



Honeymoon Uranium Project, South Australia

Strong drilling results support strategy to grow production rate and mine life

Extensive mineralisation intersected outside existing Resource; Drilling ongoing in parallel with development work which will see Boss become Australia's next uranium producer

Highlights

- Strong results from infill and resource extension drilling support Boss' strategy to increase the inventory, mine life and production rate at Honeymoon
- Boss' Final Investment Decision and development plan for Honeymoon was based on just ~50% of the total JORC Resource
- The combination of the substantial Resource which sits outside the mine plan and these latest drilling results highlights the exceptional potential to grow the production rate and mine life at Honeymoon
- Initial wellfield delineation drilling on Honeymoon Restart Area has been completed, with mineralised intersections including (PFN results, ppm pU₃O₈):
 - 6.10m @ 2,640ppm pU₃O₈ GT = 16,051 BIF0217 (HRA) from 103.30m
 - 3.40m @ 1,700ppm pU₃O₈ GT = 5,712 BIF0215 (HRA) from 106.70m
 - 1.20m @ 3,500ppm pU₃O₈ GT = 4,270 BIF0216 (HRA) from 110.80m
- Strong step out/exploration drilling results also recorded from the second and final phase of the Accelerated Drilling Initiative (ADI) outside the JORC Resource
- Highly successful ADI campaign has opened new highly prospective areas for exploration, extending known mineralisation and improving the Company's geological understanding of uranium mineralisation away from the Honeymoon deposit
- Substantial mineralisation intersected outside the current JORC Resource, with results including (PFN results, ppm pU₃O₈):
 - 6.00m @ 581ppm pU₃O₈ GT = 3,486 BMR139 (Brooks Dam Ext) from 84.50m
 - plus 2.50m @ 1,342ppm pU₃O₈ from 98.75m (GT = 3,355)
 - 3.00m @ 678ppm pU₃O₈ GT = 2,034 BMR153 (Brooks Dam Ext) from 86.25m
 - plus 3.25m @ 525ppm pU₃O₈ from 91.25m (GT = 1,706)
 - 3.00m @ 605ppm pU₃O₈ GT = 1,815 BMR133 (Brooks Dam Ext) from 108.25m
 - 3.25m @ 517ppm pU₃O₈ GT = 1,680 BMR154 (Brooks Dam Ext) from 98.50m
 - 2.00m @ 824ppm pU₃O₈ GT = 1,648 BMR135 (Brooks Dam Ext) from 101.00m

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- 3.00m @ 431ppm pU₃O₈ GT = 1,293 BMR144 (Eaglehawk Dam) from 74.25m
- 2.25m @ 526ppm pU₃O₈ GT = 1,184 BMR145 (Eaglehawk Dam) from 81.25m
- plus 2.75m @ 430ppm pU₃O₈ from 74.25m (GT = 1,183)
- The drilling was completed in May 2022, comprising 28 rotary mud holes for 3,201m
- Exploration attention will now focus on resource expansion at satellite deposits Jason's and Gould's Dam to upgrade the current Inferred and Indicated Resources with the aim of extending production rate and mine life.



Figure 1: Boss' Honeymoon Uranium Project, 80km north-west of Broken Hill in South Australia

Boss Managing Director Duncan Craib said: "These results show Boss' two-pronged strategy for creating shareholder value is well on track.

"This involves the recent Final Investment Decision to restart Honeymoon's production and generate substantial cashflows, which will make Boss Australia's next uranium producer, and to grow Honeymoon's mineral resource and mine life by advancing numerous highly promising near-mine and regional targets.

"We will undertake detailed geological modelling and planning for resource infill/upgrade drilling this quarter, designed to increase resource confidence on the Jason's and Gould's satellite deposits.

"Infill drilling will commence Q1 2023, with the aim of increasing the production throughput and growing the mine life at Honeymoon".

Boss Energy Limited (ASX: BOE; OTCQX: BQSSF) (**Boss** or the **Company**) is pleased to announce strong results from infill and resource extension drilling which further strengthen the Company's strategy to increase the forecast production rate and mine life at its Honeymoon Uranium in South Australia.

The objective of the drilling was to extend Honeymoon's mine life and increase its production profile by upgrading known JORC Resource outside the Honeymoon Resource Area (**HRA**) and targeting greenfield exploration areas close to the known resources.

This strategy involves:

1. Targeting greenfield exploration targets to further advance current identified zones of potential high-grade mineralisation; and
2. Upgrading the satellite JORC resources of the Jason's and Gould's Dam Deposits.

It is envisaged that these new mineralisation target areas will form the basis of a study to assess and define production ramp up to produce more than 3Mlb/annum U_3O_8 equivalent. Ramping up production does not form part of the current Honeymoon restart feasibility studies, but the Company believes that, with improving market conditions, it is prudent to progress with the exploitation of the known satellite deposits.

In addition to the exploration drilling, delineation data was obtained on the eastern boundaries of the HRA ahead of wellfield development commencing in August 2022, in preparation for Honeymoon's restart.

Honeymoon Project Mineral Resource

The global Honeymoon Mineral Resource stands at 71.6 Mlb (52.4Mt) with an average grade of 620ppm U_3O_8 , using a cut-off grade of 250ppm, as summarised in Table 1.¹

The current Honeymoon restart feasibility studies utilise only a portion of Honeymoon's JORC resource, excluding 36Mlb of JORC resource outside the HRA, which could expand the mine life, and Boss' defined exploration target could potentially extend the mine life beyond the initial 11 years and increase the production profile. Honeymoon's Federal EPIP Act approvals allow export of more than 3Mlbs/annum U_3O_8 equivalent.

In addition to the global Mineral Resource, the Honeymoon Uranium Project also has an Exploration Target range of 28 Mt to 133 Mt of mineralisation at a grade of 340 ppm to 1,080 ppm U_3O_8 for a contained 58 Mlbs to 190 Mlbs U_3O_8 (26,300 to 86,160 tonnes of contained U_3O_8), using a cut-off of 250ppm. Note the potential quantity and grade of the Exploration Target range is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain whether future exploration will result in the definition of a Mineral Resource.²

¹ Refer to ASX: BOE announcement dated 25 February 2019 and Table 1.

² Refer to ASX: BOE announcement dated 25 March 2019.

Table 1: Summary of upgraded Mineral Resource for the global Honeymoon Uranium Project.

Resource Classification	Tonnage (Million Tonnes)	Average Grade (ppm U ₃ O ₈)	Contained Metal (Kt, U ₃ O ₈)	Contained Metal (Mlb, U ₃ O ₈)
Jason's (March 2017)³				
Inferred	6.2	790	4.9	10.7
Gould's Dam (April 2016)⁴				
Indicated	4.4	650	2.9	6.3
Inferred	17.7	480	8.5	18.7
Honeymoon Restart Area (January 2019)				
Measured	3.1	1,100	3.4	7.6
Indicated	14	610	8.7	19
Inferred	7.0	590	4.1	9.1
GLOBAL HONEYMOON URANIUM PROJECT				
Measured	3.1	1,100	3.4	7.6
Indicated	18.4	630	12.0	25.5
Inferred	30.9	570	18.0	38.5
Total	52.4	620	32.5	71.6

Wellfield Delineation Drill Results

The wellfield delineation drill campaign comprised 14 mud rotary drillholes. The drillholes were located on ML 6109 within the defined Mineral Resource within the HRA (Figure 2). The purpose of the program was testing downhole geophysical tools used for lithology determination and to provide additional delineation data ahead of detailed wellfield planning in the East Kalkaroo area. Drillhole details are presented in Appendix 2b.

All wellfield delineation drilling intersected mineralisation including (PFN results, ppm pU₃O₈):

- **6.10m @ 2,640ppm pU₃O₈** **GT = 16,051** BIF0217 (HRA) from 103.30m
- **3.40m @ 1,700ppm pU₃O₈** **GT = 5,712** BIF0215 (HRA) from 106.70m
- **1.20m @ 3,500ppm pU₃O₈** **GT = 4,270** BIF0216 (HRA) from 110.80m

Downhole Geophysical Tool Testing

Three downhole tool systems for lithology determination were tested in order to select the tool suite to be used for all future resource delineation work. The tools systems tested were carried out within two mud rotary drillholes twinned on previous sonic core holes to allow correlation of the tool response to detailed core logs and laboratory analysis of physical core.

The geological sample logs of all 14 mud rotary drillholes were also correlated to the geophysical tool response. Scintillometer data were used to depth-correct the mud rotary geological samples. All tools performed well, and detailed evaluation is currently underway.

Resource Delineation

The drillhole locations were planned to complement existing data from Boss' 2018 resource delineation drilling program (BIF series) and other historic data to generate cross-sections across the resource and perpendicular to paleochannel orientation. All drillholes intersected mineralisation as expected, and the data will be used to inform detailed wellfield planning.

³ Refer to ASX announcement dated 15 March 2017.

⁴ Refer to ASX Announcement dated 8 April 2016.

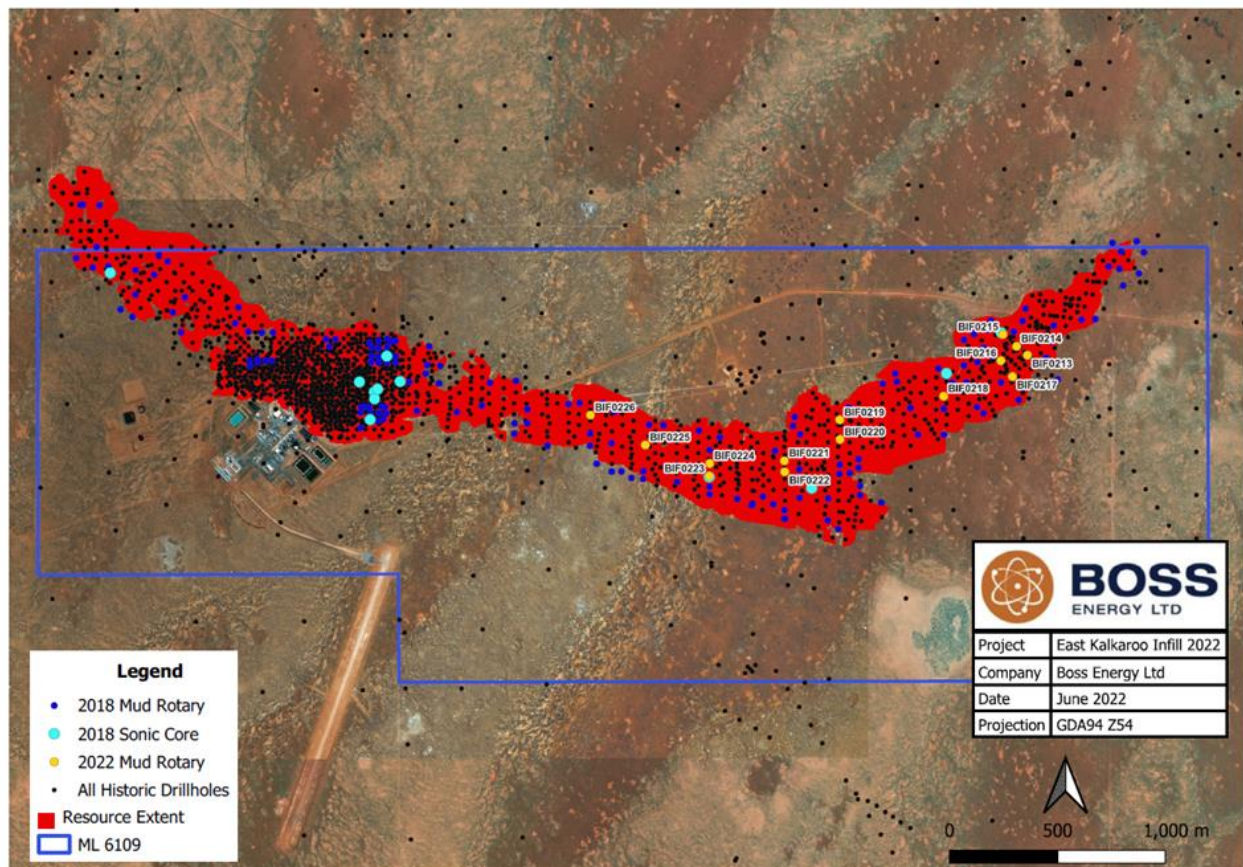


Figure 2: Honeymoon East Kalkaroo drill campaign overview.

Phase 2 ADI Exploration Drill Campaign Results

The second phase of the Company's ADI exploration drilling was conducted during May 2022. The ADI exploration program comprised 28 holes for 3,201m across three prospects both close to the HRA and up to ~14km east (Figure 3). These areas include:

- **Brooks Dam Extension (BDE):** This target was drilled primarily to test for extensions of significant uranium mineralisation at the northwestern end of the HRA, and to also increase geological understanding of the uranium mineralisation in this area.
- **Eaglehawk Dam (EHD):** This target is located ~4.5km north of the Honeymoon mine and has not been explored since the early 1970's, where a handful of diamond core holes intercepted highly anomalous uranium within the Eyre Formation including 2.7m @ 1,572ppm U_3O_8 (GT = 4,244) from hole K-61 and 2.15m @ 598ppm U_3O_8 (GT = 1,285) from hole K-69.
- **Lawlor East (LWE):** This prospect is located ~14km east of the Honeymoon mine and has only been lightly explored since the early-mid 1970's. The scout drilling in this area was designed to test a geological target generated from recent passive seismic surveys coincident with encouraging results from historical drilling, including 1.25m @ 1,565ppm eU_3O_8 (GT = 1,956) from hole 580_116 and 1.75m @ 944ppm eU_3O_8 (GT = 1,652) from hole 580_108.

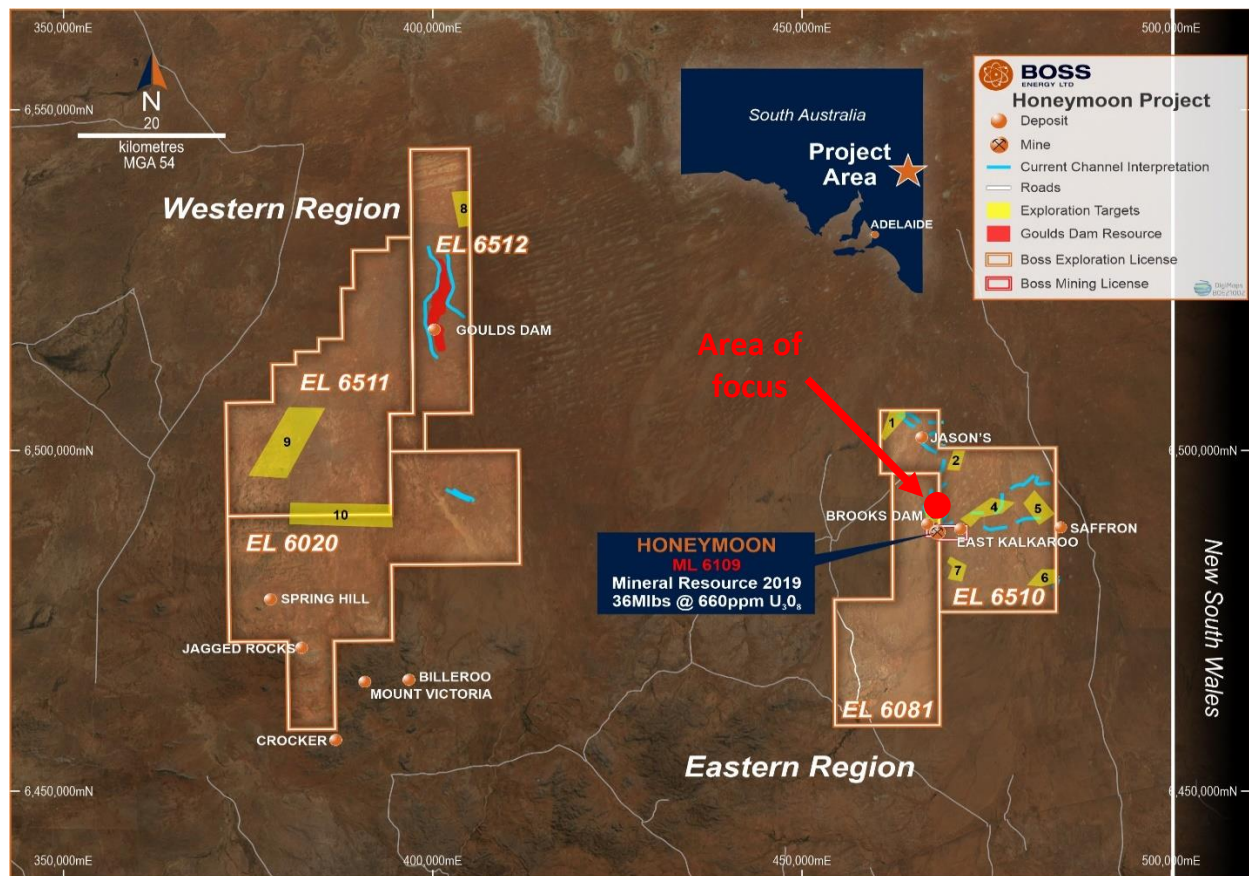


Figure 3: Boss' Eastern Region tenements, South Australia

Brooks Dam Extension (BDE)

The Phase 2 drilling at the BDE prospect comprised 16 holes and was designed to test for extensions to the northwestern end of the HRA (outside of the current Mining Lease) and also provide further geological information regarding the geological setting of uranium mineralisation (Figure 4).

Significant intercepts from previous drilling in this area have included (PFN results, ppm pU_3O_8):

- **4.25m @ 936ppm pU_3O_8** **GT = 3,978** SEG012 from 81.00m
- **3.75m @ 862ppm pU_3O_8** **GT = 3,232** SEG009 from 78.00m
- **2.50m @ 658ppm pU_3O_8** **GT = 2,303** BIF0038 from 86.25m

Available historical downhole geophysical logs highlights uranium mineralisation occurring at various lithostratigraphic levels within the Eyre Formation at BDE. The most prospective of these appears to be ore zones hosted within the upper Eyre Formation, which typically comprises of relatively thick zones of moderate grade uranium mineralisation hosted within sand and silty sand units. The primary goal of the phase 2 drill program at BDE was to identify extensions of this prospective horizon beyond the boundaries of the current resource, and to also gather modern geophysical logs to help better define the geological setting.

The best results from the phase 2 drilling program at the BDE prospect include (PFN results, ppm pU₃O₈):

- **6.00m @ 581ppm pU₃O₈** **GT = 3,486** BMR139 from 84.50m
 - *plus 2.50m @ 1,342ppm pU₃O₈ from 98.75m (GT = 3,355)*
- **3.00m @ 678ppm pU₃O₈** **GT = 2,034** BMR153: from 86.25m
 - *plus 3.25m @ 525ppm pU₃O₈ from 91.25m (GT = 1,706)*
- **3.00m @ 605ppm pU₃O₈** **GT = 1,815** BMR133 from 108.25m
- **3.25m @ 517ppm pU₃O₈** **GT = 1,680** BMR154 from 98.50m
- **2.00m @ 824ppm pU₃O₈** **GT = 1,648** BMR135 from 101.00m

Encouragingly, several holes on the peripheries of drill coverage reported lower tenor but highly prospective results from this horizon in the upper Eyre Formation, including BMR155 (1.25m @ 558ppm pU₃O₈ from 85m) and BMR148 (2.75m @ 415ppm pU₃O₈ from 78.25m). These results also suggest that this prospective horizon is still open to the northeast of the current limits of drilling at BDE – an area where there has been no previous historic or modern drilling to date – opening up the possibility for additional economic mineralisation within close proximity to the HRA.

Eaglehawk Dam (EHD)

The Eaglehawk Dam prospect is located ~4.5km north of the HRA and has not been subject to any exploration drilling since the early 1970's, when a handful of diamond core holes were completed returning the following results (assay results, ppm U₃O₈):

- **2.7m @ 1,572ppm U₃O₈** **GT = 4,244** K-61: from 85.80m
- **0.5m @ 2,065ppm U₃O₈** **GT = 1,032** K-69: from 73.50m
 - *plus 2.15m @ 598ppm U₃O₈ from 80.10m (GT = 1,285)*
 - *plus 1.45m @ 1,083ppm U₃O₈ from 88.25m (GT = 1,570)*

The purpose of the phase 2 drilling program at Eaglehawk Dam was to both confirm historical drilling results and step out from it to identify potential extensions to the uranium mineralisation.

An attempt was made to “twin” as closely as possible the two best historical holes with modern holes (K-61 with BMR142 and K-69 with BMR145 respectively). A total of 7 holes were completed during the current program, with the best intercepts including (PFN results, ppm pU₃O₈):

- **3.00m @ 431ppm pU₃O₈** **GT = 1,293** BMR144: from 74.25m
- **2.25m @ 526ppm pU₃O₈** **GT = 1,184** BMR145: from 81.25m
 - *plus 2.75m @ 430ppm pU₃O₈ from 74.25m (GT = 1,183 m.ppm).*

The results confirmed the presence of uranium mineralisation within the intervals identified by the historical drilling and provided critical information regarding the geological setting and mineralisation characteristics at Eaglehawk Dam. Encouragingly, anomalous mineralisation is being identified in the same section of the Eyre Formation as the prospective horizon to the south at BDE (discussed in the previous section), with the geological logs confirming the current drill coverage is located on the peripheries of the main palaeovalley system. Moderate-strong oxidation of Eyre Formation sands was also identified in several locations, and there has been little to no exploration across the interpreted deeper section of the palaeovalley to the west.

Follow-up work is warranted to determine the potential for economic concentrations of mineralisation within the prospective horizons in the very lightly explored palaeovalley to the west and north of the current drilling.

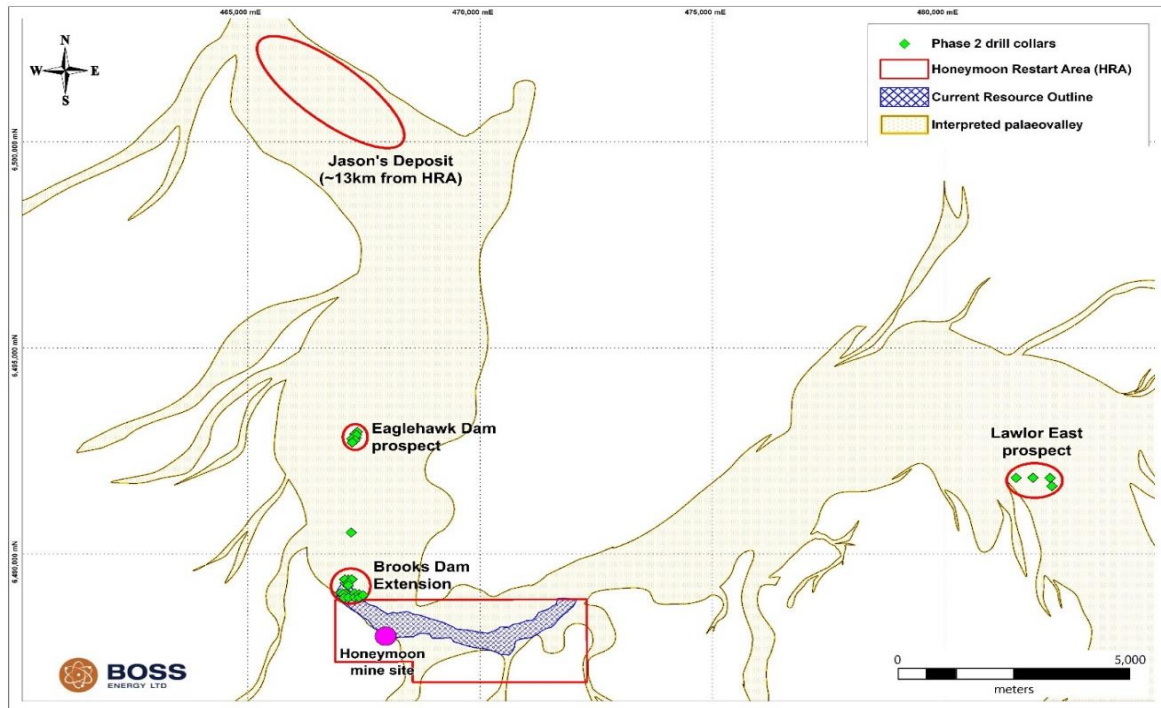


Figure 4: Location of phase 2 drill collars (2022), existing infrastructure & deposits/prospects

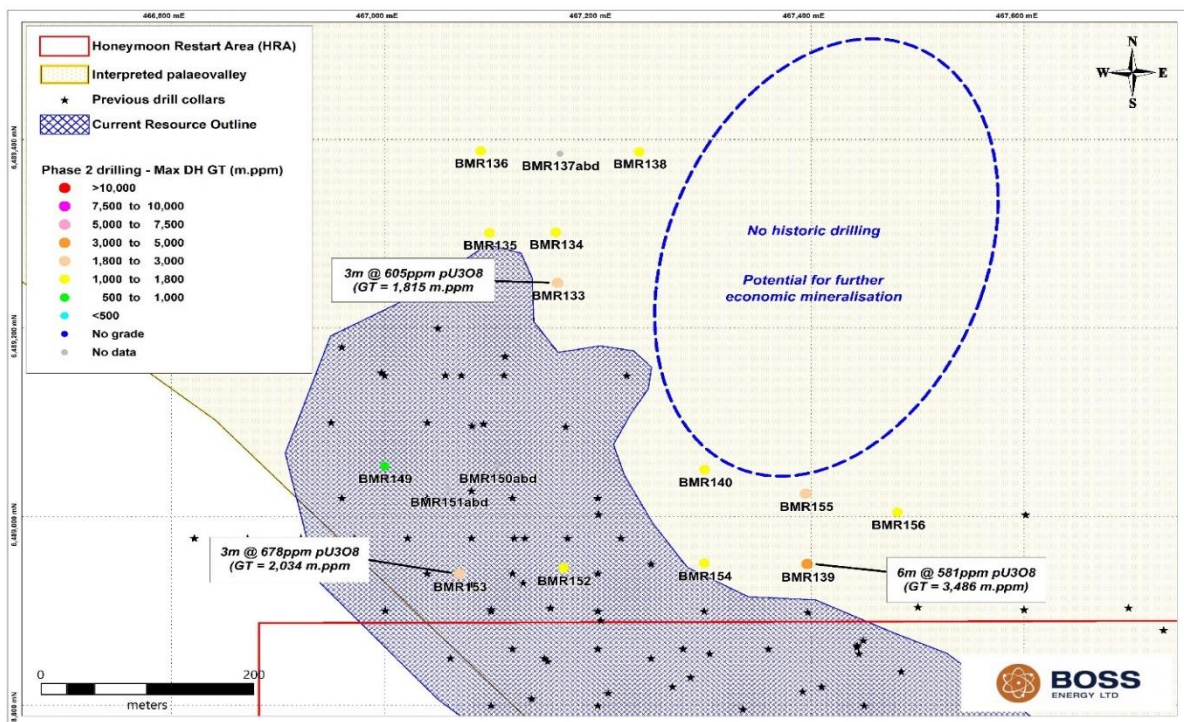


Figure 5: Overview of phase 2 drilling results at the BDE prospect 2022

Lawlor East (LWE)

The Lawlor East prospect is located ~14km east of the Honeymoon Mine within the eastern arm of the Yarramba Palaeovalley (Figure 2). The area has been only lightly tested by historic and recent drilling, with the recently completed passive seismic survey in the area suggesting a potentially complex depositional environment for the Eyre Formation in the area. The drilling program was designed to confirm results from limited historical drilling and to test for extensions, with the historical results from drill holes completed in the early 1970's including:

- **1.25m @ 1,565ppm eU₃O₈ GT = 1,956** 580_116 from 127.22
- **1.75m @ 944ppm eU₃O₈ GT = 1,652** 580_108: from 125.17

Geological logs from these historical holes suggested mineralisation occurring within gravely sands at the base of the Eyre Formation. A total of four holes were completed at this prospect, with the best intercept returning 0.75m @ 933ppm pU₃O₈ from 126.25m (GT = 700 m.ppm) associated with the contact between the Eyre Formation basal sands and the Palaeoproterozoic basement.

ADI Grant

The Company's long-term regional investigation strategy had always included using new innovative methods for large-scale exploration. The first component of the ADI program involving seismic surveying (both passive and high-reflection) to help further define the morphology of palaeovalley sequences within the Company's exploration licences. The second component of the program involved follow-up drilling of both targets identified from the seismic programs, and to continue to define and discover economic near-mine uranium mineralisation.

The conclusion of Phase 2 drilling in May 2022 now completes the requirements for the ADI \$275,000 exploration grant, which forms part of the Growth State Agenda that aims to accelerate mineral discoveries through innovative exploration and research projects in regional and frontier terrains throughout South Australia. The successful completion of the geophysical and drilling components of the ADI grant has provided the Company with a better understanding of the palaeovalley systems within its exploration licences, and this new data will now be used in conjunction with existing datasets to identify further exploration targets and plan future drilling programs. The Company will also continue to explore new and innovative ways to identify further exploration targets within its tenement package.

This ASX announcement was approved and authorised by the Board of Boss Energy Limited.

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Competent Person's Statement

The information contained in this announcement that relates to new exploration results is provided by Mr Jason Cherry, who is a Member of the Australasian Institute of Geoscientists (AIG). Mr Cherry 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 JORC 2012 edition of the "Australasian Code for Reporting of Mineral Resources and Ore Reserves". Mr Cherry has 17 years' experience and is a full-time employee as Geology Manager for Boss Energy Ltd. Mr Cherry consents to the inclusion in this report of the matters based on this information in the form and context in which they appear.

Reference to previous ASX announcements

In relation to the results of the Enhanced Feasibility Study announced 21 June 2021, the Company confirms that all material assumptions underpinning the production target and forecast financial information included in that announcement continue to apply and have not materially changed.

The mineral resource estimates in this announcement were reported by the Company in accordance with listing rule 5.8 on 25 February 2019. The Company confirms it is not aware of any new information or data that materially affects the information included in the previous announcement and that all material assumptions and technical parameters underpinning the estimates in the previous announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

The exploration target referred to in this announcement was reported by the Company in accordance with listing rule 5.7 on 25 March 2019. The Company confirms it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the previous announcement continue to apply and have not materially changed. The exploration target does not include areas of the existing Mineral Resource and the potential quantity and grade reported are conceptual only in nature. Insufficient exploration has been conducted to estimate a Mineral Resource and it is uncertain whether future exploration will lead to the estimation of a Mineral Resource in the defined areas.

Forward-Looking Statements

This announcement includes forward-looking statements. These forward-looking statements are based on the Company's expectations and beliefs concerning future events. Forward-looking statements are necessarily subject to risks, uncertainties, and other factors, many of which are outside the control of Boss Energy, which could cause actual results to differ materially from such statements. Boss Energy makes no undertaking to subsequently update or revise the forward-looking statements made in this announcement, to reflect the circumstances or events after the date of this announcement.

APPENDIX 2 – Table 1: Exploration Drill Results

In accordance with ASX Listing Rule 5.7.2, the Company provides the following information:

Table 1a: Summary of results from the phase 2 drilling program – April 2022. All holes were drilled vertically (-90° inclination and 0° azimuth).

Hole ID	Easting	Northing	RL (m)	EOH (m)	Depth From (m)	Thickness (m)	pU ₃ O ₈ (ppm)	Grade.Thickness (m.ppm)
	MGA94, z54							
BMR129	481,543	6,491,854	108	134	No significant intercepts			
BMR130	481,916	6,491,852	113	136	No significant intercepts			
BMR131	482,272	6,491,846	110	138	No significant intercepts			
BMR132	482,311	6,491,647	112	137	126.25	0.75	933	700
BMR133	467,163	6,489,251	107	120	102.50	2.25	589	1,325
plus					108.25	3.00	605	1,815
plus					112.75	2.75	378	1,040
BMR134	467,164	6,489,304	117	120	101.25	1.50	848	1,272
plus					104.00	0.75	803	602
plus					113.25	3.75	346	1,298
BMR135	467,099	6,489,305	115	118	98.25	2.00	475	950
plus					101.00	2.00	824	1,648
BMR136	467,091	6,489,388	112	118	97.00	2.00	281	562
plus					101.25	2.25	291	655
plus					108.50	2.00	524	1,048
BMR137abd	467,165	6,489,385	109	54	Hole abandoned - lost circulation			
BMR138	467,239	6,489,387	111	126	104.50	2.50	270	675
plus					117.25	2.75	509	1,400
BMR139	467,396	6,488,949	113	126	78.75	2.25	335	754
plus					84.50	6.00	581	3,486
plus					98.75	2.50	1342	3,355
plus					119.25	1.25	482	603
BMR140	467,300	6,489,049	112	126	99.50	1.75	609	1,066
plus					116.50	1.50	506	759
BMR141	467,252	6,492,714	114	108	89.00	0.75	419	314
plus					94.00	0.50	813	407
BMR142	467,309	6,492,766	110	108	88.00	0.50	633	317
BMR143	467,244	6,492,796	115	102	87.25	1.50	299	449
plus					96.50	0.50	729	365
BMR144	467,332	6,492,817	108	108	74.25	3.00	431	1,293
plus					78.00	2.00	352	704
plus					82.50	1.00	307	307
plus					94.25	0.75	857	643
BMR145	467,342	6,492,898	116	102	71.25	1.75	337	590
plus					74.25	2.75	430	1,183
plus					81.25	2.25	526	1,184
plus					95.25	2.50	352	880
BMR146	467,313	6,492,911	121	108	97.25	2.25	682	1,535

Hole ID	Easting	Northing	RL	EOH	Depth From	Thickness	pU ₃ O ₈	Grade.Thickness
	MGA94, z54		(m)	(m)	(m)	(m)	(ppm)	(m.ppm)
BMR147	467,353	6,492,971	114	108	66.25	1.00	400	400
	plus				68.75	1.50	344	516
	plus				72.00	1.00	321	321
	plus				99.50	1.25	256	320
BMR148	467,226	6,490,521	113	114	78.25	2.75	415	1,141
	plus				83.50	1.75	297	520
	plus				86.50	2.00	352	704
	plus				97.50	1.25	799	999
	plus				104.75	0.50	960	480
BMR149	466,998	6,489,057	122	126	101.25	1.75	568	994
	plus				114.25	2.00	306	612
BMR150abd	467,107	6,489,052	123	66	Hole abandoned - lost circulation			
BMR151abd	467,054	6,489,029	122	63	Hole abandoned - lost circulation			
BMR152	467,172	6,488,944	120	126	91.75	1.75	310	543
	plus				101.75	1.75	790	1,383
	plus				110.25	0.75	1,320	990
	plus				116.75	1.75	325	569
BMR153	467,070	6,488,954	124	126	86.25	3.00	678	2,034
	plus				91.25	3.25	525	1,706
	plus				96.25	2.25	304	684
	plus				115.25	0.75	399	299
BMR154	467,310	6,488,958	127	120	98.50	3.25	517	1,680
	plus				114.00	1.25	455	569
BMR155	467,395	6,489,024	121	126	85.00	1.25	558	698
	plus				115.25	3.50	587	2,055
BMR156	467,481	6,489,004	110	120	79.50	1.25	638	798
	plus				84.75	2.25	438	986
	plus				101.00	2.25	250	563
	plus				114.75	2.50	424	1,060

Results for all other holes derived from calibrated Prompt Fission Neutron (PFN) tools (pU₃O₈). Values are reported above the nominal 250ppm pU₃O₈ cutoff grade, 0.5m minimum interval thickness and maximum 1m internal dilution.

Table 1b: Summary of results from the East Kalkaroo delineation drilling program – May 2022. All holes were drilled vertically (-90° inclination and 0° azimuth).

Hole ID	Easting	Northing	RL	EOH	Depth From	Thickness	pU ₃ O ₈	Grade.Thickness
	MGA94, z54		(mAHD)	(m)	(m)	(m)	(ppm)	(m.ppm)
BIF0213	471,458	6,488,407	124	132	99.6	0.5	960	528
	plus				110.1	2.1	960	2,054
BIF0214	471,411	6,488,448	126	132	98.9	0.6	1,900	1,178
	plus				101.7	0.5	880	414
	plus				108.4	2.1	1,360	2,883
BIF0215	471,349	6,488,496	125	132	79.5	1.1	407	435
	plus				98.5	1.2	550	633
	plus				106.7	3.4	1,700	5,712
BIF0216	471,339	6,488,375	126	132	99.0	0.9	800	752
	plus				100.2	0.5	810	405
	plus				110.8	1.2	3,500	4,270
BIF0217	471,395	6,488,301	124	132	101.4	0.5	860	396
	plus				103.3	6.1	2,640	16,051
BIF0218	471,070	6,488,217	123	132	99.2	0.7	1,800	1,314
	plus				102.1	0.6	630	391
	plus				109.1	0.5	1,300	676
BIF0219	470,597	6,488,102	120	132	108.0	0.9	1,200	1,104
BIF0220	470,592	6,488,018	121	132	83.2	2.7	506	1,361
	plus				108.2	0.7	1,550	1,116
BIF0221	470,343	6,487,919	125	132	103.8	0.6	400	248
	plus				108.3	0.8	1,470	1,220
BIF0222	470,336	6,487,865	122	132	103.2	0.8	450	378
	plus				110.3	0.6	1,200	744
BIF0223	469,988	6,487,843	125	126	82.1	1.3	420	533
	plus				85.6	0.7	510	337
	plus				102.7	0.5	1,050	577
	plus				108.7	0.7	1,220	903
BIF0224	469,988	6,487,900	124	126	91.0	0.9	530	482
	plus				103.1	0.5	1,150	587
	plus				108.2	0.6	670	422
BIF0225	469,691	6,487,991	123	126	99.6	0.7	650	455
	plus				103.1	0.9	700	602
BIF0226	469,445	6,488,091	123	126	95.9	0.5	1,290	684
	plus				108.6	0.6	480	288

Results for all other holes derived from calibrated Prompt Fission Neutron (PFN) tools (pU₃O₈). Values are reported above the nominal 250ppm pU₃O₈ cutoff grade, 0.5m minimum interval thickness and maximum 1m internal dilution.

APPENDIX 2 – Table 2: Historical Drill Results

In accordance with ASX Listing Rule 5.7.2, the Company provides the following information:

Table 2: Summary of historical drill holes listed within this report. All holes were drilled vertically (-90° inclination and 0° azimuth)

Hole ID	Easting	Northing	RL	EOH	Depth From	Thickness	eU ₃ O ₈	GradeThickness
	MGA94, z54		(m)	(m)	(m)	(m)	(ppm)	(m.ppm)
SEG009*	467,250	6,488,950	121	122	78.00	3.75	862	3,232
plus					116.75	1.25	696	870
SEG012*	467,040	6,489,020	122	140	81.00	4.25	936	3,978
plus					99.75	3.00	593	1,779
580_108	481,538	6,491,921	110	130	125.17	1.75	944	1,652
580_116	482,305	6,491,773	111	136	127.22	1.25	1565	1,956

Historical eU₃O₈ grade data derived from calibrated gamma tool data sampled historically at the time of drilling these holes.

* Results derived from calibrated Prompt Fission Neutron (PFN) tools (pU₃O₈).

Values are reported above the nominal 250ppm eU₃O₈ cutoff grade, 0.5m minimum interval thickness and maximum 1m internal dilution.

APPENDIX 3 – JORC TABLE 1, SECTIONS 1 – 2

JORC Table 1: Section 1 Sampling Techniques and Data

Criteria of JORC Code 2012	Reference to the Current Report
	Comments / Findings
<i>Sampling techniques</i>	<p>The historical drillholes released in this announcement were completed between 1972 and 2002. Due to the historic nature of these data, it is not always possible to comment on the accuracy or quality of the uranium grades derived from downhole gamma logging. Uranium grade data derived from various generations were sourced from numerous historical reports between 1969 and the early 2000s, with all reports written by qualified geologists employed by, or consulting to, the company in question.</p> <p>The majority of the historical data have been reviewed by Boss' Competent Person who is satisfied that the information contained therein is of sufficient enough quality to provide a reasonable, indicative basis for the existence of potentially economic mineralisation within the specified target areas.</p> <p>All drilling completed prior to 2003 was logged predominantly by downhole gamma tools. In 2003, due to the highly variable radioactive disequilibrium within the Honeymoon Deposit, three PFN (Prompt Fission Neutron) logging tools were purchased by Southern Cross Resources. The PFN tool measures the uranium-235 radioactive isotope, allowing a more direct measurement of the uranium within the host formation, thereby reducing the effect of the disequilibrium. A series of calibration test pits were constructed at the Honeymoon Uranium Mine to enable regular calibration of the PFN tools.</p> <p>Gamma data was collected at variable sample rates between 5 and 10cm. Borehole Wireline collect gamma and other data at 1cm intervals. PFN logging data has been collected at sample rates between 1-3cm (1cm intervals for the current program). Geochemical samples were collected on intervals of various thickness, ranging from 0.10m to 0.50m, based on lithology and core recoveries. Data is subsequently composited to 25cm intervals for reporting purposes and consistency.</p>
<i>Drilling techniques</i>	Historical drilling was completed by a mixture of rotary mud and core. The 2022 drilling program was completed by Watson Drilling using the rotary mud method. The typical hole diameter is ~143mm.
<i>Drill sample recovery</i>	Drill samples were collected for geological logging purposes only, therefore no determinations of sample recovery are required.
<i>Logging</i>	<p>Chip samples from the 2021 drilling program were collected every 1m, photographed and geologically logged (lithology). Documentation also includes colour, grain size, texture, sorting, alteration and oxidation state. All mineralised intervals were geologically logged with logging codes compliant with industry standards.</p> <p>Due to the historic nature of the sampling results included in this report, it is not possible to comment on the accuracy or quality of any geological logging used to produce the results described therein. However, based on more recent drilling programs and verification of the lithologies through drilling completed by Boss in 2018, the Competent Person has reviewed the available historical logging data and is satisfied that the information contained therein is of sufficient enough quality to provide a reasonable, indicative basis for the existence of potentially economic mineralisation within the specified target areas.</p>
<i>Sub-sampling techniques and sample preparation</i>	QA/QC of the geophysical data included systematic control of the depth logged and control of the recorded U ₃ O ₈ grade values. Two PFN tools were run consecutively where possible within the same drillhole to provide a repeatability/duplicate set of data. Also, gamma-derived eU ₃ O ₈ from the Borehole Wireline logging suite is also used as a back-up and depth check for the Boss Energy PFN data. Geophysical tools estimate uranium content at large volumes, approximately 25 to 40 cm radius. The volume is sufficiently

	<p>large allowing accurate measure of the grade, and a standard hole size correction of 1.2 is applied to PFN data, based on calibration runs at the PIRSA tool calibration facility in Adelaide and the drill bit size used by Watson Drilling. Hole size variations are monitored using a calibrated calliper tool, however if “blowouts” occur in ore zones a higher hole size correction is not applied due to uncertainty surrounding the quality and integrity of the remaining sample.</p> <p>The Competent Person has reviewed the available historical sampling records and is satisfied that the information contained therein is of sufficient enough quality to provide a reasonable, indicative basis for the existence of potentially economic mineralisation within the specified target areas.</p>
<i>Quality of assay data and laboratory tests</i>	<p>In-house geophysical logging tools run by Boss Energy during the 2022 campaign included:</p> <ul style="list-style-type: none"> ○ Prompt Fission Neutron tool PFN27 ○ Prompt Fission Neutron tool PFN32 ○ Prompt Fission Neutron tool PFN08 <p>The calibration of the PFN tools was determined both prior to and following the conclusion of the drilling program at the certified PIRSA calibration pits in Adelaide.</p> <p>The geophysical logging suite run by contractor Borehole Wireline included:</p> <ul style="list-style-type: none"> ○ Dual Laterolog / Gamma / MDEV stacked tool (DLL3). ○ Dual Induction / Gamma (EM50). ○ Formation Density / 3-arm Caliper (FDSC) ○ Neutron Porosity (DNNS) ○ Borehole Magnetic Resonance (BMR) – delineation holes only. <p>Calibration of the relevant tools was determined prior to the drilling program by Borehole Wireline at the certified PIRSA calibration pits in Adelaide, along with regular gamma jig and calliper calibration checks while in the field. The Borehole Wireline gamma tools were also regularly checked in a dedicated “test” hole at the Honeymoon mine site.</p> <p>Due to the historic nature of the logging data and uranium grades for historical drill holes included in this report, it is not possible to comment on the accuracy or quality of any calibration systems or methods used to produce the historical results from drilling completed prior to 2003.</p>
<i>Verification of sampling and assaying</i>	<p>The gamma-log data were additionally validated against the PFN logs. PFN grade data was only reported where there was a good correlation between PFN and gamma anomalies; and where PFN tool readings were considered to be robust and passed internal QA/QC checks.</p> <p>Due to the historic nature of uranium grade data from historical drilling included in this report, it is not possible to comment on the accuracy or quality of the historical assays from drilling completed prior to 2003.</p> <p>However, based on successive drilling completed since 2003 (after acquisition of the PFN tools), resulting PFN grades have been shown to correlate well with indicative gamma assays reported by historical drilling within the main deposits of the Honeymoon Re-Start Area. The Competent Person has reviewed and verified these data and is satisfied that the assays are of sufficient quality to provide reasonable, indicative basis for the existence of potentially economic mineralisation within the specified target areas.</p>
<i>Location of data points</i>	<p>Drill collar locations are set out using a Garmin handheld GPS prior to drilling and the location confirmed again, by handheld Garmin GPS, after drilling. The projection adopted for surveying is GDA94, MGA zone 54 with AHD elevation.</p>
	<p>The Competent Person has reviewed all available data and, based on their knowledge and experience with the various exploration techniques employed, is satisfied that the historical drilling data included here is</p>

<i>Data spacing and distribution</i>	<p>of sufficient quality and accuracy to provide a reasonable, if indicative, basis for the mineralisation reported herein.</p> <p>The drilling completed in 2022 was a mix of scout exploration drilling and step-out drilling. Scout drilling holes are typically up to 200m apart, whereas step-out holes are generally between 50-75m apart. The spacing variations were designed specific to the prospect area being targeted.</p>
<i>Orientation of data in relation to geological structure</i>	All modern & historical holes were drilled vertically which provides an accurate intersection of the flat laying mineralised bodies.
<i>Sample security</i>	<p>All data from the current drilling program is either managed on site by Boss Energy (PFN tool) or is managed by the independent logging contractor Borehole Wireline. No physical samples of drill chips have been assayed as part of this program.</p> <p>Due to the historic nature of the downhole geophysical data reported therein, it is not always possible to comment on the sample security methods employed for the data used to produce the results described in this report.</p> <p>As these data are from areas that are in a purely exploratory stage of operation, the Competent Person has considered that any issues potentially relating to sample security do not present a material risk at this current stage of evaluation.</p>
<i>Audits or reviews</i>	All information and data used in this report have been reviewed by the Boss Energy Competent Person. Due to the historic nature of the results reported therein, no further reviews or audits have been undertaken.

JORC Table 1: Section 2 Reporting of Exploration Results

Criteria of JORC Code 2012	Reference to the Current Report
	Comments / Findings
<i>Mineral tenement and land tenure status</i>	<p>The Project consists of 1 granted Mining Lease, 5 granted Exploration Licenses, 3 Retention Leases and 2 Miscellaneous Purpose Licenses.</p> <p>The Mining license expires in 2023, exploration licences are due for renewal at various times during 2022.</p>
<i>Exploration done by other parties</i>	<p>The Honeymoon deposit and surrounding areas of the Yarramba Palaeovalley have been systematically explored and drilled starting from 1969.</p> <p>The Honeymoon Project was evaluated several times, with the degree of details varying from scoping studies to bankable feasibility undertaken in 2006. Resource estimates have been made from 1998 to 2019.</p>
<i>Geology</i>	<p>Palaeovalley-type, sandstone-hosted, tabular style uranium of the following model:</p> <ul style="list-style-type: none"> - Narrower, mineralised, palaeochannels within a broader palaeovalley system, - Underlying basement faults reactivated sporadically, greatly influencing the shape and formation of the overlying fluvial system, creating uplifted ridges of basement and the meandering narrow palaeochannels described above; - REDOX interfaces from the vertical and lateral movement of uraniferous (oxidised) fluids from

	<p>south (granitic source rocks in the Olary Ranges) to north (towards Lake Frome);</p> <ul style="list-style-type: none"> - Organic/sulphide-rich horizons and possible hydrocarbon fluids, the latter seeping upwards along the basement faults. Organic- and sulphide-rich material formed within shallow channel embankments and ledges.
<i>Drill hole Information</i>	Please refer to Figure 2 for the locations of the 2022 drill holes and relevant historical holes referred to in this announcement. The topography in this region is predominantly flat. All holes were drilled vertically with an average hole length of approximately 120m.
<i>Data aggregation methods</i>	Mineralised intervals were chosen based upon a nominal 250ppm U_3O_8 cutoff, 0.50 m minimum interval thickness and maximum 1m internal dilution for reporting. Where available, Prompt Fission Neutron (PFN) data is used which is designated p U_3O_8 . For historical drilling or in instances during modern drilling where the PFN tool data was unavailable, gamma toll derived data is used which is designated e U_3O_8 and may be affected by radiometric disequilibrium.
<i>Relationship between mineralisation widths and intercept lengths</i>	<p>Historic drill traverses were oriented at oblique angles across the strike of the palaeovalley as per the historical interpretation current at the time of drilling.</p> <p>Modern drill traverses are often oriented at right angle across the domain strike, although this can vary depending on the interpreted geological setting of each area.</p> <p>All holes from the 2022 program have been surveyed downhole with only minimal deviation identified (e.g., <2m over 100m).</p>
<i>Diagrams</i>	Appropriate and relevant diagrams have been included in the announcement.
<i>Balanced reporting</i>	Balanced reporting has been adhered to. See previous exploration announcements.
<i>Other substantive exploration data</i>	Mineralisation is still open along the strike of the various domains referred to herein.
<i>Further work</i>	Additional work during the 2022 field season will involve evaluation and geological modelling of data collected to date, along with detailed geological modelling of the Jason's and Gould's Dam satellite deposits in preparation for infill/step-out drilling in early 2023.