

# ASX RELEASE | 31 OCTOBER 2013 | ASX:BKY

### SEPTEMBER 2013 QUARTERLY REPORT

Berkeley Resources Limited ('Berkeley' or the 'the Company') is pleased to present its quarterly report for the period ended 30 September 2013. The Company's primary focus during the period continued to be the advancement of the Salamanca Project located in Spain.

Highlights during and subsequent to the end of the quarter include:

- Completion of the Pre-Feasibility Study ('PFS') confirming the technical and economic viability of the Salamanca Project, including:
  - > Steady state annual production of 3.3 million pounds  $U_3O_8$  over a 7 year period, with average annual production of 2.7 million pounds  $U_3O_8$  over an initial 11 year life of mine;
  - $\triangleright$  Average operating costs (C1 cash costs) of US\$24.60 per pound of U<sub>3</sub>O<sub>8</sub> over the life of mine;
  - ➤ Upfront capital cost of US\$95.1 million to deliver initial production. A further US\$74.4 million, incurred in the second year of production, to achieve steady state operation; and
  - > PFS considered a base case scenario, with strong potential to increase the production profile and/or mine life.
- Significant progress on the permitting of Retortillo:
  - Regional Government has granted a Favourable Declaration of Environmental Impact ('Environmental Licence') following submission and extensive review of the Company's Environmental and Social Impact Assessment ('ESIA') together with the Exploitation Plan and the Reclamation and Closure Plan;
  - > The Nuclear Safety Council ('NSC') has submitted a favourable recommendation report regarding the granting of the Exploitation Concession ('Mining Licence') to the Regional Government; and
  - > Approval of the Company's Exploitation and Reclamation and Closure Plans is now the only outstanding prerequisite for the granting of the Mining Licence for Retortillo.
- High grade mineralisation intersected at shallow depths (from 9 metres to a maximum of 84 metres), with thicknesses up to 29 metres at Zona 7, the largest of the Retortillo Satellite Deposits:
  - > Drilling extends mineralisation a further 1,200 metres to the southwest of the current resource area;
  - ▶ Better intercepts include 29 metres @ 3,391 ppm  $U_3O_8$ , 17 metres @ 1,260 ppm  $U_3O_8$ , 15 metres @ 1,392 ppm  $U_3O_8$ , 25 metres @ 683 ppm  $U_3O_8$  and 13 metres @ 1,161 ppm  $U_3O_8$ ; and
  - ➤ Shallow, high grade mineralisation extending well beyond the current resource boundary at Zona 7 is a clear demonstration of the exploration and resource growth potential of the Salamanca Project.

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- Updated Mineral Resource Estimate ('MRE') for Retortillo deposit of 16.2 million tonnes averaging 376 ppm U<sub>3</sub>O<sub>8</sub> for a contained 13.4 million pounds of U<sub>3</sub>O<sub>8</sub> at a lower cut-off grade of 200 ppm U<sub>3</sub>O<sub>8</sub> was reported. A comparison with the prior MRE (July 2012) highlighted an increase in Indicated resources from 61% to 90% of the total MRE, and an increase in the total contained uranium of 5%.
- Continued Scoping Study on the Gambuta deposit with completion anticipated in the December 2013 Quarter.

Enquiries: Robert Behets

Berkeley Resources +61 8 9322 6322



#### **OPERATIONS**

Berkeley Resources Limited ('Berkeley' or 'the Company') is a uranium exploration and development company with a quality resource base in Spain. Berkeley is currently focused on advancing its wholly owned flagship Salamanca Project.

# Salamanca Project

Berkeley's flagship Salamanca Project ('Project') comprises the Retortillo, Alameda and Gambuta deposits, plus a number of other Satellite deposits located in western Spain (Figure 1).

In November 2012, the Company completed an initial assessment of the integrated development of Retortillo and Alameda and reported the results of the Scoping Study, which clearly demonstrated the potential of the Salamanca Project to support a significant scale, long life uranium mining operation.

Following completion of the Scoping Study, Berkeley commenced a Pre-Feasibility Study ('PFS') on the Salamanca Project. The results of the PFS were reported in September 2013, confirming the technical and economic viability of the Project.

The Company is now undertaking a review process, with a view to assessing the opportunities to further enhance the Project economics through capital and operating cost reductions that were identified in the PFS and defining key work programs to be incorporated into the final scope of the Definitive Feasibility Study ('DFS'). The DFS is anticipated to be awarded by the end of 2013 and completed by the end of 2014.



Figure 1: Location of the Salamanca Project, Spain



## **Pre-Feasibility Study**

The PFS was managed by SENET and was completed by a number of industry recognised specialist consultants including SRK Consulting for mine design, Knight Piésold for heap leach design, Duro Felguera for project cost estimates and URS for environmental management.

The key considerations for the PFS were preferred mining method and mining schedule, preferred processing route, scale, throughput rate, project life, as well as development of the associated infrastructure taking due cognisance of community and environmental impacts.

The basic approach to the development of Retortillo and Alameda contemplated in the PFS included:

- Mining to commence at Retortillo. Alameda integrated into production in Year 3;
- Open pit mining at both sites (transfer mining to facilitate continuous rehabilitation);
- Heap leaching using on-off leach pads at both sites;
- Centralised solvent extraction ('SX') and ammonium diuranate ('ADU') precipitation plant, located at Retortillo; and
- Remote ion exchange ('IX') operation at Alameda, with loaded resin trucked to the centralised plant for final extraction and purification.

Key parameters used in the PFS include:

- Ore Processing Rate 5,500,000 tonnes per annum (steady state)
- Mining Cut-off Grades 105 ppm U<sub>3</sub>O<sub>8</sub> for Retortillo and 90 ppm U<sub>3</sub>O<sub>8</sub> for Alameda
- Metallurgical Recovery 85%
- Uranium Price US\$65 per pound U<sub>3</sub>O<sub>8</sub>
- Exchange Rate US\$/€1.28

The PFS was based solely on the MREs for Retortillo and Alameda and the minimum Project life of eleven years (including seven years of steady state operation) is considered a base case scenario. Given the significant additional Mineral Resources and exploration upside associated with Gambuta, Zona 7 and other Satellite Deposits, significant potential exists to increase the production profile and/or project life.

# Mineral Resources

The PFS was based solely on the MREs for Retortillo and Alameda (Table 1), prepared by Berkeley and reported in accordance with the JORC Code (2004).

The Alameda MRE was unchanged from that reported in July 2012 and was based on data from approximately 41,000 metres of historical DD drilling and 11,000 metres of DD and RC drilling undertaken by Berkeley.

The Retortillo MRE was updated during the quarter to incorporate the results of a recent RC infill drilling program which comprised 67 RC drill holes for 4,382 metres. The Retortillo MRE was previously reported in July 2012.



Table 1 - Summary of MREs used as the basis of the PFS

Retortillo and Alameda Mineral Resource Estimates – September 2013 Reported at a lower cut-off grade of 200 ppm U <sub>3</sub> O <sub>8</sub>								
	Category Tonnage Grade Contained U <sub>3</sub> O <sub>8</sub> (million tonnes) (U <sub>3</sub> O <sub>8</sub> ppm) (million pounds)							
Retortillo	Indicated	14.4	378	12.0				
	Inferred	1.8	359	1.4				
	Sub Total	16.2	376	13.4				
Alameda	Indicated	20.0	455	20.1				
	Inferred	0.7	657	1.0				
	Sub Total	20.7	462	21.1				
Combined	Indicated	34.4	423	32.1				
	Inferred	2.5	443	2.4				
	Total	36.9	424	34.5				

A comparison between the Retortillo September 2013 MRE and July 2012 MRE highlights the following:

- Total tonnes have increased by 7% (16.2 million tonnes vs. 15.2 million tonnes);
- Average grade has decreased by 2% (376 ppm U<sub>3</sub>O<sub>8</sub> vs. 383 ppm U<sub>3</sub>O<sub>8</sub>);
- Total contained uranium has increased by 5% (13.4 million pounds  $U_3O_8$  vs. 12.8 million pounds  $U_3O_8$ ); and
- Indicated Resources have increased from 61% to 90% of total MRE.

These changes are largely attributable to the inclusion of the results of the recent infill drilling, which were mostly in line with expectations based on the previous July 2012 resource model, and they also confirmed that the mineralisation extends a further 200 metres to the northwest beyond the previous resource boundary.

#### <u>Mining</u>

The mining of ore and waste is a conventional open pit operation. Diesel-powered truck and shovel operations, in combination with an effective drill and blast plan was considered for both deposits.

As part of the PFS, a series of Whittle optimisations were completed on the Retortillo and Alameda July 2012 MREs. Materials classified in the Indicated and Inferred categories for Retortillo and Indicated category for Alameda were used in the optimisation process. A subsequent infill drilling program at Retortillo resulted in that portion of the Inferred Resource in the July 2012 MRE which fell within the optimised pit outline being upgraded to the Indicated category in the revised September 2013 MRE. Given that there was no material change to the revised September 2013 MRE, other than the upgraded classification, the initial optimised pit based on the July 2012 MRE was used for the Retortillo pit design and mine scheduling.

Inputs for the Whittle optimisation process included: overall pit wall slope angles of 35-45 degrees for Retortillo and 30-55 degrees for Alameda; 85% metallurgical recovery for both Retortillo and Alameda; US\$65 per pound  $U_3O_8$ ; and an 8% discount rate.



The economic cut-off grade used to determine the mineable ore within the optimum pit shell to be delivered to run of mine ('ROM') pad was developed using the Whittle optimisation method, resulting in economic cut-off grades of 105 ppm  $U_3O_8$  for Retortillo and 90 ppm  $U_3O_8$  for Alameda.

Practical pit designs, waste dump designs and life of mine ('LOM') mining schedules were then completed to determine the optimal long term mine plan.

The mining schedule extends over 11 years with initial mining at Retortillo. The seven year period of steady state operation begins in Year 3, when mining commences at Alameda.

An average of 5.5 million tonnes per annum of combined ore production is scheduled during steady state operation (Retortillo - 2.2 million tonnes per annum; Alameda - 3.3 million tonnes per annum) (Figure 2). At its peak, the mining schedule contemplates the movement of a combined 18.1 million tonnes per annum (both waste and ore). The open pits are shallow with the maximum depths being 90 metres at Retortillo and 135 metres at Alameda (Figures 3 and 4). Strip ratios for the Project are low with the average LOM strip ratio being 1:2.1 ore to waste (Retortillo 1:2.6; Alameda 1:1.8). Over the LOM, a total of 20.0 million tonnes at an average grade of 306 ppm  $U_3O_8$  and 29.9 million tonnes at an average grade of 322 ppm  $U_3O_8$  are mined at Retortillo and Alameda respectively.

The mining method will be 'transfer mining' which allows the open pits to be continuously backfilled whilst, minimising waste dump volumes and waste rehandling. It also facilitates continuous rehabilitation to minimise environmental impact.

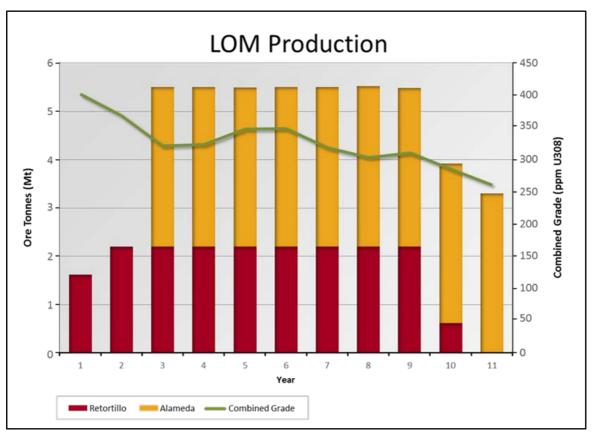


Figure 2: LOM Mine Production Schedule



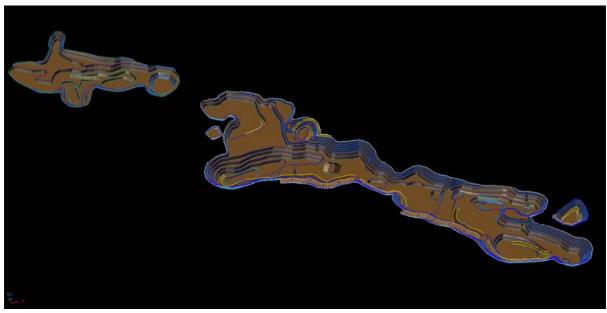


Figure 3: Final Pit Design - Retortillo

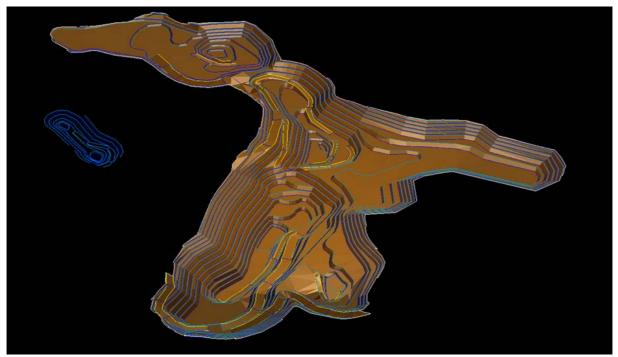


Figure 4: Final Pit Design – Alameda

### **Processing**

Extensive metallurgical testwork has previously been carried out on an approximately 5 tonne representative sample of the Alameda deposit at the SGS laboratories in Perth (including tank leach and heap leach scenarios) and on a 5.5 tonne bulk sample, representative of the Retortillo deposit, at Mintek's mineral processing facility in Johannesburg (heap leach scenario).



Additional metallurgical testwork programs were conducted at Mintek and the Australian Nuclear Science and Technology Organisation ('ANSTO') facilities in Sydney as part of the PFS. The testwork program at Mintek was aimed at confirming the heap leach recovery for each phase of the respective mine schedules and testing ore variability with respect to geo-mechanical behaviour at both Retortillo and Alameda, as well as the determine the optimal heap leach feed size for Alameda. The ANSTO testwork program was designed to facilitate the selection of the optimal backend of the process with the performance of direct SX and ADU precipitation being compared with that of IX and UO<sub>4</sub> precipitation. For further details on the PFS metallurgical testwork programs refer to the Company's ASX June 2013 Quarterly Report.

The results of this comprehensive metallurgical testwork have been used to select the preferred process route and design the flowsheet.

The process flowsheet comprises crushing, screening, agglomeration, stacking and heap leaching using on-off leach pads, followed by uranium recovery and purification by SX, ADU precipitation and calcination at a centralised plant, located at Retortillo (Figure 5). Pregnant liquor solution ('PLS') from the heap leach process at Alameda will be passed through a IX adsorption columns, with the loaded resin trucked to the centralised plant for final extraction and purification.

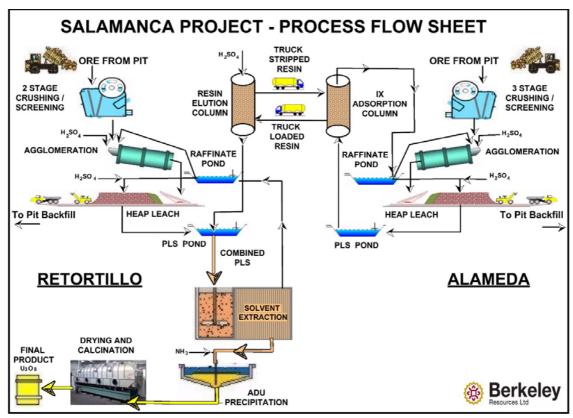


Figure 5: Process Flow Sheet

A heap leach versus tank leach trade-off study was completed, with heap leach technology being selected as the preferred leaching option due to the high efficiency shown during testwork. Testwork indicated high recoveries and good leach kinetics are achieved at relatively coarse crush sizes of 40 mm for Retortillo and 12 mm for Alameda, significantly lower capital and operating costs, and important environmental benefits, including backfill of spent ore from the on-off heap leach pads ('ripios') into the mined pits, thus removing the requirement for a tailings storage facility.

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Two stage crushing of ROM ore will be undertaken at Retortillo (target product size of 40 mm), while three stage crushing is required at Alameda to deliver the finer product (12 mm) required for optimum uranium recovery. Crushed ore will be agglomerated before stacking by direct feed into a conventional drum where spray bars will dose the ore with raffinate and sulphuric acid. The agglomerates are conveyed overland to the heap leach pad and then stacked with radial stackers.

The heap leach comprises an on-off pad subdivided into cells to define areas for stacking, leaching, rinsing/draining and reclaiming. This facility is complete with ponds for makeup water, barren, immediate and pregnant leach solutions, storm water and all associated pumping and reagent storage facilities. The pad design includes a triple insulation system including two high density polyethylene ('HDPE') sheets and a clay layer.

The agglomerated material is stacked in 6 metre lifts and irrigated with diluted sulphuric acid solution using drip emitters. Testwork indicates a commercial leach cycle of 140 days. At Retortillo, the heap leach pad will measure 832 metres long by 260 metres wide at its base and the design comprises 13 cells in the 1<sup>st</sup> lift and 10 cells in the 2<sup>nd</sup> lift resulting in a total capacity of 3.3 million tonnes. The Alameda heap leach pad will measure 475 metres long by 624 metres wide at its base and the design comprises 12 cells in the 1<sup>st</sup> lift and 10 cells in the 2<sup>nd</sup> lift resulting in a total capacity of 5 million tonnes.

The ripios will be removed from the heap leach pad and backfilled into isolated and lined (clay layer and HDPE liner) areas within the mined pits on a continuous basis once mining has advanced sufficiently to accommodate this (approximately 19 months and 15.5 months after commencement of mining at Retortillo and Alameda respectively).

Acid consumption for the heap leach at both sites is 18 kg/t, inclusive of the addition of approximately 8 kg/t to 10 kg/t of acid in the agglomeration process. An opportunity to improve acid consumption by optimising the pH at which uranium can be dissolved (minimising the dissolution of other elements, principally iron) will be evaluated in the next phase of testwork.

At Retortillo, the heap leach PLS feed directly into the SX facility. The Alameda heap leach PLS will be loaded onto resin in an IX adsorption column and the loaded resin transported a distance of approximately 50 kilometres by road to the centralised plant at Retortillo. Once the resin has been stripped, the eluate containing uranium will be combined with the Retortillo PLS and fed into the SX plant for further processing.

The concentrated uranium solution from the SX plant is treated to precipitate the uranium as ADU using anhydrous ammonia. The ADU slurry from the precipitation is pumped into a thickener for dewatering and the underflow dewatered further with centrifuges. The centrifuge cake is finally calcined to produce  $U_3O_8$  which is drummed and prepared for shipping.

Analysis of the PLS during the testwork programs indicates that there are no impurities at levels that could adversely impact the quality of the yellowcake to be produced.

Annual production averages 3.3 million pounds of  $U_3O_8$  during a minimum of seven years of steady state operation, and 2.7 million pounds of  $U_3O_8$  over the entire eleven year mine life.

#### Infrastructure

The Project is favourably located with respect to existing infrastructure (Figure 6).

Both Retortillo and Alameda are readily accessible from the existing public road network, with only a 4.1 kilometre road deviation being required at Retortillo and the upgrade (widening and tarring) of 6.4 kilometres of an existing road necessary at Alameda.



The total power requirements for the Project are low at an estimated 3.7 megawatts ('MW') of consumed power at Retortillo and 3.2 MW at Alameda. It will be supplied from the nearby Spanish National Distribution Grid at a cost of US\$0.10 per kilowatt hour, excluding capital, with connection requiring construction of a 22 kilometre 45 kilovolt ('kV') powerline at Retortillo and a 13 kilometre 45 kV powerline at Alameda. Installed power will be 5.8 MW at Retortillo and 5.4 MW at Alameda.

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. In general, the water balance at both sites changes from being negative during the initial years of production to positive for the remainder of the LOM when discharge will be required to accommodate all water sources. Contact water (process and mine water requiring pre-discharge treatment) will be neutralised in Water Treatment Plants at Retortillo and Alameda prior to any required discharge.

Given the Project's proximity to the city of Salamanca (70 km to the northeast of Retortillo) and local towns and villages, on-site accommodation facilities are not required. An on-site sulphuric acid plant is also not required for the Project as sulphuric acid is readily available from two in-country sources at a cost of US\$124 per tonne delivered to site.



Figure 6: Project Infrastructure

#### **Capital Costs**

The initial capital cost for the mine, processing facilities and associated infrastructure for Retortillo was estimated at US\$95.1 million. This cost is inclusive of all infrastructure and indirect costs required to develop and commence production at Retortillo.



The capital cost for the mine, processing facilities and associated infrastructure for Alameda was estimated at US\$74.4 million. This cost, which will be incurred in the second year of production, includes all infrastructure and indirect costs required for the Project to achieve a steady state production profile averaging 3.3 million pounds of  $U_3O_8$  per annum.

The indirect costs include the first fill of reagents, Engineering, Procurement and Construction Management ('EPCM') costs, Preliminary and General ('P&G') costs and a 15% contingency. No allowance was made for the acquisition of mining fleet (included in operating costs), as mining will be outsourced to a specialist contractor.

Working capital, amounting to US\$23.8 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 +/- 20%. A summary of major capital costs is shown in Tables 2 and 3.

Table 2 – Summary of Retortillo Capital Costs (nominally ± 20% accuracy)

Description Cost (US\$m) Mining: Mining Fleet (included in Opex) 0 Pre-Strip 8.6 Processing: ROM Pad 0.3 6.6 Crushing Agglomeration 1.5 Heap Leach 13.4 Water Treatment Plant 1.8 SX 6.2 Refinery 7.7 Reagents and Utilities 4.7 Infrastructure: Buildings, internal roads etc. 27 8.0 Power Supply 12 Road Diversion Temporary/Waste Dumps 3.2 Water Management Facilities 3.3 Land Acquisition 5.0 2.2 General and Administration ('G&A'): **Indirect Costs:** First Fill and Spares 1.2 **EPCM** 5.6 9.0 Contingency P&G 3.0 95.1 Total

Table 3 – Summary of Alameda Capital Costs (nominally ± 20% accuracy)

Description	Cost (US\$m)
Mining:	
Mining Fleet (included in Opex)	0
Pre-Strip	5.1
Processing:	
ROM Pad	0.6
Crushing	7.4
Agglomeration	1.6
Heap Leach	13.5
Water Treatment Plant	1.3
IX	5.5
Reagents and Utilities	2.2
Infrastructure:	
Buildings, internal roads etc.	2.4
Power Supply	6.0
Road Diversion	0.6
Temporary/Waste Dumps	4.5
Water Management Facilities	3.6
Land Acquisition	3.9
G&A: (included in Opex)	0
Indirect Costs:	
First Fill and Spares	1.9
EPCM	4.7
Contingency	7.2
P&G	2.3
Total	74.4

Note: Apparent differences in Totals occur due to rounding

An additional US\$18.7 million of capital is required to develop a second major pit at Retortillo in the seventh year of production. This capital cost includes a primary crushing facility, a 2.7 kilometre overland conveyor to the main process plant, associated infrastructure and indirect costs.



# **Operating Costs**

The average LOM operating cost was estimated at US\$24.60 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.

Operating costs were estimated in conjunction with the PFS process design criteria, block flow diagram, mechanical equipment lists, metallurgical testwork results to determine reagent consumptions, in-country labour rates, in-country reagent (including sulphuric acid) and fuel supply prices, National distribution grid power rates and quoted local mining contractor rates.

Key operating cost data is summarised in Table 4.

Table 4 - Summary of LOM Operating Costs (nominally ± 20% accuracy)

Description	Cost (US\$/lb U <sub>3</sub> O <sub>8</sub> )	
	Retortillo	Alameda
Mining	14.50	9.76
Processing (including ripios backfill)	12.80	10.41
G&A	2.03	1.56
Subtotal by Area	29.33 21.	
Total Operating Costs	24.60	

In addition to the C1 cash operating costs are marketing and transport costs, estimated at 1.5% of the gross value of the final product (US\$0.97 per pound  $U_3O_8$  produced), and royalties which average US\$1.75 per pound  $U_3O_8$  produced over the LOM. The royalties are defined as a percentage of the net value of the product (gross value less commercialisation) and include the State Reserves Royalty (2.5% and only applicable to Alameda production), Municipality Royalty (0.2%) and an Anglo Pacific Royalty (1.0%).

#### Waste Management and Rehabilitation

Waste was characterised and classified into four types:

- Oxide waste ('inert waste') an inert waste that can be handled as a typical mining waste;
- Acid Rock Drainage ('ARD') potential acid generator due to a marginal sulphide content;
- Natural Occurring Radioactive Materials ('NORM') rock containing very low residual uranium below the mining cut-off grade; and
- Ripios spent ore from the dynamic on-off heap leach pads which can be considered equivalent to ARD and/or NORM waste due to its similar physical and chemical characteristics.

As noted earlier, open pit mining will be undertaken using the transfer mining method to allow continuous backfilling of the pits with waste, thus minimising waste dump volumes and waste rehandling, whilst also allowing for a continuous rehabilitation program that minimises the environmental impact.

Ripios will be stored on the heap leach pads during the initial approximately 18 months of production 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.

Inert waste will be managed using standard industry procedures, placing the material on permanent waste dumps or backfilling the material directly into mined areas within the pits.



ARD and 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.

The costs associated with the continuous rehabilitation programs (excluding ripios backfilling which is included in the operating cost estimate) are estimated at US\$16.8 million for Retortillo and US\$20.8 million for Alameda. These capital costs, which are incurred from the second year of mining through to the end of the mine life at each site, are reasonably evenly distributed on an annual basis. In addition, final rehabilitation and closure costs, which include waste rehandling, pit encapsulation and revegetation and are incurred after the completion of mining at each site, are estimated at US\$45.0 million for Retortillo and US\$53.5 million for Alameda. Post closure surveillance costs are estimated at US\$2.5 million for each site.

For further detailed information on the PFS, please refer to the ASX announcement dated 26 September 2013.

#### Gambuta

The Gambuta deposit, which is located approximately 145 kilometres southeast of Retortillo, has an Inferred MRE of 12.7 million tonnes at 394 ppm  $U_3O_8$  for a total of 11.1 million pounds of  $U_3O_8$  at a 200 ppm  $U_3O_8$  cut-off grade (refer September 2012 Quarterly Report).

The geometry, average thickness and depth of the mineralisation make it amenable to shallow open pit mining with a low ore to waste strip ratio.

Following the positive results of a Desktop Study completed on Gambuta, the Company has advanced the evaluation of the deposit to the Scoping Study stage. The conceptual approach is based on open pit mining, heap leaching, and a remote ion exchange operation, with the loaded resin being trucked to the proposed centralised plant at Retortillo for final extraction and purification.

The scope of work has included initial metallurgical testwork on a 330 kilogram representative sample, comprising bond crushability and bond abrasion tests, diagnostic leach tests, mineralogy and column leach tests at various crush sizes. The results of the testwork showed that uranium recovery improves with finer crushing and averages 80% across the various material types at a 12 mm crush size. Geomechanical tests also confirmed that the ore (and residues) could be stacked up to eight metres, with the heap leach pad design conservatively assuming the ore will be stacked in two 6 metre lifts.

Additional work including geotechnical evaluation, open pit optimisation and mine design, heap leach pad design, and a site layout and infrastructure assessment has also continued during the quarter, with the completion of the Study anticipated in the December 2013 Quarter.

#### **Exploration**

A comprehensive review of all available data for the tenements surrounding the Company's existing resources, undertaken in early 2013, identified the potential extension of Zona 7 to the southwest as a priority drill target.

Zona 7 is the largest of the Retortillo Satellite Deposits and currently hosts an Inferred MRE of 3.9 million tonnes averaging 414 ppm  $U_3O_8$  for a contained 3.6 million pounds of  $U_3O_8$  at a 200 ppm  $U_3O_8$  cut-off grade (refer ASX June 2012 Quarterly Report). It is located within 10 kilometres of the proposed location of the centralised processing plant at Retortillo.



A RC drill program comprising 18 holes for 1,133 metres was carried out on an approximately 400 metre by 100 metre grid to test this priority target in the June 2013 Quarter.

Assay results returned from the 18 RC holes and reported during the quarter highlighted that the Zona 7 mineralisation extends a further 1,200 metres to the southwest of the current resource area along the granite-sediment contact. The drilling has essentially doubled the strike extent of the mineralised zone and it remains open to the southwest. Significant high grade intersections were recorded at shallow depths (from 9 metres to a maximum depth of 84 metres), with thicknesses up to 29 metres. Select intercepts include:

Hole No.	Down Hole Intercept	From Depth (Down Hole)
Z7R-084	29m @ 3,391 ppm U <sub>3</sub> O <sub>8</sub>	9m
Z7R-088	17m @ 1,260 ppm U₃O <sub>8</sub>	37m
Z7R-089	4m @ 2,365 ppm U₃O <sub>8</sub>	39m
	15 $m \ @ 1,392 \ ppm \ U_3O_8$	63m
	$2 @ 2,759 ppm U_3O_8$	82 <i>m</i>
Z7R-087	$25m @ 683 ppm U_3O_8$	27m
Z7R-090	13m @ 1,161 ppm U <sub>3</sub> O <sub>8</sub>	17m
Z7R-085	16m @ 764 ppm U₃O <sub>8</sub>	33m

Zona 7 is a vein type 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 generally subhorizontal and the mineralisation is contained within a stockwork of veins. The uranium mineralisation occurs both within the partially weathered zone and fresh rock.

Whilst the original drilling within the current resource area recorded a number of thick, high grade intersections including 26 metres at 1,356 ppm  $U_3O_8$  and 12 metres at 2,078 ppm  $U_3O_8$ , the recent drilling has highlighted a thicker and potentially more continuous zone of high grade mineralisation to the southwest, albeit based on a broad spaced drill pattern.

For further detailed information on the Zona 7 drilling results, please refer to the ASX announcement dated 7 August 2013.

# **Permitting**

The permitting processes for Retortillo, Alameda and Gambuta continued to advance during the quarter.

In early October 2013, a Favourable Declaration of Environmental Impact ('Environmental Licence') for Retortillo was granted by the Regional Government of Castilla and León (refer ASX announcement dated 8 October 2013). This follows submission and extensive review of the Company's Environmental and Social Impact Assessment ('ESIA')

The grant of the Environmental Licence is a major milestone for the Company and follows substantial work over the last 24 months directed towards permitting of the Project, including environmental and social baseline studies and culminating with the submission of the ESIA, together with the Exploitation Plan and the Reclamation and Closure Plan for Retortillo.

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The ESIA and associated documentation were subjected to extensive review by all relevant authorities and key stakeholders, including a 30 day Public Information Period, prior to the grant of the Environmental Licence. The Environmental Licence covers all mining and processing activities, including treatment of loaded resin transported to Retortillo from other deposits.

Following its review of the Company's plans for exploitation, reclamation and closure, the Nuclear Safety Council ('NSC') submitted a favourable recommendation report regarding the granting of the Exploitation Concession to the Ministry of Economy and Employment of the Regional Government in August 2013.

Regarding the Initial Authorisation of the process plant as a radioactive facility, the NSC has communicated that its recommendation report will be will be issued to the Ministry of Industry, Commerce and Tourism of the Central Government, once the Exploitation Concession has been granted.

With the grant of the Environmental Licence and the favourable recommendation report recently submitted by the Nuclear Safety Council to the Regional Government, approval of the Company's Exploitation and Reclamation and Closure Plans is now the only outstanding prerequisite for the granting of the Mining Licence for Retortillo.

The permitting process for Alameda commenced in late 2012 with the submission of the Environmental Scoping Document ('ESD') and documentation associated with the Exceptional Authorisation for Land Use. Preparation of the documents required for the next phase of permitting at Alameda, including the Exploitation Plan, Reclamation and Closure Plans, and the ESIA is well advanced and it is anticipated that these documents will be submitted to the relevant authorities during the December 2013 Quarter. The ESD will also be re-submitted following updates to incorporate the latest results from the PFS and inputs from the recent granting of the Environment License for Retortillo.

The Company has started to receive feedback from the relevant authorities following submission of the ESD for Gambuta. A complete list of comments is expected in the coming months and, once received, Berkeley will prepare responses to be included in the ESIA. The Gambuta ESIA will also incorporate the results from the current Scoping Study.

#### **CORPORATE**

At 30 September 2013 the Company had cash reserves of A\$25.2 million. The Company continues to maintain a strong focus on cost control across all areas of the business.

#### Competent Persons Statement

The information in this Report that relates to Exploration Results and Mineral Resources is based on information compiled by Craig Gwatkin, who is a Member of The Australian Institute of Mining and Metallurgy and is an employee of Berkeley Resources Limited. 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 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 the Pre-Feasibility Study is based on information compiled by Neil Senior of SENET (Pty) Ltd. Mr. Senior is a Fellow of The South African Institute of Mining and Metallurgy and 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. Senior consents to the inclusion in this Report of the matters based on his information in the form and context in which it appears.

#### Forward Looking Statement

Statements regarding plans with respect to the Company's mineral properties are forward-looking statements. There can be no assurance that the Company's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that the Company will be able to confirm the presence of additional mineral deposits, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of the Company's mineral properties.

Rule 5.3

# Appendix 5B

# Mining exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10

Name of entity

ABN	Quarter ended ("current quarter")
40 052 468 569	30 SEPTEMBER 2013

# Consolidated statement of cash flows

BERKELEY RESOURCES LIMTED

Cash flows related to operating activities		Current quarter \$A'000	Year to date (3 months)
. 0		,	\$A'000
1.1	Receipts from product sales and related debtors	-	-
1.2	Payments for (a) exploration & evaluation (b) development (c) production	(2,419)	(2,419)
	(d) administration	(182)	(182)
1.3	Dividends received		
1.4	Interest and other items of a similar nature	70	70
	received		
1.5	Interest and other costs of finance paid		
1.6	Income taxes paid		
1.7	Other (provide details if material)		
	Net Operating Cash Flows	(2,531)	(2,531)
1.8	Cash flows related to investing activities Payment for purchases of: (a) prospects (b) equity investments (c) other fixed assets	(26)	(26)
1.9	Proceeds from sale of: (a) prospects (b) equity investments (c) other fixed assets	(23)	(20)
1.10	Loans to other entities		
1.11	Loans repaid by other entities		
1.12	Other (provide details if material)		
	Net investing cash flows	(26)	(26)
1.13	Total operating and investing cash flows (carried forward)	(2,557)	(2,557)

<sup>+</sup> See chapter 19 for defined terms.

# Appendix 5B Mining exploration entity quarterly report

1.13	Total operating and investing cash flows (brought forward)	(2,557)	(2,557)
1.14 1.15 1.16 1.17 1.18 1.19	Cash flows related to financing activities Proceeds from issues of shares, options, etc. Proceeds from sale of forfeited shares Proceeds from borrowings Repayment of borrowings Dividends paid Other (provide details if material)		
	Net financing cash flows	-	-
	Net increase (decrease) in cash held	(2,557)	(2,557)
1.20 1.21	Cash at beginning of quarter/year to date Exchange rate adjustments to item 1.20	27,728	27,728
1.22	Cash at end of quarter	25,171	25,171

Payments to directors of the entity and associates of the directors

Payments to related entities of the entity and associates of the related entities

		Current quarter
		\$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	69
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1	1.25	Explanation	necessary for a	n understanding	of the tra	nsactions

Payments include directors' fees, superannuation and consulting fees.

# Non-cash financing and investing activities

2.1	Details of financing and investing transactions which have had a material effect on consolidated
	assets and liabilities but did not involve cash flows

assets and madmittes but did not involve cash nows
Not Applicable

2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

Not Applicable			

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<sup>+</sup> See chapter 19 for defined terms.

**Financing facilities available** *Add notes as necessary for an understanding of the position.* 

		Amount available \$A'000	Amount used \$A'000
3.1	Loan facilities	-	-
3.2	Credit standby arrangements	-	-

**Estimated cash outflows for next quarter** 

		\$A'000
4.1	Exploration and evaluation	1,500
4.2	Development	-
4.3	Production	-
4.4	Administration	150
	Total	1,650

# Reconciliation of cash

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.		Current quarter \$A'000	Previous quarter \$A'000
5.1	Cash on hand and at bank	2,444	3,206
5.2	Deposits at call	22,727	24,522
5.3	Bank overdraft	-	-
5.4	Other (provide details)	-	-
	Total: cash at end of quarter (item 1.22)	25,171	27,728

# Changes in interests in mining tenements

		Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1	Interests in mining tenements relinquished, reduced or lapsed				
6.2	Interests in mining tenements acquired or increased				

<sup>+</sup> See chapter 19 for defined terms.

**Issued and quoted securities at end of current quarter**Description includes rate of interest and any redemption or conversion rights together with prices and dates.

		Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1	Preference +securities				
	(description)				
7.2	Changes during				
	quarter				
	(a) Increases				
	through issues (b) Decreases				
	through returns				
	of capital, buy-				
	backs,				
-	redemptions				
7.3	<sup>+</sup> Ordinary	170 202 222	170 202 222	NY / A 11 11	NT . A 1' 11
	securities	179,393,323	179,393,323	Not Applicable	Not Applicable
7.4	Changes during				
	quarter				
	(a) Increases through issues				
	(b) Decreases				
	through returns				
	of capital, buy-				
	backs				
7.5	+Convertible				
	debt securities				
7.6	(description) Changes during				
7.0	quarter				
	(a) Increases				
	through issues				
	(b) Decreases				
	through				
	securities				
	matured, converted				
7.7	Options				
,		Options:		Exercise price	Expiry date
	-Incentive Options	1,000,000	-	\$1.25	1 December 2013
	-Incentive Options	1,861,666	=	\$1.35	18 June 2014
	-Incentive Options	1,000,000	-	\$0.41	21 September 2015
	-Incentive Options -Unlisted Options	1,750,000 5,500,000	-	\$0.475 \$0.45	22 December 2015 30 June 2016
	-omisiea Opiions	3,300,000	_	φυ.43	50 June 2010
		Rights:			
	-Perf. Share Rights	968,000	-	-	30 June 2014
	-Perf. Share Rights	968,000	=	-	30 June 2015
	-Perf. Share Rights -Perf. Share Rights	1,318,000 1,418,000	-	-	31 December 2016 31 December 2017
	1 cij. Simie Rights	1,710,000	_		31 December 2017
7.8	Issued during				
	quarter				

<sup>+</sup> See chapter 19 for defined terms.

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7.9	Exercised during quarter				
7.10	Expired during quarter -Incentive Options	380,000	380,000	Exercise price \$1.35	Expiry date 18 June 2014
7.11	<b>Debentures</b> (totals only)				
7.12	Unsecured notes (totals only)				

# Compliance statement

- This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX (see note 5).
- This statement does /does not\* (delete one) give a true and fair view of the matters disclosed.

Sign here:	
C	( <del>Director</del> /Company secretary)

Print name: Clint McGhie

# **Notes**

- The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position.

  An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
- The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
- Issued and quoted securities The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.
- The definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report.

<sup>+</sup> See chapter 19 for defined terms.

Accounting Standards ASX will accept, for example, the use of International Financial Reporting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.

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<sup>+</sup> See chapter 19 for defined terms.