

# RED RIVER RESOURCES



**Base and Precious Metals** 

Producer - Developer - Explorer



#### DISCLAIMER & COMPLIANCE STATEMENTS



The information contained in this presentation should be read in conjunction with and subject to the cautionary statements contained on this page and the statements contained in and referred to elsewhere in this presentation, including the competent persons statements contained within and the ASX announcements to which this presentation refers.

#### **Forward Looking Statements**

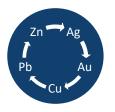
This presentation may contain forward looking statements that are subject to risk factors associated with the mining and resources industry. It is believed that the expectations reflected in these statements are reasonable, but they may be affected by a range of variables which could cause actual results or trends to differ materially, including but not limited to: price fluctuations, actual demand, currency fluctuations, geotechnical factors, drilling and exploration results, development progress, operating results, engineering estimates, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory developments, economic and financial markets conditions in various countries, approvals and cost estimates

# **COMPANY HIGHLIGHTS**





FY21 Operating Cash Flow: A\$45.0m FY21 Underlying EBITDA<sup>1</sup>: A\$42.7m



Developing 100%-owned projects; Long asset lives - 10+ years Diversified revenue mix



Low CAPEX path to boost free cash flow



Near-mine exploration options (QLD and NSW)



Residential workforces supported by experienced management



# **CORPORATE OVERVIEW**



#### **CAPITAL STRUCTURE**

Shares on Issue	517.8 million
Options on Issue <sup>1</sup>	2.5 million
Market Capitalisation 03/02/2022	A\$101 million
Cash <sup>2</sup>	A\$13.2 million
Financial Assets <sup>2</sup>	A\$18.3 million
Debt <sup>2</sup>	A\$11.2 million

#### **BOARD**

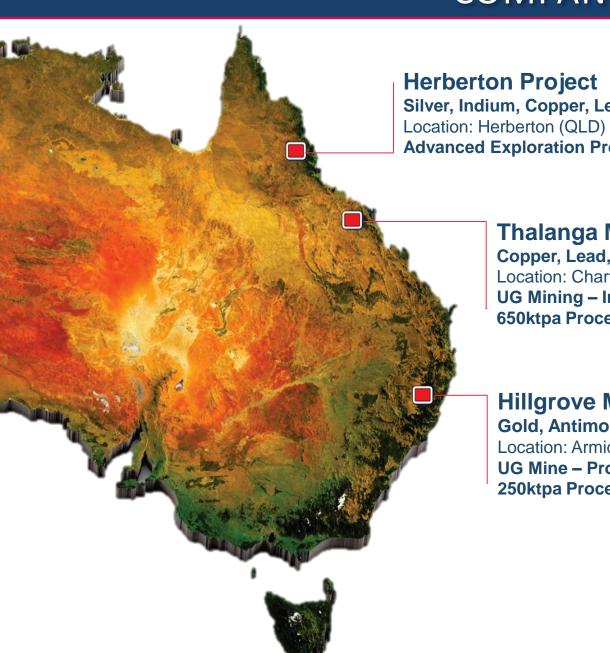
Non-Executive Chairman	BRETT FLETCHER
Managing Director	MEL PALANCIAN
Non-Executive Directors	IAN SMITH
Non-executive Directors	MARK HANLON
Company Secretary	CAMERON BODLEY

<sup>1. 2.5</sup> million options on issue with an exercise price of 30.0cps

<sup>2.</sup> As at 31 December 2021 (See ASX announcement 14/01/22)

### **COMPANY OVERVIEW**





**Herberton Project** 

Silver, Indium, Copper, Lead, Zinc

**Advanced Exploration Project** 

#### Thalanga Mine

Copper, Lead, Zinc, Silver, Gold Location: Charters Towers (QLD) **UG Mining – In Production 650ktpa Processing Plant** 



Location: Armidale (NSW)

**UG Mine – Production Restart** 250ktpa Processing Plant



Thalanga Reserve 0.7Mt @ 11.4% Zn Eq.<sup>1</sup> Thalanga Resource 6.2Mt @ 13.8% Zn Eq. 1



Hillgrove Resource 7.23Mt @ 4.5g/t Au and 1.2% Sb (1Moz Au and 90Kt Sb)<sup>1</sup>

# THALANGA MINE OVERVIEW

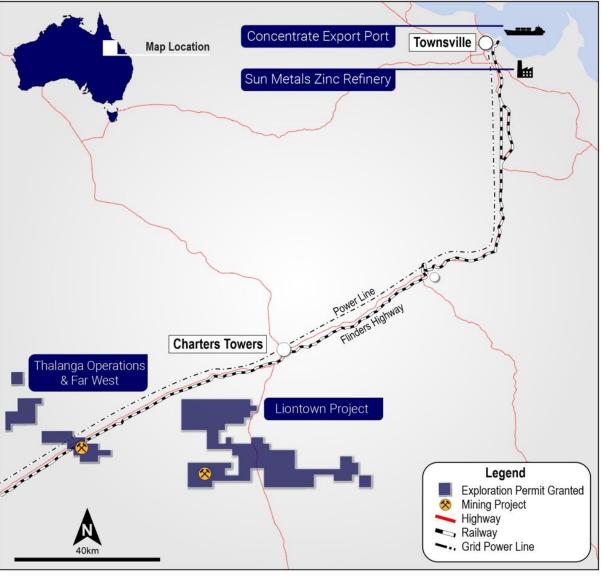


ASSET OVERVIEW	<ul><li>65km SW of Charters Towers in QLD</li><li>650ktpa processing plant</li></ul>
	<ul> <li>Producing copper, lead, zinc concentrates plu Au &amp; Ag credits</li> </ul>
PRODUCTION (FY21)	• Milled 407kt @ 11% Zn Eq.
PRODUCTION (H1FY22)	<ul> <li>Produced 27,726 DMT Zn conc, 6,824 DMT Pb conc &amp; 14,270 DMT Cu conc</li> <li>Milled 165kt @ 11% Zn Eq.</li> </ul>
	<ul> <li>Produced 12,236 DMT Zn conc, 3,084</li> <li>DMT Pb conc &amp; 6,407 DMT Cu conc</li> </ul>
FINANCIALS (FY21)	Revenue: A\$114.4m
	<ul> <li>Underlying EBITDA: A\$46.9m<sup>1</sup></li> </ul>
FINANCIALS (H1FY22)	• EBITDA: A\$22.4m <sup>3</sup>
MATERIAL RESOURCE BASE	<ul> <li>Mineral Resource: 6.2Mt @ 6.7% Zn, 0.9% Cu, 1.9% Pb, 0.9g/t Au and 37g/t Ag (13.8% Zn Eq.) (Far West + Liontown + Orient + Waterloo)</li> </ul>
Zn Ag	Material by-product credits

**Attractive Cost Profile** 

FY21 C1 Cash Cost of **-0.03** US\$/lb Payable Zn<sup>2</sup>

H1FY22 Cash Cost of **-0.02** US\$/b Payable Zn<sup>3</sup>



- 1. Excluding a \$15.1 million provision for settlement of the TCM dispute (See ASX announcement 26/8/21)
- 2. See ASX announcement 29/07/2021
- 3. See ASX announcement 14/01/2022 (unaudited)

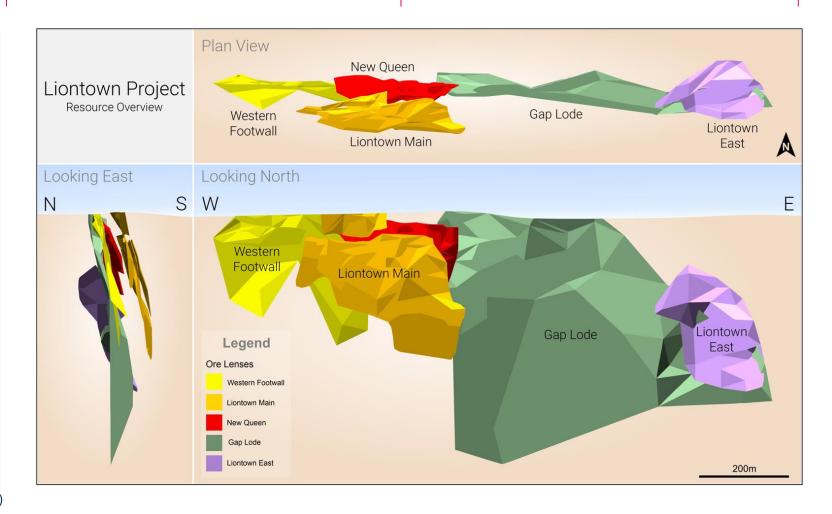
### THALANGA ORGANIC GROWTH - LIONTOWN



Next mine for Thalanga (10+ Yr LOM) Resource of **4.1Mt** @ 0.6% Cu, 1.9% Pb, 5.9% Zn, 1.1 g/t Au & 29 g/t Ag (**12.7% Zn Eq.**) <sup>1</sup> + Gravity Gold opportunity – oxide resource drilling progressing

### **LOW CAPEX/RISK**

- Processed at Thalanga mill
- Higher grade underground resource to underpin mine life (+13% Zn Eq.)
- Producing copper, lead, zinc concentrates plus gold & silver credits



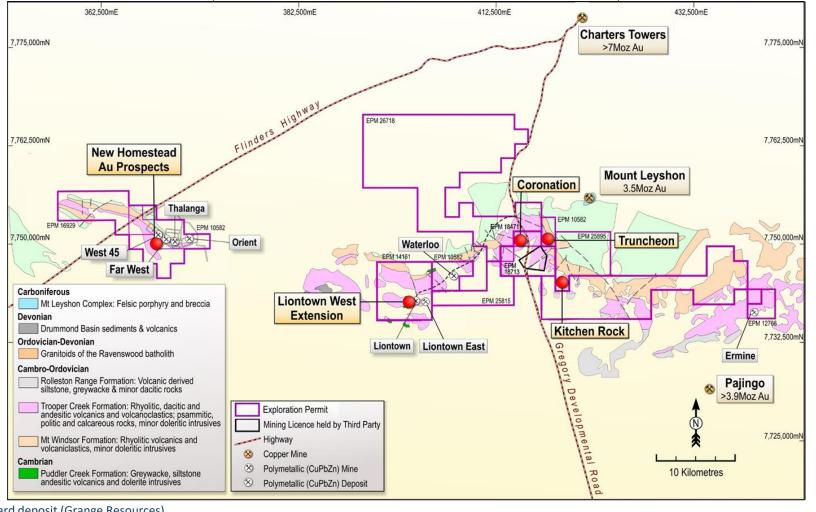
# **EXPLORATION – PRIORITY TARGETS**



More than 100 targets to test in the Mt Windsor VMS Belt

Coronation gravity response similar to Highway-Reward deposit - 3.8Mt @ 6.2% Cu & 1 g/t Au<sup>1</sup>

Currently drilling Far West extensions, Liontown delineation & extensions and Liontown Satellite
Targets



### HILLGROVE MINERAL FIELD



# **EXCELLENT LOCATION**

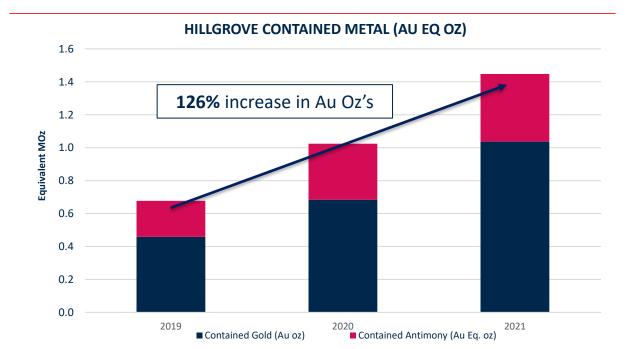
- 23km east of Armidale, NSW
- Residential workforce
- Sealed road access and grid power

#### LONG OPERATING HISTORY

- Discovered in 1857
- Historical production of +730Koz Au and 50kt Sb
- 250ktpa operating plant in place

#### MATERIAL RESOURCE BASE

- JORC 2012 Mineral Resource of 7.23Mt
   @ 4.5 g/t Au & 1.2% Sb (1,037koz Au and 90kt Sb)
- 9<sup>th</sup> largest global Antimony resource<sup>1</sup>





1. S&P Global Market Intelligence 2021

### POTENTIAL FOR MULTI-MILLION-OUNCE GOLD RESOURCE



#### **NEAR-TERM ORGANIC GROWTH**

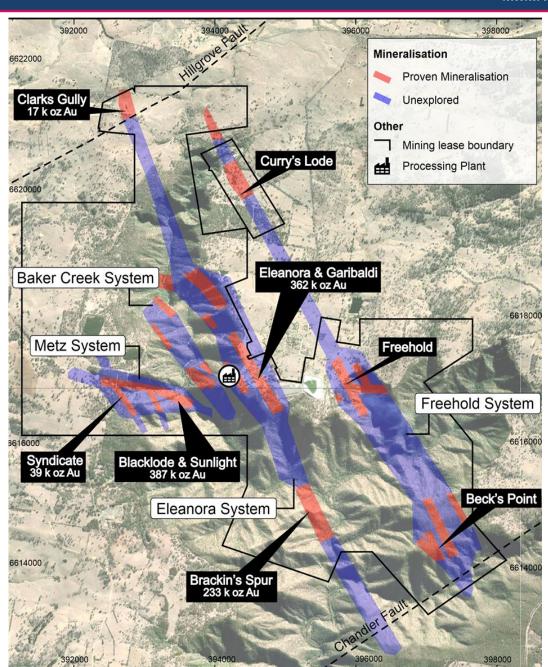
Red River controls the entire Hillgrove Mineral Field; 225km<sup>2</sup> ELs & 17km<sup>2</sup> MLs

Hillgrove underground mining to restart in CY22

Resource upside at known deposits and potential for new discoveries - Currys, Hopetoun, Becks Point, Cosmopolitan and Freehold. All deposits open at depth and strike

30,000m transformative diamond drill program commenced H1 FY22

Detailed drone magnetic geophysical survey underway for ongoing vector target generation

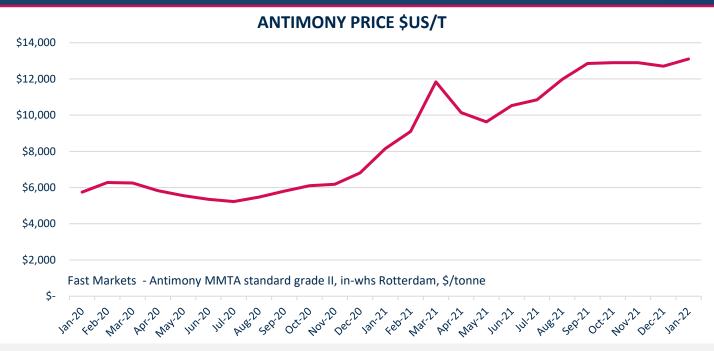


### ANTIMONY - A CRITICAL MINERAL



#### **CURRENT/FUTURE USES**

- Flame retardants
- Renewable energy generation
- Ceramics and glass
- Military applications
- Emerging energy storage solution<sup>1</sup>



#### **ENERGY STORAGE**

- > RVR has largest ASX listed Antimony resource (9th largest globally)
- Defined a critical mineral by the Australian Government<sup>2</sup>
- Antimony based battery
- Designed for grid energy storage
- Significant benefit to current technology
- Commercialisation CY2022/23



**E** Ambri

**OUTPERFROMS** 

LITHIUM-ION

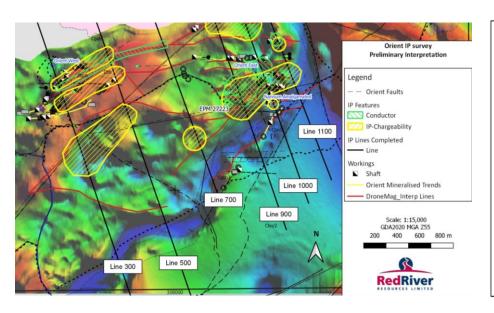
1. Source - Ambri

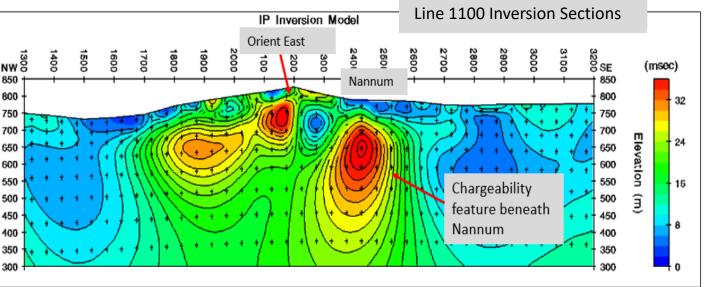
2. https://www.industry.gov.au/sites/default/files/2019-10/outlook-for-select-critical-minerals-in-australia-2019-report.pdf

ENERGY STORAGE SYSTEM

### HERBERTON SILVER-INDIUM PROJECT







High-grade polymetallic silverindium project in North Queensland Contains the highestgrade known indium targets in Australia Drone magnetics and induced polarisation survey completed at the Orient prospects Multiple large targets including Nannum historic drillhole EO3; 75m @ 38g/t Ag from 15m downhole to EOH including 4m @ 154g/t Ag, 20g/t In, 3.3% Pb & 2.2% Zn from 36m downhole

# **BUSINESS PIPELINE**



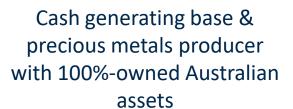
	FI	21	FYZZ		FY23	FY24		
	Operating Mines							
Thalanga (Far West)	√							
Thalanga (Liontown)								
Hillgrove (Bakers Creek)		√	√					
				Key Projects	<b>S</b>			
Thalanga (Liontown)	√	$\checkmark$	√					
Hillgrove (Syndicate)								
Thalanga (Brownfield Targets)								
			Resource	Development /	/ Exploration			
Hillgrove Mineral Field	√	√	√					
Thalanga (Other Targets)	V	√	√					
Herberton								

Plan √ Complete

# **SUMMARY**

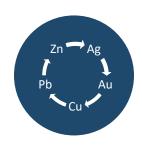








Near-term growth options at Thalanga and Hillgrove



Revenue across base and precious metals



Brownfield and greenfield exploration opportunities



Tier-1 offtake partners underpin robust cashflow





### COMPETENT PERSONS STATEMENTS



#### **Far West and Liontown Mineral Resource**

The information in this report that relates to the estimation and reporting of the Far West and Liontown Mineral Resources are 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.

#### **Orient and Waterloo Mineral Resource**

The information in this report that relates to the estimation and reporting of the Orient and Waterloo Mineral Resources are based on and fairly represents, information and supporting documentation compiled by Mr Stuart Hutchin who is a Member of The Australasian Institute of Mining and Metallurgy, Member of the Australian Institute of Geoscientists and a full time employee of Mining One Consultants Pty Ltd. Mr Hutchin 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 Hutchin consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

#### **Far West Ore Reserve**

The information in this report that relates to the estimation and reporting of the Far West Ore Reserve is based on and fairly represents, information and supporting documentation compiled by Mr Aurimas Karosas who is a Member of The Australasian Institute of Mining and Metallurgy and a full time employee of Red River Resources.

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

# COMPETENT PERSONS' STATEMENTS



# Sunlight, Blacklode, Syndicate, Eleanora & Garibaldi (JORC 2012 Mineral Resource)

The information in this report that relates to the estimation and reporting of the Blacklode, Sunlight & Syndicate Mineral Resource Estimate 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, Eleanora and Garibaldi estimation is based on and fairly represents, information and supporting documentation compiled under the overall supervision and direction of Mr Carolan.

# Brackin's Spur & Clark's Gully (JORC 2012 Mineral Resource)

The information in this report that relates to the reporting of the Brackin's Spur & Clark's Gully Mineral Resource Estimate is based on and fairly represents, information and supporting documentation compiled by Mr 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 market announcements 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.

### THALANGA ORE RESERVE



#### REPORTED IN ACCORDANCE WITH THE 2012 JORC CODE

DEPOSIT	CLASSIFICATION	TONNES	COPPER	LEAD	ZINC	GOLD	SILVER	ZINC EQUIVALENT
		(kt)	(%)	(%)	(%)	(g/t)	(g/t)	(%)
FAR WEST	Proved	-	-	-	-	-	-	-
	Probable	721	1.2	1.6	4.9	0.2	45	11.4
	Total	721	1.2	1.6	4.9	0.2	45	11.4

#### **NOTES to THALANGA ORE RESERVE**

Source: Red River Resources Ltd (30 June 2021)

Tonnages and grades are rounded. Discrepancies in totals may exist due to rounding.

### THALANGA MINERAL RESOURCE



#### REPORTED IN ACCORDANCE WITH THE 2012 JORC CODE

DEPOSIT	CLASSIFICATION	TONNES	COPPER	LEAD	ZINC	GOLD	SILVER	ZINC EQUIVALENT
		(kt)	(%)	(%)	(%)	(g/t)	(g/t)	(%)
FAR WEST	Measured	345	1.7	2.1	6.4	0.3	60	15.6
	Indicated	339	1.5	2.0	6.1	0.3	58	14.3
	Inferred	165	1.2	1.7	5.3	0.3	59	12.3
	Total	848	1.5	2.0	6.1	0.3	59	14.4
ORIENT	Measured	-	-	-	-	-	-	-
	Indicated	496	0.9	1.8	7.7	0.2	44	13.4
	Inferred	44	0.8	1.8	10.9	0.2	46	16.2
	Total	540	0.9	1.8	7.9	0.2	44	13.6
WATERLOO	Measured	-	-	-	-	-	-	-
	Indicated	406	2.7	2.1	13.4	1.4	68	24.6
	Inferred	301	0.9	0.9	7.9	0.4	27	11.8
	Total	707	1.9	1.6	11.0	0.9	50	19.1
LIONTOWN	Measured	-	-	-	-	-	-	-
	Indicated	1,063	0.4	2	6	1	42	12.2
	Inferred	3,075	0.7	1.9	5.9	1.2	25	12.9
	Total	4,138	0.6	1.9	5.9	1.1	29	12.7
TOTAL	Measured	345	1.7	2.1	6.4	0.3	60	15.6
	Indicated	2,303	1.1	2.0	7.7	0.8	49	14.9
	Inferred	3,585	0.7	1.8	6.1	1.1	27	12.8
	Total	6,233	0.9	1.9	6.7	0.9	37	13.8

#### **NOTES to THALANGA MINERAL RESOURCE**

Source: Red River Resources Ltd. Far West (30 June 2021), Orient (9 February 2015), Waterloo (7 February 2015).

Liontown refers to Liontown (11 March 2020) plus Liontown East (2 July 2018)

Tonnages and grades are rounded. Discrepancies in totals may exist due to rounding.

### ZINC EQUIVALENT CALCULATION FACTORS



#### 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 respective 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							
FX Rate: A	\$0.85:US\$1		West 45, Thalanga Far West, Orient & Liontown (Fresh Resource)	Waterloo (Fresh Resource)	Waterloo (Transition Resource)			
METAL	PRICE	UNITS	RECOVERIES	RECOVERIES	RECOVERIES			
Copper	US\$/lb	US\$3.00	80%	80%	58%			
Lead	US\$/lb	US\$0.90	70%	70%	0%			
Zinc	US\$/lb	US\$1.00	88%	88%	76%			
Gold	US\$/oz	US\$1,200	15%	50%	30%			
Silver	US\$/oz	US\$17.00	65%	65%	58%			

**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 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% \*ZnMEF) + (Cu%\*CuMEF) + (Pb%\*PbMEF) + (Au ppm\*AuMEF) + (Ag ppm\*AgMEF)

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 FACTOR (MEF)								
Resource	Copper (CuMEF)	Lead (PbMEF)	Zinc (ZnMEF)	Gold (AuMEF)	Silver (AgMEF)			
West 45, Thalanga Far West and Orient	3.3	0.9	1.0	0.5	0.025			
Liontown (Fresh)	3.3	0.9	1.0	2.0	0.025			
Waterloo (Fresh)	3.4	0.75	1	0.5	0.025			
Waterloo (Transition)	2.5	0.0	0.84	0.4	0.01			



#### **GOLD EQUIVALENT CALCULATION**

#### Syndicate, Sunlight, Blacklode, Eleanora & Garibaldi

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 and Clark's Gully**

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.

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%

### HILLGROVE MINERAL RESOURCE



#### **REPORTED IN ACCORDANCE WITH THE 2012 JORC CODE**

DEPOSIT	CLASSIFICATION	TONNES	GOLD	ANTIMONY	GOLD EQUIVALENT (AU EQ.)	CONTAINED GOLD	CONTAINED ANTIMONY
		(kt)	(g/t)	(%)	(g/t)	(koz Au)	(kt Sb)
Eleanora &	Measured	-	-	-	-	-	-
Eleanora & Garibaldi	Indicated	1,424	4.9	0.8	6.1	226	11
	Inferred	987	4.3	0.3	4.8	136	3
	Total	2,411	4.7	0.6	5.5	362	15
SUNLIGHT &	Measured	-	-	-	-	-	-
BLACKLODE	Indicated	1,511	5.3	1.3	7.1	255	20
	Inferred	1,136	3.6	0.9	4.9	131	10
	Total	2,647	4.5	1.1	6.2	387	30
*BRACKIN'S SPUR	Measured	73	5.1	0.9	6.4	12	1
	Indicated	640	4.2	1.8	6.8	86	12
	Inferred	870	4.8	1.3	6.7	134	11
	Total	1,583	4.6	1.5	6.7	233	23
*CLARK'S GULLY	Measured	170	1.9	4.2	7.9	10	7
	Indicated	96	2.1	3.1	6.5	6	3
	Inferred	_	_	-	-	-	-
	Total	266	2.0	3.8	7.4	17	10
SYNDICATE	Measured	199	4.5	4.5	10.9	29	9
	Indicated	96	2.5	2.4	5.9	8	2
	Inferred	23	3.6	0.4	4.1	3	0
	Total	318	3.8	3.6	8.9	39	11
TOTAL	Measured	442	3.6	3.8	9.0	51	17
	Indicated	3,766	4.8	1.3	6.6	582	48
	Inferred	3,017	4.2	0.8	5.3	404	25
	Total	7,226	4.5	1.2	6.2	1,037	90

Source: \*AMC Consultants Pty Ltd (AMC) Hillgrove Mineral Resource Estimate (August 2017), Red River Resources (30 June 2021, 29 September 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 contained in the AMC Estimate and included this announcement.
For full disclosure details refer to ASX release "Red River Grows Hillgrove Resource to 1Moz Gold and and 90kt Antimony" dated 29 July 2021