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Quarterly Production Update

Red River Resources Limited (ASX: RVR) is pleased to report the operating performance from its Thalanga Operation in Northern Queensland for the quarter ended 31 March 2020 (Q3 FY20).

Mine production and mill throughput improved significantly in the quarter resulting in increased quarterly production of zinc and lead concentrates and record production of copper concentrate. Mining activities ceased at the West 45 underground mine in March.

Quarterly Highlights:

- **Thalanga Operations mine production of 91kt @ 9.4% Zn Eq. (Q2 FY20 60kt @ 9.0% Zn Eq.)**
- **Thalanga Operations ore processed of 84kt @ 8.5% Zn Eq. (Q2 FY20 66kt @ 8.4% Zn Eq.)**
- **Zinc concentrate production of 4,310 tonnes (Q2 FY20: 3,781 tonnes)**
- **Lead concentrate production of 1,117 tonnes (Q2 FY20: 876 tonnes)**
- **Record copper concentrate production of 2,310 tonnes (Q2 FY20: 1,560 tonnes)**

Figure 1 Thalanga Operations Ore Mined and Grade

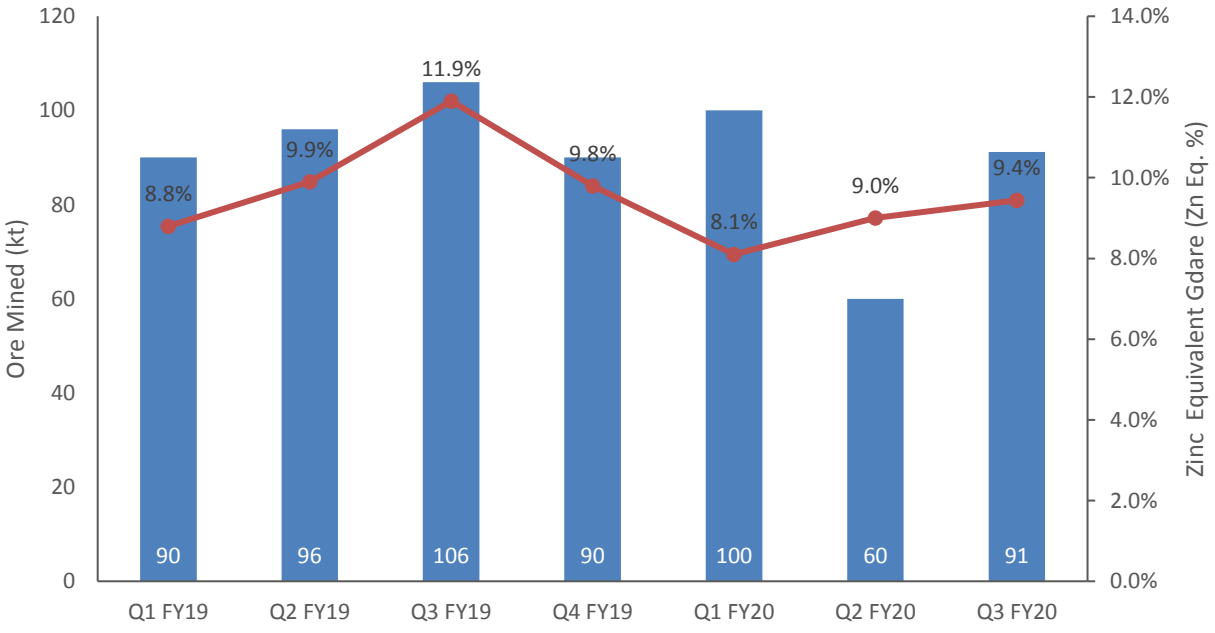

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Table 1 Thalanga Operations Summary for the March 2020 Quarter (Q3 FY20)

	Units	Q3 FY19	Q4 FY19	Q1 FY20	Q2 FY20	Q3 FY20	FY20 YTD
Total Tonnes Mined	kt	106	90	100	60	91	251
Copper grade	%	0.6	0.5	0.4	1.0	1.1	0.8
Lead grade	%	3.1	2.3	1.9	1.2	1.3	1.5
Zinc grade	%	5.8	5.0	3.9	3.5	3.5	3.7
Gold grade	g/t	0.3	0.2	0.3	0.2	0.3	0.3
Silver grade	g/t	53	43	36	38	44	39
Zinc equivalent grade	%	11.9	9.8	8.1	9.0	9.4	8.9
Ore Processed	kt	109	104	99	66	84	249
Copper grade	%	0.5	0.6	0.5	0.8	0.8	0.7
Lead grade	%	2.9	2.6	1.8	1.3	1.2	1.5
Zinc grade	%	5.5	5.4	3.6	3.5	3.3	3.5
Gold grade	g/t	0.3	0.3	0.2	0.2	0.2	0.2
Silver grade	g/t	55	56	38	40	48	42
Zinc equivalent grade	%	11.4	11.2	7.9	8.4	8.5	8.2
Zinc Concentrate Produced	DMT	8,952	9,057	6,199	3,781	4,310	14,290
Zinc grade	%	59.3	55.4	52.4	52.5	54.8	53.2
Zinc recovery	%	88.6	88.7	90.3	85.8	85.2	87.8
Lead Concentrate Produced	DMT	3,763	3,369	2,016	876	1,117	4,009
Lead grade	%	69.3	64.5	67.1	56.5	63.9	63.9
Copper grade	%	1.6	1.6	1.8	6.1	2.6	3.0
Gold grade	g/t	2.6	2.7	3.9	4.9	5.4	4.5
Silver grade	g/t	831	822	892	1,413	1,826	1,266
Lead recovery	%	81.9	79.7	76.0	58.8	68.1	70.2
Copper recovery	%	10.3	9.0	7.9	9.8	4.1	7.0
Copper Concentrate Produced	DMT	1,694	1,806	1,372	1,560	2,310	5,242
Copper grade	%	25.4	23.8	24.5	24.8	25.3	24.9
Gold grade	g/t	6.7	6.8	4.5	2.2	2.9	3.1
Silver grade	g/t	956	1,116	818	423	505	563
Copper recovery	%	73.5	71.1	71.2	70.8	83.9	77.1
Table may include rounding errors							

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On behalf of the Board,

Mel Palancian
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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 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:

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

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

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