

Quarterly Report – September 2023

Meteoric Resources NL (**ASX: MEI**) (**Meteoric** or **the Company**) is pleased to provide its Quarterly Report for the three-month period ending 30th September 2023. During the period, Meteoric has continued to advance its Caldeira Rare Earth (**REE**) Project in the Minas Gerais State of Brazil, culminating in the announcement post quarter of the appointment of leading Australian Engineering firm Ausenco Services Pty Ltd (**Ausenco**) to oversee the Caldeira Project Scoping Study, which is now formally underway and expected to be completed by Q1 2024.

Highlights

- Binding Option Agreement entered to further expand the Caldeira Project with the acquisition of the REE Rights on 18 Licences (5 Mining Licences, 6 Mining Licence Applications, 6 Exploration Licences and 1 Exploration Licence Application)
- Licences contained with the proposed acquisition merge crucial areas identified in the recent Maiden Resource Estimate (**MRE**) for the Tier 1 Caldeira REE Project.
- The signing of a Cooperation Agreement with the State Economic Department (**Invest Minas**) and the State Government of Minas Gerais to assist with the development of the Caldeira Project and to look at further downstream processing options through to magnet production.
- The Cooperation Agreement through Invest Minas will facilitate approvals and licensing processes between Meteoric Resources and government regulators and departments.
- Environmental consultants Alger Consulteria have been engaged to undertake Environmental Impact Study (**EIS**) for the Caldeira Project.
- Diamond drilling results conclusively demonstrate that the high-grade REE zone extends significantly deeper beneath the existing Mineral Resource Estimate (**MRE**)
- Drilling outside existing Resource area delivers highest grade intercept this year of **149.5m @ 8,912 ppm TREO¹** mineralised from surface to EOH with 1,417 ppm MREO² with 52m @ 12,692 ppm TREO with 2,710ppm MREO from 61m.
- 60,000m aircore program commenced to define Measured & Indicated Resources at Soberbo, Capão do Mel and Figueira following the purchase of a Hanjin 8D multipurpose drill rig.
- Initial results from ANSTO Metallurgical testwork believed to be the highest rare earth leach extractions ever reported for a standard ammonium sulphate (**AMSUL**) wash at pH 4.0 by any public listed company on the ASX or globally.

¹ Total Rare Earth Oxides (TREO) = La₂O₃ + CeO₂ + Pr₆O₁₁ + Nd₂O₃ + Sm₂O₃ + Eu₂O₃ + Gd₂O₃ + Tb₄O₇ + Dy₂O₃ + Ho₂O₃ + Er₂O₃ + Tm₂O₃ + Yb₂O₃ + Lu₂O₃ + Y₂O₃

² Magnetic Rare Earth Oxides (MREO) = Pr₆O₁₁ + Nd₂O₃ + Tb₄O₇ + Dy₂O₃

- Post quarter, Ausenco awarded Caldeira Project Scoping Study contract which is currently underway and scheduled for completion in Q1 2024 and focusing on the 3 Southern Mining licenses of Figueira, Capão do Mel and Soberbo
-
- The Scoping Study aims to generate relevant process and non-process engineering data to feed into multiple parallel work programs including
 - EIS studies being undertaken by Brazilian Environmental consultant Alger Consultoria (**Alger**)
 - Capital and operating costs to inform inhouse financial modelling and an impending reserve update (expected Q3 2024)
 - Mechanical Equipment lists, Mass Balance and the Metallurgical Flow sheet currently being optimised with inputs from the ongoing ANSTO test work program³

Further Significant Expansion of Caldeira

In July, the Company announced it had entered into a Binding Option Agreement to acquire significant and strategic Ionic Clay REE Rights on licences that merge crucial areas identified in the recent MRE for the Caldeira Project.

The proposed acquisition comprises the REE Rights on 18 Licences (5 Mining Licences, 6 Mining Licence Applications, 6 Exploration Licences and 1 Exploration Licence Application) and covers an area of 20.5km², which will increase Meteoric’s total REE area held in this significant REE province to 193km².

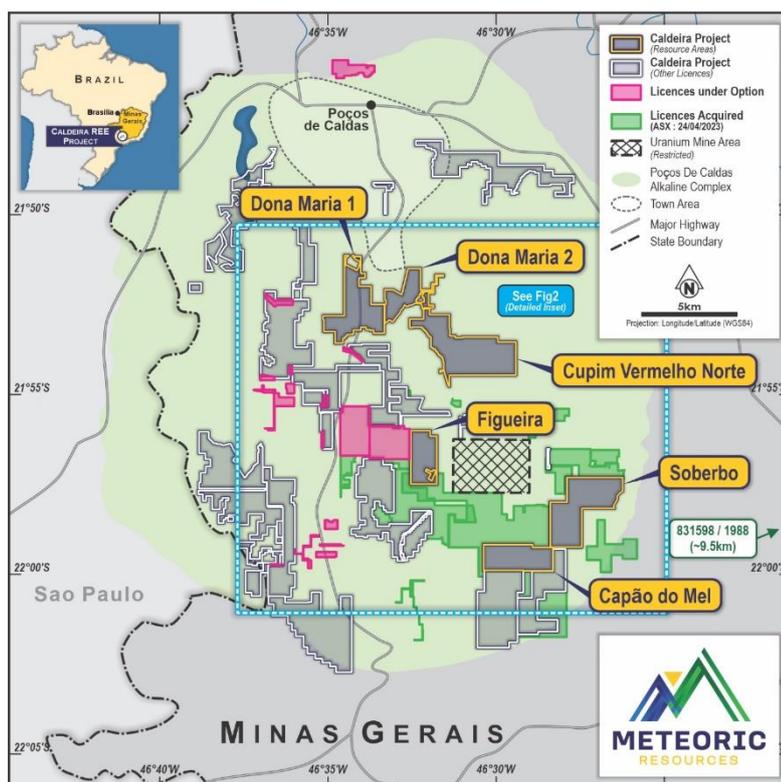


Figure 1. Simplified regional geological map of the Poços de Caldas Intrusive Complex showing the new licences in red/pink

³ 26 June 2023 “ANSTO Commences Metallurgical Test Work on Caldeira”

The acquisition amalgamates an important area immediately west of the Figueira Licence, of approximately 7km², in the most prospective southern portion of the Caldeira Project. The recent MRE quantified the Figueira Resource at 50Mt @ 2,811ppm TREO⁴ at a 1,000ppm cut-off.

As the licences have not been subject to previous exploration for REE, there is no technical data to report. However, the historic drilling of the Figueira Licence, that is adjacent to the main area of the proposed Option, demonstrates strong mineralisation which extends to the Licence boundary and as such, Meteoric believes that it is highly likely that the REE mineralisation will continue into the new areas. This opportunity will be the target of significant future exploration by the Company.

The material terms of the Option Agreement pursuant to which Meteoric may acquire the REE Rights to 18 licences from Raj Minerios Ltda are as follows:

- US\$200,000 for a 120-day exclusivity period for the purposes of technical, legal and financial due diligence by Meteoric (Exclusivity Period);
- At the end of the Exclusivity Period, should Meteoric wish to proceed, Meteoric is granted a three- year exclusive option period to conduct exploration activities on the Licences (Option Period); and
- At the end of the Option Period, should Meteoric wish to acquire the REE Rights to the Licences, it shall pay US\$1,500,000.

Table 1. Details of New Licences

LICENCE	AREA (Ha)	Licence Type	NAME
5649/1963	12.4	Mining Licence	RAJ MINERIOS LTDA
2757/1967	20.1	Mining Licence	RAJ MINERIOS LTDA
815237/1971	132.0	Mining Licence Application	RAJ MINERIOS LTDA
825972/1972	377.4	Mining Licence	RAJ MINERIOS LTDA
803457/1975	60.6	Mining Licence	RAJ MINERIOS LTDA
831598/1988	930.9	Mining Licence Application	RAJ MINERIOS LTDA
837368/1993	340.0	Mining Licence Application	RAJ MINERIOS LTDA
830722/2002	5.6	Mining Licence Application	RAJ MINERIOS LTDA
832889/2005	27.8	Mining Licence Application	RAJ MINERIOS LTDA
830824/2006	13.2	Exploration Licence	RAJ MINERIOS LTDA
832350/2006	27.1	Exploration Licence	RAJ MINERIOS LTDA
832351/2006	16.8	Exploration Licence	RAJ MINERIOS LTDA
831250/2008	2.5	Mining Licence Application	RAJ MINERIOS LTDA
832799/2002	38.4	Exploration Licence Application	RAJ MINERIOS LTDA
832714/2016	13.6	Exploration Licence	RAJ MINERIOS LTDA
832800/2002	6.9	Exploration Licence	RAJ MINERIOS LTDA
832671/2005	16.9	Exploration Licence	RAJ MINERIOS LTDA
833914/2007	7.0	Mining Licence	RAJ MINERIOS LTDA
TOTAL	2049.3		

⁴ TREO = La₂O₃ + CeO₂ + Pr₆O₁₁ + Nd₂O₃ + Sm₂O₃ + Eu₂O₃ + Gd₂O₃ + Tb₄O₇ + Dy₂O₃ + Ho₂O₃ + Er₂O₃ + Tm₂O₃ + Yb₂O₃ + Lu₂O₃ + Y₂O₃

Cooperation Agreement with Government of Minas Gerais and Invest Minas

On August 11th 2023, the Company advised that at a signing ceremony held at the Historic Palace Casino in Poços de Caldas, the Governor of Minas Gerais State, Mr Romeu Zema and Meteoric's Executive Chairman, Dr Andrew Tunks signed a Cooperation Agreement awarding priority status to Meteoric's Caldeira Project, recognising it as a significant project which is in the State's interest.

The Cooperation Agreement provides for Invest Minas, a State Government Agency responsible for promoting business investment within the State, to lead project facilitation of the Caldeira Project through to production. The Cooperation Agreement places the Caldeira Project on an exclusive list of high-priority mining projects for the State of Minas Gerais providing a higher level of facilitation and ensuring the Caldeira Project is guided through the approval processes in a highly streamlined manner.

During the speech, Governor Zema emphasised the importance of Meteoric's ongoing investment into the Caldeira Project and the ways in which the State and Local Government can assist to expedite the licensing process. The Governor concluded that he sees the state of Minas Gerais as a future leader in green mining and the production of rare earths through the success of the Caldeira Project.

Material terms for the Cooperation Agreement can be found in Meteoric ASX Announcement 17th August 2023.



Figure 2. Meteoric Directors Dr Andrew Tunks (left) and Dr Marcelo de Carvahlo (right) with Alger Partners Dr Antonio Malard (centre left) and Mr Germano Luiz Gomes Vieira (centre right)

Diamond Drilling Confirms Ultra High-Grade Extending Beneath Resource

As part of the Company’s ongoing drilling program, Meteoric in July released the results of 27 diamond cores which conclusively demonstrated that the high-grade REE zone extends significantly deeper beneath the existing MRE. The new assays clearly detailed that significant extensions at depth exist across all prospects tested, including Capão do Mel, where the diamond drilling has extended the mineralisation to a depth of up to 36 metres and at Figueira where REE mineralisation down to a depth of 67 metres.

The initial proposed 1,250m program was designed to test the depth to the base of the clays below the Inferred Resource and support metallurgical characterisation and density testwork programs. Due to the success of the program, drilling was expanded to test seventeen (17) priority regional targets (soil anomalies) on licences outside the Company’s existing REE resource areas (see section below Highest Drill Intercept Reported Outside Existing Resource).

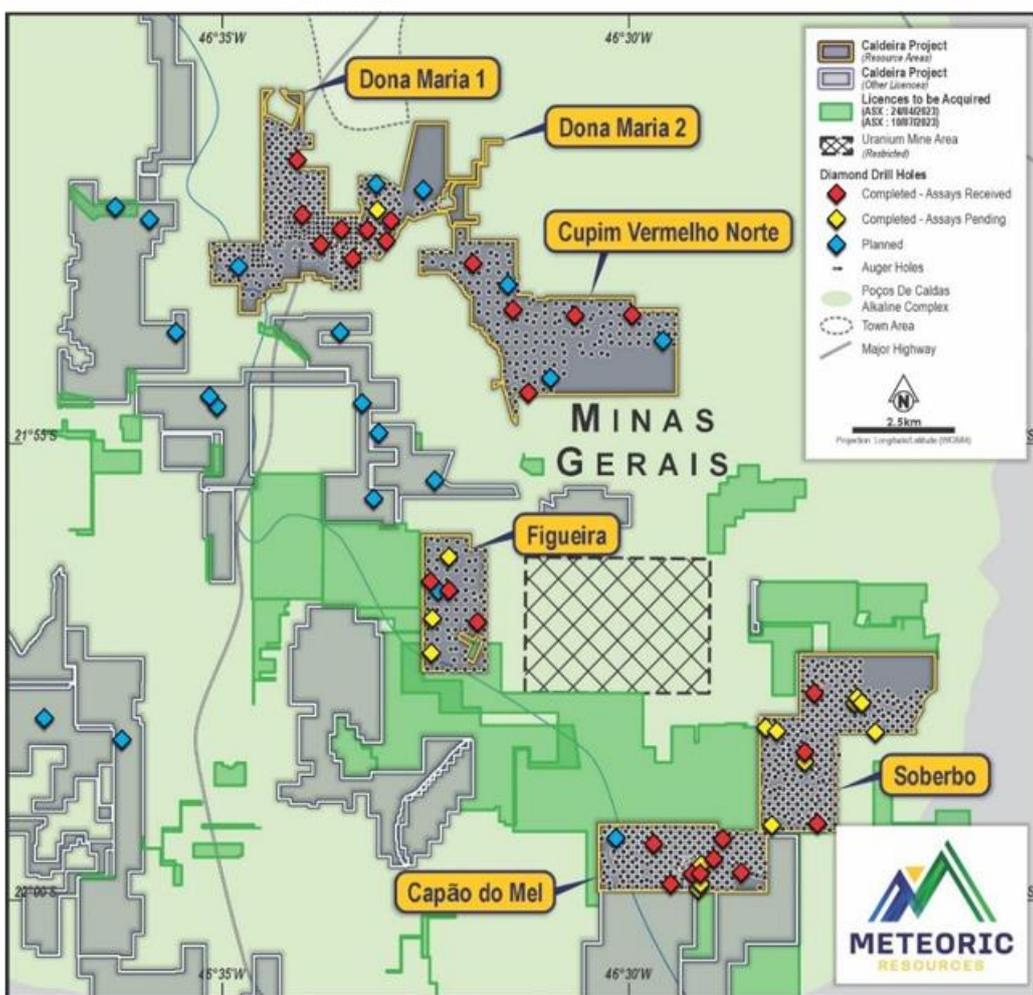


Figure 3. DD Drill Hole Location Plan

Table 2. Mineralised Intercept Table

Target	Hole	From (m)	To (m)	Length (m)	TREO (ppm)	MREO (ppm)	MREO as % of TREO
Capão da Mel	CDMDD001	0.0	31.2	31.2	3,760	923	24.6%
	<i>including</i>	2.2	18.6	16.4	5,537	1,572	28.4%
	CDMDD002	0.0	18.5	18.5	3,808	907	23.8%
	<i>including</i>	6.0	16.4	10.4	5,000	1,405	28.1%
	CDMDD004	0.0	16.4	16.4	5,967	1,736	29.1%
	<i>including</i>	3.3	14.0	10.7	7,243	2,203	30.4%
	CDMDD005	0.0	5.4	5.4	8,200	1,943	23.7%
	<i>including</i>	0.7	5.4	4.7	8,794	2,025	23.0%
	CDMDD006	0.0	36.0	36.0	2,881	519	18.0%
	<i>including</i>	0.0	9.0	9.0	4,228	316	7.5%
	<i>and</i>	22.0	26.0	4.0	3,398	743	21.9%
	CDMDD007	0.0	33.3	33.3	2,102	371	17.7%
CDMDD008	0.0	36.8	36.8	1,600	276	17.2%	
<i>including</i>	3.0	8.0	5.0	4,861	1,206	24.8%	
Cupim Vermelho	CVNDD001	0.0	19.2	19.2	5,825	1,403	24.1%
	<i>including</i>	0.0	16.9	16.9	6,403	1,552	24.2%
	CVNDD002	0.0	20.6	20.6	4,111	1,194	29.0%
	<i>including</i>	5.0	16.2	11.2	5,538	1,795	32.4%
	CVNDD003	0.6	32.4	31.8	3,243	699	21.6%
	<i>including</i>	23.0	27.0	4.0	16,074	5,017	31.2%
	CVNDD004	0.0	27.4	27.4	2,914	631	21.6%
<i>including</i>	9.0	20.0	11.0	5,066	1,669	32.9%	
CVNDD005	0.4	19.8	19.4	1,556	282	18.1%	
Don Maria I	DM1DD001	1.7	20.4	18.8	2,857	785	27.5%
	<i>including</i>	4.8	14.0	9.2	4,079	1,341	32.9%
	DM1DD002	1.0	34.6	33.6	2,715	580	21.4%
	<i>including</i>	4.0	16.0	12.0	4,714	1,445	30.6%
	DM1DD003	0.0	9.9	9.9	4,741	1,362	28.7%
	<i>including</i>	3.0	9.9	6.9	5,714	1,764	30.9%
	DM1DD004	0.3	13.4	13.0	2,229	474	21.2%
DM1DD005	0.0	1.0	1.0	1,200	232	19.3%	
Dona Maria II	DM2DD001	0.0	15.6	15.6	2,076	517	24.9%
	<i>including</i>	3.0	6.0	3.0	3,453	883	25.6%
	DM2DD002	0.0	5.0	5.0	2,690	616	22.9%
	<i>including</i>	0.0	3.0	3.0	3,386	859	25.4%
	DM2DD003	0.0	15.3	15.3	2,175	526	24.2%
	<i>including</i>	0.0	4.0	4.0	3,626	1,069	29.5%
	DM2DD004	0.0	15.6	15.6	2,331	521	22.3%
<i>including</i>	5.0	7.1	2.1	4,381	1,376	31.4%	
<i>and</i>	13.0	15.6	2.6	5,163	1,181	22.9%	
Figueira	FGDD001	0.0	42.2	42.2	1,846	286	15.5%
	<i>including</i>	0.5	4.0	3.6	3,771	737	19.6%
	FGDD002	9.0	67.3	58.3	2,449	423	17.3%
	<i>including</i>	47.6	53.2	5.5	4,834	1,093	22.6%
	FGDD003	0.0	45.6	45.6	3,352	643	19.2%
	<i>including</i>	2.3	14.0	11.7	6,108	1,518	24.8%
<i>and</i>	28.0	31.0	3.0	5,804	891	15.4%	
Soberbo	SBDD001	0.0	13.0	13.0	3,545	870	24.6%
	<i>including</i>	9.0	13.0	4.0	5,497	1,372	25.0%
	SBDD002	0.0	26.1	26.1	3,348	878	26.2%
	<i>including</i>	11.0	25.0	14.0	4,365	1,282	29.4%
SBDD003	0.0	3.9	3.9	1,506	343	22.8%	

*min 4m width, bottom cut-off 1000ppm TREO, max 2m internal dilution

**including: min 2m width, bottom cut-off 3000 ppm TREO, max 1m internal dilution

All Diamond Drill holes reported in July ended in fresh granite, penetrating below the base of Auger drilling and the current Inferred Resource to test the thickness of the clay zone and the depth to which REE mineralisation is present. Table 3 below shows the average depths of clay observed in historic Auger Drilling versus the average depths of clay observed in the current Diamond Drilling program.

Table 3. Observed depth of mineralised Clay Zone (AUGER v DD Drilling).

Target	No. AUGER holes	Ave. Depth Clay in AUGER	No. DD holes	Ave. Depth Clay in DD	Increased Depth of Clay (m)	Increased Depth of Clay (%)
Capão do Mel	337	10.27	11	26.81	16.54	+ 161 %
Soberbo	323	9.25	11	18.76	9.51	+ 103 %
Figueira	92	10.33	6	56.66	46.33	+ 448 %
Cupim Vermelho	185	9.99	5	23.87	13.98	+ 140 %
Dona Maria I	316	10.00	5	16.08	6.98	+ 70 %
Dona Maria II	143	9.11	4	15.03	5.92	+ 65 %
TOTAL	1,396	9.83	42	26.20	16.38	+ 164 %

The diamond drilling at all six resource areas has extended the maximum depths of mineralisation significantly. This has significant positive implications for any future resource estimate should the trend continue in future drilling.

Further drilling highlights from 17 holes within the existing Resource, reported in August, included:

- CDMDD009 - 16.9m @ 3,649ppm TREO [0m], including 7m @ 5,834ppm TREO [0m]
- CDMDD010 - 52.6m @ 2,619ppm TREO [0m], including 5m @ 3,016ppm TREO [17m]
- CDMDD011 - 25m @ 6,575ppm TREO [0m], including 4.5m @ 15,598ppm TREO [2m]
- FGDD004 - 97.7m @ 1,817ppm TREO [0m], including 12.3m @ 3,666ppm TREO [22.8m]
- FGDD005 - 11.1m @ 2,670ppm TREO [0m], including 7.1m @ 3,072ppm TREO [4m]
- FGDD006 - 59m @ 2,594ppm TREO [0m], including 28m @ 3,905ppm TREO [10m]
- SBDD004 - 22.7m @ 2,359ppm TREO [0m], including 10.3m @ 3,755ppm TREO [0m]
- SBDD008 - 26.2m @ 3,306ppm TREO [0m], including 18.2m @ 4,172ppm TREO [8m]
- SBDD009 - 26.2m @ 3,958ppm TREO [0m], including 19.2m @ 4,785ppm TREO [7m]
- SBDD010 - 24.3m @ 2,992ppm TREO [0m], including 14m @ 4,038ppm TREO [7m]
- SBDD011 - 24.5m @ 2,240ppm TREO [0m], including 10m @ 3,781ppm TREO [12m]

Highest Drill Intercept Reported Outside Existing Resource

The Company, as part of its ongoing diamond drilling program released the results from 5 holes located outside the existing MRE area in August.

Highlights of Exploration Drilling (Outside the Caldeira Project Resource Estimate) (ASX 31/8/2023):

- CVSD001 - 149.5m @ 8,912 ppm TREO [0m], with 52m @ 12,692ppm or 1.27 % TREO [61m],
- BDPDD001 - 73.3m @ 3,939ppm TREO [0m], including 42.3m @ 4,719ppm TREO [0m]
- CDMDD003 - 26.7m @ 1,561ppm TREO [0m], including 4.2m @ 3,582ppm TREO [0.9m]
- CRDD001 - 58m @ 2,702ppm TREO [0m], including 33m @ 3,006ppm TREO [5m]
- CRDD002 - 28.4m @ 2,194ppm TREO [0m], including 12.1m @ 2,322ppm TREO [5m]

The regional exploration program, which was designed to test seventeen (17) priority targets (soil anomalies) on licenses outside the Company's REE Inferred Resource areas, began in July 2023 and results from 5 holes were received from Targets at: Cupim Vermelho Sul, Barra de Pacu, and Cercado.

The highlight was an astonishing result at Cupim Vermelho Sul in CVSD001 which returned 149.5m @ 8,912ppm

TREO from surface [0m] including 53m @ 12,692ppm or 1.27% TREO [61m]. The MREO as a percentage of TREO for the three (3) Targets ranged from 15.1% to 23.8%, consistent with the percentages reported across the Inferred Resources.

However, of particular note is the contribution of the heavy rare earth oxides (HREOs – Tb₄O₇ + Dy₂O₃), especially in CVSD001 where dysprosium oxide (Dy₂O₃) averaged 107ppm over 52m from 61m to 113m down hole, compared to an average of 25ppm across the Inferred Resources. Terbium oxide (Tb₄O₇) averaged 21ppm over the same 52m interval compared to an average of 5ppm across the Inferred Resources. This demonstrates there is an ability to define higher grade HREO zones within the mineralisation across the Project.

Table 4. Mineralised Intercept Table – Greenfields (regional exploration) Diamond Drill Hole program.

Target	Hole	From (m)	To (m)	Length (m)	TREO (ppm)	MREO (ppm)	MREO as % of TREO
Barra do Pacu	BDPDD-001	0.00	73.31	73.31	3,939	730	18.5%
	<i>including</i>	0.00	42.31	42.31	4,719	890	18.9%
	CDMDD003	0.00	26.70	26.70	1,561	372	23.8%
	<i>including</i>	0.85	5.00	4.15	3,582	972	27.1%
Cercado	CRDD001	0.00	58.00	58.00	2,702	408	15.1%
	<i>including</i>	5.00	38.00	33.00	3,006	358	11.9%
	CRDD002	0.00	28.42	28.42	2,194	402	18.3%
	<i>including</i>	1.89	17.10	15.21	2,322	404	17.4%
Cupim Vermelho Sul	CVSDD001	0.00	149.49	149.49	8,912	1,417	15.9%
	<i>with</i>	61.00	113.00	53.00	12,585	2,710	21.5%

* min 4m width, bottom cut-off 1,000ppm TREO, max 2m internal dilution

** 'including': min 2m width, bottom cut-off 3,000 ppm TREO, max 1m internal dilution

*** 'with': min 2m width, bottom cut-off 10,000 ppm TREO, max 1m internal dilution

200Mt Measured and Indicated Infill Drilling

The 200Mt Measured and Indicated resource estimate infill drilling program (60,000m) continues with the remaining focus on the 3 Southern tenements of Soberbo, Capão do Mel and Figuera, following the purchase of a Hanjin 8D Multipurpose Drill rig.



Resource updates will be delivered sequentially with all 3 resource updates expected by early Q3 2024.

Environmental Impact Study

Meteoric signed a Memorandum of Understanding (**MoU**) with environmental consultants Alger Consultoria e Assessoria Juridica (**Alger**) to carry out an Environmental Impact Study (**EIS**) for the Caldeira Project.

Alger are based in Belo Horizonte and has a large portfolio of licensed mining projects operating in the State of Minas Gerais, Bahia and Para; including facilitating the licensing of the Grota do Cirilo Project owned by Sigma Lithium Resources (**NASDAQ: SGML, TSXV: SGML**) in Minas Gerais.

The schedule for the environmental licensing of the Caldeira Project agreed between Meteoric and the State of Minas Gerais establishes an accelerated indicative timeline of 24 months for the Project's Construction License to be issued.

Alger continues the EIS permitting process with a timeline to deliver the EIS permit by Q1 2025 and the permit to construct by Q4 2025.

ANSTO Metallurgical Testwork Confirms Outstanding Recoveries

Late in September, Meteoric provided an update on the initial results of the metallurgical testwork being carried out by Australia's leading laboratory in ionic clay leaching - Australian Nuclear Science and Technology Organisation (**ANSTO**).

The testwork reported was from diamond drill cores collected during a metallurgical sampling program completed by Meteoric across the six deposits with defined Inferred Resources. These results build on historical test work from a single composite sample at the Capão do Mel deposit which produced outstanding results including leachability averaging 70%.

Metallurgical testwork commenced at ANSTO in July 2023 on 3m composite samples from nine (9) diamond drill cores completed as part of the Company's metallurgical sampling program in March-July 2023. The program targeted the six deposits which currently define the Company's stated Inferred Resource Estimates: Capão Do Mel, Soberbo, Figueira, Cupim Vermelho Norte, Donna Maria 1, and Donna Maria 2.

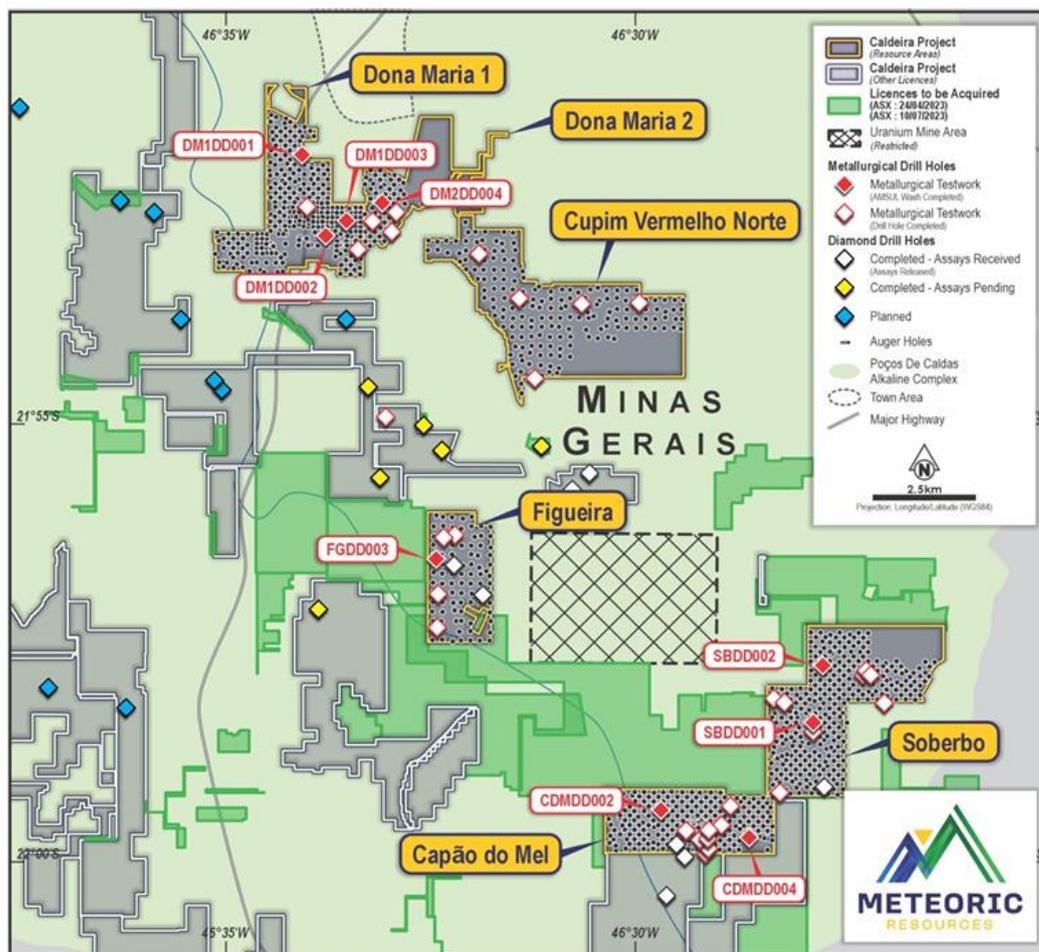


Figure 4. Metallurgical Drill Hole Location Plan, Caldeira Project.

The metallurgical testwork program was designed to:

- Validate the results of previous testwork undertaken by JOGMEC in 2019 and reported to the ASX by MEI in December 2022; and
- Assess the metallurgical variability both laterally and at depth across each of the deposits, paying particular attention to the clay zone below known JOGMEC drilling, the current resource estimation boundary, and the previous SGS testwork.

Composite samples (3m) were collected from beneath the soil horizon (soil average 2m depth), starting in the clay zone and progressing down the hole until the intrusive basement was reached. Whilst the soil from the deposit does contain strongly elevated REE, it was not included in the testwork as it is planned for stockpiling and subsequent replacement and revegetation after mining.

Highlights from the testwork program included:

- Results believed to include the highest rare earth leach extractions ever reported for a standard ammonium sulphate (AMSUL) wash at pH 4.0 for any public listed company on the ASX or globally;
- Mineralisation across all tenements tested display strong ionic behaviour over thick intervals using a standard

AMSUL wash test;

- Improved recoveries of Dysprosium and Terbium to the leach, with both elements strong value drivers in the basket
- Exceptional Magnet Rare Earth Element⁵ (MREE) leach extractions, include:
 - 88% over 9.4m from 2.6m in CDMDD004, including best values of Nd 92% - Pr 86% - Tb 72% and Dy 71%
 - 86% over 7.9m from 2.0m in DM1DD003, including best values of Nd 91% - Pr 87% - Tb 71% and Dy 73%
 - 84% over 24.8m from 2.2m in DM1DD002, including best values of Nd 94% - Pr 95% - Tb 81% and Dy 75%
 - 83% over 6.0m from 9.0m in FGDD003, including best values of Nd 88% - Pr 81% - Tb 65% and Dy 66%
 - 79% over 13.6m from 2.0m in DM2DD004, including best values of Nd 84% - Pr 81% - Tb 70% and Dy 68%
- High recoveries from high-grade magnet metal samples demonstrating that even at high grades the bulk of the MREE are amenable to AMSUL leaching.

Table 5. Collar Table of holes reported

Target	Hole ID	East	North	RL	Hole Depth	Depth of Clay	Assays
Capão do Mel	CDMDD-002	345627	7567601	1312	20.4	18.5	Previously Reported
Capão do Mel	CDMDD-004	347477	7567043	1326	18.9	16.4	Previously Reported
Dona Maria 1	DM1DD-001	337939	7581336	1353	33.3	20.4	Previously Reported
Dona Maria 1	DM1DD-002	338450	7579638	1367	37.3	34.6	Previously Reported
Dona Maria 1	DM1DD-003	338886	7579953	1382	15.1	9.9	Previously Reported
Dona Maria 2	DM2DD-004	339141	7579358	1374	21.2	14.5	Previously Reported
Figueira	FGDD-003	340847	7572850	1282	45.6	45.6	Previously Reported
Soberbo	SBDD-001	348798	7569484	1307	18.2	13	Previously Reported
Soberbo	SBDD-002	349087	7568044	1298	31.5	26.1	Previously Reported

Diagnostic leach tests continued throughout September and October on the remaining metallurgical holes, with particular focus on the Capão do Mel and Soberbo tenements. A master composite of the Capão do Mel tenement will be constructed from all of the metallurgical drill holes that return satisfactory metallurgical performance. The leaching program will aim to optimise the extractions by evaluating different lixivants, lixiviant concentration, % solids and pH.

Following the leaching program, work to optimize impurity removal will be progressed to improve the rejection of deleterious elements such as aluminium, iron, silica, calcium, thorium and uranium, whilst maximising the recovery of the rare earths. The test work will aim to evaluate impurity removal conditions including pH, alkali type, temperature, residence time, % solids and solid liquid separation performance.

Following the impurity removal program, rare earth precipitation tests will be performed to generate a saleable rare earth product. The test work will evaluate the type of precipitation agent, pH, temperature, residence time, % solids and solid liquid separation performance.

The metallurgical scope is comprehensive and will run for approximately seven more months to enable adequate characterisation of each of the prospects.

Remaining recovery to the leach results are expected in November 2023 and impurity removal and precipitation to MREC results in late Q4.

Caldeira Project Scoping Study

Post quarter, Meteoric awarded the Caldeira Project Scoping Study (Class 5 Engineering cost estimate) to the

⁵ Magnetic Rare Earth Elements (MREE) = Pr, Nd, Tb, Dy

highly regarded international engineering group, Ausenco.

Working in concert with teams in Australia and Brazil, the Scoping Study is scheduled for completion in Q1 2024 and will comprise the review and assessment of:

- Plant location options
- Infrastructure and logistics options
- Mining options (base case being conventional Excavator and Truck)
 - Fleet and equipment sizing
 - Capital and Operating costs
 - Mining and backfilling Schedules
 - Backfilling options
 - Water management
- Processing options (With Base case being Agitated tank leach)
 - Throughput and equipment sizing and sensitivity analysis
 - Capital and operating costs
- Project implementation schedule
- Project Risk register and assessment
- Financial modeling.

The Study will focus only on the three Southern licenses of Figuera, Capão do Mel and Soberbo and follows the Meteoric development strategy of the initial MREC facility being sited to process IAC ore types from these three licenses only.

This Southern license only strategy also aligns with:

- Alger consulting EIS scope of work focusing on 3 Southern licenses.
- The 200Mt resource infill drilling program to a Measured and Indicated status.
- The ANSTO metallurgical testwork package, which will ultimately provide an optimised flowsheet for the three Southern licenses.

Mineral Resource Statement – Caldeira Project (ASX:MEI 1/5/2023)

Table 6. Caldeira REE Project 2023 Mineral Resource Estimate– by licence at 1,000ppm TREO cut-off

Licence	JORC	Tonnes	TREO	Pr ₆ O ₁₁	Nd ₂ O ₃	Tb ₄ O ₇	Dy ₂ O ₃	MREO	MREO/TREO
	Category	Mt	ppm	ppm	ppm	ppm	ppm	ppm	%
Capão do Mel	Inferred	68	2,692	148	399	4	22	572	21.3%
Cupim Vermelho Notre	Inferred	104	2,485	152	472	5	26	655	26.4%
Dona Maria 1 & 2	Inferred	94	2,320	135	404	5	25	569	24.5%
Figueira	Inferred	50	2,811	135	377	5	26	542	19.3%
Soberbo	Inferred	92	2,948	190	537	6	27	759	25.8%
Total	Inferred	409	2,626	154	447	5	25	631	24.0%

TREO = La₂O₃ + CeO₂ + Pr₆O₁₁ + Nd₂O₃ + Sm₂O₃ + Eu₂O₃ + Gd₂O₃ + Tb₄O₇ + Dy₂O₃ + Ho₂O₃ + Er₂O₃ + Tm₂O₃ + Yb₂O₃ + Lu₂O₃ + Y₂O₃
MREO = Pr₆O₁₁ + Nd₂O₃ + Tb₄O₇ + Dy₂O₃

Other Projects

Juruena Gold Project, Brazil

Subsequent the quarter on 31 October 2023 the Company advised it had completed the sale of the Juruena Gold Project for total cash consideration of US\$20 million to Keystone Resources Limited.

Palm Springs Gold Project, WA

There was no activity reported at Palm Springs during the September Quarter.

Webb JV (Ownership 13.87% MEI / 86.13% CGN Resources)

CGN (ASX:CGR) successfully listed on ASX following the end of the quarter. Refer to CGN's Quarterly Report (ASX Release 24 October 2023) for full details on the JV activities during the quarter.

Warrego North IOCG Project (Ownership 49% MEI / 51% Chalice Gold Mines Limited)

Located in the Northern Territory, the Warrego North Project is approximately 20km northwest of the historical high-grade Warrego Copper-Gold Mine, the largest deposit mined in the area producing 1.3 Moz Au and 90,000 tonnes of copper. Chalice Gold Mines Limited (ASX:CHN) can earn up to 70% interest in the project by sole funding \$800,000. There was no activity reported by Chalice during the quarter.

Corporate

Change of Address

The Company's Registered Office and Principal Place of Business has changed to:

Level 1, 35 Ventnor Avenue West Perth WA 6005.

The contact telephone number remains unchanged as +61 8 9226 2011.

Annual General Meeting

Meteoric's Annual General Meeting will be held on Friday, 17 November 2023. Further details in respect of the Annual General Meeting will be provided in the Notice of Meeting to be dispatched to Shareholders.

ASX Additional Information

Meteoric provides the following information pursuant to ASX Listing Rule requirements:

1. ASX Listing Rule 5.3.1: Exploration and Evaluation Expenditure spend during the September Quarter was \$7.12M. Full details of exploration activity during the September 2023 Quarter are set out in this report.
2. ASX Listing Rule 5.3.2: There were no substantive mining production and development activities during the Quarter.
3. ASX Listing Rule 5.3.5: Payment to related parties of the Company and their associates during the Quarter was \$240,000 cash.

End Notes

The information contained in this announcement related to the Company's past exploration results is extracted from, or was set out in, the following ASX announcements which are referred to in this Quarterly Activities Report:

- The report released 10 July 2023, "Further Strategic Expansion of Caldeira REE Project"
- The report released 24 July 2023, "Ultra High-Grade REEs Extend Significantly Beneath Resource"
- The report released 11 August 2023, "Cooperation Agreement Signed with Government of Minas Gerais"
- The report released 17 August 2023, "Material Terms of Agreement with Government of Minas Gerais"
- The report released 31 August 2023, "Remarkable REE Drill Results Outside Caldeira Resource"
- The report released 27 September 2023, "Outstanding Ionic Clay Recoveries from Metallurgical Results"
- The report released 6 October 2023, "Ausenco Awarded Caldeira REE Project Scoping Study Contract"
- The report released on 31 October 2023, "Sale of Juruena Gold Project Completed"

This release has been approved by the Board of Meteoric Resources NL.

For further information, please contact:

Dr Andrew Tunks

Executive Chairman

Meteoric Resources NL

E ajtunks@meteoric.com.au

T +61 400 205 555

Ben Creagh

Investor and Media Relations

NWR Communications

E benc@nwrcommunications.com.au

T +61 417 464 233

The information in this announcement that relates to mineral resource estimates and exploration results is based on information reviewed, collated and fairly represented by Dr Andrew Tunks who is a Member of the Australasian Institute of Geoscientists and a consultant to Meteoric Resources NL. Dr Tunks has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which has been undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Tunks consents to the inclusion in this report of the matters based on this information in the form and context in which it appears. Additionally, Dr Tunks confirms that the entity is not aware of any new information or data that materially affects the information contained in the ASX releases referred to in this report. The Company confirms that all material assumptions and technical parameters underpinning the mineral resource estimates continue to apply and have not materially changed. The Company confirms that the form and context in which the mineral resource estimates are presented have not been materially modified.

Appendix 1 Tenement Holdings

TENEMENT HOLDINGS AS AT 30 SEPTEMBER 2023				
Tenement	Status	Project	Ownership %	Change in Quarter
E80/4407	Granted	Webb JV	13.87%	-
E80/4815	Granted	Webb JV	13.87%	-
E80/5121	Granted	Webb JV	13.87%	-
E80/5471	Granted	Webb JV	13.87%	-
E80/5496	Granted	Webb JV	13.87%	-
E80/5499	Granted	Webb JV	13.87%	-
E80/5573	Granted	Webb JV	13.87%	-
E80/5573	Application	Webb JV	13.87%	-
EL23764	Granted	WARREGO NORTH	49%	-
M80/0106	Granted	PALM SPRINGS	97%	-
M80/0315	Granted	PALM SPRINGS	97%	-
M80/0418	Granted	PALM SPRINGS	100%	-
P80/1766	Granted	PALM SPRINGS	100%	-
P80/1768	Granted	PALM SPRINGS	100%	-
P80/1839	Granted	PALM SPRINGS	100%	-
P80/1854	Granted	PALM SPRINGS	100%	-
P80/1855	Granted	PALM SPRINGS	100%	-
E80/4856	Granted	PALM SPRINGS	100%	-
E80/4874	Granted	PALM SPRINGS	100%	-
E80/4976	Granted	PALM SPRINGS	100%	-
E80/5059	Granted	PALM SPRINGS	100%	-
E80/5584	Granted	PALM SPRINGS	100%	-

BRAZIL				
Claim No.	Status	City	Ownership %	Change in Quarter
Juruena Project				
866.079/2009	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.081/2009	Granted Exploration Permit	COTRIGUAÇU/MT, NOVA BANDEIRANTES/ MT	100%	-
866.082/2009	Granted Exploration Permit	COTRIGUAÇU/MT, NOVA BANDEIRANTES/ MT	100%	-
866.084/2009	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.778/2006	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.085/2009	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.080/2009	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.086/2009	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.247/2011	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.578/2006	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.105/2013	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.934/2012	Granted Exploration Permit	COTRIGUAÇU/MT	100%	-

866.632/2006	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.633/2006	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.294/2013	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
866.513/2013	Granted Exploration Permit	COTRIGUAÇU/MT, NOVA BANDEIRANTES/ MT	100%	-
Novo Astro Project				
867.246/2005	Granted Exploration Permit	NOVA BANDEIRANTES/ MT	100%	-
Caldeira Project				
Claim No.	Status	Owner	Ownership⁶	Change in the Quarter
814.251/1971	Mining Concession	Mineração Perdizes Ltda	100%	-
814.860/1971	Mining Concession	Mineração Zelândia Ltda	100%	-
815.006/1971	Mining Concession	Mineração Perdizes Ltda	100%	-
815.274/1971	Mining Request	Companhia Geral de Minas	100%	-
815.645/1971	Mining Concession	Companhia Geral de Minas	100%	-
815.681/1971	Mining Concession	Mineração Zelândia Ltda	100%	-
815.682/1971	Mining Concession	Companhia Geral de Minas	100%	-
816.211/1971	Mining Concession	Mineração Perdizes Ltda	100%	-
817.223/1971	Mining Concession	Mineração Daniel Togni Loureiro Ltda	100%	-
820.352/1972	Mining Concession	Mineração Zelândia Ltda	100%	-
820.353/1972	Mining Concession	Mineração Zelândia Ltda	100%	-
820.354/1972	Mining Concession	Mineração Zelândia Ltda	100%	-
813.025/1973	Mining Request	Mineração Perdizes Ltda	100%	-

⁶ Meteoric owns 100% of the exclusive rights to explore for and develop all rare earth elements located on the 51 mining leases that comprise the Caldeira Project.

808.556/1974	Mining Concession	Mineração Perdizes Ltda	100%	-
811.232/1974	Mining Concession	Mineração Perdizes Ltda	100%	-
809.359/1975	Mining Concession	Companhia Geral de Minas	100%	-
803.459/1975	Mining Concession	Mineração Perdizes Ltda	100%	-
804.222/1975	Mining Request	Mineração Perdizes Ltda	100%	-
807.899/1975	Mining Request	Companhia Geral de Minas	100%	-
808.027/1975	Mining Concession	Companhia Geral de Minas	100%	-
809.358/1975	Mining Concession	Companhia Geral de Minas	100%	-
830.391/1979	Mining Request	Mineração Perdizes Ltda	100%	-
830.551/1979	Mining Request	Togni S A Materiais Refratários	100%	-
830.000/1980	Mining Request	Mineração Perdizes Ltda	100%	-
830.633/1980	Mining Request	Mineração Zelândia Ltda	100%	-
831.880/1991	Mining Request	Mineração Zelândia Ltda	100%	-
835.022/1993	Mining Concession	Mineração Perdizes Ltda	100%	-
835.025/1993	Mining Concession	Mineração Perdizes Ltda	100%	-
831.092/1983	Mining Concession	Mineração Perdizes Ltda	100%	-
830.513/1979	Mining Request	Mineração Monte Carmelo Ltda	100%	-
830.443/2018	Exploration Licence	Fertimax Fertilizantes Orgânicos Ltda.	100%	100%
830.444/2018	Exploration Licence	Fertimax Fertilizantes Orgânicos Ltda.	100%	100%
833.655/1996	Mining Application	Minas Rio Mineradora Ltda.	100%	100%
833.656/1996	Mining Application	Minas Rio Mineradora Ltda.	100%	100%
833.657/1996	Mining Application	Minas Rio Mineradora Ltda.	100%	100%
834.743/1995	Mining Application	Minas Rio Mineradora Ltda.	100%	100%
833.486/1996	Mining Application	Minas Rio Mineradora Ltda.	100%	100%
002.349/1967	Mining Licence	Varginha Mineração e Loteamentos Ltda.	100%	100%

833.176/2008	Exploration Application	Varginha Mineração e Loteamentos Ltda.	100%	100%
830.955/2006	Exploration Application	Varginha Mineração e Loteamentos Ltda.	100%	100%
830.461/2018	Exploration Application	Fertimax Fertilizantes Orgânicos Ltda.	100%	100%
832.193/2012	Exploration Licence	Varginha Mineração e Loteamentos Ltda.	100%	100%
831.686/2012	Exploration Licence	Varginha Mineração e Loteamentos Ltda.	100%	100%
831.269/1992	Mining Licence	Varginha Mineração e Loteamentos Ltda.	100%	100%
832.572/2003	Mining Application	Varginha Mineração e Loteamentos Ltda.	100%	100%
833.551/1993	Mining Application	Varginha Mineração e Loteamentos Ltda.	100%	100%
833.553/1993	Mining Application	Varginha Mineração e Loteamentos Ltda.	100%	100%
830.697/2003	Mining Application	Varginha Mineração e Loteamentos Ltda.	100%	100%
832.252/2001	Mining Application	Varginha Mineração e Loteamentos Ltda.	100%	100%
830.416/2001	Mining Application	Varginha Mineração e Loteamentos Ltda.	100%	100%
832.146/2002	Mining Application	Varginha Mineração e Loteamentos Ltda.	100%	100%

Appendix 5B

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

Name of entity

METEORIC RESOURCES NL

ABN

64 107 985 651

Quarter ended ("current quarter")

30 SEPTEMBER 2023

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(7,127)	(7,127)
(b) development	-	-
(c) production	-	-
(d) staff costs	(461)	(461)
(e) administration and corporate costs	(632)	(632)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	-	-
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	(8,220)	(8,220)
2. Cash flows from investing activities		
2.1 Payments to acquire or for:		
(a) entities	-	-
(b) tenements	-	-
(c) property, plant and equipment	(281)	(281)
(d) exploration & evaluation *	-	-
(e) investments	-	-
(f) other non-current assets	-	-

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 (3 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	(281)	(281)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)	-	-
3.2	Proceeds from issue of convertible debt securities	-	-
3.3	Proceeds from exercise of options	-	-
3.4	Transaction costs related to issues of equity securities or convertible debt securities	-	-
3.5	Proceeds from borrowings	290	290
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	290	290

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	17,290	17,290
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(8,220)	(8,220)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(281)	(281)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	290	290

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 (3 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	9,079	9,079

* Prior quarter amounts have been re-positioned for consistency with current quarter disclosures.

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	9,079	17,290
5.2	Call deposits	-	-
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)	9,079	17,290

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	240
6.2	Aggregate amount of payments to related parties and their associates included in item 2	-
<p><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></p>		
<p>Payments of Directors fees and salaries</p>		

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

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
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)	(8,220)
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)	(8,220)
8.4 Cash and cash equivalents at quarter end (item 4.6)	9,543
8.5 Unused finance facilities available at quarter end (item 7.5)	-
8.6 Total available funding (item 8.4 + item 8.5)	9,543
8.7 Estimated quarters of funding available (item 8.6 divided by item 8.3)	1.1
<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: Yes	
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: The Company has realised AUD\$27,650,000 through the sale of the Juruena Gold Project (Refer ASX Release 31 October 2023)	

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

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: Yes

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.

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 October 2023

Authorised by: the Board
(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.