



## June 2021 Quarterly Production Update

---

### Quarterly Highlights:

- **Thalanga Operations production steady with 6,311 tonnes of zinc concentrate, 1,350 tonnes of lead concentrate and 3,565 tonnes of copper concentrate produced**
  - **Hillgrove Gold Mine produced 1,521 oz of gold (1,054 oz in doré and 467 oz in concentrates)**
- 

Red River Resources Limited (ASX: RVR) is pleased to provide an update on June quarter (Q4 FY21) production at its Thalanga Operations in Queensland and Hillgrove Gold Mine, New South Wales.

### Thalanga Operations (QLD):

Thalanga Operations produced 6,311 tonnes of zinc concentrate, 1,350 tonnes of lead concentrate and 3,565 tonnes of copper concentrate. Mining and processing operations were steady throughout the quarter with Far West Mine continuing to deliver strong Zinc Equivalent (Zn Eq.) grades to the processing plant (Table 1).

### Hillgrove Gold Mine (NSW):

RVR continued to ramp up Hillgrove production during the quarter, with 1,521 oz of gold produced in doré and concentrates (Table 2). RVR continues to process the Bakers Creek stockpile at Hillgrove and has commenced gold concentrate sales to Glencore International AG under an offtake agreement with the global commodity trader, as announced 25 June 2021.

Further details will be available in the full June Quarterly Report to be released later this month.

**Table 1: Thalanga Production**

	Units	Q4 FY20	Q1 FY21	Q2 FY21	Q3 FY21	Q4 FY21	FY21
<b>Total Tonnes Mined</b>	<b>kt</b>	<b>83</b>	<b>99</b>	<b>92</b>	<b>87</b>	<b>101</b>	<b>379</b>
Copper grade	%	1.1	1.5	1.2	1.2	1.2	1.3
Lead grade	%	1.3	1.3	1.4	1.4	1.3	1.4
Zinc grade	%	3.7	4.2	4.0	4.3	4.0	4.1
Gold grade	g/t	0.2	0.1	0.2	0.2	0.2	0.2
Silver grade	g/t	42	47	44	43	40	43
Zinc equivalent grade	%	9.6	11.7	10.2	10.8	10.1	10.7
<b>Ore Processed</b>	<b>kt</b>	<b>82</b>	<b>103</b>	<b>112</b>	<b>95</b>	<b>97</b>	<b>407</b>
Copper grade	%	1.00	1.3	1.1	1.1	1.1	1.2
Lead grade	%	1.3	1.7	1.6	1.7	1.4	1.6
Zinc grade	%	3.4	4.2	3.9	4.4	3.9	4.1
Gold grade	g/t	0.2	0.3	0.2	0.2	0.2	0.2
Silver grade	g/t	44	55	42	49	44	47
Zinc equivalent grade	%	9.2	11.5	10.3	10.9	10.0	10.7
<b>Zinc Concentrate Produced</b>	<b>DMT</b>	<b>4,544</b>	<b>7,026</b>	<b>7,430</b>	<b>6,959</b>	<b>6,311</b>	<b>27,726</b>
Zinc grade	%	54.0	53.9	52.8	53.4	52.7	53.2
Zinc recovery	%	86.4	87.3	89.1	89.1	89.1	88.6
<b>Lead Concentrate Produced</b>	<b>DMT</b>	<b>1,133</b>	<b>1,947</b>	<b>1,914</b>	<b>1,613</b>	<b>1,350</b>	<b>6,824</b>
Lead grade	%	67.5	64.4	68.8	67.1	68.1	67.0
Copper grade	%	2.1	3.3	1.8	1.3	1.0	2.0
Gold grade	g/t	4.6	5.2	4.7	5.1	4.0	4.8
Silver grade	g/t	1,747	1,647	1,497	1,541	1,447	1,540
Lead recovery	%	69.7	72.7	74.4	69.2	66.1	10.7
Copper recovery	%	2.8	4.8	2.7	2.0	1.3	2.9
<b>Copper Concentrate Produced</b>	<b>DMT</b>	<b>2,697</b>	<b>4,073</b>	<b>3,564</b>	<b>3,068</b>	<b>3,565</b>	<b>14,270</b>
Copper grade	%	26.5	26.8	28.4	25.7	24	26.3
Gold grade	g/t	2.5	1.9	1.4	1.7	1.8	1.7
Silver grade	g/t	367	365	299	318	351	335
Copper recovery	%	84.7	81.4	79.4	74.5	80.3	79.2

**Table 2 Hillgrove Production**

	Units	Q3 FY21	Q4 FY21	FY21
<b>Ore Processed</b>	<b>kt</b>	<b>31</b>	<b>42</b>	<b>73</b>
Gold grade	g/t	1.6	1.4	1.5
Gravity gold concentrate produced	DMT	12	18	30
Gold grade	g/t	1,314	1,494	1,424
Gold recovery to gravity concentrate	%	31.3	47.1	40.0
Gold recovered to gravity concentrate	ozs	498	882	1,380
Flotation gold concentrate produced	DMT	225	255	480
Gold grade	g/t	56	57	57
Gold recovery to flotation concentrate	%	25.5	24.9	25.3
Gold recovered to flotation concentrate	ozs	407	467	874
Gold (cont. in gold dore)	ozs	260	1,054	1,314
<b>Total Gold Produced</b>	<b>ozs</b>	<b>667</b>	<b>1,521</b>	<b>2,188</b>

### About Red River Resources (ASX: RVR)

RVR is building 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 commenced production at the high-grade Hillgrove Gold Operation in New South Wales which was acquired in 2019. The Hillgrove Operation is a key part of RVR's strategy 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

---

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

Mel Palancian

Managing Director

[mpalancian@redriverresources.com.au](mailto:mpalancian@redriverresources.com.au)

D: +61 3 9017 5380

Nathan Ryan

NWR Communications

[nathan.ryan@nwrcommunications.com.au](mailto:nathan.ryan@nwrcommunications.com.au)

M: +61 420 582 887

## Zinc Equivalent Calculation

The net smelter return zinc equivalent (Zn Eq.) calculation adjusts individual grades for all metals included in the metal equivalent calculation applying the following modifying factors: metallurgical recoveries, payability factors (concentrate treatment charges, refining charges, metal payment terms, net smelter return royalties and logistic costs) and metal prices in generating a zinc equivalent value for copper (Cu), lead (Pb), zinc (Zn), gold (Au) and silver (Ag).

Red River has selected to report on a zinc equivalent basis, as zinc is the metal that contributes the most to the net smelter return zinc equivalent (Zn Eq.) calculation. It is the view of Red River Resources that all the metals used in the Zn Eq. formula are expected to be recovered and sold.

Where:

**Metallurgical Recoveries** are derived from historical metallurgical recoveries from test work carried out at the West 45 and Far West deposits. The Metallurgical Recovery for each metal is shown below in Table 1.

**Metal Prices and Foreign Exchange** assumptions are set as per internal Red River price forecasts and are shown below in Table 1.

Table 1: Thalanga Metallurgical Recoveries and Metal Prices

Metal	Metallurgical Recoveries	Price
Copper	80%	US\$3.00/lb
Lead	70%	US\$0.90/lb
Zinc	88%	US\$1.00/lb
Gold	15%	US\$1,200/oz
Silver	65%	US\$17.00/oz
FX Rate: A\$0.85:US\$1		

**Payable Metal Factors** are calculated for each metal and make allowance for concentrate treatment charges, transport losses, refining charges, metal payment terms and logistic costs. It is the view of Red River that three separate saleable base metal concentrates will be produced at Thalanga. Payable metal factors are detailed below in Table 2.

Table 2 Payable Metal Factors

Metal	Payable Metal Factor
Copper	Copper concentrate treatment charges, copper metal refining charges copper metal payment terms (in copper concentrate), logistic costs and net smelter return royalties
Lead	Lead concentrate treatment charges, lead metal payment terms (in lead concentrate), logistic costs and net smelter return royalties
Zinc	Zinc concentrate treatment charges, zinc metal payment terms (in zinc concentrate), logistic costs and net smelter return royalties
Gold	Gold metal payment terms (in copper and lead concentrates), gold refining charges and net smelter return royalties
Silver	Silver metal payment terms (in copper, lead and zinc concentrates), silver refining charges and net smelter return royalties

The zinc equivalent grade is calculated as per the following formula:

$$\text{Zn Eq.} = (\text{Zn}\% \times 1.0) + (\text{Cu}\% \times 3.3) + (\text{Pb}\% \times 0.9) + (\text{Au ppm} \times 0.5) + (\text{Ag ppm} \times 0.025)$$

The following metal equivalent factors used in the zinc equivalent grade calculation has been derived from metal price x Metallurgical Recovery x Payable Metal Factor and have then been adjusted relative to zinc (where zinc metal equivalent factor = 1).

Table 3 Metal Equivalent Factors

Metal	Copper	Lead	Zinc	Gold	Silver
Metal Equivalent Factor	3.3	0.9	1.0	0.5	0.025