Quarterly Activities Report and Appendix 5B

For the period ending 31 December 2013

ASX: ARU

ARAFURA RESOURCES LIMITED

AN EMERGING RARE EARTHS PRODUCER FOR USERS WORLDWIDE

HIGHLIGHTS

- **Arafura continues work on reducing capital expenditure and realises savings in excess of A$400 million**
- **Operating expense reduced by 17%, or A$3.45 per kg of rare earth oxide; additional savings above this amount still being targeted**
- **Rare Earth Separation Plant capital and operating cost estimates well advanced**
- **Flowsheet optimisation programs are underway with the arrival of ore samples in China**

NOLANS PROJECT

CAPITAL COST REDUCTIONS ACHIEVED

A review of the Nolans Rare Earths Project capital expenditure and flowsheet by the Company has realised significant savings.

Capital expenditure savings in excess of A$400m have been identified. At the Rare Earth Intermediate Plant a revised design has seen the replacement of hydrochloric acid with sulphuric acid in the pre-leach circuit. The decision to transfer the Rare Earth Separation Plant alongside an established chemical precinct removes the need to construct a dedicated chlor-alkali plant. Lycopodium Minerals is currently working with Arafura to review and refine infrastructure capital costs at Nolans Bore for the Mine & Concentrator and Rare Earth Intermediate Plant. The capital expenditure estimates from the August 2012 Nolans Project Base Case are compared with the latest estimate in the table below.

Capital Expenditure	August 2012 (A$)	December 2013 (A$)
Mine & Concentrator	$345m	$361m
Transport & Logistics	$231m	$30m
Rare Earth Intermediate & Rare Earth Separation Plants	$1,336m	$1,113m
Total CAPEX	**$1,912m**	**$1,504m**

In November 2013 Company representatives visited a number of international sites identified though a desktop study as being suitable precincts for the location of the Rare Earth Separation Plant. These site visits enabled an assessment of the opportunity for "over-the-fence" supply of key reagents, thus confirming the viability of this option. A direct output from the site visits is the ranking of sites for further investigation and expanded discussion with relevant business and regulatory stakeholders at shortlisted sites.

OPERATING COST REDUCTIONS ACHIEVED WITH MORE WORK TO FOLLOW

Operating cost estimates for the Nolans Project have also benefited from savings achieved through process improvements, plant reconfiguration and the proposed relocation of the Rare Earth Separation Plant. Key savings have been achieved through higher grade concentrate processing, decrease in hydrochloric acid consumption, and transport and logistics cost savings. Operating expenditure has decreased 17% from A$20.55 (August 2012 Nolans Base Case) to A$17.10 per kg of rare earth oxide (REO). The Company continues to review operating expenditure and expects to achieve further material savings over the coming months. The capital and operating expenditure savings identified to date do not take account of potential cost saving opportunities identified through the Chinese optimisation review (see below for further details).

	August 2012 (A$/kg REO)	December 2013 (A$/kg REO)
Total OPEX	**$20.55**	**$17.10**

RARE EARTH SEPARATION PLANT CAPITAL AND OPERATING COST ESTIMATES

The Company in conjunction with a number of external engineering and technical consultants is continuing to further refine the operating expenditure estimates for all aspects of the Nolans Project and expects to provide a more detailed overview of these in the first quarter of calendar year 2014. A significant component of the updated operating cost will be from the revised engineering cost estimate for the Rare Earth Separation Plant which is being prepared with assistance from Lycopodium Minerals based on data from the rare earth separation testwork completed at ANSTO in 2012. The engineering cost estimate for the Rare Earth Separation Plant is being prepared using the Gulf Coast USA as a benchmark. The Company is not aware of competing rare earth development projects preparing engineering and cost estimates to this level of sophistication for the Rare Earth Separation Plant area.

OPTIMISATION PROGRAMS UNDERWAY IN CHINA

The Company has also engaged with a number of leading rare earths industry experts in China for review and optimisation of the existing flowsheet. The optimisation review program is being completed concurrently with the review of capital and operating expenditure.

In 2013 the Company, with the assistance of Shenghe Resources, appointed two of China's pre-eminent institutions in rare earth beneficiation technology, the Institute of Multipurpose Utilization of Mineral Resources and the Chengdu Analytical and Testing Centre for Minerals and Rocks, to complete a review of the Nolans Project beneficiation flowsheet. The beneficiation optimisation scope of work has been broken into three work stages, both IMUMR and the Chengdu Testing Centre are working concurrently on stage 1 of the scope of work.

Discussions with organisations with relevant expertise in hydrometallurgy commenced in 2013 and are scheduled to continue in February 2014 to examine opportunities for review and optimisation of the Rare Earth Intermediate Plant flowsheet.

SHENGHE RESOURCES

During the December quarter Arafura and Shenghe Resources continued to work together for the qualification and selection of contractors for the optimisation work programs outlined above. A new focus in 2014 will be to engage with Shenghe to identify areas of mutual opportunity and work towards formalising arrangements under a Framework Agreement as outlined in the Arafura-Shenghe MOU.

EXPLORATION

AILERON – REYNOLDS (REEs; water; extractive minerals)

In the September quarter the Company completed an RC drilling program at the Mulga Rare Earths prospect on EL 28473, 500 metres north-east of Nolans Bore. During the December quarter assays were received and reported (ASX: ARU 08/11/13). The program was guided by anomalous biogeochemical assays, generated by sampling vegetation (trees) along a high priority airborne geophysical (structural) trend thought to be related to the Nolans Bore deposit. Whilst the assay results were sufficiently encouraging to justify continued use of biogeochemistry to define rare earths prospects under barren cover, no additional exploration drilling at Mulga is warranted at this time.

As previously reported the Company has identified what it believes to be an extensive aquifer system in the northern Burt and eastern Whitcherry basins (south-west of Nolans Bore) that could potentially supply the Nolans Bore Mine & Concentrator, and the Rare Earth Intermediate Plant, with a sustainable water supply for the life of the operation. During the quarter the Company and its consultants used historical drilling and geophysical analysis to further refine the areas of interest. Planning is well underway for a follow-up stage of exploration and investigation drilling of several areas.

YALYIRIMBI (Fe)

Ferrowest Limited ("Ferrowest"; ASX: FWL) is progressing work in relation to the Yalyirimbi Iron Project to earn up to a 60% interest in Arafura's iron ore rights on EL 24548 through an incorporated joint venture.

Ferrowest recently announced (ASX: FWL 27/11/13) an estimate of Indicated and Inferred Mineral Resources of 13.3Mt @ 27.1% (hematite) Fe for Yalyirimbi. This is an important earn-in milestone and will see Ferrowest secure 51% in the Yalyirimbi iron project on presentation of the resource report.

JERVOIS (Base and Precious Metals; Fe-V)

Rox Resources Limited ("Rox"; ASX: RXL) is progressing work on EL 29701 to earn up to a 70% interest in the base and precious metals mineral rights (Cu-Pb-Zn-Ag-Au-Bi-PGE).

Rox has completed an airborne electromagnetic (VTEM) survey over the tenement. Interpretation and analysis of the data collected from the VTEM survey is in progress to identify prospective conductive mineralised targets. Once completed Rox plan to undertake follow-up field reconnaissance and drilling of the identified targets.

PLEASE ALSO REFER TO APPENDIX A FOR A SUMMARY OF ALL MINING TENEMENTS AND AREAS OF INTEREST AS AT 31 DECEMBER 2013.

CORPORATE

URANIUM RIGHTS CENTRAL AUSTRALIAN PHOSPHATE

In November 2013 Arafura entered into an agreement with Central Australian Phosphate Limited ("CEN"; ASX: CEN, and formerly Nupower Limited) to acquire uranium exploration and development rights previously held by CEN on a number of Arafura tenements. The Arafura exploration licences affected include EL 28473, EL 28498, EL 24548 and EL 29701. In addition EL 24741 was held by CEN over which Arafura held non-uranium exploration rights. In order to effect the acquisition of CEN's uranium rights EL 24741 was transferred to Arafura.

Arafura's objective in acquiring the uranium rights is to simplify the ownership structure for its tenement holdings. The Nolans Bore deposit is located on EL 28473. The Nolans Bore deposit was an exclusion zone, and CEN held no uranium exploration rights on this quarantined portion of EL 28473. The extinguishment of the CEN uranium exploration rights does however provide an easier development path in the event the Nolans Project expands outside the exclusion zone.

STRATEGY AND OUTLOOK

Arafura's primary focus is to develop its 100%-owned Nolans Project. Arafura has developed an efficient processing flowsheet for the extraction of rare earths through to separated REO products. Recent capital and operating expenditure reductions have further enhanced the economic potential of the Nolans Project. The Company expects to improve on this flowsheet through its engagement with Chinese rare earths experts to further enhance the economic validity of the Project. The focus for Arafura in 2014 will remain:

- Streamlining and enhancing the Nolans Project flowsheet through the optimisation programs in China;
- Continuing to build on and formalise strategic partnerships for the funding, offtake and technical aspects of the Nolans Project. These include new and existing arrangements with East China Mineral Exploration and Development Bureau (ECE), Shenghe Resources Holding Co, ThyssenKrupp and others;
- Identification and securing a suitable site for the Rare Earth Separation Plant; and
- Driving project and administration costs down to conserve cash and ensure shareholder wealth is maximised during the feasibility study phase.

As at the end of December Arafura has cash reserves in excess of $25.94 million. In an environment where it is difficult to source new capital these funds provide Arafura with the relative amenity to continue the development of the Nolans Project. The Company fully appreciates its position and the need to prudently and effectively manage these funds.

Appendix 5B

Mining exploration entity quarterly report

Introduced 1/7/96. Origin: Appendix 8. Amended 1/7/97, 1/7/98, 30/9/01, 01/06/10.

Name of entity

ARAFURA RESOURCES LIMITED

ABN	Quarter ended ("current quarter")
22 080 933 455	31 December 2013

Consolidated statement of cash flows

Cash flows related to operating activities			Current Quarter $A'000	Year to date (6 months) $A'000
1.1	Receipts from product sales and related debtors		-	-
1.2	Payments for	(a) exploration & evaluation	(1,840)	(4,271)
		(b) development	-	-
		(c) production	-	-
		(d) administration	(1,096)	(2,248)
1.3	Dividends received		-	-
1.4	Interest and other items of a similar nature received		23	404
1.5	Interest and other costs of finance paid		(4)	(8)
1.6	Income taxes paid		-	-
1.7	Other (provide details if material)*		-	-
	Net Operating Cash Flows		**(2,917)**	**(6,123)**
	Cash flows related to investing activities			
1.8	Payment for purchases of:	(a) prospects	(121)	(121)
		(b) equity investments	-	-
		(c) other fixed assets	(3)	(22)
1.9	Proceeds from sale of:	(a) prospects	-	-
		(b) equity investments	-	-
		(c) other fixed assets	-	-
1.10	Loans to other entities		-	-
1.11	Loans repaid by other entities		-	-
1.12	Other (provide details if material)		-	-
	Net investing cash flows		**(124)**	**(143)**
1.13	Total operating and investing cash flows (carried forward)		**(3,041)**	**(6,266)**

+ See chapter 19 for defined terms.

1.13	Total operating and investing cash flows (brought forward)	**(3,041)**	**(6,266)**
	Cash flows related to financing activities		
1.14	Proceeds from issues of shares, options, etc.	-	-
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from borrowings	-	-
1.17	Repayment of borrowings	-	-
1.18	Dividends paid	-	-
1.19	Other – Capital Raising Expenses	-	-
	Net financing cash flows	-	-

	Net increase (decrease) in cash held	**(3,041)**	**(6,266)**
1.20	Cash at beginning of quarter/year to date	28,955	32,183
1.21	Exchange rate adjustments to item 1.20	30	27
1.22	**Cash at end of quarter**	**25,944**	**25,944**

*R&D Tax Incentive Rebate received

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	(33)
1.24	Aggregate amount of loans to the parties included in item 1.10	Nil

1.25 Explanation necessary for an understanding of the transactions

Salaries, fees and superannuation of Directors to the Company.

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

Nil

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

Nil

+ 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	Nil	Nil
3.2	Credit standby arrangements	Nil	Nil

Estimated cash outflows for next quarter

		$A'000
4.1	Exploration and evaluation	(2,658)
4.2	Development	-
4.3	Production	-
4.4	Administration	(1,050)
	Total	**(3,708)**

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	2,519	2,630
5.2	Deposits at call	23,425	26,325
5.3	Bank overdraft	-	-
5.4	Other (provide details)	-	-
	Total: cash at end of quarter (item 1.22)	**25,944**	**28,955**

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		See Appendix A		
	Interests in mining tenements acquired or increased				

+ 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)	Amount paid up per security (see note 3)
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	**+Ordinary securities**	441,270,644	441,270,644		
7.4	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs				
7.5	**+Convertible debt securities** *(description)*				
7.6	Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7	**Options**			*Exercise price*	*Expiry date*
	ARUAU	1,400,000	-	*$0.96*	16-07-14
	ARUAM	600,000	-	*$0.81*	31-12-14
	ARUAW	1,750,000	-	*$0.70*	24-11-14
		1,878,000	-	*$0.23*	31-12-15
		7,600,000	-	*$0.14*	18-07-16
7.8	Issued during quarter	-	-	-	-
7.9	Exercised during quarter	-	-	-	-
7.10	Expired during quarter	2,400,000	-	$0.85	31-12-13
		100,000	-	$0.81	31-12-14
		180,000	-	$0.23	31-12-15
		50,000	-	$0.14	18-07-16

+ See chapter 19 for defined terms.

7.11	**Debentures** *(totals only)*	-	-
7.12	**Unsecured notes** *(totals only)*	-	-

Compliance statement

1 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 4).

2 This statement does give a true and fair view of the matters disclosed.

Sign here: Date: 30 January 2014

Print name: Peter Sherrington
(Company Secretary)

Notes

1 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.

2 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.

3 **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.

4 The definitions in, and provisions of, *AASB 1022: Accounting for Extractive Industries* and *AASB 1026: Statement of Cash Flows* apply to this report.

5 **Accounting Standards** ASX will accept, for example, the use of International Accounting 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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+ See chapter 19 for defined terms.

Appendix A – Mining Tenements Held As At 31 December 2013

Tenement reference	Project	Holder	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter	Notes
ML 26659	Nolans, NT	Arafura Rare Earths Pty Ltd	Mineral Lease	100%	100%	Application Lodged
EL 28498 EL 28473	Aileron – Reynolds, NT	Arafura Resources Ltd	Exploration Licence Non-uranium rights Uranium rights	100% 100% Nil	100% 100% 100%	Acquired from Central Australian Phosphate Ltd
EL 29227 EL 29503 EL 29509 EL 27337 EL 30160	Aileron – Reynolds, NT	Arafura Resources Ltd	Exploration Licence	100% 100% 100% 100% Nil	Nil 100% 100% 100% 100%	Surrendered Application Lodged
EL 24548	Aileron – Reynolds, NT	Arafura Resources Ltd Arafura Iron Pty Ltd	Exploration Licence Non-uranium and non- iron rights Uranium rights Iron rights	100% 100% Nil 100%	100% 100% 100% 100%	Acquired from Central Australian Phosphate Ltd Ferrowest Ltd has a right to acquire up to 60% of Arafura Iron Pty Ltd. 51% to be transferred on presentation of resource report.
EL 24741	Aileron – Reynolds, NT	Arafura Resources Ltd	Exploration Licence Non-uranium rights Uranium rights	Nil 100% Nil	100% 100% 100%	Acquired from Central Australian Phosphate Ltd

+ See chapter 19 for defined terms.

Tenement reference	Project	Holder	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter	Notes
EL 29701	Jervois, NT	Arafura Resources Ltd	Exploration Licence	100%	100%	
			Non-uranium rights	100%	100%	Rox Resources Ltd has a right to acquire up to 70% of the base and precious metals rights
			Uranium rights	Nil	100%	Acquired from Central Australian Phosphate Ltd
EL 9725 EL 10136	Hammer Hill, NT	Arafura Resources Ltd	Exploration Licence	100% 100%	Nil Nil	Surrendered Surrendered
EL 10137 ML 24727 ML 27228 ML 25087 ML 25088 ML 25529 ML 27225 ML 27226 ML 27230	Frances Creek, NT	Territory Resources Ltd	Gold Rights Gold Rights Gold Rights Gold Rights Gold Rights Gold Rights Gold Rights Gold Rights Gold Rights	100% 100% 100% 100% 100% 100% 100% 100% 100%	100% 100% 100% 100% 100% 100% 100% 100% 100%	Ark Mines Ltd has a right to acquire up to 70% of the gold rights
ML 29930		Territory Iron Pty Ltd	Gold Rights	100%	100%	Applications Lodged for ML 27226, ML 27230 & ML 29930
ML 27227 ML 27229 MA 389		Frances Creek Pty Ltd	Gold Rights Gold Rights Gold Rights	100% 100% 100%	100% 100% 100%	Ark Mines Ltd has a right to acquire up to 70% of the gold rights

+ See chapter 19 for defined terms.

Tenement reference	Project	Holder	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter	Notes
ELR 116 ML 23839 EL 23237	Mt Porter, NT	Arafura Resources Ltd	Exploration Licence in Retention Mineral Lease Exploration Licence	100% 100% 100%	100% 100% 100%	Ark Mines Ltd has a right to acquire up to 70% of all mineral rights on the tenements, with an immediate right to mine ML 23839 subject to regulatory approvals
MA 74 MCC 950 MCC 951 MCC 952 MCC 953	Kurinelli, NT	Arafura Resources Ltd	Mineral Authority Mineral Claim Mineral Claim Mineral Claim Mineral Claim	100% 100% 100% 100% 100%	100% 100% 100% 100% 100%	
EL 25754	Pamela, NT	Arafura Resources Ltd	Exploration Licence	100%	100%	Application Lodged

+ See chapter 19 for defined terms.