

## INVESTOR UPDATE

### ASX RELEASE

24 September 2024

### LOCKSLEY RESOURCES LIMITED

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ASX: LKY

### SHARES ON ISSUE

146,666,665

## HIGH GRADE ANTIMONY RESULTS – TECHNICAL TEAM HAS BEEN MOBILISED TO MOJAVE PROJECT

### Highlights:

- The Desert Antimony Mine returned rock chip samples as high as 11.2% & 8.33% Antimony (Sb)<sup>1</sup>
- Locksley's Exploration team have commenced a detailed exploration program in the Mojave Desert, following up on the high-grade Desert Antimony Mine
- The team will be concentrating on the strong Sb results received from the Desert Antimony Mine in the North Block, Mojave Project
- Surface mapping and sampling will be undertaken to increase understanding of the grades, widths and strike continuity potential of the historic Desert Antimony Mine
- Antimony is listed as a critical mineral by the U.S. Department of Interior as it is used in a wide variety of military, energy, industrial and consumer applications



Figure 1: Historic Desert Antimony Mine workings.

1. LKY ASX Announcement - 12th September 2024



**Figure 2:** Adit – West and upstream from Antimony Mine

Locksley Resources Limited (ASX:LKY) (“**Locksley**” or “**Company**”) is pleased to announce that the team has started work at the Mojave Project concentrating on follow-up sampling at the high-grade Desert Antimony Mine. The Desert Antimony Mine returned rock chip samples as high as 11.2% & 8.33% Antimony (Sb) (as announced 12th September).

Locksley is currently undertaking a mapping and sampling program, in and around the historic Desert Antimony Mine, following up on the holistic review of the Mojave Project!

Mindat.org outlines historic production ranged from 100 to 1,000 tons with grades ranging from 15 to 20% Sb at the Desert Antimony Mine.

Antimony is listed as a critical mineral by the U.S. Department of Interior as it is used in a wide variety of military, energy, industrial and consumer applications.

USA has no domestic primary mined source of Antimony and China has announced it has cut off the global supply of antimony from 15 September 2024.

Additionally, a sample to the south-east of the Desert Antimony Mine assayed at 4.12% Cu.

### **Locksley Resources Limited Managing Director, Steve Woodham commented:**

*“Coming off the back of the significant antimony (Sb) assay results from our holistic review of the Mojave Project, our exploration team have started follow up work at the Mojave Project on the high-grade Antimony Mine site.*

*We are conducting surface mapping Rock Chip and soil sampling to increase our understanding of the grades, widths and strike continuity potential of the historic Desert Antimony Mine; the Board look forward to reporting the results of the current program as soon as practicable.”*

1. LKY ASX Announcement - 12th September 2024

## About Antimony (Source: Geoscience Australia):

Estimates of the abundance of antimony in the Earth's crust range from 0.2 to 0.5 parts per million. Antimony is chalcophile, occurring with sulphur and heavy metals, lead, copper, and silver. Over a hundred minerals of antimony are found in nature. Stibnite ( $Sb_2S_3$ ) is the predominant ore mineral of antimony (ScienceDirect, 2023). Antimony is a silvery lustrous grey metal that exhibits poor heat and electrical conductivity. It is relatively soft, measuring only 3.25 on Moh's scale of mineral hardness. Antimony is represented by the chemical symbol Sb and is a member of the arsenic group of elements and is commonly found in association with gold mineralisation, but it also occurs with some silver-lead-zinc deposits. Antimony is rarely found in its pure state and most commonly occurs in nature as the sulphide mineral stibnite ( $Sb_2S_3$ ). It also occurs in more than 100 other minerals, usually as oxide, e.g., valentinite ( $Sb_2O_3$ ), and as antimonies of heavy metal sulphides such as tetrahedrite ( $(Cu,Fe,Zn,Ag)_{12}Sb_4S_{13}$ ), livingstonite ( $HgSb_4S_7$ ) and jamesonite ( $Pb_4FeSb_6S_{14}$ ) (Australian Resource Review of Antimony, 2020).

### Uses:

Antimony is considered Metallic antimony is used as a hardening agent for lead and its use in lead storage batteries accounts for around one third of global use. Antimony alloys are also used for manufacturing solder, sheet and pipe metal, ammunition, bearings, castings, and pewter. Antimony Tin Oxide (ATO) is used in non-metallic products such as paint (pigment and fire retardant), ceramics (opacifier), enamels (fire retardant), rubber (fire retardant), glass (de-gassing), paper (fire retardant), plastics (fire retardant) and textiles (fire retardant). ATO's use as a fire retardant also accounts for about one third of global antimony use. In its purest forms, antimony is used in semiconductor technology, infrared detectors, and diodes (two-terminal semiconductors that primarily conduct current in one direction only).

### Reserves:

Based on estimates provided by the USGS and adjusted for Australia, world economic resources of antimony amounted to approximately 1,500 kt in 2019, unchanged from the previous year (Table 4). On the global stage, China dominates production, resources, and demand. China's share of global antimony resources amounts to 32% followed by Russia (23%), Bolivia (21%) and Australia (7%; Table 4). Australia also ranks seventh for antimony production (Table 5) despite all production coming from a single source. China produces 63% of global antimony followed by Russia (19%), Tajikistan (10%) and Bolivia (2%) **See table 1 & 2 below.**

### World Economic Resources of Antimony 2019

Rank	Country	Economic Resources (kt Sb)	Percentage of World Total
1	China	480	32%
2	Russia	350	23%
3	Bolivia	310	21%
4	Australia	100.5	7%
5	Turkey	100	7%
6	USA	60	4%
7	Tajikistan	50	3%
8	Pakistan	26	2%
9	Mexico	18	1%
<b>TOTAL</b>		<b>1,495</b>	

**Table 1:** World Economic Resources of Antimony 2019 esources of Antimony 2019

### World Production of Antimony 2019

Rank	Country	Production (kt Sb)	Percentage of World Total
1	China	100	63%
2	Russia	30	19%
3	Tajikistan	16	10%
4	Boliva	3	2%
5	Burma	3	2%
6	Turkey	3	2%
7	Australia	2.03	1%
	other	2.3	1%
<b>TOTAL</b>		<b>159.33</b>	

**Table2:** World Production of Antimony 2019

More recent research sourced from ScienceDirect website publication highlights that antimony reserves are limited and unevenly distributed. China, Russia, and Bolivia account for 80% of the global antimony reserves. However, due to the increasing demand for antimony, such reserves have been consumed quickly, influencing the sustainable supply for antimony resources. It is estimated that the gap between antimony supply and demand will exceed 10% in the coming years, making it more critical than rare earth elements (REE) (Zhao. G, Li. W, Geng. Y, Bleischwitz. R, 2023).

#### Current Market:

Antimony is estimated to be influenced by substantial growth related to increasing fire safety due to antimony's flame-retardant properties. Antimony singularly does not contain flame-retardant properties, but these are accomplished when utilised with halogenated compounds in the form of trioxide.

Antimony is also utilised in battery production as it's combined with lead to create a lead-acid battery. With the rise in electric car production and the need for renewable energy sources is predicted to increase the consumption of lead-acid batteries, which would result in boosting the market for antimony.

Antimony is also used in many other applications such cable sheathing in fibre cable technology, paint and coating for commercial buildings, and glass and ceramics for decoration purposes.

*The Board of Directors of Locksley Resources Limited authorised the release of this announcement.*

#### Further information contact:

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## Compliance Statements

### Cautionary Statement

This announcement may contain visual exploration results in respect of the Mojave Project. Visual estimates of mineral abundance should never be considered a proxy or substitute for laboratory analyses where concentrations or grades are the factor of principal economic interest. Visual estimates also potentially provide no information regarding impurities or deleterious physical properties relevant to valuations.

### Forward-Looking Statements

This document may include forward-looking statements. Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of the Company. Actual values, results or events may be materially different to those expressed or implied in this document. Given these uncertainties, recipients are cautioned not to place reliance on forward looking statements. No representation is made that, in relation to the tenements the subject of this presentation, the Company has now or will at any time the future develop resources or reserves within the meaning of the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves.

### Competent Persons

The information in this document that relates to exploration targets, exploration results, mineral resources or ore reserves is based on information compiled by David Ward BSc, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (AUSIMM), (Member 228604). David Ward is a shareholder of Locksley Resources Ltd. David Ward has over 25 years of experience in metallic minerals mining, exploration and development and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaking to qualify as a 'Competent Person' as defined under the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Ward consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

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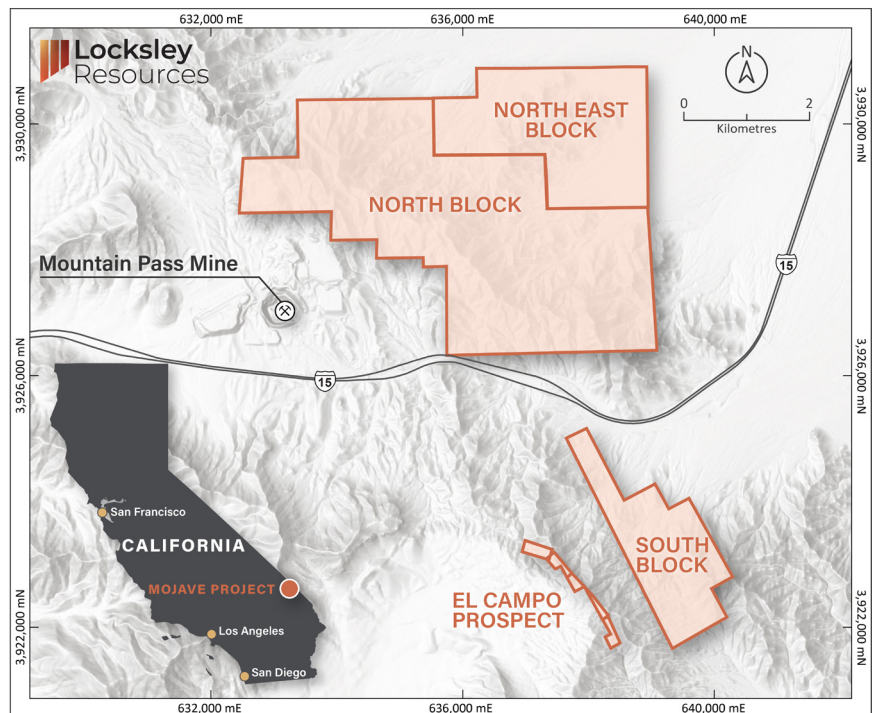
## About Locksley Resources Limited

Locksley Resources Limited (ASX:LKY) is an ASX-listed minerals explorer with a focus on copper, gold and base metal assets throughout Australia. LKY is also active in exploring for Rare-Earth Element (REE) projects located in the United States of America (USA), positioning LKY as a player in the fast-growing REE exploration market. LKY aims to build shareholder wealth through the discovery and development of mineral deposits across various Australian and USA projects; being the Tottenham Project and Mojave Project.

### Mojave Project

The Mojave Project is in the Mojave Desert, California, USA. Consisting of three areas: The North Block is 14.9km<sup>2</sup>, North East Block 5.7km<sup>2</sup>, South Block 3.5km<sup>2</sup> and El Campo Prospect totalling 0.34km<sup>2</sup>. This brings the total land tenure for the Mojave Project to 24.4km<sup>2</sup> held within three distinctive contiguous claim blocks.

The Mojave Project is positioned next to one of the highest-grade REE mines in the world and multiple significant carbonatite REE veins have been identified. The Mojave Project has returned high grade TREO rock-chip results of up to 9.49%.



**MOJAVE PROJECT** – Location of the Mojave Project Blocks in south-eastern California, USA

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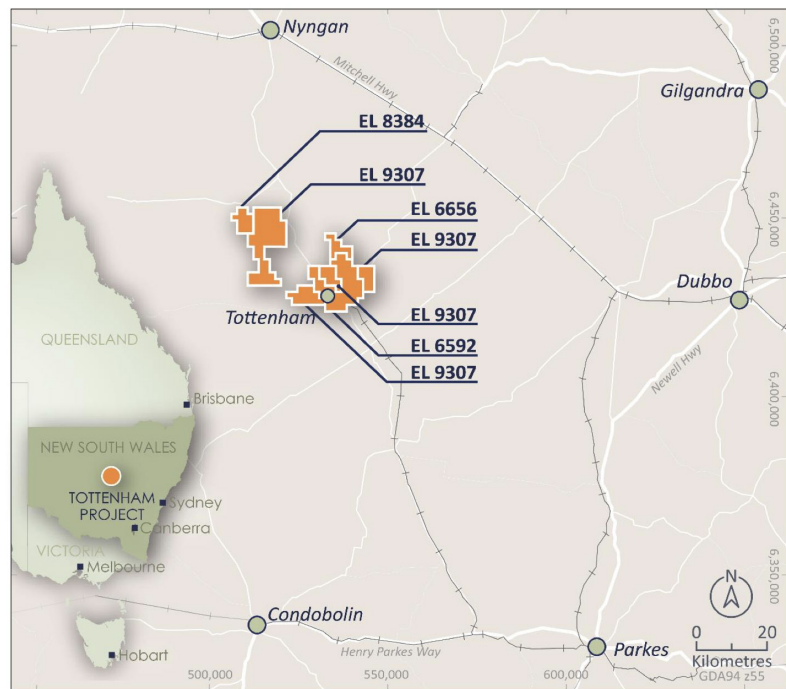
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## Tottenham Project

The Tottenham Project is an advanced Cu-Au exploration project that consists of four Exploration Licences, (EL6592, EL6656, EL8384, EL9307), covering 470km<sup>2</sup>, located in the Lachlan Fold Belt of central New South Wales.



**TOTTENHAM PROJECT** – Location of the Tottenham Project in central NSW, Australia

The Tottenham deposits are hosted within the Ordovician Girilambone Group that also host the Tritton and Girilambone Mines and Constellation Deposit, 110km to the north-northwest (Aeris Resources Ltd.), and is immediately along strike from the CZ Copper Deposit (Helix Resources Ltd). Resources have been defined at both the Mount Royal to Orange Plains and Carolina Deposits for a global inferred resource of:

**9.86Mt @ 0.72% Cu, 0.22g/t Au, 2g/t Ag at a 0.3% Cu cut off**

The Competent Person for the Tottenham Project 2022 Resource is Mr Jeremy Peters FAusIMM CP(Geo, Min), a Director of Burnt Shirt Pty Ltd. The Mineral Resource estimate is stated in accordance with the provisions of the JORC Code (2012). Mr Peters has more than five years' experience in the estimation and reporting of Mineral Resources for base metals mineralisation in Australia and overseas, 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 Peters consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.