



## Sampling confirms gold potential at Hillgrove Project

### Highlights:

- **Bulk sampling (423kg of samples) from Bakers Creek waste rock dump at Hillgrove has returned a weighted average gold grade of 3.0 g/t**
- **Metallurgical test work program is underway (gravity, flotation and cyanide leach) to confirm historical testwork which indicates gold recoveries of up to 75% by flotation and 93% with cyanidation**
- **Test work program results will be used to confirm the suitability of this material to be treated through the Hillgrove Plant and hence represents a valuable near-term cash generation opportunity**

Base and precious metals producer Red River Resources Limited (ASX: RVR) (“Red River” or “the Company”) is pleased to announce that bulk sampling of the Bakers Creek waste rock dump, part of its Hillgrove gold-antimony project in New South Wales, has returned a weighted average gold grade of 3.0 g/t.

Red River has commenced metallurgical test work on the Bakers Creek waste rock dump samples, engaging Consep Pty. Ltd to carry out gravity test work and Core Resources to carry out flotation and cyanide leach test work. The program will seek to confirm historical metallurgical testwork results (historical testwork indicates potential gold recovery of up to 75% flotation recovery and of up to 93% with cyanidation). The metallurgical testwork program is expected to be completed this quarter.

The data generated from the metallurgical testwork program will then be used to confirm the suitability of the current Hillgrove Plant (currently configured to produce gold and gold-antimony flotation concentrates with an additional gold (cyanide) leach circuit and gold room on care & maintenance) to treat gold bearing material from the Bakers Creek Waste Dump.

Figure 1 Hillgrove Gold Project, New South Wales.



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Table 1 Bakers Creek Rock Bulk Sample Analysis Data (October 2019)

Sample Name	Received Weight	Gold (g/t)
BC1	36.75	1.9
BC2	37.12	0.4
BC3	42.45	11.4
BC4	47.07	0.5
BC5	48.82	3.7
BC6	33.86	2.9
BC7	40.62	0.4
BC8	46.65	2.1
BC9	47.70	5.8
BC10	41.77	0.4
	<b>422.81</b>	<b>3.0</b>
Total sample weight of 422.81kg with a weighted average sample grade of 3.0 g/t Au		

The Bakers Creek waste dump was created during the mining of the Bakers Creek Mine, which produced 303,900oz gold from 175,980 tonnes of ore at approximately 49 g/t Au during operation from 1877 to 1921 (production recorded up to 1916).

Ore was hand sorted underground and again on surface, with the dump containing material rejected during surface hand sorting. The dump is approximately 105m by 70m and 15-20m deep.

Historical metallurgical test work (1940) carried out on samples from the Bakers Creek waste rock dump with amalgamation (grinding followed by mixing with mercury) recovered 33.3% of gold, while flotation recovered 75.4% of gold to a concentrate grading more than 150g/t Au. Cyanidation (16 hrs residence time) recovered 93% of gold.

Figure 2 Bakers Creek Waste Rock Dump (August 2019)



## COMPETENT PERSON STATEMENT

### Exploration Results

The information in this report that relates to Exploration Results is based on information compiled by Mr Mitchell Tarrant who is a member of The Australasian Institute of Mining and Metallurgy, and a full time employee of Red River Resources Ltd., and who has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves' (JORC Code).

Mr Tarrant consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

### 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-Antimony Project in New South Wales, which will enable RVR to build a multi-asset operating business focused on base and precious metals.

On behalf of the Board,

**Mel Palancian**

**Managing Director**

Red River Resources Limited

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For further information please visit Red River's website or contact:

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## JORC Code, 2012 Edition – Table 1

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Sampling consisted of 10 samples taken at ten locations on the Bakers Creek Waste dump.</li> <li>Sample weights ranged from 33.86 kgs to 48.82 kgs</li> <li>Samples were sent to ALS (Brisbane) for analysis</li> <li>Analysis consisted of 50g Fire Assay for Au &amp; four acid digest and Inductively Coupled Plasma Mass Spectrometry (ICP-MS) for the following elements; As, Sb, Ag, Cu, Fe, Pb, S, W and Zn</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>No drilling was carried out.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling was carried out</li> </ul>
<b>Logging</b>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation,</li> </ul>	<ul style="list-style-type: none"> <li>No drilling was carried out</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>mining studies and metallurgical studies.</i></p> <ul style="list-style-type: none"> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	
<p><b>Sub-sampling techniques and sample preparation</b></p>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No drilling was carried out</li> <li>• Samples were dry and not split in the field</li> <li>• Sample sizes would appear to be appropriate for the grain size of material being sampled</li> </ul>
<p><b>Quality of assay data and laboratory tests</b></p>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>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.</i></li> <li>• <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The assay methods employed are considered appropriate for near total digestion</li> <li>• Laboratory certified standards were used in each sample batch</li> <li>• Certified standards returned results within an acceptable range</li> </ul>
<p><b>Verification of sampling and assaying</b></p>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Laboratory results have been reviewed by Company geologists and laboratory technicians</li> </ul>
<p><b>Location of data points</b></p>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and</i></li> </ul>	<ul style="list-style-type: none"> <li>• Sample points were recorded using a handheld GPS</li> <li>• Accuracy is assumed to be +/-5m</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>other locations used in Mineral Resource estimation.</i></p> <ul style="list-style-type: none"> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Grid system used is MGA94 zone 55</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Sampling consisted of 210 samples taken at ten locations on the Bakers Creek Waste dump.</li> <li>• Sample weights ranged from 33.86 to 48.82kgs</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No drilling was carried out</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Samples have been overseen by company geologists during transport from site to assay laboratories.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No audits or reviews have been carried out at this point</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>The sampling was conducted on Mining Lease 1440</li> <li>ML1440 is held by Hillgrove Mines Pty Ltd. (a wholly owned subsidiary of Red River Resources)</li> <li>Native title does exist over ML1440.</li> <li>The Mining Lease is in good standing</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Historic sampling was carried out in September 2006 by Straits Resources (Hillgrove Gold)</li> <li>Historic mining and treatment of ore was conducted at Bakers Creek site by various private companies between 1877 and 1921.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>Hillgrove is defined as an orogenic gold-antimony deposit. Mineralisation is developed in veins, vein breccias, sheeted veins, network stockworks and as alteration sulphide haloes to the main structures. The vast majority of fissures are sub-vertical and vary in widths of up to 20m in places. Paragenetic studies have previously indicated that the earliest mineralising event was a scheelite-bearing phase of quartz veining. Subsequent phases of arsenopyrite–pyrite–quartz–carbonate veining were accompanied by gold and minor base metal sulphides. Alteration is typically sericite–ankerite–quartz. Overprinting stibnite–quartz veining with gold-electrum, aurostibite and arsenopyrite form an important subsequent phase. Veining can be inferred from historical records to extend for vertical depths of over 1 km.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <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, including, easting and northing, elevation or RL, dip and azimuth, down hole length, interception depth and hole length.</li> <li>If the exclusion of this information is justified the Competent Person should clearly explain why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling was carried out</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li><i>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.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>No drilling was carried out</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>No drilling was carried out.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><i>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 plans and sections.</i></li> </ul>	<ul style="list-style-type: none"> <li>Refer to plans and sections within report</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>The accompanying document is considered to represent a balanced report</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported.</i></li> </ul>	<ul style="list-style-type: none"> <li>All meaningful and material data is reported</li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> </ul>	<ul style="list-style-type: none"> <li>Metallurgical test work on the stockpiled material is underway</li> </ul>