

## **NEWS RELEASE | 14 July 2016 | AIM/ASX: BKY**

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# Study confirms the Salamanca project as one of the world's lowest cost uranium producers

An independent Study has confirmed the Salamanca project as one of the world's lowest cost producers capable of generating strong after tax cash flow through the current low point in the uranium price cycle.

A Definitive Feasibility Study has reported that over an initial ten year period the project is capable of producing an average of 4.4 million pounds of uranium per year at a cash cost of US\$13.30 per pound and at a total cash cost of US\$15.06 per pound which compares with the current spot price of US\$26 per pound and term contract price of US\$41 per pound.

During this ten year steady state period, based on the most recent UxC forward curve of uranium prices, the project is expected to generate an average annual net profit after tax of US\$116 million.

Managing Director Paul Atherley commented: "The Salamanca project is capable of generating strong, sustainable cash flow though the low point in the uranium price cycle. We have commenced initial infrastructure works and are aiming to establish the operation as one of the world's top ten producers, reliably supplying long term customers from the heart of the European Union."

With operating costs almost exclusively in Euros and a revenue stream in US dollars the project is expected to continue to benefit from the effects of deflationary pressures within the EU.

The project benefits greatly from the well-established EU funded infrastructure in the region with an initial capital cost of only US\$95.7 million which is low by international standards for a project of this size.

The Company is of the view that whilst uranium prices will remain soft in the near term, from 2018, when Salamanca is scheduled to come on line, the market is expected to be dominated by US utilities looking to re-contract. These utilities will also be competing with Chinese new reactor demand, which may lead to higher prices.

The Company has recently been approached by a number of utilities looking to secure long term offtake agreements. These discussions are underway and offtake arrangements are being negotiated.

The project has an initial mine life of 14 years based on mining and treating only the Measured and Indicated resources of 59.8 million pounds.



An annual exploration programme, which will take advantage of generous taxation incentives, has been aimed at making new discoveries and converting some of the 29.6 million pounds of Inferred resources into the mine schedule with the objective of maintaining annual production at over 4 million pounds a year on an ongoing basis.

This programme has commenced with drilling underway looking to extend the Zona 7 deposit at depth and to the south as well as testing nearby targets to the north. Initial results are expected to be reported shortly.

The mine design incorporates the very latest thinking on minimal environmental impact and continuous rehabilitation such that land used during mining and processing activities is quickly restored to agricultural usage.

The Company has established a good neighbour and business partner relationship with the local community. In addition to the creation of 450 direct jobs and up to 2,000 indirect jobs in a community hard hit by long term unemployment, the Company will actively support the local businesses and the activities of the local municipalities.

With approvals in place for initial infrastructure development, work has now commenced on the road realignment and power line upgrade ahead of the main construction.

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**Table 1 - Summary of Key Study Outputs** 

Definitive Feasibility Study Results (to a maximum accuracy variation +/- 10%)						
Net Present Value (NPV) (Post-tax @ 8%)	US\$531.9m					
Internal Rate of Return (Post-tax)	60%					
Mine Life	14 years					
First Production	2018					
Annual Saleable Production (steady state operation)	4.4 Mlb of U <sub>3</sub> O <sub>8</sub>					
Annual Saleable Production (life of mine)	3.5 Mlb of U <sub>3</sub> O <sub>8</sub>					
C1 Cash Cost (steady state operation)	US\$13.30 /lb					
C1 Cash Cost (life of mine)	US\$15.39 /lb					
C2 Cash Cost (steady state operation)	US\$15.06 /lb					
C2 Cash Cost (life of mine)	US\$17.15 /lb					
Up-Front Capital	US\$95.7m					
Stripping Ratio – Life of Mine (ore:waste)	1:1.4					
Peak Annual EBITDA	US\$226.3m					



## Introduction

This Definitive Feasibility Study (Study) was managed by MDM Engineering (part of the Amec Foster Wheeler group) and includes inputs from a number of specialized contractors including major Spanish firms OHL and Iberdrola. The study has been prepared in accordance with the JORC Code 2012 Edition (JORC).

Table 2 - Study Contractors

Consultant	Activity
MDM Engineering (part of the Amec Foster Wheeler Group)	<ul> <li>Overall Study Management</li> <li>Process Plant Design</li> <li>Infrastructure Design</li> <li>Capital and Operating Costs related to these areas</li> </ul>
	Ore Reserve Estimate
Bara Consulting	<ul> <li>Mine Design and Scheduling</li> <li>Capital and Operating Cost related to mining activities</li> <li>Mine dump design</li> <li>Pit backfilling design</li> <li>On mine logistics of material movement</li> </ul>
Mintek	Metallurgical Testwork
Randolph Scheffel	Metallurgical Testwork Design and Metallurgy
FRASA/INGEMISA	Hydrogeology
AECOM	<ul><li>Environmental Management,</li><li>Radiological Protection</li><li>Permitting</li></ul>
Iberdrola	Radiological Protection
OHL	Material Handling facilities and cost estimate
March JLT	Insurance Cost Estimation

The Study is based on extracting 61.3 million tonnes of ore at an average grade of 408 ppm  $U_3O_8$  to produce 48.6 million pounds of  $U_3O_8$ .

The Study reports on an initial mine schedule of 14 years producing on average 3.5 million pounds of uranium per year.

After an initial ramp up, production averages 4.4 million pounds per year during ten years of steady state operations.



## Exploration will increase Mineral Resource base

The overall Mineral Resource Estimate (MRE) stands at 89.3 million pounds of  $U_3O_8$ .

The Study was based solely on Measured and Indicated Resources totaling 59.8 million pounds of  $U_3O_8$  and did not incorporate any Inferred Resources, which total 29.6 million pounds of  $U_3O_8$ .

Potential exists to maintain steady state production by successfully converting these Inferred Resources into Indicated Resources with further drilling.

Table 3 – Global Mineral Resource Estimates at a cut-off grade of 200 ppm  $U_3O_8$  (Only Measured and Indicated Resources included in the DFS)

		July 2016		
Deposit	Resource	Tonnes	$U_3O_8$	$U_3O_8$
Name	Category	(Mt)	(ppm)	(Mlbs)
Retortillo	Measured	4.1	498	4.5
	Indicated	11.3	395	9.8
	Inferred	0.2	368	0.2
	Total	15.6	422	14.5
Zona 7	Measured	5.2	674	7.8
	Indicated	10.5	761	17.6
	Inferred	6.0	364	4.8
	Total	21.7	631	30.2
Alameda	Indicated	20.0	455	20.1
	Inferred	0.7	657	1.0
	Total	20.7	462	21.1
Las Carbas	Inferred	0.6	443	0.6
Cristina	Inferred	8.0	460	8.0
Caridad	Inferred	0.4	382	0.4
Villares	Inferred	0.7	672	1.1
Villares North	Inferred	0.3	388	0.2
Total Retortillo Satellites	Total	2.8	492	3.0
Villar	Inferred	5.0	446	4.9
Alameda Nth Zone 2	Inferred	1.2	472	1.3
Alameda Nth Zone 19	Inferred	1.1	492	1.2
Alameda Nth Zone 21	Inferred	1.8	531	2.1
Total Alameda Satellites	Total	9.1	472	9.5
Gambuta	Inferred	12.7	394	11.1
	Measured	9.3	597	12.3
Salamanca project Total	Indicated	41.8	516	47.5
Salamanca project rotal	Inferred	31.5	395	29.6
/*\	Total (*)	82.6	514	89.3

<sup>(\*)</sup> All figures are rounded to reflect appropriate levels of confidence. Apparent differences occur due to rounding. The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserves



#### Ore Reserve Estimate

The project's Ore Reserve Estimate stands at 54.6 million pounds of  $U_3O_8$  of which 20.6 percent is considered Proved and 79.4 percent is considered Probable after the application of all mining factors.

Table 4 – Project Ore Reserve Estimate

		J	uly 2016	6
Deposit Name	Resource Category	Tonnes (Mt)	U <sub>3</sub> O <sub>8</sub> (ppm)	U <sub>3</sub> O <sub>8</sub> (Mlbs)
Retortillo	Proved	4.0	397	3.5
	Probable	11.9	329	7.9
	Total	15.9	325	11.4
Zona 7	Proved	6.5	542	7.8
	Probable	11.9	624	16.4
	Total	18.4	595	24.2
Alameda	Proved	0.0	0.0	0.0
	Probable	26.4	327	19.0
	Total	26.4	327	19.0
	Proved	10.5	487	11.3
Total	Probable	50.3	391	43.4
	Total (*)	60.7	408	54.6

<sup>(\*)</sup> cut-off grade for Retortillo 107 ppm, Zona 7 125 ppm, Alameda 90 ppm. Apparent differences occur due to rounding.

#### Sustainable Open Pit Mining

The mine design incorporates the latest thinking in continuous mine rehabilitation which allows the orebodies to be mined with minimum land disturbance and to be continuously rehabilitated. On completion of operations the mining and treatment plant areas will be fully restored to their original agricultural land use.

Each of the shallow and long orebodies are mined by conventional drill, blast, excavator and truck methods opening up the orebody from the initial mining stage and progressively lining and backfilling with waste and treated ore, as mining progresses along the length of the orebody.



The ore from each open pit is loaded and hauled to the ore stockpile. The ore stockpiles at Retortillo and Alameda are at the process plant site while the stockpile at Zona 7 is approximately 10km from the plant. The ore from the Zona 7 stockpile will be loaded onto a two way overland conveyor which connects the site to the process plant area at Retortillo.

Ore is continuously stacked onto an on/off heap leach pad. Treated ore is reclaimed from the pad and transported back to the open pit for backfilling along with mined waste or to a temporary waste dump if there is no pit space available.

Mining operations will be carried out by a contractor with operations based on the use of hydraulic excavators and a fleet of haul trucks engaged in conventional open pit mining techniques.

Steady state mining during the first ten years will produce on average 4.4 million pounds per year. It is planned to maintain this production rate by both drilling the known Inferred Resources and potentially converting part of this into ore for the mine schedule and through new discoveries.

## **Processing**

The ore will be treated by heap leaching and processed through a conventional circuit and sold as drummed  $U_3O_8$  concentrate. An important environmental benefit of backfilling the treated ore reclaimed from the on/off heap leach pads into the mined pits, is the removal of the requirement for a tailings storage facility.

The process flowsheet comprises crushing, screening, agglomeration, stacking and heap leaching using on/off leach pads, followed by uranium recovery and purification by solvent extraction.

The conveyed ore is agglomerated, continuously stacked and irrigated with a dilute sulphuric acid solution. The ore types have reported impressive metallurgical recoveries averaging 88% with low acid consumption and a short residence time.

The concentrated uranium solution from the solvent extraction plant is treated to precipitate the uranium and calcined to produce  $U_3O_8$  concentrate.

At Zona 7 only a primary crushing circuit will be required. The crushed ore will be conveyed ten kilometres to the process plant located at Retortillo. The secondary crushing circuit at Retortillo will be upgraded to include a tertiary stage.

The uranium from the Alameda heap leach pregnant liquor solution will be loaded onto resin via an ion exchange adsorption column and the loaded resin will be transported approximately 50 kilometres by road to the Retortillo plant for final extraction and purification.

Analysis of the concentrate produced from the Retortillo and Zona 7 ore (and analysis of the pregnant liquors from the Alameda deposits) indicate that there are no impurities at levels that could adversely impact the sale of the product.



#### Infrastructure

The project benefits significantly from well-established infrastructure in the area. The project is readily accessible by major roads and railways and is connected to the major sea port of Santander and airports at Salamanca and Madrid.

It has major electrical power connections, plenty of water and a strong demand for jobs in a region hit hard by unemployment. Training courses for future employees have been oversubscribed and enthusiastically attended.

The area has previously experienced the economic benefits of mining having supported Spain's main uranium mining industry from the 1970s up until the last mine closing in 2001.

The power requirements for the project are low at an estimated at 3.3 megawatts (MW) for Retortillo, 1.7 MW at Zona 7, and 3.1 MW at Alameda. All power will be supplied from the National Distribution Grid at a cost of US\$0.07 per kilowatt hour. The connection will require construction of a 13 kilometre 45 kV powerline to the Alameda deposit site in year 2.

Water will be available from adjacent water courses and on-site sources such as pit dewatering bore holes and collection systems designed to capture rain and surface run-off water during the wet season.

On-site accommodation facilities are not required given the available labour sourced from nearby villages and from the city of Salamanca 70 kilometres away.

An on-site sulphuric acid plant is also not required as sulphuric acid is readily available from two regional smelters at very competitive rates.

#### **Capital Costs**

The initial capital cost of all infrastructure and indirect costs required to develop and commence production at Retortillo has been estimated at US\$95.7 million.

The capital cost for the mine, processing facilities and associated infrastructure for Zona 7 is US\$59.2 million and will be incurred during the first year of production.

The capital cost for the mine, processing facilities and associated infrastructure for Alameda is estimated at US\$79.7 million and will be incurred during the second year of production.

The indirect costs include the first fill of reagents, spares, Engineering, Procurement and Construction Management (EPCM) costs, Preliminary and General (P&G) costs and a 6% contingency for the proposed facilities.

Working capital, amounting to US\$10.7 million, is required to support eight months of operation after start-up at Retortillo and has been included in the year 1 operating cost estimate.



The engineering studies supporting the capital cost estimates for the project allow for a level of accuracy of nominally +/- 10%.

A summary of major capital costs is shown in Tables 5 to 7 below:

Table 5 - Retortillo Up-Front CAPEX

Description	Cost (US\$ million)
Mining (pre-strip)	2.5
Waste Dumps, Water Management, etc.	7.4
Processing	54.7
Plant Related Infrastructure	9.8
Other Capex	4.7
G&A	2.3
Indirect Costs	14.2
TOTAL	95.7

Apparent differences in totals occur due to rounding

Table 6 - Zona 7 Up-Front CAPEX

Description	Cost (US\$ million)
Mining (pre-strip)	0.8
Waste Dumps, Water Management, etc.	5.3
Processing	30.8
Plant Related Infrastructure	8.1
Other Capex	2.7
Indirect Costs	11.4
TOTAL	59.2

Apparent differences in totals occur due to rounding

Table 7 - Alameda Up-Front CAPEX

Description	Cost (US\$ million)
Mining (pre-strip)	-
Waste Dumps, Water Management, etc.	6.3
Processing	45.2
Plant Related Infrastructure	8.0
Other Capex	5.3
Indirect Costs	14.9
TOTAL	79.7

Apparent differences in totals occur due to rounding

At Retortillo, an additional US\$9.95 million of capital is required to develop a second major pit in year 13.



## **Operating Costs**

The average C1 steady state operating cost has been estimated at US13.30 per pound of U $_3O_8$  produced.

The average operating cost for the life of mine is US\$15.39 per pound of  $U_3O_8$  produced.

The operating costs (C1 cash costs) are defined as the direct operating costs including contract mining, processing, ripios backfill, water treatment and G&A.

Table 8 - Summary of Life of Mine Operating Costs (nominally ± 10% accuracy)

Description	Cost (US\$/Ib U <sub>3</sub> O <sub>8</sub> )			
	Zona 7 Retortillo Alame			
Mining	3.5	9.9	7.4	
Processing (including ripios backfill)	5.5	10.7	11.1	
G&A	0.9	0.9	0.9	
Subtotal by Area	9.9 21.5			
Total Average Operating Costs	15.4			

Apparent differences in totals occur due to rounding

The all in cash cost (excluding rehabilitation costs) over the life of mine is US\$17.15 per pound of  $U_3O_8$  produced and comprises C1 cash operating costs plus marketing, transport costs, estimated at 1.0% of the gross value of the final product (US\$0.63 per pound  $U_3O_8$  produced), and royalties which average US\$1.51 per pound  $U_3O_8$  produced over the life of mine.

The royalties are defined as a percentage of the net value of the product sold (gross value less commercialisation) and include the State Reserves Royalty (2.5%, applied only to production at Alameda), Municipality Royalty (0.2%, applied to all project revenues) and an Anglo Pacific and RCF Royalty (combined total of 1.375%, applied to all project revenues).

#### Environmental, Waste Management and Rehabilitation

The costs associated with the continuous rehabilitation programs and closure programs include the pit preparation for backfilling, rehandling of temporary dumps for backfill and the rehabilitation of the surface.

The costs for the preparation of the pits for backfilling are incurred from year 2 of operations and amount to US\$6.8 million for Retortillo, US\$3.6 million for Zona 7 and US\$6.6 million for Alameda.

The cost for rehandling at the end of the mine life is US\$26.1 million for Retortillo, US\$26.4 million for Zona 7 and US\$31.0 million for Alameda.

The cost for rehabilitation and closure is US\$13.9 million at Retortillo, US\$14.0 million at Zona 7 and US\$20.1 million at Alameda.



Pit preparation for backfilling and reclamation systems have been treated as capital costs while ripios reclamation and backfilling have been treated as operating costs.

## Community and Employment

Management has worked closely with all stakeholders, including local communities and relevant government authorities, in all aspects of work conducted on the project to date.

As part of these efforts, the Company has signed co-operation agreements with each of the three local municipalities under which the Company has committed to contribute to the economic and social development of the community.

The workforces required for the construction and operational phases of the project will be sourced from the local communities whenever possible in combination with a small number of highly skilled professionals who will be recruited from elsewhere in Spain or abroad.

The Company has commenced skills training programs for local employees who have been drawn from the surrounding region which has a history of over thirty years of uranium mining operations.

Training programs completed to date include blasting techniques and driver training for heavy equipment and were both heavily oversubscribed by local participants.

The Company currently estimates that an ongoing workforce of approximately 450-500 direct employees (including mining and other permanent contractors) will be required during steady state operations.

The University of Salamanca has estimated a multiplier effect whereby 5.2 indirect jobs will be created for every direct job, making the project a significant contributor to job creation in an area suffering badly from the effects of rural desertification.

#### Permitting

The Company has received all the European Union, National, Regional and Provincial level approvals required for the commencement of initial infrastructure development of the project.

This initial development, the realignment of the road and upgrading the power line, is underway ahead of the main construction.

With the Mining Licence, Environmental Licence, all approvals from the Water Authority and Initial Authorisation for the Process Plant in hand, the approvals required ahead of the main construction comprise the locally issued Urbanism Licence and the Construction Authorisation by the Ministry of Industry, Energy and Tourism. Both of these approvals are in progress.



## Sustainable cashflow generation through continuous exploration

The current resource base comfortably supports strong cashflow generation over the next decade. Continuous annual exploration targeting both the conversion of existing Inferred resources into the mine schedule and the generation of new resources will be a major focus.

The Study did not incorporate any Inferred Mineral Resources currently contained within the overall MRE for the project (which comprises of an additional 29.6 million pounds  $U_3O_8$ ). The Company believes substantial potential exists to both upgrade and increase the resource base from exploration and therefore extend the mine life at Salamanca.

## **Uranium Marketing Strategy**

Berkeley intends to sell  $U_3O_8$  concentrates to large global utility companies across the US, Asia and Europe. The Company is in ongoing discussions with a number of major utilities regarding long term offtake contracts and potential financing structures and expects to conclude suitable arrangements well within the planned development timeframe.

#### **DFS Sales Price Assumptions**

The Company has utilised the latest UxC Annual Mid Long Term Base Price Projections for its sales price assumptions (UxC Uranium Market Outlook report for Q2 2016). UxC is the Industry's leading source of publications, data services, consulting on the global nuclear fuel cycle markets.

The forward curve utilised is a projection of long term contracted uranium prices (rather than spot prices) which is consistent with the Company's intention to enter into long term offtake contracts over the significant majority of its offtake.

This forward curve utilised is more conservative than analyst consensus forecasts where long term contract prices are forecast to rise from \$43.25 per pound of  $U_3O_8$  in 2017 to \$65 per pound from 2022 onwards.

Table 9 – Sales Price Assumption based on UxC Annual Mid Long Term
Base Price Projections

Year	2017	2018	2019	2020	2021	2022	2023
	(\$US /	(\$US /	(\$US/	(\$US/	(\$US/	(\$US/	(\$US/
	Ib)	Ib)	Ib)	Ib)	Ib)	Ib)	Ib)
Mid-Long Term Base	39.06	40.10	40.10	41.83	45.07	48.32	52.65
Year	2024	2025	2026	2027	2028	2029	2030
	(\$US/	(\$US/	(\$US/	(\$US/	(\$US/	(\$US/	(\$US/
	Ib)	Ib)	Ib)	Ib)	Ib)	Ib)	Ib)
Mid-Long Term Base	54.09	56.23	58.35	61.59	63.69	66.97	67.69



#### Net Present Value & Internal Rate of Return

The (ungeared) Net Present Value after tax is US\$531.9 million at an 8% discount rate (real), and the (ungeared) IRR after tax is 60%. The project is expected to exhibit levels of profitability that would contribute value to Berkeley shareholders.

**Table 10 - Project Net Present Value** 

Discount Rate (Real)	8%	10%
NPV	US\$531.9 million	US\$464.8 million

## NPV Sensitivity Analysis

Sensitivity of the (ungeared) NPV results to changes in the key drivers of the DCF model are presented in the table below.

If a long term contract price of US\$44 per pound  $U_3O_8$  is used flat over the life of mine then the NPV is US\$407.2 million and the IRR is 60%.

Table 11 - Project NPV Sensitivity Analysis

		NPV at 8% discount rate (US\$ million)							
	-10% -5% Base Case +5% +								
Production	\$431	\$482	\$532	\$582	\$632				
U <sub>3</sub> O <sub>8</sub> Sales Price	\$431	\$482	\$532	\$582	\$632				
Operating Costs	\$561	\$547	\$532	\$517	\$502				
Capital Costs	\$554	\$543	\$532	\$521	\$510				



## Appendix 1: ASX Summary of Resource Estimate and Reporting Criteria (Updated Zona 7 Mineral Resource Estimate)

## Prospect Location, Geology and Geological Interpretation

Zona 7 is the largest deposit within the Salamanca project located in central-western Spain. (Figure 1).



Figure 1: Location of the Salamanca project, Spain

Significantly, the Zona 7 deposit is located within 10km of the approved location of the proposed processing plant at Retortillo (Figure 2).

Zona 7 is a vein type uranium deposit hosted in a sequence of fine grained metasediments which are overlain by a conglomerate unit and adjacent to a granite intrusive. The mineralised envelope is interpreted to be sub-horizontal to shallowly dipping and occurs from surface and to maximum depth of approximately 100m.

The style of the uranium mineralisation includes veins, stockwork and disseminated mineralisation in joint/fracture filling associated with brittle deformation. The uranium mineralisation occurs both within the partially weathered zone and fresh rock. Uraninite and coffinite are the primary uranium minerals. Secondary uranium mineralisation is developed in 'supergene-like' tabular zones corresponding to the depth of weathering (Figure 3).



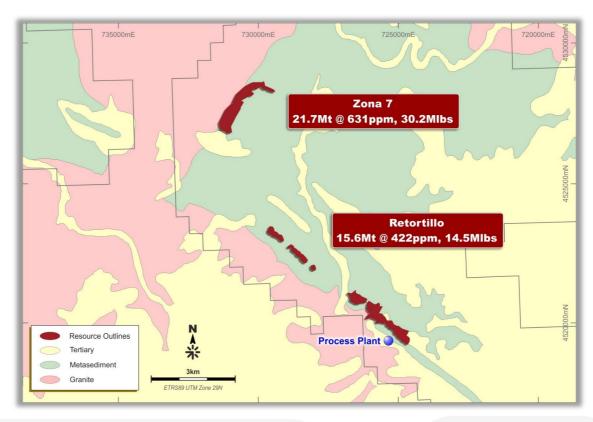


Figure 2: Location of Zona 7 within Retortillo Region

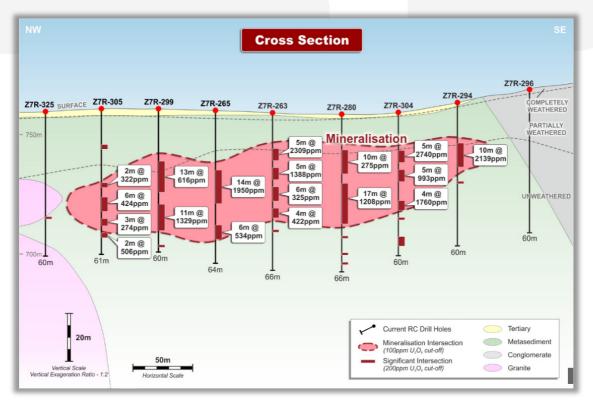


Figure 3: Zona 7 Cross Section



#### **Drilling and Sampling Techniques**

The Mineral Resource Estimate (MRE) is based on data obtained from three phases of drilling (historical 1960's to 1980's, 2007-2008, 2013-2016) totalling 428 holes for 27,475m. The drilling comprised 103 diamond holes (DD) and 325 reverse circulation (RC) holes (Table 12).

The majority of drilling conducted by Berkeley prior to 2016 was undertaken on a 100m by 100m grid, with section lines orientated approximately northwest-southeast across the interpreted strike of the mineralisation. The 2015-2016 infill drilling campaign closed the spacing in Domain 6 to a 50m x 50m and 35m x 35m grid, in order to improve confidence in this part of the MRE (Figure 4). Some of the historical drilling was completed on a closer spaced 35m x 35m grid in Domains 2, 3 and 4. The majority of the drill holes are vertical.

The drill hole collar locations were surveyed by qualified surveyors using standard DGPS equipment achieving sub decimetre accuracy in horizontal and vertical position. Down-hole surveys were undertaken using a Geovista down-hole deviation probe. Measurements were taken every 1cm down hole and averaged every 10m. All DD and RC drill samples were geologically logged, with all relevant data being recorded. Diamond core was also geotechnically logged. Core boxes and samples and RC samples and chip trays were photographed for future reference.

Diamond core was quarter or half cut and sampled on 0.20-1.00m intervals. RC samples were collected over 1m intervals and split in the field using two riffle splitters in cascade or a cone and quarter method to provide an approximately 3-5kg sample. Samples were further split in the core shed using a scoop to generate 0.7-1kg samples which were sent to external laboratories for preparation and analysis. Quality assurance procedures were employed, including the use of standards, blanks and duplicates.

Down-hole gamma logging was undertaken for all probe accessible holes drilled by Berkeley to provide a gamma equivalent  $U_3O_8$  ( $eU_3O_8$ ) grade. The down-hole gamma response was converted to  $eU_3O_8$  after correcting for radon, hole diameter, air/water and application of a deconvolution filter.  $eU_3O_8$  data was only used in the MRE when chemical assay data was not available.

Bulk density values were derived from 800 solid-fluid pycnometer measurements. In situ dry bulk densities were applied to all blocks in the resource model based on the degree of weathering.



Table 12: Summary of drill holes used in the MRE update

Drill Type	Pre	2007	2007	'-2008	2013	-2016		Total	
Dilli Type	Holes	Metres	Holes	Metres	Holes	Metres	Holes	Metres	%
Reverse Circulation	-	-	66	3,579	259	17,639	325	21,218	77
Diamond Core	72	4,024	9	661	22	1,571	103	6,257	23
Total	72	4,024	75	4,240	281	19,210	428	27,475	100

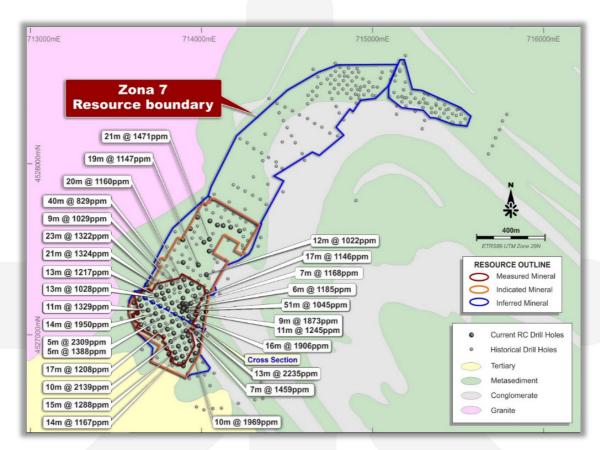


Figure 4: Drilling Plan highlighting selected 2016 drilling results

#### Sample Analysis Methods

Sample preparation of all drill samples involved oven drying, crushing and pulverising to achieve a grind size of 85% passing 75µm. Sample pulps from the drilling program were analysed for uranium using either of the Delayed Neutron Counting (DNC) or pressed powder X-ray fluorescence (XRF) methods. Historical drilling samples were analysed for uranium using the XRF, atomic absorption spectroscopy (AAS) or fluorometric methods.



#### Resource Model

Surpac and Isatis software was used for geological modelling, block modelling, grade estimation, MRE classification and reporting. Sectional geological interpretations were joined to create a series of 3D mineralised wireframe domains (Figure 5) that showed continuity above a grade of 100 ppm  $\rm U_3O_8$ . Statistical analysis and geostatistical variogram modelling was used to determine appropriate parameters for estimation of uranium grade using Ordinary Kriging (OK) and Localised Uniform Conditioning (LUC).

The resource model for Domains 5 and 6 (>88% of the Zona 7 MRE) has been updated with the 2015-2016 infill drilling, and the upgrades to these Domains are the subject of this release. As a result of the closer spaced infill drilling, improvements in sample support, geological continuity and variography, Domain 6 was determined to be suitable for the application of LUC. LUC provides a simulation of the expected grade and tonnage selectivity at the Feasibility Study Selective Mining Unit (SMU) dimensions.

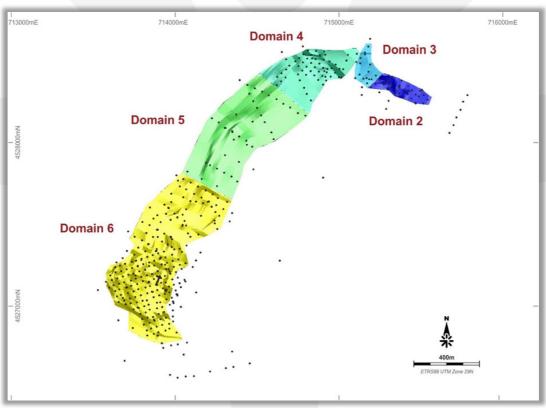


Figure 5: Plan showing MRE domains and drill hole collars.

#### **Grade Estimate**

The uranium grade was estimated into a 25m by 25m x 6m panel using OK for all domains followed by the application of LUC to simulate the grade tonnage distribution based on SMU dimensions of  $5m \times 5m \times 6m$  for Domain 6 only. Domain 5 was updated using OK. All other domains (2, 3 and 4) were unchanged from the November 2014 OK estimate (Figures 6 and 7).



Variography was used to derive appropriate orientation and weighting factors employed by the OK and LUC algorithms. Suitable sample search distances, minimum and maximum sample numbers required to make a grade estimate and search ellipse anisotropy to honour the mineralisation trends were derived. These parameters were selected to ensure that the resource model honours both the global and local grade distribution of the uranium mineralisation.

#### **Cut-off Grades**

The MRE has been reported using a cut-off grade of 200 ppm  $U_3O_8$ , which is consistent with the grade used to report previous MRE's for this style of mineralisation.

## Mining and Metallurgical methods and parameters

Based on the results of metallurgical testwork carried out on representative samples from the Zona 7 deposit and the shallowness of the deposit, recent mine planning work has shown that the Zona 7 MRE can potentially be extracted using open pit mining methods, with the recovery of uranium through the application of acid heap leach methods.

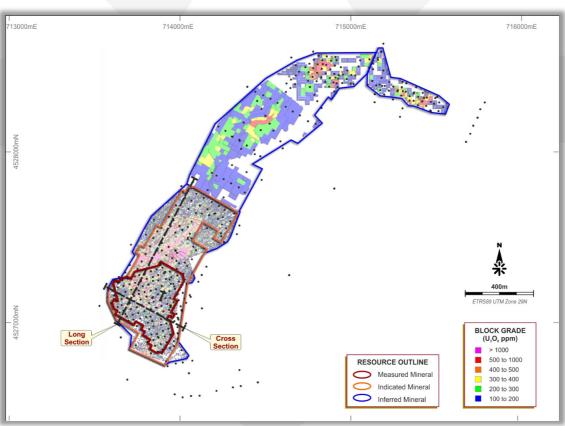


Figure 6: Plan of the resource block model showing grade distribution



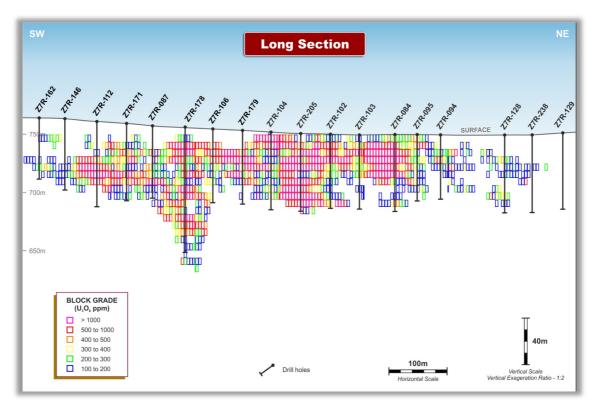


Figure 7: Long section through the resource block model showing grade distribution above 100 ppm  $U_3O_8$ 

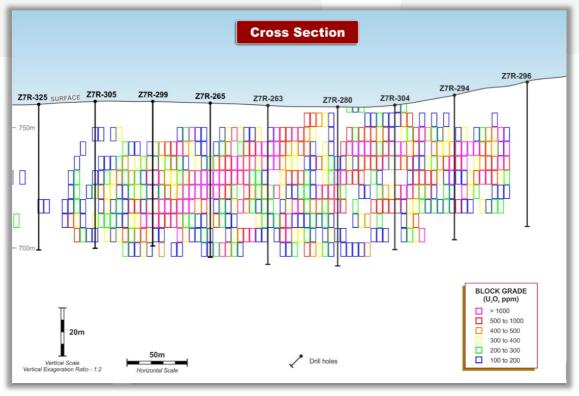


Figure 8: Oblique section through the resource block model showing grade distribution above 100 ppm  $U_3O_8$ 



Bulk density values were unchanged for Domains 5 and 6 after review with a 50% increase in bulk density data. In-situ dry bulk densities were applied to all Domain 5 and 6 blocks in the resource model based on the degree of weathering as follows: 2.28 t/m³ for completely weathered material; 2.40 t/m³ for partially weathered material; and 2.64 t/m³ for fresh rock. Note that both the bulk density and MRE are unchanged for Domains 2, 3 and 4 which were unaffected by the 2015 drilling program.

Validation of the models included visual inspection of the grade distribution compared to the drill hole data, comparison of block model and drill hole statistics and creation and assessment of swath plots. Overall the grade estimate showed a good representation of the drill hole data for the resource.

## Mineral Resource Estimate and Classification Criteria

The MRE for Zona 7 Domains 5 and 6 has been updated, incorporating additional drilling and sampling information from the 2015-2016 drilling campaign.

The MRE has been classified and is reported as Measured, Indicated and Inferred based on guidelines recommended in the JORC Code (2012). The reported MRE has been classified with consideration of the quality and reliability of the raw data, the confidence of the geological interpretation, the number, spacing and orientation of intercepts through the mineralised zones, and knowledge of grade continuity gained from observations and geostatistical analysis. There is adequate mining, metallurgy and processing knowledge from feasibility studies to imply reasonable prospects for eventual economic extraction.

The MRE is reported at a cut-off grade of 200 ppm  $U_3O_8$  (Table 13), along with estimates showing the range of  $U_3O_8$  cut-off grades that would span the range applicable to open pit mining (Table 14).



Table 13: Zona 7 - Mineral Resource Estimate

Zor	Zona 7 - Mineral Resource Estimate – July 2016									
Reported at a cut-off grade of 200 ppm U₃O <sub>8</sub>										
Resource	Tonnage	Grade	Contained U₃O <sub>8</sub>							
Category	(million tonnes)	(U₃O <sub>8</sub> ppm)	(million pounds)							
Measured	5.2	674	7.8							
Indicated	10.5	761	17.6							
Measured and Indicated	15.7	735	25.4							
Inferred	6.0	364	4.8							
Total	21.7	631	30.2							

All figures are rounded to reflect appropriate levels of confidence. Apparent differences occur due to rounding.

Table 14: Zona 7 - Grade Tonnage Table

Z	Zona 7 - Mineral Resourc	ce Estimate – July 20	16
Lower Cut-off Grade	Tonnage	Grade	Contained U₃O <sub>8</sub>
(U₃O <sub>8</sub> ppm)	(million tonnes)	(U <sub>3</sub> O <sub>8</sub> ppm)	(million pounds)
100	36.8	431	35.0
200	21.7	631	30.2
300	14.6	818	26.4
400	10.6	996	23.4
500	8.1	1,164	20.9



Appendix 2: Summary of RC Drill Intersections – Zona 7 (200 ppm U<sub>3</sub>O<sub>8</sub> cut-off)

		N. 4						_	_		
Drill	Easting	Northing	Elevation			Depth		From	To	Interval	U <sub>3</sub> O <sub>8</sub>
Hole ID	(m)	(m)	(m)	(°)	(°)	(m)		(m)	(m)	(m)	ppm
Z7R-249	713962	4527225	759	360	-90	60	incl.	23 23	28 24	5 1	893 2,948
							IIICI.	33	34	1	265
Z7R-250	714012	4527399	755	360	-90	69		12	17	5	265
211(-200	7 14012	<del>1</del> 021000	755	300	-30	03		35	38	3	391
								42	44	2	502
								63	64	1	331
Z7R-251	713902	4527204	759	360	-90	60		25	26	1	694
Z7R-252	714017	4527396	755	360	-90	78		15	32	17	1,146
							incl.	18	19	1	1,450
							incl.	24	31	7	1,840
								35	36	1	397
								43	46	3	477
								50	51	1	296
								58	59	1	222
77D 050	740005	4507040	750	000	-00	00		67	70	3	925
Z7R-253	713925	4527248	758	360	-90	60		6	7	1	347
77D 254	714023	4507204	756	260	00	65		18 17	20 30	2 13	293
Z7R-254	7 14023	4527394	756	360	-90	65	incl.	28	30	2	701 1,221
							IIICI.	20 47	50	3	557
							incl.	47	48	1	1,214
Z7R-255	713813	4527250	761	360	-90	60	11101.	22	23	1	740
271( 200	7 100 10	4027200	701	000	50	00		29	34	5	794
							incl.	30	33	3	1,128
								43	44	1	226
Z7R-256	714031	4527397	756	360	-90	71		10	32	22	644
							incl.	12	14	2	1,049
							incl.	23	25	2	1,194
							incl.	30	31	1	1,071
								45	46	1	531
								65	66	1	1,580
Z7R-257	713836	4527294	760	360	-90	60		24	32	8	645
							incl.	24	25	1	1,710
							incl.	28	29	1	1,203
							l	37	40	3	573
770 050	711001	1505000		000			incl.	39	40	1	1,256
Z7R-258	714034	4527388	757	360	-90	65		12	17	5	317
								21 30	22 31	1	228 713
Z7R-259	713853	4527232	760	360	-90	60		17	18	<u>1</u>	297
Z/1X-209	7 13033	4527252	700	300	-90	00		44	45	1	212
Z7R-260	714039	4527386	758	360	-90	65		12	22	10	369
2/11-200	114000	4327300	730	300	-30	03		32	33	10	909
								36	37	1	242
								47	48	1	210
Z7R-261	713881	4527271	758	360	-90	60		31	32	1	210
Z7R-262	714010	4527352	757	360	-90	77		6	7	1	252
								12	21	9	1,873
							incl.	17	18	1	11,908
							incl.	20	21	1	2,676
								24	26	2	906
							incl.	24	25	1	1,556
								29	40	11	1,245
							incl.	32	33	1	8,984
							incl.	36	37	1	1,491
							inal	44 <i>44</i>	48 45	4	1,346
							incl.	44 47	45 48	1 1	2,995 2,234
							incl.	47 54	48 55	1	2,234 469
1				Ī				54	JJ	ı	409



								_			
Drill Hole ID	Easting	Northing	Elevation	Azimuth		Depth		From	To	Interval	U <sub>3</sub> O <sub>8</sub>
поје јр	(m)	(m)	(m)	(°)	(°)	(m)		<b>(m)</b> 58	<b>(m)</b> 59	<b>(m)</b> 1	<b>ppm</b> 323
								65	66	1	323 217
Z7R-263	713899	4527318	758	360	-90	66		15	20	5	2,309
								23	28	5	1,388
								31	37	6	325
								40	44 50	4	422
Z7R-264	714013	4527357	757	360	-90	69		49 9	50 10	1 1	275 246
Z/N-204	714013	4527557	131	300	-90	09		22	28	6	1,185
							incl.	22	23	1	1,798
							incl.	27	28	1	4,622
								31	33	2	1,984
								37 48	43 52	6 4	413 250
								64	66	2	353
Z7R-265	713856	4527339	759	360	-90	64		25	39	14	1,950
								48	54	6	534
							incl.	52	53	1	1,975
Z7R-266	714015	4527363	757	360	-90	64		18	22	4	245
							incl.	26 28	33 <i>30</i>	7 2	1,168 2,815
							IIICI.	26 46	47	1	3,985
								52	61	9	311
Z7R-267	713883	4527383	757	360	-90	65		10	42	32	519
							incl.	12	14	2	1,981
							incl.	16	17	1	1,139
							incl. incl.	21 39	22 40	1 1	1,092 1,220
							IIICI.	46	52	6	420
Z7R-268	714018	4527369	757	360	-90	68		24	30	6	725
		.02.000	. • .				incl.	26	27	1	2,735
								34	38	4	1,349
							incl.	34	36	2	2,226
								51 50	52	1	253
Z7R-269	714020	4527537	752	360	-90	70		56 15	62 21	6	248 837
2711-203	714020	4321331	132	300	-30	70		25	36	11	606
								43	46	3	505
								51	52	1	384
Z7R-270	714021	4527374	757	360	-90	93		8	14	6	210
								19	24	5	308
							incl.	27 29	33 <i>30</i>	6 1	587 1,226
							11101.	36	48	, 12	336
								54	62	8	251
								67	89	22	847
							incl.	78	81	3	1,528
770 070	74.4000	4507000	757	200	00	00	incl.	83	89	6	1,596
Z7R-272	714023	4527380	757	360	-90	83		8 14	9 30	1 16	310 457
							incl.	23	24	1	1,397
								33	37	4	381
								43	45	2	645
								51	79	28	441
							incl.	67 77	68 78	1	1,041
Z7R-273	713997	4527493	753	360	-90	64	incl.	77 11	<i>78</i> 51	<u>1</u> 40	2,452 829
2111-213	110001	<del>1</del> 021433	133	300	-90	U <del>4</del>	incl.	18	20	2	1,163
							incl.	26	27	1	1,692
							incl.	29	34	5	1,912
							incl.	39	45	6	1,254
Z7R-274	714026	4527386	756	360	-90	65		18	37	19	495
							incl.	29	31	2	1,495

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Drill	Easting	Morthing	Elevation	Azimuth	Dip	Depth		From	То	Interval	11.0
Hole ID	(m)	(m)	(m)	(°)	(°)	(m)		(m)	(m)	(m)	U₃O <sub>8</sub> ppm
77070 12	()	()	()	/	_ \	()	incl.	33	34	1	1,450
								42	48	6	1,365
	=						incl.	45	48	3	2,391
Z7R-275	714042	4527471	754	360	-90	65	inal	19	39 <i>30</i>	20	1,160
							incl. incl.	29 32	33	1 1	1,993 13,676
							11101.	46	50	4	433
							incl.	46	47	1	1,267
Z7R-276	713995	4527381	755	360	-90	84		13	14	1	210
							:1	26 <i>30</i>	36	10	613
							incl. incl.	30 34	31 35	1 1	1,645 1,279
							mior.	41	42	1	448
								50	54	4	302
								63	65	2	468
								68	70 70	2	524
Z7R-277	714065	4527514	755	360	-90	70		75 25	78 26	<u>3</u>	264 290
2111-211	7 14003	4327314	133	300	-30	70		28	29	1	276
								35	36	1	252
								43	51	8	668
							incl.	44	46	2	1,587
Z7R-278	712071	4507227	756	260	00	G.F.		60 16	61 23	<u>1</u> 7	777
Z/R-Z/8	713971	4527337	756	360	-90	65	incl.	16	23 19	3	1,459 2,441
							mior.	28	46	18	580
							incl.	28	29	1	2,617
							incl.	42	46	4	1,223
								59	60	<u>1</u>	5,506
Z7R-279	714109	4527490	757	360	-90	70	incl.	26 31	33 32	7 1	559 1,609
							IIICI.	46	52 52	6	2,495
							incl.	47	49	2	6,691
Z7R-280	713954	4527293	757	360	-90	66		15	25	10	275
								29	46	17	1,208
							incl. incl.	29 39	34 40	5 1	2,730
						/	incl.	39 42	43	1	1,810 1,769
							,,,,,,,	52	53	1	343
								58	59	1	322
	<i></i>							62	63	1	246
Z7R-281	714086	4527441	759	360	-90	70	inal	13	23	10	697
							incl. incl.	15 22	18 23	3 1	1,021 1,362
							mior.	26	30	4	220
Z7R-282	714016	4527313	759	360	-90	65		6	7	1	202
								16	17	1	291
							in - 1	21	34	13	2,235
							incl. incl.	22 27	24 31	2 4	4,032 4,551
Z7R-283	714016	4527430	754	360	-90	70	IIICI.	39	40	1	222
		.527 100	701	300	50	, 5		48	49	1	203
								64	65	1	1,129
Z7R-285	713929	4527472	754	360	-90	70		16	23	7	346
							in -!	28	51	23	1,322
							incl. incl.	30 45	36 50	6 5	1,854 2,664
							11101.	55	56	1	2,004
								62	63	1	422
Z7R-286	714039	4527357	760	360	-90	75		14	15	1	284
								20	71	51	1,045
							incl.	39 43	40 44	1 1	1,468 1,415
I				l		l	incl.	43	44	I	1,415

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Deill	Conting	Morthing	Elevation	A = i mo u th	Din	Donth		Erom	Ta	Intomol	
Drill Hole ID	Easting (m)	(m)	Elevation (m)	Azimuth (°)	Dip (°)	Depth (m)		From (m)	To (m)	Interval (m)	U₃O <sub>8</sub> ppm
11010 15	(111)	(111)	(111)	( )	( )	(111)	incl.	47	48	1	2,665
							incl.	51	57	6	2,241
							incl.	59	65	6	3,739
Z7R-287	713953	4527516	753	360	-90	65		21	33	12	704
							incl.	22	25	3	1,424
								40	49	9	1,029
				- A		_	incl.	40	43	3	2,286
Z7R-288	714087	4527335	768	360	-90	70		43	44	1	253
								55	56	1	208
Z7R-289	713952	4527402	756	360	-90	70		18	19	1	204
								28 49	35 50	7 1	336 514
Z7R-290	714049	4527323	763	360	-90	75		22	38	16	1,906
2711-230	7 14043	4021020	700	300	-30	73	incl.	26	30	4	5,671
							incl.	35	37	2	1,963
Z7R-292	714060	4527290	765	360	-90	64		18	26	8	260
Z7R-293	713906	4527427	756	360	-90	79		30	33	3	241
2711 200	7 10000	1021 121	700	000	00	70		38	51	13	1,028
							incl.	40	41	1	1,845
							incl.	43	44	1	4,516
							incl.	49	50	1	2,841
								56	57	1	663
								62	63	1	324
							incl.	69 <i>70</i>	72 71	3 1	791 1,845
							IIICI.	75	76	1	323
77D 204	714022	4507000	762	260	-90	60		17	27	10	
Z7R-294	714033	4527238	763	360	-90	60	incl.	21	27 27	6	2,139 <i>3,344</i>
							11101.	43	44	1	1,539
Z7R-295	713927	4527368	757	360	-90	65		16	19	3	298
Z/R-295	113921	4027300	757	300	-90	05		22	24	3 2	280
								35	47	12	863
							incl.	38	39	1	1,262
							incl.	42	44	2	2,559
Z7R-296	714092	4527223	769	360	-90	60		No Sig	nifica	nt Intercep	ots
Z7R-297	713885	4527493	755	360	-90	70		16	37	21	1,324
							incl.	25	32	7	2,620
							incl.	34	37	3	1,832
								43	46	3	274
Z7R-298	714056	4527179	764	360	-90	60		43	44	1	258
								48	49	1	1,833
								52	53	1	389
Z7R-299	713815	4527362	761	360	-90	60	,	22	35	13	616
							incl. incl.	22 25	23 26	1 1	1,048 1,040
							incl.	25 32	35	3	1,040 1,169
							11101.	40	51	11	1,329
							incl.	40	43	3	1,219
							incl.	47	50	3	3,241
						7		57	58	1	551
Z7R-300	714044	4527210	764	360	-90	63		21	22	1	222
								27	37	10	1,969
							incl.	27	36	9	2,149
							l	46	49	3	1,016
770.001	740000	4505400	75^	000		0=	incl.	46	48	2	1,406
Z7R-301	713839	4527406	759	360	-90	65		20	21	1	302
								27 37	30 42	3 5	711 286
								52	42 57	5	281
77D 202	744040	4507004	764	260	00	60					
Z7R-302	7 14013	4527201	761	360	-90	60		16	18	2	350

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Drill	Easting	Northing	Elevation	Azimuth	Din	Depth		From	То	Interval	U <sub>3</sub> O <sub>8</sub>
Hole ID	(m)	(m)	(m)	(°)	(°)	(m)		(m)	(m)	(m)	ppm
	` ,	` '	` '	` ` `	.,	, ,		22	27	5	923
							incl.	24	25	1	2,499
							incl.	31 <i>34</i>	36 35	5 1	1,521 <i>5,7</i> 89
Z7R-303	713862	4527451	757	360	-90	70	IIICI.	14	27	13	1,217
							incl.	18	20	2	2,243
							incl.	22	24	2	3,932
							incl.	31 <i>34</i>	35 35	4 1	741 2,105
							IIICI.	3 <del>4</del> 41	43	2	1,778
							incl.	41	42	1	3,337
								48	51	3	898
Z7R-304	713992	4527269	759	360	-90	60		16 24	21	5	2,740
							incl.	24 24	29 25	5 1	993 2,948
							nioi.	37	41	4	1,760
							incl.	37	38	1	3,207
							incl.	40	41	1	3,690
				Υ.				44	45	1	619
770 005	740770	4505005	700	000	00	0.1		52	56	4	204
Z7R-305	713772	4527385	760	360	-90	61		15 31	17 33	2	445 322
								37	43	6	322 424
								46	49	3	274
								52	54	2	506
Z7R-306	714129	4527423	767	360	-90	70		60	61	1	266
Z7R-307	713794	4527430	758	360	-90	65		32	33	1	200
								44	50	6	357
								58	59	1	415
Z7R-309	713818	4527474	756	360	-90	82		31	37	6	430
								40 54	43 55	3 1	223 345
								73	77	4	383
Z7R-310	714062	4527398	759	360	-90	73		20	22	2	208
								30	34	4	457
						1 /		42	44	2	336
								52	56	4	1,207
Z7R-311	713804	4527508	754	360	-90	70		66 No Sig	69	3 nt Intercep	1,191 te
Z7R-312	714107	4527378	769	360	-90	70		52	53	1	322
Z7R-313	713769	4527274	763	360	-90	64		21	23	2	982
2/11/010	7 107 00	102727	700	000	00	01	incl.	21	22	1	1,350
								45	47	2	496
							,	50	53	3	934
							incl.	52 50	53	1	1,539
77D 214	71/151	150705F	772	360	00	56		56	58	2	636
Z7R-314 Z7R-315	714151 713783	4527355 4527317	773 762	360 360	-90 -90	60		42	47	nt Intercep 5	275
2111-010	, 10700	7021311	102	300	30	00		<del>4</del> 2 52	53	1	353
						/		56	57	1	325
Z7R-316	714128	4527311	772	360	-90	70		No Sig		nt Intercep	
Z7R-317	713748	4527341	762	360	-90	60		40	53	13	256
Z7R-318	713759	4527452	757	360	-90	65		No Sig	nifica	nt Intercep	ots
Z7R-319	713760	4527421	758	360	-90	65				nt Intercep	
Z7R-320	714104	4527266	770	360	-90	65	No Significant Intercepts				
Z7R-321	713722	4527328	763	360	-90	67	in = !	58 61	62	4	498
770 222	714140	4507400	760	260	00	60	incl.	61	62	1 nt Intercen	1,046
Z7R-322 Z7R-323	714110 713702	4527188 4527363	769 760	360 360	-90 -90	60 60				nt Intercep nt Intercep	
L117-323	113102	7021303	100	300	-90	UU		ino Sig	mical	in intercep	ιo

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D 111	F4:	M = -4le!		A!4la	D:	Darath		F	<b>T</b> -	lasts as and	
Drill Hole ID	Easting (m)	Northing (m)	Elevation (m)	Azimuth (°)	Dip (°)	Depth (m)		From (m)	To (m)	Interval (m)	U₃O <sub>8</sub> ppm
Z7R-324	714034	4527134	763	360	-90	67		19	21	2	290
								47	48	1	236
								52	56	4	444
Z7R-325	713728	4527402	758	360	-90	60		44	45	1	235
Z7R-326	714066	4527066	765	360	-90	60		30	31	1	278
Z7R-327	714011	4527089	762	360	-90	60		18	23	5	386
								26	37	11	202
Z7R-328	714088	4527107	766	360	-90	60				nt Intercep	
Z7R-329	713968	4527112	761	360	-90	60	incl.	28 29	43 32	15 3	1,288 5,599
Z7R-330	714110	4527153	768	360	-90	65				nt Intercep	
Z7R-331	714022	4527056	764	360	-90	60		27	28	1	241
								30	31	1	284
770.000	740000	4507400	704	000	00	00		34	38	4	294
Z7R-332	713923	4527136	761	360	-90	60		33 36	34 37	1	238 208
				7				40	41	1	277
Z7R-333	713977	4527079	763	360	-90	60		22	36	14	1,167
							incl.	28	29	1	9,585
770.004	740000	4507400	700	200	00	00	incl.	34	35	1	2,629
Z7R-334 Z7R-335	713933 714018	4527102 4527034	762 765	360 360	-90 -90	60 60				nt Intercep	
Z7R-336	713945	4527176	760	360	-90	60		32	33	1	239
Z7R-337	713995	4527045	764	360	-90	60				nt Intercep	
Z7R-338	714153	4527467	761	360	-90	70				nt Intercep	
Z7R-339	713951	4527067	763	360	-90	60		25	31	6	437
Z7R-340	714105	4527623	755	360	-90	83		9	28	19	1,147
							incl.	11	16	5	2,155
							incl.	<i>20</i> 31	22 32	2 1	2,420 611
								46	47	i 1	246
								57	66	9	348
Z7R-341	713989	4527149	760	360	-90	60		10	13	3	211
								21 32	25 33	4 1	1,432 244
						I 1		35	36	1	208
Z7R-342	714153	4527566	762	360	-90	80		36	37	1	289
								44	56	12	1,022
							incl.	47	48	1	2,948
								60 78	73 79	13 1	282 281
Z7R-343	714170	4527774	752	360	-90	60		2	23	21	1,471
			. •=				incl.	7	12	5	4,552
								32	33	1	249
Z7R-344	714138	4527756	753	360	-90	80		6	11	5	388
							incl.	14 18	20 19	6 1	1,641 7,911
							IIICI.	26	34	8	1,125
							incl.	26	30	4	1,429
							incl.	33 39	<i>34</i> 46	1 7	1,556 271
								59 50	62	7 12	526
							incl.	52	55	3	1,348
Z7R-345	714169	4527704	755	360	-90	85		14	30	16	497
							incl.	<i>14</i> 34	<i>17</i> 43	3 9	1,141 529
							incl.	34	35	1	2,158
								58	62	4	274

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Drill	Easting	Northing	Elevation	Azimuth	Dip	Depth		From	То	Interval	U <sub>3</sub> O <sub>8</sub>
Hole ID	(m)	(m)	(m)	(°)	(°)	(m)		(m)	(m)	(m)	ppm
								73	74	1	2,523
								79	80	1	371
Z7R-349	714224	4527607	758	257	-60	82		38	39	1	250
								76	78	2	487
								81	82	1	202
Z7R-350	714172	4527628	756	209	-60	74		27	28	1	204
								48	55	7	245
								67	73	6	412
Z7R-351	714128	4527638	754	171	-60	78		36	37	1	367
								32	33	1	341
								42	60	18	266
								63	67	4	316
Z7R-352	714095	4527641	753	170	-60	80		40	41	1	217
								77	79	2	295
Z7R-353	714051	4527665	752	166	-60	85		50	53	3	251
								72	75	3	256
				Ž.				78	79	1	210
Z7R-354	713936	4527620	749	214	-60	73		7	9	2	506
								16	26	10	619
							incl.	18	19	1	1,763
							incl.	22	23	1	1,710
								32	33	1	523
								46	47	1	248
								56	57	1	222
								60	61	1	210
Z7R-355	713978	4527686	749	360	-90	50		11	12	1	282

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## Appendix 3: ASX Summary of Ore Reserve Estimate and Reporting Criteria

The DFS, Ore Reserve Estimate, Production Targets, and forecast financial information derived from the DFS, Ore Reserve Estimate and Production Target contained in this announcement, are based on the material assumptions contained within this announcement which are summarized below:

**Table 15 - Material Assumptions** 

Table of Material Assumptions Underpine	ning the Study
Maximum Accuracy variation	+/- 10%
Mine Life	14 years
Mining Method	Open-pit & transfer mining
Strip Ratio (life of mine average)	1:1.4
Mining Cut-off Grades	107 ppm $U_3O_8$ for Retortillo, 125 ppm $U_3O_8$ for Zona 7 and 90 ppm $U_3O_8$ for Alameda
Overall Pit Wall Slope Angles	34-61 degrees for Retortillo, 47-59 degrees for Zona 7, and 34-59 degrees for Alameda
Processing Method	Heap leaching using on-off leach pads, followed by uranium recovery and purification by solvent extraction, ammonium diuranate precipitation and calcination
Annual Ore Processing Rate (steady state)	2.7 Mtpa for Retortillo and Zona 7 / 3.4 Mtpa for Alameda
Annual U <sub>3</sub> O <sub>8</sub> Production (steady state)	4.4 Mtpa
Metallurgical Recovery	88%
Sulphuric Acid Price	€70 per tonne
Acid Consumption	18 kg/t for Retortillo, 20 kg/t Alameda, and 10 kg/t for Zona 7
Mining Costs	US\$9.90/lb for Retortillo US\$3.50/lb for Zona 7 US\$7.40 for Alameda
Processing Costs	US\$10.70/lb for Retortillo US\$5.50/lb for Zona 7



Table of Material Assumptions Underpine	ning the Study
	US\$11.10 for Alameda
G&A Costs	US\$0.90/lb for Retortillo US\$0.90/lb for Zona 7 US\$0.90 for Alameda
Initial Capital Costs (Retortillo)	US\$95.7 million
Initial Capital Costs (Zona 7)	US\$59.2 million
Initial Capital Costs (Almeda)	US\$79.7 million
Commercialisation Costs	1.00%
State Reserves Royalty – ENUSA (Alameda)	2.50%
Municipality Royalty	0.20%
Anglo Pacific Royalty	1.00%
RCF Royalty	0.38%
Corporate Tax Rate	25%
Exchange Rate USD / EUR	1.11
Exchange Rate GBP / EUR	0.75
Uranium Sales Price (2017 – 2030)	US\$39-US\$68/lb
Discount Rate	8%

Mtpa = Million tonnes per annum Mlbs = Million pounds of U<sub>3</sub>O<sub>8</sub>

#### Introduction

The Salamanca project is made up of three distinct deposits which will be mined independently of each other, namely:

- Retortillo (including the Santidad satellite deposit);
- Zona 7; and
- Alameda.

Retortillo and Zona 7 will be mined sequentially with ore being processed in a common processing facility while Alameda will be mined in parallel with the other sites. Processing of the Alameda ore will initially take place on-site, with loaded resin then transported 50km by road to the Retortillo plant for final processing.

Bara Consulting (Pty) Ltd. (Bara) has been commissioned by Berkeley (the Company) to provide a JORC compliant Ore Reserve Estimate for the Salamanca project based on all information available as of 13 July 2016. Bara's independence is ensured by the fact that we are a private employee owned company.



Bara has classified the reserves given in this report in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code").

The generation of the Ore Reserve Estimate is the culmination of work by Bara and other parties. Bara has reviewed the input by others and considers that the information provided is complete and supports the declaration of Ore Reserves, we have no reason to believe that any material facts have been withheld.

This report includes technical information, which requires subsequent calculations to derive subtotals, totals and weighted averages. Such calculations may involve a degree of rounding and consequently introduce an error. Where such errors occur, Bara does not consider these to be material.

## Mining method and assumptions

All of the deposits being considered are shallow (ranging between 0m to 160m depth below surface) and massive. Due to the depth and geometry of the deposit, the selected mining method is conventional drill blast truck and shovel open pit mining. Strip ratios will vary per deposit as follows:

Retortillo: 2.47 tonnes of waste per tonne of ore

Santidad: 1.36 tonnes of waste per tonne of ore

Zona 7: 1.13 tonnes of waste per tonne of ore

Alameda: 1.08 tonnes of waste per tonne of ore

Some of the pre-strip material will be used as construction material. Access to the pit will be by conventional open pit ramps, 25m in width that enables access for 100 tonne trucks.

Metallurgical test work has demonstrated that the mineralised material at all the deposits is amenable to a heap leaching process for the extraction of the uranium. Following heap leaching the pregnant solution will undergo ion exchange, solvent extraction and precipitation of ADU.

All treated/spent ore will be deposited back into the mined voids along with all other mined waste material.

#### Ore Reserve Estimate classification criteria

The classification of the Mineral Resource Estimate was completed by Mr. M Titley, a competent person, based on the guidelines specified in the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition).

Resource estimates were classified with consideration of the following criteria:

- Quality and reliability of raw data (sampling, assaying, surveying).
- Confidence in the geological interpretation.
- Number, spacing and orientation of intercepts through mineralised zones.
- Knowledge of grade continuities gained from observations and geostatistical analyses.
- The potential prospect for eventual economic extraction.



For the Retortillo and Zona 7 Resource estimations, grade was estimated into large panels ( $20m \times 20m \times 6m$  and  $25m \times 25m \times 6m$  respectively) with ISATIS software using Ordinary Kriging (OK) to estimate in-situ resources, and Uniform Conditioning (UC) to estimate recoverable resources at the dimensions of the SMU ( $5m \times 5m \times 6m$ ).

A post-processing step called Localised Uniform Conditioning (LUC) was applied. This involves reconstituting the grade-tonnage of the panel model into the constituent SMU's of that panel – in this case, each panel has 16 SMU's that make up the panel. The grade-tonnage curve of the 16 SMU's in each panel is designed to match the grade-tonnage curve of the panel.

The Alameda model was estimated using ordinary kriging and Inverse Distance Squared (ID2) methods on a regular block size of 10m x 10m x 6m.

The Retortillo deposits extend from surface to depths of up to 90m, in plan view the deposit is divided in two orebodies: at the northwest Santidad and to the southeast Retortillo. Retortillo orebody covers an area of approximately 3km by 0.4km the northern part, Santidad, is narrower covering an area of approximately 3km by 0.2km. At 100ppm cut-off grade, the combined resource totals 36.6Mt at 259ppm  $U_3O_8$  for 20.9Mlbs  $U_3O_8$ , with 27% of the resource currently in the Measured Category and 72% in the Indicated Category. The remaining resource is classified as Inferred.

The Zona 7 deposit has a lateral unfolded extension of 3km at a width of 0.4km, thinning out towards the north. At 100ppm cut-off grade, the Zona 7 resource totals 36.8Mt at 431ppm  $U_3O_8$  for 35.0Mlbs  $U_3O_8$ , with 24% in the Measured Category and 55% of the resource in the Indicated Category. The remaining resource is classified as Inferred.

The Alameda deposit extends from surface to depths of up to 180m. The mineralised body is controlled through a central brecciated fault and perpendicularly oriented folded stratigraphy, covering an area of 2km by 1.2 km. At 100ppm cut-off grade, the Alameda resource totals 34.0Mt at 339ppm  $U_3O_8$  for 25.4Mlbs  $U_3O_8$ , with 0% of the resource in the Measured Category and 95% of the resource in the Indicated Category. The remaining resource is classified as Inferred.

The Mineral Resources for the Salamanca project, at a 100ppm  $U_3O_8$  cut-off grade, is 107.4Mt at 343ppm  $U_3O_8$ , with 17% in the Measured Category, 72% in the Indicated Category and 11% in the Inferred Category.

Table 16 summarise the resources declared for each of the deposits at a 100ppm cut-off grade.

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Table 16: Salamanca Mineral Resources at 100ppm

Deposit	Resource	Tonnes	U <sub>3</sub> O <sub>8</sub>	U <sub>3</sub> O <sub>8</sub>	U <sub>3</sub> O <sub>8</sub>	Category
Name	Category	(Mt)	(ppm)	(t)	(MIbs)	(%)
	Measured	7.6	332	2,539	5.6	27%
Retortillo	Indicated	28.5	240	6,839	15.1	72%
(including Santidad)	Inferred	0.5	231	115	0.3	1%
	Total	36.6	259	9,493	20.9	100%
	Measured	7.5	514	3,862	8.5	24%
7 7	Indicated	15.4	563	8,691	19.2	55%
Zona 7	Inferred	13.9	239	3,319	7.3	21%
	Total	36.8	431	15,872	35.0	100%
	Measured	0.0	0	0	0.0	0%
Alameda	Indicated	32.8	335	11,003	24.3	95%
	Inferred	1.2	464	535	1.2	5%
	Total	34.0	339	11,537	25.4	100%
	Measured	15.2	422	6,401	14.1	17%
Salamanca	Indicated	76.7	346	26,533	58.5	72%
project	Inferred	15.6	255	3,968	8.7	11%
	Total	107.4	343	36,902	81.4	100%

All resources are reported using a 100ppm  $U_3O_8$  cutoff grade, differences due to rounding

In order to determine the Mineral Resources that would be considered for inclusion into the mining plan a pay limit grade calculation was undertaken. Based on the outcome of the pay limit grade calculation a mining cut-off grade was selected which was above the pay limit. The pay limit grade calculation was undertaken for a range of  $U_3O_8$  pricing scenarios ranging from US\$44/lb to US\$65/lb. The pay limit grade calculation is shown in Table 17 at a selling price of US\$65/lb of  $U_3O_8$ .



**Table 17: Pay Limit Grade Calculation** 

Item	Retortillo/ Santidad	Zona 7	Alameda	Unit
Revenue				
Selling price (USD/lb U <sub>3</sub> O <sub>8</sub> )	\$65.00	\$65.00	\$65.00	USD/lb
Exchange rate (USD/€)	1.11	1.11	1.11	USD/€
U <sub>3</sub> O <sub>8</sub> (€/lb)	58.50	58.50	58.50	€/lb
U <sub>3</sub> O <sub>8</sub> excluding royalties(€/lb)	56.92	56.92	55.46	€/lb
Selling cost				
Total Selling costs (% revenues)	2.70%	2.70%	5.20%	%
Modifying Factors				
Mine Recovery	95%	95%	99%	%
Dilution	4%	4%	1%	%
Plant Recovery	85%	85%	85%	%
Cut Off Grade Estimate				
Operating Cost (€/t processed)	9.45	9.90	8.63	€/t
Price U <sub>3</sub> O <sub>8</sub> (€/t)	0.125	0.125	0.122	€/g
COG (ppm U <sub>3</sub> O <sub>8</sub> )	97	102	85	ppm

Based on the outcome of the pay limit grade calculation a mining cut-off grade was selected for each of the sites and applied to the mineral resource models. The cut-off grades selected are higher than the pay limit for each of the sites in order to optimise the economic margin. The cut-off grades selected for each site were:

Retortillo: 110ppm
Santidad: 100ppm
Zona 7: 125ppm
Alameda: 90ppm

Table 18 to Table 21 present the Mineral Resources considered for each deposit at the mining cut off.



Table 18: Mineral Resources Considered for Mining at 110ppm - Retortillo

Resources Category	Tonnage (Mt)	Grade (ppm)	Content (MIb)
Measured	7.0	345	5.3
Indicated	15.9	275	9.7
Inferred	0.0	0	0.0

Table 19: Mineral Resources Considered for Mining at 100ppm - Santidad

Resources Category	Tonnage (Mt)	Grade (ppm)	Content (MIb)
Measured	0.0	0	0.0
Indicated	10.0	203	4.5
Inferred	0.5	228	0.2

Table 20: Mineral Resources Considered for Mining at 125ppm - Zona 7

Resources Category	Tonnage (Mt)	Grade (ppm)	Content (MIb)
Measured	6.8	553	8.3
Indicated	13.9	603	18.5
Inferred	9.9	255	5.6

Table 21: Mineral Resources Considered for Mining at 90ppm - Alameda

Resources Category	Tonnage (Mt)	Grade (ppm)	Content (MIb)
Measured	0.0	0	0.0
Indicated	37.4	290.4	24.0
Inferred	0.0	0.0	0.0

Planned dilution of Retortillo, Santidad and Zona 7 was applied through regularisation of the block model. The original resource model produced by Mr. Titley was populated with minimum block sizes of  $5m \times 5m \times 1.5m$ . The block model was then regularised to  $5m \times 5m \times 6m$  to account for the selective mining unit. In addition to this, dilution of 4% was applied to account for unplanned dilution due to blast movement, mixing of ore and waste and mining angles.



Planned dilution of Alameda was applied through regularisation of the block model. The original resource model was populated with minimum block sizes of  $5m \times 5m \times 1.5m$ . The block model was then regularised to  $10m \times 10m \times 6m$  to account for the selective mining unit. As a larger selective mining unit was applied to the Alameda model, lower dilution was applied in comparison to the other deposits. An additional dilution of 1% and was applied to account for unplanned dilution due to blast movement, mixing of ore and waste and mining angles.

An allowance was made for ore loss to account for:

- Broken ore not loaded or loaded to waste (boundary effect).
- Ore not broken due to inaccurate mining or mining complications.
- Ore spillage during the mucking and hauling process, between the mining face and the RoM stockpile.

As with the dilution these modifying factors are affected by the size of the selective mining unit. Ore loss allowed for Retortillo, Santidad and Zona 7 was 5% while at Alameda this was lower at 1% due to the larger SMU block size modelled.

The Mineral Resources, cut off grades and modifying factors described above were used to generate the mining inventory from the Mineral Resource models. The process followed involved the following steps:

- The selected cut-off grade was applied to the full model to define the payable Mineral Resources.
- A design process was undertaken (pit optimisation, pit design and schedule) which defined the payable ore that would be included into the mining plan.
- The Mineral Resources contained in the mining plan were modified by the modifying factors (dilution and ore loss) to give the modified mining inventory.

Table 22 to 25 show the steps in the generation of the mining inventory for each of the deposits.

Table 22: Generation of Mining Inventory - Retortillo

Description	Cut Off Grade (ppm)	Resource Category	Tonnage (Mt)	Grade (ppm)	Content (Mlb)
		Measured	110.3	28	6.7
Full Model	0	Indicated	286.3	22	13.8
		Inferred	0.0	0	0.0
	110	Measured	7.0	345	5.3
Full Model		Indicated	15.9	275	9.7
		Inferred	0.0	0	0.0
		Measured	4.0	413	3.7
Design Inventory	110	Indicated	7.4	342	5.6
		Inferred	0.0	0	0.0
Modified	110	Measured	4.0	397	3.5



Inventory	Indicated	7.3	329	5.3
	Inferred	0.0	0	0.0

Table 23: Generation of Mining Inventory - Santidad

Description	Cut Off Grade (ppm)	Resource Category	Tonnage (Mt)	Grade (ppm)	Content (MIb)
		Measured	0.0	0	0.0
Full Model	0	Indicated	274.1	13	7.9
		Inferred	31.8	6	0.4
		Measured	0.0	0	0.0
Full Model	100	Indicated	10.0	203	4.5
		Inferred	0.5	228	0.2
	100	Measured	0.0	0	0.0
Design Inventory		Indicated	4.7	268	2.8
niveniery		Inferred	0.2	265	0.1
Modified Inventory		Measured	0.0	0	0.0
	100	Indicated	4.6	258	2.6
Sillory		Inferred	0.2	255	0.1

Table 24: Generation of Mining Inventory - Zona 7

Description	Cut Off Grade (ppm)	Resource Category	Tonnage (Mt)	Grade (ppm)	Content (MIb)
		Measured	10.7	375	8.9
Full Model	0	Indicated	26.8	340	20.1
		Inferred	27.4	121	7.3
		Measured	6.8	553	8.3
Full Model	125	Indicated	13.9	603	18.5
		Inferred	9.9	255	5.6
	125	Measured	6.6	564	8.2
Design Inventory		Indicated	12.1	649	17.3
involuory		Inferred	0.4	466	0.4
Modified Inventory		Measured	6.5	542	7.8
	125	Indicated	11.9	624	16.4
voiltoi y		Inferred	0.4	448	0.4



Table 25: Generation of Mining Inventory - Alameda

Description	Cut Off Grade (ppm)	Resource Category	Tonnage (Mt)	Grade (ppm)	Content (Mlb)
		Measured	0.0	0	0.0
Full Model	0	Indicated	613.3	194	262.9
		Inferred	15,885.0	0	0.0
		Measured	0.0	0	0.0
Full Model	90	Indicated	37.4	290	24.0
		Inferred	0.0	0	0.0
		Measured	0.0	0	0.0
Design Inventory	90	Indicated	26.4	330	19.2
involuory		Inferred	0.0	0	0.0
		Measured	0.0	0	0.0
Modified Inventory	90	Indicated	26.4	327	19.0
Sinory		Inferred	0.0	0	0.0

It is specifically noted that small amounts of Inferred Mineral Resources are contained in the mining inventory for the Santidad and Zona 7 deposits. These Inferred resources are unavoidably mined during the extraction of the Measured and Indicated Resources and comprises less than 1% of the total Mining Inventory and will therefore have an insignificant impact on the financial viability of the project. These Inferred Mineral Resources have not been included into the stated Ore Reserves for the project.

#### Ore Reserve estimation

The results of the techno-economic evaluation (below) demonstrate that the project is economically viable based on the designs established and the assumptions used in this study. It is therefore possible to declare an Ore Reserve for the Salamanca project.

The Ore Reserve Statement is shown in the Table 26.



Table 26: Salamanca project Ore Reserve Statement

Deposit Name	Ore Reserve Category	Tonnage (Mt)	Grade (ppm)	Content (MIb)
Retortillo	Proved	4.0	397	3.5
Retortillo	Probable	7.3	329	5.3
Contided	Proved	0.0	0	0.0
Santidad	Probable	4.6	258	2.6
7ono 7	Proved	6.5	542	7.8
Zona 7	Probable	11.9	624	16.4
Alameda	Proved	0.0	0	0.0
	Probable	26.4	327	19.0

# Other material modifying factors

### **Economic**

A detailed financial model and discounted cash flow analysis was been prepared in order to demonstrate the economic viability of the Ore Reserves. The NPV of the projected cash flows is US\$531.9 million at an 8% (real) discount rate, with an IRR of 60%.

he table below give a summary of the results of this financial evaluation.

**Table 27: Summary of Project Financial Evaluation** 

Description	Value	Unit
Production		
Life of Mine (LOM)	13.75	years
Ore Mined	61.3	tonnes'million
Ore Grade	408	ppm
Recovered U3O8	48.6	Mlbs U <sub>3</sub> O <sub>8</sub>
Operating Cost		
Life of Mine C1 Cash Cost	15.39	USD/lb U <sub>3</sub> O <sub>8</sub>
Life of Mine C2 Cash Cost	17.15	USD/lb U <sub>3</sub> O <sub>8</sub>
Life of Mine All-in Cash Cost	20.25	USD/lb U <sub>3</sub> O <sub>8</sub>
LOM Operating Cost	899.2	USD'million
Capital Cost		
Capital to First Production	95.7	USD'million
LOM Capital Cost	274.4	USD'million



Revenue		
Sales Pricing Basis	UXC Forecas	sted Q2 2016
Sales Price (LOM Avg.)	52.07	USD/lb U <sub>3</sub> O <sub>8</sub>
Total Gross Sales (LOM)	2532.4	USD'million
Financial Metrics		
EBITDA (Maximum Annual)	226.3	USD'million
Post-Tax NPV (8%)	531.9	USD'million
Post-Tax IRR	59.7	%

It is noted that limited amounts of risk capital have been spent on the project prior to the initiation of project implementation on the following:

- Road diversion at Retortillo site.
- Power line diversion at Retortillo site
- Elements of the Front End Engineering & Design (FEED) program.

The total amount of capital expended on these items is approximately €3 million, this expenditure is considered sunk capital and is not included in the financial evaluation. Based on the financial evaluation sensitivities this capital does not materially affect the financial outcome or the viability of the project.

## Infrastructure

Road, power line and communications are available for Retortillo and Zona 7.

A land acquisition process has begun with some land already acquired. It is not expected that there will be difficulties in reaching amicable agreements with the current landowners in the future.

Access infrastructure is minor due to existing roads, and the same is applicable for power, water, etc for Alameda.

The land acquisition process has not begun at Alameda. Difficulties to reach amicable agreements with the current landowners is not expected. In the event any difficulties are encountered, Spanish law provides for companies to initiate a land expropriation process. Total land to be acquired is approximately 487Ha.

Environmental, Permitting, Legal and Socioeconomic Position

All permits have been approved for initial infrastructure development to commence with the road deviation and upgrading of existing power line underway.

The main permits at Retortillo have been granted including the Environmental Licence and a 30 year Mining License valid until 2044. The Mining Licence is renewable for two further periods of 30 years each. The initial Authorization of the Radioactive facility has also been received by the Company.



Zona 7 lies on the Alisos Investigation Permit (PI 6605-20) which is 100% owned by a wholly owned subsidiary of Berkeley Energia Limited. The Alisos Investigation Permit is currently in the first year of the third three year term which was granted on 11 January 2016.

Alameda lies on the Salamanca XXVIII Definitive State Reserve 6362 which is 100% owned by a wholly owned subsidiary of the Company.

The Definitive State Reserve is currently in the twelfth year of its second 30 year term (valid until 2033) and may be extended for an additional period of 30 years. It covers an area of 16.5km<sup>2</sup> and includes the entire area containing the Alameda mineralisation.



#### **Competent Persons Statement**

The information in this announcement that relates to Definitive Feasibility Study is based on, and fairly represents, information compiled or reviewed by Mr. Jeffrey Peter Stevens, a Competent Person who is a Member of The Southern African Institute of Mining & Metallurgy, a 'Recognised Professional Organisation' (RPO) included in a list posted on the ASX website from time to time. Mr. Stevens is employed by MDM Engineering (part of the Amec Foster Wheeler Group). Mr. Stevens has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Stevens consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Ore Reserve Estimates, Mining, Uranium Preparation, Infrastructure, Production Targets and Cost Estimation is based on, and fairly represents, information compiled or reviewed by Mr. Andrew David Pooley, a Competent Person who is a Member of The Southern African Institute of Mining and Metallurgy', a Recognised Professional Organisation' (RPO) included in a list posted on the ASX website from time to time. Mr. Pooley is employed by Bara Consulting (Pty) Ltd. Mr. Pooley has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Pooley consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to the Mineral Resources for Zona 7 is based on, and fairly represents, information compiled or reviewed by Mr Malcolm Titley, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Titley is employed by Maja Mining Limited, an independent consulting company. Mr Titley has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Titley consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to the Mineral Resources for Retortillo is extracted from the announcement entitled 'Increase in Retortillo grade expected to boost economics' dated 7 January 2015 which is available to view on Berkeley's website at www.berkeleyenergia.com. The information in the original announcement is based on, and fairly represents, information compiled by Mr Malcolm Titley, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Titley is employed by Maja Mining Limited, an independent consulting company. Mr Titley has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.



The information in this announcement that relates to the Mineral Resources for Alameda (refer ASX announcement dated 31 July 2012) is based on information compiled by Mr Craig Gwatkin, who is a Member of The Australasian Institute of Mining and Metallurgy and was an employee of Berkeley Energy Limited at the time of initial disclosure. Mr Gwatkin has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Gwatkin consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears. This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.

#### **Forward Looking Statements**

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



# JORC Code, 2012 Edition – Table 1 report (Zona 7)

#### **Section 1 Sampling Techniques and Data**

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

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#### **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.

Berkeley reverse circulation (RC) drill samples are collected over 1m intervals. Multiple methods were used to determine uranium mineralisation intervals including down hole gamma analysis, hand held scintillometer measurements and portable XRF analysis. Intervals containing uranium mineralisation were selected and submitted for laboratory assay analysis.

Berkeley diamond drill (DD) core was sampled using 0.25-1.85m intervals in the mineralised zones, including areas of internal low grade or waste. In addition, the sampling was extended 3-5m up and down hole from the interpreted mineralised zone. Half or quarter core was used for sampling.

Junta de Energía Nuclear (JEN) DD core was sampled using 0.25m, 0.20m and 1.00m intervals in the mineralised zones, with 0.25m intervals being the most frequent sample length.

Standards and blanks are inserted into the sample stream to assess the accuracy, precision and methodology of the external laboratories used. In addition, field duplicate samples are inserted to assess the variability of the uranium mineralisation. Approximately 15-20% of all samples relate to quality control. In addition, the laboratories undertake their own duplicate sampling as part of their internal QA/QC processes. Examination of the QA/QC sample data indicates satisfactory performance of field sampling protocols and assay laboratories providing acceptable levels of precision and accuracy.

Drill hole collar locations are surveyed by qualified surveyors (Cubica Ingeniería Metrica S.L) using standard differential GPS (DGPS) equipment achieving sub decimetre accuracy in horizontal and vertical position. Down-hole surveys are undertaken using a Geovista down-hole deviation probe. Measurements are taken every 1cm down hole and averaged every 5m or 10m. No strongly magnetic rocks are present within the deposit which may affect magnetic based readings.

JEN sampled whole core using 0.25m, 0.20m and 1.00m interval lengths. QA/QC protocols used are unknown.

RC drill samples are collected over 1m intervals, manually homogenised before being split on site using a three tier riffle splitter to provide an approximate 3-5kg sample. In rare cases, wet samples are split using a cone and quarter method.

Scintillometer measurements are taken on all samples and this data is used to select the samples to be sent to external laboratories for sample preparation and analysis. Indicative mineralised intervals are determined from this data and the sampling extended up and down hole by at least 2-5m.

Samples are further split in the core shed using a scoop such that 0.7-1kg samples are sent to the preparation

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.



Criteria	JORC Code explanation	Commentary
		laboratories of ALS and AGQ (Seville, Spain) and analytical laboratory of ALS (Loughrea, Ireland). Samples are dried, fine crushed down to 70% below 2mm, split to obtain 250g and pulverised with at least 85% of the sample passing 75µm. 10g of sample is used for uranium analysis by pressed powder X-ray fluorescence (XRF) method. (2013, 2014, 2015 and 2016 drilling campaigns).
		Samples from the 2007 and 2008 drilling campaigns were sent to Actlabs Canada for uranium analysis by the Delayed Neutron Counting (DNC) method.
		JEN core samples were prepared in internal company laboratories and assayed for uranium using XRF, Atomic absorption spectroscopy (AAS) or fluorometric methods.
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	Berkeley drilling comprised both DD (HQ) and RC drilling using a 140mm diameter face sampling hammer.
	tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	For angled DD oriented core was achieved using DeviCore measurements (2014 and 2015 drilling campaigns).
		The historical JEN drilling, which accounts for approximately 15% of the total drilling, was used DD (NQ).
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Berkeley and JEN DD typically recorded overall core recoveries in excess of 90%, which is considered acceptable.
		Berkeley RC drill samples are collected over 1m intervals through a cyclone. Plastic sample bags are strapped to the cyclone to maximise sample recovery. Individual sample bags are not weighed to assess sample recovery but a visual inspection is made by the Company geologist to ensure all samples are of approximately equivalent size.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	The DD drilling rigs used face discharge bits to ensure a low contact between the rock and drilling fluids, minimising ore washing. Core was cut using a water saw with care taken to ensure minimal ore loss.
		The RC drilling rigs utilised suitably sized compressors to ensure dry samples where possible. Plastic sample bags are strapped to the cyclone to maximise sample recovery. Sample logs record whether the sample is dry, moist or wet.
7	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.	Due to the solubility and mobility of the uranium minerals the use of water in core recovery in DD is controlled.
	providental root gam of mile octave material.	There is no known relationship between sample recovery and grade. The RC sample recoveries are of an acceptable level and no bias is expected from any sample losses.
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.	Berkeley logging of DD core included recording descriptions of lithology, age, colour, oxidation, mineralisation, alteration, weathering, structures, textures, grain size and mineralogy.
		Berkeley geotechnical logging of DD core included recording descriptions of integrity (recovery and RQD), materials (lithology, rock strength and depth oxide staining), structures (type, angle, contact type, infill, weathering)
		Berkeley structural logging of DD core included recording descriptions of structure type, structural angles, contact type, infill, line type and slip direction.
		Berkeley alteration logging of DD core included recording



	Criteria	JORC Code explanation	Commentary
			descriptions of metamorphic textures, alteration mineralogy and mineralisation style.
			Berkeley geological logging of RC chip samples included recording descriptions of lithology, weathering, alteration and mineralisation. A scintillometer reading of counts per second (cps) was recorded for each 1m sample (quantitative).
			JEN geological logging of DD core included recording descriptions of lithology, iron oxides, sulphides, uranium mineralogy, fracturing and no recovery zones.
	15)	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Geological logging is qualitative in nature.
C			Berkeley DD core boxes and samples and RC samples and chip trays were photographed.
	/		JEN did not take photographs of drill core.
	3	The total length and percentage of the relevant intersections logged.	All DD and RC drill holes are logged in full by Company geologists.
	Sub-sampling techniques	If core, whether cut or sawn and whether quarter, half or all core taken.	Berkeley DD core was sampled using 0.25-1.85m intervals in the mineralised zones, including areas of internal low grade or waste. In addition, the sampling was extended 3-5m up and down hole from the interpreted mineralised zone. Half or quarter core was used for sampling.
			JEN DD core was sampled using 0.25m, 0.20m and 1.00m intervals in the mineralised zones, with 0.25m intervals being the most frequent sample length. Whole core was used for
	and sample preparation	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Berkeley RC drill samples were collected at 1m intervals. RC intervals were sampled by splitting dry samples in the field to 3-5kg using cone and quarter method (2008 and 2013 drilling campaigns), three tier riffle splitter (2014 drilling campaign) or manually homogenised before being split on site using a three tier riffle splitter (2015 drilling campaign) and further split in the core shed to 0.7-1kg using a scoop. Where samples were wet they were dried prior to spitting. In rare cases, wet samples were split using a cone and quarter method.
		For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Berkeley samples (2013, 2014 and 2015 drilling campaigns) were sent to ALS and AGQ laboratories for preparation and ALS laboratories for analysis. Samples were dried, fine crushed down to 70% below 2mm and pulverised with at least 85% of the sample passing 75µm. 10g of sample was used for uranium analysis by pressed powder XRF method. Samples from the 2007 and 2008 drilling campaigns were sent to Actlabs Canada for uranium analysis by the DNC method. These methods are considered appropriate for this style of uranium mineralisation.
Ш			JEN core samples were prepared and assayed for uranium at internal company laboratories using XRF, AAS or fluorometric methods.
		Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Previous field tests have determined that the sample size and method of sampling produce representative RC samples. QA/QC procedures involve the use of standards, duplicates and blanks which are inserted into sample batches at a frequency of approximately 15-20%.
			Quality control procedures used by JEN are unknown.
	l		



Criteria	JORC Code explanation	Commentary
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Duplicate splits of RC samples are taken every 10m down hole within the sampled intervals. The results from these duplicates generally show acceptable repeatability, however indications of inhomogeneity were observed in a number of duplicates.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The uranium is typically very fine grained. Previous test work carried out by Berkeley using different sample sizes has demonstrated that the selected sample size is appropriate.
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.	Berkeley assayed samples for uranium using the DNC method during the 2007 and 2008 drilling campaigns and pressed powder XRF during the 2013, 2014 and 2015 drilling campaigns. These analytical methods report total uranium content.
		JEN assayed samples for uranium were completed at internal company laboratories using XRF, AAS or fluorometric methods. No QA/QC data is available for this historical data.
	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.	Down-hole gamma logging was undertaken for all probe accessible holes drilled by Berkeley to provide $eU_3O_8$ ("equivalent" $U_3O_8$ grade) data. The down-hole gamma response was converted to $eU_3O_8$ by correcting for radon, hole diameter, air/water and a deconvolution filter was also applied. $eU_3O_8$ data was only considered in the mineral resource estimation process when chemical assay data was
	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.	not available.  Standards, blanks and duplicates were regularly inserted into the sample stream by Berkeley, with approximately 15-20% of all samples related to quality control. The external laboratories used also maintain their own process of QA/QC utilising standards, pulp repeats, sample duplicates and blanks.
		Standards, blanks and duplicates are regularly inserted into the sample stream with approximately 15-20% of all samples related to quality control. The external laboratories used also maintain their own process of QA/QC utilising standards, pulp repeats, sample duplicates and blanks.
		Review of the Berkeley quality control samples, as well as the external laboratory quality QA/QC reports, has shown no sample preparation issues, acceptable levels of accuracy and precision and no bias in the analytical datasets.
		JEN used internal company laboratories. No QA/QC data is available for this historic data.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Reported significant intersections have been checked and verified by Senior Geological management and Independent CP Malcolm Titley (Maja Mining Ltd.).
	The use of twinned holes.	No twinned holes were drilled for the current mineral resource estimation process.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All primary data was recorded in templates designed by Berkeley. Assay data from the external laboratory is received in spreadsheets and downloaded directly into an Access Database managed by the Company. Data is entered into controlled excel templates for validation. The validated data is then loaded into a password secured relational database by a designated Company geologist. Daily backups of all



	Criteria	JORC Code explanation	Commentary
			digital data are undertaken. These procedures are documented in the Berkeley Technical Procedures and Protocols manual.
			JEN primary paper data was digitalized and recoded following the Berkeley protocols. The validated data was then loaded into a password secured relational database by a designated Company geologist.
	15	Discuss any adjustment to assay data.	Uranium (ppm) assays received from the external laboratory are converted to $U_3O_8$ (ppm) using the stoichiometric factor of 1.179.
	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.	Berkeley drill hole collar locations were surveyed by qualified surveyors (Cubica Ingeniería Metrica S.L) using standard differential GPS (DGPS) equipment achieving sub decimetre accuracy in horizontal and vertical position.
			Berkeley down-hole surveys were undertaken using a Geovista down-hole deviation probe. Measurements were taken every 1cm down hole and averaged every 5m or 10m. No strongly magnetic rocks are present within the deposit which may affect magnetic based readings.
6	$\bigcirc$		JEN holes were drilled on grid coordinates and were not surveyed after drilling.
		Specification of the grid system used.	The grid system is ETRS 1989 UTM Zone 29N.
		Quality and adequacy of topographic control.	Topographic control is based on a digital terrain model with sub metric accuracy sourced from the Spanish Geographical Institute (Instituto Geográfico Nacional) and is verified through detailed drill hole collar surveys by a qualified surveyor using a DGPS.
	Data spacing and distribution	Data spacing for reporting of Exploration Results.	The majority of the Berkeley drilling was undertaken on a notional 35m by 35m in the two first year open pit production inside Domain 6, 50m by 50m grid in the rest of the Domain 6 and 100m by 100m in the other smaller domains, with section lines orientated approximately perpendicular to the interpreted strike of the mineralisation.
			The historical JEN drilling was completed on a closer spaced 35m by 35m grid within the previous resource area.
		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.	The data spacing (notionally 35m by 35m) is considered sufficient to assume geological and grade continuity, and allow the estimation of Measured Mineral Resources.
		Whether sample compositing has been applied.	No compositing of RC samples in the field has been undertaken.
	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.	The mineralised zone is a 2-3km scale fold structure with the dominant strike direction being NNE-SSW. Despite the general dip of the host geological units and structures ranging from 50-80°, the mineralised zone is interpreted to be sub-horizontal to shallowly dipping due to the nature of the mineralisation processes.
		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.	The majority of DD and RC drill holes are vertical. Due to the interpreted flat lying nature of the mineralisation, no sampling bias is considered to have been introduced by the orientation of the drilling.
	Sample	The measures taken to ensure sample security.	Chain of custody is managed by Berkeley. Samples were transported from the drill site by Company vehicle to a



Criteria	JORC Code explanation	Commentary
security		sample preparation shed where samples are prepared for dispatch. Samples are sent directly from the sample preparation shed to the laboratory using a certified courier or a Berkeley owned vehicle authorised for radioactive materials transport. No other freight is transported with the samples which are taken directly from the Berkeley facility to the external laboratory. Sample submission forms are sent in paper form with the samples as well as electronically to the laboratory. Reconciliation of samples occurs prior to commencement of sample preparation for assaying.
15		The historical drilling samples were prepared and analysed using internal company laboratories. The chain of custody is unknown.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sampling techniques and procedures, as well as QA/QC data, are reviewed internally an ongoing basis. Mr Malcolm Titley (Geology Consultant, Maja Mining Limited) has independently reviewed the sampling techniques, procedures and data. He has undertaken a site visit to review and inspect the application of procedures. These reviews have concluded that the sampling and analytical results have resulted in data suitable for incorporation into 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			
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 Zona 7 Prospect lies on the Alisos Investigation Permit PI 6605-20 which is 100% owned by Minera de Río Alagón, a wholly owned subsidiary of Berkeley Energia Limited.  The Alisos Investigation Permit is currently in the first year of the third three-year term which was granted on January 11 <sup>th</sup> 2016.  No historical sites, wilderness or national parks are located within the Permit. The Zona 7 Prospect is located adjacent to the village of Villavieja de Yeltes.			
		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.	Tenure in the form of an Investigation Permit has beer granted and is considered secure. There are no knowr impediments to obtaining a licence to operate in this area.			
	<b>Exploration</b> Acknowledgment and appraisal of exploration by other parties.  parties		Previous exploration at Zona 7 was completed initially by Junta de Energía Nuclear (JEN) and then Empresa Nacional de Uranio S.A. (ENUSA), both Spanish state run companies, from the late 1950's through to the mid 1980's. Work completed by JEN and ENUSA included mapping, radiometric surveys, trenching and diamond (DD) and openhole (OH) drilling.			
			A detailed data assessment and verification of the historic data supplied by ENUSA has been undertaken. No significant issues with the data were detected.			
	Geology	Deposit type, geological setting and style of mineralisation.	The uranium mineralisation is hosted within Lower Cambrian metasediments adjacent to granite. The mineralisation typically occurs as a sub-horizontal to shallowly dipping layer occurring between surface and 100m depth, although			



Criteria	JORC Code explanation	Commentary
		mineralisation has been recorded to a maximum depth of 217m. The style of the uranium mineralisation includes veins, stockwork and disseminated mineralisation in joint/fracture filling associated with brittle deformation. Uraninite and coffinite are the primary uranium minerals. Secondary uranium mineralisation is developed in "supergene-like" tabular zones corresponding to the depth of weathering. Most of the mineralisation is hosted within partially weathered and unweathered metasediment. This deposit falls into the category defined by the International Atomic Energy Association (IAEA) as Vein Type, Sub Type Iberian Type.
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:  o easting and northing of the drill hole collar	Details of all reported drill holes are provided in Appendix B of this release.
	<ul> <li>easting and northing of the driff hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the driff hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul>	
	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.	All of this information is Material and has been included in Appendix B of this release.
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.	Reported drill intersections are based on chemical assay data and are calculated using a 200ppm U <sub>3</sub> O <sub>8</sub> cut-off, no high grade cut, and may include up to 2m of internal dilution.
	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.	High grade intervals that are internal to broader zones of uranium mineralisation are reported as included intervals.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values are used.
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.	All drilling was planned in such a way as to intersect expected mineralisation in a perpendicular manner. The uranium mineralisation is interpreted to be flat lying to shallowly dipping so the majority of the RC holes have been drilled vertically. The reported down-hole intervals are therefore interpreted to approximate true widths.
	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').	The reported down-hole intervals are interpreted to approximate true widths.
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.	Appropriate diagrams, including a drill plan and cross sections, are included in the main body of this release.
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.	All results are reported in Appendix B of this release.
Other	Other exploration data, if meaningful and material, should	Down-hole gamma logging of all holes is undertaken to



Criteria	JORC Code explanation	Commentary
substantive exploration data	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.	provide $eU_3O_8$ data. Prior comparisons of $eU_3O_8$ data with chemical assay data have shown that on average $eU_3O_8$ tends to underestimate at higher grades (>600ppm) and overestimate at lower grades (<100ppm). Accordingly, the $eU_3O_8$ data is not considered of sufficient quality to replace chemical assay data for the purposes of reporting drilling results. The Mineral Resources reported in this release are estimated using chemical assay data as the primary method for grade estimation in the resource modelling process and $eU_3O_8$ data is only used where there were no assay data available.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale stepout drilling).	Further work planned for the Zona 7 Prospect includes infill drilling that would be focused on improving geological confidence and resource classification.
		The mineralisation remains open along strike and on deep, with both areas to be targeted in subsequent drilling campaigns
		Geological studies will include detailed interpretation of lithology, structure and weathering and an assessment of potential relationships between these factors and uranium grade distribution.
		Further work is also planned on a number of other exploration targets within the Retortillo Region.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	These are shown in the main body of this release.

# **Section 3 Estimation and Reporting of Mineral Resources**

(Criteria listed in the preceding section 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.	Drill hole data is stored in a password protected relational database (Access). Drill data recorded in a spreadsheet is transferred to the database by the project geologist who is responsible for reviewing and validating the data. Assay data is received from the external laboratories in digital format and is loaded directly into the database.
		Geological logging is restricted to appropriate codes relevant to the local geology, mineralisation, weathering and alteration setting. A copy of the master database is linked to Surpac mining software for Mineral Resource Estimation (MRE).
	Data validation procedures used.	Database validation checks including collar survey position, down hole survey control, assay limits, e-grade profiles, sample intervals and logging codes are completed prior to the data being transferred to the master database.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Sampling techniques and procedures, as well as QA/QC data, are reviewed internally an ongoing basis. Malcolm Titley, (CP, Geology Consultant, Maja Mining Limited) has reviewed the sampling techniques, procedures, data and resource estimation methodology. He has undertaken a number of site visits, the most recent being in August 2015, to review and inspect the application of these procedures.



Criteria	JORC Code explanation	Commentary	
		He concludes that the sampling and analytical results available are appropriate for estimation of the Mineral Resource.	
	If no site visits have been undertaken indicate why this is the case.	Site visits have been undertaken.	
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The confidence of the geological interpretation is appropriate for the current level of resource estimation. The resource is defined within mineralised envelopes which encompass all zones of significant mineralisation.	
	Nature of the data used and of any assumptions made.	Geology and mineralisation interpretation is based on geological logging and sample assays derived from RC and DD drilling, along with cross sectional interpretations which include surface mapping information and geophysical studies.	
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Structural studies show dips of structures vary between 50° and 80° however; the uranium mineralisation has undergone supergene remobilisation in the first 5-10m and is interpreted to be flat lying to shallowly dipping and generally within 100m from surface.	
TO.	The use of geology in guiding and controlling Mineral Resource estimation.	On the deposit scale the uranium grade is controlled by both lithology and structure, while on a local scale the grade is interpreted to be more influenced by structure.	
	The factors affecting continuity both of grade and geology.	Geological logging and uranium assay of samples from d holes has demonstrated the continuity of the grade a lithology between mineralised sections. Breaks in continu are likely due to structural offsets, some of which have be observed or interpreted from surface mapping.	
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 Zona 7 uranium mineralisation covers an area of approximately 3.0km by 0.4km and generally occurs within 100m of surface.	
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	A mineralised envelope at Zona 7 is created encompassing all zones of significant mineralisation. A number of different domains have been interpreted.	
	extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Geostatistical variogram modelling was used to determine appropriate parameters for estimation of uranium grade using Ordinary Kriging (OK) (for all Domains) followed by the application of Uniform Conditioning (UC) and Local Uniform Conditioning (LUC) using Isatis Software, in order to simulate the grade tonnage distribution based on a Selective Mining Unit (SMU) of 5m x 5m x 6m for Domain 6 only.	
<i>)</i> П		Surpac software was used for mineralisation volume interpretation. Surpac and Isatis software were used for uranium grade estimation.	
		Three sources of drillhole uranium grade data was used:	
		Chemical U <sub>3</sub> O <sub>8</sub> (ppm): 76%	
		Down hole radiometric equivalent eU $_3O_8$ (ppm): 17% Background based on XRF and radiometric results (10 ppm U $_3O_8$ ): 7%	
		The drill hole spacing for Domain 6 is nominally 35m by 35m inside the two first year open pit production, 50m by 50 spacing in the remaining Domain 6 area and 100m by 100m	



Criteria	JORC Code explanation	Commentary
		spacing in the remaining smaller domains. Some of the historical JEN DD was drilled at a spacing of 35m by 35m.
		Five mineralisation domains were identified (2, 3, 4, 5 and 6). 1m samples were used to estimate grade into 25m by 25m by 6m parent blocks using OK. Domain 6 was estimated into 5m by 5m by 6m blocks using LUC.
		Note that the Berkeley 2015 drilling infilled domain 6 only. So no changes have been made to the MRE previously reported in April 2014 for domains 2, 3 and 4, and domain 5 reported in October 2015.
		In order to reduce local bias due to extreme high grades, top cuts were applied per domains:  • 2: 1,800ppm U3O8  • 3: none  • 4: 2,200ppm U <sub>3</sub> O <sub>8</sub> • 5: 1,300ppm U <sub>3</sub> O <sub>8</sub> • 6: 6,000ppm U <sub>3</sub> O <sub>8</sub>
		Appropriate search volumes, minimum and maximum sample numbers and top cutting strategy were used, based on the results of Kriging Neighbourhood Analysis. The variogram nugget % and maximum ranges in the order of major, semi-major and minor per domain in meters are
		• 2: 30% / 30 / 60 / 120 • 3: 30% / 40 / 80 / 160 • 4: 30% / 40 / 80 / 160 • 5: 21% / 40 / 88 / 161 • 6: 21% / 40 / 88 / 161
115)		In-situ dry bulk densities were assigned based on zones of weathering intensity and used to estimate tonnage.
	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 current resource estimate was compared with the previous resource estimate (October 2015) which was based on earlier drill campaigns (historical, 2007, 2008, 2013 and 2014) and to a polygonal estimation. Both of which support the current results.
		No mining production has taken place at Zona 7.
	The assumptions made regarding recovery of by- products.	The resource model only estimates uranium.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	At this stage, there are no deleterious elements or other non- grade variables identified as being of economic significance at Zona7.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The uranium grade is estimated into the 25m (X) by 25m (Y) by 6m (Z) blocks using OK. This compares to the average drill spacing of 35–50m in X and Y. UC and LUC were used to estimate the expected grade tonnage distribution for the chosen SMU of 5m x 5m x 6m in Domain 6 which contains >88% of the resource, and contains the material classified as Measured and Indicated, and is targeted for mining in the early years of production. This SMU size was chosen to match the feasibility study open cut mining methodology. OK



Criteria	JORC Code explanation	Commentary
		was used to estimate grade in the remaining smaller domains which account for <12% of the MRE and which have wider spaced drill data classified as Inferred material.
	Any assumptions behind modelling of selective mining units.	SMU dimensions have been chosen based on results of the current open pit feasibility study with load and haul being conducted with 125 tonne backhoe excavators and 100 tonne dump trucks.
	Any assumptions about correlation between variables.	Uranium is the only economic metal estimated in the current resource model.
	Description of how the geological interpretation was used to control the resource estimates.	Geological interpretation controlled the volume of the resource estimate by restricting the interpretation of the mineralisation volume and associated samples to material with continuity above a 100 ppm $U_3O_8$ grade.
		The domains are based on geology, structure and uranium grade with defined zones of mineralisation that show continuity along and across strike.
		A further division of the model into completely weathered, partially weathered and fresh rock is applied by triangulated surfaces interpreted from the logging of the drill samples. This division is only applied for density and reporting purposes.
	Discussion of basis for using or not using grade cutting or capping.	Uranium grade distribution exhibits a strong positive skewness, so a top cut was applied to reduce local bias by extreme grades outliers around the 97.5 population percentile. The domains were assessed independently and a top cut grade was determined for each domain.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Validation of the MRE included visual inspection of the grade distribution compared to the drill data, comparison of block model statistics to the sample statistics and generation of swath plots. These confirmed that the MRE appropriately represents the grade and tonnage distribution of the uranium mineralisation at the confidence levels reported.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The resource tonnage is reported on a dry bulk density basis. In-situ dry bulk density measurements were completed on dry DD core and using a solid pycnometer method for RC samples. Sample grades are reported using dry weight. No moisture content of DD core has been determined.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The MRE has been reported using a 200ppm $U_3O_8$ cut-off grade. Recent feasibility studies on adjacent properties have demonstrated that a 100ppm $U_3O_8$ cut-off is economic. Based on the current uranium market, reporting of the MRE at a 200 ppm cut-off grade is both justifiable and consistent with previous published MRE's for this style of mineralisation.
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 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 DFS demonstrated that the Zona 7 resource can potentially be extracted using open pit mining methods, with the recovery of uranium through the application of acid heap leach methods.  Indicative parameters used for pit optimisation purposes in recent DFS are:  Uranium selling price: US\$50 to US\$65/lb U <sub>3</sub> O <sub>8</sub> ,  Total Mining Cost: US\$4.0/lb U <sub>3</sub> O <sub>8</sub> Mining recovery: 95%



Criteria	JORC Code explanation	Commentary		
		Mining dilution: 5%  Plant Process Cost: US\$9.0/lb U <sub>3</sub> O <sub>8</sub> Recovery U <sub>3</sub> O <sub>8</sub> : 85%  Royalties: 1.2%  Selling costs: 1.5%		
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.	Metallurgical testwork on representative samples across a range of ore types has been undertaken for Zona 7. The results of this testwork showed the mineralisation to be amenable to convention acid heap leach, with uranium recoveries in the order of 85% with a low acid consumption of 12-18 kg/t.		
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	It is planned that all spent heap leach (ripios) material will be returned to the open pit which will be lined so as to encapsulate the ripios. Any Naturally Occurring Radioactive Material (NORM) or Acid Rock Drainage (ARD) waste will also be stored within the lined pit.  An Environmental Scoping Study will serve to define the		
	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.	scope and content of the Environmental and Social Impact Assessment.		
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.	Bulk density values were derived from 800 solid-fluid pycnometer measurements. These values have been validated with DD core bulk density results obtained using the water immersion method. The in-situ dry bulk density values are:		
715)		Completely weathered: 2.28 g/cm <sup>3</sup> Partially weathered: 2.40 g/cm <sup>3</sup> Fresh rock: 2.64 g/cm <sup>3</sup>		
		The bulk density values have been updated from those previously used in the October 2015 MRE based on a 50% increase in bulk density data. The values shown above have been used to estimate tonnages for the updated domain 6. Bulk density values used for domains 2, 3 and 4 are unchanged from those used in the April 2014 MRE, those used for domain 5 are from October 2015.		
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Fresh and slightly weathered rock is competent enough to ensure the method used takes into account any rock porosity. A factor derived from comparison with DD core was used to adjust the weathered material.		
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The density measurements have been classified by weathering intensity, defined by the geological logging. Three dominant zones have been identified, namely: completely weathered; partially weathered; and fresh rock. The average of the density data from each zone was applied in the resource model.		
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	The reported MRE has been classified as Measured, Indicated and Inferred after consideration of the following:		
I		Adequate geological evidence and drill hole sampling is		



Criteria	JORC Code explanation	Commentary	
		available to assume geological and grade continuity.	
		Adequate in-situ dry bulk density data is available to estimate appropriate tonnage factors.	
		Adequate mining, metallurgy and processing knowledge to imply potential prospect for eventual economic extraction.	
<b>)</b>	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).	The reported MRE has been classified with consideration of the quality and reliability of the raw data, the confidence of the geological interpretation, the number, spacing and orientations of intercepts through the mineralised zones and knowledge of grade continuity gained from observations and geostatistical analysis.	
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The reported MRE and its classification are consistent with the Competent Person (CP) view of the deposit. The CP was responsible for determining the resource classification.	
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	Berkeley has undertaken a review of the previous MRE a concluded that the estimate was developed using indus standard methods and that the estimate was considered reflect the understanding of the geology and gracontinuity.	
		Malcolm Titley (CP, Geology Consultant, Maja Mining Limited) reviewed the reported MRE and concluded that the estimate appropriately represents the grade and tonnage distribution of uranium mineralisation at confidence levels commensurate with the Indicated resource classification.	
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	The confidence level is reflected in the resource classification category chosen for the reported MRE. The definition of Indicated and Inferred Mineral Resources is appropriate for the level of study and the geological confidence imparted by the drilling grid.	
	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 reported MRE is considered appropriate and representative of the grade and tonnage at the 200ppm $\rm U_3O_8$ cut-off grade. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource on a global scale. It relies on historical data being of similar standard as recent infill drilling. The relevant tonnages and grade are variable on a local scale and have been simulated using UC and LUC for SMU dimensions of 5m by 5m by 6m for Domain 6.	
		The CP considers that the current drilling grid is sufficient for classification of the Mineral Resource as Measured, Indicated or Inferred.	
	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.	The Zona 7 deposit is likely to have local variability. The global assessment is an indication of the average tonnages and grade estimate for each geological domain.	
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No production has been carried out at Zona 7.	



# **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	JORC Code explanation 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.	A mineral resource has been estimated using block modelling techniques as describes in Section 3 of Table 1. A block model of 5x5x6 m has been created and the resource estimated using Ordinary Krigging and Uniform Conditioning.  Zona 7 Mineral Resource at 125 ppm mining cut off			
		Resource	Tonnage	Grade	Content
715)		Category	(Mt)	(ppm)	(Mlbs)
		Measured	6.8	553	8.3
		Indicated	13.9	603	18.5
J/		Inferred	9.9	255	5.6
3		Unclassified	0.3	188	0.1
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The mineral r reserves	esource estima	ate is inclusive	of any ore
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits took place from 9 <sup>th</sup> to 12 <sup>th</sup> of November 2015. The following inspections were made:  • The site of the pit • The site of the proposed dump sites • The site of the proposed plant site including the o stockpile • The core yard where cores were inspected			er 2015. The
					ding the ore
		<ul> <li>The access to the site and existing infrastructu the site.</li> <li>No material issues that are likely to pre</li> </ul>			
			of mining and p	rocessing activitie	
	If no site visits have been undertaken indicate why this is the case.	Site visits have been undertaken.			
Study Status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	The level of study is Definitive Feasibility Study. Only measured and indicated resources have been considered in the declaration of 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.	All factors required to convert Resources to Reserves have been considered including capital and operating costs, selling prices, geotechnical conditions, metallurgical recoveries and reagent consumptions, environmental and social constrains, etc. These factors were used to determit the optimum economic pit shell (using Whittle optimization software). The optimal pit shell was used as the basis to design an open pit that considers slope angles, ramps and berms in the different sectors of the pit. The reserves reported are within the final pit design. The use of these factors has resulted in a technically and economically viatiplan.			costs, ical ental and o determine timization basis to ramps and erves of these
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied	factors:		ed using a combi	nation of
		. NA:	daminad frama tha	a analysis of F dif	· · · · · · · · · · · · · · · · · · ·

Mine costs derived from the analysis of 5 different



Criteria	JORC Code explanation	Commentary
		<ul> <li>proposals from mining contractors.</li> <li>Recoveries and acid consumption obtained from metallurgical testwork done at Mintek (South Africa) for 6 m columns.</li> <li>Rehabilitation costs.</li> </ul> The cut-off grade applied is 125 ppm
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	A mine design to definitive feasibility study levels of accuracy has been undertaken as the basis for the estimation of Ore Reserves. This study has included:  • Exploration and sampling of the deposit  • Modelling and estimation of mineral resources  • Mine design of an open pit including a pit optimization study  • Design of all dumps and stockpiles required.  • Metallurgical testwork  • Metallurgical process and plant design  • Determination and design of all infrastructure requirements  • Costing based on multiple quotes  • Financial evaluation by discounted cashflow analysis
	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 deposit is shallow (between 0 to 100m) and massive, the pre-strip is therefore low with a stripping ratio 1.13 (t to t). Due to the depth and geometry of the deposit, the selected mining method is Open Pit mining ensureing a good recovery of the deposit. Some of the pre-strip material will be used as construction material. Access to the pit will be by conventional open pit ramps, 25m in width that enables access for 100 t trucks.
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	Geotechnical design parameters have been derived for the various material types encountered at the site based on core logging and laboratory test work. Open pit slopes have been divided into different design sectors and each of them has specific conditions applied. Overall slope angles in the identified design sectors range from 46 degrees to 56 degrees.  Grade control will be done based on two main sources of
		<ul> <li>Portable XRF on blast hole collected dust and rock chips</li> <li>Blast hole chemical assay</li> <li>Routine XRF testing will provide the basic information for ore grade control in the ore. The cost for these activities has been considered as part of the labour cost of the Berkeley technical services.</li> </ul>
		The blast hole samples will be collected as 6 m composites. Face mapping and geological logging are used to confirm the results. It has been assumed that 30% of the total ore



Criteria	JORC Code explanation	Commentary
		samples and 10% of the waste samples will be sent to the laboratory for the first year as part of a QA / QC process for the gamma probing. After first year, only 10% of ore blast holes and 5% of waste blast holes will be collected for chemical analysis.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	A Pit optimisation study was undertaken the techno- economic data set used in this optimisation process were largely based on the outcomes of the pre-feasibility study with the exception of the geotechnical parameters which were determine to DFS levels of accuracy.
	The mining dilution factors used.	Planned dilution of Zona 7 was applied through regularisation of the block model. The original resource model produced by CSA was populated with minimum block sizes of 5x5x1.5. The block model was then regularised to 5x5x6 to account for the selective mining unit. In addition to this, dilution of 4% and mining recovery of 95% was applied to account for unplanned dilution due to blast movement, mixing of ore and waste and mining angles.
	The mining recovery factors used.	Mining recovery factor used is 95%
	Any minimum mining widths used.	SMU is 5x5x6m, minimum width for mining is established in 30m
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	No Inferred material is used in the study, all reserves estimated are based on measured and indicated resources.
	The infrastructure requirements of the selected mining methods.	The infrastructure required is minimum: access by road, power and water. The mining infrastructure cluster will be provided by the selected mining contractor. A metallurgical process plant will be constructed.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The heap leach process is proposed followed by SX and ADU precipitation. The ADU precipitate (yellowcake) is calcined to produce U3O8. The high recoveries obtained from testwork (93% including a scale-up factor of 2%) and the low acid consumption makes heap leaching the preferred process route. Ore, when crushed, breaks along the fractures where the uranium minerals occur, hence milling or fine crushing is not required. The 40mm liberation size is achieved with only primary and secondary crushing. Acid leaching has been demonstrated to be the preferred process. Tank leaching, although increasing recovery by 2-3%, has significantly higher capital and operational costs, and so is economically a less attractive process than heap leaching.
	Whether the metallurgical process is well-tested technology or novel in nature.	The process method selected is the standard method for mineralogically similar uranium ores. A number of mines world-wide operate utilising heap leaching with sulphuric acid. The plant recoveries achieved are typically similar to the results predicted by the testwork.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Testwork was carried out using 1-metre and 6-metre high columns. Samples used for the 6m column tests were made up from 12 sub-composites, which were combined into 3 composites, depending on ore type. These composites are considered to be representative of these ore types. Overall uranium recoveries reported are weighted averages of the



Criteria	JORC Code explanation	Commentary
	Any assumptions or allowances made for	dissolutions achieved in 6m column testwork, multiplied by the proportion of ore represented by the sample, multiplied by a scale-up factor of 98%. This factor is reasonable.  At this stage, no deleterious elements have been identified
	deleterious elements.	as being of economic significance.
	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.	Samples used for the 6m column tests were made up from 12 sub-composites, which were combined into 3 composites, depending on ore type. These composites are considered to be representative of these ore types. The 6m column tests are accepted as being pilot scale tests.
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	The product mineralogy does not depend on the minerals in the ore, due to after the leaching process, all soluble uranium is precipitated as $\rm U_3O_{8.}$
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 options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Environmental Impact Assesment has been done and is ready to be submitted to the authorities. Impacts identified are compatible with environment.  Waste rock characterization has been done. Studies has been performed with Golder Associates Ibérica and AGQ laboratories. Caracterization studies are based on Spanish and European Union legislation, summarized in two main decrees:
		<ul> <li>Real Decreto 975/2009</li> <li>Real Decreto 777/2012</li> <li>These two decrees require testwork to be performed to categorize the waste, 38 samples distributed along orebody divided in 6 possible wastes based on lithology and weathering has been tested.</li> <li>Waste has been divided into:</li> <li>Inert: comprising Tertiary cover and conglomerates, and Completely Weathered lithologies with less than 40ppm of U3O8.</li> <li>Non-Inert: all the lithologies with more than 40ppm U3O8 and the Partially Weathered and Unweathered materials.</li> <li>One waste dump has been considered for each of the two previous type of wastes. Non-inert waste will need a liner as waste dump floor while Inert waste only need a conventional preparation based on topsoil removal and base compaction. Waste dumps approved by the Exploitation Project. Detailed project for waste dump will be finalize before operation starts</li> </ul>
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.	Road, power line and communications are available.  Land acquisition has begun although only 15.4Ha have been acquired from 202Ha. It is not expected difficulties to reach amicable agreements with the current landowners for the rest. If any, the law allow the company for the force expropriation of the land.  The project location is not remote and accommodation can be done in all villages and towns around
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Capital costs have been estimated through the issue of detailed enquiries to multiple contractors and the receipt of formal proposals by possible suppliers or contractors.



Criteria	JORC Code explanation	Commentary
	The methodology used to estimate operating costs.	Mining operational cost have been calculated from formal proposals from 5 possible contractors.
		Of the 5 proposals, one has been discarded because of elevated rates. The other. 4 of them are in a very close range and the selected one is the lowest. The different between the lowest and the average of the 4 low range contractors is less than 10%.  Processing cost have been estimated based on consumptions obtained from testwork and engineering design, and proposals received from suppliers of the different commodities. Man-power was estimated based on similar operations and cost based on a benchmarking of this cost in other operations in country.
	Allowances made for the content of deleterious elements.	Deleterious elements were analysed in the ore, in the PLS and in the obtained product, and non-deleterious elements were found at levels that could penalize the product
	Any assumptions or allowances made for deleterious elements.	N/A
	The source of exchange rates used in the study.	Consensus of different analysts
	Derivation of transportation charges.	Estimated based on proposals of courier companies
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Estimated based on the industry standards
	The allowances made for royalties payable, both Government and private.	1% Royalty is payable to Anglo Pacific Group, Plc and 0.375% royalty is payable to Resource Capital Fund. 25% on benefits has been considered as a fix tax in Spain.
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,	Projected U <sub>3</sub> O <sub>8</sub> concentrate quality is consistent with the results of metallurgical test work data completed for the project, compared against standard product specifications at converters.
	net smelter returns, etc.	Uranium revenues are based on the latest published long term contract pricing forecasts (LT mid-range) from UxC. Prices escalate from US\$39.1/lb in 2017 to US\$67.7/lb by 2030. The company considers this a conservative estimate of long term prices, with analyst consensus forecasts reaching US\$65 per pound long term.
		Commercialisation costs of 1% have been applied to gross revenues to reflect transportation costs, insurances and commissions.
		All prices are based on 2016 constant United States dollars.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	$\rm U_3O_8$ pricing forecasts are based on the latest published long term contract pricing forecasts (LT mid-range) from UxC. Prices escalate from US\$39.1/lb in 2017 to US\$67.7/lb by 2030.
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.	The uranium market is currently characterised by high inventory levels, oversupply and depressed demand levels, largely due to the ongoing effects of the Fukushima disaster in Japan in 2011 which resulted in the closure of all Japanese nuclear reactors. The spot uranium price has fallen in response, and most mines are currently operating at or near marginal cost, with significant production now coming



Criteria	JORC Code explanation	Commentary
		off stream by higher cost producers. A major increase in demand is expected from China and India where large scale reactor build programs are ongoing. Analyst consensus forecast is for the uranium market to turn into deficit around 2021/2022 when price recovery is expected to increase significantly to the analyst consensus long term incentive price of US\$65/lb.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Customers are expected to originate from the US, Asia (in particular China, Japan and India) and Europe and will either be large nuclear utilities or trading houses. The company is currently in discussions with numerous global utilities and trading houses regarding off-take contracts and is confident that demand will exist for its product from the commencement of production and throughout the life of mine.
	Price and volume forecasts and the basis for these forecasts.	Uranium revenues are based on the latest published long term contract pricing forecasts (LT mid-range) from UxC. Prices escalate from US\$39.1/lb in 2017 to US\$67.7/lb by 2030. The company considers this a conservative estimate of long term prices, with analyst consensus forecasts reaching US\$65 per pound long term.
		Volume sold averages 3.5X m lbs per annum over the life of mine and is based on the Company's expectations that sufficient demand exists from Asian, US and European customers for such material.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not applicable
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.	The Salamanca Project is made up of the Retortillo, Santidad, Zona 7 and Alameda sites. Although the ore reserves discussed in this Table 1 represent the Retortillo and Santidad sites only the project has been evaluated as a whole and the following information relating to the financial evaluation represents the input parameters and results for the entire project.
		The after-tax NPV of the projected cash flows is US\$531.94 million at an 8-percent (real) discount rate.
		The after-tax internal rate-of-return is 60 percent.
		Capital is projected to be committed beginning in 2017.
		All costs and prices are based on 2016 constant United States dollars (zero inflation assumed).
		Up-front Capital Costs
		Mining & mine related facilities = US\$22.4 million (US\$9.9 million for Retortillo, US\$6.1 million for Zona 7 and US\$6.3 million for Alameda)
		Processing & plant related infrastructure = US\$197.1 million (US\$78.7 million for Retortillo, US\$50.3 million for Zona 7 and US\$68.1 million for Alameda)
		Other capex including G&A = US\$ 15.1 million (US\$7.1 million for Retortillo, US\$2.7 million for Zona 7 and US\$5.3 million for Alameda)
		Up-front capital costs = US\$.95.7 million



Criteria	JORC Code explanation	Commentary	
		A contingency of 6% applied Project facilities.	to capex requirements for all
		Production (tons)	
			re-of-Mine = 61.3 million (16.1 .8 million tonnes at Zona 7 and a)
		Plant recovery = 87% for Reto for Alameda	ortillo, 93% for Zona 7, and 82%
75		Life of Mine = 13.75 years	
		Average Production Steady St	tate = 4.4 million pounds U <sub>3</sub> 0 <sub>8</sub>
<del>F</del>		Average Life of Mine Production	on = 3.5 million pounds U <sub>3</sub> O <sub>8</sub>
		Total U <sub>3</sub> 0 <sub>8</sub> Produced Life-of-M	ine = 48.6 million pounds
		Start of Construction = 2017	
		Start of Production = 2018	
		Cash flow	
		Average Sales Price Received	
		Average Cash Operating Cost	
		Average Annual Operating Ea	
		Interest, Taxes, Depreciation	
		Amortization (EBITDA) (stead	y state) = US\$144.8
		million	
		NPV = \$531.94 million Internal rate of return (IRR) = 0	60%
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	discount rate when Base Cas sales prices, operating costs	he NPV at the 8-percent (real) se annual production tonnages, and capital costs are increased s of 5 percent within a +/-10-
		Minus 10%	NPV (US\$ '000)
T		Production (pounds U <sub>3</sub> O <sub>8</sub> )	431
		Sales price	431
		Operating costs	561
		Capital costs	554
		Minus 5%	
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	482
		Sales price	482
		Operating costs	547
		Capital costs	543
		Base Case	
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	532



Criteria	JORC Code explanation	Commentary	
		Sales price	532
		Operating costs	532
		Capital costs	532
		Plus 5%	
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	582
		Sales price	582
		Operating costs	517
		Capital costs	521
		Plus 10%	
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	632
7		Sales price	632
		Operating costs	502
		Capital costs	510
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and	project. A number of question answered. After the review of and after the review of all company, the project was a legislation. The Nuclear Safe conceptual project and is reviet to authorise the plant construct At Zona 7 202 Ha are needed.	o provide comments on the ns were raised and all of them the questions and the answers the documents shown by the authorised by relevant mining by Council has authorised the ewing the additional information ction.  If to develop the project. A total burchased as part of the project
	Classification of the Ore Reserves:  Any identified material naturally occurring risks.	site and for changing with othe	er landowners.
	The status of material legal agreements and	N/A	
	marketing arrangements.	IVA	
	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 key authorisation aspects  - Mining and enviro submitted - Water uses: Not initiate - Land use: Not initiate - Radiological protection	nmental: Exploitation Project ated ed
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.		have been classified as Proven mineral resources have been erves.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	the feasibility study underta	nt Person that the outcomes of aken appropriately reflect the eposit to be developed, viable sible.



Criteria	JORC Code explanation	Commentary
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	All Measured mineral resources have been converted to Proven ore reserves.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	Cameron Mining has done a review of the mining aspects of the project, focusing on scheduling and pit shell selection. For processing purposes Randall Schiefeld and Russell Bradford have provided a general review, focusing first of them on heap leaching and second on general structure of the project.
Discussion of relative accuracy/confidence	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.	The confidence level is reflected in the resource classification category chosen for the reported OR. The definition of current Ore Reserves is appropriate for the level of study and the geological confidence imparted by the drilling grid.  The reported OR is considered appropriate and representative of the grade and tonnage at the 125ppm U <sub>3</sub> O <sub>8</sub> cut-off grade.
	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.	Minor amounts of inferred resources have been unavoidably included into the mine plan. These resources are mined late in the mine life, an evaluation of the effect of these resources on the economic outcome of the project has demonstrated that the effect is minor and does not affect the project outcome. The inferred resources have NOT been converted to ore reserves.
15	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.	It is considered that all modifying factors applied to generate the ore reserve estimates have been developed to a level of accuracy required to support a feasibility study.
	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.	No production has been carried out at Zona 7.



## JORC Code, 2012 Edition – Table 1 Report (Retortillo)

## **Section 1 Sampling Techniques and Data**

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

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#### **JORC Code explanation**

# Sampling I techniques r

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.

#### Commentary

The Retortillo deposits were sampled using Diamond Drill (DD), Open Hole (OH) and Reverse Circulation (RC) holes on a spacing varying between 50m x 50m and 35m x 35m. A total of 396 DD, 63 OH and 646 RC holes for 74,099m were drilled. Most holes were vertical.

Berkeley DD core was sampled using 0.3-2.5m intervals in the mineralised zones, allowing for 2m of internal low grade or waste. In addition, the sampling was extended 3-5m up and down hole from the interpreted mineralised zone. Half or quarter core was used for sampling.

Berkeley RC drill samples are collected over 1m intervals and split on site using two riffle splitters in cascade to provide an approximately 3-5kg sample. In rare cases, wet samples are split using a cone and quarter method. Field tests show that both methods produce representative samples.

Junta de Energía Nuclear (JEN) and Empresa Nacional de Uranio (ENUSA) DD core was sampled using 0.25m, 0.50m and 1m intervals in the mineralised zones, with 0.25m intervals being the most frequent sample length.

ENUSA RC drill samples were collected over 1m intervals. Splitting method is unknown.

Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.

Berkeley sampling protocols include the insertion of standards and blanks into the sample stream to assess the accuracy, precision and methodology of the external laboratories used. In addition, field duplicate samples are inserted to assess the variability of the uranium mineralisation. 15-20% of samples were for quality control purposes. The laboratories undertake duplicate sampling as part of their internal Quality Assurance/Quality Control (QA/QC) processes. Analysis of the QA/QC sample data indicates satisfactory performance of both the field sampling protocols and assay laboratories procedures, indicating acceptable levels of precision and accuracy.

Berkeley drill hole collar locations were surveyed by qualified surveyors (Cubica Ingeniería Metrica, S.L.) using differential global positioning system (DGPS) equipment achieving sub decimetre accuracy in horizontal and vertical position. Downhole surveys were undertaken using a Geovista down-hole deviation probe. Measurements are taken every 1cm down hole and averaged every 10m. No strongly magnetic rocks are present within the deposit which may affect magnetic based readings. JEN and ENUSA maps used local grid coordinates which required transformation georeferencing. Historic collar coordinates were extracted from the referenced maps and transformed to UTM coordinates. Berkeley re-assigned the elevation to each collar.

Berkeley owns two down-hole gamma probes. Both probes are sent to Borehole Wireline Pty. Ltd. in South Australia for annual recalibration in the Adelaide-model test pits.



	Criteria	JORC Code explanation	Commentary
			Calibration includes the determination of k-factor, deadtime, bore hole diameter and fluid corrections, which are reported in the "Primary Probe Calibration" document. All parameters are then applied during the in-house equivalent grade $(eU_3O_8)$ calculation process.
6			JEN and ENUSA QA/QC protocols are unknown.
		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	Berkeley RC drill samples are collected over 1m intervals and split on site using cone and quarter method (previous campaigns) or two riffle splitters in cascade (2014 campaign) to provide an approximate 3-5kg field sample.
	D) D) D)	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.	Scintillometer measurements were taken on all Berkeley RC samples and this data was then used to select the samples to be sent to external laboratories for sample preparation and analysis. Mineralised intervals determined from scintillometer values greater than 150cps were extended up and down hole by at least 2-5m to ensure adequate definition of waste boundaries.
			Field samples were split in the core shed using a riffle splitter to 0.7-1kg and sent to ALS and AGQ laboratories for preparation (Seville, Spain) and analysis (Loughrea, Ireland and Vancouver, Canada). Samples were dried, crushed down to 70% below 2mm and pulverised with at least 85% of the sample passing 75µm. 10g of sample was used for uranium analysis by pressed powder X-ray fluorescence
			(XRF) method.  During 2006 to 2008 samples were sent to Actlabs Canada for Delayed Neutron Counting (DNC) analysis. Since 2008 ALS laboratories with pressed powder XRF analysis have
	2 5		been used. The percentage of samples analysed at ActLabs and ALS is 22% to 43% of the total assay database respectively. JEN and ENUSA core samples were prepared in internal company laboratories and assayed for uranium using XRF, Atomic absorption spectroscopy (AAS) or fluorometric methods. The JEN and ENUSA assay data represents 35% of the total assay database.
	Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc)	Berkeley drilling comprised both DD (HQ) and RC drilling using a 140mm diameter face sampling hammer.
		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).	For angled DD, oriented core was achieved using a plasticine method (previous campaigns) and DeviCore measurements (2014 campaign).
			The historical JEN and ENUSA drilling comprised both DD (NQ) and RC drilling using a 114mm diameter face sampling hammer. Historical drilling accounts for approximately 25% of the total drilling.
	Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Berkeley, JEN and ENUSA DD typically recorded overall core recoveries in excess of 90%, which is considered acceptable.
			Berkeley RC drill samples are collected over 1m intervals through a cyclone. Plastic sample bags are strapped to the cyclone to maximise sample recovery. Individual sample bags were not weighed to assess sample recovery but a

bags were not weighed to assess sample recovery but a visual inspection was made by the Company geologist to ensure all samples are of approximately equivalent volume.



Criteria	JORC Code explanation	Commentary
		ENUSA RC drill sample collection method is unknown.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	The DD drilling rigs used face discharge bits to ensure a low contact between the rock and drilling fluids, minimising ore washing. Core was cut using a water lubricated diamond saw with care taken to ensure minimal ore loss.
D 15		The RC drilling rigs utilised suitably sized compressors to ensure dry samples where possible. Plastic sample bags were strapped to the cyclone to maximise sample recovery. Sample logs record whether the sample was dry, moist or wet.
		Wet samples account for approximately 10-15% and typically correspond to the last 5-10m of the affected holes.
D)	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of	Due to potential solubility and mobility of the uranium minerals, the use of water in core recovery in DD is controlled.
	fine/coarse material.	The core and RC sample recoveries are of an acceptable level and no bias is expected from any sample losses.
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.	Berkeley geological logging of DD core included recording descriptions of lithology, geological period, colour, oxidation, mineralisation style, alteration, weathering, structure, texture, grain size and mineralogy.
		Berkeley geotechnical logging of DD core included recording descriptions of integrity (recovery and RQD), materials (lithology, rock strength and depth oxide staining), structures (type, angle, contact type, infill, weathering)
		Berkeley structural logging of DD core included recording descriptions of structure type, structural angles, contact type, infill, line type and slip direction.
15		Berkeley alteration logging of DD core included recording descriptions of metamorphic textures, alteration mineralogy and mineralisation style.
		Berkeley geological logging of RC chip samples included recording descriptions of lithology, weathering, alteration and mineralisation. A scintillometer reading of counts per second (cps) was recorded for each 1m sample (quantitative).
		JEN geological logging includes recording descriptions of lithology, Fe oxides, sulphides, uranium mineralogy fracturing and no recovering zones.
		ENUSA geological logging includes recording descriptions of lithology, colour, fracturing level, recovery, mineralogy, radiometry and water table.
	Whether logging is qualitative or quantitative in	Geological logging is qualitative in nature.
	nature. Core (or costean, channel, etc) photography.	Berkeley DD core boxes and samples and RC samples and chip trays were photographed.
		JEN and ENUSA did not take photographs of drill core or chip trays.
	The total length and percentage of the relevant intersections logged.	All DD and RC drill holes were logged in full by geologists employed by the relevant companies.
Sub- sampling	If core, whether cut or sawn and whether quarter, half	Berkeley DD core was sampled using 0.3-2.5m intervals in the mineralised zones, including areas of internal low grade



Criteria	JORC Code explanation	Commentary
techniques and sample preparation	or all core taken.	or waste. The majority of samples were 1m in length (60%), with 33% being greater than 1m in length and 7% less than 1m in length. In addition, the sampling was extended 3-5m up and down hole from the interpreted mineralised zone. Half or quarter core was used for sampling, with the majority (~74%) being quarter core.
		JEN and ENUSA DD core was sampled using 0.25m, 0.50m and 1m intervals in the mineralised zones, with 0.25m intervals being the most frequent sample length. Whole core was used for sampling.
D) 2 5	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Berkeley RC drill samples were collected at 1m intervals. RC intervals were sampled by splitting dry samples in the field to 3-5kg using cone and quarter method (previous campaigns) or two riffle splitters in cascade (2014 campaign) and further split in the core shed to 0.7-1kg using a riffle splitter.
		Where samples were wet they were dried prior to splitting. In rare cases, wet samples were split using a cone and quarter method.
		ENUSA RC drill samples were collected at 1m intervals. The sampling method used is unknown.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Berkeley samples were sent to ALS laboratories for preparation and analysis. Samples were dried, fine crushed down to 70% below 2mm, and pulverised with at least 85% of the sample passing 75µm. 10g of sample was used for uranium analysis by pressed powder XRF method. During 2006 to 2008 samples were sent to Actlabs Canada for DNC analysis. Since 2008, ALS laboratories with pressed powder XRF analysis have been used. These methods are considered appropriate for this style of uranium mineralisation.
<u> </u>		JEN and ENUSA core samples were prepared and assayed for uranium at internal company laboratories using XRF, AAS or fluorometric methods.
	Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.	Berkeley field tests determined that the sample size and method of sampling produce representative RC samples. QA/QC procedures involved the use of standards and blanks which were inserted into sample batches at a frequency of approximately 15-20%.
		Quality control procedures used by JEN and ENUSA are unknown.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Duplicate splits of RC samples were taken every 10m down hole within the sampled intervals by Berkeley. The results from these duplicates show acceptable repeatability. Some indications of inhomogeneity were observed in a small proportion (<10%) of duplicates.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The uranium is typically very fine grained. Previous test work carried out by Berkeley using different sample sizes demonstrated that the selected sample size is appropriate.
Quality of assay data and laboratory	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Berkeley assayed samples for uranium using the DNC method during the 2006 to 2008 drilling campaigns and pressed powder XRF during subsequent drilling campaigns. These analytical methods report total uranium content.



Criteria	JORC Code explanation	Commentary
tests		JEN and ENUSA assayed samples for uranium were completed at internal company laboratories using XRF, AAS or fluorometric methods.
		The sampling and analytical methods used by Berkeley, JEN and ENUSA are considered appropriate for this style of uranium mineralisation.
) D	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.	Down-hole gamma logging was undertaken for all probe accessible holes drilled by Berkeley to provide $eU_3O_8$ ("equivalent" $U_3O_8$ grade) data. The down-hole gamma response was converted to $eU_3O_8$ by correcting for radon, hole diameter, air/water and a deconvolution filter was also applied. $eU_3O_8$ data was used in the mineral resource grade estimation process when chemical assay data was not available. $eU_3O_8$ data was also used to verify mineralisation intersections based on assay results.
	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.	Standards, blanks and duplicates were regularly inserted into the sample stream by Berkeley, with approximately 15-20% of all samples used for quality control. The external laboratories maintain their own process of QA/QC utilising internal standards, repeats and duplicates.
		Review of the Berkeley quality control samples, as well as the external laboratory quality QA/QC reports, has shown no sample preparation issues, acceptable levels of accuracy and precision and no bias in the analytical datasets.
		JEN and ENUSA used internal company laboratories. No QA/QC data is available for this historic data.
2		A review of the JEN and ENUSA mineralisation intercepts compared to Berkeley infill drilling shows no bias between the two data sets.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Reported significant intersections were checked and verified by Senior Geological management.
	The use of twinned holes.	Berkeley completed a program of RC twin holes to compare with the JEN and ENUSA results. The results show good correlation of uranium grade and mineralisation thickness between the twinned holes.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All primary data was recorded in templates designed by Berkeley. Assay data from the external laboratory is received in spreadsheets and downloaded directly into an Access Database managed by the Company. Data is entered into controlled excel templates for validation. The validated data is then loaded into a password secured relational database by a designated Company geologist. Daily backups of all digital data are undertaken. These procedures are documented in the Berkeley Technical Procedures and Protocols manual.
		JEN and ENUSA primary paper data was digitalized and recoded following the Berkeley protocols. The validated data was then loaded into the password secured relational database by a designated Company geologist.
	Discuss any adjustment to assay data.	Uranium (ppm) assays received from the external laboratory



Criteria	JORC Code explanation	Commentary
		were converted to $U_3O_8$ (ppm) using the stoichiometric factor of 1.179.
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.	Berkeley drill hole collar locations were surveyed by qualified surveyors (Cubica Ingeniería Metrica S.L) using standard DGPS equipment achieving sub decimetre accuracy in horizontal and vertical position.
15)		Berkeley down-hole surveys were undertaken using a Geovista down-hole deviation probe. Measurements were taken every 1cm down hole and averaged every 10m. No strongly magnetic rocks are present within the deposit which may affect magnetic based readings.
		JEN and ENUSA holes were drilled on grid coordinates and were not surveyed after drilling.
	Specification of the grid system used.	The grid system is ETRS 1989 UTM Zone 29N.
	Quality and adequacy of topographic control.	Topographic control was based on a digital terrain model with sub metric accuracy sourced from the Spanish Geographical Institute (Instituto Geográfico Nacional) and was verified by comparison with drill hole collar surveys completed by the surveyor using DGPS.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	The majority of the Berkeley drilling was undertaken on a nominal 50m by 50m grid, with closer spaced drilling on 35m by 35m within open pit areas scheduled to be mined during the initial two years of production based on the Pre-Feasibility Study (PFS).
		Section lines are orientated approximately perpendicular to the interpreted strike of the mineralisation.
		The historical JEN and ENUSA drilling was completed on spaced 50m by 50m grid with some infill areas spaced 35m by 35m.
<b>D</b>	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.	The data spacing (notionally 35m by 35m) is considered sufficient to verify geological and grade continuity, and allow the estimation of Measured and Indicated Mineral Resources.
	Whether sample compositing has been applied.	No compositing of RC samples in the field has been undertaken.
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.	The mineralisation at Retortillo covers a 6km sub-vertical syncline structure with the dominant strike direction being SE-NW. Despite the general dip of the host geological units and structures ranging from 50-70°, the mineralised zone is interpreted to be sub-horizontal (due to post mineralisation supergene processes) to shallowly dipping to the SE.
	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.	The majority of DD and RC drill holes are vertical. Due to the interpreted flat lying nature of the mineralisation, no sampling bias is considered to have been introduced by the orientation of the drilling. This has been validated by the drilling of 50 inclined DD holes and 25 inclined RC holes.
Sample	The measures taken to ensure sample security.	Chain of custody is managed by Berkeley. Samples were transported from the drill site by Company vehicle to a



Criteria	JORC Code explanation	Commentary
security		sample preparation shed where samples were prepared for dispatch. Samples were sent directly from the sample preparation shed to the laboratory using a certified courier or a Berkeley owned vehicle authorised for radioactive materials transport. No other freight was transported with the samples which were taken directly from the Berkeley facility to the external laboratory. Sample submission forms were sent in paper form with the samples as well as electronically to the laboratory. Reconciliation of samples occurred prior to commencement of sample preparation for assaying.
10		The historical drilling samples were prepared and analysis using internal company laboratories. The chain of custody is unknown.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sampling techniques and procedures, as well as QA/QC data, are reviewed internally an ongoing basis. Malcolm Titley (Competent Person (CP), Geology Consultant, Maja Mining Limited) has independently reviewed the sampling techniques, procedures and data. He has undertaken a number of site visits to review and inspect the application of procedures. These reviews have concluded that the sampling and analytical results have resulted in data suitable for incorporation into Mineral Resource estimation.

# **Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title	The Retortillo deposits lie on the Exploitation Concession (Mining Licence) CE 6605-10 which is 100% owned by Berkeley Minera España S.L., a wholly owned subsidiary of Berkeley Energia Limited.
status	interests, historical sites, wilderness or national park and environmental settings.	The Exploitation Concession is valid for an initial period of 30 years and may be renewed for two additional periods of 30 years. It covers an area of 25.2km² and includes the entire area containing the Retortillo mineralisation.
		No historical sites or national parks are located within the Concession.
	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.	Tenure in the form of an Exploitation Concession has been granted and is considered secure. There are no known impediments to obtaining a licence to operate in this area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Previous exploration at Retortillo was completed initially by JEN and ENUSA, both Spanish state run companies, from the late 1950's through to the mid 1980's. Work completed by JEN and ENUSA included mapping, radiometric surveys, trenching, RC and DD drilling.
		A detailed data assessment and verification of the historical data supplied by JEN and ENUSA has been undertaken by Berkeley. No significant issues with the data were detected.
Geology	Deposit type, geological setting and style of mineralisation.	The uranium mineralisation is hosted within Ordovician metasediments adjacent to granite. The mineralisation typically occurs as a sub-horizontal to shallowly dipping layer occurring between surface and 90m depth. The style of the uranium mineralisation includes veins, stockwork and



Criteria	Commentary	
		disseminated mineralisation in joint/fracture filling associated with brittle deformation. Uraninite and coffinite are the primary uranium minerals. Secondary uranium mineralisation is developed in "supergene-like" tabular zones corresponding to the depth of weathering. Most of the mineralisation is hosted within totally and partially weathered metasediment. This deposit falls into the category defined by the International Atomic Energy Association (IAEA) as Vein Type, Sub Type Iberian Type.
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:  o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar odip and azimuth of the hole odown hole length and interception depth hole length.	No additional drilling data is available. All drilling data has been presented in previous ASX releases, with the most recent being April 2015.
	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.	No changes have been made to any of the drilling data reported in previous ASX releases. The purpose of this release is presentation of an update to the mineral resource estimate based on improved definition of the mineral resource at the selected mining unit block size of $5 \times 5 \times 6$ m $(X \times Y \times Z)$ .
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.	Previously reported drill intersections are based on chemical assay data and are calculated using a 200ppm $U_3O_8$ cut-off, no high grade cut, and may include up to 2m of internal dilution.
	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.	High grade intervals that are internal to broader zones of uranium mineralisation are reported as included intervals.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values were used.
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.	All drilling was planned in such a way as to intersect expected mineralisation in a perpendicular manner. The uranium mineralisation is interpreted to be flat lying to shallowly dipping so all of the RC holes were drilled vertically.
	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').	The reported down-hole intervals are interpreted to approximate true widths.
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	Appropriate diagrams, including a drill plan and cross sections, are included in the main body of this release.



Criteria	JORC Code explanation	Commentary		
	views.			
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.	No new exploration results are available. All drilling and other information has been reported in previous ASX releases.		
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.	Down-hole gamma logging of all Berkeley holes was undertaken to provide $eU_3O_8$ data. Comparison of $eU_3O_8$ data with chemical assay data have shown that on average $eU_3O_8$ tends to underestimate at higher grades (>500ppm) and overestimate at lower grades (<200ppm). The Mineral Resource Estimate (MRE) reported in this release was estimated using chemical assay data as the primary method for grade estimation in the modelling process. $eU_3O_8$ data was used for grade estimation process when chemical assay data was not available.		
		The Company has reported the results of a PFS for the Salamanca Project which includes the Retortillo deposits (refer ASX Announcement dated 26 September 2013). The PFS included hydrogeological, geotechnical, mining, metallurgical and process engineering studies, as well as environmental impact assessments.		
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work planned for the Retortillo deposits includes additional infill drilling focused on improving geological confidence and resource classification of open pit areas scheduled to be mined post the initial two years of production (based on the PFS).		
		Geological studies will include detailed interpretation of lithology, structure and weathering and an assessment of potential relationships between these factors and uranium grade distribution.		
15		Further work is also planned on a number of other exploration targets within the Retortillo Region.		
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	N/A		

## **Section 3 Estimation and Reporting of Mineral Resources**

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.	Drill hole data is stored in a password protected relational database (Access). Drill data recorded in digital Excel templates is transferred to the database by the project geologist who is responsible for reviewing and validating the data. Assay data is received from the external laboratories in digital format and is loaded directly into the database after QA/QC has been checked and validates the rest of assays.
		Geological logging is restricted to appropriate codes relevant to the local geology, mineralisation, weathering and alteration setting. A copy of the master database is linked to Surpac mining software for Mineral Resource Estimation.



Criteria	JORC Code explanation	Commentary		
	Data validation procedures used.	Database validation checks including collar survey position, down hole survey control, assay limits, $eU_3O_8$ profiles, sample intervals and logging codes are completed prior to the data being transferred to the master database.		
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Sampling techniques and procedures, as well as QA/QC data, are reviewed internally an ongoing basis. Malcolm Titley, (CP, Geology Consultant, Maja Mining Limited) has reviewed the sampling techniques, procedures, data and resource estimation methodology. He has undertaken a number of site visits, the latest being in August 2015, to review and inspect the application of these procedures. He concludes that the sampling and analytical results available are appropriate for estimation of the Mineral Resource.		
	If no site visits have been undertaken indicate why this is the case.	Site visits have been undertaken.		
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The confidence of the geological interpretation is appropriate for the current level of resource estimation. The resource is defined within mineralised envelopes which encompass all zones of significant mineralisation.		
	Nature of the data used and of any assumptions made.	Geology and mineralisation interpretation is based on geological logging and sample assays derived from RC and DD drilling, along with cross sectional interpretations which include surface mapping information and geophysical studies.		
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Structural studies show dips of structures vary between 50° and 80° however; the uranium mineralisation has undergone supergene remobilisation and is interpreted to be flat lying to shallowly dipping and generally within 100m from surface.		
	The use of geology in guiding and controlling Mineral Resource estimation.	On the deposit scale the uranium grade is controlled by both lithology and structure, while on a local scale the grade is interpreted to be influenced by supergene processes.		
	The factors affecting continuity both of grade and geology.	Geological logging and uranium assay of samples from drill holes has demonstrated the continuity of the grade and lithology between mineralised sections. Breaks in continuity are likely due to structural offsets, some of which have been observed or interpreted from surface mapping.		
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 main deposit (including a small satellite zone) covers an area of approximately 3km by 0.6km. A second smaller deposit to the NW covers an area of approximately 2.3km by 0.2km. The mineralisation at both deposits generally occurs within 100m of surface.		
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	A mineralised envelope is created encompassing all zones of significant mineralisation. A number of different domains have been interpreted based on a broad mineralisation envelope at a nominal cut-off of 40ppm $U_3O_8$ .		
	maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Geostatistical variogram modelling was used to determine appropriate parameters for estimation of uranium grade using Ordinary Kriging (OK) (for all Domains) followed by the application of Uniform Conditioning (UC) and Local Uniform Conditioning (LUC) using Isatis Software, in order to simulate the grade tonnage distribution based on a Selective Mining Unit (SMU) of 5m x 5m x 6m for all Domains.		
1		Surpac software was used for mineralisation volume		



Criteria	JORC Code explanation	Commentary
		interpretation and Isatis for uranium grade estimation.
		Four sources of drillhole uranium grade data was used, the proportions of data within the mineralised volume by length are:
		<ul> <li>Chemical U<sub>3</sub>O<sub>8</sub> (ppm): 56.3%</li> <li>Radiometric Equivalent (ppm): 30.6%</li> <li>Portable XRF (ppm): 0.8%</li> <li>Background waste values based on XRF and Gamma probe results (10ppm U<sub>3</sub>O<sub>8</sub>): 12.3%</li> </ul>
		A number of holes which were used to determine the mineralisation volume were excluded from the grade estimation process. These consisted of 32 JEN holes where the radiometric equivalent value indicated mineralisation but the $eU_3O_8$ value was composited over the entire mineralisation length, resulting in these holes being unsuitable for local grade estimation.
		The drill hole spacing is nominally 50m by 50m, with infill spacing at 35m by 35m within the Measured Resource areas and part of the Indicated Resource.
		Eight mineralisation domains were identified at Retortillo (R2, R3, R4, R5, R6, R7, S1 and S2). 1m samples composites were used to estimate grade into 20m by 20m by 6m parent blocks with 5m by 5m by 6m blocks used for UC selectivity conditioning.
		In order to reduce local bias due to extreme high grades, top cuts were applied:
16		• R2: 1,100ppmU₃O <sub>8</sub>
<i>[]</i> ())		<ul> <li>R3: 1,800ppmU₃O<sub>8</sub></li> </ul>
		<ul> <li>R4: not applied</li> </ul>
		• R5: 3,800ppmU₃O <sub>8</sub>
115)		• R6: 2,000ppmU <sub>3</sub> O <sub>8</sub>
		R7: not applied
		• S1: 2,500ppmU₃O <sub>8</sub>
		• S2: 2,500ppmU₃O <sub>8</sub>
		Appropriate search volumes, minimum and maximum sample numbers and top cutting strategy were used based on the results of Kriging Neighbourhood Analysis. The variogram nugget % and maximum ranges in the order of major, semimajor and minor per domain in meters are presented below:
		• R2: 31%/74/72/55
1		• R3: 18%/105/90/23
		R4: 36%/44/31/25 taken from R5 as insufficient data
		• R5: 36%/44/31/25
		• R6: 32%/79/50/109
		<ul> <li>R7: 32%/79/50/109 taken from R6 as insufficient data</li> </ul>
		• S1: 31%/65/85/38
		• S2: 30%/128/85/27
		In-situ dry bulk densities were assigned based on zones of



Criteria	JORC Code explanation	Commentary		
		weathering intensity and used to estimate tonnage.		
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	previous resource estimate (April 2015) which was based on a more constrained mineralisation envelope and Ordinary Kriging grade estimation with no adjustment for mining selectivity. The updated MRE has 4% less tonnes with a 15% higher grade for a 7% increase in metal. This increase in grade and metal was anticipated as a result of modelling the		
]D)		No mining production has taken place at Retortillo.		
	The assumptions made regarding recovery of by-products.	The resource model only estimates uranium.		
	Estimation of deleterious elements or other non- grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	At this stage, there are no deleterious elements or other non- grade variables identified as being of economic significance at Retortillo.		
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	by 6m (Z) blocks. This compares to the average drill spacing of 35m by 35m in X and Y and an assumed mining bench height of 6m. UC and LUC were applied to the model based		
	Any assumptions behind modelling of selective mining units.	The current resource estimate was compared with the previous resource estimate (April 2015) which was based on a more constrained mineralisation envelope and Ordinary Kriging grade estimation with no adjustment for mining selectivity. The updated MRE has 4% less tonnes with a 15% higher grade for a 7% increase in metal. This increase in grade and metal was anticipated as a result of modelling the mineralisation using increased selectivity at the 200 ppm grade cut-off.  No mining production has taken place at Retortillo.  The resource model only estimates uranium.  At this stage, there are no deleterious elements or other nongrade variables identified as being of economic significance at Retortillo.  The uranium grade is estimated into the 20m (X) by 20m (Y) by 6m (Z) blocks. This compares to the average drill spacing of 35m by 35m in X and Y and an assumed mining bench height of 6m. UC and LUC were applied to the model based on PFS designed mining selectivity at a block size of 5m x 5m x 6m.  Selective mining unit dimensions are based on using a blasting and sampling pattern which is around 5m x 5m combined with open pit mining equipment suitable for controlled excavation on a 3 to 6m mining flitch height, using 125 tonnes backhoe excavators and 100 tonne dump trucks.  Uranium is the only economic metals estimated in the current resource model.  Geological interpretation controlled the volume of the mineralisation volume and associated samples to material with continuity above a nominal 40ppm U <sub>3</sub> O <sub>8</sub> grade.  The domains are based on geology, structure and uranium grade with defined zones of mineralisation that show continuity along and across strike.  A further division of the model into completely weathered, partially weathered and fresh rock is applied by triangulated surfaces interpreted from the logging of the drill samples. This division is only applied for density purposes. There is no relationship or boundary effect between mineralisation and grade and weathering intensity.  Uranium grade distribution e		
	Any assumptions about correlation between variables.			
15	Description of how the geological interpretation was used to control the resource estimates.	resource estimate by restricting the interpretation of the mineralisation volume and associated samples to material		
		grade with defined zones of mineralisation that show		
		partially weathered and fresh rock is applied by triangulated surfaces interpreted from the logging of the drill samples. This division is only applied for density purposes. There is no relationship or boundary effect between mineralisation and		
	Discussion of basis for using or not using grade cutting or capping.	skewness, so a top cut was applied to reduce local bias by extreme grades outliers – nominally approximating the 97.5 population percentile. The domains were assessed independently and a top cut grade was determined for each		
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	distribution compared to the drill data, comparison of block		



Criteria JORC Code explanation Commentary				
		mineralisation at the confidence levels reported. A detailed review of the mineralisation domains, drilling data and resultant grade model using Datamine software was completed by the CP, which compared favourably with the estimate completed using Surpac and Isatis software.		
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The resource tonnage is reported on a dry bulk density basis. In-situ dry bulk density measurements were completed on dry core and on RC material using a solid-fluid pycnometer. Results were corrected for moisture content. Sample grades are reported using dry weight.		
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The MRE has been reported using a 200ppm $U_3O_8$ cut-off grade. The Salamanca Project PFS demonstrated that a $\sim 100$ ppm $U_3O_8$ cut-off is economic. Based on the current uranium market, reporting of the MRE at a 200ppm cut-off grade is both justifiable and consistent with previous published MRE's for this style of mineralisation.		
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 PFS demonstrated that the Retortillo resource can potentially be extracted using open pit mining methods, with the recovery of uranium through the application of acid heap leach methods.		
	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.	Indicative parameters used for pit optimisation purposes were:  Uranium selling price: US\$65/lb U <sub>3</sub> O <sub>8</sub> ,  Total Mining Cost: US\$14.5/lb U <sub>3</sub> O <sub>8</sub> Mining recovery: 95%  Mining dilution: 4%		
		Plant Process Cost: US\$12.8/lb U <sub>3</sub> O <sub>8</sub> Recovery U <sub>3</sub> O <sub>8</sub> : 85% Royalties: 1.2%		
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.	Berkeley has completed a number of metallurgical testwork programs for Retortillo as part of the scoping, PFS and definitive feasibility studies, including column leach tests at commercial height (6m). These tests have shown that heap leaching can achieve uranium recoveries of at least 85%.		
Environmen- tal 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	Berkeley was granted a Favourable Declaration of Environmental Impact ('Environmental Licence') for Retortillo in October 2013 following submission of the Company's Environmental and Social Impact Assessment ('ESIA') together with the Exploitation Plan and the Reclamation and Closure Plan.  The Company's waste management and rehabilitation assumptions were detailed in the ESIA and Reclamation and Closure Plan.  Spent ore from the on-off heap leach pads ('ripios') will initially be stored on the heap leach pads and subsequently backfilled into isolated and lined (clay layer and HDPE liner)		



Criteria	JORC Code explanation	Commentary		
	explanation of the environmental assumptions made.	areas within the mined pits on a continuous basis once sufficient space is available.		
		Acid Rock Drainage (ARD) and Natural Occurring Radioactive Materials (NORM) waste will be placed onto temporary dumps designed with the required isolation system (clay layer and HDPE liner) until the waste is backfilled into the mined pits towards the end of the mine life. At the end of the mine life, the entire volume of ripios, ARD and NORM waste will be fully encapsulated within the mined pits, and the surface rehabilitated as per the existing profile and vegetation.		
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the	Bulk density values were derived from 477 core and solid fluid pycnometer measurements.		
	method used, whether wet or dry, the frequency	The in-situ dry bulk density values are:		
	of the measurements, the nature, size and representativeness of the samples.	Completely weathered: 2.28g/cm³		
		Partially weathered: 2.39g/cm³		
		Fresh rock: 2.62g/cm <sup>3</sup>		
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Fresh and slightly weathered rock is competent enough to ensure the method used takes into account any rock porosity. A factor derived from comparison with DD core was used to adjust the weathered material.		
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The density measurements have been classified by weathering intensity, defined by the geological logging. Three dominant zones have been identified – completely weathered, partially weathered and fresh rock. The average of the density data from each zone was applied in the resource model.		
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	The reported MRE has been classified as Measured, Indicated or Inferred after consideration of the following:		
		<ul> <li>Adequate geological evidence and drill hole sampling is available to imply geological and grade continuity.</li> </ul>		
		<ul> <li>Adequate in-situ dry bulk density data is available to estimate appropriate tonnage factors.</li> </ul>		
		<ul> <li>Adequate mining, metallurgy and processing knowledge to imply potential prospect for eventual economic extraction.</li> </ul>		
	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).	The reported MRE has been classified with consideration of the quality and reliability of the raw data, the confidence of the geological interpretation, the number and spacing of intercepts through the mineralised zones and knowledge of grade continuity gained from observation and geostatistical analysis.		
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The reported MRE and its classification are consistent with the CP's view of the deposit. The CP was responsible for determining the resource classification.		
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	An external review was undertaken by SRK on the MRE reported in July 2012. The review concluded that the estimate was considered to reflect the understanding of the geology and grade continuity.		
I		Malcolm Titley (Geology Consultant, Maja Mining Limited)		



Criteria	JORC Code explanation	Commentary
		reviewed this and the previous MRE reported in April 2015 and concluded that the estimates appropriately represented the grade and tonnage distribution of uranium mineralisation at confidence levels commensurate with the reported resource classification.
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 confidence level is reflected in the resource classification category chosen for the reported MRE. The definition of current Mineral Resources is appropriate for the level of study and the geological confidence imparted by the drilling grid.  The reported MRE is considered appropriate and representative of the grade and tonnage at the 200ppm U <sub>3</sub> O <sub>8</sub> cut-off grade. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource on a global scale. It relies on historical data being of similar standard as recent infill drilling. The relevant tonnages and grade are variable on a local scale and have been simulated using UC and LUC for SMU dimensions of 5m by 5m by 6m.
		The CP considers that the drilling grid in the area that was the focus of the 2014 infill drilling campaign is sufficient for classification of a Measured Mineral Resource.
	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.	The Retortillo deposits are likely to have local variability. The global assessment is an indication of the average tonnages and grade estimate for each geological domain.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No production has been carried out at Retortillo.

## **Section 4 Estimation and Reporting of Ore Reserves**

**JORC Code explanation** 

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

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.	A mineral resource has been estimated using block modelling techniques as describes in Section 3 of Table 1. A block model of 5x5x6 m has been created and the resource estimated using Ordinary Krigging and Uniform Conditioning.  Retortillo Mineral Resource at 110 ppm mining cut off			
		Resource Category	Tonnage (Mt)	Grade (ppm)	Content (Mlbs)
		Measured	7.0	345	5.3
		Indicated	15.9	275	9.7
		Inferred	0.0	0	0.0
		Unclassified	0.0	0	0.0
		Santidad Minera	I Resource at 10	00 ppm mining	cut off

Commentary

Criteria



Criteria	JORC Code explanation	Commentary			
		Resource	Tonnage	Grade	Content
		Category	(Mt)	(ppm)	(MIbs)
		Measured	0.0	0	0.0
		Indicated	10.0	203	4.5
		Inferred	0.5	228	0.2
		Unclassified	0.0	0	0.0
<i>)</i>	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The mineral reserves	esource estima	te is inclusive	e of any or
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	<ul><li>The site of stockpile</li><li>The core yas</li></ul>	tions were made	e:  Imp sites  plant site incl  were inspected	luding the or
		No material establishment o were identified o	of mining and pr	ocessing activi	
	If no site visits have been undertaken indicate why this is the case.	Site visits have	been undertakei	n.	
Study Status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	The level of measured and the declaration	indicated resour		
	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.	All factors requibeen consideres selling prices, grecoveries and social constrain the optimum ecosoftware). The obsign an open berms in the diffreported are wit factors has resuplan.	d including capit eotechnical concreagent consum s, etc. These factonomic pit shell optimal pit shell vit that consider ferent sectors of hin the final pit considerent sectors of the	al and operatinditions, metalluring ptions, environetors were used (using Whittle owas used as the slope angles the pit. The reslesign. The use	g costs, rgical mental and I to determine optimization e basis to , ramps and serves e of these
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied	<ul><li>Mine costs proposals f</li><li>Recoveries</li></ul>	elling price: from derived from the rom mining cont and acid consu al testwork done	45\$/lb to 65\$/lb e analysis of 5 or ractors. mption obtaine	o different
		The cut-off grace and 100ppm for			etortillo depos



Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	A mine design to definitive feasibility study levels of accuracy has been undertaken as the basis for the estimation of Ore Reserves. This study has included:  Exploration and sampling of the deposit  Modelling and estimation of mineral resources  Mine design of an open pit including a pit optimization study  Design of all dumps and stockpiles required.  Metallurgical testwork  Metallurgical process and plant design  Determination and design of all infrastructure requirements  Costing based on multiple quotes  Financial evaluation by discounted cashflow analysis
	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 deposit is shallow (between 0 to 140m) and massive, the pre-strip is therefore low with a stripping ratio 2.2 (t to t). Due to the depth and geometry of the deposit, the selected mining method is Open Pit mining ensuring a good recovery of the deposit. Some of the pre-strip material will be used as construction material. Access to the pit will be by conventional open pit ramps, 25m in width that enables access for 100 t trucks.
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	Geotechnical design parameters have been derived for the various material types encountered at the site based on core logging and laboratory test work. Open pit slopes have been divided into different design sectors and each of them has specific conditions applied. Overall slope angles in the identified design sectors range from 34 degrees to 53 degrees.
10		Grade control will be done based on two main sources of data:  Portable XRF on blast hole collected dust and rock chips Blast hole chemical assay
		Routine XRF testing will provide the basic information for ore grade control in the ore. The cost for these activities has been considered as part of the labour cost of the Berkeley technical services.
		The blast hole samples will be collected as 6 m composites. Face mapping and geological logging are used to confirm the results. It has been assumed that 30% of the total ore samples and 10% of the waste samples will be sent to the laboratory for the first year as part of a QA / QC process for the gamma probing. After first year, only 10% of ore blast holes and 5% of waste blast holes will be collected for chemical analysis.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	A Pit optimisation study was undertaken the techno- economic data set used in this optimisation process were largely based on the outcomes of the pre-feasibility study with the exception of the geotechnical parameters which were determine to DFS levels of accuracy.



Criteria	JORC Code explanation	Commentary
	The mining dilution factors used.	Planned dilution of Retortillo and Santidad was applied through regularisation of the block model. The original resource model produced by CSA was populated with minimum block sizes of 5x5x1.5. The block model was then regularised to 5x5x6 to account for the selective mining unit. In addition to this, dilution of 4% and mining recovery of 95% was applied to account for unplanned dilution due to blast movement, mixing of ore and waste and mining angles.
	The mining recovery factors used.	Mining recovery factor used is 95%
$\overline{0}$	Any minimum mining widths used.	SMU is 5x5x6m, minimum width for mining is established as 30m
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	No Inferred material is used in the study, all reserves estimated are based on measured and indicated resources.
	The infrastructure requirements of the selected mining methods.	The infrastructure required is minimum: access by road, power and water. The mining infrastructure cluster will be provided by the selected mining contractor. A metallurgical process plant will be constructed.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The heap leach process is proposed followed by SX and ADU precipitation. The ADU precipitate (yellowcake) is calcined to produce U3O8. The high recoveries obtained from testwork (87% including a scale-up factor of 2%) and the low acid consumption makes heap leaching the preferred process route. Ore, when crushed, breaks along the fractures where the uranium minerals occur, hence milling or fine crushing is not required. The 40mm liberation size is achieved with only primary and secondary crushing. Acid leaching has been demonstrated to be the preferred process. Tank leaching, although increasing recovery by 2-3%, has significantly higher capital and operational costs, and so is economically a less attractive process than heap leaching.
	Whether the metallurgical process is well-tested technology or novel in nature.	The process method selected is the standard method for mineralogically similar uranium ores. A number of mines world-wide operate utilising heap leaching with sulphuric acid. The plant recoveries achieved are typically similar to the results predicted by the testwork.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Testwork was carried out using 1-metre and 6-metre high columns. Samples used were composites from each of the mining areas (north-west, central and south-east). The samples used are considered to be representative of these mining areas. Overall uranium recoveries reported are weighted averages of the dissolutions achieved in 6m column testwork, multiplied by the proportion of ore represented by the sample, multiplied by a scale-up factor of 98%. This factor is reasonable.
	Any assumptions or allowances made for deleterious elements.	At this stage, no deleterious elements have been identified as being of economic significance.
	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.	The samples for 6 metre column tests were composites of each mining area. The samples used are considered to be representative of the respective mining areas. The 6m column tests are accepted as being pilot scale tests.
	For minerals that are defined by a specification, has the ore reserve estimation been based on the	The major uranium minerals in the orebody are uraninite and coffinite, accounting for more than 97% of the uranium



Criteria	JORC Code explanation	Commentary
	appropriate mineralogy to meet the specifications?	content. The product mineralogy does not depend on the minerals in the ore, due to after the leaching process, all soluble uranium is precipitated as $\rm U_3O_8$
Environmental	impacts of the mining and processing operation.	Environmental Impact Assessments completed and approved by authorities
	Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Waste rock characterization has been completed. Studies have been performed with Golder Associates Ibérica and AGQ laboratories. Characterization studies are based on Spanish and European Union legislation, summarized in two main decrees:
		<ul><li>Real Decreto 975/2009</li><li>Real Decreto 777/2012</li></ul>
		Those two decrees urge to perform testwork to define 50 samples distributed along orebody divided in 15 possible wastes and 4 possible ore based on lithology and weathering has been tested.
		Waste has been divided into:
		<ul> <li>Inert: comprising Tertiary cover, and Completely Weathered lithologies with less than 40ppm of U3O8.</li> </ul>
		<ul> <li>Non-Inert: all the lithologies with more than 40ppm U3O8 and the Partially Weathered and Unweathered materials.</li> </ul>
		One waste dump has been considered for each of the two type of wastes. Non-inert waste will need a liner as waste dump floor while Inert waste only need a conventional preparation based on topsoil removal and base compaction.
		Waste dumps approved by the Exploitation Project. Detailed design for waste dump will be finalize before operation starts.
Infrastructure		Road, power line and communications are available.
	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.	Land acquisition has begun and it is not expected difficulties to reach amicable agreements with the current landowners. Of the 927Ha to be acquired, 43.7Ha are currently owned by Berkeley.
	provided, or accessed.	The project location is not remote and accommodation can be done in all villages and towns around.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Capital costs have been estimated through the issue of detailed enquiries to multiple contractors and the receipt of formal proposals by possible suppliers or contractors.
	The methodology used to estimate operating costs.	Mining operational cost have been calculated from formal proposals from 5 possible contractors.
		Of the 5 proposals, one has been discarded because of elevated rates. The other. 4 of them are in a very close range and the selected one is the lowest. The different between the lowest and the average of the 4 low range contractors is less than 10%.  Processing cost have been estimated based on consumptions obtained from testwork and engineering design, and proposals received from suppliers of the different commodities. Man-power was estimated based on similar operations and cost based on a benchmarking of this cost in



Criteria	JORC Code explanation	Commentary
	Allowances made for the content of deleterious elements.	Deleterious elements were analysed in the ore, in the PLS and in the obtained product, and non-deleterious elements were found at levels that could penalize the product-
	Any assumptions or allowances made for deleterious elements.	N/A
	The source of exchange rates used in the study.	Consensus of different analysts
	Derivation of transportation charges.	Estimated based on proposals of courier companies
(15)	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Estimated based on the industry standards
	The allowances made for royalties payable, both Government and private.	1% Royalty is payable to Anglo Pacific Group, Plc and 0.375% royalty is payable to Resource Capital Fund. 25% on benefits has been considered as a fix tax in Spain.
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,	Projected U <sub>3</sub> O <sub>8</sub> concentrate quality is consistent with the results of metallurgical test work data completed for the project, compared against standard product specifications at converters.
	net smelter returns, etc.	Uranium revenues are based on the latest published long term contract pricing forecasts (LT mid-range) from UxC. Prices escalate from US\$39.1/lb in 2017 to US\$67.7/lb by 2030. The company considers this a conservative estimate of long term prices, with analyst consensus forecasts reaching US\$65 per pound long term.
		Commercialisation costs of 1% have been applied to gross revenues to reflect transportation costs, insurances and commissions.
		All prices are based on 2016 constant United States dollars.
99	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	$U_3O_8$ pricing forecasts are based on the latest published long term contract pricing forecasts (LT mid-range) from UxC. Prices escalate from US\$39.1/lb in 2017 to US\$67.7/lb by 2030.
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.	The uranium market is currently characterised by high inventory levels, oversupply and depressed demand levels, largely due to the ongoing effects of the Fukushima disaster in Japan in 2011 which resulted in the closure of all Japanese nuclear reactors. The spot uranium price has fallen in response, and most mines are currently operating at or near marginal cost, with significant production now coming off stream by higher cost producers. A major increase in demand is expected from China and India where large scale reactor build programs are ongoing. Analyst consensus forecast is for the uranium market to turn into deficit around 2021/2022 when price recovery is expected to increase significantly to the analyst consensus long term incentive price of US\$65/lb.
	A customer and competitor analysis along with the identification of likely market windows for the product.	Customers are expected to originate from the US, Asia (in particular China, Japan and India) and Europe and will either be large nuclear utilities or trading houses. The company is currently in discussions with numerous global utilities and trading houses regarding off-take contracts and is confident that demand will exist for its product from the commencement of production and throughout the life of mine.



Criteria	JORC Code explanation	Commentary
	Price and volume forecasts and the basis for these forecasts.	Uranium revenues are based on the latest published long term contract pricing forecasts (LT mid-range) from UxC. Prices escalate from US\$39.1/lb in 2017 to US\$67.7/lb by 2030. The company considers this a conservative estimate of long term prices, with analyst consensus forecasts reaching US\$65 per pound long term.
		Volume sold averages 3.5X m lbs per annum over the life of mine and is based on the Company's expectations that sufficient demand exists from Asian, US and European customers for such material.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not applicable
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.	The Salamanca Project is made up of the Retortillo, Santidad, Zona 7 and Alameda sites. Although the ore reserves discussed in this Table 1 represent the Retortillo and Santidad sites only the project has been evaluated as a whole and the following information relating to the financial evaluation represents the input parameters and results for the entire project.
		The after-tax NPV of the projected cash flows is US\$531.94 million at an 8-percent (real) discount rate.
		The after-tax internal rate-of-return is 60 percent.
		Capital is projected to be committed beginning in 2017.
		All costs and prices are based on 2016 constant United States dollars (zero inflation assumed).
		Up-front Capital Costs
		Mining & mine related facilities = US\$22.4 million (US\$9.9 million for Retortillo, US\$6.1 million for Zona 7 and US\$6.3 million for Alameda)
10		Processing & plant related infrastructure = US\$197.1 million (US\$78.7 million for Retortillo, US\$50.3 million for Zona 7 and US\$68.1 million for Alameda)
		Other capex including G&A = US\$ 15.1 million (US\$7.1 million for Retortillo, US\$2.7 million for Zona 7 and US\$5.3 million for Alameda)
		Up-front capital costs = US\$.95.7 million
		A contingency of 6% applied to capex requirements for all Project facilities.
		Production (tons)
		Total Tonnes Mined over Life-of-Mine = 61.3 million (16.1 million tonnes at Retortillo, 18.8 million tonnes at Zona 7 and 26.5 million tonnes at Alameda)
		Plant recovery = 87% for Retortillo, 93% for Zona 7, and 82% for Alameda
		Life of Mine = 13.75 years
		Average Production Steady State = 4.4 million pounds U <sub>3</sub> 0 <sub>8</sub>
		Average Life of Mine Production = 3.5 million pounds U <sub>3</sub> 0 <sub>8</sub>
		Total U <sub>3</sub> 0 <sub>8</sub> Produced Life-of-Mine = 48.6 million pounds



Criteria	JORC Code explanation	Commentary	
		Start of Construction = 2017	
		Start of Production = 2018	
		Cash flow	
		Average Sales Price Received	d = US\$52 per pound
		Average Cash Operating Cos	ts = US\$15.4 per pound
		Average Annual Operating Ea	rnings before
		Interest, Taxes, Depreciation	and
115)		Amortization (EBITDA) (stead	y state) = US\$144.8
		million	
<u>(</u> (())		NPV = \$531.94 million	
		Internal rate of return (IRR) =	60%
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	discount rate when Base Cas sales prices, operating costs	he NPV at the 8-percent (real) se annual production tonnages, and capital costs are increased s of 5 percent within a +/-10-
(U)		Minus 10%	NPV (US\$ '000)
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	431
		Sales price	431
		Operating costs	561
		Capital costs	554
		Minus 5%	
99		Production (pounds U <sub>3</sub> O <sub>8</sub> )	482
		Sales price	482
75		Operating costs	547
		Capital costs	543
		Base Case	
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	532
ř		Sales price	532
		Operating costs	532
		Capital costs	532
		Plus 5%	
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	582
		Sales price	582
		Operating costs	517
		Capital costs	521
		Plus 10%	
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	632
		Sales price	632



Criteria	JORC Code explanation	Commentary	
		Operating costs	502
		Capital costs	510
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	the review of which include stakeholders were asked to project. A number of question answered. After the review of and after the review of all company, the project was a legislation. The Nuclear Safe	mitted to the regulatory body, ed a public consultation. All provide comments on the ns were raised and all of them the questions and the answers the documents shown by the authorised by relevant mining the council has authorised the ewing the additional information tition.
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.	N/A	
	The status of material legal agreements and marketing arrangements.	holder) signed and registered rights of the Ministry of In declared the solely and exclu	ENUSA (the tenement title in the official register of mining dustry, in which Berkeley is sive operator of the tenement. ENUSA with a royalty of 2.5%
	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.	administration, as well as Document, which has been feedback that there is nothing	I closure plans submitted to the the Environmental Scoping already processed, with the ng that may make the project sting environment or protected
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.		have been classified as Proven mineral resources have been erves.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	the feasibility study underta	nt Person that the outcomes of iken appropriately reflect the eposit to be developed, viable iible.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	All Measured mineral resou Proven ore reserves.	rces have been converted to
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	Cameron Mining has done a rethe project, focusing on sched For processing purposes Rand Bradford have provided a generatem on heap leaching and sethe project.	dall Schiefeld and Russell eral review, focusing first of
Discussion of relative accuracy/	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or	category chosen for the re	ed in the resource classification ported OR. The definition of priate for the level of study and



Criteria	JORC Code explanation	Commentary
confidence	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.	the geological confidence imparted by the drilling grid.  The reported OR is considered appropriate and representative of the grade and tonnage at the selected U <sub>3</sub> O <sub>8</sub> cut-off grades.
	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.	Minor amounts of inferred resources have been unavoidably included into the mine plan. These resources are mined late in the mine life, an evaluation of the effect of these resources on the economic outcome of the project has demonstrated that the effect is minor and does not affect the project outcome. The inferred resources have NOT been converted to ore reserves.
	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.	It is considered that all modifying factors applied to generate the ore reserve estimates have been developed to a level of accuracy required to support a feasibility study.
	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.	No production has been carried out at Retortillo.



### JORC Code, 2012 Edition – Table 1 Report (Alameda)

#### **Section 1 Sampling Techniques and Data**

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

Criteria	
Officia	

#### **JORC Code explanation**

#### Sampling Natu techniques rand

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.

#### Commentary

The Alameda deposit was sampled using Diamond Drill (DD) and Reverse Circulation (RC) holes on a spacing varying between 50m x 50m and 35m x 35m. A total of 438 DD holes for 43,305m and 87 RC holes for 6,534m were drilled. Most holes were vertical.

Berkeley drilled 47 of the DD holes for 4,327m. The DD core was sampled using 1m intervals in the mineralised zones, allowing for 2m of internal low grade or waste. In addition, the sampling was extended 3-5m up and down hole from the interpreted mineralised zone. Whole core was used for sampling.

Berkeley drilled all of the RC holes. The RC drill samples are collected over 1m intervals and split on site to provide an approximately 3-5kg sample using a riffle splitter or cone and quarter method. Field tests show that these methods produce representative samples.

Junta de Energía Nuclear (JEN) and Empresa Nacional de Uranio (ENUSA) drilled 391 of the DD holes for 38,978m. The DD core was sampled using 0.2m to 2m intervals in the mineralised zones, with 0.2m and 0.25m intervals being the most frequent sample length.

An unknown number of Roto Percussion open holes (RP) were also drilled by JEN and ENUSA. These RP holes were not used in the resource estimation process and accordingly, are not discussed further in this Table 1 Report.

Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.

Berkeley sampling protocols include the insertion of standards and blanks into the sample stream to assess the accuracy, precision and methodology of the external laboratories used. In addition, field duplicate samples are inserted to assess the variability of the uranium mineralisation. 15-20% of samples were for quality control purposes. The laboratories undertake duplicate sampling as part of their internal Quality Assurance/Quality Control (QA/QC) processes. Analysis of the QA/QC sample data indicates satisfactory performance of both the field sampling protocols and assay laboratories procedures, indicating acceptable levels of precision and accuracy.

Berkeley drill hole collar locations were surveyed by qualified surveyors (Cubica Ingeniería Metrica, S.L.) using differential global positioning system (DGPS) equipment achieving sub decimetre accuracy in horizontal and vertical position. Downhole surveys were undertaken using a Geovista down-hole deviation probe. Measurements are taken every 1cm down hole and averaged every 10m. No strongly magnetic rocks are present within the deposit which may affect magnetic based readings. JEN and ENUSA maps used local grid coordinates which required transformation georeferencing. Historic collar coordinates were extracted from the referenced maps and transformed to UTM coordinates. Berkeley re-assigned the elevation to each collar.



Criteri	a JORC Code explanation	Commentary
		All of the Berkeley drill holes were logged with a down-hole GeoVista total count gamma tool. The probe was sent to Borehole Wireline Pty. Ltd. in South Australia for annual recalibration in the Adelaide-model test pits. Calibration includes the determination of k-factor, deadtime, bore hole diameter and fluid corrections, which are reported in the "Primary Probe Calibration" document. All parameters are then applied during the in-house equivalent grade (eU <sub>3</sub> O <sub>8</sub> ) calculation process.
		JEN and ENUSA QA/QC protocols are unknown.
	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	Berkeley RC drill samples are collected over 1m intervals and split on site using cone and quarter method to provide an approximate 3-5kg field sample.
	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.	Scintillometer measurements were taken on all Berkeley RC samples and this data was then used to select the samples to be sent to external laboratories for sample preparation and analysis. Mineralised intervals determined from scintillometer values greater than 150cps were extended up and down hole by at least 2-5m to ensure adequate definition of waste boundaries.
		Field samples were split in the core shed using a riffle splitter to 0.7-1kg and sent to ALS laboratories for preparation (Seville, Spain) and analysis (Vancouver, Canada). Samples were dried, crushed down to 70% below 2mm and pulverised with at least 85% of the sample passing 75µm. 10g of sample was used for uranium analysis by pressed powder X-ray fluorescence (XRF) method.
		JEN and ENUSA core samples were prepared in internal company laboratories and assayed for uranium using XRF, Atomic absorption spectroscopy (AAS) or fluorometric methods. The JEN and ENUSA assay data represents 31% of the total assay database.
Drilling technic	ques hammer, rotary air blast, auger, Bangka, sonic, etc)	Berkeley drilling comprised both DD (HQ and PQ) and RC drilling using a 140mm diameter face sampling hammer.
	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	For angled DD, oriented core was achieved using a plasticine method.
	method, etc).	The historical JEN and ENUSA drilling comprised NQ and HQ sized DD holes. Historical drilling accounts for approximately 78% of the total drill metres.
Drill sa recove		Berkeley, JEN and ENUSA DD typically recorded overall core recoveries in excess of 90%, which is considered acceptable.
		Berkeley RC drill samples are collected over 1m intervals through a cyclone. Plastic sample bags are strapped to the cyclone to maximise sample recovery. Individual sample bags were not weighed to assess sample recovery but a visual inspection was made by the Company geologist to ensure all samples are of approximately equivalent volume.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	The DD drilling rigs used face discharge bits to ensure a low contact between the rock and drilling fluids, minimising ore washing. Whole core was sent for analysis.
		The RC drilling rigs utilised suitably sized compressors to ensure dry samples where possible. Plastic sample bags



Criteria	JORC Code explanation	Commentary
		were strapped to the cyclone to maximise sample recovery. Sample logs record whether the sample was dry, moist or wet.
		Wet samples account for approximately 10-15% and typically correspond to the last 5-10m of the affected holes.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of	Due to potential solubility and mobility of the uranium minerals, the use of water in core recovery in DD is controlled.
15)	fine/coarse material.	The core and RC sample recoveries are of an acceptable level and no bias is expected from any sample losses.
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.	Berkeley geological logging of DD core included recording descriptions of lithology, geological period, colour, oxidation, mineralisation style, alteration, weathering, structure, texture, grain size and mineralogy.
		Berkeley geotechnical logging of DD core included recording descriptions of integrity (recovery and RQD), materials (lithology, rock strength and depth oxide staining), structures (type, angle, contact type, infill, weathering)
		Berkeley structural logging of DD core included recording descriptions of structure type, structural angles, contact type, infill, line type and slip direction.
		Berkeley alteration logging of DD core included recording descriptions of metamorphic textures, alteration mineralogy and mineralisation style.
		Berkeley geological logging of RC chip samples included recording descriptions of lithology, weathering, alteration and mineralisation. A scintillometer reading of counts per second (cps) was recorded for each 1m sample (quantitative).
		JEN geological logging includes recording descriptions of lithology, iron oxides, sulphides, uranium mineralogy fracturing and no recovering zones.
		ENUSA geological logging includes recording descriptions of lithology, colour, fracturing level, recovery, mineralogy, radiometry and water table.
	Whether logging is qualitative or quantitative in	Geological logging is qualitative in nature.
	nature. Core (or costean, channel, etc) photography.	Berkeley DD core boxes and samples and RC samples and chip trays were photographed.
		JEN and ENUSA did not take photographs of drill core or chip trays.
П	The total length and percentage of the relevant intersections logged.	All DD and RC drill holes were logged in full by geologists employed by the relevant companies.
Sub- sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Berkeley DD core was sampled using 0.5m intervals in the mineralised zones, including areas of internal low grade or waste. In addition, the sampling was extended 3-5m up and down hole from the interpreted mineralised zone. Whole core was used for sampling.
		JEN and ENUSA DD core was sampled using 0.1m to 0.4m intervals in the mineralised zones, with 0.2m and 0.25m intervals being the most frequent sample length. Whole core was used for sampling.



Criteria	JORC Code explanation	Commentary
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Berkeley RC drill samples were collected at 1m intervals. RC intervals were sampled by splitting dry samples in the field to 3-5kg using either a riffle splitter or cone and quarter method and further split in the core shed to 0.7-1kg using a riffle splitter.
		Where samples were wet they were dried prior to splitting. In rare cases, wet samples were split using a cone and quarter method.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Berkeley samples were sent to ALS laboratories for preparation and analysis. Samples were dried, fine crushed down to 70% below 2mm, split to obtain 250g and pulverised with at least 85% of the sample passing 75µm. 10g of sample was used for uranium analysis by pressed powder XRF method.
		JEN and ENUSA core samples were prepared and assayed for uranium at internal company laboratories using XRF, AAS or fluorometric methods.
	Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.	Berkeley field tests determined that the sample size and method of sampling produce representative RC samples. QA/QC procedures involved the use of standards and blanks which were inserted into sample batches at a frequency of approximately 15-20%.
		Quality control procedures used by JEN and ENUSA are unknown.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Duplicate splits of RC samples were taken every 10m down hole within the sampled intervals by Berkeley. The results from these duplicates show optimal repeatability.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The uranium is typically very fine grained. Previous test work carried out by Berkeley using different sample sizes demonstrated that the selected sample size is appropriate.
Quality of assay data and	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Berkeley assayed samples for uranium using the pressed powder XRF method. This analytical method reports total uranium content.
laboratory tests		JEN and ENUSA assayed samples for uranium were completed at internal company laboratories using XRF, AAS or fluorometric methods.
		The sampling and analytical methods used by Berkeley, JEN and ENUSA are considered appropriate for this style of uranium mineralisation.
	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.	Down-hole gamma logging was undertaken for all probe accessible holes drilled by Berkeley to provide $eU_3O_8$ ("equivalent" $U_3O_8$ grade) data. The down-hole gamma response was converted to $eU_3O_8$ by correcting for radon, hole diameter, air/water and a deconvolution filter was also applied. $eU_3O_8$ data was used in the mineral resource grade estimation process when chemical assay data was not available. $eU_3O_8$ data was also used to verify mineralisation intersections based on assay results.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie	Standards, blanks and duplicates were regularly inserted into the sample stream by Berkeley, with approximately 15-20% of all samples used for quality control. The external laboratories maintain their own process of OA/OC utilising

laboratories maintain their own process of QA/QC utilising



Criteria	JORC Code explanation	Commentary
	lack of bias) and precision have been established.	internal standards, repeats and duplicates.
		Review of the Berkeley quality control samples, as well at the external laboratory quality QA/QC reports, has shown resample preparation issues, acceptable levels of accuracy and precision and no bias in the analytical datasets.
		JEN and ENUSA used internal company laboratories. N QA/QC data is available for this historic data.
15)		Berkeley drilling has confirmed the historical JEN ar ENUSA drilling and shown the grade continuity to be reasonable.
Verification of sampling and	The verification of significant intersections by either independent or alternative company personnel.	Reported significant intersections were checked and verification by Senior Geological management.
assaying		
	The use of twinned holes.	No twinned holes were drilled.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All primary data was recorded in templates designed in Berkeley. Assay data from the external laboratory is received in spreadsheets and downloaded directly into an Access Database managed by the Company. Data is entered in controlled excel templates for validation. The validated data is then loaded into a password secured relational database by a designated Company geologist. Daily backups of a digital data are undertaken. These procedures a documented in the Berkeley Technical Procedures ar Protocols manual.
		JEN and ENUSA primary paper data was digitalized ar recoded following the Berkeley protocols. The validated da was then loaded into the password secured relation database by a designated Company geologist.
15)	Discuss any adjustment to assay data.	Uranium (ppm) assays received from the external laborato were converted to U <sub>3</sub> O <sub>8</sub> (ppm) using the stoichiometric factor of 1.179. ENUSA data was received as ppt (parts per thousand) and converted to ppm (parts per million)
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.	Berkeley drill hole collar locations were surveyed by qualific surveyors (Cubica Ingeniería Metrica S.L) using standa DGPS equipment achieving sub decimetre accuracy horizontal and vertical position.
5		Berkeley down-hole surveys were undertaken using Geovista down-hole deviation probe. Measurements we taken every 1cm down hole and averaged every 10m. No strongly magnetic rocks are present within the deposit which may affect magnetic based readings.
		JEN and ENUSA holes were drilled on grid coordinates ar were not surveyed after drilling.
	Specification of the grid system used.	The grid system is UTM ED1950 Zone 29N.
	Quality and adequacy of topographic control.	Topographic control was based on a digital terrain mod with sub metric accuracy sourced from the Spanis Geographical Institute (Instituto Geográfico Nacional) ar was verified by comparison with drill hole collar survey
		completed by the surveyor using DGPS.



Criteria	JORC Code explanation	Commentary
spacing and distribution		nominal 50m by 50m grid, with some closer spaced drilling on 35m by 35m.
		Section lines are orientated approximately perpendicular to the interpreted strike of the mineralisation.
		The historical JEN and ENUSA drilling was completed on spaced 50m by 50m grid with some infill areas spaced 35m by 35m.
<u> </u>	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.	The data spacing (notionally 50m by 50m) is considered sufficient to verify geological and grade continuity, and allow the estimation of Indicated Mineral Resources.
	Whether sample compositing has been applied.	No compositing of RC samples in the field has been undertaken.
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.	The mineralisation at Alameda has two strong orientations. The main body of the mineralisation trends in a NE-SW direction over a strike length of approximately 800m. To the north, the mineralisation trends in a NNW-SSE direction, sub parallel to lithology, over a strike length of approximately 1,500m. Despite the general dip of the host geological units and structures ranging from 50-70°, the mineralised zone is interpreted to be sub-horizontal (due to post mineralisation supergene processes) to shallowly dipping to the SE.
	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.	The majority of DD and RC drill holes are vertical. Due to the interpreted flat lying nature of the mineralisation, no sampling bias is considered to have been introduced by the orientation of the drilling. This has been validated by the drilling of 31 inclined DD holes and 30 inclined RC holes.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by Berkeley. Samples were transported from the drill site by Company vehicle to a sample preparation shed where samples were prepared for dispatch. Samples were sent directly from the sample preparation shed to the laboratory using a certified courier or a Berkeley owned vehicle authorised for radioactive materials transport. No other freight was transported with the samples which were taken directly from the Berkeley facility to the external laboratory. Sample submission forms were sent in paper form with the samples as well as electronically to the laboratory. Reconciliation of samples occurred prior to commencement of sample preparation for assaying.
		The historical drilling samples were prepared and analysis using internal company laboratories. The chain of custody is unknown.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Sampling techniques and procedures, as well as QA/QC data, are reviewed internally an ongoing basis. Chris Arnold (Principal Geologist, AMC Consultants (UK)) independently reviewed the sampling techniques, procedures and data. He undertook a number of site visits to review and inspect the application of procedures. These reviews concluded that the sampling and analytical results have resulted in data suitable for incorporation into Mineral Resource estimation.



### **Section 2 Reporting of Exploration Results**

Sed	ction 2 Reporting of Exploration Results	
(Criteria	listed in the preceding section also apply to this section	1.)
Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title	The Alameda deposit lies on the Salamanca XXVIII Definitive State Reserve 6362 which is 100% owned by Berkeley Minera España S.L., a wholly owned subsidiary of Berkeley Energia Limited.
status	interests, historical sites, wilderness or national park and environmental settings.	The Definitive State Reserve is currently in the 12 <sup>th</sup> year of its 2 <sup>nd</sup> 30-year term (valid until 13 August 2033) and may be extended for an additional period of 30 years. It covers an area of 16.5km <sup>2</sup> and includes the entire area containing the Alameda mineralisation.
		No historical sites or national parks are located within the Concession.
	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.	Tenure in the form of a Definitive State Reserve has been granted and is considered secure. There are no known impediments to obtaining a licence to operate in this area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Previous exploration at Alameda was completed initially by JEN and ENUSA, both Spanish state run companies, from the late 1950's through to the mid 1980's. Work completed by JEN and ENUSA included mapping, radiometric surveys, trenching, RP, RC and DD drilling.
		A detailed data assessment and verification of the historical data supplied by JEN and ENUSA has been undertaken by Berkeley. No significant issues with the data were detected.
Geology	Deposit type, geological setting and style of mineralisation.	The uranium mineralisation is hosted within Cambrian metasediments adjacent to granite. The mineralisation typically occurs as a sub-horizontal to shallowly dipping layer occurring between surface and 180m depth with strong structural control on either side of a central breccia zone. The style of the uranium mineralisation includes veins, stockwork and disseminated mineralisation in joint/fracture filling associated with brittle deformation. Uraninite and coffinite are the primary uranium minerals. Secondary uranium mineralisation is developed in "supergene-like" tabular zones corresponding to the depth of weathering. Most of the mineralisation is hosted within partially weathered (51%) and unweathered (46%) metasediment. This deposit falls into the
		category defined by the International Atomic Energy Association (IAEA) as Vein Type, Sub Type Iberian Type.
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:	No new exploration results are included in this release.
	<ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul>	
	If the exclusion of this information is justified on the basis that the information is not Material and this	All Berkeley drill holes within the resource area have previously been reported in releases to the ASX providing



Criteria	JORC Code explanation	Commentary
	exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	collar easting, northing, elevation, dip, azimuth and length of hole and mineralised intercepts as encountered.
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.	No new exploration results are included in this release. All Berkeley drill holes within the resource area have previously been reported.
	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.	No new exploration results are included in this release. All Berkeley drill holes within the resource area have previously been reported.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values were used.
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.	All drilling was planned in such a way as to intersect expected mineralisation in a perpendicular manner. The uranium mineralisation is interpreted to be flat lying to shallowly dipping so the majority of the RC holes were drilled vertically. The interpreted geometry of the mineralisation has been validated by the drilling of 33 inclined DD holes and 32 inclined RC holes.
)	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').	The previously reported (no new exploration results are included in this release) down-hole intervals are interpreted to approximate true widths.
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.	Appropriate diagrams, including drill plans and cross sections have been included in previously reported ASX releases.
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.	No new exploration results are included in this release. All Berkeley drill holes within the resource area have previously been reported.
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.	Down-hole gamma logging of all Berkeley holes was undertaken to provide $eU_3O_8$ data. Comparison of $eU_3O_8$ data with chemical assay data have shown that on average $eU_3O_8$ tends to underestimate at higher grades (>500ppm) and overestimate at lower grades (<200ppm). The Mineral Resource Estimate (MRE) reported in this release was estimated using chemical assay data as the primary method for grade estimation in the modelling process. $eU_3O_8$ data was used for grade estimation process when chemical assay data was not available.
		The Company has reported the results of a PFS for the Salamanca Project which includes the Alameda deposit (refer ASX Announcement dated 26 September 2013). The PFS included hydrogeological, geotechnical, mining, metallurgical and process engineering studies, as well as environmental impact assessments.

environmental impact assessments.



Criteria	JORC Code explanation	Commentary
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work planned for the Alameda deposit includes additional infill drilling focused on improving geological confidence and resource classification.
		Geological studies will include detailed interpretation of lithology, structure and weathering and an assessment of potential relationships between these factors and uranium grade distribution.
		Further work is also planned on a number of other exploration targets within the Alameda Region.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	These have been included in previously reported ASX releases.

### **Section 3 Estimation and Reporting of Mineral Resources**

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.	Drill hole data is stored in a password protected relational database (Access). Drill data recorded in digital Excel templates is transferred to the database by the project geologist who is responsible for reviewing and validating the data. Assay data is received from the external laboratories in digital format and is loaded directly into the database after QA/QC has been checked and validates the rest of assays.
		Geological logging is restricted to appropriate codes relevant to the local geology, mineralisation, weathering and alteration setting. A copy of the master database is linked to Surpac mining software for Mineral Resource Estimation.
	Data validation procedures used.	Database validation checks including collar survey position, down hole survey control, assay limits, eU <sub>3</sub> O <sub>8</sub> profiles, sample intervals and logging codes are completed prior to the data being transferred to the master database.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Sampling techniques and procedures, as well as QA/QC data, are reviewed internally an ongoing basis. Chris Arnold (Principal Geologist, AMC Consultants (UK)) reviewed the sampling techniques, procedures, data and resource estimation methodology. He undertook a number of site visits to review and inspect the application of these procedures. He concluded that the sampling and analytical results available were appropriate for estimation of the Mineral Resource.
	If no site visits have been undertaken indicate why this is the case.	Site visits have been undertaken.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The confidence of the geological interpretation is appropriate for the current level of resource estimation. The resource is defined within mineralised envelopes which encompass all zones of significant mineralisation.
	Nature of the data used and of any assumptions made.	Geology and mineralisation interpretation is based on geological logging and sample assays derived from RC and DD drilling, along with cross sectional interpretations which include surface mapping information and geophysical studies.



	Criteria	JORC Code explanation	Commentary
	D	The effect, if any, of alternative interpretations on Mineral Resource estimation.	Structural studies show dips of structures vary between 30° and vertical however; the uranium mineralisation has undergone supergene remobilisation and is interpreted to be flat lying to shallowly dipping and generally within 180m from surface.
		The use of geology in guiding and controlling Mineral Resource estimation.	On the deposit scale the uranium grade is controlled by both lithology and structure, while on a local scale the grade is interpreted to be influenced by supergene processes.
		The factors affecting continuity both of grade and geology.	Geological logging and uranium assay of samples from drill holes has demonstrated the continuity of the grade and lithology between mineralised sections. Breaks in continuity are likely due to structural offsets, some of which have been observed or interpreted from surface mapping.
	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 Alameda uranium mineralisation covers an area of approximately 2km by 1.2km and generally occurs within 180m of surface.
	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	A mineralised envelope is created encompassing all zones of significant mineralisation. A number of different domains have been interpreted.
	techniques	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.	Geostatistical variogram modelling was used to determine appropriate parameters for estimation of uranium. Primary estimation is a pass with Ordinary Kriging (OK) method for domains Z11 and Z13 and Inverse Distance Squared Weighting (ID <sup>2</sup> ) for the remaining domains.
			Datamine software was used for mineralisation volume interpretation and uranium grade estimation by AMC.
			<ul> <li>Four sources of drillhole uranium grade data was used:</li> <li>Berkeley Chemical U<sub>3</sub>O<sub>8</sub> (ppm): 13%</li> <li>Berkeley Radiometric Equivalent eU<sub>3</sub>O<sub>8</sub> (ppm): 23%</li> <li>Berkeley Portable XRF U<sub>3</sub>O<sub>8</sub> (ppm): 1%</li> <li>ENUSA Chemical U<sub>3</sub>O<sub>8</sub>(ppm): 63%</li> </ul>
			The drill hole spacing is nominally 50m by 50m, with some closer spacing at 35m by 35m.
			Five mineralisation domains were identified at Alameda (Z9, Z11, Z12, Z13 and Z14). 2m samples composites were used to estimate grade into 10m by 10m by 6m parent blocks, allowing sub-blocking of 5m by 5m by 3m
			In order to reduce local bias due to extreme high grades, top cuts were applied:
Пп			• Z9: 2,000ppm U <sub>3</sub> O <sub>8</sub>
			• Z11: 8,000ppm U <sub>3</sub> O <sub>8</sub>
			<ul> <li>Z12: 4,000ppm U<sub>3</sub>O<sub>8</sub></li> <li>Z13: 5,000ppm U<sub>3</sub>O<sub>8</sub></li> </ul>
			<ul> <li>Z13: 3,000ppm U<sub>3</sub>O<sub>8</sub></li> <li>Z14: 4,000ppm U<sub>3</sub>O<sub>8</sub></li> </ul>
			Search ellipse radii variable for all domains in metres, along- strike /across-strike/down-dip (1 <sup>st</sup> and 2 <sup>nd</sup> pass):
			• Z9: 75/75/6 to 150/150/6
			• Z11-13: 40/40/6 to 80/80/6



Criteria	JORC Code explanation	Commentary
		Search orientation variable per domain (dip, plunge, dip dir.):  • Z9: 0/0/347  • Z11: 0/0/347  • Z12: 15/0/262  • Z13: 30/0/267  • Z14: 30/0/262  Search radii used for OK was mostly 40/40/5 (major/semimajor/minor) to estimate a grade for blocks not estimated in the 1 <sup>st</sup> pass, the radii were doubled on the 2 <sup>nd</sup> pass.  In-situ dry bulk densities were assigned based on zones of weathering intensity and used to estimate tonnage. Densities
		are from diamond core measurements using the Archimedes principle.
)	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 reported resource estimate was compared with the previous resource estimate (September 2010) which was based on earlier drill campaigns and historical ENUSA resource estimates. Both of which support the reported MRE.
1		No mining production has taken place at Alameda.
	The assumptions made regarding recovery of by- products.	The resource model only estimates uranium.
	Estimation of deleterious elements or other non- grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	At this stage, there are no deleterious elements or other non- grade variables identified as being of economic significance at Alameda.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The uranium grade is estimated into the 10m (X) by 10m (Y) by 6m (Z) blocks. This compares to the average drill spacing of 35m by 35m in X and Y and an assumed mining bench height of 6m. This block size was chosen to match the potential open cut mining methodology.
	Any assumptions behind modelling of selective mining units.	Two selective mining unit dimensions have been considered in the current model:
		<ul> <li>North covering an area of 1.5km by 0.5-0.02km within 50m of surface.</li> </ul>
		<ul> <li>South with an area of 0.8km by 0.2km within 150m of surface.</li> </ul>
		Both areas contain mineralised zones that average between 20m to 50m in thickness.
	Any assumptions about correlation between variables.	Uranium is the only economic metals estimated in the current resource model.
) =	Description of how the geological interpretation was used to control the resource estimates.	Geological interpretation controlled the volume of the resource estimate by restricting the interpretation of the mineralisation volume and associated samples to material with continuity above a 100ppm U <sub>3</sub> O <sub>8</sub> grade.
		The domains are based on geology, structure and uranium grade with defined zones of mineralisation that show continuity along and across strike.
		A further division of the model into completely weathered, partially weathered and fresh rock is applied by triangulated surfaces interpreted from the logging of the drill samples. This division is only applied for density purposes.



Criteria	JORC Code explanation	Commentary
D	Discussion of basis for using or not using grade cutting or capping.	Uranium grade distribution exhibits a strong positive skewness, so a top cut was applied to reduce local bias by extreme grades outliers – nominally approximating the 97.5 population percentile. The domains were assessed independently and a top cut grade was determined for each domain.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Validation of the MRE included visual inspection of the grade distribution compared to the drill data, comparison of block model statistics to the sample statistics and generation of swath plots. These confirmed that the MRE appropriately represents the grade and tonnage distribution of the uranium mineralisation at the confidence levels reported.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	The resource tonnage is reported on a dry bulk density basis. In-situ dry bulk density measurements were completed on dry core (Archimedes method) and sample grades are reported using dry weight.
		No moisture content of drill core has been determined.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The MRE has been reported using a 200ppm U <sub>3</sub> O <sub>8</sub> cut-off grade. The Salamanca Project PFS demonstrated that a ~100ppm U <sub>3</sub> O <sub>8</sub> cut-off is economic. Based on the current uranium market, reporting of the MRE at a 200ppm cut-off grade is both justifiable and consistent with previous published MRE's for this style of mineralisation.
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 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 PFS demonstrated that the Alameda resource can potentially be extracted using open pit mining methods, with the recovery of uranium through the application of acid heap leach methods.  Indicative parameters used for pit optimisation purposes were:  Uranium selling price: US\$65/lb U <sub>3</sub> O <sub>8</sub> ,  Total Mining Cost: US\$9.76/lb U <sub>3</sub> O <sub>8</sub> Mining recovery: 97.5%  Mining dilution: 5%  Plant Process Cost: US\$10.41/lb U <sub>3</sub> O <sub>8</sub> Recovery U <sub>3</sub> O <sub>8</sub> : 85%  Royalties: 3.7%
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.	Berkeley has completed a number of metallurgical testwork programs for Alameda as part of the scoping, PFS and definitive feasibility studies, including column leach tests at commercial height (6m). These tests have shown that heap leaching can achieve uranium recoveries of at least 85%.
Environmen- tal 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	Spent ore from the on-off heap leach pads ('ripios') will initially be stored on the heap leach pads and subsequently backfilled into isolated and lined (clay layer and HDPE liner) areas within the mined pits on a continuous basis once sufficient space is available.



Criteria	JORC Code explanation	Commentary
D	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.	Acid Rock Drainage (ARD) and Natural Occurring Radioactive Materials (NORM) waste will be placed onto temporary dumps designed with the required isolation system (clay layer and HDPE liner) until the waste is backfilled into the mined pits towards the end of the mine life. At the end of the mine life, the entire volume of ripios, ARD and NORM waste will be fully encapsulated within the mined pits, and the surface rehabilitated as per the existing profile and vegetation.
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 measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Bulk density values were derived from 980 core density measurements.  The in-situ dry bulk density values are:  Surface cover: 2.40g/cm³  Oxidised: 2.52g/cm³  Partially oxidised: 2.70g/cm³  Fresh rock: 2.75g/cm³  Fresh and partially oxidised rock is competent enough to ensure the method used takes into account any rock porosity. A factor derived from comparison with DD core was used to adjust the oxidised and surface cover material.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The density measurements have been classified by weathering intensity, defined by the geological logging. Four dominant zones have been identified – surface cover, oxidised, partially oxidised, and fresh rock. The average of the density data from each zone was applied in the resource model.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	<ul> <li>The reported MRE has been classified as Indicated or Inferred after consideration of the following:         <ul> <li>Adequate geological evidence and drill hole sampling is available to imply geological and grade continuity.</li> <li>Adequate in-situ dry bulk density data is available to estimate appropriate tonnage factors.</li> <li>Adequate mining, metallurgy and processing knowledge to imply potential prospect for eventual economic extraction.</li> </ul> </li> </ul>
	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).	The reported MRE has been classified with consideration of the quality and reliability of the raw data, the confidence of the geological interpretation, the number and spacing of intercepts through the mineralised zones and knowledge of grade continuity gained from observation and geostatistical analysis.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The reported MRE and its classification are consistent with the CP's view of the deposit. The CP was responsible for determining the resource classification.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	An external review was undertaken by AMC Consultants on the MRE reported in December 2011. The review concluded that the estimate was considered to reflect the understanding of the geology and grade continuity.  Craig Gwatkin (CP) also concluded that the estimates



Criteria	JORC Code explanation	Commentary
D		appropriately represented the grade and tonnage distribution of uranium mineralisation at confidence levels commensurate with the reported resource classification.
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 confidence level is reflected in the resource classification category chosen for the reported MRE. The definition of current Mineral Resources is appropriate for the level of study and the geological confidence imparted by the drilling grid.  The reported MRE is considered appropriate and representative of the grade and tonnage at the 200ppm U <sub>3</sub> O <sub>8</sub> cut-off grade. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource on a global scale. It relies on historical data being of similar standard as recent infill drilling. The relevant tonnages and grade are variable on a local scale.  The nature of the mineralisation and the relatively high nugget effect may result in local grade estimates being lower confidence, with smoothing of the grade tonnage distribution at cut-off grades above 200ppm U <sub>3</sub> O <sub>8</sub> .
		The CP considers that the drilling grid in the area is sufficient for classification of an Indicated and Inferred Mineral Resource.
	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.	The Alameda deposit is likely to have local variability. The global assessment is an indication of the average tonnages and grade estimate for each geological domain.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No production has been carried out at Alameda.

### **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	JORC Code explanation	Commentary			
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimat used as a basis for the conversion to an Or Reserve.	e modelling techn block model o	iques as descril f 10x10x6 m ated using Ord	bes in Section 3 has been creadinary Krigging	of Table 1. ated and th and Unifor
		Resource	Tonnage	Grade	Content
		Category	(Mt)	(ppm)	(MIbs)
		Measured	0.0	0	0.0
		Indicated	37.4	290.4	24.0
		Inferred	0.0	0.0	0.0
		Unclassified	0.0	0	0.0



Criteria	JORC Code explanation	Commentary
	of, the Ore Reserves.	reserves
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those	Site visits took place from 9th to 12th of November 2015. The following inspections were made:
	visits.	<ul> <li>The site of the pit</li> <li>The site of the proposed dump sites</li> <li>The site of the proposed plant site including the ore stockpile</li> <li>The core yard where cores were inspected</li> <li>The access to the site and existing infrastructure around the site.</li> </ul>
		No material issues that are likely to prevent the establishment of mining and processing activities at the site were identified during the site visit.
	If no site visits have been undertaken indicate why this is the case.	Site visits have been undertaken.
Study Status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	The level of study is Definitive Feasibility Study. Only measured and indicated resources have been considered in the declaration of 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.	All factors required to convert Resources to Reserves have been considered including capital and operating costs, selling prices, geotechnical conditions, metallurgical recoveries and reagent consumptions, environmental and social constrains, etc. These factors were used to determine the optimum economic pit shell (using Whittle optimization software). The optimal pit shell was used as the basis to design an open pit that considers slope angles, ramps and berms in the different sectors of the pit. The reserves
		reported are within the final pit design. The use of these factors has resulted in a technically and economically viable plan.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied	<ul> <li>Cut-off grade has been estimated using a combination of factors:</li> <li>Different selling price: from 45\$/lb to 65\$/lb</li> <li>Mine costs derived from the analysis of 5 different proposals from mining contractors.</li> <li>Recoveries and acid consumption obtained from metallurgical testwork done at Mintek (South Africa) for 6 m columns.</li> <li>Rehabilitation costs.</li> </ul>
		The cut-off grade applied is 90ppm
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	<ul> <li>A mine design to definitive feasibility study levels of accuracy has been undertaken as the basis for the estimation of Ore Reserves. This study has included:</li> <li>Exploration and sampling of the deposit</li> <li>Modelling and estimation of mineral resources</li> <li>Mine design of an open pit including a pit optimization study</li> <li>Design of all dumps and stockpiles required.</li> </ul>



teria	JORC Code explanation	Commentary
Ŋ		<ul> <li>Metallurgical testwork</li> <li>Metallurgical process and plant design</li> <li>Determination and design of all infrastructure requirements</li> <li>Costing based on multiple quotes</li> <li>Financial evaluation by discounted cashflow analysis</li> </ul>
	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 deposit is shallow (between 0 to 160m) and massive, the pre-strip is therefore low with a stripping ratio 1.08 (t to t). Due to the depth and geometry of the deposit, the selected mining method is Open Pit mining ensuring a good recovery of the deposit. Some of the pre-strip material will be used as construction material. Access to the pit will be by conventional open pit ramps, 25m in width that enables access for 100 t trucks.
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	Geotechnical design parameters have been derived for the various material types encountered at the site based on core logging and laboratory test work. Open pit slopes have been divided into different design sectors and each of them has specific conditions applied. Overall slope angles in the identified design sectors range from 43 degrees to 58 degrees.
		Grade control will be done based on two main sources of data:  Portable XRF on blast hole collected dust and rock chips Blast hole chemical assay  Routine XRF testing will provide the basic information for ore grade control in the ore. The cost for these activities has been considered as part of the labour cost of the Berkeley technical services.
		The blast hole samples will be collected as 6 m composites. Face mapping and geological logging are used to confirm the results. It has been assumed that 30% of the total ore samples and 10% of the waste samples will be sent to the laboratory for the first year as part of a QA / QC process for the gamma probing. After first year, only 10% of ore blast holes and 5% of waste blast holes will be collected for chemical analysis.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	A Pit optimisation study was undertaken the techno- economic data set used in this optimisation process were largely based on the outcomes of the pre-feasibility study with the exception of the geotechnical parameters which were determine to DFS levels of accuracy.
	The mining dilution factors used.	Planned dilution of Alameda was applied through regularisation of the block model. The original resource model produced by CSA was populated with minimum block sizes of 5x5x1.5. The block model was then regularised to 10x10x6 to account for the selective mining unit. As a larger



Criteria	JORC Code explanation	Commentary
		selective mining unit was applied to the Alameda model, lower dilution and mining recovery factors were applied in comparison to the other deposits. An additional dilution of 1% and mining recovery of 99% were applied to account for unplanned dilution due to blast movement, mixing of ore and waste and mining angles.
	The mining recovery factors used.	Mining recovery factor used is 99%
	Any minimum mining widths used.	SMU is 10x10x6m, minimum with for mining is established in 30m
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	No Inferred material is used in the study, all reserves estimated are based on measured and indicated resources.
	The infrastructure requirements of the selected mining methods.	The infrastructure required is minimum: access by road, power and water. The mining infrastructure cluster will be provided by the selected mining contractor. A metallurgical process plant will be constructed.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The heap leach process is proposed followed by ion exchange (IX). Loaded resin will be then trucked to the Retortillo plant where the resins will be eluted and the eluated incorporated into the downstream SX and ADU precipitation. The ADU precipitate is calcined to produce U3O8. The recoveries obtained from testwork (82% including a scale-up factor of 4%) and the low acid consumption makes heap leaching the preferred process route. Ore, when crushed, breaks along the fractures where the uranium minerals occur, hence milling or fine crushing is not required. The 40mm liberation size is achieved with only primary and secondary crushing. Acid leaching has been demonstrated to be the preferred process. Tank leaching, although increasing recovery by 2-3%, has significantly higher capital and operational costs, and so is economically a less attractive process than heap leaching.
	Whether the metallurgical process is well-tested technology or novel in nature.	The process method selected is the standard method for mineralogically similar uranium ores. A number of mines world-wide operate utilising heap leaching with sulphuric acid. The plant recoveries achieved are typically similar to the results predicted by the testwork.
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Testwork was carried out using 1-metre high columns. Samples used for these column tests were 3 composites of drill cores. Overall uranium recoveries reported are averages of the dissolutions achieved in 1m column testwork, multiplied by a scale-up factor of 96%. This factor is lower than the scale-up factor used for Retortilo and Zone 7, as the factor for these deposits was based on 6m column testwork, whereas the testwork on Alameda ore has only been carried out on 1m columns, and therefore indicates a lower scale-up factor. The overall recovery is predicted to be 82%. Testwork is planned for Alameda ore in 6m columns.
	Any assumptions or allowances made for deleterious elements.	At this stage, no deleterious elements have been identified as being of economic significance.
	The existence of any bulk sample or pilot scale test work and the degree to which such samples	Samples used for these 1 metre column tests were 3 composites of drill cores. The 1m column tests are not



Cri	iteria	JORC Code explanation	Commentary
		are considered representative of the orebody as a whole.	accepted as being pilot scale tests. Tests in 6m columns are planned.
	) ]	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	The product mineralogy does not depend on the minerals in the ore, due to after the leaching process, all soluble uranium is precipitated as $U_3O_8$
En	vironmental	The status of studies of potential environmental impacts of the mining and processing operation.  Details of waste rock characterisation and the	Environmental Impact Assesment has been done and is ready to be submitted to the authorities. Impacts identified are compatible with environment.
	)	consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Waste rock characterization has been done in base of the results in the studies developed for Zona 7 and Retortillo. Caracterization studies are based on Spanish and European Union legislation, summarized in two main decrees:
	/ ] )		<ul><li>Real Decreto 975/2009</li><li>Real Decreto 777/2012</li></ul>
			Waste has been divided into:
			<ul> <li>Inert: comprising Tertiary cover, and Completely Weathered lithologies with less than 40ppm of U3O8.</li> <li>Non-Inert: all the lithologies with more than 40ppm U3O8 and the Partially Weathered and Unweathered</li> </ul>
			materials.
			One waste dump has been considered for each of the two previous type of wastes. Non-inert waste will need a liner as waste dump floor while Inert waste only need a conventional preparation based on topsoil removal and base compaction.
			Waste dumps approved by the Exploitation Project. Detailed project for waste dump will be finalize before operation starts.
	frastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk	Access infrastructure is minor due to existing roads, and the same is applicable for power, water, etc.
	)	commodities), labour, accommodation;or the ease with which the infrastructure can be provided, or accessed.	Land acquisition hasn't begun but it is not expected difficulties to reach amicable agreements with the current landowners, and if any, the law allow the company for the expropriation. Total land to be acquired is around 487Ha.
			The project location is not remote and accommodation can be done in all villages and towns around.
Co	sts	The derivation of, or assumptions made, regarding projected capital costs in the study.	Capital costs have been estimated through the issue of detailed enquiries to multiple contractors and the receipt of formal proposals by possible suppliers or contractors.
	and the state of t	The methodology used to estimate operating costs.	Mining operational cost have been calculated from formal proposals from 5 possible contractors.
			Of the 5 proposals, one has been discarded because of elevated rates. The other. 4 of them are in a very close range and the selected one is the lowest. The different between the lowest and the average of the 4 low range contractors is less



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		than 10%.
		Processing cost have been estimated based on consumptions obtained from testwork and engineering design, and proposals received from suppliers of the different commodities. Man-power was estimated based on similar operations and cost based on a benchmarking of this cost in other operations in country.
15	Allowances made for the content of deleterious elements.	Deleterious elements were analysed in the ore and in the PLS, and non-deleterious elements were found at levels that could penalize the product.
	Any assumptions or allowances made for deleterious elements.	N/A
	The source of exchange rates used in the study.	Consensus of different analysts
	Derivation of transportation charges.	Estimated based on proposals of courier companies
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Estimated based on the industry standards
	The allowances made for royalties payable, both Government and private.	1% Royalty is payable to Anglo Pacific Group, Plc and 0.375% royalty is payable to Resource Capital Fund, and 2.5% Royalty payable to ENUSA
		25% on benefits has been considered as a fix tax in Spain.
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,	Projected U <sub>3</sub> O <sub>8</sub> concentrate quality is consistent with the results of metallurgical test work data completed for the project, compared against standard product specifications at converters.
	net smelter returns, etc.	Uranium revenues are based on the latest published long term contract pricing forecasts (LT mid-range) from UxC. Prices escalate from US\$39.1/lb in 2017 to US\$67.7/lb by 2030. The company considers this a conservative estimate of long term prices, with analyst consensus forecasts reaching US\$65 per pound long term.
		Commercialisation costs of 1% have been applied to gross revenues to reflect transportation costs, insurances and commissions.
		All prices are based on 2016 constant United States dollars.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	$\rm U_3O_8$ pricing forecasts are based on the latest published long term contract pricing forecasts (LT mid-range) from UxC. Prices escalate from US\$39.1/lb in 2017 to US\$67.7/lb by 2030.
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.	The uranium market is currently characterised by high inventory levels, oversupply and depressed demand levels, largely due to the ongoing effects of the Fukushima disaster in Japan in 2011 which resulted in the closure of all Japanese nuclear reactors. The spot uranium price has fallen in response, and most mines are currently operating at or near marginal cost, with significant production now coming off stream by higher cost producers. A major increase in demand is expected from China and India where large scale reactor build programs are ongoing. Analyst consensus



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		forecast is for the uranium market to turn into deficit around 2021/2022 when price recovery is expected to increase significantly to the analyst consensus long term incentive price of US\$65/lb
	A customer and competitor analysis along with the identification of likely market windows for the product.	Customers are expected to originate from the US, Asia (in particular China, Japan and India) and Europe and will either be large nuclear utilities or trading houses. The company is currently in discussions with numerous global utilities and trading houses regarding off-take contracts and is confident that demand will exist for its product from the commencement of production and throughout the life of mine.
	Price and volume forecasts and the basis for these forecasts.	Uranium revenues are based on the latest published long term contract pricing forecasts (LT mid-range) from UxC. Prices escalate from US\$39.1/lb in 2017 to US\$67.7/lb by 2030. The company considers this a conservative estimate of long term prices, with analyst consensus forecasts reaching US\$65 per pound long term.
		Volume sold averages 3.5X m lbs per annum over the life of mine and is based on the Company's expectations that sufficient demand exists from Asian, US and European customers for such material.
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not applicable
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.	The Salamanca Project is made up of the Retortillo, Santidad, Zona 7 and Alameda sites. Although the ore reserves discussed in this Table 1 represent the Retortillo and Santidad sites only the project has been evaluated as a whole and the following information relating to the financial evaluation represents the input parameters and results for the entire project.
$\bigcirc$		The after-tax NPV of the projected cash flows is US\$531.94 million at an 8-percent (real) discount rate.
		The after-tax internal rate-of-return is 60 percent.
		Capital is projected to be committed beginning in 2017.
7		All costs and prices are based on 2016 constant United States dollars (zero inflation assumed).
		Up-front Capital Costs
		Mining & mine related facilities = US\$22.4 million (US\$9.9 million for Retortillo, US\$6.1 million for Zona 7 and US\$6.3 million for Alameda)
		Processing & plant related infrastructure = US\$197.1 million (US\$78.7 million for Retortillo, US\$50.3 million for Zona 7 and US\$68.1 million for Alameda)
		Other capex including G&A = US\$ 15.1 million (US\$7.1 million for Retortillo, US\$2.7 million for Zona 7 and US\$5.3 million for Alameda)
		Up-front capital costs = US\$.95.7 million
		A contingency of 6% applied to capex requirements for all Project facilities.



Criteria JORC Code explanation Commentary	
Production (tons)	
	over Life-of-Mine = 61.3 million (16.1 tillo, 18.8 million tonnes at Zona 7 and Nameda)
Plant recovery = 87% f for Alameda	or Retortillo, 93% for Zona 7, and 82%
Life of Mine = 13.75 ye	ars
Average Production St	eady State = 4.4 million pounds U <sub>3</sub> 0 <sub>8</sub>
Average Life of Mine P	roduction = 3.5 million pounds U <sub>3</sub> 0 <sub>8</sub>
Total U <sub>3</sub> 0 <sub>8</sub> Produced L	fe-of-Mine = 48.6 million pounds
Start of Construction =	2017
Start of Production = 2	018
Cash flow	
Average Sales Price R	eceived = US\$52 per pound
Average Cash Operation	ng Costs = US\$15.4 per pound
Average Annual Opera	iting Earnings before
Interest, Taxes, Depre	ciation and
Amortization (EBITDA)	(steady state) = US\$144.8
million	
NPV = \$531.94 million	
Internal rate of return (	IRR) = 60%
significant assumptions and inputs.  discount rate when Ba sales prices, operating	shows the NPV at the 8-percent (real) use Case annual production tonnages, costs and capital costs are increased rements of 5 percent within a +/-10-
Minus 10%	NPV (US\$ '000)
Production (pounds U	J <sub>3</sub> O <sub>8</sub> ) 431
Sales price	431
Operating costs	561
Capital costs	554
Minus 5%	
Production (pounds U	J <sub>3</sub> O <sub>8</sub> ) 482
Sales price	482
Operating costs	547
Capital costs	543
Base Case	
Production (pounds U	J <sub>3</sub> O <sub>8</sub> ) 532
O-line with	
Sales price	532



Criteria	JORC Code explanation	Commentary	
		Capital costs	532
		Plus 5%	
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	582
		Sales price	582
		Operating costs	517
		Capital costs	521
(15)		Plus 10%	
		Production (pounds U <sub>3</sub> O <sub>8</sub> )	632
20		Sales price	632
92		Operating costs	502
		Capital costs	510
	The status of agreements with key stakeholders and matters leading to social licence to operate.	the review of which include stakeholders were asked to project. A number of question answered. After the review of and after the review of all company, the project was legislation. The Nuclear Safeting	bmitted to the regulatory body, led a public consultation. All to provide comments on the ns were raised and all of them the questions and the answers the documents shown by the authorised by relevant mining ety Council has authorised the ewing the additional information ction.
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.	None of the 487Ha needed t purchased yet.  N/A	o develop the project has been
	The status of material legal agreements and	No binding marketing arran	gements in place yet, though
	marketing arrangements.	advanced discussions are und	
	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 key authorisation aspects - Mining and environg submitted - Water uses: not initiate - Land use: Not initiate - Radiological protection	nmental: Exploitation Project ated
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	ore reserves while Indicated classified as Probable ore res	
	Whether the result appropriately reflects the Competent Person's view of the deposit.	the feasibility study underta	ent Person that the outcomes of aken appropriately reflect the deposit to be developed, viable sible.
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	and therefore only Probab	ssified as Indicated or Inferred ble ore reserves have been led mineral resource inventory.



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Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	Cameron Mining has done a review of the mining aspects of the project, focusing on scheduling and pit shell selection. For processing purposes Randall Schiefeld and Russell Bradford have provided a general review, focusing first of them on heap leaching and second on general structure of the project
Discussion of relative accuracy/ confidence	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.	The confidence level is reflected in the resource classification category chosen for the reported OR. The definition of current Ore Reserves is appropriate for the level of study and the geological confidence imparted by the drilling grid.  The reported OR is considered appropriate and representative of the grade and tonnage at the 90ppm U3O8 cut-off grade.
	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.	All ore reserves declared have been based on Indicated mineral resources, no inferred material has been accounted for in the mining plan.
	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.	It is considered that all modifying factors applied to generate the ore reserve estimates have been developed to a level of accuracy required to support a feasibility study.
	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.	No production has been carried out at Alameda.