

# January 2020 Production Update

Red River Resources Limited (ASX: RVR) is pleased to report the production update from its Thalanga Operation in Northern Queensland for the month of January 2020.

Highlights:

- Record monthly copper concentrate production of 860 tonnes (Dec 19: 655 tonnes) (+ 31%)
- Monthly zinc concentrate production of 1,431 tonnes (Dec 19: 1,275 tonnes) (+12%)
- Monthly lead concentrate production of 357 tonnes (Dec 19: 316 tonnes) (+13%)
- Total monthly ore mined of 34,503 tonnes and ore processed of 27,367 tonnes
  - Far West ore mined increased to 26,322 tonnes in January (Dec 19: 22,756 tonnes) (+12%)

Figure 1 Thalanga Operations Ore Mined



# Thalanga Operations - Ore Mined

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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:

Zn Eq. = (Zn%\*1.0) + (Cu%\*3.3) + (Pb%\*0.9) + (Au ppm\*0.5) + (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