ASX ANNOUNCEMENT

2 August 2021

Etango-8 Pre-Feasibility Study

Bannerman Energy Ltd (ASX:BMN, OTCQB:BNNLF) (**Bannerman** or the **Company**) advises of the results from the Pre-Feasibility Study (**PFS**) completed on its 95%-owned Etango-8 Uranium Project (**Etango-8**) in Namibia.

KEY OUTCOMES (100% PROJECT BASIS)

- Confirms strong technical and economic viability of conventional open pit mining and heap leach processing of the **world-class Etango deposit at 8Mtpa throughput**.
- Informed by vast body of previous technical work with extensive resource drilling, geotechnical, metallurgical and environmental work already complete.
- Heap leach **process route has also been comprehensively de-risked** via operation of the Etango Heap Leach Demonstration Plant.
- Project rigour further bolstered through PFS with inclusion of dual pit ramps in northern and central pits, detailed plant design and higher accuracy estimation.
- Maiden Etango-8 **Ore Reserve** declaration of **117.6 Mt at 232 ppm U_3O_8 for 60.3 Mlbs U_3O_8**.
- Life-of-mine (LOM) production of 52.9 Mlbs U_3O_8 (August 2020 Scoping Study (SS): 51.1 Mlbs) over **15 years with annual average production of 3.5 Mlbs U_3O_8** (SS: 3.5 Mlbs).
- Average final product **cash operating cost** (incl. royalties) **of US$39.5/lb** U_3O_8 (SS: US$40.3/lb).
- Forecast pre-production **capital expenditure of US$274M** (SS: US$254M), delivering an attractive upfront capital intensity of approx. US$78/lb average annual U_3O_8 production.
- Attractive projected economics at US$65/lb (100% project basis): **post-tax $NPV_{8\%}$ of US$222M** (SS: US$212M), post-tax IRR of 20.3% (SS: 21.2%) and post-tax payback of 3.8 years (SS: 3.6).
- Forecast net project cashflow (post-capex, post-tax) of US$642M (SS: US$604M).
- **Further upside potential** from future life extension and/or scale-up expansion.
- **Long-term scalability** of Etango Project (up to 20Mtpa) confirmed by previous definitive level studies; provides strong optionality and leverage to upside-case uranium market.
- **Bannerman Board has approved commencement of a Definitive Feasibility Study** (**DFS**) with completion targeted for 3Q CY2022; expected cost approx. A$4M (excl. internal costs).

Commenting on the Etango-8 PFS results, Bannerman CEO, Brandon Munro, said:

"I am extremely pleased with the outcomes of the Etango-8 PFS. The underlying robustness of this streamlined development approach to the world-class Etango resource has now been confirmed to a PFS level of accuracy. We now look forward to the completion of a DFS for Etango-8 in the September 2022 quarter. This process will again benefit from the fact that Etango has already been the subject of a definitive level of feasibility study, at a larger scale, in recent years."

Cautionary Statement: ETANGO-8 PFS

Of the Mineral Resources scheduled for extraction and recovery in the PFS production plan, 100% are classified as Measured or Indicated. Bannerman confirms that there are no Inferred Resources included in the PFS production schedule.

The Mineral Resources underpinning the Ore Reserve and production target in the PFS have been prepared by a competent person in accordance with the requirements of the JORC Code (2012). The Competent Person's Statement(s) are found in the section of this ASX release titled *"Competent Person's Statement(s)"*. For full details of the Mineral Resources estimate, please refer to Section 3 (Geology) of the PFS Executive Summary. Bannerman confirms that it is not aware of any new information or data that materially affects the information included in that release. All material assumptions and technical parameters underpinning the estimates in that ASX release continue to apply and have not materially changed.

This release contains a series of forward-looking statements. Generally, the words "expect," "potential", "intend," "estimate," "will" and similar expressions identify forward-looking statements. By their very nature forward-looking statements are subject to known and unknown risks and uncertainties that may cause our actual results, performance or achievements, to differ materially from those expressed or implied in any of our forward-looking statements, which are not guarantees of future performance. Statements in this release regarding Bannerman's business or proposed business, which are not historical facts, are forward-looking statements that involve risks and uncertainties, such as Mineral Resource estimates, Ore Reserve estimates, market prices of metals, capital and operating costs, changes in project parameters as plans continue to be evaluated, continued availability of capital and financing and general economic, market or business conditions, and statements that describe Bannerman's future plans, objectives or goals, including words to the effect that Bannerman or management expects a stated condition or result to occur. Forward-looking statements are necessarily based on estimates and assumptions that, while considered reasonable by Bannerman, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements. Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made.

Bannerman has concluded that it has a reasonable basis for providing these forward-looking statements and the forecast financial information included in this ASX release. This includes a reasonable basis to expect that it will be able to fund the development of Etango-8 upon successful delivery of key development milestones and when required. The detailed reasons for these conclusions are outlined in the section of this ASX release titled *"Funding pathway"*. While Bannerman considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the PFS will be achieved.

To achieve the range of outcomes indicated in the PFS, pre-production funding in excess of US$275M will likely be required. There is no certainty that Bannerman will be able to source that amount of funding when required. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Bannerman's shares. It is also possible that Bannerman could pursue other value realisation strategies such as a sale, partial sale or joint venture of the Etango-Project. These could materially reduce Bannerman's proportionate ownership of the Etango Project.

This ASX release has been prepared in compliance with the current JORC Code (2012) and the ASX Listing Rules. All material assumptions, including consideration of all JORC modifying factors on the Ore Reserve, production target and forecast financial information are based have been included in this ASX release, including the PFS Executive Summary (and summarised again in Appendix A).

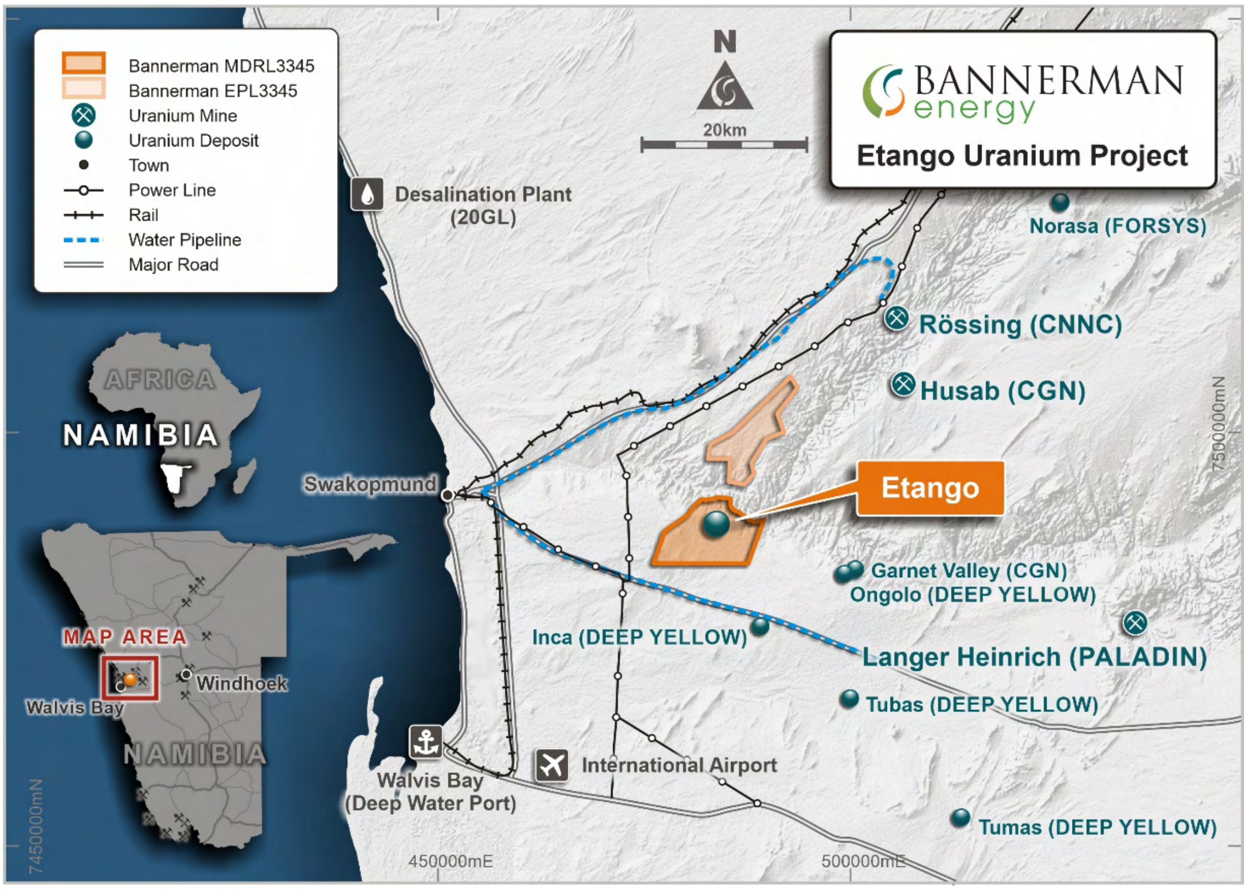
Etango-8: A world-class uranium mine

Brief overview

The Etango Uranium Project (**Etango Project**) is located in the Erongo Region of Namibia, approximately 30 kilometres to the east-south-east of Swakopmund. It is positioned within a highly established uranium mining jurisdiction, where the mining and export of uranium via the Walvis Bay deep-sea port facility has been ongoing for over 40 years.

The Etango Project is owned by Bannerman Energy Ltd, through its 95%-owned subsidiary Bannerman Mining Resources (Namibia) (Pty) Ltd.

Figure 1: Location of the Etango Project



Planned development of the Etango Project involves bulk open pit mining of a large, relatively homogenous uranium deposit followed by crushing, acid heap leaching, Ion Exchange (**IX**) with Nano Filtration (**NF**), and uranium recovery into yellowcake product (U_3O_8).

In April 2012, Bannerman completed a DFS (**DFS 2012**) for the Etango Project. The DFS 2012 was based on a 20Mtpa mine and heap leach process throughput. Mine planning, engineering design and capital and operating cost estimation was undertaken to an accuracy of ±15%.

In March 2015, Bannerman commissioned an industrial scale plant to demonstrate the heap leach configuration and assumptions. The results of the trials demonstrated strong support for the DFS 2012 metallurgical parameters.

In November 2015, Bannerman completed a DFS Optimisation Study (**OS 2015**). The OS 2015 saw a pre-production capital cost estimate of US$793M for average life-of-mine (LOM) production of 7.2 Mlbs U_3O_8 per annum at a LOM average C1 cash cost of US$38/lb.

In 2019, Bannerman commenced an evaluation of various project scaling and scope opportunities under a range of potential development parameters and market conditions. Indicative outcomes of this work highlighted strong potential for a scaled-down initial development of the Etango Project. As a result, Bannerman commenced work on a Scoping Study into such a development.

The Etango-8 Scoping Study (August 2020) provided an early-stage confirmation of the technical and commercial viability for development of the Etango Project at an 8Mtpa throughput rate. Importantly, much of this Scoping Study evaluation was heavily informed by the detailed study work undertaken across all relevant disciplines as part of the DFS 2012 and OS 2015. The Etango-8 Scoping Study development also, critically, maintained the real option of modular expansion, up to potentially the 20Mtpa scale envisaged by the DFS 2012 and OS 2015.

Following completion of the Etango-8 Scoping Study, the PFS process was commenced with targeted completion in mid-2021.

The Etango-8 PFS

The PFS has been completed to a ±20% level of accuracy. Key external study consultants include Wood plc (process plant design and related infrastructure, plant capital and operating cost estimates) and Qubeka Mining Consultants (pit inventory estimates, mine planning and mining cost estimates).

The PFS has confirmed the strong technical and economic viability of conventional open pit mining and heap leach processing of the world-class Etango deposit at 8Mtpa throughput. It has been informed by the vast body of previous technical work completed on the Etango Project with extensive resource drilling, geotechnical, metallurgical and environmental work already complete. The heap leach process route has also been comprehensively de-risked via the prior operation of the Etango Heap Leach Demonstration Plant.

The level of planning rigour for Etango-8 has been bolstered through the PFS process via the inclusion of dual pit ramps in the northern and central pits, detailed plant design and higher accuracy estimation. Table 1 outlines the key physical and economic outcomes from the Etango-8 PFS.

Table 1: Etango-8 PFS summary

Key metric	**Unit**	**PFS (Aug 2021)**	**Scoping Study (Aug 2020)**	**Change**
Total ore throughput	Mt	**117.6**	114.1	**+ 3%**
Annual process throughput	Mtpa	**7.8**	7.9	- 1%
Initial life-of-mine	years	**15.0**	14.4	**+ 4%**
Average strip ratio (waste:ore)	t:t	**2.07**	1.93	+ 7%
Average uranium head grade	U_3O_8	**232**	232	-
Forecast uranium recovery	% U_3O_8	**87.8%**	87.8%	-
Total production	Mlbs U_3O_8	**52.9**	51.1	**+ 4%**
Average annual production	Mlbs pa	**3.5**	3.5	-
Pre-production capital expenditure	US$M	**274**	254	+ 8%
Cash operating cost (ex-royalties)	US$/lb U_3O_8	**37.3**	37.4	-
All-In-Sustaining-Cost (AISC) (incl royalties)	US$/lb U_3O_8	**40.3**	40.9	**- 2%**
Uranium price	US$/lb U_3O_8	**65**	65	-
$NPV_{8\%}$ (post-tax, real basis, ungeared)	US$M	**222**	212	**+ 5%**
IRR (post-tax, real basis, ungeared)	%	**20.3**	21.2	- 0.9%
Project net cashflow (post-tax)	US$M	**642**	604	**+ 6%**

Key Etango-8 physical outcomes

In June 2021, Optiro reviewed the Etango Mineral Resource estimate, first signed-off by Optiro in 2015 as part of the OS 2015. This consolidated resource model was then subject to pit optimisation for the purposes of Mineral Resource reporting using a uranium price of US$75/lb. There are no changes between the 2015 and 2021 Etango Mineral Resource model using the same pit shell. The 2015 Mineral Resource estimate was reported above a cut-off of 55ppm U_3O_8 while the 2021 Mineral Resource estimate has been reported above a cut-off of 100ppm U_3O_8. Both the 2015 declaration of resources and the 2021 declaration have been reported in accordance with the JORC Code (2012).

The 2015 Mineral Resource estimate (above a cut-off of 55ppm U_3O_8) and the 2021 Mineral Resource Estimate (above a cut-off of 100ppm U_3O_8) are shown in Tables 2 and 3 respectively.

Table 2: June 2015 Etango Mineral Resource estimate

June 2015 Mineral Resource Estimate JORC (2012) reported within a US$75 pit shell above a 55 ppm U_3O_8 cut-off	Tonnes (Mt)	Grade (ppm U_3O_8)	Contained U3O8 (Mlb)
Resource Category			
Measured	33.7	194	14.4
Indicated	362.0	188	150.2
Inferred	144.5	196	62.5
Total	**540.2**	**191**	**227.1**

Table 3: June 2021 Etango Mineral Resource estimate

June 2021 Mineral Resource Estimate JORC (2012) reported within a US$75 pit shell above a 100 ppm U_3O_8 cut-off	Tonnes (Mt)	Grade (ppm U_3O_8)	Contained U3O8 (Mlb)
Resource Category			
Measured	27.6	219	13.3
Indicated	286.1	217	137.1
Inferred	115.0	226	57.4
Total	**428.7**	**220**	**207.8**

The Etango-8 PFS saw Qubeka undertake a further optimisation of the Etango-8 mine schedule. It also resulted in the addition of a dual pit ramp structure to the mine design, further de-risking the execution of the forecast mining schedule.

A maiden Etango-8 Ore Reserve estimate was declared of 117.6 Mt at 232 ppm U_3O_8 for 60.3 Mlbs U_3O_8. All uranium output from the Etango-8 PFS production schedule is derived from this Ore Reserve estimate. The detail of this estimate is provided in Table 4.

Table 4: Etango-8 Ore Reserve estimate (at a cut-off grade of 100ppm U_3O_8)

JORC (2012) Ore Reserve estimate for Etango-8 Project (July 2021)	Tonnes (Mt)	Grade (ppm U3O8)	Contained metal (Mlb)
Proved	16.2	232	8.3
Probable	101.5	233	52.0
Total Ore Reserve	**117.6**	**232**	**60.3**

All modifying factors were taken into account in the declaration of this Ore Reserve estimate, with full detail on these factors provided through this cover release and the attached PFS Executive Summary (and summarised in Appendix A). The key physical outcomes of the PFS are outlined in Table 5.

Table 5: Etango-8 PFS key physical outcomes

Key physical parameters	Unit	Total / LOM		Annual average	
		PFS	Scoping Study	PFS	Scoping Study
Operations					
Construction period	months	24	24	NA	NA
Initial production life	years	15.0	14.4	NA	NA
Mining					
Ore mined	Mt	117.6	114.1	7.8	7.9
Strip ratio	x	2.07	1.93	2.07	1.93
Waste mined	Mt	243.2	220.0	16.2	15.3
Processing					
Ore processed	Mt	117.6	114.1	7.8	7.9
Average uranium head grade	ppm U_3O_8	232	232	232	232
Forecast uranium recovery	%	87.8%	87.8%	87.8%	87.8%
Output					
Uranium production	**Mlbs U_3O_8**	**52.9**	**51.1**	**3.53**	**3.55**

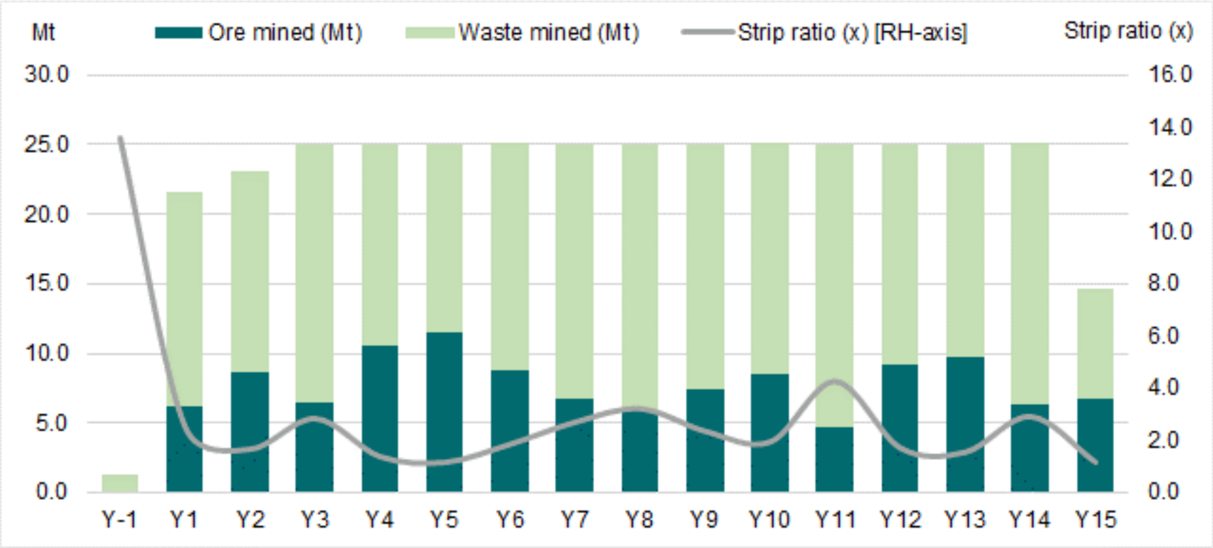
Key physical differentials versus the Etango-8 Scoping Study include higher total metal production (+4%) and operating life (+4%), balanced against a higher strip ratio (+7%). The predominant driver of the increased strip ratio was the incorporation of the dual pit ramp systems for the northern and central pits, further de-risking the overall mine schedule execution.

Mining

The Etango deposit is to be mined as a conventional truck and shovel open pit operation via contract mining. Maximum annual mining rates are 25 Mtpa material, with average annual ore mined of approximately 7.8 Mtpa at a life-of-mine (**LOM**) average stripping ratio of 2.07.

Radiometric truck scanning (discrimination) will be employed as the definitive grade control process, as is common practice in large scale open pit uranium mines in Australia and Namibia. This means that the Standard Mining Unit (**SMU**) in the mining process will be a single truck load.

Figure 2: Etango-8 mine schedule



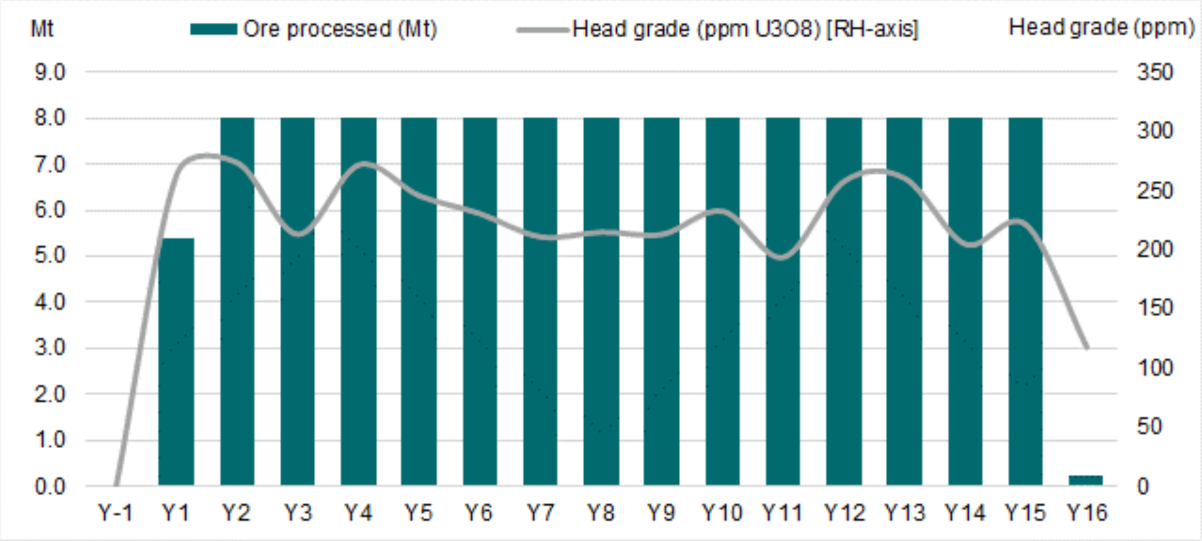
The mine schedule incorporates a pre-strip phase (Y-1) of approximately 1.26 Mt waste (and 90 kt ore).

Processing

The Etango-8 flowsheet remains as per that outlined in the Scoping Study – crushing, acid heap leaching, Ion Exchange (**IX**) with Nano Filtration (**NF**), and uranium recovery into yellowcake product (U_3O_8). Following previous extensive acid consumption testwork with columns and cribs, plus the data set gained from operation of the Etango Heap Leach Demonstration Plant, combined with the acid recovery process via nano-filtration, and applying scale-up factors, a relatively conservative total sulphuric acid consumption of 18.0 kg/t is assumed (unchanged from the Scoping Study).

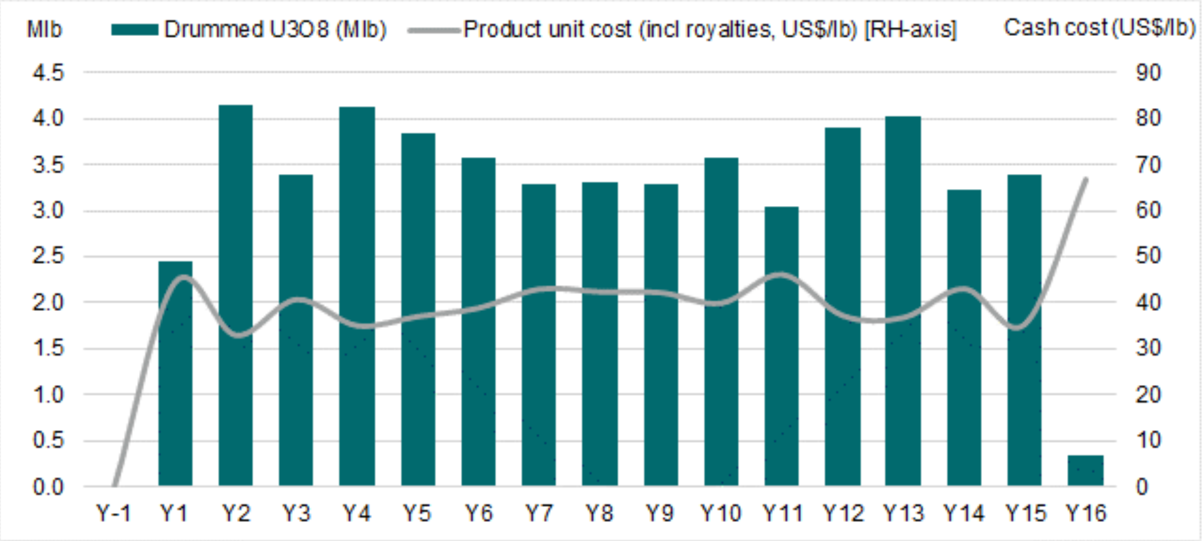
An initial ramp-up period of 12 months has been incorporated for the processing plant to attain nameplate capacity of 8 Mtpa. Three ROM ore stockpiles (high, medium and low grade) will be used to manage tonnage and grade of the ore feed to the processing plant. Figure 3 presents the Etango-8 LOM processing schedule.

Figure 3: Etango-8 processing schedule



The PFS utilises an overall uranium recovery of 87.8% (unchanged from the Scoping Study). This is based on the extensive testwork done with columns (2m, 4m, 5m and 7m) and cribs (2m x 2m x 5m), as well as applying appropriate scale-up factors to simulate performance on a commercial heap.

Figure 4: Etango-8 output schedule

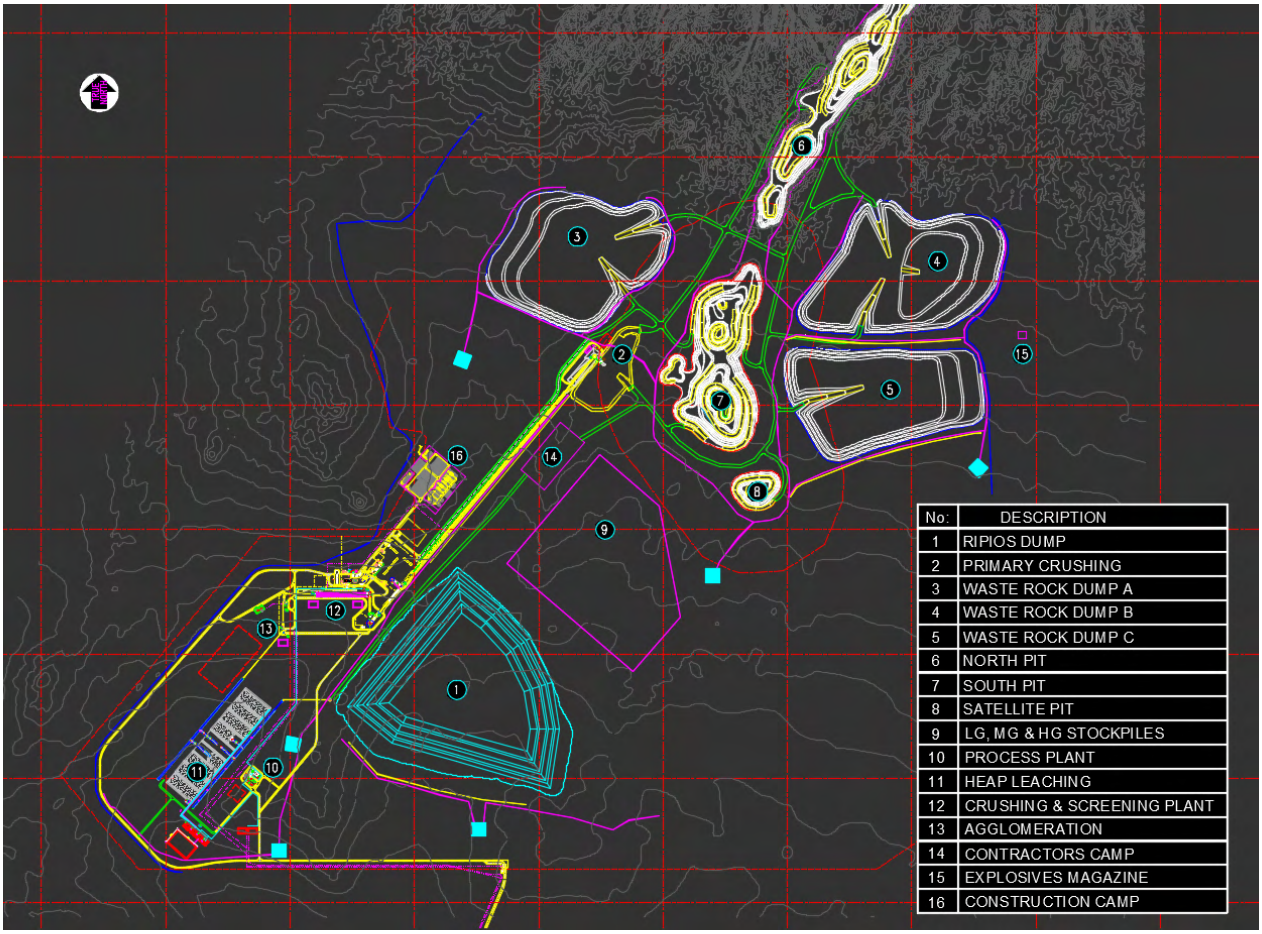


Forecast average LOM U_3O_8 production is 3.53 Mlb per annum, with a peak in Year 2 of 4.15 Mlb.

Site layout and access

The site layout is shown in Figure 5 and remains similar to the DFS 2012, OS 2015 and Etango-8 Scoping Study. The selected location is driven largely by the typical economic imperative to restrict waste and ore haulage distances.

Figure 5: Etango-8 site layout



No:	DESCRIPTION
1	RIPIOS DUMP
2	PRIMARY CRUSHING
3	WASTE ROCK DUMP A
4	WASTE ROCK DUMP B
5	WASTE ROCK DUMP C
6	NORTH PIT
7	SOUTH PIT
8	SATELLITE PIT
9	LG, MG & HG STOCKPILES
10	PROCESS PLANT
11	HEAP LEACHING
12	CRUSHING & SCREENING PLANT
13	AGGLOMERATION
14	CONTRACTORS CAMP
15	EXPLOSIVES MAGAZINE
16	CONSTRUCTION CAMP

The C28 sealed road from Swakopmund heads east approximately 5 km south of the Etango site. This is the main road that services the Langer Heinrich Mine and ultimately reaches Windhoek. Access to the Etango site from the C28 is via a 7 km sealed spur road to be constructed as part of Etango-8.

Power and water supply

Power for the Etango site is to be sourced from the 220 kV national grid through Nampower's Kuiseb substation, which has recently been upgraded to 132 kV. Nampower proposes a 29 km, 132 kV transmission line from the Kuiseb substation to the Etango site where a 132/11 kV switchyard, 20 MVA 132/11 kV step-down transformer(s) and indoor Etango substation will be installed.

Water is to be sourced from NamWater and is set to be supplied from desalinated sources to the Base Reservoir in Swakopmund. The Etango-8 water infrastructure consists of a pipeline and pumping system to transport the water to the Etango site, and terminal water storage system on site.

Product transport and export

The C34 is currently being upgraded to a sealed double highway with a safe fly-over onto the C28. This will provide a safe route for the trucking of final product for shipment from Walvis Bay, as well as transportation of sulphuric acid and other reagents from the Walvis Bay port to site.

The Port of Walvis Bay is a highly established uranium export facility. It has been handling Class 7 cargo for over 40 years both from Namibia and neighbouring countries such as Malawi. Specific areas within the controlled port environment have been designated for Class 7 cargo, which Bannerman is set to utilise.

Key Etango-8 financial projections

Operating cost estimate

The PFS is based on a contract mining operation (as was the Etango-8 Scoping Study). This includes drilling, blasting, loading and hauling of ore and waste. The forecast unit mining cost of US$2.45/t material mined (inclusive of minor owner's costs) is based on indicative quotes sourced from regional mining contractors.

The forecast cost of sulphuric acid (delivered to Walvis Bay, and then to Etango site) is US$97/t (up from US$88/t in the Scoping Study). This is based on the 10-year average FOB price from Asia (US$35/t) combined with current sea freight and overland transport estimates.

The utility power cost assumed is US$0.0115 per kWh, which is the blended energy cost based on Nampower's Time of Use tariff schedule for customers taking energy directly from Nampower. This includes all fixed charges, capacity charges and energy charges.

The water tariff of US$3.5/m^3 used in this Scoping Study is based on discussions between Bannerman and NamWater. It reflects the estimated cost of desalination and water transport operating and maintenance costs included in the delivery to site.

Table 6: Etango-8 operating cost estimate

Operating cost segment	LOM US$M	US$/t ore	US$/lb	%
Mining	**885**	**7.53**	**16.73**	**45%**
Contract mining	867			
Owner's team	18			
Processing	**911**	**7.74**	**17.21**	**46%**
Sulphuric acid	206			
Other reagents/consumables	207			
Power	152			
Water	122			
Maintenance	36			
Ripios trucking	56			
Labour	89			
Process G&A	43			
G&A and external infrastructure	**122**	**1.04**	**2.31**	**6%**
Owner's G&A	50			
External infrastructure and site services	73			
Product transport and selling cost	**58**	**0.49**	**1.10**	**3%**
Total operating cost (ex-royalties/levies)	**1,976**	**16.80**	**37.35**	**100%**

Applicable royalties applied to gross sales revenue are a 3.0% Namibian government royalty and a 0.25% export levy. There are no non-governmental royalties applicable to the project.

Capital cost estimate

Total forecast pre-production capital expenditure for the Etango-8 PFS is US$274M (to a ±20% level of accuracy). This compares with an estimate of US$254M in the Scoping Study (±30% accuracy).

The predominant driver of the differential with the Scoping Study was an overall bolstering of rigour, detail and accuracy with respect to process plant design and function. This has considerably further de-risked the Etango-8 development proposition.

The composition of the pre-production capital estimate is outlined in Table 7. The process plant and infrastructure component includes a US$30.0M contingency allowance.

Table 7: Etango-8 pre-production capital expenditure estimate (US$M)

Pre-production capital expenditure	US$M
Mining	**9.2**
Owner's team – infrastructure	0.9
Contractor mobilisation	4.2
Owner's team labour	0.3
Pre-strip	3.8
Process plant and infrastructure	**230.0**
Process plant directs	141.2
Infrastructure directs	63.9
Indirects	24.8
Assay laboratory - mobilisation	0.2
External infrastructure	**26.6**
Access road extension	1.2
Power supply	7.6
Water supply	15.4
Acid infrastructure	2.3
General and administration	**8.2**
Pre-production labour	5.6
G&A owner's cost	2.6
Total pre-production capital expenditure	**274.0**

Forecast sustaining capital requirements across the Etango-8 LOM (including restoration and closure capital expenses) are approximately US$43M (approximately US$0.37/t ore).

Uranium price input

The realised LOM uranium price forecast adopted for the PFS is US$65/lb U_3O_8. This is the same price estimate as utilised for the Scoping Study.

For more detailed uranium market analysis and the rationale for utilisation of this price assumption, refer to Section 12 (Marketing) of the PFS Executive Summary.

Forecast economic outcomes

Forecast key financial metrics for the development of Etango-8 as reflected in the PFS are summarised in Table 8 (all projections are on a 100% project basis).

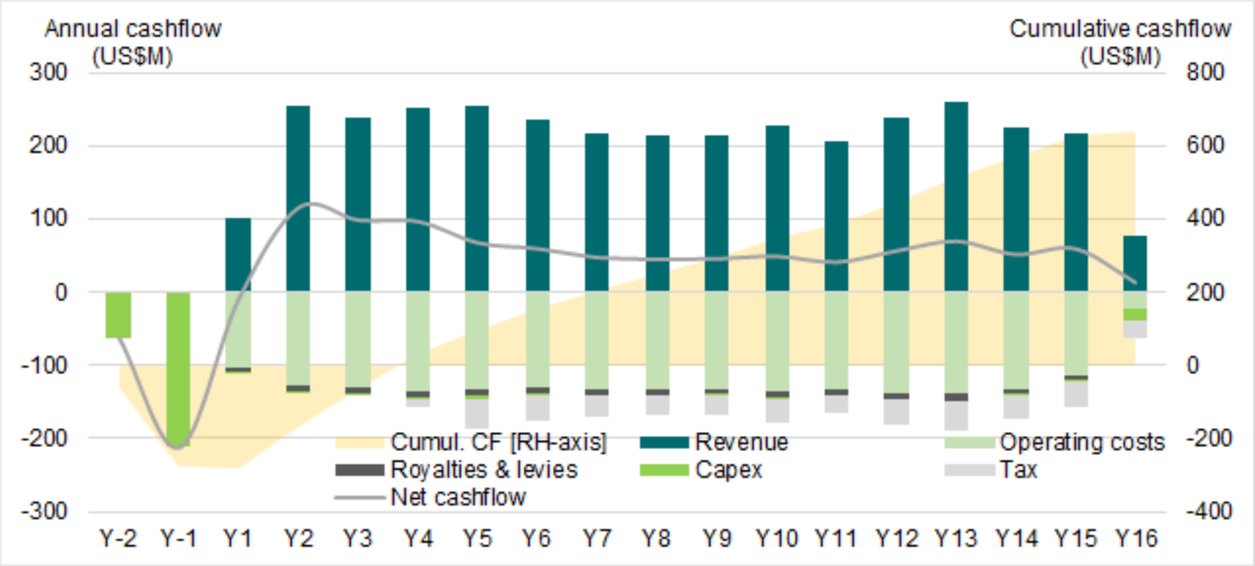
Table 8: Etango-8 PFS key financial metrics

Key financial outcomes	Unit	PFS	Scoping Study
Price inputs			
LOM average uranium price	US$/lb U_3O_8	65	65
US$/N$	N$	16	16
Valuation, returns and key ratios			
NPV8% (post-tax, real basis, ungeared)	**US$M**	**222**	**212**
NPV8% (pre-tax, real basis, ungeared)	US$M	386	373
IRR (post-tax, real basis, ungeared)	**%**	**20.3**	**21.2**
IRR (pre-tax, real basis, ungeared)	%	25.3	26.8
Payback period (post-tax, from first production)	**years**	**3.8**	**3.6**
Payback period (pre-tax, from first production)	years	3.8	3.4
Pre-tax NPV / Pre-production capex	x	1.4	1.5
Pre-production capital intensity	US$/lb U_3O_8 pa capacity	78	71
Cashflow summary			
Sales revenue (gross)	**US$M**	**3,440**	**3,320**
Mining opex	US$M	(885)	(856)
Processing opex	US$M	(911)	(859)
G&A opex	US$M	(122)	(143)
Product transport, port, freight, conversion	US$M	(58)	(56)
Royalties and export levies	US$M	(112)	(146)
Project operating surplus	**US$M**	**1,352**	**1,260**
Pre-production capital expenditure	US$M	(274)	(254)
LOM sustaining capital expenditure	US$M	(43)	(31)
Project net cashflow (pre-tax)	**US$M**	**1,034**	**975**
Tax paid	US$M	(392)	(371)
Project net cashflow (post-tax)	**US$M**	**642**	**604**
Unit cash operating costs			
Mining	US$/t material mined	2.45	2.56
Mining	US$/lb U_3O_8	16.7	16.8
Processing	US$/t ore	7.74	7.53
Processing	US$/lb U_3O_8	17.2	16.8
G&A	US$/lb U_3O_8	2.3	2.8
Product transport, port, freight, conversion	US$/lb U_3O_8	1.1	1.1
Total cash operating cost (ex-royalties/levies)	**US$/lb U_3O_8**	**37.3**	**37.4**
Royalties and export levies	US$/lb U_3O_8	2.1	2.9
Total cash operating cost	US$/lb U_3O_8	39.5	40.3
All-in-sustaining-cost (AISC)	**US$/lb U_3O_8**	**40.3**	**40.9**

Key financial differentials versus the Etango-8 Scoping Study include higher total project revenues (+4%), balanced against a bolstered pre-production capital estimate (+8%). The final PFS outcomes also include the extinguishment of the 1.5% RCF royalty over Etango (see Bannerman ASX release dated 22 July 2021, *Buy back of private royalty*).

The projected LOM cashflow is shown in Figure 6. The Etango-8 development is expected to achieve a post-tax payback in approximately 3.8 years from first production.

Figure 6: Etango-8 forecast LOM net cashflows



Sensitivity analysis

Figures 7 and 8 outline the results of sensitivity analysis on post-tax NPV and IRR outcomes.

Figure 7: Sensitivity analysis – post-tax NPV (US$M)

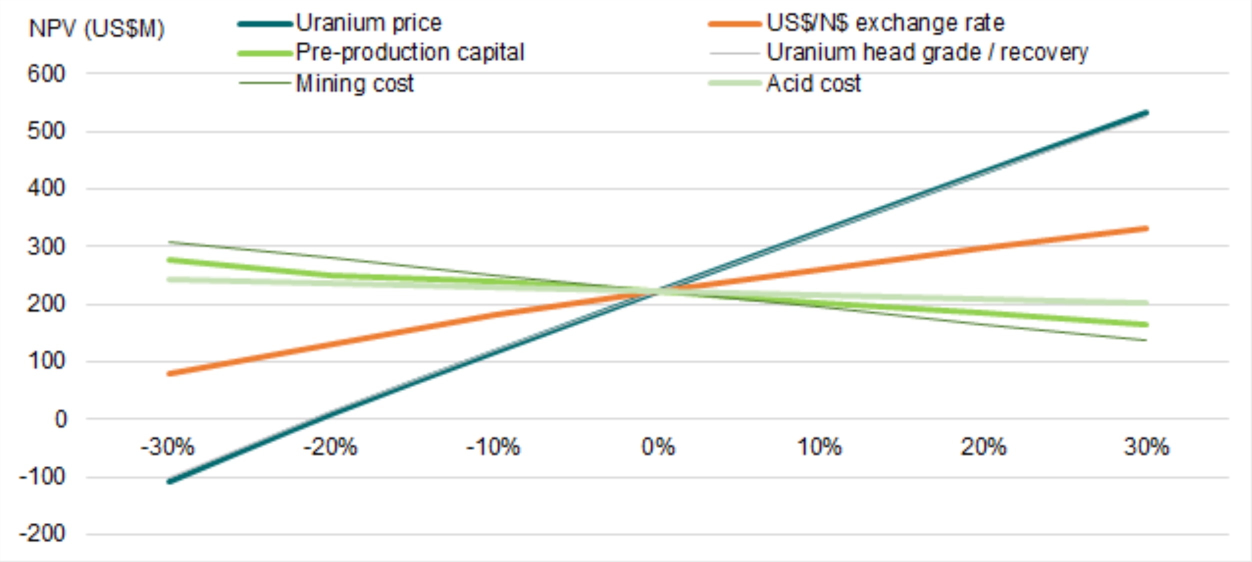


Figure 8: Sensitivity analysis – post-tax IRR (%)

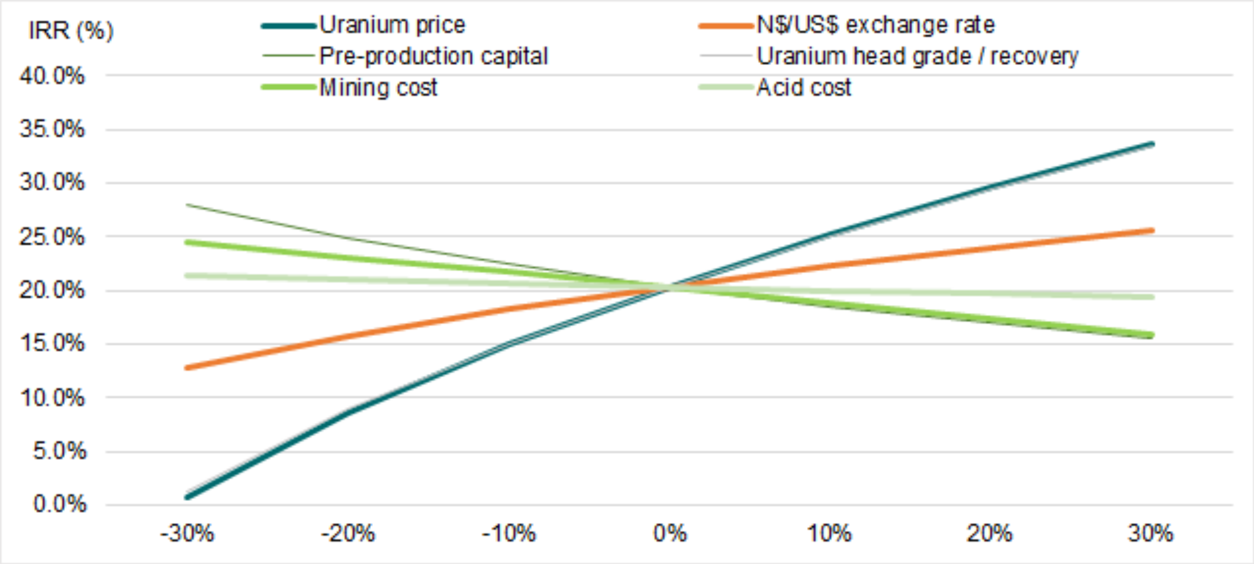


Table 9 demonstrates the Etango-8 Project post-tax NPV utilising different discount rates.

Table 9: Post-tax NPV variability for selected discount rates

Selected discount rate sensitivity	4%	6%	8%	10%	12%
Post tax NPV (US$M)	**383**	**293**	**222**	**165**	**119**

Regulatory and social licence to operate

Environmental and permitting

Bannerman received its Environmental Clearance in March 2010 for the Etango Project. The Environmental Clearance was based on the Environmental and Social Impact Assessment (**ESIA**) and Environmental and Social Management Plan (**ESMP**).

The Environmental Clearance for the location and design of infrastructure ancillary to the Etango Project (including the access road, water pipeline and power lines) was granted by the Ministry of Environment and Tourism in July 2011.

A revised ESIA, reflecting the project detailed in the DFS 2012, was prepared and submitted in April 2012, with the Environmental Clearance granted in July 2012, valid for an initial period of three years. This has subsequently been renewed on two further occasions and is currently in the process of further renewal (currently valid until October 2021). Environmental Clearance for linear infrastructure was granted in February 2013 (valid for three years) – it has also been renewed twice and is currently valid until June 2022.

Baseline monitoring of groundwater and air quality started in 2008 and has continued over subsequent years.

The Minerals Act requires the submission of a Mining Licence (**ML**) application to be supported by an ESIA, including completion of an ESMP to manage the adverse impacts identified, as well as a Feasibility Study. As noted above, an Environmental Clearance has already been received for the larger (20Mtpa) Etango Project as well as the linear infrastructure (access road, power lines and water pipeline from the C28 road to site).

The following ESIAs will need to be completed for Etango-8:

- For the water pipeline from Swakopmund to the C28 turn-off to the site. This needs to be done together with NamWater's input.
- For the electrical powerline from the Kuiseb substation to the C28 turn-off to the site. This needs the input of NamPower.
- For the multimodal siding where the sulphuric acid isotainers will be taken off the train onto trucks.

No construction can commence until Environmental Clearances have been issued for this infrastructure.

As Bannerman already holds a Mineral Deposit Retention Licence (**MDRL**) over the Etango Project area, the conversion of the MDRL to a ML would be expected to be a relatively short process.

The 2012 ESIA processes saw extensive public consultations for the larger Etango Project. Etango-8 is essentially a smaller version of the larger project and thus focus groups with key stakeholders are now planned to be held alongside the DFS process, with subsequent input included in the Environmental Clearance renewal.

Social and community

Bannerman has a core value to build enduring and mutually beneficial relationships with its neighbouring communities in Namibia. It has invested in Namibia since 2006 and in this time has contributed substantially to the communities in which it operates. Selected initiatives include:

- Early Learner Assistance Program – over 3,000 pre-primary learners in remote communities have received assistance via this program including school clothing and basic necessities.
- Bannerman pioneered cooperation with the Hospitality Association of Namibia (HAN) and Coastal Tourism Association of Namibia and has supported the tourism sector in numerous ways. In recognition of Bannerman' positive impact, in 2019 Bannerman's Managing Director - Namibia, Mr Werner Ewald, received the HAN accolade of 'Tourism Personality of the Year'.
- Erongo Development Foundation – Bannerman has been an active member of the Erongo Development Foundation for many years; an organisation supporting the development of poor communities within the Erongo Region where the Etango Project is located.

Future expansion and / or life extension

The Etango-8 development has been designed to retain the flexibility to expand to larger throughput (up to 20Mtpa) post operations commencing. This would be enabled via subsequent construction of a second processing stream and undertaking of cutbacks 7 and 8 of the OS 2015 20Mtpa pit shells.

In this way, the scalability of the world-class Etango deposit, including the potential leveraging of such a large resource base into higher production volumes at higher potential uranium price levels, is not removed by construction of a smaller-scale project initially.

In addition, there are opportunities to extend the initial 15-year mine life, either in conjunction with or instead of an expansion to the operating scale. The Etango-8 development is based on an initial Ore Reserve of 60.3 Mlbs U_3O_8, compared with Measured and Indicated Resources of approximately 150Mlbs U_3O_8 and additional Inferred Resources at the Etango deposit and potential satellite pits.

Next steps and development schedule

The PFS has demonstrated, to a higher level of accuracy, that Etango-8 is a technically robust and highly economic mine development.

The Bannerman Board has approved progression to a DFS on Etango-8. Given the breadth of existing study work that already exceeds a PFS level of detail, the DFS is expected to be completed in 3Q CY2022. The expected cost of the DFS is approximately A$4M, excluding internal costs.

While the DFS is being conducted, focus group meetings will be held with key stakeholders to provide further input into the ESIA process for Etango-8.

In conjunction with completion of the DFS, an application to obtain a ML is planned to be submitted to the Namibian Ministry of Mines and Energy. As Bannerman already holds a MDRL over the Etango Project area, the conversion of the MDRL to a ML would be expected to be a relatively short process.

Construction of the Etango-8 Project is expected to take approximately 24 months (including detailed front-end engineering and design).

No further exploration drilling is planned for the Etango Project, with over 150 Mlbs U_3O_8 already contained in Measured and Indicated resource classification.

Key risks

A range of economic, engineering and other technical risks to Etango-8 have been considered. These risks include:

- **Uranium prices:** Lower than assumed prices of U_3O_8.
- **Key input prices:** Higher than expected prices of sulphuric acid, diesel, electricity or water.
- **Capital cost:** Unpredicted increases in equipment, materials or labour capital costs.
- **Geology:** Typical industry uncertainties with respect to interpretation of drill results and geology.
- **Utility supply:** Late or reduced supply of key utility inputs, including water and power.
- **Labour and training:** Inability to identify suitably trained personnel across all positions.
- **Fiscal impost:** Unexpected changes in royalties, government levies or company taxes.
- **Permitting:** Unforeseen issues of title, permitting, licences, access to land or right to mine.
- **Exchange rate:** Unfavourable movements in the N$/US$ exchange rate relative to forecast.

A fuller exploration of these key risks, and their potential controls/mitigants, is provided in Section 17 (Risk management) of the PFS Executive Summary.

Funding pathway

To achieve the range of outcomes indicated in the Etango-8 PFS, pre-production funding in excess of US$275M will likely be required.

There is no certainty that Bannerman will be able to source that amount of funding when required. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Bannerman’s shares. It is also possible that Bannerman could pursue other value realisation strategies such as a sale, partial sale or joint venture of the Etango Project. This could materially reduce Bannerman’s proportionate ownership of the Etango Project.

An assessment of various funding alternatives for Etango-8 has been made based on precedent funding transactions in the uranium and broader metals mining industry.

Bannerman has formed the view that there is a reasonable basis to believe that requisite future funding for development of Etango-8 will be available when required. There are a number of grounds on which this reasonable basis is established:

- Funding for Etango-8 pre-production and initial working capital is not expected to be required until close to or post completion of the DFS. Finalisation of the DFS on for Etango-8 is not expected before 3Q CY2022. The majority of market analysts/commentators globally forecast demand, and market prices, for uranium to increase from their current levels over the intervening period.
- Global debt and equity finance for uranium projects remains available, albeit this funding supply is more constrained than in past periods of higher uranium prices. Recent examples of significant funding being made available for progression or construction of such projects globally include:
    - Fission Uranium Corporation (TSX: FCU) raising C$35 million in new equity via a bought deal offering in May 2021 to fund the further development of its Triple R Uranium Project in Canada;
    - Vimy Resources Limited (ASX: VMY) raising A$19 million via an equity placement in April 2021 to progress activities at its Mulga Rock and Alligator River Uranium Projects in Australia;
    - NexGen Energy Limited (TSX: NXE) raising C$150 million in new equity via a bought deal offering in March 2021 to fund the continued development of its Rook I Uranium Project in Canada;
    - Paladin Energy Limited (ASX: PDN) raising A$219 million via an equity placement and entitlement offer in March 2021 to pay down debt and position for a restart of its Langer Heinrich Uranium Project in Namibia;
    - Boss Energy Limited (ASX: BOE) raising A$60 million via an equity placement in March 2021 to acquire uranium inventory and position for a restart of its Honeymoon Uranium Project in Australia;
    - Deep Yellow Limited (ASX: DYL) raising A$41 million via an equity placement in February 2021 to progress the DFS and further exploration on its Tumas Uranium Project and other assets in Namibia;
    - GoviEx Uranium Inc. (TSX-V: GXU) raising C$8 million via an equity placement in January 2021 to fund continued exploration and development activities on its uranium assets in Niger, Zambia and Mali;
    - Peninsula Energy Limited (ASX: PEN) raising A$40 million via a fully underwritten equity entitlement offer in June 2020 to pay down debt and position for a restart of its Lance ISR Project in the United States;
    - Vimy Resources Limited (ASX: VMY) raising A$6 million via an equity placement in June 2020 for its Alligator River and Mulga Rock Projects in Australia; and
    - NexGen Energy Limited (TSX: NXE) raising US$30 million via an equity placement and convertible debenture issue in May 2020 for its Arrow Project in Canada.
- The technical and financial parameters detailed in the Etango-8 PFS are robust and economically attractive (US$222M $NPV_{8\%}$ (post-tax, ungeared, real basis) and 20.3% IRR). The Etango Project is located in Namibia, a leading uranium mining and export jurisdiction globally. Namibia possesses a well-established and clearly understood legal tenure and project permitting regulation. Release of these PFS fundamentals now provides a further platform for Bannerman to advance discussions with potential strategic partners, off-takers, debt providers and equity investors with respect to the Etango-8 development.

- Bannerman has a current market capitalisation of approximately A$170 million and zero debt. The Company owns 95% of the Etango Project and has an uncomplicated, clean corporate and capital structure. Finally, 100% of the forecast uranium production from the Etango Project remains uncommitted. These are all factors expected to be highly attractive to potential strategic investors, offtake partners and conventional equity investors. These factors also deliver considerable flexibility in engagement with potential debt or quasi-debt providers.

- The Bannerman Board and management team has extensive experience in the global uranium, and broader resources, industry. They have played leading roles previously in the exploration and development, including project financing, of several large and diverse mining projects in Africa and elsewhere. In this regard, key Bannerman personnel have a demonstrated track record of success in identifying, acquiring, defining, funding, developing and operating quality mineral assets of significant scale.

- The Company has a strong track record of raising equity funds as and when required to further the exploration and evaluation of the Etango Project. Bannerman's prior equity raising was a A$12M institutional placement that was successfully undertaken in February 2021.

- Bannerman is targeting total pre-production and working capital funding being comprised of one, some or all of: senior project debt, mezzanine debt, offtake prepayment, sale of a strategic asset interest, equity issuance and/or royalty/stream funding. As noted earlier, total pre-production funding (or equivalent) in excess of US$275M will likely be required. The final mix will depend on general market and mineral industry conditions, specific counterparty appetite and terms, and the Bannerman Board's prevailing views on optimal funding mix and balance sheet configuration.

It should be noted that this funding strategy is subject to change at the Bannerman Board's discretion at any point. It should also be noted that, while the Bannerman Board holds a reasonable basis to believe that funding will be available as required, there is no assurance that the requisite funding for Etango-8 will be secured.

Competent Person's Statement(s)

Mineral Resources

The information in this release, including the PFS Executive Summary, relating to the Mineral Resources (June 2015 and June 2021) for the Etango Project is based on a resource estimate compiled or reviewed by Mr Ian Glacken, Principal Consultant at Optiro Pty Ltd and a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Glacken has sufficient experience that 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", is an independent consultant to Bannerman. Mr Glacken consents, and provides corporate consent for Optiro Pty Ltd, to the inclusion in this release of the matters based on his information in the form and context in which it appears.

Ore Reserves

The information in this release, including the PFS Executive Summary, relating to the Ore Reserves (July 2021) of the Etango-8 PFS Project is based on information compiled or reviewed by Mr Werner K Moeller, a Director since 2016 of Qubeka Mining Consultants CC based in Klein Windhoek, Namibia. Prior to 2016 Mr. Moeller was a Director of VBKom Consulting Engineers (Pty) Ltd based in Centurion, South Africa from 2008. Mr Moeller is a Member of The Australasian Institute of Mining and Metallurgy (MAusIMM nr. 329888), a Member of the South African Institute of Mining and Metallurgy (MSAIMM nr. 704793) and a Member of the Canadian Institute of Mining, Metallurgy and Petroleum (MCIM nr. 708163). He graduated from the University of Pretoria, South Africa and holds a Bachelor degree, majoring in Mine Engineering (2001) and an Honours degree, majoring in Industrial Engineering (2002). Mr Moeller is a practising mining engineer, having practiced his profession continuously since 2002, and has sufficient experience relevant to the style of mineralisation and types of deposits under consideration and to the activity which is being undertaken to qualify him as a

Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". He has read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results and the Technical Report has been prepared in compliance with that code. Mr Moeller consents to the filing of this release with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public. Mr Moeller furthermore does not have nor does he expect to receive a direct or indirect interest in the Etango property of Bannerman, and he does not beneficially own, directly or indirectly, any securities of Bannerman or any associate or affiliate of such company. Mr Moeller consents to the inclusion in this release of the matters based on his information in the form and context in which it appears.

This ASX release was authorised on behalf of the Bannerman Board by:
Brandon Munro, Chief Executive Officer

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ABOUT BANNERMAN ENERGY (ASX:BMN, OTCQB:BNNLF)

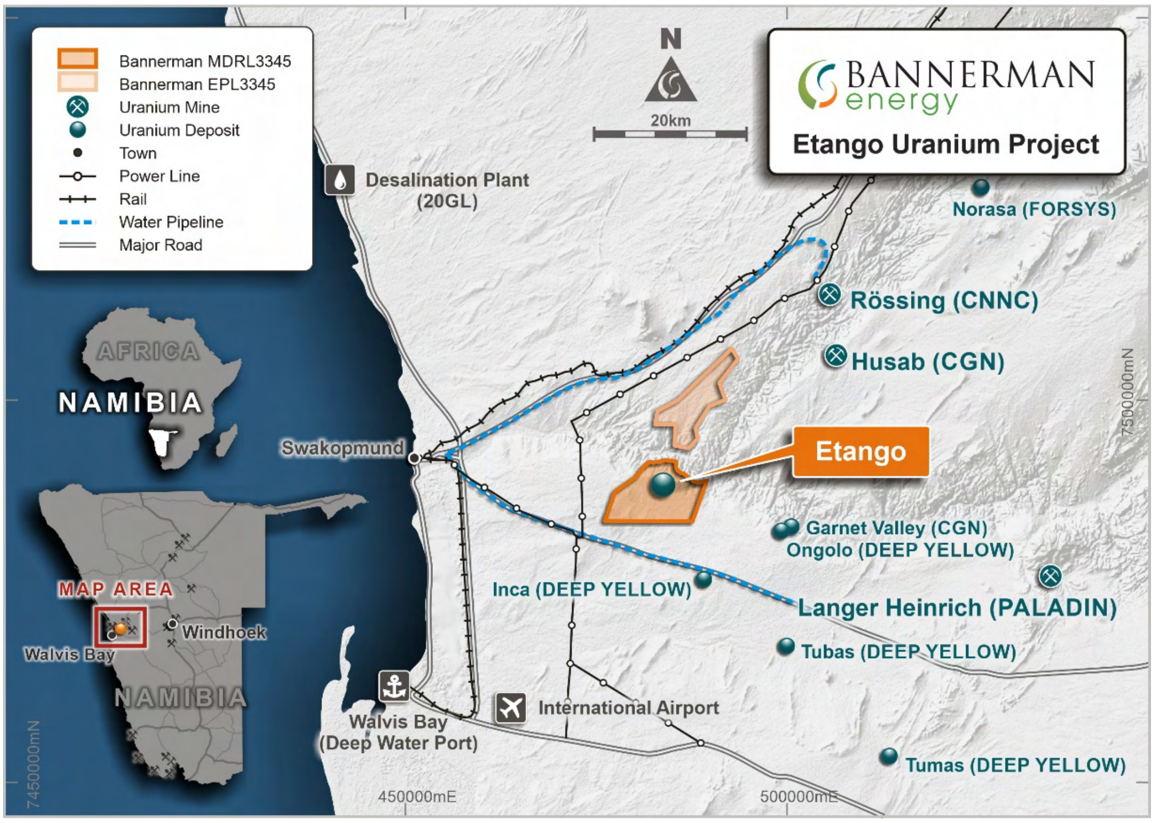
Bannerman Energy Limited is an Australian and Namibian listed uranium development company. Its flagship asset is the advanced Etango Uranium Project located in the Erongo Region of Namibia. Bannerman has long established itself as an Environmental, Social and Governance (ESG) leader in the uranium and nuclear energy sector.

Etango has benefited from extensive exploration and feasibility activity over the past 15 years. The Etango tenements possess a globally large-scale uranium mineral resource.[1] A 20Mtpa development at Etango was the subject of a Definitive Feasibility Study (DFS) completed in 2012 and a DFS Optimisation Study completed in 2015.[2] Bannerman constructed and operated a Heap Leach Demonstration Plant at Etango, which comprehensively de-risked the acid heap leach process to be utilised on the Etango ore.

Namibia is a premier uranium investment jurisdiction, with a 45-year history of uranium production and export, excellent infrastructure and support for uranium mining from both government and community. As the world's fourth largest producer of uranium, Namibia is an ideal development jurisdiction boasting political stability, security, a strong rule of law and an assertive development agenda.

Etango has all environmental approvals for the proposed mine and external infrastructure, based on a 12-year environmental baseline. Bannerman is a leader in Corporate Social Responsibility (CSR) within Namibia and exercises best-practice governance in all aspects of its business.

In August 2020, Bannerman completed a Scoping Study on an 8Mtpa development of Etango (Etango-8). In August 2021, a Pre-Feasibility Study (PFS) was completed on Etango-8. The PFS confirmed that this accelerated, streamlined project is strongly amenable to development – both technically and economically. A DFS on Etango-8 is set to commence shortly with expected completion in 3Q CY2022.



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1. Refer to Section 3 of the PFS Executive Summary titled *"Geology"*.
2. Refer to Bannerman ASX release dated 11 November 2015, *Outstanding DFS Optimisation Study Results*.

Bannerman Energy Ltd
Bannerman Mining Resources (Namibia) (Pty) Ltd

Etango-8 Uranium Project
Prefeasibility Study

Study Report
Section 1 - Executive Summary

Document No. **158700-0000-BA00-RPT-0001**

Revision: C

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1. Introduction

The Etango-8 Project ("The Project"), is located in the Erongo region of Namibia. In the Erongo region, there are a number of major existing and prospective developments, including the Rössing, Langer Heinrich and Husab uranium mines, and the Etango, Tubas/Tumas and Valencia uranium prospects. The site itself is situated in the Namib-Naukluft National Park (NNNP), located approximately 37 km east of Swakopmund and 67 km northeast of the deep-water port of Walvis Bay. The mining schedule covers a period of approximately fifteen years. Mining operations will be carried out by a contractor based on a fleet of mine haul trucks engaged in conventional open pit mining techniques. The process plant will process 8Mtpa.

The processing route includes comminution through three stages of crushing (P_{80} = 5.3 mm), with agglomeration (using a combination of sulphuric acid and binder) ahead of an on-off heap leach pad. Recovery of uranium from solution is via Ion Exchange (IX), Nano Filtration (NF) and hydrogen peroxide precipitation.

Definition of the project footprint for this Prefeasibility Study (PFS) has been largely defined by the outcomes of a historical Definitive Feasibility Study (DFS) completed in April 2012 which also included a heap leach processing route but with a ROM throughput of 20Mtpa. The DFS was based on mine planning, engineering design and capital and operating cost estimation to an accuracy of ±15%. A Scoping Study (SS) completed in 2020 confirmed a ROM throughput of 8Mtpa.

The Work Breakdown Structure (WBS) developed for the DFS has been largely retained for the reduced throughput process design. Figure 1-1 below confirms the level 1 and 2 definition of the WBS.

L1	Etango-8 Project							
L2	02	03	04	06	08	09	10	20
	Mining	Process Plant	Waste Handling	Infra-structure	Project Management	Operations & Support	Facilities at Port Site	Facilities at Multimodal Siding

Figure 1-1: Work Breakdown Structure (WBS) Level 1 & 2 (L1, L2)

The Etango-8 PFS commenced in September 2020 with the PFS team led and managed by Bannerman personnel with the following key external contributors and consultants:

Table 1-1: Key External Contributors and Consultants	
Wood plc	Process plant design and related infrastructure, plant capital and operating cost estimate
Qubeka Mining Consultants	Geology review, pit inventory estimates, mine planning and financial analysis;
A. Speiser Environmental Consultants	Environmental and social impacts and management; Community and stakeholder liaison
Genis Business Consulting	Water supply
Addiza Power Consultants	External electrical supply
Fivemark Partners	Commercial and strategic advisory

Wood PLC (Wood) is a global leader in the delivery of project, engineering and technical services, with offices in all major resource centres including Perth and Johannesburg. Wood, through its legacy companies Amec and Amec Foster Wheeler, has been involved with the Etango Project since 2009, including the DFS of 2012, as well as a DFS Optimisation Study (2015) and a Processing Options Study (2017). In addition to the value of this continuity and context, Wood has ensured that the key technical experts involved in that work, who are all leaders in their respective fields, were engaged during the PFS.

Qubeka Mining Consultants CC (Qubeka) is a specialist mining engineering firm with deep experience in deposits similar to Etango. Qubeka was engaged to complete the geological review, pit inventory estimates, mine planning and financial analysis for the SS completed in 2020.

The key parameters associated with the PFS evaluation of the Etango-8 Project are summarised in Table 1-2.

Table 1-2: Project Summary

Etango Mineral Resources @100 ppm lower cut-off	Measured	Mt @ ppm U_3O_8	27.6 @ 219	
	Indicated	Mt @ ppm U_3O_8	286.1 @ 217	
	Inferred	Mt @ ppm U_3O_8	115.0 @ 226	
Etango-8 Mineral Reserves @100ppm cut-off	Proven or Proved	Mt @ ppm U_3O_8	16.2 @ 232	
	Probable	Mt @ ppm U_3O_8	101.5 @ 233	
Mine Production	Plant Feed scheduled	Mt	117.6	
	Mined Grade	ppm	232	
	Mined Grade (first 5 years)	ppm	241	
Deposit	Uraniferous leucogranites (alaskites) intrude the metasediments of the Damara Supergroup, often occurring as cross-cutting dykes and as bedding and/or foliation parallel sills. These intrusions can be up to 100 m in width.			
Mining Methods	Conventional open pit truck and shovel operation, using 130-250 t excavators/shovels on 3 m x 4 m flitches to mine the deposit, 100 t trucks for haulage. Drilling undertaken using 165 mm DTH drills.			
Mine Life	15 years, with potential to increase.			
Manning	Approximately 750			
Schedule	Project Commencement Milestone	Month No.	0	
	Project Design	Month No.	1 – 14	
	Procurement	Month No.	2 – 10	
	Construction	Month No.	3 – 19	
	Commissioning	Month No.	14 – 24	
Production and Costs (pre selling & royalties)			'000 lb U_3O_8	US$/lb U_3O_8
	Year 1		2 451	41.29
	Year 2		4 147	29.74
	Year 3		3 387	37.53
	Year 4		4 125	31.81
	Year 5		3 829	33.84
	Average – first 5 years		3 588	34.14

Table 1-2: Project Summary

Operating Statistics	Rate	Mt/a	8.0
	Metallurgical Recovery	%	87.8
	Cash operating cost incl. selling & royalties (first 5 years)	US$/lb	34.82
	Cash operating cost incl. selling & royalties (LOM)	US$/lb	39.46
Capital Costs	Initial capital	US$M	274
	Deferred and Sustaining capital expenditure	US$M	43
Economic Results	Financial Model U_3O_8	US$/lb	65
	Internal rate of return (post tax)	%	20.3
	NPV $_{8\%}$	US$M	222

2. Project History

In March 2015 Bannerman commissioned an industrial scale plant to demonstrate the heap leach configuration and assumptions. The results of the test work strongly supported the DFS metallurgical parameters and allowed Bannerman to do additional test work to improve the Etango flowsheet.

Early in 2015, Bannerman commenced collation of work initiated immediately following completion of the DFS in April 2012, into an Optimisation Study. The objectives of the Optimisation Study were to:

- Update the feasibility study to ensure currency and compliance with statutory codes (JORC 2012 and NI43-101)
- Identify further opportunities to improve project economics and reduce project risk
- Reduce the timeline to a development decision.

This Optimisation Study build on the DFS and complemented it in a number of key areas. Firstly, by way of a comprehensive review of the geological interpretation and modelling methodology in the context of the proven practice of radiometric truck scanning, which in effect results in the SMU size being reduced to that of a 220t truckload of ore. Secondly, economic parameters were updated reflecting the post-mining boom economic climate, including:

- Capital cost for mobile and fixed plant
- Operating cost estimates for utilities, consumables and maintenance
- Namibian labour rates
- Foreign exchange rates
- Owners cost and EPCM.

Costs were updated by sourcing updated quotes from vendors.

Thirdly, further multiple mine planning iterations incorporating the updated resource model and updated 2015 cost assumptions. Sophisticated but proven mine planning concepts such as variable cut-off grade policies were included in the work.

The key outcomes from the 2015 Optimisation Study, when compared to the 2012 DFS, were the following:

- NPV_8 at US$75/lb increased from US$69M to US$419M representing an increase of over 500% with a payback period of 4.4 years after production commences
- Total pre-production capital costs for the mine, process plant, infrastructure and working capital reduced by US$77M to US$793M, whilst sustaining capital (including mine closure) over the Life of Mine (LOM) reduced by US$99M to US$282M. This equates to a development capital intensity of US$110 per annual lb for the period of sustained operations or US$ 9.5/lb produced over the LOM
- Operating costs in the first 5 years estimated to be US$15.37/t of ore or US$33.41/lb of U_3O_8 produced, whilst costs average US$14.15/t or US$37.99/lb of U_3O_8 over the LOM. These numbers compare favourably to the DFS equivalents of US$16.21/t of ore or US$40.85/lb of U_3O_8 for the first five years and US$16.93/t of ore and US$45.71/lb of U_3O_8 for the LOM
- The large scale metallurgical test work demonstrated uniform and rapid leach kinetics with identified opportunities to further optimisation of reagent consumption.

During 2017 Bannerman together with Amec Foster Wheeler revisited the processing flowsheet following the encouraging uranium recovery results achieved at the Heap Leach Demonstration Plant and the nano-filtration work conducted at Bannerman. The Processing Optimisation Study of 2017 resulted in a flowsheet change from solvent extraction (SX) to ion-exchange (IX) followed by nano-filtration (NF). This change together with some other equipment changes in the flowsheet resulted in a potential reduction of the capital cost by US$73 million.

Further IX and NF test work were conducted at the Demonstration Plant during 2017 and 2018. In 2019 Bannerman started the evaluation of project scaling and scope opportunities under various development parameters and market conditions as an alternative streamlined development model to the 20Mtpa development assessed to DFS level in 2015. Developing the world-class Etango Project at an initial 8Mtpa throughput offered significant advantages. It sharply reduces the upfront capital and funding hurdle compared to that associated with the original 20Mtpa Etango development evaluated in the DFS in 2012, and the DFS Optimisation Study in 2015.

The Etango-8 Scoping Study was completed in August 2020 and while the Etango-8 Project provides a reduced scale of production entry, it does so without removing the option of subsequent expansion, including to the originally envisaged 20Mtpa Etango scale. The scalability of the world class Etango resource remained robust even with a more modular approach to development of the project. Some of the key results of the Scoping Study were:

- Life-of-mine (LOM) production of 51.1 Mlbs U_3O_8 with annual average production of 3.5Mlbs U_3O_8
- Forecast pre-production capital expenditure of US$254M, delivering an attractive upfront capital intensity of approx. US$71/lb average annual U_3O_8 production
- Life-of-mine (LOM) of approx. 14years (114.1 Mt plant feed at 232 ppm U_3O_8)
- Average final product cash operating cost (ex-royalties) of US$37/lb U_3O_8
- Attractive projected economics at forecast US$65/lb U_3O_8 realised price:–Ungeared, real, post-tax $NPV_{8\%}$ of US$212M - Post-tax internal rate of return (IRR) of 21.2% and payback of 3.6 years with a forecast net project cashflow (post-capex, post-tax) of US$604M.

Following the positive outcome of the Scoping Study Bannerman commenced the Etango-8 Prefeasibility Study in September 2020 the results of which are presented in this report.

3. Geology

Uranium mineralisation at Etango is predominantly hosted by a stacked sequence of leucogranitic bodies that have intruded the host Damara Sequence of metasedimentary rocks. The main mineralised bodies are associated with the Khan Formation and the lower part of the Chuos Formation but also occur within 400 m of the contact between the Etusis and Khan Formations. Uranium mineralisation at Etango is defined within an approximately >5km long zone trending SE to NE that dips moderately (30° to 50°) to the west. These leucogranitic bodies are generally referred to as alaskite, which is defined petrologically as a granitic rock that contains less than 5% mafic minerals.

The dominant primary uranium mineral at Etango is uraninite (UO_2), with minor primary uranothorite ($(Th,U)SiO_4$) as well as some uranium in solid solution in thorite (ThO_2). Minor uranium is also present in the minerals monazite, xenotime and zircon, either as minute inclusions or in crystal lattice substitution. Secondary uranium-bearing minerals observed include coffinite and betauraniphane (both uranium silicate minerals).

The 2015 Optimisation Study for Etango had the following key aspects regarding the resource:

- Uranium mineralisation was defined inside a grade envelope defined by Categorical Indicator Kriging, using a lower cut-off of 50 ppm U_3O_8 and a lithological constraint to ensure that the majority of samples in the Alaskite dominant (AD) category have a dominant Alaskite lithology
- The Alaskite sub-dominant (ASD) mineralisation, which has the same cut-off grade but not the same Alaskite constraint, was modelled outside of the AD and is mutually exclusive with the AD mineralisation
- For both the AD and ASD mineralisation a Uniform Conditioning (UC) estimation approach was adopted
- This is a recoverable resource estimation technique based upon ordinary kriging into large blocks (panels), which seeks to predict the resources available at the time of mining using the assumption of a Selective Mining Unit (SMU) related to the production rate and equipment.

The SMU chosen was 6.25 mE by 12.5 mN by 4 mRL following initial grade estimation into 25 mE by 25 mN by 8 mRL panels.

In June 2021 Optiro reviewed the Etango Mineral Resource estimate, first signed-off by Optiro in 2015 as part of a 2015 Optimisation Study. This consolidated resource model was then subject to pit optimisation for the purposes of Mineral Resource reporting using a uranium price of US$75/lb. There are no changes between the 2015 and 2021 Etango Mineral Resource model using the same pitshell. The 2015 Mineral Resource Estimate reported above a cut-off of 55ppm U_3O_8 while the 2021 Mineral Resource Estimate is reported above a cut-off of 100ppm U_3O_8. Both the 2015 declaration of resources and the 2021 declaration have been reported in accordance with the JORC Code (2012), which is mandatory for reporting by ASX-listed entities such as Bannerman.

Table 3-1 shows the 2015 Mineral Resource Estimate (above a cut-off of 55ppm U_3O_8) while Table 3-2 shows the 2021 Mineral Resource Estimate (above a cut-off of 100ppm U_3O_8).

Table 3-1: Etango June 2015 Mineral Resource, reported within a US$75 pit shell above a 55 ppm U_3O_8 cut-off

Etango Project Mineral Resource Estimate
June 2015
Reported at a cut-off grade of 55 ppm U_3O_8, Constrained within the resource pit shell

Resource Category	Tonnes (Mt)	Grade (U_3O_8 ppm)	Contained U_3O_8 Mlbs
Measured	33.7	194	14.4
Indicated	362.0	188	150.2
Inferred	144.5	196	62.5
Total	**540.2**	**191**	**227.1**

Table 3-2: Etango June 2021 Mineral Resource, reported within a US$75 pit shell above a 100 ppm U_3O_8 cut-off

Etango Project Mineral Resource Estimate
June 2021
Reported at a cut-off grade of 100 ppm U_3O_8, Constrained within the resource pit shell

Resource Category	Tonnes (Mt)	Grade (U_3O_8 ppm)	Contained U_3O_8 Mlbs
Measured	27.6	219	13.3
Indicated	286.1	217	137.1
Inferred	115.0	226	57.4
Total	**428.7**	**220**	**207.8**

4. Waste Management

4.1 Summary

The movement, treatment and storage of material generated from the open pit mine-operation will ultimately be classified as some form of waste material:

- Pre-stripping during the mining process involves the excavation of topsoil and highly weathered soft material overlying the rock strata or overburden
- Removal of waste rock – to be stockpiled on surface and / or relocated back to the mining pit as part of the rehabilitation (establishment of access control berm). Three waste rock dumps (A, B & C) will be utilised to stockpile in excess of 243 Mt of waste based on an overall strip ratio of 2.07
- Removal of the Uranium ore from the three open pit areas (an elongated north pit, centrally located south pit, and the smaller satellite pit). The material will be ROM material or be temporarily stored on low / medium / high grade stockpiles, and then be crushed and agglomerated prior to being loaded onto a heap leach pad. The material will ultimately be reclaimed as ripios from the heap leach pad to be stockpiled on surface. A total of 117.63 Mt of ore will be processed via the on-off heap leach pad.

4.2 Mine Waste

The three waste rock dumps (A, B, C) have all been designed with three tiers of 15 m height each – a total height of 45 m for each dump.

- Waste rock dump A – a base perimeter of 4.31 km, a footprint area of 1.16 km^2 and a volume of 41 Mm^3
- Waste rock dump B – a base perimeter of 4.94 km, a footprint area of 1.47 km^2 and a volume of 42 Mm^3
- Waste rock dump C - a base perimeter of 4.53 km, a footprint area of 1.26 km^2 and a volume of 45 Mm^3.

4.3 Ripios (Heap Leach Residue)

Reclaim of Ripios from the heap leach pad will commence approximately 48 days after the first ore has been placed on the heap leach pad. The ripios is recovered from the leach pad by Front End Loader (FEL) and a series of conveyors for delivery to a load out bin. The bin has a total capacity of 120 m^3; designed to hold a minimum live capacity of 2.5 x load truck capacity of 40 tonne – 100 tonne. The 8 million tonne per annum equates to 21 918 tonne per day, 913 tonne per hour. This load out cycle will be optimised in the next feasibility study phase.

The physical characteristics of the Ripios material are as follows:

- Bulk density – ranges between 1.75 to 1.85 t/m^3. 1.80 t/m^3 has been used for purposes of the design.
- Particle size – P_{80} of 5.3 mm
- Moisture content typically of 7 to 9 %; fresh material recovered from the heap could be up to 12%
- The moisture associated with the heap will be mildly acidic in nature.

The deposition strategy to the ripios dump is based on a phased approach.

- Evolution of the Ripios dump is aligned to the mining schedule – 5.4 million tonnes for year 1, and 8.0 million tonnes for the subsequent years up to year 15
- The first lift of the heap (years 1 to 5) is 10m, the second lift (year 6 to 9) is 12 m, the third lift (year 10 to 12) is 15 m, the fourth lift (year 12 to 15) is 15 m. This realizes a total height for the dump of 52 m
- Approximate deposition volumes for development of the stockpile: Bench 1 = 22 Mm^3, Bench 2 = 18 Mm^3; Bench 3 = 14 Mm^3; Bench 4 = 13.5 Mm^3. Total deposition volume = 67.5 Mm^3.

5. Mining

The Etango-8 Project has been conducted using the June 2015 Etango Mineral Resource model (which is the same as the 2021 Etango Mineral Resource model reviewed in June 2021 by Optiro) developed by Optiro (Perth, Australia) using the local Uniform Conditioning (UC) algorithm and excluded Inferred Resources. From a resource and reserve perspective, the study will comply with guidelines as defined within the Australian Code for the Reporting of Identified Mineral Resources and Reserves issued by the Joint Committee for the Australian Institute of Geoscientists and the Australian Mining Industry Council (JORC Code, 2012 Edition) and that the estimates have been prepared by appropriately experienced and qualified competent persons with a thorough knowledge of the Project.

The deposit is a large, shallow uranium deposit that is amenable to bulk open pit mining, followed by crushing, heap leaching, ion-exchange, nano-filtration and uranium recovery. The heap leaching operation can treat approximately 8Mtpa dry ROM feed material to produce on average 3.5 million pounds of triuranium octoxide (U_3O_8) per annum to be drummed and shipped.

For the purpose of the Etango-8 PFS, it was assumed that mining would take place by conventional open pit methods and that the whole mining operation, except for the mine technical services function, will be outsourced to a reputable mining contractor company. This includes drilling, blasting, loading and hauling of ore and waste.

Drilling and blasting would be performed on 12 m high benches. Waste benches will be excavated in a bulk mining fashion with shovels on a single 12 m bench while mineralised benches will be selectively loaded in three 4m flitches using backhoe excavators to minimise ore loss and dilution. The truck and shovel match on the ore and waste benches have been considered by the reputable mining contractor as follows:

- A 130-t hydraulic backhoe shovel would be employed for selective loading purposes
- The waste benches would be mined in a bulk mining approach where a 250-t hydraulic face shovels will be utilised to load the full 12 m bench
- In both cases 100-t capacity, off-highway rigid haul truck would be used and standard open-cut drilling and auxiliary equipment will be required.

Radiometric truck scanning (discrimination) and downhole gamma probing will be employed as the definitive grade control process as is common practise in large scale open pit uranium mines. The objective of the pit design process was to transform the pit shells obtained from the optimisation into a practical pit, with the inclusion of ramps, bench and berm configurations by taking all the required inputs into account. The practical pit design forms part of a critical input for the scheduling and reserving processes.

Etango-8 PFS ultimate pit design is depicted in Figure 5-1 and was designed with a dual pit access strategy along the eastern and western pit highwalls. The ultimate pit will be mined in eight pushbacks, which represent areas that the optimisation process considers to be of high value.

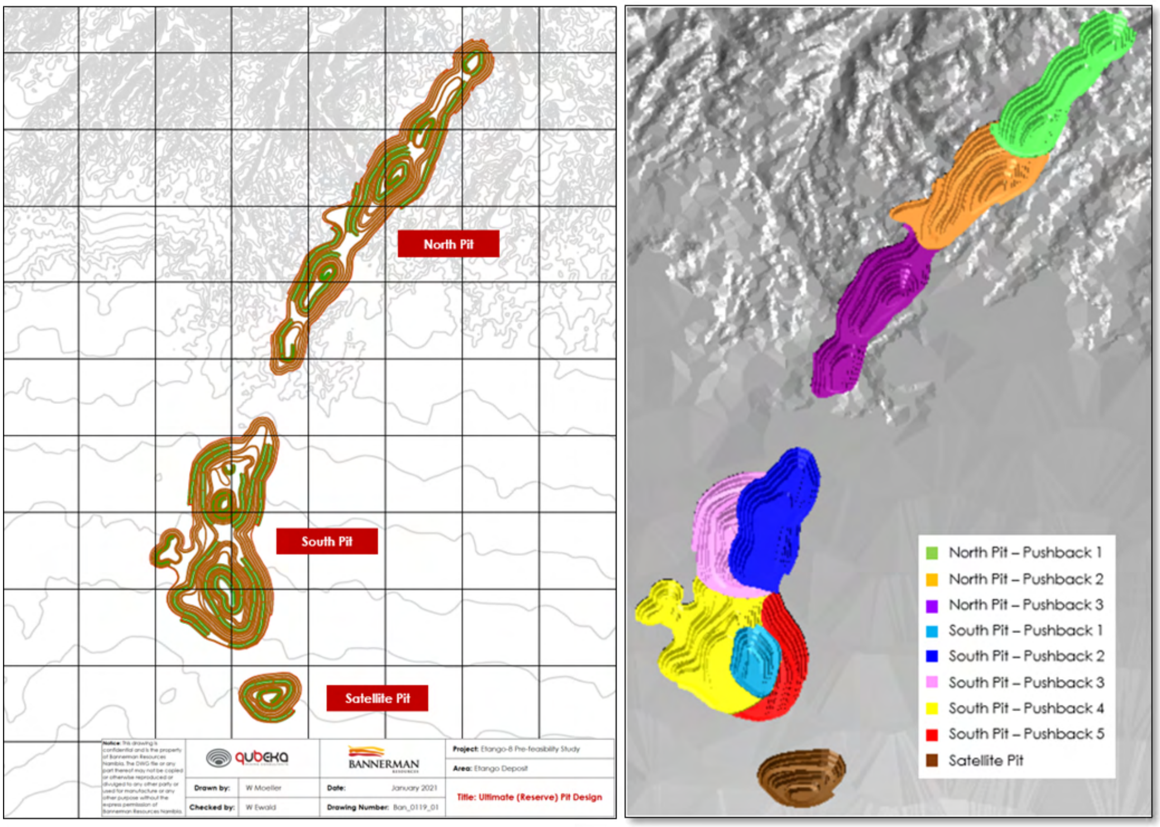


Figure 5-1: Etango-8 ultimate pit and push-back design

The Etango-8 Reserve estimate has been determined and reported in accordance with the guidelines provided by the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code), effective December 2012. The Etango-8 Ore Reserve was determined as of the July 2021 based on a uranium cut-off grade of 100ppm and is summarised in Table 5-1.

Table 5-1: Declared JORC (2012) Etango-8 Reserves as on the July 2021 at a U_3O_8 cut-off grade of 100ppm

Mine Project	Classification	Tonnes (Mt)	Grade (U_3O_8 ppm)	Contained Metal (Mlb)
Etango-8 PFS	Proved	16.2	232	8.3
	Probable	101.5	233	52.0
	Total Ore Reserve	**117.6**	**232**	**60.3**

The final Etango-8 mine production schedule (BAN_8mtpa_pfs_design_v05_25.0Mt_100ppm_small.xls) was produced with a total material movement of 25Mtpa (Figure 5-2), providing approximately 15 years supply of ore at 8Mtpa.

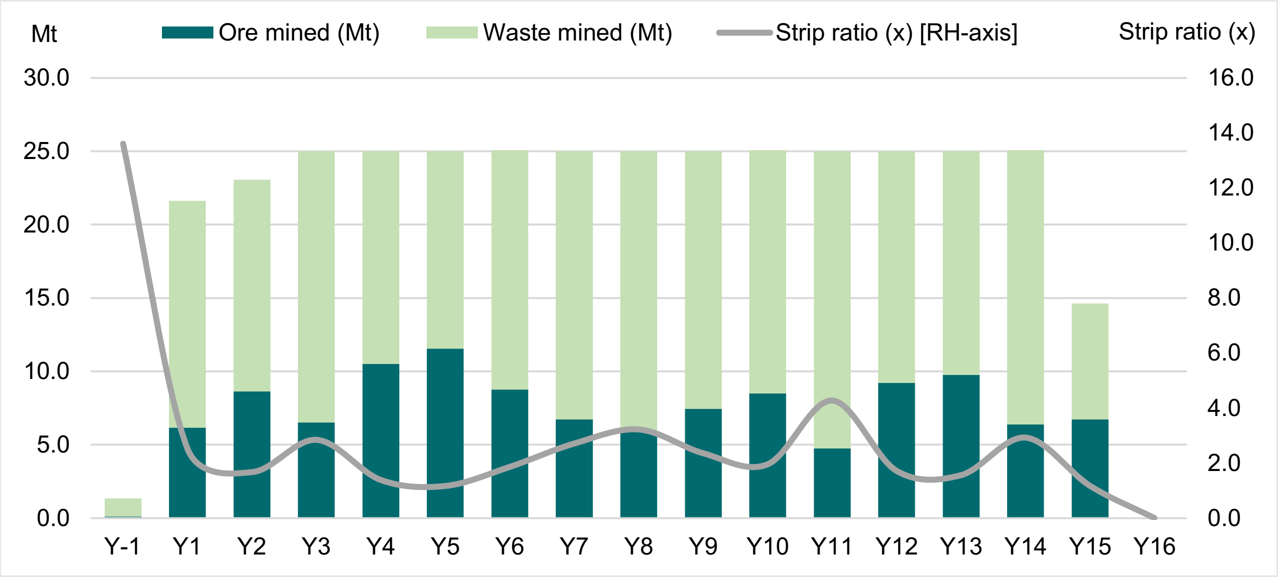


Figure 5-2: Etango-8 total tonnes mined over the LOM

The pre-strip period is 3 months with a total of 1.26Mt mined from the first pushback. After the pre-strip period the ore inventory on the grade control and ROM stockpiles is 92.4kt. The plant production (heap leach stacking) ramp-up is nine months after commissioning.

The Etango-8 PFS utilises an estimated average contractor unit mining cost of US$ 2.41/t material mined (US$ 2.45/t inclusive of mining owner team's costs). All pre-strip (start-up) production costs up to processing plant commissioning were regarded as capital cost. This encompasses contractor mobile plant, fixed facilities and personnel mobilisation costs. It also caters for the establishment costs of the owner team management and technical services department. The mining start-up CAPEX estimate for the Etango-8 PFS is US$ 9.23M. The key Etango-8 mining parameters are summarised in Table 5-2.

Table 5-2: Key Etango-8 mining parameters

Key mining parameters	Unit	Total / LOM	Annual average
Operations			
Mining pre-strip period	months	3	NA
Initial production life	years	15	NA
Mining			
Ore mined	Mt	117.6	7.8
Strip ratio	x	2.07	2.07
Waste mined	Mt	243.2	16.2
Processing			
Ore processed	Mt	117.6	7.8
Average uranium head grade	ppm U_3O_8	232	232
Forecast uranium recovery	%	87.8%	87.8%
Output			
Uranium production	Mlbs U_3O_8	52.9	3.5
Mining start-up CAPEX	M US$	9.23	NA
Mining OPEX (average)	US$/t	2.45	NA

6. Process and Metallurgy

6.1 Metallurgical Testwork

Bannerman has performed an extensive metallurgical testwork program to: (i) support the Definitive Feasibility Study (DFS) of 2012, Optimisation Study of 2015 and now also the Etango-8 Pre-Feasibility Study (PFS) of its Etango uranium resource; (ii) to de-risk the project parameters by demonstrating at a larger scale the robustness of the assumed parameters; and (iii) to identify any improvements that can be included in the design of the project.

Earlier programs of work identified that heap leaching is the most cost-effective method of extracting uranium from the Etango ores, and the metallurgical testwork program has continued to develop the technical understanding of the heap leaching process.

Mineralogical assessment suggested that the uranium resource was amenable to extraction by acid heap leach, with potentially very high uranium recoveries from acid leaching of coarse particles. This assessment was confirmed by high extractions from coarsely crushed ore samples initially in column testwork and later at a larger scale in the Heap Leach Demonstration Plant (HLDP – established at the Etango mine site) designed to simulate a heap leach operation.

The resultant information defined ore breakage characteristics sufficiently to design a three-stage crushing facility with High Pressure Grinding Rolls (HPGR) as the tertiary stage of crushing. Specifically, the comminution characteristics of the ore make it amenable to conventional and/or HPGR crushing. As a result, the comminution circuit design can assess a broad range of equipment with the aim of finding the most efficient and practical design that will deliver the target processing feed distribution. In general, the comminution characteristics suggest:

- The ore is amenable to conventional and HPGR crushing
- Moderate abrasion indices – low to moderate wear rates in comminution
- Low variability in comminution indices of the samples tested.

Previous testwork investigated a range of pre-concentration options such as screening, gravity, flotation and combinations of these. The reports concluded that pre-concentration is not likely to be cost effective.

Since the smaller scale testwork in Australia and subsequently in Namibia, metallurgical testwork has progressed and provided:

- An increased technical understanding of the heap leaching process
- Estimates of operational parameters (extraction, acid consumption, leaching time, etc.) that could be expected from a heap leach process of the Etango ore have been determined
- Performance expectations for ion-exchange followed by nano-filtration.

6.2 Study Phase Flowsheet Development

The DFS of 2012 was completed by Amec Foster Wheeler Australia Pty Ltd (Amec Foster Wheeler) based on a Run of Mine (ROM) throughput of 20 Mtpa. Testwork carried out at the HLDP, run over five distinct phases, was completed in 2016. In parallel, Bannerman initiated a DFS optimisation phase which primarily focused on mining improvements and this work was completed in November of 2015. The optimisation phase included an update of the DFS capital cost but excluded any processing modifications.

During 2017 Bannerman together with Amec Foster Wheeler revisited the processing flowsheet following the encouraging uranium recovery results achieved at the HLDP and the nano-filtration work conducted at Bannerman. The Processing Optimisation Study of 2017 resulted in a flowsheet change from Solvent

Extraction (SX) to Ion-Exchange (IX) followed by Nano-Filtration (NF). This change together with some other equipment changes in the flowsheet resulted in a potential reduction of the capital cost.

Further IX and NF testwork were conducted at the HLDP during 2017 and 2018. In 2019 Bannerman started the evaluation of project scaling and scope opportunities under various development parameters and market conditions as an alternative streamlined development model to the 20 Mtpa throughput assessed to DFS level in 2015. Developing the world-class Etango Project at an initial 8 Mtpa throughput offered significant advantages. It sharply reduces the upfront capital and funding hurdle compared to that associated with the original 20 Mtpa Etango development evaluated in the DFS in 2012, and the DFS Optimisation Study in 2015.

The Etango-8 Scoping Study (SS) was completed in August 2020 and then progressed into this current PFS at a ROM throughput of 8Mtpa.

With the switch to an IX circuit, it was also recommended to change the ADU circuit to a hydrogen peroxide precipitation circuit. Both the SS of 2020 and the current PFS have proceeded on this basis.

The high-level process design flowsheet for the PFS is included in Figure 6-1.

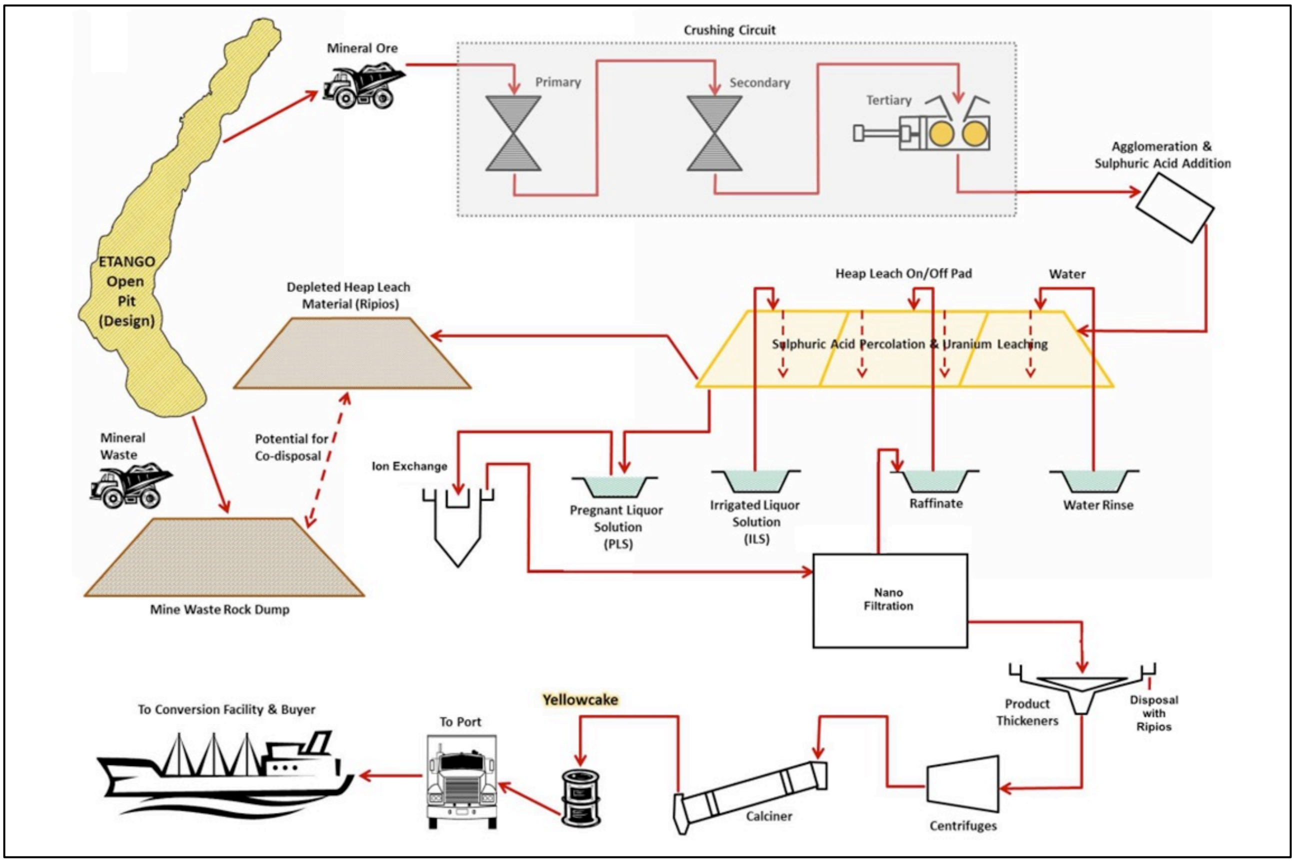


Figure 6-1: Block flow diagram

6.3 Process Design Basis

A key consideration during the development of the process design for the PFS was the design availabilities (and throughput of individual process areas) throughout the circuit. Table 6-1 confirms availabilities adopted for the main unit operations. The consideration of surge capacity requirements for the materials handling / comminution circuits has been dictated by these design availabilities.

Table 6-1: Process design availabilities

Area	Availability (%)	Operating time (h/a)	Design capacity (t/h)
Primary crushing	70%	6132	1305
Secondary and tertiary crushing	80%	7008	1325
Stacking	*80%	7008	1246
Leach residue reclaiming	*80%	7008	1235
Process plant, services and utilities	95%	8322	-

Operating strategies for the stacking / reclaiming equipment dictate an operating availability approaching 90%

The variation in design capacity for the comminution / materials handling circuits is managed through stockpiles and intermediate storage bins.

- A coarse ore stockpile with a live capacity of approximately 16 hours (9 100 dry tonnes) is specified between the primary and secondary crushing circuits
- A reserve stockpile with a live capacity of approximately 10 700 tonnes ensures that the downstream plant can be operated during periods of primary crusher maintenance.
- A secondary screening circuit feed bin with a total capacity of 242 m^3 live (30 minutes).
- A tertiary crusher feed bin with a live capacity of 320 m^3(15 minutes)
- Tertiary screening feed bins with a total live capacity of 680 m^3 (30 minutes)
- Comminution circuit product is delivered to an agglomeration circuit fine ore bin with a 470m^3 live surge capacity (20 minutes)
- The stacking and reclaiming plans associated with the operation of the heap have considered minimisation of lead times required to move and re-position equipment.

6.4 Process Design and Mass Balance Modelling

6.4.1 Comminution and Agglomeration Circuits

6.4.1.1 Comminution and Agglomeration

Mass balance modelling for the comminution and agglomeration circuits included a combination of excel and supplier specific simulation software. This included Bruno, Metso's comminution simulation software, to mimic the steady state solution based on the selected equipment configuration. The comminution circuit was also modelled utilising the appropriate Sandvik software allowing for preliminary comparative costing.

Both the Sandvik and Metso circuits are constrained to 8 Mtpa capacity by the secondary crushers. Expansion above this would require a second production line. The selected primary gyratory crusher operates at 60% of capacity, so 13 Mtpa is possible through the selected unit.

6.4.1.2 Comminution Dust Suppression

An integrated dust suppression design for the materials handling / comminution circuits was developed as part of the PFS. Nalco was engaged and submitted a proposal that included the following:

- An overall flowsheet / indicative Process Control Diagram (PCD)
- Point addition suppression requirements based for both a nominal and maximum solids throughput
- Inclusion of an additive dosing system as an option to reduce dust levels and water consumption.

Going forward into the DFS, the Piping and Instrumentation Diagrams (P&ID's) and piping layout drawings would capture the detailed split in scope between the raw water and dust suppression water supply systems.

6.4.2 Heap Leach Pad

The heap leach and hydrometallurgical process plant mass balance components utilised METSIM software to simulate a steady state process.

The stacking system comprises a fixed stacking feed conveyor with tripper along the length of the pad. A wing conveyor facilitates transfer of ore to a mobile stacking system consisting of 8 (maximum) grasshoppers and 2 stackers in line. The reclaim system is similar to the stacking system. A time in motion study confirms that two CAT 980 H Front End Loader's (FEL's) are required for reclaim of the leached ore. Seven (maximum) grasshopper conveyors are required – transferring the ripios to a heap leach reclaim conveyor, a fixed conveyor running along the length of the pad and equipped with a feed bin adjacent to each of the nine cells. The ripios is then transferred via a second conveyor to the ripios load out bin.

The overall heap leach pad dimensions are 260 m x 1000 m – based on a 5 m lift height, 9 cells (each 260 m x 100 m), 10 m separation distance between adjacent cells. The pad corridor width including the stacking (65 m) and reclaim (35 m) conveyors is a total of 360 m.

6.4.3 Leach Residue Stacking

The leach residue ripios truck loading bin will be a 120 m^3 bin, designed to hold a minimum live capacity of 2.5 x load truck capacity of 40 tonne – 100 tonne. Clamshell gates will facilitate rapid loading. The trucks will dump the material on the leach residue pad.

The tiers of the stockpile (benches) will be constructed in phases - the extension of the material deposited will progress in successive tiers of uniform thickness. The waste material will be placed by mining haul truck and the surface graded to a cross slope of approximately 4% in order to allow for surface run-off and to minimize erosion. The first lift of the heap (years 1 to 5) is 10m, the second lift (year 6 to 9) is 12 m, the third lift (year 10 to 12) is 15 m, the fourth lift (year 12 to 15) is 15 m.

Drainage from the leach residue facility is collected in the leach residue emergency pond and recycled to the heap leaching system.

6.4.4 Heap Leach Irrigation

The heap leach solution system includes the ponds listed below:

- Pregnant Leach Solution (PLS -5000 m^3) – serviced by two PLS transfer pumps (running / standby)
- Intermediate Leach Solution (ILS – 5000 m^3) - serviced by two ILS transfer pumps (running / standby)
- Raffinate (5000 m^3) - serviced by two raffinate solution transfer pumps (running / standby)
- Rinse water (1000 m^3) serviced by two rinse water transfer pumps (running / standby)
- Emergency containment (114 000 m^3) serviced by a single transfer pump.

A design residence time of 6 hours is specified for the raffinate, ILS, and PLS ponds and 4 hours for the rinse water pond. The emergency pond is designed to contain 24 hours drainage from the heap and a 24 hour maximum rainfall event run-off.

The ponds are connected via a series of overflows: PLS to ILS; ILS to raffinate; rinse to raffinate; raffinate to emergency pond. Emergency pond return solution will be delivered back to either the ILS, rinse or PLS ponds dependent on solution composition and tenor.

Delivery of solution to the leach pad is from the ILS pond (primary leach), the raffinate pond (secondary leach) and the rinse pond. Design irrigation rate is 15 L/h/m^2. Solution collection from the individual heap leach pad cells is to either the PLS or ILS trenches, which gravitate back to the corresponding solution pond. (Allowance will be made in the DFS for a third rinse water collection trench (as per the previous DFS), which will allow for recirculation flexibility during the cell rinse cycle).

Table 6-2: Heap leach cycle time

Leach Cycle Phase	**Days**
Stacked & Cured	3
Primary Leach	16
Secondary Leach	16
Drain 1	4
Rinse	5
Drain 2	3
Reclaim	3
Empty	22
Total	**72**

Table 6-2 confirms the proposed heap leach design cycle time, with stacking / reclaiming advancing down the pad. Constraints affecting pad operation include the following:

- Each cell is stacked (and reclaimed) in modules – 8 modules per cell. Each module represents one day of stacking ± 21 918 dry tonnes of ore. Between 11 and 12 cells will be stacked / reclaimed per quarter
- The strategy for reclaim of stacked ore will be modified slightly to allow for removal of irrigation piping headers – accommodated by using up to 6 days within the 22 day ‘empty’ cell allowance
- Movement of stacking / reclaim equipment over different areas of the pad, with slightly longer lead times associated with moving back from cell 9 to cell 1.

6.4.4.1 Heap Leach Solution Composition

For the PFS, the assumptions made during the DFS of a relatively clean solutions have been maintained with respect to total suspended solids (TSS - 260 ppm, and particle size in the range of P_{100} 130 µm to 200 µm). Testwork in this regard have been done and this has been confirmed additional testwork will be performed as part of the DFS. The maximum particle size may affect the dripper selection and in an extreme case could also lead to requirement of automatic filters after the ILS and raffinate pumps.

The dissolved composition of the leach solution may have a significant impact on the performance of both the heap leach and IX circuits. If one or more components reach saturation and precipitation, scale formation may occur within liquor distribution systems (pipes, pumps, etc.) or within the heap itself, negatively impacting on percolation characteristics.

It is recommended as part of the DFS that further continuous heap leach-IX testwork is completed to characterise steady-state liquor composition and confirm the following:

- Approach of impurity levels to reaching saturation and precipitation during leaching
- Total Dissolved Solids (TDS) levels.

6.4.4.2 Heap Solutions Bleed

For the PFS, it was assumed that no bleed of solutions to control impurities was necessary, and the only bleed stream is the solution contained within the leach residue. The requirement of a specific bleed stream should be studied in more detail in a closed-circuit campaign running for at least three cycles (running three sets of two columns) that should incorporate continuous IX contact of column PLS to generate raffinate for return to the columns.

This will allow for the establishment of impurity concentration profiles and investigation of the effect on the heap (precipitation of compounds, such as jarosite, in the driplines, or within the heap) and to the final product specification. This testwork would be part of the campaign for the heap leach solution composition mentioned above.

6.4.4.3 Ferrous Sulphate Addition

The dissolution of uranium from the ore requires reaction of the uraninite with ferric (Fe^{3+}) in solution to promote oxidation of uranium to its hexavalent state and improve dissolution extent and kinetics. The initial provision of ferric in solution for the DFS design is through the addition of ferrous sulphate to the relevant streams.

However, it is expected that further addition would not be required during operation after reaching steady state. The engineering design caters for ferrous sulphate additions on an as-required basis to compensate for iron losses within the remaining solution in the leach residue stream, however, testwork to date does not indicate that this will be required.

This should be confirmed during continuous testwork (leach-IX) and running for at least three cycles to check iron build-up. This testwork would be part of the campaign for the heap leach solution composition mentioned above.

6.4.4.4 Oxidant Agent

The oxidant agent used in all testwork performed to date, and considered in the design, is hydrogen peroxide. Oxidant consumption has been based on the testwork performed in 2009. Peroxide consumption should be established in the continuous leach-IX testwork.

6.4.5 Ion Exchange Circuit

The ion exchange circuit was sized and designed in Excel based on a NIMCIX flowsheet. The process was then simulated in METSIM to provide a steady state solution for integration into the balance of the plant. The key design criteria implemented in the Excel sizing are:

- Uranium loading of 27 g/L_{WSR} U_3O_8 equivalent
- Minimum eluent grade of 3.5 g/L_{WSR} U_3O_8 equivalent
- Weak acid rinse to remove iron from the resin prior to elution.

6.4.5.1 Ion Exchange Options

It is recommended that a formal trade-off is completed during the next phase comparing NIMCIX against moving bed ion exchange with a specific focus on moving bed technology in acid applications. The trade-off between NIMCIX columns and moving bed columns should also extend beyond the ion exchange circuit. If higher uranium upgrade ratios can be attained with lower sulphuric acid consumptions, the ion exchange circuit could be reduced in size or eliminated should the acid saving not outweigh the increase in CAPEX and OPEX.

6.4.6 Nano Filtration

From the Options Study (2017) Nano Filtration was included as acid recovery in the flowsheet to optimise the overall circuits sulphuric acid balance.

The nano filtration circuit was modelled in METSIM based on experimental volumetric and mass flow rejection rates. These are summarised in Table 6-3 below.

Table 6-3: Acid proof membrane rejection rates

Components	**Membrane rejection %**
Uranium	97
Iron	97
Calcium	96
Magnesium	96
H_2SO_4	27
Volumetric rejection	**10**

A process review by Building Membrane Solutions Engineers (‘BMS’ - based in Australia) indicated that a further sulphuric acid saving can be realised should a second nano filtration stage be incorporated.

Following the implementation of a second stage a higher sulphuric acid recovery can be realised along with a smaller volumetric flowrate to the uranium precipitation circuit. The higher acid recovery will follow from a greater volumetric recovery across the nano filtration circuit and result in a reduction in capital expenditure across the precipitation circuit.

6.4.7 Uranium Precipitation and Drying

Within the uranium precipitation section, the uranium is precipitated as uranyl peroxide to yield barren solution. Hydrogen peroxide is added to the precipitation tanks at the required stoichiometric ratio, this is somewhat less than the total expected consumption as only the primary uranium reactions are currently modelled.

Crystal water is driven off in the dryer at a temperature of 450ºC to produce a stable saleable product.

6.4.7.1 Product Purity

In the absence of target physical and chemical product specifications, it has been assumed that the UO_3 product arising from the current process design will satisfy project marketing requirements.

Given the use of IX and the use of hydrogen peroxide as precipitant, it is reasonable to expect that the current process will deliver a product of suitable specification. To confirm this, however, it is recommended that impurity deportment is thoroughly tracked during batch and continuous IX, precipitation and precipitant drying testwork to determine if further product purity controls are required.

6.4.8 Sulphuric Acid Consumption

The bulk of the sulphuric acid is consumed in the heap leach circuit, dictating an acid management strategy for heap leach operation, generally driven by a trade-off between uranium extraction and gangue acid consumption.

The outcomes of previous study phases have realised the following with respect to acid consumption (reported per tonne of ROM feed):

- The 20 Mtpa DFS completed in 2012: 17.97 kg/t for the heap leach; 0.056 kg/t for the Solvent Extraction (SX) circuit; a combined total of 18.02 kg/t
- The Options Study Report (2017 – for a 20 Mtpa feed) where a trade-off between SX and Ion Exchange (IX) technologies were considered:
    - Total stated acid consumption for the SX option: 19.01 kg/t
    - Total acid consumption for the IX option (which also included Nano Filtration (NF) technology): 19.40 kg/t
    - The trade-off confirmed the selection of the IX/NF technology as the preferred option based on both reduced overall capital and operating costs.

For this PFS, the heap leach design parameters were based on the testwork and scale-up assessment generated by Arturo Gutierrez (Amec Foster Wheeler) in 2017. This can be summarised as follow:

- Confirming 16.8 kg/t as the revised estimate of the non-recoverable acid consumption by gangue acid consumers for the heap
- The assessment is based on a total leach cycle of 32 days, a dual drain and single rinse philosophy, a head grade of 205 ppm U_3O_8 (against the 232 ppm U_3O_8 head grade utilised in the PFS) and an extraction of 87.8%.

The fresh acid make-up to the heap leach circuit supplements the recycled sulphuric acid leach solutions. The acid leach solutions are returned as barren liquor from the ion exchange adsorption circuit and as recovered permeate from the nano filtration acid recovery circuit.

Fresh acid is utilised in the ion exchange circuit as either iron wash or eluant make-up to ensure that no trace mineral build-up associated with internal recycle streams occur. This acid addition is partially recovered in the nano filtration circuit for reuse in the heap leach circuit.

An additional acid loss is incurred in the uranium precipitation circuit. This acid loss is set by two parameters:

- Sulphuric acid rejection across the single stage nano filtration package with acid proof membranes – 27% rejection
- Uranium precipitation pH

The sulphuric acid rejection loss across the acid proof membranes was determined through a test work campaign and trade-off study completed by BMS on behalf of Bannerman Energy. The testwork campaign evaluated various membranes, their recovery performance, capital, and operating cost. It was concluded that a single pass nano filtration circuit furnished with acid proof membranes was the most economical solution.

Following acid recovery across the nano filtration circuit, the remaining free acid in the uranium rich concentrate must be neutralised to facilitate the precipitation of uranyl peroxide. This contributes to the overall average acid loss of 1.18 kg acid / tonne ROM.

Table 6-4 below confirms the stated fresh acid addition / acid consumption of 18.01 kg/tonne ROM.

Table 6-4: Sulphuric acid addition and consumption

Acid make-up point	Addition (kg/t)	Consumption point	Consumption (kg/t)
Heap leach	13.42	Pad gangue consumption	16.80
Ferric elution make-up	0.27	Ripios entrainment loss	0.03
Uranium elution make-up	4.32	NF/Precipitation loss	1.18
Total	18.01	**Total**	18.01

As part of a process review, BMS suggested that an additional 914 kg/h (0.95 kg/t) sulphuric acid could be recovered if a second NF stage is utilised. This would reduce the overall acid consumption to 17.06 kg/t. This will be further investigated in the next feasibility phase.

6.4.8.1 Sulphuric Acid Cost

For the purposes of the evaluation of the PFS, the acid price used for the operating cost assessment was US$97.0/t. The financial model developed for the PFS considers sensitivity to fluctuations in acid supply price.

The basis for the revised acid price is as follows:

- The average FOB price from Asia for the last 10 years has been US$34.5/t
- The freight cost to Walvis Bay is approximately US$50/t
- The cost for transport of the acid from the harbour to site is estimated at US$12.5/t

The financial evaluation for the project considers the sensitivity of project operating cost to variations in acid supply price. Bannerman Energy is also evaluating the possibility of procuring acid locally.

6.5 Metallurgical Testwork

6.5.1 Ion Exchange Testwork

A resin loading testwork campaign is recommended to complement the test work completed to-date. Wood PLC will assist in the compilation of the required test work suite.

6.5.2 Nano Filtration Testwork

During the process review completed by BMS an opportunity was identified to optimise the nano filtration circuit. BMS utilised testwork data from the 2017 site pilot trials to create a two-stage nano filtration circuit mass balance. The original testwork data were extrapolated to obtain the calculated performance for the second nano filtration stage. Further testwork will be undertaken to verify the extrapolated data utilised in the sizing of the second nano filtration stage.

6.6 Sampling and Laboratory

The assay laboratory will be designed, equipped, and operated by SGS Laboratory Services (SGS). Consequently, the labour cost is included as a component of the fixed cost of the assay laboratory.

SGS has in consideration of the laboratory scope tailored the laboratory building design, analytical equipment and testing methodology, to support the mine and processing plant. Their proposal will deliver continuity of laboratory service, operating 24/7/365 with 26 staff members working 12-hour shifts per day, seven days per week on a 7-shift panel.

To facilitate project cash flow, SGS proposed to fund the purchase of the analytical equipment, amortizing the capital cost plus financing fees over the 5-year life of the initial contract. SGS is also prepared to allow the client capital flexibility to fund the purchase of the laboratory equipment. SGS' laboratories incorporate the latest in design and equipment to ensure the health and safety of workers and environmentally sustainable practices.

The expected labour compliment (26 personnel) provided by SGS is included in the overall site labour complement, with no allowance towards the overall plant labour cost.

7. Site and Infrastructure

7.1 Summary

The infrastructure footprint for the Etango-8 Uranium Project is defined by the overall project site plan (refer to Figure 7-1 overleaf). The key features associated with the overall project infrastructure include the following:

- The movement, treatment and storage of mine-operation generated material – to be ultimately classified as some form of waste material
    - Pre-stripping during the mining process involves the excavation of topsoil and highly weathered soft material overlying the rock strata or overburden
    - Removal of waste rock – to be stockpiled on surface and / or relocated back to the mining pit as part of the rehabilitation (establishment of access control berm)
    - Removal of the Uranium (U_3O_8) ore from the three open pit areas (an elongated north pit, centrally located south pit, and the smaller satellite pit). The material will initially be stockpiled as ROM material or be temporarily stored on low / medium / high grade stockpiles, and then be crushed and agglomerated prior to being loaded onto a heap leach pad. The material will ultimately be reclaimed as ripios from the heap leach pad to be stockpiled on surface
- Supply of bulk services – power and water, as well as modifications / extensions to existing infrastructure (including access roads and power lines)
- Adherence to the project footprint developed during the DFS of 2012 – due consideration for the environmental footprint including stormwater run-off and the controlled containment of any excess water
- Designation of contractor's laydown areas – both the temporary facilities for the process plant / infrastructure construction activity and the more permanent facility for the appointed mining contractor.

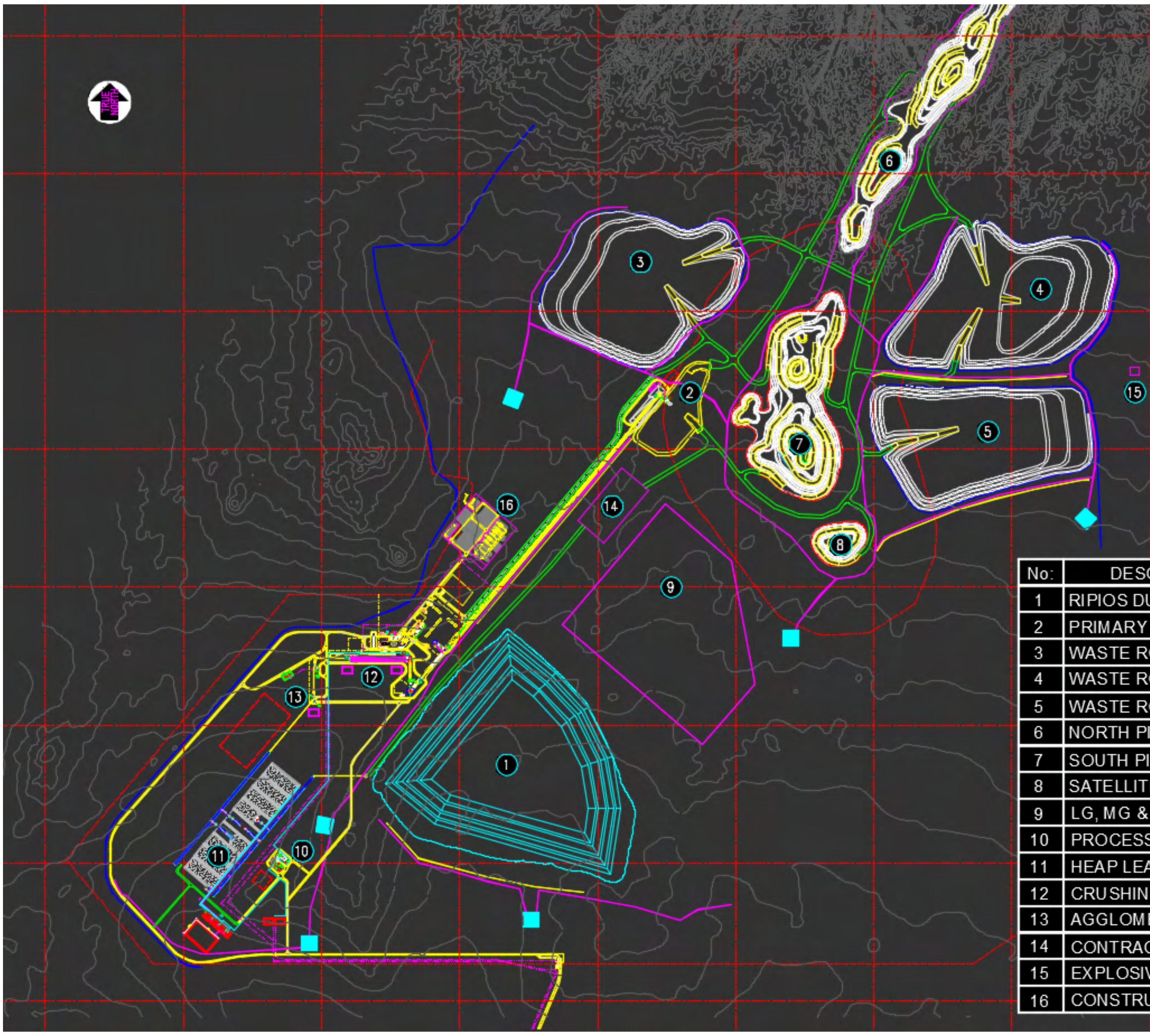


Figure 7-1: Project Site Plan

7.2 Power Supply

NamPower has offered a 15 MVA 132 kV supply for the Project, linked by a new 132 kV overhead line to its Kuiseb substation. The power system would be supplied and installed by NamPower. An outdoor 132/11 kV switchyard is part of this system including 20 MVA 132/11 kV step-down transformers.

Table 7-1: Estimated Electrical Load – Etango-8

Description	**kW**	**kVA**
Total Connected Plant load	19489,2	20766,8
Estimated Running Plant load (without PFC)	12731,4	13451,1
Estimated Running Plant Load (with PFC to 0.98)	12731,4	12805,5

A high-level summary of the electrical loading for the project site is detailed in Table 7-1.

Standby diesel generators have been included for the process plant critical loads (in addition to UPS units for emergency lighting and control system interfaces). A 250 kVA and a 50 kVA unit have been allowed for.

7.3 Water Supply and Storage

The overall site consumption of water for operating cost purposes is an estimated 2.35 Mm^3 per annum (0.294 m^3/t of ore feed to the process plant). See Table 7-2 below:

Table 7-2: Operational Water Requirements

	Annual Usage (Mm^3)
Dust suppression	0.24
Agglomeration	0.62
Rinse Water make-up	0.81
Process Plant	0.68
Total	**2.35**

Water supply to the site will be by overland pipeline from the Erongo Desalination Plant via the NamWater Swakopmund base station.

- Two pump stations will be utilised - one at Swakopmund and one along the pipe route to the mine. Each pump station will include three vertical spindle type pump-sets, 2 duty plus 1 standby set
- The delivery pipeline is expected to be a total of 33.73 km long. A 400 mm Ductile Cast Iron (DCI) cement mortar lined pipeline is proposed, with 6.887 km polyethylene wrapped below ground and 26.848 km above ground on pedestals
- The water pipeline will run along the access road of the C28, and discharge into two covered raw water ponds (15 000 m^3 each). From the raw water ponds water is abstracted to the first of three raw water

tanks (located in the Precipitation, IX and product packaging area) from where it is further distributed to the central process plant and primary crusher /tip.

The water delivered to site will be of potable water quality.

The water tariff assumed for the Etango-8 PFS is US$ 3.50/m^3 and reflects the estimated cost of desalination and water transport operating and maintenance costs included in the delivery to site.

A capital cost of US$15.43M is also included for the complete pipeline, pumping stations and reservoirs inclusive of all civil, mechanical, electrical and instrumentation costs.

7.4 Fire Water Design

The design basis for the PFS is detailed in two National Fire Protection Association (NFPA) standards:

- NFPA-122: Standard for Fire Prevention and Control in Metal / Nonmetal Mining and Metal Mineral Processing Facilities
- NFPA-801- Standard for Fire Protection for Facilities Handling Radioactive Materials.

The fire water system for the project site has been designed with the inclusion of a dedicated fire water tank for each main process area. The fire water pumps' and associated control system specified are based on an Automatic Sprinkler Inspection Bureau (ASIB) approved standard. Fire water is supplied via three fire water pumps per system, which include a jockey, an electrically driven pump and a diesel-powered pump, which withdraw water from fire water tanks (500 m^3 capacity) to supply fire water for the fire water ring mains.

The future DFS will also consider a more detailed approach to the assessment of overall fire load and the placement of fire hydrants – the basis however for this more detailed assessment will be:

- Application of guidelines detailed in NFPA 1142 – Standard on water supplies for suburban and rural firefighting
- Hydrants normally used on these facilities are Class C (rated range of 0 – 499 gpm).

7.5 Site Access

The C28 sealed road from Swakopmund heads east approximately 5 km south of the Etango mine site. This is the main road that services the Langer Heinrich Mine and ultimately reaches Windhoek. Access to the Etango site from the C28 is via a 7 km sealed spur road to be constructed as part of the project.

7.6 Acid Infrastructure

Approximately 145,000 tonnes of acid will be required on site per annum. It is envisaged that acid will be obtained from a local source and delivered to site by truck. For the off-site acid logistics infrastructure an allowance of US$2.1 million for the multimodal siding has been factored into the capital cost estimate. Acid can thus be transported either from the third-party storage facility in the Walvis Bay harbour to site or railed in isotainers to the multimodal siding where the isotainers are then loaded onto trucks and taken to site via the C28 road. 28 days acid storage capacity on site, is allowed for and is part of the processing plant design.

8. Engineering Design

The engineering component inputs to the PFS are as follows:

- Mining – which includes the following:
  - A review of the geological resources associated with the project
  - A review of the geo-hydrological site work and modelling and the impact on mining
  - Geotechnical data capture and design
  - Mining strategy and scheduling
  - Pit design and optimisation
  - Material movement strategies and schedules
- Process & Metallurgy which considers the metallurgical processing of the ore with the following engineering inputs:
  - The Process Design Criteria (PDC) - utilised as the Basis of Design (BOD) for the process engineering
  - The iterative process design outputs: Process Flow Diagrams (PFD's), mass balance, water balance and associated calculations, as well as the Process Control Diagrams (PCD's), mechanical equipment lists and process data sheets have provided input for the other engineering disciplines
- Site & Infrastructure which considers the site wide / external infrastructure requirements including interfaces associated with the mining and waste management facilities.

Engineering Design Criteria (EDC) have been developed covering the mechanical (& conveyor designs), piping, civil & structural, electrical, control & instrumentation and infrastructure disciplines. The EDC confirms the engineering basis for the prefeasibility study (covering mainly the process plant and surface infrastructure).

The progressive development of engineering discipline design deliverables against the proposed scope over the study time-line is captured in a detailed engineering drawing register.

9. Capital Estimate

9.1 Capital Cost (CAPEX) Basis

The CAPEX estimate for the Etango-8 Project comprises the following components:

- Mining
- Process Plant and associated internal infrastructure
- External infrastructure including
  - The site access road extension
  - Power supply to the site
  - Water supply to the site
  - Acid supply infrastructure
- Owner's General and Administration (G&A)
- Sustaining CAPEX confirmed per major scope area
  - Mining
  - Process plant
  - Surface water runoff / drainage system
- The cost of rehabilitation – as defined in the restoration and closure strategy.

Key components of the mining / processing facilities can be summarised as follows:

- Mine scheduling is based on Measured and Indicated Resources within the current Mineral Resource Estimate (MRE) and determines the creation of three open pits – an elongated north pit, a south pit (adjacent to the Run of Mine (ROM) tip) and a smaller satellite pit
- The project evaluation is based on open pit contract mining and road haulage to the metallurgical processing facility
- A significant amount of waste material is generated over the fifteen-year Life-of–Mine (LOM), with an overall strip ration of 2.07
- A total of 117.63 Mt of ore at an average grade of 232 ppm U_3O_8 will be processed via the on-off heap leach pad producing a total of 52.9 Mlbs of metal (U_3O_8)
- Ripios reclaimed from the heap leach pad will be recovered from a load out bin by a fleet of haulage trucks – deposition of ripios is to a surface stockpile based on phased deposition design strategy
- The economic cut-off grade for the deposit is 100 ppm U_3O_8. The mine schedule however employs a variable cut-off grade approach to maximise the NPV. Subsequently, the mining schedule dictates the establishment of intermediate ore stockpiles classified as follows:
  - Marginal – with a grade between 75 – 100 ppm U_3O_8 (to be stockpiled separately on the waste rock dumps)
  - Low Grade - 100 to 150 ppm U_3O_8
  - Medium Grade - 150 to 250 ppm U_3O_8
  - High Grade - > 250 ppm U_3O_8.

The estimating base date for both capital and operating costs is Q1 2021. All costs are stated in United States dollars (US$).

For the mining scope, the following split has been adopted between capital and operating costs:

- Capital costs have been defined as all costs related to mining before the production of the first tonne of ore. Capital costs therefore include:
  - The cost of the mobilisation of the mining contractor
  - The cost of any infrastructure related to the mining operation including mine contractor site establishment
  - The variable and fixed costs related to the pre-strip of the open pit, up to the production of the first tonne of ore
  - The cost of the owner's team prior to the production of ore.
- Operating costs have been defined as all costs related to mining after the first tonne of ore is produced. This includes:
  - The variable and fixed costs related to the open pit after the pre-strip
  - The cost of the owner's team after the production of the first tonne of ore.

The process plant and internal infrastructure CAPEX estimate components were developed on the basis of defining an overall scope and WBS. The CAPEX estimate was based on the associated process flow diagrams and mechanical equipment lists. layout drawings and the overall site plot plan and block plan were generated to assist in the development of the estimates.

The following documents provided the basis for the CAPEX estimate:

- Block Plans and Layouts
- Process Flow Diagrams
- Process Design Criteria
- Engineering Design Criteria
- General Layout Drawings
- Supplemental Sketches
- Equipment Quotations from Vendors
- Fabrication and Erection Rates from Historical Projects
- Mechanical Equipment List
- Electrical Motor List
- HT Single Line Diagram
- Instrument Lists
- Preliminary Level 2 Project Execution Schedule.

The general approach to estimating was to measure and quantify each cost element from the engineering drawings, process flow diagrams, mechanical equipment list, motor lists, cable schedules and instrument lists.

The EPCM costs cover the project management, detailed engineering, procurement and construction management costs associated with the implementation of the project. The EPCM costs were factorised for the process plant and associated infrastructure.

9.2 Capital Expenditure (CAPEX) Summary

The CAPEX for the development of the prospect (refer to Table 9-1) is broken up into the following categories:

- Mining including pre-strip
- Process plant and internal infrastructure
- External infrastructure.
- General and Administration (G & A).

Table 9-1: Pre-Production Capital Expenditure Breakdown

Cost Category	Cost Sub-Category	Capital Cost (US$)
Mining		**9 213 054**
	Owners Team – infrastructure	867 500
	Contractor Mobilisation	4 229 964
	Owners Team Labour	281 668
	Pre-strip	3 833 922
Process Plant & infrastructure		**230 025 011**
	Process plant directs	141 167 025
	Infrastructure Directs	63 880 174
	Indirects	24 822 812
	Assay Laboratory - Mobilisation	155 000
External Infrastructure		**26 595 473**
	Access Road Extension	1 241 674
	Power Supply	7 617 958
	Water Supply	15 434 216
	Acid Infrastructure	2 301 625
General & Administration		**8 199 075**

Table 9-1: Pre-Production Capital Expenditure Breakdown

Cost Category	Cost Sub-Category	Capital Cost (US$)
	Pre-production Labour	5 609 075
	G & A Owner's cost	2 590 000
TOTAL		**274 032 613**

9.3 Ongoing Capital Expenditure

Ongoing capital expenditure (Sustaining CAPEX) items after the construction phase have been identified for the mining and process plant components and are summarised below in Table 9-2.

Table 9-2: Sustaining CAPEX

Description	Amount (US$)
Mining	1 446 250
Process Plant & Infrastructure	18 250 523
Surface Water Runoff System	1 139 470
TOTAL	**20 836 243**

The process plant and infrastructure sustaining CAPEX have been assessed by taking cognisance of the following:

- Operating cost consumable / maintenance components
- Conveyor component replacement intervals
- Capital cost spares components (with due consideration for consignment spares options offered for specific mechanical packages).

9.4 Rehabilitation and Closure CAPEX

The closure CAPEX is summarised below in Table 9-3 and also makes allowance for the mining contractor demobilisation costs.

Table 9-3: Restoration & Closure Capital Estimate

No.	Description	Amount (US$)	Comment
1	Process Plant & Associated Infrastructure	2 941 787	
2	Buildings & Infrastructure	302 275	
3	Open Pit	2 096 997	

Table 9-3: Restoration & Closure Capital Estimate

No.	Description	Amount (US$)	Comment
4	Waste Rock Dump	1 789 446	
5	Ripios Dump	4 825 812	
6	Water Treatment Facility	1 100 000	
7	Water Treatment Facility Operation - 10 Years	1 000 000	
8	Monitoring - 50 Years	1 000 000	
9	Contingency	3 764 079	25%
10	Mining Contractor Demobilisation	3 589 814	
11	**TOTAL**	**22 410 209**	

10. Human Resources

The Etango-8 mine will be a Bannerman managed operation, with Bannerman responsible for the operation of the process plant, mine planning, grade control management, survey, geotechnical aspects and product security. Selected operations such as the mining operation, grade control drilling, mining equipment maintenance, transport, freight, utilities (comprising water, power and rail) and cleaning at site will be contracted out to local or regional service providers.

The total labour complement including long-term contractors for the Etango-8 Project is 762. Of this complement 572 people would be involved in shift work while 190 would work weekdays only.

The aim of the project will be to first recruit locally where possible, with additional sources of labour being recruited from the African continent, and thereafter globally. The project is thus seeking a high contingent of local employees that will be supplemented by non-Namibians. It is intended that a small percentage of overseas nationals be sourced for critical core business positions in the start-up of the project, continuing on for 3 to 5 years (depending on position) where necessary. Overseas nationals will be required to train and develop a number of suitably skilled local personnel to provide successful succession into their positions.

The Etango-8 mine will be managed by a General Manager, who will reside in the local area and will have his principal office on site. The General Manager will report to the Chief Executive Officer of Bannerman Energy Limited. It is proposed that the mine will be responsible for its own purchasing, accounts and human resources functions. It will rely on the corporate office in Perth for treasury and legal functions.

11. Operating Cost

11.1 Operating Cost (OPEX) Cost Basis

Including the mining component, the operating cost estimate for the project comprises the following:

- Mining
- Process plant
- General & Administrative (G&A).

The estimating base date for both capital and operating costs is Q1 2021. All costs are stated in United States dollars (US$).

For the mining scope, operating costs have been defined as all costs related to mining after the first tonne of ore is produced. This includes:

- The variable and fixed costs related to the open pit after the pre-strip
- The cost of the owner's team after the production of the first tonne of ore.

The process plant OPEX costs include:

- Labour – the operating, management and engineering labour components
- Utilities - power and water costs
- Stores - the main plant consumables including reagents, comminution consumables, filtration consumables (filter plates and cloths), conveyor consumables and screen panels
- Sundries – general plant maintenance, mobile equipment rental and analytical laboratory.

The G&A operating costs include:

- Overhead G&A component of the process plant, mining and infrastructure costs
- General admin costs components including PPE, consulting fees, training, communication, office & travel expenses, legal, public relations, insurance and security.

11.2 OPEX Summary

The summarised operating costs for the project are included in Table 11-1 below:

Table 11-1: Operating Cost Summary

Cost Category	US$ million over project life	US$ per tonne ROM Feed	US$ per pound U_3O_8 produced
Mining Cost	885	7.53	16.73
Processing Cost	911	7.74	17.21
G&A and External Infrastructure	122	1.04	2.31
Selling Cost	58	0.49	1.10
Total (excl. royalties)	**1,976**	**16.80**	**37.35**

12. Marketing

12.1 Uranium market outlook

The uranium market has been characterised by over-supply and a resultant bear market cycle that commenced with the nuclear accident at Fukushima-Daiichi nuclear power plant in 2011 and a rapid reduction of demand for nuclear fuel in Japan, Germany and elsewhere. After several years of oversupply in which consumers and intermediaries built substantial inventories, the uranium market returned to structural balance in 2018 and is currently experiencing significant structural deficits.

Whilst demand for nuclear fuel has recovered to pre-2011 levels, the pricing response to these deficits has been muted by the draw-down of excess inventory. The uranium spot price bottomed in 2017 and has experienced modest recovery since then, trading at levels last seen in 2016. In 2020, supply disruption caused by COVID-19 mine closures exacerbated the deficit causing the draw-down of inventories to historically normal levels.

Most market commentators expect uranium long term contract prices to substantially and sustainably increase to their assumed long-term price forecast or beyond in the next 12-36 months due to a number of factors, including:

(a) A substantial proportion of global uranium production is uneconomic at current prices;

(b) Uranium demand is projected to grow steadily to 2040 and beyond, in particular in the growth markets of China, India and Russia;

(c) Uranium supply is expected to undergo significant depletion over the next decade, despite the capacity for care and maintenance mines to return to production, as several large uranium mines will be exhausted of ore and secondary supply reduces; and

(d) Under-investment in uranium exploration and development over the last decade coupled with onerous political, environmental and social approval processes has resulted in an inadequate development pipeline that requires prices in excess of the assumed long term contract price to incentivise sufficient replacement of depleted production.

12.2 Product marketing strategy

Consistent with industry practice, Bannerman plans to obtain a diversified portfolio of long-term supply contracts with a blend of fixed-term escalated prices and market price mechanisms, subject to floor prices. Prior to commencement of construction, a sufficient proportion of production is expected to be contracted with high-quality counterparties to enable conventional financing of the project, potentially in combination with off-take related financing.

Bannerman has pursued an active marketing strategy since 2016, resulting in a substantial profile in the nuclear power industry and membership of the World Nuclear Association, World Nuclear Fuel Cycle, World Nuclear Fuel Market and Namibian Uranium Association. Implementation of this strategy notably benefitted from Bannerman Energy Ltd's Chief Executive Officer, Brandon Munro, being appointed in 2018 as Co-Chair of the World Nuclear Association's Nuclear Fuel Report uranium demand working group.

12.3 Uranium price forecast

The realised LOM uranium price forecast adopted for this PFS is US$65/lb U_3O_8. This compares with the price estimate utilised for the OS 2015 of US$75/lb.

The LOM price assumption for this PFS was estimated as follows:

- The 2025 uranium spot price forecast data was sourced from Consensus Economics (19 July 2021). The 2025 estimate represented the longest-dated single year estimate in the Consensus Economics forecast uranium data set. There were 8 estimates comprising this 2025 forecast price data ranging from US$35.00/lb to US$60.00/lb. The average estimate was US$44.20/lb and the median estimate was US$43.80/lb.

- Price series for historical spot and term uranium prices were then sourced from www.cameco.com (a data set which Cameco has assembled based on price data published by the two leading uranium industry price index providers, TradeTech and Ux Consulting). The market premium of term-to-spot uranium prices was then calculated on a monthly basis for the past 10 years (July 2011 to June 2021). The monthly average of this premium ranged from as low as -2% to as high as +89% over this 10-year period. The 10-year historical average premium was 32%.
- The current Reference Scenario from the World Nuclear Association's (WNA) Nuclear Fuel Report 2019 was then evaluated alongside this historical premia data. The WNA baseline case highlights a rapid divergence (into significant deficit) between forecast nuclear reactor requirements and expected global uranium supply from 2024 (see Figure 12-1). These conditions suggest that, for sufficient new supply incentivisation reasons, and all other things being equal, term prices are likely to trade at a premium to spot that is at least equal to, and potentially significantly higher, than historical average levels over the past 10 years. For this reason, the term-to-spot price premium selected for utilisation was 40-50% (a level slightly higher than the 10-year historical average premia).
- To arrive at an estimate of final realised uranium price under Bannerman's expected uranium marketing approach, the mid point of the selected term-to-spot market price premium (45%) was then applied to the average 2025 forecast uranium spot price (US$44.20/lb) to arrive at the PFS LOM realised uranium price input of approximately US$65/lb.

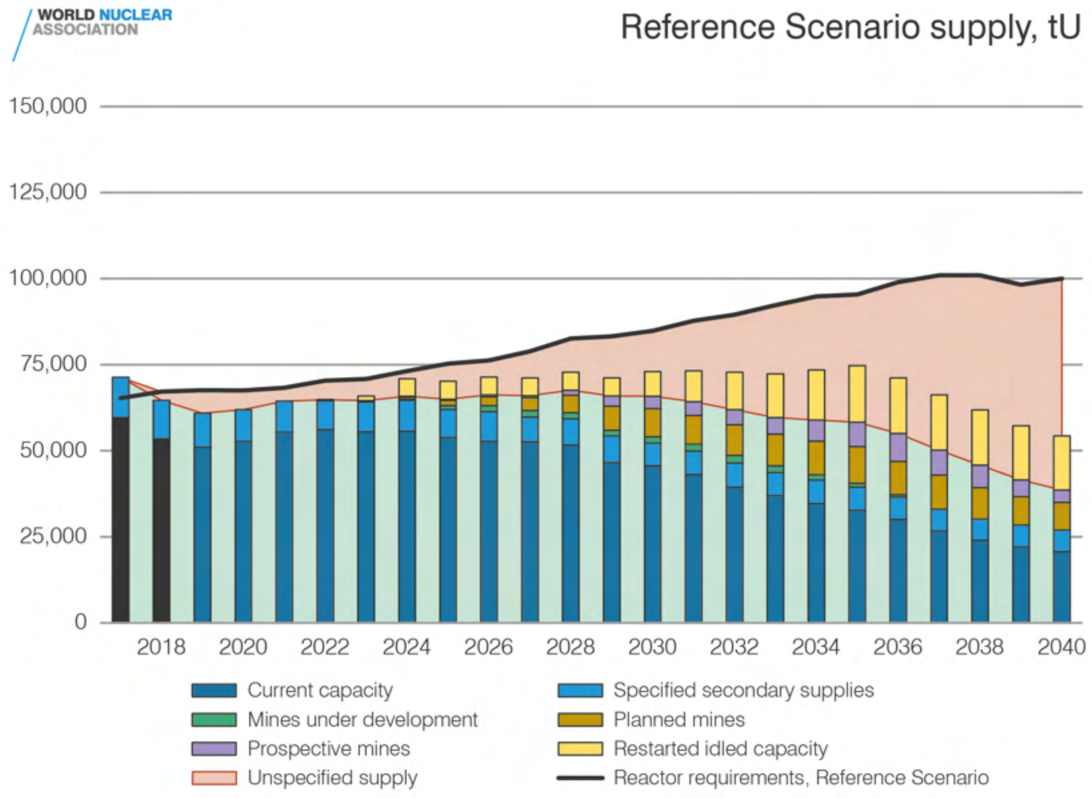


Figure 12-1: World Nuclear Association Uranium Supply-Demand (Reference Scenario)

13. Permitting

The Project requires government approval under the Minerals (Prospecting and Mining) Act 1992. The Minerals Act requires the submission of a Mining Licence (ML) application to be supported by an ESIA, including completion of an Environmental and Social Management Plan (ESMP) to manage the adverse impacts identified, as well as a feasibility study. An Environmental Clearance has already been received for the larger (20Mt/a) Etango Project as well as the linear infrastructure i.e. access road, power lines and water pipeline from the C28 road to site.

The following ESIAs need to be completed:

i. An ESIA for the water pipeline from Swakopmund to the C28 turn-off to the site. This needs to be done together with NamWater’s input

ii. An ESIA for the electrical powerline from the Kuiseb substation to the C28 turn-off to the site. This needs the input of NamPower

iii. An ESIA for the multimodal siding where the sulphuric acid isotainers will be taken off the train onto trucks.

No construction can commence until all Environmental Clearances have been issued for this infrastructure.

The Etango-8 Project is located on the Mineral Deposit Retention Licence 3345 (MDRL 3345) which is currently valid until August 2022 and a renewal application may be lodged for an extension for a further two years if required. Bannerman intends to submit a mining licence application for the conversion of the MDRL to an ML well in advance before planned project execution commences.

14. Environmental and Radiological Impact and Management

The Project is located in the Namib-Naukluft National Park and close to some of the park's tourist attractions, namely the Moon Landscape (dramatic landscapes) and the Swakop River (dramatic landscape and linear oasis for plants and animals). The current land use is conservation and eco-tourism.

The major negative impact findings are summarised in Table 14-1. Of these, the impact of reduction in the invertebrate population and the loss of jobs post-closure are considered to be the only long-term major impacts once planned mitigation measures are in place.

Table 14-1: Major Negative Environmental Impacts

Area	Issue	Pre-mitigation (Phase)	Post-mitigation Impact
Surface water	Restricted flow	C, O, D	Moderate
Dust (PM_{10})	Health	O	Minor
Fauna	Reduction of populations	C, O, D	Major
Flora	Habitat loss/degeneration	C, O, D	Moderate
Road access	Access via D1991	C, O, D	Moderate
Employment	Job losses on closure		Major
Visual – mine	Pit, dust, blasting	C, O, D	Major
Visual – primary crusher		C, O	Negligible
Visual – waste dumps		O, D	Moderate
Noise	Impact "sense of place"	O	Moderate

Note: C – Construction, O – Operation and D - Decommissioning

An Environmental and Social Impact Assessment (ESIA), reflecting the larger Etango project detailed in the DFS, was prepared by Alex Speiser Environmental Consultants (ASEC) and Environmental Resources Management (ERM) and submitted in April 2012 to the Ministry of Environment, Forestry & Tourism (MEFT) and an Environmental Clearance Certificate (ECC) granted in July 2012. This ECC has regularly been renewed and remains current. The ECC is currently valid until October 2021 and a further renewal has already been submitted to the MEFT. An approved ECC for linear infrastructure is also in place and currently valid until June 2022.

The list of the people involved in the ESIA are listed in Table 14-2 and as indicated involved a number of specialist studies.

Table 14-2: ESIA Project Team

Activity	Person and Company
Overall project management	Ms Alex Speiser (ASEC)
Compilation of reports, assessments and management plans	Ms Alex Speiser & Ms Auriol Ashby (Ashby Associates cc)
Desert ecology study	Mr John Pallett (Desert Research Foundation Namibia)
Vegetation specialist study	Ms Coleen Mannheimer (freelance consultant)
Entomology specialist study	Dr John Irish (Biodata) & Mr. P. Hawkes (Afribug)
Hydrogeological specialist study	Mr Hugo Marais, Mr Andreas Stoll and Dr Meris Mills (Environmental Resources Management Pty Ltd (ERM)
Radiation specialist study	Dr Japie van Blerk (ERM
Health and Safety specialist study	Mr Russell Powell (ERM)
Weather data compilation	Ms Hanlie Enslin-Liebenberg (Airshed Planning Professionals (Pty) Ltd)
Archaeological specialist study	Dr John Kinahan (J & J Kinahan t/a Quaternary Research Services cc)
Socio-economic specialist study & public participation process facilitator	Ms Auriol Ashby (Ashby Associates cc)
Avifauna specialist study	Dr Chris Brown (Namibia Nature Foundation)
Dust monitoring & air dispersion model	Ms Hanlie Enslin-Liebenberg (Airshed Planning Professionals (Pty) Ltd)
Noise study	Mr Francois Malherbe (Acoustic Consultants cc)
Visual study	Mr Stephen Stead (VRM Africa)
Economic study	Mr Heiko Binding (freelance consultant)

Consistent with the Atomic Energy and Radiation Protection Act (Act No. 5, 2005) and the requirements and recommendations of the International Atomic Energy Agency (IAEA) and the International Commission on Radiological Protection (ICRP), human health and the environment have to be protected against the adverse effect of radiation exposure from mining and processing of minerals containing Naturally Occurring Radioactive Materials (NORM). The specialist study on the radiological impact of the larger Etango Project to members of the public was evaluated and concluded that the radiological risk is of low significance with no immediate mitigation measures to be implemented to reduce the radiation exposure levels.

Bannerman in line with the Act will have a comprehensive Radiation Management Plan (RMP) which will include all the aspects to manage exposure to radiation for employees, contractors and the public. The principle of keeping the exposure ‘As Low As Reasonably Achievable’ (ALARA) will be followed.

15. Restoration and Closure

15.1 Restoration and Closure Description

The main components of the project physical scope that require due consideration for closure and rehabilitation requirements are:

- Open pit mining operation
- Surface Waste Rock Dumps / Low Grade Ore Stockpiles
- Process Plant Area
- Buildings & Infrastructure
- Ripios stockpile.

The following broad minimum closure and restoration guidelines have been set for the project:

Physical Stability: After the mine closure, the Waste Rock Dump (WRD) and Ripios Dump (RD) slopes should be physically stable in the long term. The closure design for each of the stockpiles should thus consider the long-term physical stability requirements and will also consider intermittent surface run-off requirements.

Chemical Stability: Throughout the mine closure period, project units such as the waste rock dump area, open pit, and ripios stockpile, should meet chemical stability requirements. Additional mitigation measures will be implemented if the project units do not meet the chemical stability requirements. The objective is to protect surface water and groundwater in a manner that allows the re-establishment of natural background, hydrological and hydrogeological characteristics of the area in the long term. There must be adequate seepage control and detection around heap leach pads, heap leach residue facilities and effluent ponds to prevent contamination of surface and groundwater, both during mining operations and after closure. A modified groundwater level and quality monitoring plan following a close-out audit will be implemented, to monitor natural attenuation up to 50 years post closure.

Socio Economic Aspect Management: consideration of protocols for all phases of the project lifecycle.

Human Health and Safety: The main purpose of the rehabilitation is the long-term protection of the local community's health and safety. The closure design will minimize the necessity for long-term maintenance. Access to the site in general, and to the radiation sources in particular, will be restricted in all mine phases to prevent third parties from being in close proximity to operations and radiation sources that could have negative health impacts.

15.2 Restoration and Closure Scope

Mine closure objectives will be progressively updated over the course of mining operations as more site-specific information is acquired. It is also intended that progressive remediation will be implemented throughout the mine life, including the re-grading, cover placement, and 're-vegetation' of exposed final surfaces. A suitably qualified visual practitioner has already been involved in the EIA and ongoing assistance will be required in the definition of the closure plan and to ensure that recommendations are adequately implemented and that landscaping and rehabilitation mitigations are progressively fulfilled. The EIA makes specific reference to steps needed to minimize visual impact, e.g. shaping of waste dumps.

If it is geo-technically and financially feasible, consideration will be given to the creation of project earthworks platforms predominantly by means of cut, rather than by balancing both cut and fill. The excess fill material will then be utilised to fulfil specific closure requirements including the creation of suitably located berms for enclosing parts of the site. Berm slope design should not exceed 1:4 so that erosion is minimised and the appearance of 'natural' slopes is emphasised.

All waste to be disposed of in appropriate waste-disposal facilities (e.g. specific facilities designed for hazardous wastes). Wastes are to be stored on site but removed from the mine site for disposal in either

Swakopmund or Walvis Bay. (In the case of hazardous waste, the only suitable facility is in Walvis Bay. Currently, there are efforts underway to look at a new hazardous waste facility by "NamWaste").

The following guidelines supporting a closure capital estimate (based dated Q1 2021) per main domain area:

15.2.1 Open Pit Mining Operation

The open pit areas will not be backfilled as part of the closure phase - a perimeter fence will be maintained to restrict public access to the pit areas. (There will be a fence in places but certain areas will have a berm only). The mining contractor will manage any required de-watering of the pit during normal operation and will be responsible for the transition to closure management. The concurrent reclamation phase will include the establishment of a perimeter 'access control' berm that will ensure that the closure visual impact constraints around the pit are met. Decommissioning of individual pit benches (post adherence to prescribed stability requirements) will include the establishment of emergency spillway drainage channels. Allowance will also be made for rehabilitation of benches that will be above the possible 'flood' level of the pit/s.

15.2.2 Waste Rock Dumps and Ripios Stockpile

Adherence to stability requirements and controlling seepage runoff during operation are part of the main priorities. The WRD has been classified as non-acid forming, whilst the Ripios is acid forming. Closure requirements dictate implementation of landscaping and / or capping to minimize infiltration that may alter WRD / Ripios Stockpile seepage water quality. In this perspective, conceptual parameters for closure capping are:

- The waste rock dumps will not be capped - they will be shaped mainly for visual impacts. The ripios dump, however, will be capped with waste rock
- For the drainage of water on the surface of stockpiles, the implementation of drainage control channels will be implemented
- All rainfall (surface runoff) to be drained to downstream through diversion channels.

The closure strategy for all surface stockpiles will be to maximise concurrent rehabilitation with operations.

- There will be three waste rock dumps (each designed with 3 x 15 m tiers). The shaping of the waste rock dumps will mostly be done later in the mine's life
- The ripios stockpile will have the sides covered with waste rock as it develops and a cover at the top at the end of mine life.

15.2.3 Process Plant Area

Rehabilitation for the ore processing plant will commence after the operations cease. Salvage and scrapping of plant and structures will be undertaken and opportunities will be considered for provision of cash flow during the mine closure period through salvage of mechanical equipment. It is expected that the 'dry' processing circuit equipment will be suitable for salvaging. The process plant footprint locations must be decontaminated and then covered by 'stockpiled' cut material and landscaped into a natural form in alignment with the natural hydrological patterns.

Rehabilitation for the ore processing plant will commence after the operations cease. Salvage and scrapping of plant and structures will be undertaken and opportunities will be considered for provision of cash flow during the mine closure period through salvage of mechanical equipment.

Planned rehabilitation steps for the processing plant are described below:

- All material which has been in contact with oil or chemicals will be 'washed'. 'Dirty' water can be diverted to one of the open pit areas

- A water treatment facility has been included as part of the mine closure capital cost (to be located in the vicinity of the process plant hydrometallurgical facility footprint). This has been included to negate any long term risk associated with ripios dump run-off water
- The base of the ROM stockpile will be suitably covered with additional waste rock material
- All economically valuable equipment will be separated and sold (tanks, pumps, and major equipment)
- In plant piping will be demolished / salvaged
- All areas that are contaminated with waste oil during the demolition operation will be disposed and sent to a licensed waste disposal facility
- All items that may be contaminated with radiation will be either disposed of in one of the open pits and covered with waste rock or sent to a licensed waste disposal site should this be available at the time of closure
- Economically valuable steel constructions and other metals will be recycled
- All concrete structures and foundations will be demolished and the area will be rehabilitated.

Separate allowance has been made for the demolition of the infrastructure buildings associated with the process plant.

16. Project Finance

An assessment of various funding alternatives for Etango-8 has been made based on precedent funding transactions in the uranium and broader metals mining industry.

Bannerman has formed the view that there is a reasonable basis to believe that requisite future funding for development of Etango-8 will be available when required.

Bannerman is targeting total pre-production and working capital funding being comprised of one, some or all of:

- Senior project debt;
- Mezzanine debt;
- Offtake prepayment;
- Sale of a strategic asset interest;
- Equity issuance; and/or
- Royalty/stream funding.

The final mix will depend on general market and mineral industry conditions, specific counterparty appetite and terms, and Bannerman’s prevailing views on optimal funding mix and balance sheet configuration.

17. Risk Management

The risk management strategy for the PFS included the completion of both a High Level Risk Assessment (HLRA) and a HAZOP 1. Stand-alone reports have been generated for both activities and included in the PFS report. Classification of risk for the PFS was based on five main areas:

- External risks
- Technical risk
- Safety and Sustainable Development Risks (S&SD)
- Project Management Risks
- Commercial Risks.

The risk workshop tried to focus more on the technical and project management risks with the HAZOP 1 being an extension of the technical risk evaluation. A consolidated (updated) Bannerman risk matrix was adopted in completing the risk assessment.

17.1 High Level Risk Review

The objectives of the risk assessment workshop were to:

- Identify the key project risks associated with the Etango-8 Uranium Project PFS
- Discuss the risks identified and ensure common understanding of these risks amongst participants
- Prioritise the key risks using agreed criteria as documented in the Project Risk Matrix
- Identify mitigation actions for the key risks identified and conclusions drawn based on these
- Prepare a risk assessment document for inclusion in the study report.

The risks identified during the workshop were grouped into the different categories to generate a risk exposure for comparative purposes. A total of 57 risks were reviewed during the risk workshop, with the inherent risk rating split as follows: High -15; Medium – 29; Low – 1. Of the remaining 13 risks evaluated, four were considered duplicates, three were noted as being managed by Bannerman (relating to environmental and social aspects), two were not ranked (relating to the pending PFS financial modelling assessment), and four were referenced to the already completed HAZOP 1 study.

The major risks (with a ‘high’ inherent risk rating) per category are summarised below in Table 17-1 to Table 17-4.

Table 17-1: Technical Risks – Mining

RISK CATEGORY	RISK DESCRIPTION	CAUSE	INHERENT RISK RATING	RESIDUAL RISK RATING
Mining	Inter ramp slope angle too steep	Slope design - geotechnical recommendations	15 - (High)	6 - (Low)
Mining	Mining contractor rates much higher than owner mining costs	Owner underestimates mining costs	18 - (High)	9 - (Medium)
		Tenderer uses high level costing model, does not use detailed models		
		Prevailing economic conditions		
Mining	Explosives Magazine - location and impact on operations	Storage of explosives on site will be potentially hazardous	18 - (High)	14 - (Medium)
Mining	Blasting radius around three open pit locations	The South pit blasting radius (500 m) encroaches on the operational area of the ROM pad	18 - (High)	13 - (Medium)

A total of 14 risks evaluated in the category: Technical Risks - Mining

Table 17-2: Technical Risks – Process / Metallurgy

RISK CATEGORY	RISK DESCRIPTION	CAUSE	INHERENT RISK RATING	RESIDUAL RISK RATING
Process / Metallurgy	Low uranium loading - ion exchange	Blinding of resin; High resin attrition rate	18 - (High)	9 - (Medium)
Process / Metallurgy	Plant downtime	Spares availability; Reagent availability	18 - (High)	9 - (Medium)
Process / Metallurgy	Recovery	Reagent quality as supplied by agents, also have a shelf life	18 - (High)	9 - (Medium)
Process / Metallurgy	Variable and higher reagent consumptions / costs over the life of the deposit	High gangue acid consumers in ore	18 - (High)	14 - (Medium)
		Heap leach operational targets and strategies not maintained		
		Reagent supply pricing potentially variable		
		High sulphate concentration in uranium precipitation		

Table 17-3: Project Management Risks - Miscellaneous

RISK CATEGORY	RISK DESCRIPTION	CAUSE	INHERENT RISK RATING	RESIDUAL RISK RATING
Technical Risks [Financial Management]	Price reduction in uranium price	Sensitivity to Uranium price -profit and loss	18 - (High)	9 - (Medium)
Strategic Risks [Financial]	Price of sulphuric acid and long-term supply fluctuations	Based on supply & demand. Local availability also possible immediately (from Dundee Precious Metals, Namibia)	18 - (High)	9 - (Medium)
Strategic Risk [Contracting]	Availability of suitably qualified contractors in Southern Africa for construction phase	Contracting pool of specialised or suitably qualified contractors is diminishing	18 - (High)	9 - (Medium)
		Financial stability of identified potential contractors		
Project Management Risks [Schedule]	Delivery of Equipment sourced from outside Namibia and South Africa	Closure of ports for entry and exit due to Covid and possible unknowns	18 - (High)	9 - (Medium)
Technical - [Ops Readiness]	Insufficient water for start up	Insufficient supply by NamWater	18 - (High)	9 - (Medium)

Table 17-4: Engineering Risks - Miscellaneous

RISK CATEGORY	RISK DESCRIPTION	CAUSE	INHERENT RISK RATING	RESIDUAL RISK RATING
Technical [Civil/Structural Engineering]	Limited geotechnical information for design / BOQ determination	Limited information availability based on phase of study	18 - (High)	9 - (Medium)
Technical [Electrical Control & Instrumentation]	Deficiency in overhead line design specification (airborne dust and mist - Flash overs)	Limited information availability based on phase of study	17 - (High)	9 - (Medium)

17.2 Risk Planning Activities

The risk management strategy for the pre-feasibility study made allowance for the completion of HAZOP 1. Partial completion of a HAZOP 2 would be completed during the feasibility phase, with a HAZOP 3 phase earmarked for the transition into the project execution phase / Front End Engineering Design (FEED) phase. (HAZOP 4 to 6 would be completed as part of execution project hand over and close out). There was significant focus in the HAZOP 1 on the interface with the risk assessment.

A draft Risk Management Plan for the execution phase has also been included as part of the PFS deliverables.

A hazardous area classification aligned to the final fire protection design for the process plant facility will be addressed as part of the detailed design.

18. Project Implementation

Following the completion of the PFS, the intention is to proceed into a Definitive Feasibility Study (DFS) phase. The execution phase of the project will then proceed with a Front-End Engineering & Design (FEED) phase.

Recommended focus areas coming out of the PFS include the following:

- Geotechnical investigation for the open pits and surface facilities, where it is preferable to scope and execute as an input to the DFS phase
- A heap leach pad scoping phase where options considered during the PFS are evaluated in more detail as an input to the DFS.

Progression of the Environmental considerations that should also proceed in parallel to the DFS phase.

The scope of the FEED phase will include the following:

- Finalisation of geotechnical and site survey design information for the project area
- Route and access surveys with respect to delivery of equipment to site
- Finalisation of contractor laydown areas for all site erection activities for mining, process plant and infrastructure areas
- Procurement optimisation covering the following aspects:
  - Mechanical supply packages – The focus will be on major packages (for both the 'dry' and 'wet' process circuits) as well as items that will need the placement of orders to secure certified drawings for key structures on the critical path
  - Electrical supply packages – critical packages identified during the DFS
  - Control and instrumentation – critical packages identified during the DFS
  - Site erection packages - Bulk Earthworks, Civils, Infrastructure, Liner Supply & Installation, SMPP and E&I
- Engineering design definition / strategy and for the following two unit processes:
  - The Adelaide Control Engineering (ACE) supply for drying / calcining / drumming facility
  - The Ion Exchange (IX) / Nano Filtration (NF) scope and optimisation
- Further definition on final BOQ's and contracting strategy for:
  - General infrastructure including initial site establishment – access roads, water ponds and pumps / piping
  - Setup for site wide surface drainage including establishment of diversion channels
  - Bulk earthworks for process plant area
  - Restricted excavations and civils for the process plant area
  - Liner supply & installation
  - Structural steel, platework and piping & valves
  - Electrical, control & instrumentation.

This means that major contract negotiations can be finalised for the Bulk Earthworks, Civils, Liner Supply & Installation, SMPP and E&I site erection packages for the execution project.

In addition to this, the enquiry for the mining contract will be issued (on a binding tender basis). The bulk earthworks scope of work will be then rationalised / finalised between the mining contract and the bulk earthworks / civils contracts.

18.1 Project Execution Plan (PEP) Deliverables

The FEED phase will include an update of the elements of the Project Execution Plan (PEP) delivered as part of the PFS and DFS (listed below):

- Project Execution Organogram
- Project Execution Schedule
- Work Breakdown Structure
- Procurement Operating Plan
- Risk Management Plan.

The project implementation schedule (developed in Microsoft Project) will be updated based on further alignment between the construction and commissioning activities for the project as a whole. The project schedule will include all tasks from detailed engineering, procurement, fabrication, transportation to site, site establishment of contractors, construction and commissioning of the plant through to handover to Bannerman.

The PEP will be updated during the FEED phase and will also be updated to include the following additional management plans:

- Procurement & Expediting Plan
- Cost Management Plan
- Responsibility Assignment Matrix (RACI)
- Construction Management Plan
- Commissioning Plan
- Communications Management Plan
- Quality Management Plan
- Operational Readiness Plan (Input from Wood to the client)
- Design & Engineering Management Plan
- Materials Handling Management Plan.

18.2 Prime Goals for Project Execution

Table 18-1: Prime Goals for Project Execution

Safety, Health, Environmental (SHE)	**Description**	The project will create a culture where the safety and health of the workforce and other affected persons is paramount. Safety management systems and outcomes are targeted to be equal to or better than current best practice in the industry. The project is to ensure compliance with the environmental obligations set out in the approved Environmental Management Plan (EMP).

Table 18-1: Prime Goals for Project Execution

Safety, Health, Environmental (SHE)	**Description**	The project will create a culture where the safety and health of the workforce and other affected persons is paramount. Safety management systems and outcomes are targeted to be equal to or better than current best practice in the industry. The project is to ensure compliance with the environmental obligations set out in the approved Environmental Management Plan (EMP).
	Measure	Zero Fatalities LTIFR = 0 Meet environmental commitments described in the EMP. Ensure health of client, project employees and public are not detrimentally affected by project activities.
Time	**Description**	The initial development of the project area is to be achieved within the proposed overall project time frame.
	Measure	Achieve critical interim milestones.
Capital cost	**Description**	The agreed estimated project cost must be demonstrated to represent value for money.
	Measure	The actual project cost must be equal to or less than the estimated project cost.
Operations interface	**Description**	The various unit operation associated with the overall project scope must be delivered to operate at their specific design throughputs / availabilities.
	Measure	Minimal unscheduled disruptions during commissioning ramp up.
Facilities Performance		An agreed measure of overall performance for project handover.

18.3 Project Time-Lines

The tables overleaf include the Indicative (estimated) key dates for study time line phases (Table 18-2), external infrastructure (Table 18-3) and the process facility and supporting infrastructure (Table 18-4). The high-level project execution time line is included in Figure 18-1.

Table 18-2: Study Phase Time-Lines

ACTIVITY	TIME-LINE / DURATION
Definitive Feasibility Study	12 months
Geotechnical Investigation (Open Pit & Process plant)	4 months
Heap Leach Pad Scoping	4 months
EIA Update	10 months

Table 18-3: External Infrastructure Construction Time Lines

ACTIVITY	TIME-LINE / DURATION
Raw Water Supply	14 months
Acid Infrastructure	14 months
Power Supply	12 months
Access Road	11 months

Table 18-4: Process Facility & Supporting Infrastructure Key Dates

ACTIVITY	TIME-LINE / DURATION
FEED Phase	5 months
Engineering & Design – duration	14 months
Construction Phase	19 months

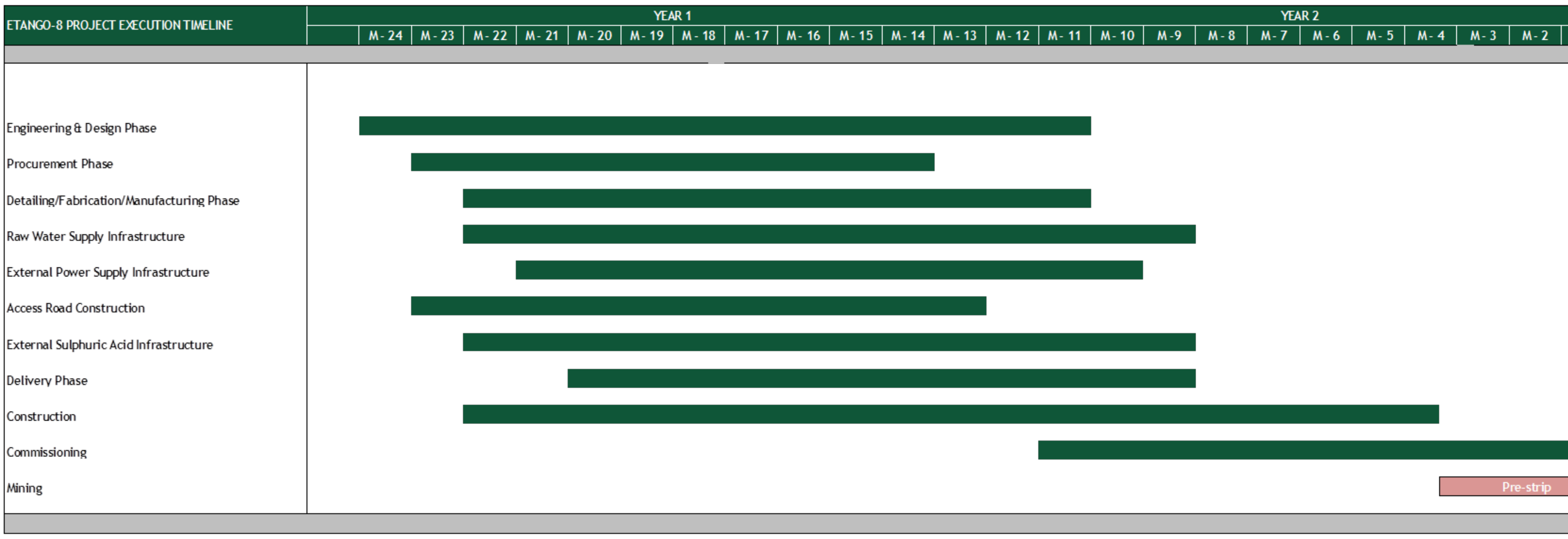


Figure 18-1: High level project execution schedule

19. Conclusions / Recommendations

The Pre-feasibility study of the resource, mining, process design and engineering aspects of the Etango-8 Uranium Project confirms that it is technically and economically feasible using conventional mining and metallurgical techniques to extract the uranium. It also confirms the scalability of the larger Etango Project. During the PFS some further opportunities have been identified to improve the overall economics of the project and these will be pursued as the Etango-8 Project progresses to the next feasibility level.

19.1 Geology and Mineral Resources

The Etango Project hosts significant uranium resources which are predominantly hosted by a stacked sequence of leucogranitic bodies (generally referred to as alaskite) that have intruded the host Damara Sequence of metasedimentary rocks. The resource stretches over a prospective strike length of greater than 15km along the western flank of the Palmenhorst Dome which incorporates the Anomaly A, Oshiveli, Onkelo, Ondjamba and Hyena deposits. The June 2021 Etango Mineral Resource estimate has been classified in accordance with the JORC Code (2012) and confirms that the Etango resource is globally significant. The 2021 Etango Mineral Resource closely reflects the proposed grade control and mining approach, which involves gamma probing of relatively widely spaced blastholes supplemented by a truck scanning station. This approach has been shown to be highly effective at major open pit uranium deposits.

Although the Etango Project had previously progressed to a Definitive Feasibility Study phase, the Etango-8 pit limits are in different positions due to the reduced mining operation and some additional geotechnical investigations will be done prior to the Etango-8 DFS to feed into the mine planning work stream.

19.2 Mining and Reserves

The 2021 Etango Mineral Resource similar to the 2015 Optimisation Study uses a recoverable resource approach utilising Uniform Conditioning (UC) to model a recoverable resource. This model forms the basis for employing Local Uniform Conditioning in order to create a uniform block size model suitable for use in mine planning. The UC block size or smallest mining unit (SMU) block size mimics the mining selectivity associated with grade control, blasting, excavation, and haulage practices for the proposed operation.

The Etango-8 Ore Reserve contains 117.6Mt of ore at a grade of 232ppm U_3O_8 with 60.3Mlb of metal. The Mineral reserve is derived from the Measured and Indicated resource only, in line with the JORC Code (2012) guidelines for generating Ore Reserves.

The Etango-8 PFS proposes a contract mining operation. This includes drilling, blasting, loading and hauling of ore and waste. The mining method being open pit extraction utilising a conventional mining fleet comprising of 130 – 250 t diesel hydraulic excavators/shovels backed up by 100t off-road dump trucks mining at a peak mining rate of 25Mtpa to supply 8Mtpa ore. The mine schedule employs a variable cut-off grade approach in order to maximise the NPV; the cut-off grade is flexed during mine schedule to maximise metal production as early as possible.

19.3 Process and Engineering Design

19.3.1 Civil Infrastructure and Structural Design

A surface geotechnical investigation to be initiated leading into the proposed DFS:

- Preparation of a scope of work for the geotechnical investigation
- Selection of proposed bidders and consultants
- Appointment of a geotechnical consultant and generation of a geotechnical report to support the engineering design

19.3.2 Heap Leach Design

A heap leach pad scoping phase is recommended leading into the proposed DFS which will include the following:

- Confirmation of the lidar survey information and earthworks design (linked to the geotechnical investigation) for the pad
- Confirmation of liner design options and capital cost (following on from the scope addressed during the PFS). This will include liner scoping test work and confirmation of leak detection design
- Updated investigation into the sourcing / pricing of heap leach pad over-liner material
- Verification of heap leach materials handling and operating strategy

19.3.3 IX / NF Circuit

- A trade-off to be completed during the next phase comparing NIMCIX against moving bed ion exchange with a specific focus on moving bed technology in acid applications. The trade-off between NIMCIX columns and moving bed columns should also extend beyond the ion exchange circuit, with specific focus on acid consumption / recovery.
- During the Etango-8 PFS the opportunity of a second pass nano-filtration plant was identified which could potentially have significant reagent consumption benefits and reduce the capital expenditure of the plant following the NF process. This opportunity will be fully assessed as part of the Etango-8 DFS.
- Scope definition to be confirmed for a metallurgical test work campaign around the IX and NF circuits.

19.4 Environmental and Social

The Etango-8 Project has an Environmental Clearance Certificate (ECC) that is valid valid until October 2021 and a further renewal has been submitted to the Ministry of Environment, Forestry & Tourism. An approved ECC for linear infrastructure from the C28 turn-off to the mine site is also in place and currently valid until June 2022.

19.4.1 EIA Update

As part of the Etango-8 DFS, Environmental Impact Assessments for the water supply pipeline from Swakopmund; the overhead electricity supply line from the Kuiseb substation and the rail siding for the acid off-loading will need to be conducted (Namwater being involved with the water pipeline; Nampower with the electricity line and Transnamib with the rail siding).

19.5 Economic Analysis Outcomes

The financial projections for the Etango-8 PFS were developed by Qubeka, Wood and Bannerman using a discounted cash flow model. The modelling assumes contract mining while the rest of the operation is owner-operated.

The financial estimates were prepared under the following assumptions:

- A real discount rate of 8% was used for discounted cash flow modelling;
- Costs are quoted in real US dollar 2021 terms;
- Cash flow periods are expressed quarterly;
- Uranium sales revenue is assumed to be realised approximately 3 months after drummed production;

- All financial assessments have been undertaken on a 100% project ownership basis (noting that Bannerman's attributable interest in the Etango Project is 95%);
- All costs are stated exclusive of VAT;
- Namibian Government royalties (3%) and export levy (0.25%) have been applied to gross revenue and Namibian corporate tax (37.5%) has been applied to pre-tax post-royalty cash flow;
- A Namibian inflation rate of 5.0% p.a. is assumed solely for the purposes of calculating forecast depreciation and taxation schedules; and
- Quantities stated are metric (SI units), excepting the final product which is converted to pounds (lbs).

Forecast key financial metrics for the development of Etango-8 as reflected in the PFS are summarised in Table 19-1 (all projections are on a 100% project basis).

Table 19-1: Etango-8 financial projections Study Phase Time-Lines

KEY FINANCIAL OUTCOMES	UNIT	PFS	SCOPING STUDY
Price inputs			
LOM average uranium price	US$/lb U_3O_8	65	65
US$/N$	N$	16	16
Valuation, returns and key ratios			
NPV8% (post-tax, real basis, ungeared)	US$M	222	212
NPV8% (pre-tax, real basis, ungeared)	US$M	386	373
IRR (post-tax, real basis, ungeared)	%	20.3	21.2
IRR (pre-tax, real basis, ungeared)	%	25.3	26.8
Payback period (post-tax, from first production)	years	3.8	3.6
Payback period (pre-tax, from first production)	years	3.8	3.4
Pre-tax NPV / Pre-production capex	x	1.4	1.5
Pre-production capital intensity	US$/lb U_3O_8 pa cap.	78	71
Cashflow summary			
Sales revenue (gross)	US$M	3,440	3,320
Mining opex	US$M	(885)	(856)
Processing opex	US$M	(911)	(859)
G&A opex	US$M	(122)	(143)
Product transport, port, freight, conversion	US$M	(58)	(56)
Royalties and export levies	US$M	(112)	(146)
Project operating surplus	US$M	1,352	1,260
Pre-production capital expenditure	US$M	(274)	(254)
LOM sustaining capital expenditure	US$M	(43)	(31)
Project net cashflow (pre-tax)	US$M	1,034	975
Tax paid	US$M	(392)	(371)
Project net cashflow (post-tax)	US$M	642	604

Table 19-1: Etango-8 financial projections Study Phase Time-Lines

KEY FINANCIAL OUTCOMES	UNIT	PFS	SCOPING STUDY
Unit cash operating costs			
Mining	US$/t mat. mined	2.45	2.56
Mining	US$/lb U_3O_8	16.7	16.8
Processing	US$/t ore	7.74	7.53
Processing	US$/lb U_3O_8	17.2	16.8
G&A	US$/lb U_3O_8	2.3	2.8
Product transport, port, freight, conversion	US$/lb U_3O_8	1.1	1.1
Total cash operating cost (ex-royalties/levies)	US$/lb U_3O_8	37.3	37.4
Royalties and export levies	US$/lb U_3O_8	2.1	2.9
Total cash operating cost	US$/lb U_3O_8	39.5	40.3
All-in-sustaining-cost (AISC)	US$/lb U_3O_8	40.3	40.9

Forecast pre-production capital intensity for the Etango-8 Project is highly attractive at approximately US$78 per lb of average annual production capacity.

The projected LOM cashflow is shown in Figure 19-1. The Etango-8 Project is expected to achieve a post-tax payback in approximately 3.8 years from first production.

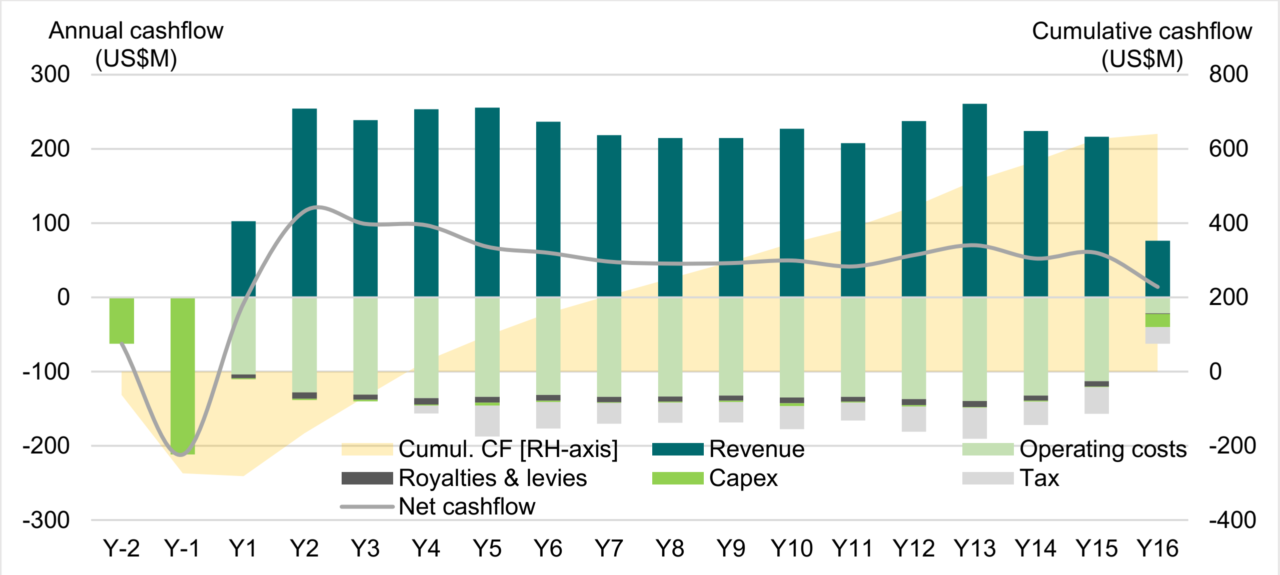


Figure 19-1: Etango-8 forecast life-of-mine net cashflows

19.5.1 Sensitivity analysis

The financial sensitivity analyses undertaken on the Etango-8 Project examined variations in each of the following parameters:

- U_3O_8 price;
- US$/N$ exchange rate fluctuations;
- Pre-production capital costs;
- U_3O_8 head grade / recoveries;
- Mining costs; and
- Sulphuric acid costs.

In assessing the sensitivity of the Etango-8 Project economics, each of the above parameters has been varied independently of the others. Accordingly, combined positive or negative variations in any of these parameters will have a more marked effect on the forecast economics of the Etango-8 Project than will the individual variations considered, while variations in opposite directions could naturally have a negating effect on each other.

Figures 19-2 and 19-3 outline the results of the sensitivity analysis across post-tax NPV and IRR outcomes.

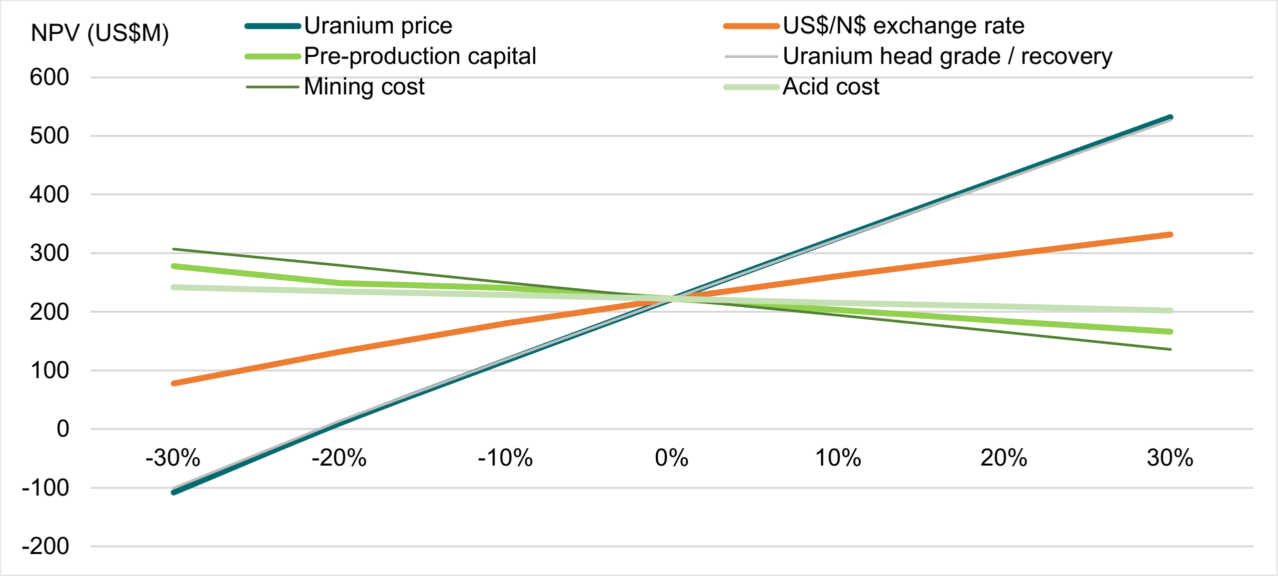


Figure 19-2: Sensitivity analysis – post-tax NPV (US$M)

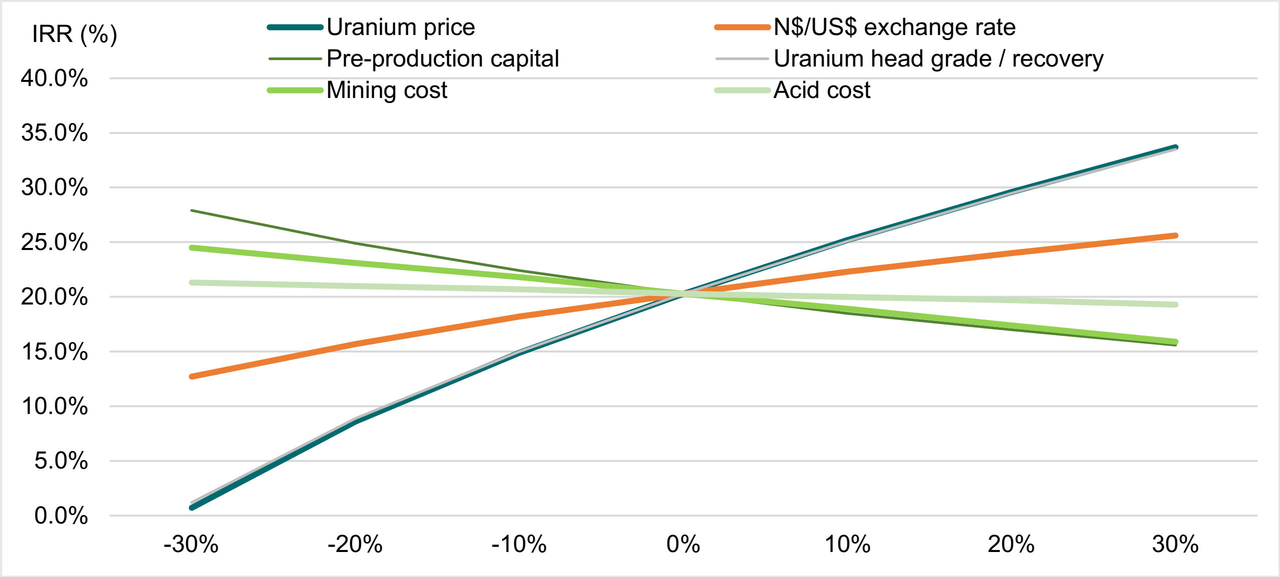


Figure 19-3: Sensitivity analysis – post-tax IRR (%)

Table 19-2 demonstrates the Etango-8 Project post-tax NPV utilising different discount rates.

Table 19-2: Post-tax NPV variability for selected discount rates

Selected discount rate sensitivity	4%	6%	8%	10%	12%
Post-tax NPV (US$M)	383	293	222	165	119

Appendix A - JORC Code, 2012 Edition – Table 1 report

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Samples were obtained using both reverse circulation (RC) and diamond drilling (DD) methods. • RC drill samples were collected off the rig cyclone in large plastic bags at 1m intervals. The 1m sample was split in the field by Bannerman staff using a 75/25 riffle splitter. The 75% sample was placed into a bulk sample bag from which rock chip samples were taken and placed into a chip tray for logging by the geologist. The primary sample sent to the laboratory was obtained by splitting the 25% sample until a sample of approximately 500g to 1kg was obtained. A count per minute (CPM) reading was taken from this sample using a handheld scintillometer and recorded along with the sample condition (wet, dry, and moist). If the bulk sample was wet, a spear sample was taken. Intervals of recovered samples selected for analysis, were based on alaskite lithology or intersections in non-alaskites that had a CPM greater than 300. • Diamond drill core was placed in core trays after drilling and taken to the Bannerman core logging and storage facility on site at Etango, where it was orientated, measured, logged and marked for sampling by the staff geologist. Sample intervals were determined by the geologist after logging. The sample lengths were nominally 1m; however, samples lengths ranging from 0.5 to 1.49m were selected where a lithological boundary was intersected. No sampling was undertaken across lithological boundaries. • For both RC and core, each sampled interval was generally preceded and followed by 2.0m of shoulder samples extending out beyond the interval of interest.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Bannerman has completed a total of 945 RC (215,480m), 137 diamond (37,392m) and 21 RAB (1,875m) drillholes, for a total of approximately 254,747m, in the vicinity of the Etango Project. This drilling provided the geotechnical, hydrological, structural, lithological and uranium grade data over the Anomaly A, Oshiveli and Onkelo prospects and the plant site area that are the subject of this resource. • The RC drillholes for resource definition purposes were drilled using a bit diameter of 4.72" to 5.5". • Most of the diamond drillholes for resource delineation and grade estimation purposes were drilled using NQ diameter core barrels (47.6 mm core), with the bulk of the core being orientated by spearing after each run. A total

Criteria	JORC Code explanation	Commentary
		of 29 diamond drillholes were drilled for geotechnical purposes using a NQ3 core barrel (45.1 mm core) - Twenty eight drillholes were also completed in HQ core diameter (63.5 mm core) for metallurgical testwork.
Drill sample recovery	- *Method of recording and assessing core and chip sample recoveries and results assessed.* - *Measures taken to maximise sample recovery and ensure representative nature of the samples.* - *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	- RC samples observed in the field were of suitable size and generally of consistent high recovery. Coffey International Limited (Coffey Mining) previously recommended that the RC sample recovery be routinely recorded and entered into the drillhole database. Based on this recommendation, Bannerman field staff undertook an analysis of the RC sample recovery in 2008. The samples were weighed before they were split and all samples returned a weight of ±20kg. The rocks in the mineral resource area are competent with very little cavities. Based on the results of the investigation Bannerman determined that a routine recording of this data was superfluous as the RC sample recoveries were very high. - Diamond drill core recoveries and RQD were recorded during logging with measurements taken downhole between drill runs which were generally in 3m increments. Recoveries were generally good, with the majority > 95%. From this data it is clear that the rock is very competent with very low levels of core sample loss.
Logging	- *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* - *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* - *The total length and percentage of the relevant intersections logged.*	- RC drill chips were logged for geological variables including lithology, colour, texture, hardness, degree of weathering, alteration, alteration intensity etc., and a small sample was kept from each meter in plastic chip trays as a logging record. - Diamond drill core was also logged for the same geological variables as RC samples. - Core was photographed in the trays at Bannerman's sample storage facility after logging and was securely stored after sampling. - The logging of geological features in both RC chips and core was mainly qualitative, with parameters such as degree of weathering, hardness, alteration intensity etc., being visual estimates by the logging geologist. - The entire length of all holes was logged from collar to end of hole.
Sub-sampling techniques and sample preparation	- *If core, whether cut or sawn and whether quarter, half or all core taken.* - *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* - *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* - *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* - *Measures taken to ensure that the sampling is*	- RC drill samples were collected off the rig cyclone in large plastic bags at 1m intervals. The 1m sample was split in the field by Bannerman staff using a 75/25 riffle splitter. The 75% sample was placed into a bulk sample bag from which rock chip samples were taken and placed into a chip tray for logging by the geologist. The primary sample sent to the laboratory was obtained by splitting the 25% sample until a sample of approximately 500g to 1kg was obtained. A count per minute (CPM) reading was taken from this sample using a handheld scintillometer and recorded along with the sample condition (wet, dry, and moist). If the bulk sample was wet, a spear sample was taken. Intervals of recovered samples, selected for analysis, were based on alaskite lithology or intersections in non-alaskites that had a CPM greater than 300. - Up to drillhole GOADH0022, core was cut longitudinally with a diamond saw and half core sampled for analysis. The

Criteria	JORC Code explanation	Commentary
	representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. - *Whether sample sizes are appropriate to the grain size of the material being sampled.*	residual half core was retained in the core box for reference whereas the primary core sample was sent to SGS Lakefield in Johannesburg (SGS Johannesburg) for crushing and analysis. Subsequent to GOADH0022, only quarter core was used for primary analysis. The core depths (in metres), sample intervals and sample numbers were marked on the core for later identification. - For both RC and core, each sampled interval was preceded and followed by 2.0m of shoulder samples extending out beyond the interval of interest.
Quality of assay data and laboratory tests	- *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* - *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* - *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	- Initially all primary RC and diamond core samples were sent to SGS Johannesburg for crushing, pulverisation and chemical analysis. SGS Johannesburg is a SANAA accredited laboratory (T0169). - The samples were analysed by pressed pellet X-ray fluorescence (XRF) for uranium (and then converted to uranium oxide (U3O8) by calculation), niobium (Nb) and thorium (Th); and by borate fusion with XRF for calcium (Ca) and potassium (K). - Since December 2008, the sample preparation stages have been completed at SGS Swakopmund and pulp samples have then been forwarded to SGS Johannesburg for the analysis. Analysis for Ca and K was discontinued in March 2009. - Since December 2007, standards and blanks have routinely been inserted into the sampling stream at a nominal rate of 1:20. - RC field duplicate samples sourced from the 75% reject as well as diamond core duplicates are taken at the rate of 1 in every 20 primary samples. The sampling method was the same as used for the primary sample. Field duplicate samples were sent to Genalysis Johannesburg, and since January 12th 2009 to SGS Johannesburg for assaying. - Based upon Coffey Mining's analysis of the duplicates data and the laboratory based standards data, the Bannerman assaying is considered to meet industry acceptable standards for sample accuracy and precision and is acceptable for use in resource estimation studies. - From November 2007, Bannerman has used the Acquire commercial database software system to manage its drillhole data. The use of such database management software is considered to be of high industry standard as it enables the incorporation of large datasets into an organised, auditable structure. - Checks by Coffey Mining have identified no material issues with the database and it is considered acceptable for use in resource estimation.
Verification of sampling and	- *The verification of significant intersections by either independent or alternative company personnel.*	- Drilling and sampling operations were supervised by Bannerman geologists and samples promptly bagged and taken to the onsite storage facility at Etango, prior to shipment to the assay laboratory. It is considered that Bannerman

Criteria	JORC Code explanation	Commentary
assaying	- *The use of twinned holes.* - *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* - *Discuss any adjustment to assay data.*	has appropriate provisions in place to safeguard the sample security. - Bannerman has drilled eight pairs of Diamond/RC twinned-holes at its Anomaly A deposit since the commencement of exploration activities in 2006. The twinned-holes were drilled as a means of verifying mineralization intersection thicknesses as well as mineralization grades. Analysis has shown that there is no bias in the thicknesses of matching intersections of Diamond and RC twinned-holes as they are very similar and compare very well to each other across all thickness ranges. - Analysis of matching pairs of composite Diamond and RC length-weighted assay grades within a 5m radius of each other indicated that Diamond U3O8 grades are generally higher than those of RC. - Coffey Mining have visited the SGS Johannesburg facility and considered it to be well run and that the preparation and analytical methods used by SGS Johannesburg are appropriate. - Coffey Mining visited the Etango Project site during April 2008 and collected samples for the purposes of independent sampling. A total of 40 RC samples were collected directly after drilling and splitting and placed into plastic bags with numbered security tags attached. Once tagged, the bags were sent to Bannerman's sample storage yard for processing. - Ten diamond samples were also collected at Bannerman's core shed, and then placed in plastic bags with numbered security tags attached. The tagged samples were then sent to the SGS Johannesburg laboratories, where the security tags were inspected by Coffey Mining personnel, prior to sample preparation. - The results illustrated typical examples of mineralisation from the property.
Location of data points	- *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* - *Specification of the grid system used.* - *Quality and adequacy of topographic control.*	- All drillholes were surveyed for collar position and downhole deviation. - Bannerman uses Ellipsoid WGS84 and Projection UTM Zone 33 South as the coordinate system. - All but eight (8) drillhole collars were surveyed by licensed surveyors after drilling. The remaining eight holes were surveyed by Bannerman employees using a handheld Garmin GPS. - Drillhole azimuths were measured with reference to magnetic north. Drillholes have been surveyed with either a Leica Total Station or Leica GPS. All recorded coordinates are to within +/- 5cm in the XYZ, with a greater accuracy for collars surveyed using the Leica Total Station. Collar coordinates surveyed by Bannerman with the handheld Garmin 60CSx GPS are to within +/- 3m in the XYZ. - Downhole directional surveys were initially taken using an Eastman single shot camera at nominal 30 m intervals (the first few holes only); however, for the vast majority of holes the practice has been to survey drillholes using a three component Fluxgate Magnetometer survey tool following completion of the drilling.
Data spacing	- *Data spacing for reporting of Exploration Results.*	- Drilling has been conducted on a nominal 50 m x 50 m, to 50 m x 100 m drill spacing, with the bulk of the 50 m x 50

Criteria	JORC Code explanation	Commentary
and distribution	- *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* - *Whether sample compositing has been applied.*	m drilling being completed in the area of the likely open-pittable resource. - A relatively small area of 25 x 50 m spaced drilling has also been completed in the centre of the Project area. - Drilling along strike and down-dip of the main mineralisation has targeted extensions to the mineralised zones and has been drilled on a nominal 100 m x 50 m spacing. - Composite RC drill samples were collected off the rig cyclone at 1m intervals, whereas diamond core was also sampled at 1m composite intervals; however, in core, sample lengths ranging from 0.5 to 1.49m were selected where a lithological boundary was intersected. No sampling was undertaken across lithological boundaries.
Orientation of data in relation to geological structure	- *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* - *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	- Due to the relatively shallow dip of the mineralised alaskite bodies (approximately 15-40° to the west) and the inclination of the RC and diamond drillholes (generally -60° to the east), the length of the drillhole intercepts are regarded as being close to the true thickness of the mineralised intervals. There is believed to be no bias due to the orientation of the drilling.
Sample security	- *The measures taken to ensure sample security.*	- Diamond drill core and RC samples (after initial splitting in the field) were taken daily from the field to Bannerman's secure storage facility on site at Etango. - The prepared and packaged diamond core and RC samples for assaying were stored in the facility prior to pick up via courier. - All crushing, pulverising and splitting of the samples, subsequent to the original field splitting, was performed by a reputable assaying laboratory (SGS).
Audits or reviews	- *The results of any audits or reviews of sampling techniques and data.*	- Auditing and review of sample techniques and data has been carried out by Coffey Mining, an Australian-based international consulting firm specialising in the areas of geotechnical engineering, hydrogeology, hydrology, tailings disposal, environmental science and social and physical infrastructure. - The drilling, sampling and storage procedures used by Bannerman meet industry acceptable standards and the samples were considered by Coffey Mining to be of good quality and accuracy for the purposes of mineral resource estimation.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The Etango Project MDRL 3345 is owned by the Namibian company Bannerman Mining Resources (Namibia) (Pty) Ltd (Bannerman Namibia), previously called Turgi Investments (Pty) Ltd (Turgi), which manages the Project. Bannerman owns 95% of Bannerman Namibia, while the remaining 5% is held by the One Economy Foundation (OEF), a not-for-gain organisation in Namibia. • EPL 3345 (part of which has now been converted to the Mineral Deposit Retention Licence, MDRL 3345 where the Etango Project is located) was granted to Turgi Investments (Pty) Ltd, now Bannerman Namibia, on 27 April 2006, for an initial three year period to explore for Nuclear Fuels. EPL 3345 has subsequently been renewed on several occasions, most recently for an additional two years expiring 26 April 2023. EPL3345 has been subjected to various reductions in size during those renewals. On the 7 August 2017 part of the EPL 3345 was granted as a Mineral Deposit Retention Licence (MDRL 3345) for five year extendable term with an area of 7 295 ha in size. The Retention Licence providing exclusive rights to tenure and the right (without obligation) to continue with exploration or development work. The current term of the MDRL 3345 expires on the 6th August 2022. • On 17 December 2008, Bannerman announced that its Namibian subsidiary, Bannerman Namibia, had entered into an agreement to settle the litigation previously brought by Savanna Marble CC (Savanna) and certain associated parties. Under the terms of the settlement agreement, Savanna agreed to discontinue its review application in the High Court of Namibia by which Savanna had sought a declaration that the grant by the Minister of Mines and Energy of Namibia of EPL 3345, on which the Etango Project is situated, was void. This settlement involves payments and the issue of shares to Savanna (as Bannerman has previously disclosed in public documents) and has removed any disputes to Bannerman's title to the Etango Project. • The mining royalty is currently stipulated by the Namibian Government to be 3% of revenue and the export levy on uranium at 0.25%. • Bannerman lodged an Environmental and Social Impact Assessment (ESIA) with the Namibian Ministry of Environment, Forestry and Tourism for open pit mining and heap leach processing. Formal Environmental Clearance was received in July 2012 valid for three years. The Environmental Clearance was renewed in 2015 and then again in 2018 and is currently valid until 11 October 2021. A renewal application has already been submitted to the Ministry of Environment, Forestry & Tourism. Environmental clearance for the location and design of infrastructure ancillary to the Etango Project was granted by the Ministry of Environment and Tourism in February 2013 valid for three years. This was renewed in 2016 and 2019 and is currently valid until 18 June 2022. • The Environmental Clearance to conduct exploration activities and operate the Heap Leach Demonstration Plant on MDRL 3345 expired on the 11 July 2021. A renewal was submitted 3 May 2021 and it is expected that the renewed

Criteria	JORC Code explanation	Commentary
		Environmental Clearance will be granted soon valid for a further 3 year period. • No substantiative legislative, environmental or social impediments have been identified for development of the Etango-8 Project. The Erongo region already hosts a number of other large uranium producing operations, and uranium mining and processing is well understood in the local communities and by Government regulatory authorities. • The Etango-8 Project enjoys local community support and is expected to have a significant positive impact on the Erongo Region and Namibian national economies, including local employment and skill training.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• In the 1970s the then South West African Geological Survey conducted a regional reconnaissance airborne radiometric survey that was followed by a further detailed spectrometer-magnetometer survey in 1974 over an area exceeding 100,000ha. Analysis of the airborne survey identified a broad thorium and uranium/thorium anomaly along the western flank of the Palmenhorst Dome. Prospect scale exploration within the Etango project area commenced in 1975 with 134 percussion holes being drilled in the Anomaly A area. The exploration by previous owners was not conducted on behalf of or by Bannerman and little information remains available on this work. • From 1976 to 1978, Omitara Mines (a joint venture between Elf Aquitaine SWA and B & O Minerals) (Omitara) drilled 224 mostly vertical percussion drillholes on a reconnaissance grid of 400m north by 75m to 100m east along the western Palmenhorst Dome position and a reduced grid in some areas of 200m to 100m by 75m near the Anomaly A area. The percussion drillholes totalled 13,383m with depths ranging from 50 to 100m. An additional 9 diamond drillholes were drilled for a total of 2,100m.Holes drilled during this period were analysed variably by chemical assaying (X-ray fluorescence) and downhole gamma-ray spectrometry (calibrated at Pelindaba). Chemical assay results in the region of Anomaly A ranged up to the low thousands of ppm U3O8. • A total of 6,800m of trenching was completed using a Poclain Excavator to obtain exposure of the alaskites which were under the superficial cover of the Namib plain in the southwest of the Project area. The remnants of the trenching can still be seen today. Omitara also performed airborne radiometric surveys. • Mouillac, et al. (1986) mentions that by the beginning of 1978 “potential reserves are estimated to be several tens of millions of tons with a low average ore-grade”. • From 1982 to 1986 Western Mining Group (Pty) Ltd conducted regional mapping and drilled 22 percussion drillholes for 1,017m and conducted surface scintillometer surveys. A resource was estimated in 1986, but no historic figures are available. As a result of a dramatic decrease in the price of uranium in the 1980s exploration for this commodity all but ceased until 2005. • The exact sampling methods used for the historic drilling are not available and are not considered relevant to this

Criteria	JORC Code explanation	Commentary
		report, as this drilling has not been included in any modelling or mineral resource work.
Geology	- *Deposit type, geological setting and style of mineralisation.*	- Primary uranium mineralisation in the Etango-8 Project area is related to uraniferous leucogranites, locally referred to as alaskites. The alaskites are often sheet-like, and occur both as cross-cutting dykes and as bedding and/or foliation-parallel sills, which can amalgamate to form larger, composite granite plutons or granite stockworks, made up of closely-spaced dykes and sills. These alaskite intrusions can be in the form of thin cm-wide stringers or thick bodies up to 200 m in width. - The alaskite bodies have intruded into the metasediments of the Nosib and Swakop Groups of the Damara Supergroup. These metasediments and alaskite intrusions flank the Palmenhorst Dome which is cored by Mesoproterozoic (1.7 2.0 Ga) gneisses, intrusive rocks and meta-sediments of the Abbabis Metamorphic Complex. - Uranium mineralisation in the Etango-8 Project area occurs almost exclusively in the alaskite intrusives. Minor uranium mineralisation is also found in the metasedimentary sequences close to the alaskite contacts, probably from metasomatic alteration and in minor thin alaskite stringers within the metasediments. - The dominant primary uranium mineral is uraninite ($UO2$), with minor primary uranothorite ($(Th,U)SiO4$) and some uranium in solid solution in thorite ($ThO2$). The uraninite is commonly associated with chloritised biotite in the alaskites and with ilmenite and magnetite within foliated alaskites. The primary uranium mineralisation occurs as microscopic disseminations throughout the alaskite, at crystal interfaces, and as inclusion within other minerals. Secondary uranium minerals such as coffinite ($U(SiO4)(OH)4$) and betauranophane ($Ca(UO2)2(SiO3OH)2\ 5H2O$) occur as replacements of the primary minerals or as coatings along fractures. - QEMSCAN analysis indicates that about 81% of the uranium present is in primary uraninite, while 13% is in secondary coffinite and 5% is in secondary betauranophane (Freemantle, 2009). The remaining 1% of the uranium occurs in various minor phases including brannerite, betafite and thorite. Very minor amounts of uranium are also present in solid solution in monazite, xenotime and zircon. A very minor amount of primary betafite ($(Ca,U)2(Ti,Nb,Ta)2O6(OH)$) is also present.
Drill hole Information	- *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.*	- Most drillholes at Etango since Bannerman's ownership have been detailed in ongoing market releases.

Criteria	JORC Code explanation	Commentary
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Since a constant density is used, average intercept grades are simply length-weighted composites with no other cutting applied for reporting purposes. • Summary statistics of the sample length indicates that approximately 97.5% of the samples were collected at 1m intervals. Of the remainder, 1.5% were sampled at intervals <1m and 1% at intervals >1m. • No metal equivalents have been or are required to be reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• Due to the shallow dip of the mineralised alaskite bodies (approximately 15-40º to the west) and the inclination of the RC and diamond drillholes (generally -60° to the east), the length of the drillhole intercepts are close to the true thickness of the mineralised intervals.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Relevant figures and tabulations are presented in the main text and Appendices.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Relevant significant intercepts encountered in various exploration drill holes have been disclosed in prior public releases. • The data used in the current resource estimation is representative of mineralisation at the Etango-8 Project.

Criteria	JORC Code explanation	Commentary
		- Sample intercepts have been composited to 3m during resource estimation to ensure that all data is appropriately weighted. - Appropriate top cutting was applied to manage the impact of high grade outliers on the resource estimates.
Other substantive exploration data	- *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	- Bannerman constructed a Heap Leach Demonstration Plant during Q4 2014 and Q1 2015 with the official opening on 24 March 2015. The Plant allows large column leach testing to be performed on ~30t samples. - A bulk sample consisting of approximately 3,000 tonnes of uranium bearing alaskite (ore) and approximately 300 tonnes of non-uranium bearing diamictite (waste) from the Chuos formation was collected at two separate locations approximately 300m apart. The ore sample covered an area of 12m x 26m situated over outcropping alaskites and the waste sample covered an area of 5m x 10m situated over outcropping metasediments of the Chuos formation. - A total of 98 blast holes were drilled to 4.5m depth at the ore sample site on a grid of 1.8m x 2.0m. All the holes on the ore sample were sampled in order to get a good indication of the grade of the ore sample. Drilling was done using a conventional blast hole drill rig (open hole percussion drilling) with a 89mm button bit. One composite sample was collected for each blast hole by collecting all the drill cuttings from the hole on a plastic sheet and splitting it through a 75/25 riffle splitter till a sample of approximately 1kg was obtained. All samples (98) were submitted to the Bureau Veritas Laboratory in Swakopmund for ICP-MS analysis for U, Th, Nb - A total of 35 blast holes were drilled at the waste sample site to depths ranging from 1.5m to 4.5m. Only 5 holes were sampled (in the same way as at the ore sample) in order to be sure that there is no significant mineralisation in the waste sample. All samples (5) were submitted to the Bureau Veritas Laboratory in Swakopmund for ICP-MS analysis for U, Th, Nb. - Extensive metallurgical testwork has been performed at the Heap Leach Demonstration Plant the results of which have all been disclosed in prior public releases.
Further work	- *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* - *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	- Work planned at the Etango-8 Project for the period 2021-2022 will continue to focus on positioning Bannerman to fast track the development of the Etango-8 Project in a rising uranium price environment by completing a Definitive Feasibility Study. This will include: ○ Some further testwork at the heap leach demonstration involving ion-exchange; nano-filtration and precipitation. ○ Further geotechnical work for both the open pit and processing plant.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	- *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* - *Data validation procedures used.*	- The database was supplied by Bannerman in csv format which was then combined into a geological database for use in the resource estimation. - Data was assumed by Optiro to be correct. Optiro has verified a selection of drillhole collars during a site visit with a handheld GPS and found no errors.
Site visits	- *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* - *If no site visits have been undertaken indicate why this is the case.*	- Optiro carried out a site visit to the Etango Project on the 3rd of September 2015. Ian Glacken (Director), who is acting as Competent Person, inspected the deposit area, the core logging and sampling facility and diamond core and RC chips were also viewed. During this time, notes and photos were taken along with discussions were held with site personnel regarding the available drill core and procedures. A number of minor recommendations were made on procedures but no material issues were encountered.
Geological interpretation	- *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* - *Nature of the data used and of any assumptions made.* - *The effect, if any, of alternative interpretations on Mineral Resource estimation.* - *The use of geology in guiding and controlling Mineral Resource estimation.* - *The factors affecting continuity both of grade and geology.*	- The confidence in the geological interpretation is considered moderate, but has been mitigated to a degree by the modelling approach chosen. Geological domains used to constrain the grade estimation were generated using a Categorical Indicator Kriging (CIK) approach based on a two-stage flagging approach which used the lithology and grade information from downhole logging. Wireframes were generated from the probability estimates and were validated by visual inspection, volumetric assessment and statistical investigation. A secondary wireframe was also used to restrict the grade estimation to areas covered by drilling and consequently limit the uncertainty in the interpretation. - The drillhole data was coded on lithology prior to compositing. For the alaskite dominant (AD) mineralisation, if a composite contained more than 1/3 alaskite and ≥ 50ppm U3O8 then composite was retained. For the alaskite sub-dominant (ASD) mineralisation, no constraint on the lithology was used. The Etango deposit was separated into 3 domains. These areas are based on local changes in strike and dip directions of the mineralised trend throughout the deposit. The North Domain is defined as areas >7,488,950mN, the Mid Domain is defined as ≤7,488,950mN and ≥7,487,450mN and the South Domain as <7,487,450mN. - The selection of a different probability threshold for the grade shell would affect the volume of the mineralisation envelopes; however, they reflect the broad trends of the alaskite bodies. - Lithology logging codes were used to flag the drillhole data used in the creation of the estimation domain shells. - Utilisation of a CIK approach to generate the estimation domains includes a small percentage of below cut-off composites into the estimate. Assessing the amount of sub-grade material forms one of the criteria in assessing the selection of an appropriate probability grade shell. The shell is designed to reflect the broad continuity of both the alaskites and the grade continuity of the mineralised zones within the alaskite host.
Dimensions	- *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	- The Etango Project Mineral Resource area has dimensions of 7,000 m (north) by 4,200 m (east) and 500 m (elevation). It primarily includes the Etango deposit, as well as the smaller Hyena and Ondjamba deposits, which are not described in this Table 1 as they have been reported under JORC 2004.

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	• Domaining: A Categorical Indicator Kriging (CIK) modelling approach was used to model the mineralisation domains used to constrain the grade estimation. For the main Alasikite Dominant (AD) mineralisation, drillhole sample data was flagged on the presence of alaskite (the host lithology) prior to compositing to 3 m. Compositing to 3 m was completed using a best fit method and there were no residuals. If more than 1/3 of the composite contained alaskite the composite was retained. A second flag, where U3O8 ≥50 ppm, was then applied. The probability estimate was completed on each of the three orientation domains, using a single search pass with a minimum of 1 and a maximum of 8 samples. A series of wireframes at various probability cut-offs were generated. The wireframe representing the 0.4 probability grade shell was deemed the most appropriate to represent the AD mineralisation after analysis by visual inspection, volumetric assessment and statistical investigation. For the Alaskite Sub-Dominant (ASD) mineralisation, all samples outside of the AD grade shell were retained (regardless of lithology) and were composited to 3 m. A threshold of 50 ppm was then used to code the composites. A probability estimate was completed on each of the three orientation domains using a single search pass of no more than 185 m (X) by 135 m (Y) by 18 m (Z) with a minimum of 4 and a maximum of 24 samples. A series of probability cut-offs were analysed and the wireframe representing the 0.4 probability was deemed the most appropriate in delineating the ASD mineralisation on the basis of statistical analysis and visual comparison. • Grade Estimation: Grade estimation for Etango was completed using Ordinary Kriging (OK) within the CIK grade shells for the AD and ASD domains. Grade estimation was carried out in Isatis and Datamine Studio 3 using a parent block of 25 m E by 25 m N by 8 m RL. A regular 3 m composite length was selected based on the geological setting and mining, including likely mining selectivity and bench/flitch height. For the AD mineralisation, compositing was stopped at the grade shell boundary and residuals of less than 1.2 m were retained by combining with the previous composite. Compositing within the ASD mineralisation was completed prior to flagging within the probability wireframes and composites were selected in the centroid of the sample composite was within the ASD grade shell wireframe. Top cuts were applied to all estimation domains; 1700 ppm to the mid AD and north AD domain, and 1300ppm to the south AD domain, and a topcut of 900ppm was applied to all ASD domains. For the AD mineralisation, two search passes were used utilising larger and less restrictive searches. The search parameters were defined based on the variography of each AD domain as well as the data spacing. In general, for the AD domains, the first search was 100 m (X) by 100 m (Y) by 40 m (Z) and utilised 24 to 36 samples. This was extended up to 500 m (X) by 500 m (Y) by 120 m (Z) using 12 to 24 samples in the successive pass. For the minor ASD mineralisation, three search passes were utilised; the first and second search both averaged 200 m (X) by 120 m (Y) by 6 m (Z) and utilised a minimum of 3 (or 2) to 24 samples. This was extended to 10 times these ranges by the third pass and a minimum of 2 samples used. Over 90% of the ASD estimate was informed by the second pass. Soft domain boundaries were used between the orientation domains for both mineralisation styles. Discretisation was set to 7 (X) by 7 (X) by 5 (Z) for the AD domains and 10 (X) by 10 (Y) by 4 (Z) for the ASD domains. • Post-Processing: Local Uniform Conditioning (LUC) was applied to the Etango estimate using a SMU of 6.25 m E by 12.5 m N by 4 m RL. An Information Effect of 5 m E by 5 m N by 4 m RL was applied, reflecting the likely grade control spacing. LUC was completed in Isatis for the AD domains and in Datamine Studio 3 using an in-house program for the ASD domains. The Mineral Resource quoted is the LUC estimate. • The Mineral Resource for Etango was completed by Optiro in June 2015 and was subject to pit optimisation using a uranium price of US$75/lb with reporting above a cut-off of 55ppm U_3O_8. No additional resource drilling campaigns

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td>

- *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*
- *The assumptions made regarding recovery of by-products.*
- *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*
- *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*
- *Any assumptions behind modelling of selective mining units.*
- *Any assumptions about correlation between variables.*
- *Description of how the geological interpretation was used to control the resource estimates.*
- *Discussion of basis for using or not using grade cutting or capping.*
- *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*

</td><td>

or modelling work has been conducted since the June 2015 Mineral Resource update. In June 2021, Optiro nevertheless was commissioned to review the June 2015 Mineral Resource, using the same 2015 pit optimisation shell, but this time reporting the Mineral Resource Estimate above a cut-off of 100ppm U_3O_8, labelled as the June 2021 Mineral Resource. The June 2021 Mineral Resource Estimate formed the basis of the Etango-8 Pre-feasibility Study which uses a marginal cut-off grade of 100ppm U_3O_8.

The Mineral Resource Estimates are shown below reflecting the different cut-off grades:

<table>
<tr><th colspan="4">Etango June 2015 Mineral Resource, reported within a US$75 pit shell above a 55 ppm U_3O_8 cut-off</th></tr>
<tr><th colspan="4">Etango Project Mineral Resource Estimate
June 2015
Reported at a cut-off grade of 55 ppm U_3O_8, Constrained within the resource pit shell</th></tr>
<tr><th>Resource Category</th><th>Tonnes (Mt)</th><th>Grade (U_3O_8 ppm)</th><th>Contained U_3O_8 Mlbs</th></tr>
<tr><td>Measured</td><td>33.7</td><td>194</td><td>14.4</td></tr>
<tr><td>Indicated</td><td>362.0</td><td>188</td><td>150.2</td></tr>
<tr><td>Inferred</td><td>144.5</td><td>196</td><td>62.5</td></tr>
<tr><td>Total</td><td>540.2</td><td>191</td><td>227.1</td></tr>
</table>

<table>
<tr><th colspan="4">Etango June 2021 Mineral Resource, reported within a US$75 pit shell and 100 ppm U_3O_8 cut-off</th></tr>
<tr><th colspan="4">Etango Project Mineral Resource Estimate
June 2021
Reported at a cut-off grade of 100 ppm U_3O_8, Constrained within the resource pit shell</th></tr>
<tr><th>Resource Category</th><th>Tonnes (Mt)</th><th>Grade (U_3O_8 ppm)</th><th>Contained U_3O_8 Mlbs</th></tr>
<tr><td>Measured</td><td>27.6</td><td>219</td><td>13.3</td></tr>
<tr><td>Indicated</td><td>286.1</td><td>217</td><td>137.1</td></tr>
<tr><td>Inferred</td><td>115.0</td><td>226</td><td>57.4</td></tr>
<tr><td>Total</td><td>428.7</td><td>220</td><td>207.8</td></tr>
</table>

- There are no by-products.

</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
		- There are no relevant deleterious elements or non-grade variables of any major significance. - The parent block used for the OK panel estimate was 25 m E by 25 m N by 8 m RL. The average drill spacing across the deposit is between 50 x 50 and 200 x 200. Subcelling was completed down to 6.25 m E by 12.5 m N by 4 m RL, which was the size of the SMU used in the post-processing routines. - A support correction study was completed to determine the most appropriate SMU dimensions. Numerous SMU dimensions were tested but there were little difference to the output grade-tonnage curves therefore little practical justification to infer a smaller SMU size. The selected SMU size is understood to be in line with those used at similar deposits (Husab, Valencia and Rössing) in the local vicinity. - There is only one variable of interest, U3O8 (ppm). - The geological interpretation of the grade shells was used to define the estimation domains for both the ASD and AD mineralisation domains. - Statistical analysis showed the populations in each domain to generally have a low coefficient of variation, but it was noted that some of the estimation domains included outlier values that required grade cutting to be applied. Top cuts were chosen based on a combination of analysis techniques including statistical analysis, population disintegration and review of statistical plots. - Validation of the block model included global comparison of the OK block model domain grades to the declustered and topcut input data and swath (profile) plots showing northing, easting and elevation comparisons. Visual validation of LUC and OK grade trends and metal distribution was carried out. The LUC block model was compared to the OK block model at a 0 ppm cut-off on a domain basis.
Moisture	- *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	- Tonnes were estimated on a dry basis.
Cut-off parameters	- *The basis of the adopted cut-off grade(s) or quality parameters applied.*	- The Etango Mineral Resource was modelled using a 50 ppm U_3O_8 grade threshold. The resource has been reported above a 55 ppm U_3O_8 cut-off in the June 2015 Mineral Resource Estimate and above a 100 ppm U_3O_8 cut-off in the June 2021 Mineral Resource Estimate reflecting the marginal cut-off grade defined in Etango-8 mining optimisation studies.
Mining factors or assumptions	- *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual*	- The SMU of 6.25 m E by 12.5 m N by 4 m RL has been chosen based on a review of a range of sizes and the response of the estimate to those sizes. This SMU size is considered to be in line with similar deposits and similar mining methods in the local vicinity (e.g. Rössing). - The recoverable resource methodology (OK-LUC) is believed to partially incorporate mining dilution. In addition to

Criteria	JORC Code explanation	Commentary
	economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	the grade control approach (radiometric probing of blastholes) a further highly selective discriminant will be the use of truck scanning technology.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• The metallurgical process was determined following extensive metallurgical test work. The metallurgical process comprise of three stages of crushing, agglomeration, followed by sulfuric acid heap leaching on an industry standard on/off heap leach pad followed by ion-exchange and nano-filtration extraction and calcination. • Key metallurgical assumptions include: ○ Plant throughput of 8 Mt per annum. ○ Metallurgical Recovery of 87.8% ○ Total Sulphuric Acid consumption of 18.01 kg/t ore leached.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Detailed waste and process residue designs were conducted during the 2012 DFS. This process included geochemical characterisation and modelling of surface water and ground water impacts. Further details are reported in Section 4. • Bannerman lodged an Environmental and Social Impact Assessment (ESIA) with the Namibian Ministry of Environment and Tourism for open pit mining and heap leach processing. Formal Environmental Clearance was received in July 2012 valid for three years. Further renewals were granted in 2015 and 2018. The current Environmental clearance is valid until October 2021. An application for a renewal has been lodged with the Ministry of Environment, Forestry & Tourism. Environmental clearance for the location and design of infrastructure ancillary to the Etango Project was granted by the Ministry of Environment and Tourism in February 2013 and has been renewed in 2016 and 2019. The current Environmental clearance for the infrastructure is valid until June 2022.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been*	• There has been extensive density testing of both the alaskites and the metasediments from the Etango project and the density is largely invariant. A default value of 2.64 t/m3 has therefore been applied to all rock units and weathering types. The degree of surface weathering is minimal. Density measurements have been taken on core samples using a water-displacement approach. Voids or cavities in the rock are almost non-existent so the specific gravity can be used as a proxy for the bulk density.

Criteria	JORC Code explanation	Commentary
	measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. - *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	
Classification	- *The basis for the classification of the Mineral Resources into varying confidence categories.* - *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* - *Whether the result appropriately reflects the Competent Person's view of the deposit.*	- The Mineral Resource has been classified into Measured, Indicated and Inferred categories on the basis of geological and grade continuity, drillhole spacing and estimation quality. The Measured category was applied to blocks which were informed either in pass one or two, where the drill spacing was 25m x 25m or 25m x 50m, and where the slope of regression statistic was generally greater than 0.9. The Indicated category was applied to blocks estimated in the first or second pass, where the drill spacing was nominally 50m x 50m or 100m x 100m, where the grade tenor was moderately consistent and where the slope of regression was between 0.3 and 0.9. Any material which did not meet the criteria for Measured or Indicated was allocated to the Inferred category, apart from extrapolated or laterally-extensive mineralisation which was set to potential using a number of 'unclassify' solids. All of the ASD material was classified as Inferred, reflecting the lower confidence in the geological continuity of these zones. The classification does consider data quality, geological confidence and grade continuity. - The classification applied does reflect the Competent Person's view of the deposit, and indeed was applied by the Competent Person.
Audits or reviews	- *The results of any audits or reviews of Mineral Resource estimates.*	- The Mineral Resource Estimate of June 2015 at Etango reflects work carried out by International Resource Solutions, a consultant to Bannerman, which has been thoroughly reviewed by Optiro. A number of changes were made as a consequence of the review, including the modelling of the ASD mineralisation, which was carried out by Optiro. The classification incorporated the work of Optiro and Bannerman staff. In June 2021 Optiro reviewed the existing June 2015 Mineral Resource and re-declared the 2015 Mineral Resource at a cut-off grade above 100ppm U_3O_8, termed as the June 2021 Mineral Resource
Discussion of relative accuracy/ confidence	- *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	- The Mineral Resource Estimate has not been subject to rigorous assessment of accuracy and confidence using any numerical or probabilistic approach. Areas of potential uncertainty are the detailed morphology of the alaskite bodies and the degree to which the current volume may change upon infill drilling, and the continuity of the ASD zones, which have been assumed to be relatively discontinuous in this estimate. Grade confidence, as defined by grade continuity modelling is believed to be high. Data quality is high as reflected by the QAQC work. - The current Mineral Resource classification is believed to represent estimates suitable for scheduling on a minimum quarterly or six-monthly production interval, i.e. the production scale required for a DFS once reserve conversion has been achieved and thus more than adequate for the Etango-8 PFS. - In June 2021 Optiro reviewed the Etango Mineral Resource estimate, first signed-off by Optiro in 2015 as part of a

Criteria	JORC Code explanation	Commentary
	- *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* - *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	2015 Etango Optimisation Study. There are no changes between the 2015 and 2021 Mineral Resource model both being reported within a US$75/lb pit shell. The June 2015 Mineral Resource Estimate was reported above a cut-off grade of 55ppm U_3O_8 while the June 2021 Mineral Resource Estimate constrained to the same pit shell this time reported above a cut-off grade of 100ppm U_3O_8. Both estimates are reported in accordance with the JORC Code (2012). - No production data is available other than detailed grade control from a small trial mining exercise, which demonstrated a greater degree of grade continuity than currently assumed.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria		Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• The 2021 Mineral Resource Estimate as described in preceding sections of this Table was used as the basis of the Etango-8 Ore Reserve Estimate. • The 2021 model employed a Uniform Conditioning (UC) estimation approach. This is a recoverable resource estimation technique, based upon ordinary kriging into large blocks (panels), which seeks to predict the resources available at the time of mining using the assumption of a selective mining unit (SMU) related to the production rate and equipment. This technique was used to model the selective mining unit consistent with the mining method, which employs radiometric truck scanning as currently adopted at neighbouring open pit uranium mines. • Mineral Resources are inclusive of Ore Reserves.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• A site visit to the Etango deposit was undertaken by Mr Werner Moeller from Qubeka Mining Consultants, who is the Competent Person, and has been involved with the Project since 2011. Mr Moeller did the complete mining study for the Etango-8 Project which forms the basis of this ore reserve declaration. This included discussions with technical personnel and conducting an inspection of the geology and the terrain.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	• A number of studies have been completed on the Etango project including a definitive feasibility study (DFS) completed in 2012 and an Optimisation Study in 2015. The Etango-8 Project has benefited from this previous detailed work by : ○ Utilising the geological model as described in the preceding sections of this table. ○ Updating the capital and operating cost estimates to ensure that these are current. ○ Updating the mining study to reflect the above changes in geological and economic parameters. • The updated cost estimates and mine planning have been done to an accuracy of pre-feasibility study level. • The financial model developed by Perth based Fivemark Partners was utilised for the Etango-8 PFS.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• The mill limiting cut-off grade (sometimes referred to as the marginal cut-off grade) for the project was calculated based on the economic parameters stated below ○ Processing Cost ○ Selling Cost ○ G&A costs ○ Government Royalty ○ U_3O_8 price ○ Metallurgical Recovery • The resultant cut-off grade used for ore reserve estimation was 100ppm U_3O_8. • During mine scheduling a variable cut-off grade approach was undertaken whereby the cut-off grade was changed on a

Criteria		Commentary
		period by period basis to enhance the project value.
Mining factors or assumptions	- *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* - *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* - *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* - *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* - *The mining dilution factors used.* - *The mining recovery factors used.* - *Any minimum mining widths used.* - *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* - *The infrastructure requirements of the selected mining methods.*	- The mineral resource model applied local uniform conditioning (to a panels of 25mE x 25mN x 8mRL estimated utilizing ordinary kriging) to estimate the grade in an SMU of 6.25 m E by 12.5 m N by 4 m RL which was chosen to represent the selectivity associated with radiometric truck scanning. - No further dilution and mining loss were applied to model as the SMU (of 6.25 m E by 12.5 m N by 4 m RL) utilized in the model is greater than the proposed mining method selectivity utilizing radiometric truck scanning. The ratio of SMU to truck size corresponds well with what neighbouring and other open pit uranium mines that employ this technique as reported in the literature. - Pit optimisations utilising the Lerchs-Grossmann algorithm (with Whittle Four-X) were undertaken to determine the economic limits of the open pit. The optimisation utilised the resource model described in preceding sections of this table, together with cost, revenue and geotechnical inputs. The resultant pit shells were used to develop detailed pit designs with due consideration for the geotechnical, geometric and access constraints. These pit designs were used as the basis for production scheduling and economic valuation utilising discounted cash flow methods to confirm economic viability. - Pit optimisation was confined to Measured and Indicated Resources with Inferred Resources treated as waste during this process. - Conventional drill, blast, loads & haul open pit operations were assumed consistent with operations in nearby located uranium mines. The mining was modelled based on mining equipment comprising 100 tonne class off-road haul trucks and 130 tonne excavators employed in back-hoe configuration for ore mining and 250 tonne face shovels for waste mining. - Capital and operating cost assumptions were based on contractor mining. The geotechnical parameters applied during the mine design process was based on a detailed geotechnical study conducted by Coffey mining in 2012 as part of the then DFS and which was informed by 26 geotechnical drill holes drilled to collect rock quality and structural data. In November 2020 Mine Technics did a geotechnical review and the resultant geotechnical recommendations are suitable for implementation at PFS level of reliability and are shown below.

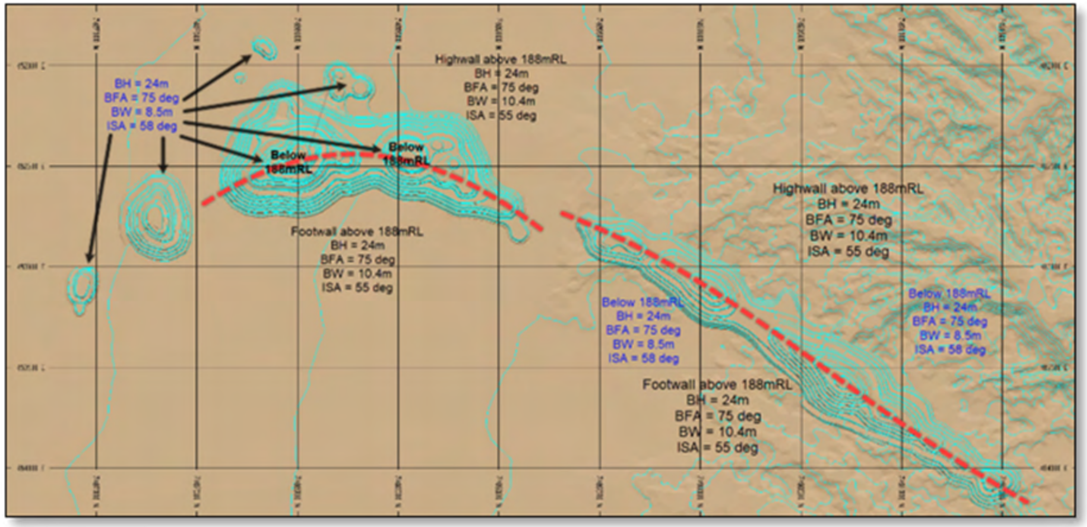
Criteria		Commentary

Domain	Design Sector	Weathering	BFA (°)	BW (m)	BH (m)	ISA (°)	IRSH/Decouple (m)
North/South	All Slopes	Weathered	75	10.4	24	55.0	15
		Fresh	75	8.5	24	58.0	120

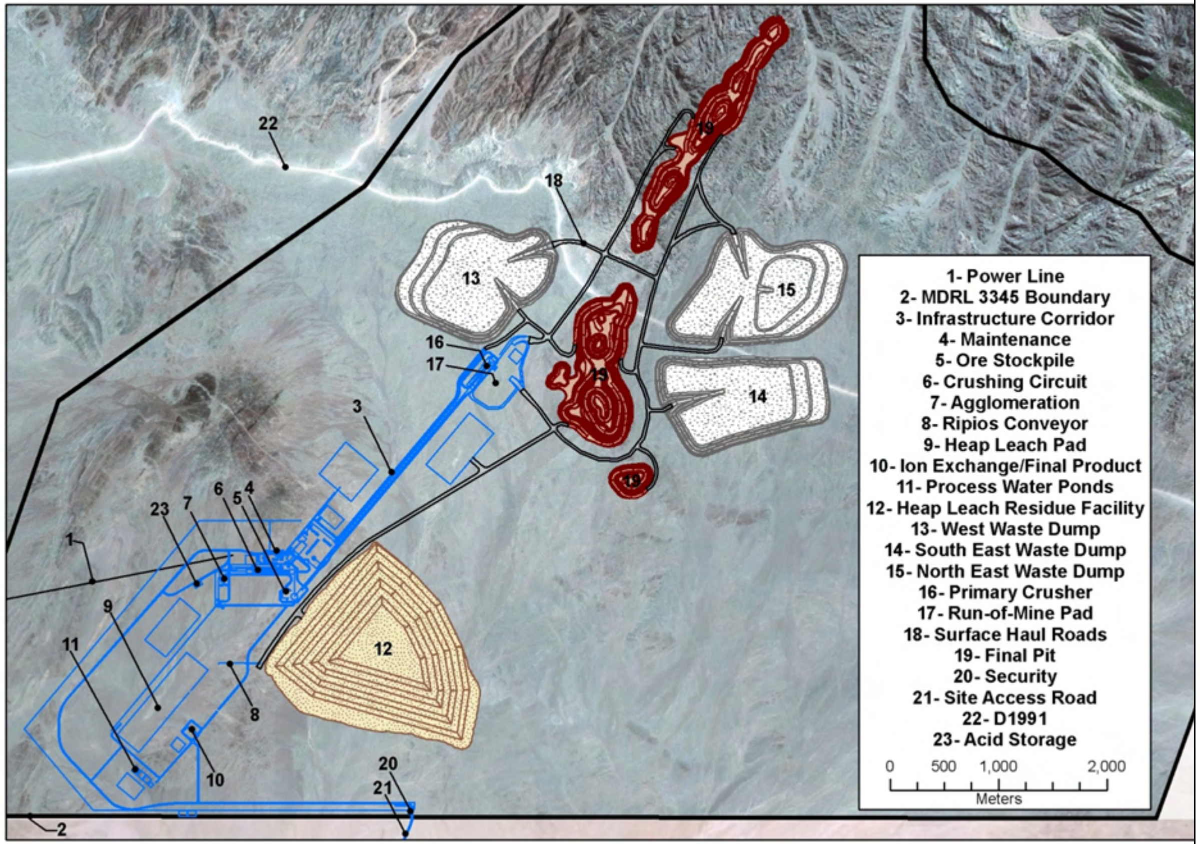
Legend:

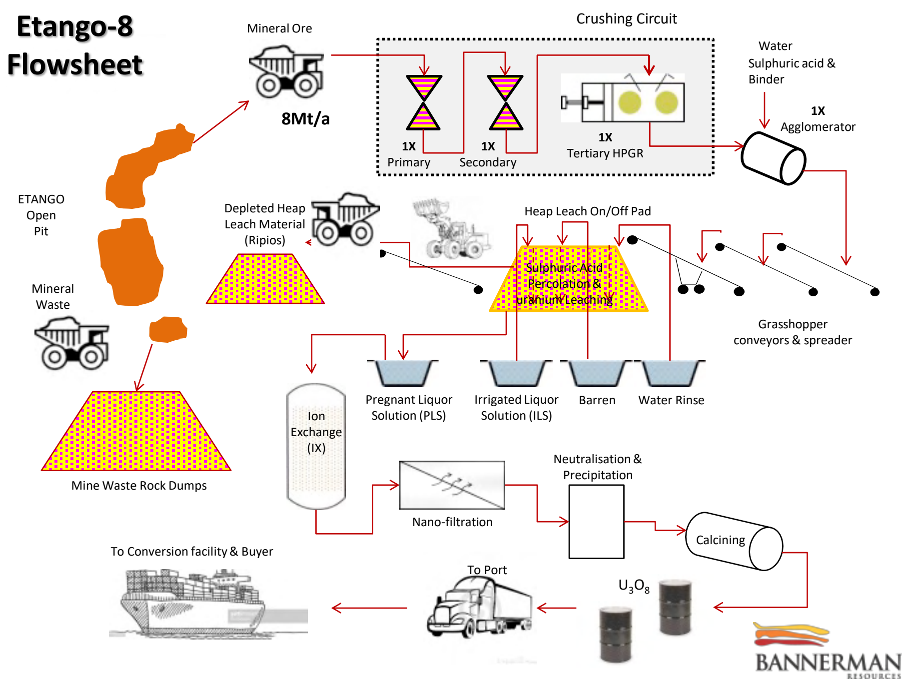
BFA	Batter Face Angle
BW	Berm Width
BH	Batter Height
ISA	Inter-Ramp Slope Angle
IRSH	Inter-Ramp Slope Height

- Mine Technics standardised the preliminary steeper slope configurations on 24m-high batters or double-benches (BH=24m) at 75-degree batter/bench face angles (BFA=75º), and only vary the berm widths (BW) to attain target inter-ramp and stack slope angles (ISA / SSA). Given these above BH and BFA configurations the berm widths were changed to:
  10.4m wide berms (BW =10.4m) in weathered material (above 188mRL) are required to attain ISA/SSA = 55º; while 8.5m wide berms (BW = 8.5m) in fresh material (below 188mRL) are required to attain ISA/SSA = 58º.
  This recommendations being reflected in the figure below:



Criteria		Commentary
		• The open pit mining configuration is based on 12 metre benches mined in three 4-4.5 metre flitches. • A minimum mining width of 35 metres was applied during mine design. • During the above process inferred mineral resources were excluded from mine schedules and economic valuations utilized to validate the economic viability of the Ore Reserves. • Mining methods assumed grade control will be based on radiometric down-the-hole logging systems (gamma logging) and supplemented by radiometric truck scanning which will determine the destination of the truck. • Waste rock dump designs done during the 2015 Optimisation Study were utilised for this study. Due to the significantly smaller pit and lower stripping ratios there is sufficient space on the existing waste rock dump designs. • The study considered all of the infrastructure requirements associated with a conventional truck and shovel mining operation including crushing and conveying systems, heap leach pad, waste dump and stockpile location, access routes, explosive storage, workshops, offices, change houses, crib rooms water and power. A schematic is shown below.

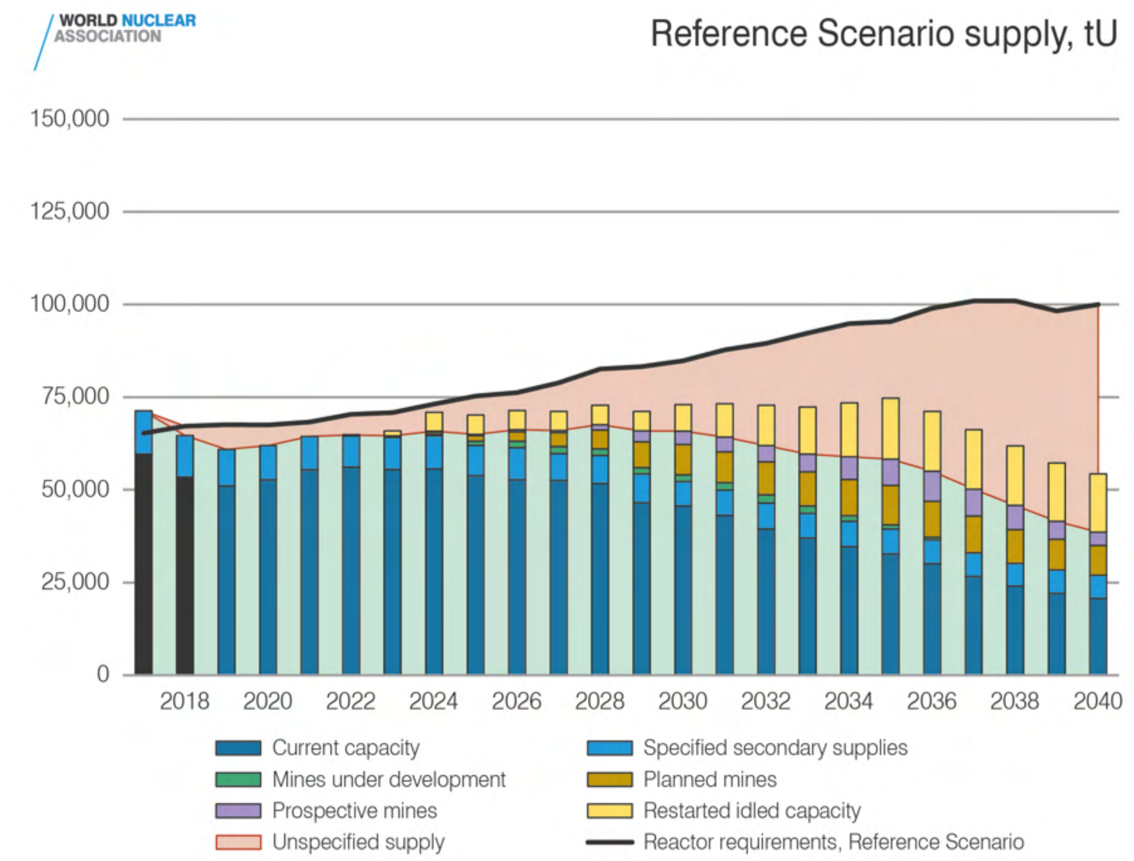
Criteria		Commentary
		
Metallurgical factors or assumptions	- *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* - *Whether the metallurgical process is well-tested technology or novel in nature.* - *The nature, amount and representativeness of metallurgical test work undertaken, the nature of*	- The front-end metallurgical process proposed during the 2015 Optimisation Study remains unchanged in the Etango-8 PFS. The metallurgical process was determined following extensive metallurgical test work during the previous studies. The back-end of the metallurgical process has changed from a solvent extraction process to an ion-exchange followed by nano-filtration. Metallurgical testwork on the ion-exchange and nano-filtration was done at the Heap Leach Demonstration Plant. The metallurgical process thus comprises of a three stages of crushing, agglomeration, followed by sulfuric acid heap leaching on an industry standard on/off heap leach pad followed by ion-exchange, nano-filtration and calcination. A simplified flow sheet is shown below.

Criteria		Commentary
	the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	•  • The Etango-8 project is located in a well-established uranium mining district and the metallurgical process is, in general, a conventional uranium recovery circuit utilizing ion-exchange and nano-filtration extraction. While the ion-exchange process has been used for decades to extract uranium, nano-filtration is more recent but has been employed at several uranium extraction plants. The heap leaching aspect can also no longer be considered novel in the context of the mineral district as several test heaps have been run by various uranium operators. However, this aspect has also been subjected to larger scale pilot plant testing as discussed below. • During the 2012 DFS an extensive metallurgical test campaign was undertaken comprising of ○ Mineralogy analysis utilizing SEM/EDS and QEMSCAN ○ Comminution characterization including UCS, Bond (Crushing index, Ai test, RWi test, BWi test), JK (DWi, SMC) and dedicated High Pressure Grinding Roll (HPGR) testing. ○ Column leach testing including column leach variability testing and diagnostic testing. ○ Geotechnical testing of leach residue,

Criteria		Commentary
		○ Solvent extraction test work, ○ Miscellaneous testing such as chloride analysis. • The above mentioned tests were based on samples obtained from HQ core (28 holes were drilled specifically for metallurgical characterization purposes) together with ½ NQ core and ¼ NQ core retained for variability testing. • Column leach testing was based on a 15,392 kg composite sample obtained from 17 HQ drill holes across the deposit. • Column leach variability testing was based on a composite of 479 kg of samples from 45 drill holes across the deposit. • A demonstration plant was commissioned in 2015 comprising four large section (2mx2m) cribs designed to demonstrate; ○ demonstrate the current proposed technology, ○ confirm some of the scale-up assumptions and ○ Sensitivity to closed-circuit operation. • Each of the cribs allows the leaching of a ~30 tonne sample. The program included trial mining an area of the ore body including drilling, blasting, loading and hauling of a bulk sample (totalling ~3000 tons) to the demonstration plant location. • The results of the pilot plant (demonstration plant) test work confirmed the validity of the 2012 DFS processing parameters but also demonstrated that certain parameters were too conservative e.g. metallurgical recovery for the 2012 DFS and the 2015 Optimisation Study being 86.9% while the testwork indicated that this can confidently be put to 87.8%. The acid consumption on the other hand has increased slightly due to the back-end change from solvent extraction to ion-exchange/nano-filtration. The key parameters for the Etango-8 PFS were thus: ○ Plant throughput of 8 Mt per annum. ○ Metallurgical Recovery of 87.8% ○ Sulphuric Acid consumption of 18.05 kg/t ore leached. • The final product must conform to certain specifications covering grade and impurities content and consistent with the capability of the downstream refinery to process it further. Penalty schedules will reflect the increase in downstream converter costs due to the presence of high impurities content in the yellow cake product. Current specifications however vary depending on buyer. The potential deleterious elements in terms of final product are usually defined as Th, V, Cl and Zr. • The pregnant leach solution (PLS) resulting from the heap leach contains the uranium and other impurities dissolved during the leaching process. These are treated in the ion-exchange exaction (IX) circuit; iron wash with diluted sulphuric acid and the nano-filtration plant. The selected flowsheet is already in use in the Uranium industry and thus includes tested technology and as such no project risk is anticipated from potential deleterious impurities. Furthermore the demonstration plant test work programs have confirmed that there are no deleterious materials in the final product. • A design for a Ripios (leach residue) dump was conducted by Wood plc to accommodate the Life of Mine process plant throughput.
• ***Environmental***	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design*	• The project is located in the Namib-Naukluft National Park and close to tourist attractions, such as the Moon landscape. The current land use is conservation and eco-tourism. It is noted that a number of precedents exist for uranium mining within the Namib-Nauklauft National Park, including the Langer Heinrich mine and the Husab uranium mine. • Bannerman lodged an Environmental and Social Impact Assessment (ESIA) with the Namibian Ministry of Environment,

Criteria		Commentary
	options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Forestry and Tourism for open pit mining and heap leach processing. Formal Environmental Clearance was received in July 2012 valid for three years. This Environmental clearance has been renewed on two further occasions in 2015 and 2018 and is currently valid until October 2021. A renewal application has already been submitted to the Ministry of Environment, Forestry & Tourism and it is expected to be renewed prior to October 2021. Environmental clearance for the location and design of infrastructure ancillary to the Etango Project was granted by the Ministry of Environment, Forestry and Tourism in February 2013 and has also been renewed on two further occasions in 2016 and 2019 and is currently valid until June 2022. • The project is located in an extremely arid region of the Namib Desert. Rainfall in the Namib Desert is highly variable and unpredictable, varying from 0mm/annum to approximately 100mm/annum. • Hydrological, hydrogeological and geochemical characterisations were conducted by external consultants as part of the 2012 DFS. Geochemical characterization of waste rock indicated that the waste is not potentially acid-forming and that there is no significant elemental enrichment in the leachate. • Natural groundwater within the Bannerman lease area is highly saline with various metalloid levels such as Al, As, B, Ba, Cd, Cr, Fe, Mn, Mo, Pb, Sb, Se, U and V exceeding WHO DWQG (2008). None of the natural ground water sources is fit for domestic, agricultural or livestock use. • Modelling of waste rock seepage is expected to blend in with the natural ground water in a 1:100 (seepage:groundwater) volumetric ratio and will, therefore, have little effect on the quality of the ground water. The ground water model indicates that seepage will migrate to the open pit; increasing as the pit deepens and the hydraulic gradient steepen.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• Power for the Etango-8 site will be fed by NamPower (the national power utility) from the 220 kV national grid through its substation located at Kuiseb. A 29km 132kV transmission line from the Kuiseb substation to the project site where a 132/11kV switchyard, transformer and 20MVA substation will be installed. • Water for the Etango-8 project will be supplied by NamWater. Regional water capacity comprises of 13 million m^3/annum from regional aquifers and 20 million m^3/annum from the Orano owned desalination plant. The Government of Namibia is currently also investigated the building of a second desalination plant to ensure adequate water supply for the coastal region and possibly pumping water to some inland setlements. The Etango-8 water scheme will comprise two pump stations. The above-ground pipe line will be 32 km long and 400mm in diameter. • The C28 gravel road from Swakopmund to Windhoek passes approximately 5km from the project. A 6km sealed spur road will be constructed to link the existing road to the Etango-8 site. • The Etango-8 project is located in close proximity (73km by road) to Namibia's largest port utilized by neighbouring uranium mines to export their product. • A number of regional towns are located close to the Etango-8 project including Swakopmund and Walvis Bay and represent the regional hubs servicing the Namibian uranium mining industry.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.*	• Capital costs for the process plant and site infrastructure was obtained by Wood plc to an accuracy of ±20%. The costs were primarily obtained by quotes for major pieces of equipment or by using existing databases within Wood plc as well as costs from recently constructed process plants. The estimate also included updates in bulk material costs, labour costs, freights rates, EPCM and accuracy provisions.

Criteria		Commentary
	- *Allowances made for the content of deleterious elements.* - *The source of exchange rates used in the study.* - *Derivation of transportation charges.* - *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* - *The allowances made for royalties payable, both Government and private.*	- Mining operating costs were provided by reputable mining contractors via a Request for Quotations (RFQ) campaign. This includes the drilling, blasting, loading and hauling costs. The average cost being taken from the RFQ's received. The owner's cost for mine planning, grade control etc. have also been included. - Wood plc determined the operating costs of the process plant. The consumables and utility consumption rates were determined from the design process and updated cost for reagents and consumables by RFQ to suppliers. The cost of sulphuric acid landed in Walvis Bay was taken as the average cost over the last 10 years. The Etango-8 Project is also investigating options to obtain sulphuric acid from an in-country source. - Water costs were based on the current water prices charged for desalinated water in the Erongo Region. - The electricity costs were obtained from Nampower's rate schedule. Options to use independent power producers to lower the cost of electricity will be investigated in the next study phase. - Labour costs were based on 2021 labour cost surveys conducted in Namibia. - Exchange rates assumed in the study were based on exchange rates prevailing in 2020-2021 and include: ○ 1USD:N$16.00 ○ 1USD:AUD1.35 ○ 1€:N$19.50 ○ 1USD:¥:102.00 - The average mining cost over the Life of Mine amounted to USD 2.45/t mined whilst the average plant processing cost over the Life of Mine was USD 7.74/t processed. Overhead costs are USD2.31/lb of U3O8 produced. - The resultant average unit production cost of uranium oxide (excluding royalties) was USD 37.34/lb U3O8 over the life of the project.
Revenue factors	- *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* - *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	- The head grade and U3O8 production was derived from the mine schedule. A three month lag was allowed from production revenue to account for the time taken to transport the product to the conversion facilities. The average head grade of the life of mine was 232 ppm U3O8. - This U3O8 price used for economic evaluation was USD 65/lb U3O8 in 2021 terms. The price was determined by average price forecast for U3O8 from a number of independent brokers. - The selling costs which include product transport, insurance and weighing and assaying charges at the converters were included as per the 2015 optimisation study assumptions at USD 1.1/lb U3O8. - The Namibian government currently levies a mining royalty of 3% and 0.25% export levy on revenue (less allowable deductions) which has been included in the financial modelling.
Market assessment	- *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* - *A customer and competitor analysis along with the identification of likely market windows for the product.* - *Price and volume forecasts and the basis for*	- According to the World Nuclear Association, Uranium Oxide production in 2019 was 54.8kt U or 142Mlbs which represents an increase of 2% compared to 2018. Demand in 2019 was approximately 67.5kt U or 175Mlbs. The supply deficit is currently being filled by secondary supplies including the sale of stockpiles. - The current Reference Supply Scenario from the World Nuclear Association's Nuclear Fuel Report 2019 highlights a rapid divergence (into significant deficit) between forecast nuclear reactor requirements and expected global uranium supply from 2024. The figure below shows the rapid divergence from 2024:

Criteria		Commentary
	these forecasts. - *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	 Source: World Nuclear Association, The Nuclear Fuel Report: Global Scenarios for Demand and Supply Availability 2019-2040 - Consistent with industry practice, Bannerman plans to obtain a diversified portfolio of long-term supply contracts with a blend of fixed-term escalated prices and market price mechanisms, subject to floor prices. Prior to commencement of construction, a sufficient proportion of production is expected to be contracted with high-quality counterparties to enable conventional financing of the project, potentially in combination with off-take related financing. - Bannerman has pursued an active marketing strategy since 2016, resulting in a substantial profile in the nuclear power industry and membership of the World Nuclear Association, World Nuclear Fuel Cycle, World Nuclear Fuel Market and

Criteria		Commentary
		Namibian Uranium Association. Implementation of this strategy notably benefitted from Bannerman's Chief Executive Officer, Brandon Munro, being appointed in 2018 as Co-Chair of the World Nuclear Association's Nuclear Fuel Report uranium demand working group. • The realised LOM uranium price forecast adopted for this PFS is US$65/lb U3O8. This compares with the price estimate utilised for the OS 2015 of US$75/lb. • The LOM price assumption for this PFS was estimated as follows: ○ The 2025 uranium spot price forecast data was sourced from Consensus Economics (19 July 2021). The 2025 estimate represented the longest-dated single year estimate in the Consensus Economics forecast uranium data set. There were 8 estimates comprising this 2025 forecast price data ranging from US$35.00/lb to US$60.00/lb. The average estimate was US$44.20/lb and the median estimate was US$43.80/lb. ○ Price series for historical spot and term uranium prices were then sourced from www.cameco.com (a data set which Cameco has assembled based on price data published by the two leading uranium industry price index providers, TradeTech and Ux Consulting). The market premium of term-to-spot uranium prices was then calculated on a monthly basis for the past 10 years (July 2011 to June 2021). The monthly average of this premium ranged from as low as -2% to as high as +89% over this 10-year period. The 10-year historical average premium was 32%. ○ The current Reference Scenario from the World Nuclear Association's (WNA) Nuclear Fuel Report 2019 was then evaluated alongside this historical premia data. The WNA baseline case highlights a rapid divergence (into significant deficit) between forecast nuclear reactor requirements and expected global uranium supply from 2024 (see figure above). These conditions suggest that, for sufficient new supply incentivisation reasons, and all other things being equal, term prices are likely to trade at a premium to spot that is at least equal to, and potentially significantly higher, than historical average levels over the past 10 years. For this reason, the term-to-spot price premium selected for utilisation was 40-50% (a level slightly higher than the 10-year historical average premia). ○ To arrive at an estimate of final realised uranium price under Bannerman's expected uranium marketing approach, the mid point of the selected term-to-spot market price premium (45%) was then applied to the average 2025 forecast uranium spot price (US$44.20/lb) to arrive at the PFS LOM realised uranium price input of approximately US$65/lb.
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• Discounted cash flow analysis was undertaken utilizing the capital cost, operating cost and revenue parameters as described above. A government tax rate of 37.5% was applied to the model. For the purpose discounted cash flow calculations a discount rate of 8% was utilized. Cash flow calculation was done in 2021 financial terms. • Sensitivity testing was conducted on a range of economic parameters. The project is most sensitive to the uranium price with a cash flow breakeven price (Revenue = Capital Costs + Operating Costs) occurring at ~USD 52/lb U_3O_8. • After the Uranium Price and exchange rate the project is most sensitive to changes in Operating cost with Mining Costs and Processing costs being almost equal in weighting. Capital costs are the next most sensitive cost parameter.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• There are no Native Title claims or equivalent over the MDRL 3345 and therefore are no other land holders over the proposed mine site, and as such no land access agreements are required. There are privately owned small holdings outside the area of MDRL 3345. However, these are not expected to be impacted by mining activities.

Criteria		Commentary
		• The proposed new Project access road will not cross any tenement held by others. • Extensive consultation with key stakeholders have been undertaken since 2008 including; ○ newspaper adverts requesting comments on the project, ○ public meetings (2008, 2009, 2010, 2011 and 2012) in the regional towns of Arandis, Swakopmund, Walvis Bay and the capital of Windhoek. ○ meetings with regional and local government. ○ focus group meetings (2008, 2009, 2010, 2011, 2012, 2014 and 2020) with Coastal Tourism Association of Namibia and/or neighbours. • The Etango-8 Project enjoys local community support and is expected to have a significant positive impact on the Erongo Region and Namibian national economies, including local employment and skill training.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	• The Etango-8 project Mineral Deposit Retention License (MDRL) 3345 is held by the Namibian company Bannerman Mining Resources which manages the project. Bannerman owns 95% of Bannerman Mining Resources. • The Exclusive Prospecting Licence (EPL) 3345 was granted to Bannerman (previously known as Turgi Investments (PTY) Ltd) with effect from 27 April 2006 to explore for Nuclear Fuel. Following an extensive drilling campaign, a Pre-feasibility Study, a Definitive Feasibility Study, an Optimisation Study and the construction of a Heap Leach Demonstration Plant, part of EPL 3345 was converted to a MDRL 3345 which provides strong and exclusive rights to tenure and the right (without obligation) to continue with exploration or development work. The MDRL 3345 covers an area of 7,295 hectares, which includes the Etango-8 ore body, two satellite deposits at Hyena and Ondjamba and all planned mine infrastructure • Qualitative risk assessment have been undertaken throughout the Etango-8 project study phases, no material naturally occurring risks have been identified through the above mentioned risk management process.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• The Ore Reserves consist of 14% Proved Reserves and 86% Probable Reserves. The Proved Ore Reserves is a sub-set of Measured Mineral Resources, and the Probable Ore Reserve is derived from Indicated Mineral Resources. Inferred resources were treated as waste with no economic contribution to the project. • The Competent Person is satisfied that the stated Ore Reserve classification reflects the outcome of technical and economic studies. • No Measured Resources were downgraded to Probable Ore Reserves due to uncertainty in modifying factors.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• Aspects of the study was conducted by independent parties including: ○ Resource Modelling completed by International Resource Solutions and reviewed by Optiro Pty Ltd. Optiro also conducted aspects of the resource modelling and classification. Ian Glacken of Optiro is acting as Competent Person for the Mineral Resources.

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<tr><th>Criteria</th><th></th><th>Commentary</th></tr>
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○ Qubeka Mining Consultants conducted mine planning activities and the reserves statement. Mr. Werner Moeller of Qubeka Mining Consultants is acting as Competent Person for the Ore Reserves.
○ Mr. Abraham Saayman from Mine Technics did the geotechnical review and provided the relevant parameters for the pit design.
○ Wood plc reviewed the results of the demonstration plant trials.
○ Wood plc developed operating cost and capital cost estimates for the process plant.
○ Fivemark Partners did the Financial Modelling.
</td></tr>
<tr><td><i>Discussion of relative accuracy/ confidence</i></td><td>
• <i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i>
• <i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i>
• <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i>
• <i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i>
</td><td>
• Production activities for the Etango-8 project have not yet commenced. As such, there are no production data available for the purposes of reconciliation. Below is the Etango-8 JORC 2012 July 2021 Ore Reserve:
<table>
<tr><th colspan="5">Declared JORC (2012) Etango-8 Reserves as on the July 2021 at a U_3O_8 cut-off grade of 100ppm</th></tr>
<tr><th>Mine Project</th><th>Classification</th><th>Tonnes (Mt)</th><th>Grade (U_3O_8 ppm)</th><th>Contained Metal (Mlb)</th></tr>
<tr><td rowspan="3">Etango-8 PFS</td><td>Proved</td><td>16.2</td><td>232</td><td>8.3</td></tr>
<tr><td>Probable</td><td>101.5</td><td>233</td><td>52.0</td></tr>
<tr><td>Total Ore Reserve</td><td>117.6</td><td>232</td><td>60.3</td></tr>
</table>
• The Mineral Resource Estimate has not been subject to rigorous assessment of accuracy and confidence using any numerical or probabilistic approach. Areas of potential uncertainty are the detailed morphology of the alaskite bodies and the degree to which the current volume may change upon infill drilling, and the continuity of the ASD zones, which have been assumed to be relatively discontinuous in this estimate. Grade confidence, as defined by grade continuity modelling is believed to be high. Data quality is high as reflected by the QAQC work.
• The accuracy and confidence of modifying factors are generally consistent with feasibility level accuracy with many of the technical factors remaining unchanged from the previous studies. The capital cost estimate for the fixed plant was done to an accuracy of ±20% which is consistent with a Pre-Feasibility study level of accuracy (typically -15% +25%).
</td></tr>
</table>