calculation have a reasonable potential to be recovered and sold, based on previous mill production and sales. The gold equivalent (Au Eq.) and the cut-off are based on the following:

Metallurgical test work (carried out in 2016 and 2017) and mill production data demonstrate that total gravity & float recoveries of 91% Au and 86% Sb are achievable. The antimony recovery is applicable where Sb head grades are 1% or greater. The majority of the Sunlight Resource contains an antimony grade of less than 0.5% and therefore antimony recovery is not expected from this material.

The Au Eq. value was calculated using a gold price of US$1,234 per oz and an antimony price of US$ 5,650 per tonne where:

Au Eq. (g/t) = (Au g/t) + (1.424 * Sb %)

Brackin's Spur, Clark's Gully & Syndicate Mineral Resources

It is Hillgrove Mines Pty Ltd opinion that all the elements included in the metal equivalent calculation have a reasonable potential to be recovered and sold, based on previous mill production and sales. The gold equivalent (Au Eq.) and the cut-off are based on the following:

- Metallurgical testwork (carried out in 2016 and 2017) and mill production data demonstrates that total gravity/float recoveries of 91% gold (Au) and 86% antimony (Sb) are achievable.
- Net smelter return calculations for the deposits indicate that Au Eq. grades above 4.8 g/t are economic, based on site costs, mill recoveries, off-site transportation and royalty costs.
- The Sunlight deposit has a particle gold component that is amenable to gravity separation that represents 20% of total gold recovery.

Au Eq. was calculated based on commodity prices as at 18 July 2017. The individual grades, the assumed commodity prices and metal recoveries, and the Au Eq. formula are as follows:

- Au Eq. (g/t) = (Au g/t * 91%) + (2.0 * Sb % * 86%)
  - Where 2.0 = (US$7,950/100) / (US$1,234/31.1035)
  - Gold price = US$1,234/oz and gold recovery = 91%
- Antimony price = US$7,950/tonne and antimony recovery = 86%

About Red River Resources (ASX: RVR)

RVR is seeking to build a multi-asset operating business focused on base and precious metals with the objective of delivering prosperity through lean and clever resource development.

RVR's foundation asset is the Thalanga Base Metal Operation in Northern Queensland, which was acquired in 2014 and where RVR commenced copper, lead and zinc concentrate production in September 2017.

RVR has recently acquired the high-grade Hillgrove Gold Project in New South Wales, which will enable RVR to build a multi-asset operating business focused on base and precious metals. Gold production at Hillgrove is scheduled to restart at the end of CY2020.

On behalf of the Board,

Mel Palancian

Managing Director

Red River Resources Limited

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HILLGROVE MINERAL RESOURCE JORC 2012 TABLE 1

Section 1 Sampling Techniques and Data - JORC Code, 2012 Edition

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.*	The resource database contains the following sample types: • Surface costean samples • Diamond drillcore samples • Reverse circulation (RC) chip samples • Percussion chip samples • Underground channel samples • Surface channel samples and rock chip samples Drillcore samples range in length from 0.15m to 2.0m based on geology, alteration and mineralisation contacts. • Underground channel sampling was undertaken by experienced geologists. Channel samples were sampled to geological/mineralisation contacts via rock chipping across development drive faces. The channels targeted the central high-grade antimony mineralisation and often do not sample the Au-As edge mineralisation. The channels were sampled perpendicular to the strike of the lode and spaced at 1.5m along strike. Individual samples were generally between 0.1 and 1m in length and 0.5 to 5 kg in size, they were crushed to minus 1cm and riffle split with 100g pulverised and a 10g portion collected for digestion and AAS analysis. Drilling program samples from January 2007 to February 2017 were as follows: • Samples up to 3 kg were crushed to a nominal 6 mm, then pulverised to a nominal 75 µm. Samples (0.25 g) were digested and analysed by ICP with AES finish. Assays exceeding 10,000 ppm for arsenic; 10,000 ppm for antimony; or 500 ppm for tungsten were analysed by XRF. Samples weighing either 30 g or 50 g were assayed by fire assay. If coarse gold is identified visually in the sample, or if gold assay is greater than 10 ppm, the sample is analysed by screen fire 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).*	• Prior to 2016 drilling techniques were percussion drilling, diamond drilling, and diamond drilling with RC pre-collars. Diamond drilling techniques only were used for the 2016/2017 drilling program. • Drillcore sample data used for the grade estimation are from either whole-core or half-

Criteria	JORC Code explanation	Commentary
		core samples from BQTK, LTK48, NQ2, or HQ3 size drillcore. • Core orientation marks were attempted using a spear and crayon in mineralised zones from January 2007 and prior to 2015. From 2015 core orientation marks were obtained using the Boart Longyear Trucore electronic tool or the Reflex electronic tool for each core run from the estimated top of mineralisation to the end of the drillhole.
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 grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Drilling programs from January 2007 to February 2017: • Intervals of core loss were logged using a qualitative code and recorded in the acQuire database. Core recovery was measured, recorded on a digital device, and transferred to the acQuire database. • Drilling techniques were changed when drilling through highly fractured rock or gouge zones. Drilling muds were increased; water pressure was reduced and the weight on the bit was reduced. This change in technique decreased the likelihood of core loss. From 2016, whole core was sampled in mineralised zones to reduce potential loss of sample cuttings during the core cutting process. All drillcore photos, and geotechnical logs have been reviewed for each of the projects. Drilling programs prior to January 2007: • Core loss/core recovery measurements recorded on hard copies were transferred to the acQuire database. For intervals with no core loss logged or stated core recovery measurements, it is not clear if there was no core loss for these intervals or if the information wasn't collected. • No bias is evident due to preferential loss of fines or sample recovery.
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.*	Drilling programs from January 2007: • Lithology, weathering, mineralisation, veining, alteration, and structure were logged. • Core recovery and RQD were logged (quantitatively). • In-situ bulk density measurements were recorded for most mineralisation intersections. • Drillcore photos are available. Drilling programs prior to January 2007: • Lithology, weathering, mineralisation, veining, alteration and structure were logged. • Some core loss intervals have been logged qualitatively, and some core recovery intervals have been logged quantitatively. • There is sufficient logging to support mineral

Criteria	JORC Code explanation	Commentary
		resource estimates, and mining studies. • A geotechnical study by a qualified person is recommended. • RQD logging data is available, and mineralisation is exposed in underground workings. The logging is sufficient to support metallurgical testwork.
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.*	• Drilling programs from 2007: • Samples up to 3kg were crushed to a nominal 85% passing 75µm. • Sample intervals were adjusted within mineralisation to correspond with a change in mineralisation style, or by observed changes in concentration of minerals of economic interest. • Duplicate samples were collected following the coarse crush (up to 3kg) and following the pulverisation at a rate of 5%. Duplicate samples of pulverised material were sent to an umpire laboratory at a rate of approximately 5% for the mineralised zones. • Drilling programs prior to January 2007: • There is limited available documentation for the sample preparation methods and QAQC procedures • NEAM Channel Sampling between 1988 and 2000 • was carried out by experienced geologists. 0.5 to 5kg samples were taken using rock chipping methods. These were crushed to minus 1cm and riffle split to obtain two 100-gram samples. One sample was stored for check assaying and one was pulverised in ring mill and a 10g portion provided for onsite AAS analysis.
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.*	• For drilling post 2007: • The laboratory procedures and assaying are appropriate, and the laboratory is NATA certified. The analytical methods are considered total for the elements of interest. • Standards, blanks, duplicates and umpire assays have been used and levels of accuracy, precision and bias have been established for different drill programs. No indication of any overall material bias has been established. • For Channel Sampling. Although the actual QAQC data has not been reviewed conclusions from company records state that: • Periodically random duplicate crush splits were check assayed with conclusion of no systematic assay bias. High gold assays also had their duplicate assayed. • Umpire samples were sent to an offsite lab for fire assay and XRF/AAS. No systematic bias

Criteria	JORC Code explanation	Commentary
		other than the onsite lab under calling due to incomplete digestion of gold in arsenopyrite • Historic mine production at different times indicate that up to 15% overcall on antimony grades for estimates based on channel sample data may occur. • The levels of accuracy, precision and bias achieved for various programs and any lack of QAQC has been taken into consideration during the estimation process and when assigning Resource Classifications.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• The Competent Person visited Hillgrove in March and September 2019 and inspected mineralised drillcore and checked the database. • Limited twinned holes have been drilled. • The data is stored in an acQuire database which is routinely backed up. Database backups are securely stored offsite. Standard data entry objects are set up within the database for importing data, and documented procedures for data entry are available. A spreadsheet contains documentation for the validation of the historical and recent drillhole data. • Assay data is not adjusted.
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.*	• Drillhole collars were surveyed and down-hole surveys are taken using appropriate tools. • For historic data, some information has been digitized from plans and sections. This is recorded in the acQuire database and a "hole confidence" value indicates the quantitative assessment of the quality of the survey. • Mine workings were surveyed for Blacklode. Historic Sunlight stopes and ore drive locations have been estimated from plans and sections. • The Grid system is AGD66. Recent Lidar survey of topography was completed for Blacklode and Sunlight areas.
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.*	• Sunlight drillhole intercepts are spaced at 30 m x 30m out to 150 m x 150 m. • Blacklode and Sunlight face samples are on a nominal 1.5 m spacing along ore drives and vertically 35 to 50 m between ore drives. • This distribution confirms a degree of geological continuity within the mineralised system such that Mineral Resource Estimation and the assigned classifications are appropriate.
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*	• The drillholes were drilled at varying angles to intersect the steeply dipping mineralisation at the best possible angle given the available locations for drill sites. • The drillhole locations, and orientations

Criteria	JORC Code explanation	Commentary
	orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	relative to the mineralisation are considered satisfactory. Intersection angles have been taken into consideration during the estimation process.
Sample security	• *The measures taken to ensure sample security.*	• Samples are transported to the laboratory on a regular basis. Residual coarse rejects and pulps are returned to site and stored in a secure core-shed, or in a container located in an area which requires authorisation to gain access.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• An Independent Technical Valuation report prepared by Coffey Mining for Emu Nickel NL in 2012 noted that the quality of the NEAM face sampling data may have issues (unspecified), and that there was a lack of historical QAQC data. • An Independent Technical Review prepared by Snowden for Bracken Resources in 2014 noted that the data collection practices met industry standards and are appropriate for use in Mineral Resource estimation. The data obtained by NEAM should be confirmed through re-sampling where possible and submitting standards, blanks, and duplicates as per HGM's QAQC program. • Resource estimation undertaken by AMC on the Sunlight Lodes found the data appropriate for Mineral Resource estimation.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Hillgrove operations are covered by 51 tenements (4 Exploration Leases, 33 Mining Leases, 6 Private Land Leases, 3 Gold Leases and 5 Mining Purpose Leases). There are no impediments to the tenements which are 100% owned by Hillgrove Mines. • All tenements are currently in good standing. Renewals for the Exploration Leases fall due in 2019-2021, while the Mining Leases expire in 2020. All Mining Leases are in the process of being renewed. • The Exploration Leases are in good standing • There are no Joint venture agreements relevant to the area of interest
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• There have been numerous exploration programs conducted by various companies at Hillgrove. Where possible available data has been reviewed and incorporated into the onsite database. Hillgrove Mines has no reason to doubt the accuracy of any of the previous work conducted on the site.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Hillgrove mineralisation can be classified as orogenic style, antimony – gold deposits, that are hosted in a combination of the Mid Carboniferous Girrakool Sediments and Late Carboniferous – Early Permian Granites. The setting is part of the New England Orogen, one of four which formed most of the east coast of Australia. The mineralised zones are structurally controlled within a NW trending shear corridor, formed from the movement of two regional faults (Hillgrove and Chandler). Multi-phase antimony – gold – tungsten mineralisation has been hydrothermally emplaced into narrow shears (0.1 m – 10 m wide), which have good strike and depth extents. Gold mineralisation is predominantly refractory (associated with arsenopyrite), and also occurs as aurostibite in stibnite, and as particle gold.

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*
		• Drillhole collar coordinates and elevation have been accurately surveyed by a qualified surveyor.
		• Dip and azimuth of the drillholes have been recorded using a conventional downhole camera. A limited number of holes were also checked with a downhole gyrometer, with no significant difference from the downhole camera.
		• Hole length and downhole intervals have been

Criteria	JORC Code explanation	Commentary
	○ *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 Person should clearly explain why this is the case.*	recorded using the standard practice of drill rod lengths and checked by geological staff.
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.*	• Past exploration results have been reported based on historic economic requirements for a standalone deposit at Hillgrove. • Intercepts that have been bulked over multiple intervals use weighted averaging techniques to report the grades. • During the estimation process top-capping was applied to anomalous high grades.
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').*	• All drillholes were designed to intersect the mineralised zones as close to true width as possible. • When assessing drillhole intercepts the dip and strike of the mineralised zones has been taken into consideration. • Drillholes with less than ideal intersection angles were identified and accommodated in the estimation process.
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.*	• No exploration results reported
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.*	• No exploration results reported
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*.	• A Helimag airborne geophysical survey was flown over the Hillgrove tenements in 2007. Several exploration targets were generated from the resulting images. • A Lidar survey was completed in 2017 over the Bakers Creek Gorge to provide 1m contours for topographic control and aerial photos for exploration.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth*	• Work is ongoing at Hillgrove, including exploration and the restart study.

Criteria	JORC Code explanation	Commentary
	extensions or large-scale step-out 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.*	• Resource definition at the Metz Mine area will commence in due course. Additional drilling and or development sampling is required to establish Measured Resources at Blacklode and Sunlight.

Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
Database integrity	• *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.* • *Data validation procedures used.*	• Procedures are available for loading data in the database and standard database import and export objects are used to upload and download data. • The validation of collar and downhole survey, analytical method, and QAQC data is recorded in spreadsheets.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person visited the site in March and September 2019 and reviewed the sampling, analytical methods, QAQC, procedures, and the database.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The geological interpretation has a good level of confidence. For areas where the level of confidence is uncertain due to lack of data or geological complexity this has been taken into consideration when assigning the resource classification to the estimates. • The mineralisation is hosted within steep shear and breccia structures. Continuity of these structures is significant as defined through the mine workings and drilling. Higher grade mineralisation is seen to occur on the structures within plunging shoots. The definition is well understood where development exposure and channel sampling exist. Lower grade gold-quartz-arsenopyrite, veining and halo mineralisation surrounds structures to varying widths.
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 limits of the Mineral Resource.*	• Blacklode is defined over 900 m along strike to 700 m below surface. The width of the mineralisation is generally between 0.3 to 2 m reaching up to 8 m. 10 adjacent sub parallel or splay lodes are included in the Blacklode Resource. • Sunlight is defined over 690 m along strike to 550 m below surface. The Sunlight Resource includes the two main breccias (strike 115), generally 0.2m to 2 m wide, separated by up to 5 of weaker vein mineralisation. 10m to the north a similar sub parallel weaker mineralised lode occurs. Two additional lodes Magazine reef (strike 150) and Gold Zone (strike 100) each of 180m strike, occur south of the Blacklode to Sunlight junction.
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*	• CAE Studio (Datamine) software was used for domain creation, block model construction and grade estimation. Snowden Supervisor software was used for statistical analysis and to develop model parameters.

Criteria	JORC Code explanation	Commentary
	extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. • *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 assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Domains controlling the resource are based on geology and intensity of mineralisation where the presence of quartz-arsenopyrite veining +/- quartz-breccias and/or the presence of stibnite occurring as massive or in veins indicates lode mineralisation. Two Sunlight domains of breccia and shear/breccia that demonstrate continuity were defined internal to a lower grade envelope. The difference in channel and drillhole sample selectivity was noted and considered during the estimation process. • In total 11 domains in Blacklode and 7 in the Sunlight Lode were estimated. • Sample compositing within domains to approximate 0.7 m downhole was undertaken on the majority of sampling, low angle intersections were composited to larger intervals to eliminate bias. • Anomalously high gold and antimony grade values were top-capped. • The use of different sample types (channel and drill hole) was taken into account during the estimation and classification process. • Where sufficient data, variography on individual domains was used to develop model estimation parameters. For domains with less data, model parameters were shared from more well-defined domains. • A 3D block model rotated to approximate strike of the system was developed, block size of 5 x 2.5 x 5 was considered appropriate for the closest spaced data. • Estimation of gold and antimony grades was carried out using ordinary kriging and inverse distance squared methods. • Multiple estimation passes were used with increasing search ellipses. • Historical Mine production showing a high Antimony bias from channel samples was taken into account. • Surveyed underground development was used to exclude mined out material from the model. • No allowance is made for the recovery of by-products. • Underground mining methods assume a selective approach to limit dilution however the actual dimensions are not assumed in the resource models. • The correlation between bulk density and antimony is used.

Criteria	JORC Code explanation	Commentary
		• Model validation was conducted by visually checking drillhole grades to block grades in plan and section view, and by reviewing • Full width domain intervals were checked against local block model grades. • Full width domain intervals were checked against domain thickness, for conservation of volume.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Moisture content is not currently taken into consideration.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The gold equivalent cut-off is based on a gold price of of $US1,234 per ounce and antimony price of $US5650 per tonne. • The gold equivalent equation is: AuEq = Au_ppm + ((5650/100) / (1234/31.1035)) * Sb_pct • Previous mill production demonstrates both antimony and gold can be recovered and sold, and that the stated recoveries are achievable. • Total gravity/float recoveries of 91 % gold and 86 % antimony. • The use of 3 g/t Au equivalent cut-off is appropriate given current mining studies show the Mineral Resources at Sunlight and Blacklode are potentially economic at a 3 g/t Au equivalent. • No minimum lode thickness constraints have been placed upon the Resource.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Mining methods are assumed to be underground long hole stoping techniques on a 20m level spacing • Mining assumptions are based on historical site costs. • Minimum mining widths of 1.5m are expected. • Grade of material outside of the mineralised domains has not been estimated.
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*	• Metallurgical testwork and production data through the Hillgrove mill, shows that total gravity / float recoveries of 91% Au and 86% Sb are achievable. • This antimony recovery is applicable where Sb head grades are 1% or greater. The majority of the Sunlight Resource contains an antimony grade of less than 0.5% and therefore

Criteria	JORC Code explanation	Commentary
	this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	antimony recovery is not expected from this material. • The Sunlight deposit has a particle gold component that is amenable to gravity separation that represents 20% of the total recovery.
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.*	• No environmental impediments impact on the operations.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *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.*	• Bulk density was measured by the water displacement method using buoyancy for drillcore samples from 2005. • A regression between bulk density and estimated antimony grade was developed. • Density was written to the Resource Model using estimated antimony grade and the regression formula.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The Mineral Resources have been classified according to the confidence in sample data, sample spacing and confidence in the modelled continuity of both the thickness and grade of the mineralized material. Indicated and Inferred blocks have been reported. The resource classification is deemed appropriate in relation to the drill spacing and geological continuity of the mineralized domains, recovery, sample spacing and QAQC results. The classification appropriately reflects the Competent Persons confidence of the estimate of the ore body. • Indicated areas are sampled either through development and channel sampling or

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		diamond drilling generally at 30 m spacing out to an 80 m spacing. • Inferred areas are extensions beyond Indicated areas and are drilled out to a 150m drill hole spacing. Extrapolation beyond drill holes is limited to generally 40m. • The previous JORC 2012 Resource at Sunlight classified an area as Measured. It is now considered that the quantification of tonnage and grade in this area should be considered as Indicated. This is due to its considerable contained value, the extreme high and variable grades that occur and the relative amount of supporting information. • The previous JORC 2004 Resource at Blacklode classified an area as Measured. Although this area is supported by development and close spaced channel sampling the lack of QAQC documentation and the possibility of unquantified sample bias being introduced during channel sampling lowers the confidence level of the estimate. For this reason, the area has been classified as Indicated. •
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• An Independent Technical Valuation report prepared by Coffey Mining for Emu Nickel NL in 2012 noted that the quality of the NEAM face sampling data may have issues (unspecified), and that there was a lack of historical QAQC data. • An Independent Technical Review prepared by Snowden for Bracken Resources in 2014 noted that the data collection practices met industry standards and are appropriate for use in Mineral Resource estimation. The data obtained by NEAM should be confirmed through re-sampling where possible and submitting standards, blanks, and duplicates as per HGM's QAQC program.
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.* • *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.*	• The Competent Person considers the global and local estimated tonnes and grade to be of a reasonable accuracy suitable for mine planning. Previous mining in two of the deposits and the use of channel samples to estimate the resource adds to the confidence of the estimate. Appropriate estimation techniques and parameters have been used. The Mineral Resource classification is appropriate based on the drilling density, surveying method, sampling and QAQC results.

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	Documentation should include assumptions made and the procedures used. • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	