



Quarterly Activities Report for the Period ended 31 December 2019

ASX RELEASE

30 January 2020

Highlights

- **Drilling at Koppies (EPL 6987) in Namibia intersected high-grade uranium mineralisation including:**
 - **KP055** 13 m at 905 ppm U₃O₈ from 3 m
 - Including 2 m at 4,504 ppm U₃O₈
 - **KP045** 10 m at 687 ppm U₃O₈ from 2 m
 - Including 2 m at 1,974 ppm U₃O₈
- **A new palaeochannel up to 1.2 km wide and at least 3.6 km in length, has been identified and named Koppies 2.**
- **Marenica is now the largest tenement holder for nuclear fuel minerals in Namibia.**
- **The acquisition of Australian uranium assets from Optimal Mining Limited completed in December 2019, thereby:**
 - **increasing Marenica's uranium resources by 100%**
 - **adding 48 million pounds of high-grade resources, averaging 859 ppm U₃O₈**
 - **acquiring resources suitable for treatment by the *U-pgrade*[™] beneficiation process.**

OPERATIONAL UPDATES

Drilling at Koppies Identifies a Second Palaeochannel

Koppies (EPL 6987) is located in the Namib Area of Namibia and covers part of the eastern extension of the highly prospective Tumas palaeochannel system, which also hosts other uranium deposits. Koppies has been the focus of Marenica's exploration activities during the quarter, and to date, exploration activities include three phases of drilling and ground-based geophysics using Horizontal-Loop Electromagnetic ("HLEM") surveys.

During the quarter, assay results from the Phase 2 rotary air blast ("RAB") drill program were received with details announced to the ASX on the 7 November 2019 – "Drill results deliver exceptional uranium mineralisation at Koppies". The best results included:

Koppies 1

- KP055 13 m at 905 ppm U_3O_8 from 3 m
 - Including 2 m at 4,504 ppm U_3O_8
- KP011 4 m at 288 ppm U_3O_8 from 10 m

Koppies 2

- KP045 10 m at 687 ppm U_3O_8 from 2 m
 - Including 2 m at 1,974 ppm U_3O_8
- KP047 5 m at 194 ppm U_3O_8 from 5 m and 2 m at 593 ppm U_3O_8 from 15 m
- KP048 2 m at 286 ppm U_3O_8 from 3 m
- KP046 2 m at 281 ppm U_3O_8 from 9 m

The Phase 2 drilling program resulted in the identification of significant and continuous uranium mineralisation in a new palaeochannel, identified as Koppies 2, which is directly south of Koppies 1 (Refer to the September 2019 Quarterly Report).

The Phase 3 reverse circulation ("RC") drilling program was conducted at Koppies 2 towards the end of the quarter, with assay results expected during the March 2020 quarter.

Results to date indicate that the Koppies 2 palaeochannel is up to 1.2 km wide and extends the full width of the tenement, being approximately 3.6 km. Koppies 2 is not closed off to the east, with the mineralised channel appearing to flow westwards from Marenica's EPL 7279, which borders Koppies to the east. The discovery of Koppies 2 increases the potential for mineralisation to be identified at EPL 7279.

The location of the Phase 1 and 2 mineralised drill holes are shown in Figure 1 with the Koppies 1 and 2 palaeochannel outline, and the Phase 3 drill hole collars. The Company believes that there is significant potential for extensions to the north east and south east of the marked palaeochannel. These areas will be followed up in subsequent exploration programs.

Koppies 2 within the Koppies EPL is shown in Figure 1 below, and its location relative to Marenica's other EPL's and nearby known calcrete deposits in the Namib Area, are shown in Figure 2.

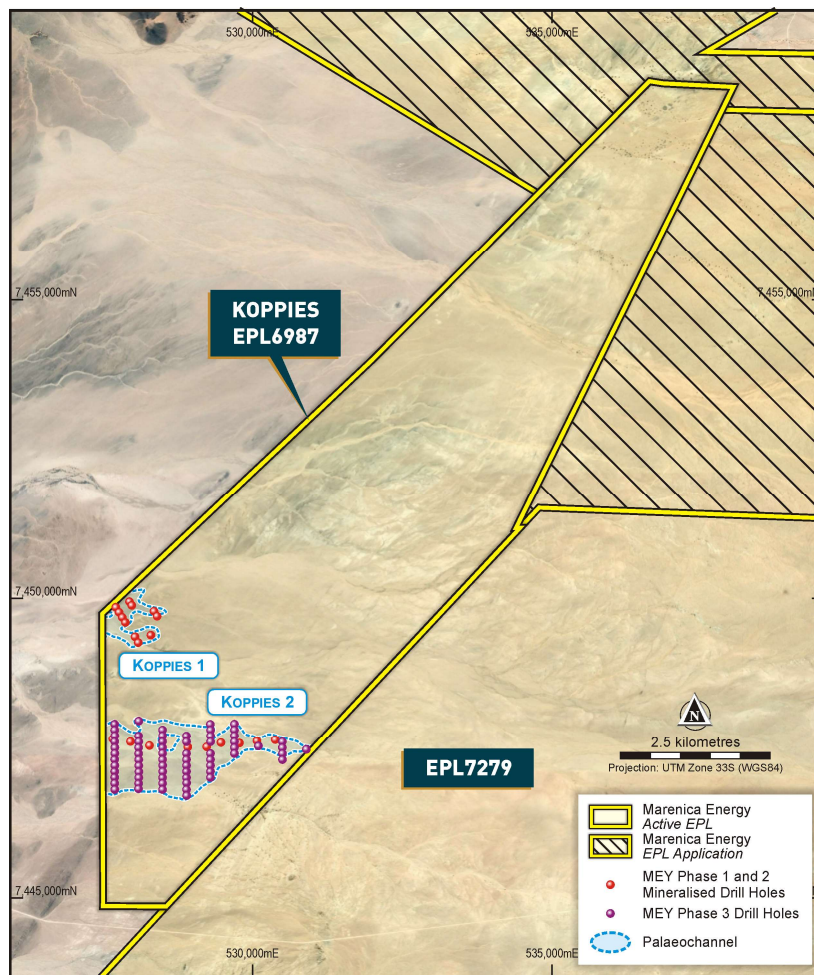


Figure 1 – Detailed Location of Drill Holes at Koppies

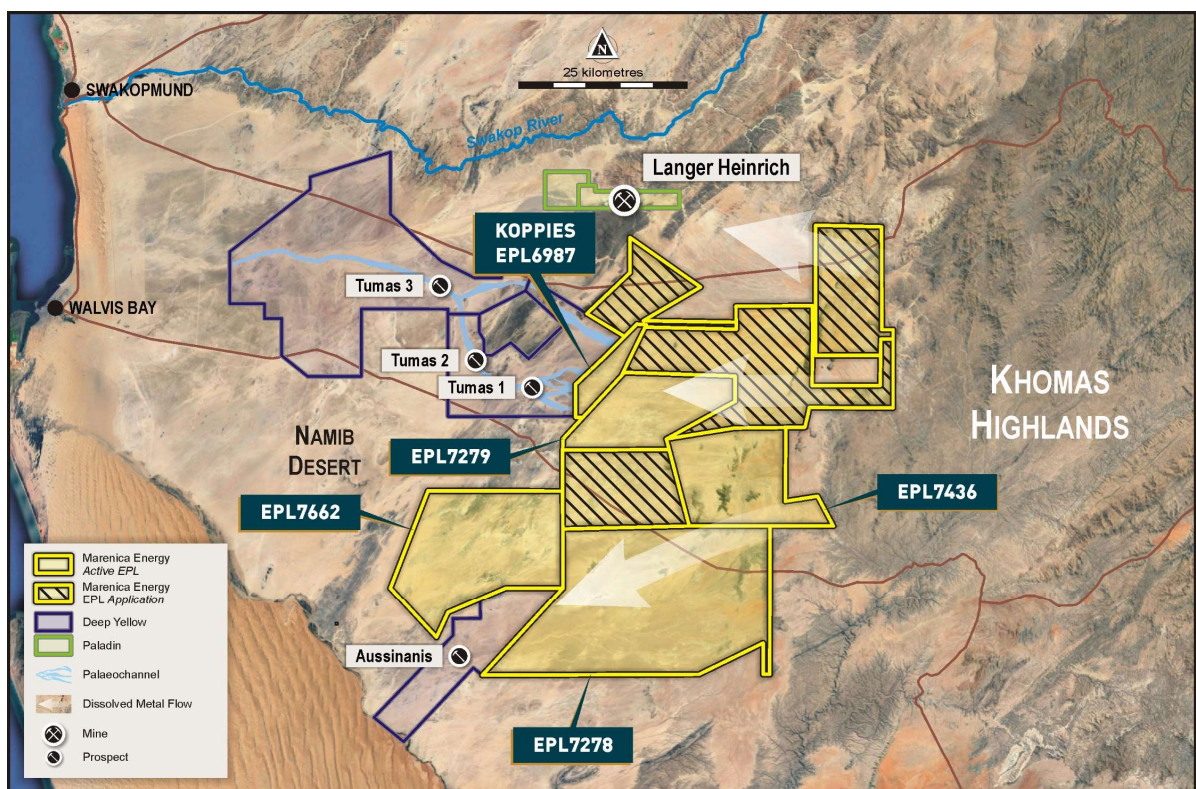


Figure 2 – Location of Marenica's EPL's in the Namib Area, Namibia

Koppies Potential

Drilling to date at Koppies 1 and 2 confirms that the uranium mineralisation is not confined to one single channel, however, is associated with a complex palaeodrainage system consisting of many palaeochannels. Identification of multiple mineralised channels emphasises the encouraging exploration potential of the extensive, uranium-fertile palaeochannel system at Koppies.

Mineralisation identified within the palaeochannels is calcrete hosted, the same style of ore used to develop Marenica's **U-pgrade™** uranium beneficiation process. The Company is therefore confident that **U-pgrade™** could be successfully applied to ore extracted at Koppies, thereby potentially resulting in a significant reduction in development and operating costs compared to conventional process routes.

The Koppies tenement is only 49 km² in area, representing less than 3% of the 1,609 km² area held by Marenica in the Namib Area. The Company is encouraged by the success achieved at Koppies to date, which highlights the significant potential of its large ground position held in the Namib Area.

Expanded portfolio in Namibia

Following the grant of EPL 7662 Marenica became the largest tenement holder for nuclear fuel minerals in Namibia (source: Namibia Mining Cadastre Portal). The Company has a total of five granted EPL's and four EPL applications in the Namib Area, two granted EPL's in the Marenica area, and one granted EPL and two EPL applications in the Mile 72 area (Figure 4).

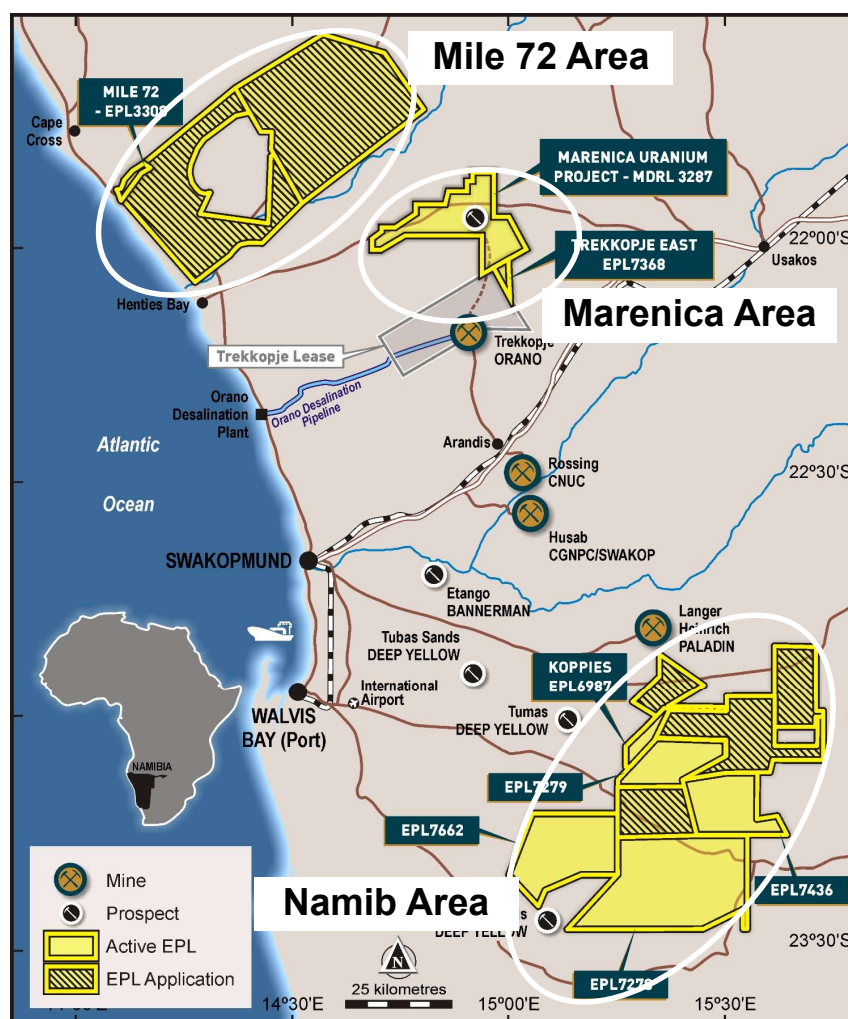


Figure 4 – Location of EPL's in the Erongo Region, Namibia

Acquisition of Australian Uranium Projects

On 12 December 2019, Marenica completed the acquisition of Australian uranium tenements from Optimal Mining Limited (“Optimal”), increasing Marenica’s uranium Mineral Resources by 48 Mlb of high-grade Mineral Resources at an average grade of 859 ppm U_3O_8 . The acquisition also doubles the total uranium Mineral Resources held by Marenica.

The high-grade mineralisation is contained within the wholly owned Angela and Thatcher Soak Mineral Resources and the Oobagooma exploration project, and in joint venture holdings in the Bigirlyi, Malawiri, Walbiri, Beatrice South and Mount Gilruth joint ventures in Australia.

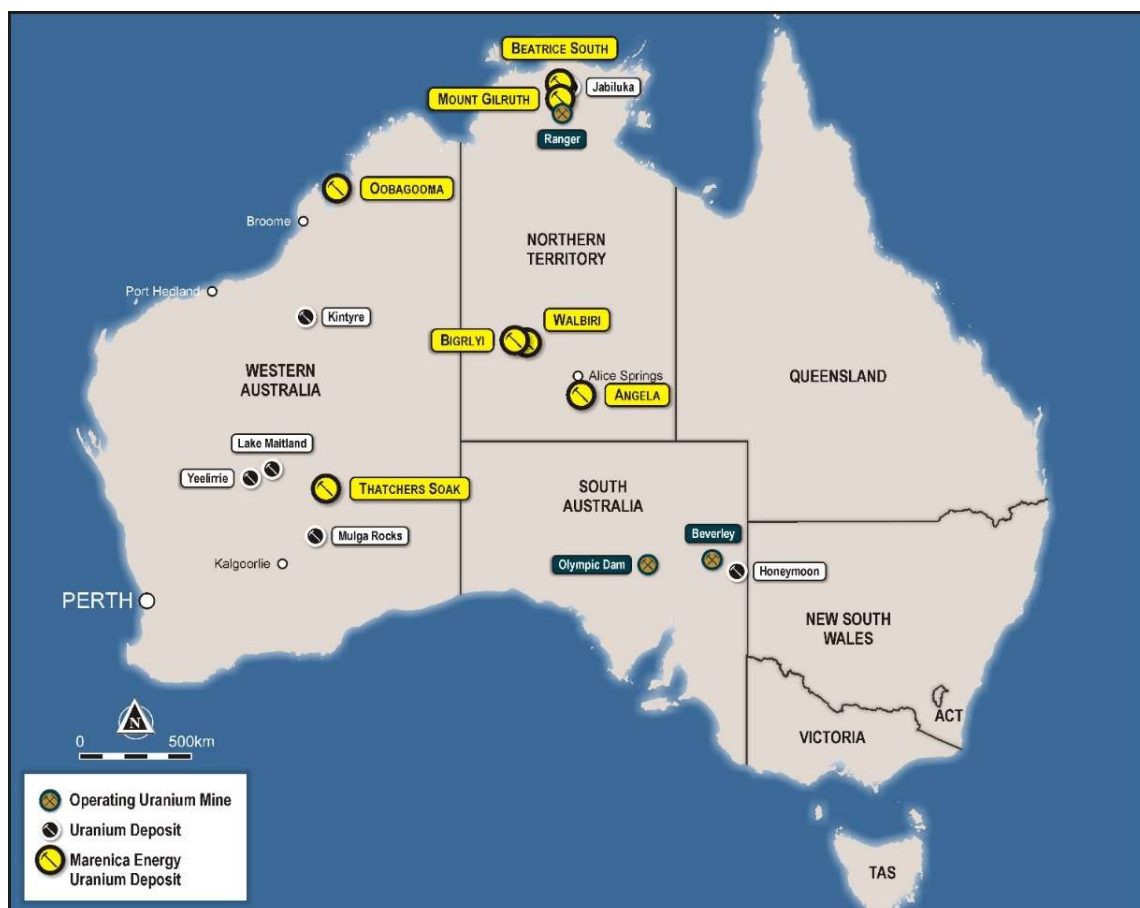


Figure 5 – Location of the Tenements in Australia

A summary of the assets follows.

Angela Deposit (100%)

Angela is a sandstone-hosted roll-front type uranium deposit with an Inferred Mineral Resource of 30.8 Mlb U_3O_8 at 1,310 ppm U_3O_8 , located in the Amadeus Basin of the Northern Territory, approximately 25 km from Alice Springs.

The mineralisation includes a higher-grade core of 20.2 Mlb U_3O_8 at a grade of 2,500 ppm U_3O_8 at a cut-off grade of 1,500 ppm.

Thatcher Soak Deposit (100%)

The Thatcher Soak deposit is located within the main Yilgarn calcrete province in Western Australia and includes an Inferred Mineral Resource of 10.9 Mlbs U_3O_8 at 425 ppm U_3O_8 . Thatcher Soak is a

calcrete hosted uranium deposit and other similar style deposits in this province include Yeelirrie, Lake Way, Centipede and Lake Maitland.

Oobagooma Deposit (100%)

The Oobagooma deposit is located in the West Kimberley region of Western Australia, 75 km north-east of the regional centre of Derby. The Oobagooma area was explored by AFMEX between 1983 and 1986, with extensive zones of uranium mineralisation discovered and an historic resource identified. Marenica is unable to report the resource size or grade.

Joint Venture Assets

Bigrlyi Joint Venture (Energy Metals Limited 72.39%, Marenica Energy Limited 20.82%, Southern Cross Exploration NL 6.79%)

The Bigrlyi Joint Venture covers exploration licences located in the Ngalia Basin approximately 320 km north-west of Alice Springs in the Northern Territory. The Bigrlyi deposit is a sandstone-hosted roll-front type uranium deposit with a total Mineral Resource of 21.1 Mlb U_3O_8 at 1,283 ppm U_3O_8 consisting of:

- 14.0 Mlb U_3O_8 at 1,366 ppm U_3O_8 in the Indicated Resource Category
- 7.1 Mlb U_3O_8 at 1,144 ppm U_3O_8 in the Inferred Resource Category

The project also contains a vanadium resource of 19.7 Mlb V_2O_5 at 1,197 ppm V_2O_5 (19.7 Mlb V_2O_5 at 1,197 ppm V_2O_5 in the Indicated Resource Category and 6.3 Mlb V_2O_5 at 1,020 ppm V_2O_5 in the Inferred Resource Category).

The mineral resources of the Sundberg, Hill One and Karins deposits are also included in the Bigrlyi Joint Venture.

Walbiri Joint Venture (Energy Metals Limited 77.12%, Marenica Energy Limited 22.88%)

Walbiri is a sandstone-hosted roll-front type uranium deposit with an Inferred Mineral Resource of 15.5 Mlb U_3O_8 at 641 ppm U_3O_8 , located in the Ngalia Basin of the Northern Territory.

Malawiri Joint Venture (Energy Metals Limited 76.03%, Marenica Energy Limited 23.97%)

Malawiri is a sandstone-hosted roll-front type uranium deposit with an Inferred Mineral Resource of 1.2 Mlb U_3O_8 at 1,288 ppm U_3O_8 , located in the Ngalia Basin of the Northern Territory.

The mineral resources are significant in their own right but could be dramatically enhanced when coupled with Marenica's ***U-pgrade™*** beneficiation process.

Expenditure

The Group incurred exploration expenditure of \$124,249 during the quarter.

Authorisation

This report was authorised for release by the Board.

For more information, contact:

Murray Hill

Managing Director & CEO

Marenica Energy Limited

T: +61 8 6555 1816

murray.hill@marenicaenergy.com.au

Jane Morgan

Investor Relations

Jane Morgan Management

T: +61 405 555 618

jm@janemorganmanagement.com.au

Competent Persons Statement – General Exploration Sign-Off

The information in this announcement as it relates to exploration results, interpretations and conclusions was compiled by Mr Herbert Roesener, a Competent Person who is a Member of the South African Council for Natural Scientific Professions (SACNASP). Mr Roesener, who is an independent consultant to the Company, has sufficient experience which is 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 Roesener consents to the inclusion in this announcement of the matters based on the information in the form and context in which it appears.

About Marenica Energy

Marenica Energy Limited (ASX:MEY) is an Australian Securities Exchange listed company with two broad areas of focus, being uranium exploration and application of its beneficiation process **U-pgrade™**.

Marenica has developed a three-pronged strategy:

- Explore its own projects
- Acquire projects to which **U-pgrade™** can add value
- Apply **U-pgrade™** to third party projects

Marenica has a large tenement position in the globally recognised Erongo uranium province in Namibia, a country with an established and longstanding uranium mining industry. In Namibia, Marenica has three uranium exploration project areas, being the Namib Uranium Project, Mile 72 Uranium Project and Marenica Uranium Project. The Marenica Uranium Project has a large inferred uranium resource of 61 million pounds. These three areas are located in the North West, North and South East of the Erongo province, which provides diversity and opportunity to explore in a large tenement position.

Marenica has recently acquired Australian uranium tenements and joint venture interests. The outright purchase of the Angela, Thatcher Soak, Minerva and Oobagooma project areas and joint venture holdings in the Bigrlyi, Malawiri, Walbiri and Areva joint ventures adds 48 Mlbs of high-grade uranium mineral resources to Marenica's asset base, doubling Marenica's existing resource base. The mineral resources are significant in their own right but could be dramatically enhanced when coupled with Marenica's **U-pgrade™** beneficiation process.

U-pgrade™ Beneficiation Process

Marenica has acquired a portfolio of uranium mineral resources in Namibia and Australia, with uranium mineralisation suitable for processing via its breakthrough proprietary **U-pgrade™** beneficiation process. **U-pgrade™** was demonstrated in a 2017 Scoping Study conducted on the Marenica Uranium Project, to materially lower development and operating costs for calcrete hosted uranium projects.

Marenica is focused on the application of **U-pgrade™** to its Namibian and Australian assets. Marenica also continues to investigate projects for either acquisition or application of **U-pgrade™**.

About U-pgrade™

U-pgrade™ is a potential industry leading and economically transformational beneficiation process for upgrading surficial uranium ores.

This breakthrough process was developed on ore from Marenica's namesake Marenica Project in Namibia and subsequently, testwork has been undertaken on ore samples from a number of other sources.

In summary, Marenica has demonstrated, in bench scale testwork, that the **U-pgrade™** beneficiation process;

- Concentrates the uranium by a factor of 50
- Increases Marenica Project ore grade from 93 ppm to ~5,000 ppm U₃O₈
- Rejects ~98% of the mass prior to leaching
- Produces a high-grade concentrate in a low mass of ~2% (leach feed)
- Rejects acid consumers
- Potentially reduces operating costs by ~50% and capital costs by ~50% as compared to conventional processing.

Beyond application at the Marenica Uranium Project, Marenica has determined, through bench scale testing, that Deep Yellow's Tumas deposit, Paladin's Langer Heinrich deposit, Orano's Trekkopje deposit and Toro Energy's Wiluna deposit, are amongst those that are amenable to the **U-pgrade™** process.

Annexure A – Tenement Schedule

Namibia

Number	Name	Company	Interest	Area (km ²)
Active Licences				
MDRL 3287	Marenica	Marenica Minerals (Pty) Ltd	75%	321
EPL 3308	Mile 72	Metals Namibia (Pty) Ltd	100%	20
EPL 6987	Koppies	Manmar Investments One Eight Two (Pty) Ltd	100%	49
EPL 7278	Hirabeb	Marenica Ventures (Pty) Ltd	100%	730
EPL 7279	Ganab	Marenica Ventures (Pty) Ltd	100%	199
EPL 7368	Trekopje East	Marenica Ventures (Pty) Ltd	100%	17
EPL 7436	Amichab	Marenica Ventures (Pty) Ltd	100%	251
EPL 7662	Namib IV	Marenica Ventures (Pty) Ltd	100%	379
Licence Applications				
EPL 6663	-	Marenica Ventures (Pty) Ltd	90%	379
EPL 6746	-	Marenica Ventures (Pty) Ltd	95%	199
EPL 7435	Skilderkop	Marenica Ventures (Pty) Ltd	100%	190
EPL 7507	Autseib	Marenica Ventures (Pty) Ltd	100%	688
EPL 7508	Capri	Marenica Ventures (Pty) Ltd	100%	987
EPL 7803	Hotsas	Marenica Ventures (Pty) Ltd	100%	117

Australia

Number	Name	Status	Company	Interest	State
100% Interest					
R38/1	Thatcher Soak	Granted	Africa Uranium Ltd	100%	WA
E04/2297	Oobagooma	Granted	Jackson Cage Pty Ltd	100%	WA
EL25758	Angela	Granted	Jackson Cage Pty Ltd	100%	NT
EL25759	Pamela	Application	Jackson Cage Pty Ltd	100%	NT
ELR 22	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 23	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 24	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 25	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 26	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 27	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 28	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 29	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 30	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 31	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 32	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
ELR 33	Minerva	Application	Jackson Cage Pty Ltd	100%	NT
Joint Venture					
ELR 41	Malawiri	Granted	Northern Territory Uranium Pty Ltd	23.97%	NT
ELR 45	Walbiri	Granted	Northern Territory Uranium Pty Ltd	22.88%	NT
ELR 46	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
ELR 47	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
ELR 48	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
ELR 49	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
ELR 50	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT

Number	Name	Status	Company	Interest	State
ELR 51	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
ELR 52	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
ELR 53	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
ELR 54	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
ELR 55	Bigrlyi	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
EL 30144	Dingos Rest South	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
ELR 31319	Sundberg	Granted	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 318	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 319	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 320	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 321	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 322	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 323	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 324	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 325	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 326	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 327	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
MCS 328	Karins	Application	Northern Territory Uranium Pty Ltd	20.82%	NT
EL 1466	Mount Gilruth	Application	Jackson Cage Pty Ltd	33.33%	NT
EL 3114	Beatrice South	Application	Jackson Cage Pty Ltd	33.33%	NT

Annexure B – Australian Mineral Resource Table

Deposit	Category	Cut-off (ppm U ₃ O ₈)	Total Resource			Marenica's Share			
			Tonnes (M)	U ₃ O ₈ (ppm)	U ₃ O ₈ (Mlb)	Holding	Tonnes (M)	U ₃ O ₈ (ppm)	U ₃ O ₈ (Mlb)
100% Holding									
Angela *	Inferred	300	10.7	1,310	30.8	100%	10.7	1,310	30.8
Thatcher Soak	Inferred	150		425	10.9	100%	11.6	425	10.9
100% Held Resource Total			22.3	850	41.7	100%	22.3	850	41.7
Bigirlyi Joint Venture									
Bigirlyi Deposit*	Indicated	500	4.7	1,366	14.0				
	Inferred	500	2.8	1,144	7.1				
Bigirlyi Deposit Total		500	7.5	1,283	21.1	20.82%	1.55	1,283	4.39
Sundberg	Inferred	200	1.01	259	0.57	20.82%	0.21	259	0.12
Hill One JV	Inferred	200	0.26	281	0.16	20.82%	0.05	281	0.03
Hill One EME	Inferred	200	0.24	371	0.19				
Karins	Inferred	200	1.24	556	1.52	20.82%	0.26	556	0.32
Bigirlyi Joint Venture Total			10.2	1,049	23.5	20.82%	2.07	1,065	4.86
Walbiri Joint Venture									
Joint Venture	Inferred	200	5.1	636	7.1	22.88%	1.16	636	1.63
100% EME	Inferred	200	5.9	646	8.4				
Walbiri Total		Total	11.0	641	15.5				
Malawiri Joint Venture									
Malawiri JV	Inferred	100	0.42	1,288	1.20	23.97%	0.10	1,288	0.29
Joint Venture Resource Total			21.6	847	40.2		3.34	923	6.77
Australian Total			43.9	848	81.9		25.6	859	48.4

* JORC 2004 Resources, all others are JORC 2012.

The Company confirms that it is not aware of any new information or data that materially affects the information in 2019 Annual Report and further confirms that all material assumptions and technical parameters underpinning the estimates in the 2019 Annual Report continue to apply and have not materially changed.

The Mineral Resource Estimate for the resources noted as JORC 2004 in the table above were prepared and first disclosed under the 2004 Edition of the Australian Code for the Reporting of Exploration Results, Minerals Resources and Ore Reserves (JORC Code 2004). It has not been updated since to comply with the 2012 Edition of the Australian Code for the Reporting of Exploration Results, Minerals Resources and Ore Reserves (JORC Code 2012) on the basis that the information has not materially changed since it was last reported. A Competent Person has not undertaken sufficient work to classify the estimate of the Mineral Resource in accordance with the JORC Code 2012; it is possible that following evaluation and/or further exploration work the currently reported estimate may materially change and hence will need to be reported afresh under and in accordance with the JORC Code 2012.