

ASX Announcement

31 July 2023

QUARTERLY REPORT

ASX Code: MAN

For the period ended 30 June 2023**Capital Structure**

Ordinary Shares: 598,759,920
Current Share Price: 4.6c
Market Capitalisation: \$27.5M
Cash: \$16.8M (Jun 2023)
Debt: Nil

Directors

Lloyd Flint
Chairman/Company Secretary

James Allchurch
Managing Director

Roger Fitzhardinge
Non-Executive Director

Contact Details

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Australia

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mandrakeresources.com.au**Highlights****Rapid progress at the flagship Utah Lithium Project**

- **Execution of a Well Access Agreement (WAA) with local oil field owner, allowing Mandrake to potentially access up to 84 historical wells for re-entry/Li sampling - significantly reducing exploration costs**
- **181km² 3D seismic obtained over the area reveals extensive regional continuity of Lithium brine reservoir and the presence of deep-rooted fault systems which could act as pathways for Li migration**
- **Using historical logs and newly acquired 3D seismic, Mandrake has secured historical wells, B-912 and Big Indian Unit 1 (BIU-1) for re-entry Li sampling – permitting underway**
- **Land position increased to 88,096 acres (~356km²), creating a large-scale potential world-class project**
- **Approx cash position of \$16.8M**

Well Access Agreement

During the June 2023 quarter, Mandrake Resources Limited (ASX: MAN) (Mandrake or the Company) executed a Well Access Agreement (WAA) with Paradox Upstream LLC (Paradox), the largest vertically integrated oil and gas / helium producer/processor in the northern Paradox Basin. The WAA covers Mandrake's entire Utah Lithium Project with any subsequent leasing conducted by Mandrake able to be added to the scope of the WAA.

The WAA is transformative for the Utah Lithium Project in that it allows Mandrake to potentially re-enter Paradox's 84 existing suspended oil and gas wells for the purpose of sampling lithium-rich brines.

Crucially, the WAA circumvents the requirement for drilling which will save Mandrake millions of dollars in exploration drilling costs given that a new well is estimated to cost in excess of US\$3M. The existing Paradox wells, which are cased, can be re-entered and perforated at intervals prospective to host lithium-rich brines.

The broad transaction terms of the WAA require an upfront payment to Paradox of US\$180,000 (paid) and Mandrake to pay US\$40,000 per well accessed. Further details of the WAA are provided in Mandrake's ASX release dated 22 May 2023.

Selection of the B-912 and Big Indian Unit 1 (BIU-1) wells for re-entry

Pursuant to the WAA, Mandrake has provided notice that it will re-enter and sample the existing B-912 and Big Indian Unit 1 (BIU-1) oil and gas wells at the Utah Lithium Project.

Prior to the selection of the B-912 and the BIU-1 wells, Mandrake completed a detailed field inspection campaign aimed at identifying and assessing existing oil and gas wells that represent attractive candidates for potential re-entry and sampling of brines to determine lithium concentrations.

The B-912 and BIU-1 wells were the first wells selected by Mandrake for lithium brine sampling based on their highly prospective attributes, including:

1. Proximity to NW-SE trending fault structures
2. Total well depths of >9,000 feet, penetrating the highly prospective clastic units (Paradox) as well as the underlying Leadville and McCracken Formations (BIU-1 only)
3. Interpretation of logs indicates good porosity and permeability of target zones
4. Access (roads and pad)
5. Infrastructure (power and pipelines)
6. Down-hole well conditions (engineering)



Figure 1. Re-entry and sampling – Big Indian Unit 1 well head and pad

Extensive regional continuity of Lithium brine reservoir gives scale

Subsequent to the end of the quarter, Mandrake secured 181km² of 3D seismic data incorporating much of the Utah Lithium Project (Figure 2). The 3D data was acquired in 2008 and 2012 and was merged and reprocessed in 2022.

The two 3D seismic datasets were provided to Mandrake by Paradox for nil consideration.

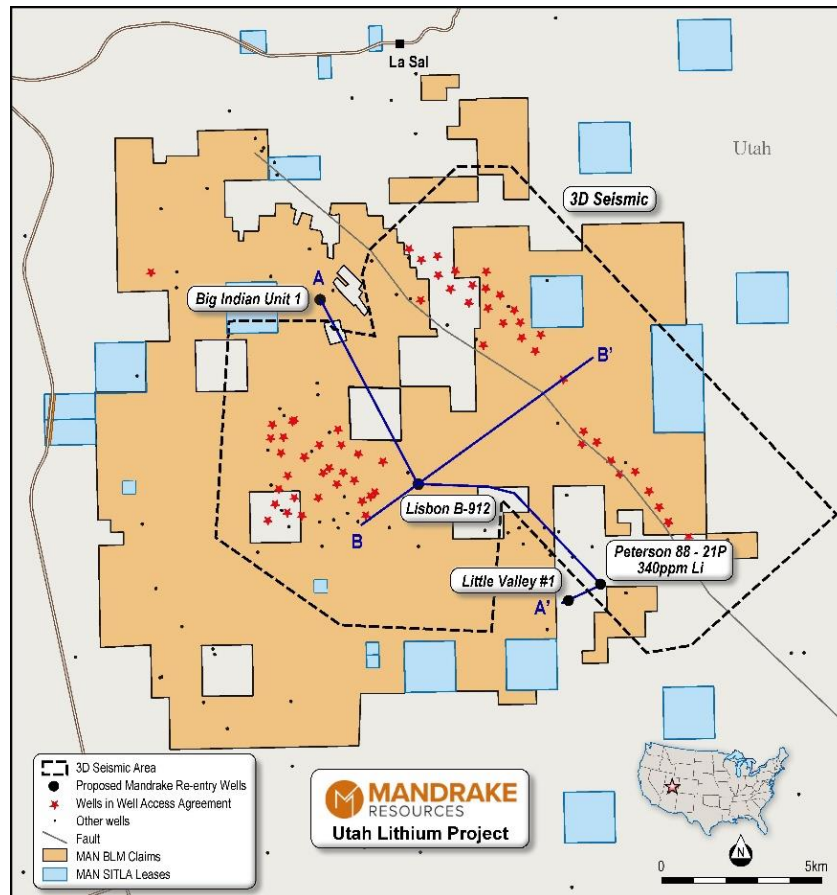


Figure 2. Extent of 3D seismic and cross-section locations

Large-scale brines

Mandrake, with the aid of the 3D seismic dataset and petrophysical and mud logs from historic wells, completed detailed stratigraphic correlation and modelling that identified the regional-scale, lateral continuity and significant thickness of formations to be targeted for lithium brine sampling (Figure 3).

Lithological units, or aquifers, with potential for hosting lithium-rich brines include the Devonian McCracken Sandstone, the Mississippian Leadville Limestone and a multitude of clastic zones within the overlying Pennsylvanian Paradox Formation. According to logs, the aggregate thickness of these laterally continuous regional units is typically in excess of 500ft (150m) of total brine-saturated rock.

Potential 'high-grading' of lithium concentrations

The precise genesis of anomalously high lithium concentrations in Paradox Basin brines is understood to be from one or both of: 1) high lithium legacy in-situ evaporite sediments (contemporaneous with the formation of the Paradox Basin) and 2) the breakdown of hydrothermal and felsic basement rocks with high lithium content. Given its highly soluble nature, lithium is readily dissolved and transported in sub-surface fluids with highest concentrations of lithium typically proximal to feeder structures.

The 3D seismic clearly outlines the large NW-SE trending Lisbon Fault together with associated structural features. The majority of historical oil and gas wells are located along these structures.

The deep-rooted faults across the Utah Lithium Project typically extend to the basement and have been subjected to hydrothermal fluid flow, giving rise to base metal and other mineralisation in the area. It is anticipated that the fault systems also provide preferential migration pathways for brines enriched in basement-sourced lithium to flow towards the surface and recharge existing aquifers in overlying sediments.

The historic Peterson 88-21 well is located proximal to this fault system and was drilled and sampled by Superior Oil Co. in 1959. Peterson 88-21 returned lithium concentrations of 340mg/L from a clastic zone overlying Clastic Zone B in the Paradox Formation¹. The Peterson well is located only 200 m from Mandrake tenure and 6 km from the B-912 re-entry well (Figures 2 and 3).

Appointment of Vanoco and strategy consultant

During the June 2023 quarter, Mandrake engaged Vanoco Consulting LLC (Vanoco). Vanoco is a leading consulting firm based in Denver, Colorado which provides support to oil and gas operators in the United States and Canada. Vanoco specialises in providing engineering, project management and field supervision and, through its Canadian parent company, recently project managed a significant lithium brine sampling programme in Saskatchewan, Canada.

Vanoco's wide range of expertise will enable the Company to progress its field activities and re-enter and sample historical oil and gas wells.

Mandrake has also engaged Mr Douglas Hollett who will focus on identifying government and commercial investment opportunities for the Utah Lithium Project.

A geologist by training, Mr Hollett has eight years of US government federal executive experience, and 32 years leading private sector business operations in the energy sector, coupled with 3 years multi-sectoral consulting in technology, research strategy and policy. This background has given Mr Hollett a unique skillset across the full resources and energy spectrum; minerals, renewable power, grid, carbon capture/utilization, and fossil energy.

Mr Hollett most recently held the position of Special Advisor, Critical Materials and Supply Chain at the US Dept of Energy (DOE), reporting to the DOE Under Secretary for Science and Innovation. In this role he was responsible for both internal and interagency coordination on the full suite of critical mineral items.

Previously at DOE, he had been Deputy Assistant Secretary Renewable Power, Acting Assistant Secretary Fossil Energy and held a number of senior and executive roles in the oil and gas sector.

¹ Hite, R.J., 1978, The Geology of the Lisbon Valley Potash Deposits, San Juan County, Utah: U. S. Geological Survey Open File Report 78-148

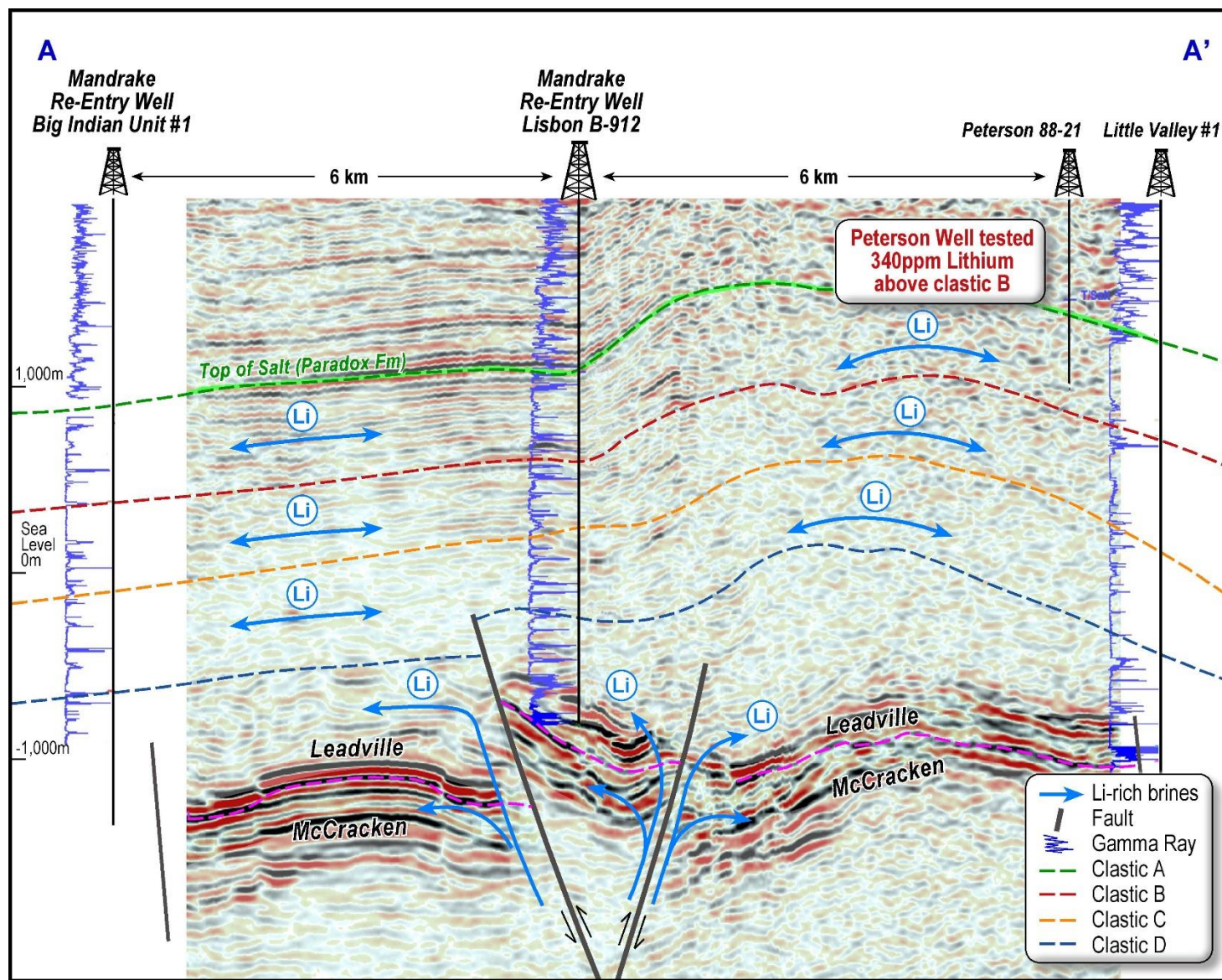


Figure 3. Cross-section A- A' (see Figure 2 for cross-section location) - 3D seismic, re-entry wells and lateral continuity of lithological units

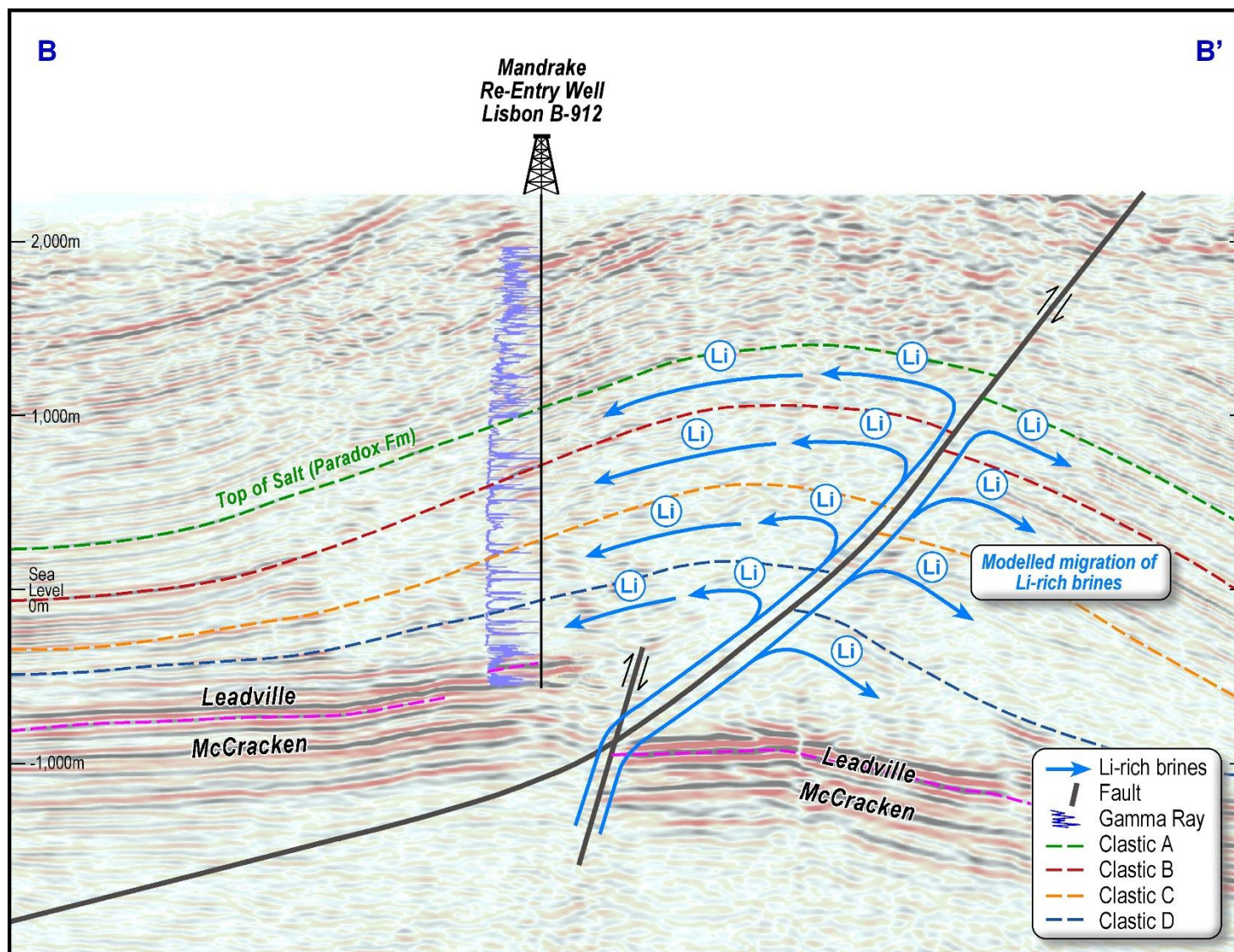


Figure 4. Cross-section B- B' (see Figure 2 for cross-section location) - 3D seismic, re-entry well B-912 and potential Li-rich brine migration pathways

Expansion of Utah Lithium Project

Mandrake has continued to expand its land position at the Utah Lithium Project, increasing total acres to 88,096 (approximately 356 km²) of lithium brine prospective ground in the Paradox Basin.

The lithium brine land tenure comprises:

1. 34,670 acres of leases pursuant to an Other Business Agreement (OBA) with the Utah School and Institutional Trust Lands Administration (SITLA), the organization which manages the Utah State Government's trust lands and mineral rights.
2. Over 2,700 BLM claims which totals 53,426 acres.

Mandrake will continue to review the surrounding land position, targeting attractive land parcels prospective for lithium to augment the existing project size.

Continued exploration of existing projects

Although the primary focus of the Company has been on the Utah Lithium Project, Mandrake continues to assess the Berinka (gold/copper in NT) and Jimperding (PGE/Ni/Cu in WA) projects.

Corporate

As at 30 June 2023, Mandrake had approx. \$16.8M in cash.

Additional ASX disclosure information

ASX Listing Rule 5.3.2: There was no substantive mining production and development activities during the quarter.

ASX Listing Rule 5.3.3 - Schedule of Mineral Tenements as at 30 June 2023

Location	Project	Status	Tenement	Interest - start of quarter	Interest - end quarter
Utah, USA	Utah Lithium	Staked	MANBLM-2146 to MANBLM-2745	0%	100%
Utah, USA	Utah Lithium	Staked	MANBLM-1 to MANBLM-2146	100%	100%
Utah, USA	Utah Lithium	Pursuant to OBA	MANOBA	100%	100%
NT, Australia	Berinka	Granted	EL31710	100%	100%
WA, Australia	Jimperding	Granted	EL70/5345	100%	100%

ASX Listing Rule 5.3.5: Payments to related parties of the Company and their associates during the quarter per Section 6.1 of the Appendix 5B total \$114,000, comprised of Directors' fees, salaries and secretarial and accounting services performed by directors.

This announcement has been authorised by the board of directors of Mandrake.

About Mandrake Resources

Mandrake is a junior exploration company established with the purpose of exploring and developing the Utah Lithium Project. The Company controls 100% of over 88,096 acres of lithium prospective ground in Utah, USA; a 140km² exploration licence prospective for PGE-Ni-Cu in the exciting Jimperding Metamorphic Belt, 70km NE of Perth and a mineral exploration project located in the prolific Pine Creek Orogen of the Northern Territory prospective for gold, silver and base metals.

For further information visit www.mandrakeresources.com.au

Competent Persons Statement

The technical information in this announcement complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled and assessed under the supervision of Mr James Allchurch, Managing Director of Mandrake Resources. Mr Allchurch is a Member of the Australian Institute of Geoscientists. He has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Mr Allchurch consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

MANDRAKE RESOURCES LIMITED

ABN

60 006 569 124

Quarter ended ("current quarter")

30 June 2023

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (..12.months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(1,592)	(3,256)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	-	-
	(e) administration and corporate costs	(91)	(473)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	164	403
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Government grants and tax incentives	-	-
1.8	Other (provide details if material)	-	-
1.9	Net cash from / (used in) operating activities	(1,519)	(3,326)

2.	Cash flows from investing activities		
2.1	Payments to acquire or for:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) exploration & evaluation	-	-
	(e) investments	-	-
	(f) other non-current assets	-	-

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (..12.months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities	-	-
	(b) tenements	-	-
	(c) property, plant and equipment	-	-
	(d) investments	-	-
	(e) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	-	-

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	2,200
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	1,716
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(1)	(42)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	(1)	3,874

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	18,330	16,262
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,519)	(3,326)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	-
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(1)	3,874

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (..12.months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	16,810	16,810

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	1,810	3,330
5.2	Call deposits	15,000	15,000
5.3	Bank overdrafts		
5.4	Other (provide details)		
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	16,810	18,330

6.	Payments to related parties of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to related parties and their associates included in item 1	114
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
<i>Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments.</i>		

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7.	Financing facilities <i>Note: the term "facility" includes all forms of financing arrangements available to the entity.</i> <i>Add notes as necessary for an understanding of the sources of finance available to the entity.</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
7.1	Loan facilities	-	-
7.2	Credit standby arrangements	-	-
7.3	Other (please specify)	-	-
7.4	Total financing facilities	-	-
7.5	Unused financing facilities available at quarter end		-
7.6	Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		

8.	Estimated cash available for future operating activities	\$A'000
8.1	Net cash from / (used in) operating activities (item 1.9)	(1,519)
8.2	(Payments for exploration & evaluation classified as investing activities) (item 2.1(d))	-
8.3	Total relevant outgoings (item 8.1 + item 8.2)	(1,519)
8.4	Cash and cash equivalents at quarter end (item 4.6)	16,810
8.5	Unused finance facilities available at quarter end (item 7.5)	-
8.6	Total available funding (item 8.4 + item 8.5)	16,810
8.7	Estimated quarters of funding available (item 8.6 divided by item 8.3)	11.1
<i>Note: if the entity has reported positive relevant outgoings (ie a net cash inflow) in item 8.3, answer item 8.7 as "N/A". Otherwise, a figure for the estimated quarters of funding available must be included in item 8.7.</i>		
8.8	If item 8.7 is less than 2 quarters, please provide answers to the following questions:	
8.8.1	Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer: n/a		
8.8.2	Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer: n/a		
8.8.3	Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?	
Answer: n/a		
<i>Note: where item 8.7 is less than 2 quarters, all of questions 8.8.1, 8.8.2 and 8.8.3 above must be answered.</i>		

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date:31 July 2023.....

Authorised by:Board of Directors.....
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.