

ASX Announcement

Quarterly Activities Report and Appendix 5B

31 December 2019

Highlights

- **Commencement of pre-front end engineering and design works in readiness for detailed design**
- **KBR awarded the integrated project management team contract for the delivery of the Nolans NdPr Project**
- **Commencement of tendering of the hydrometallurgical plant contract**
- **Drilling and metallurgical programs completed to potentially extend the Nolans mine life beyond 23 years**
- **Final rare earth separation pilot program commences at ANSTO**
- **Native Title Mining Agreement with Central Land Council progressing**
- **Project water license application lodged**
- **Sales and offtake discussions advance with customer engagement in Japan, Europe, South Korea and China. Meetings scheduled in Q1 CY2020 and expanded to include US contacts**
- **Strategic agreement reached with USA Rare Earth LLC for value add and separation of heavy rare earths from SEG-HRE carbonate product**
- **USA Rare Earth LLC and its JV partner Texas Mineral Resources Corp. submit a tender proposal for the U.S. Department of Defense Cornerstone Initiative**
- **MOU with Source Certain International to apply its provenance verification and traceability technology to Nolans products**
- **Japan's industry ministry secures US\$423 million to diversify supplies of critical materials including rare earths**

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- **Australian Government establishes the Critical Minerals Facilitation Office to promote growth of Australia's critical minerals sector and co-ordinate funding activities through NAIF and EFA**
- **EFA to access funding through the Defence Export Facility**
- **Engagement with debt advisory groups and export credit agencies underway with key groups in Japan, Germany, the USA and Australia**
- **Q1 CY2020 targeted for completion of agreement with Talaxis Ltd encompassing strategic equity investment strategy, product offtake and market engagement**
- **Cash position of \$22.93 million, includes additional funds accessed through the receipt of \$1.5 million R&D rebate in October**
- **Senior resources executive Cathy Moises appointed as non-executive director**

Nolans NdPr Project

Execution Readiness

Execution readiness activities have continued during the quarter with the following activities completed or underway:

- Finalisation of the project control budget based on the definitive feasibility study (DFS) cost estimate with re-organisation to match the updated execution strategy;
- On-going development of the project control schedule;
- Development of draft local and indigenous procurement and employment plans;
- Ongoing development of an insurance strategy for the project delivery; and
- Development of environmental commitments and statutory compliance registers.

The pre-front end engineering and design (pre-FEED) scope of work has also continued, being undertaken by Hatch Pty Ltd with input from the Arafura team and other consultants as required.

To date a number of key design basis documents have been completed and are under preparation and review. The key design basis documents include metallurgical basis of design, process design criteria, process mass balance, non-process infrastructure basis of design, key design specifications and philosophies, preferred equipment lists and overarching project standards. In the coming quarter a review of the project plot plan will be undertaken to better align with the contracting strategy followed by an updating of the project hazard identification schedule and risk assessment. It is anticipated that the pre-FEED scope of work will be substantially complete in Q1 CY2020.

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Tendering

Following adjudication of the expressions of interest received during the September quarter, tenderers were short-listed for the integrated project management team (IPMT), hydrometallurgical plant and beneficiation plant contracts.

The request for tender for the IPMT was issued in November and tenders were received and reviewed. Following a detailed evaluation of the tenders, negotiations were entered into with KBR culminating in the award of the IPMT services contract in January 2020. The KBR team will mobilise during Q1 CY2020.

The first stage of the hydrometallurgical plant tender, aimed at reducing the number of tenderers from four to two, was also issued during the quarter with submissions closing in February 2020. Work is advanced on the detailed scope of works and other documentation for Stage 2 of the hydrometallurgical plant tender which is anticipated to be released in Q1 CY2020 following adjudication of the submissions for Stage 1.

The overall schedule for project delivery was updated during the quarter (**Table 1**). Delays in the tendering process caused by slower than anticipated responses from contractors along with other factors has delayed the commencement of FEED by approximately three months.

Technology Programs

A beneficiation variability test work program was conducted at Nagrom's mineral processing facility in Perth during the quarter. This program tested material types that were included in the DFS upside case production schedule but excluded from the base case production schedule based on Ore Reserves only (*refer to ASX announcement 7 February 2019 and the Nolans Definitive Feasibility Study Summary Report*). The test program was a success with a substantial portion of the 8.7 million tonnes of mineralised 5A2 material which was forecast in the DFS to be stockpiled during mining now considered to have the potential to be processed. The Project's geometallurgical model has been updated to include 5A2 material, which will be the foundation of a new estimate of Ore Reserves for the Project. This outcome is expected to be reported during Q1 CY2020.

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Figure 1: 5A2 drill core sample for flotation variability program (left) and flotation test (right).

The rare earth separation pilot program, the seventh and final stage of Arafura's flowsheet piloting program, was commenced in Q4 2019 at the Australian Nuclear Science and Technology Organisation (ANSTO), with the operation of a solvent extraction (SX) circuit to separate SEG-HRE carbonate from light rare earths (*refer to ASX announcement 23 December 2019*). Completion of testing and most key results from this program are expected in Q1 CY2020. Arafura completed substantial test work for rare earth separation at ANSTO during 2008-2010 and pilot plant trials for continuous testing of SX circuits were completed at ANSTO in 2012. Data from the 2012 trials were used as the basis for the separation plant capital and operating cost estimates for the DFS. Data and information from the current program will be available for inclusion in the final basis of design documents for FEED. NdPr oxide and SEG-HRE carbonate samples from the separation pilot will be made available to customers for product qualification purposes.

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Figure 2: SEG-HRE separation circuit during pilot operation at ANSTO in December 2019

The bulk of the planned test work program to optimise phosphoric acid purification by ion exchange was conducted at ANSTO during the quarter. This program was initiated following a review of the DFS which identified opportunities for reducing the capital and operating costs associated with uranium and thorium removal from the phosphoric acid product. Testing is expected to be completed in Q1 CY2020.

A program of corrosion coupon testing to investigate general corrosion for materials of construction throughout all key areas of the extraction plant where metals are in contact with process liquor is underway at ALS Global. This coupon testing is expected to be completed in early Q2 CY2020 with results available for FEED.

Native Title Agreement & Mining Licence

The four Mineral Lease (ML) applications for the Nolans Project remain in place over the mine, the process plant, the tailings and residue storage area, and the accommodation village. These applications will progress to grant by the Northern Territory Department of Primary Industry and Resources (DPIR) when Arafura provides an executed Native Title agreement.

Two meetings were held during the quarter and significant progress has been made with the Central Land Council (CLC) to progress negotiations. Term sheets have been exchanged and the parties have progressed to the drafting of the formal agreement. Arafura is currently awaiting a formal response from the CLC on the revised financial offer and a further meeting has been agreed. Additionally, the Company has agreed to meet with the Native Title Holders in late February 2020

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to formally present the offer. Discussions with the CLC continue to be positive and both parties are working in line with a previously agreed schedule for the negotiations. A meeting is planned with the Chief Executive Officer of the CLC in Q1 CY2020 to provide an update on the Nolans Project.

Environment

The new groundwater extraction license application for the Project’s water supply was completed and submitted to Northern Territory Department of Environment and Natural Resources during the quarter. As previously reported, the application seeks an allocation of four gigalitres annually to support the Project. The application is compliant with the recently revised *NT Water Act* and contains a management framework, a resource assessment, various monitoring proposals for an array of aspects related to the borefield’s operation, and an operational contingency plan.

Work on the Project’s Mining Management Plan (MMP) also continued during the quarter. To date, ten draft management plans have been completed to manage potential impacts or risks to the environment. All plans address impacts and risks identified in approval Assessment Report 84 issued by the Northern Territory Environment Protection Authority. When completed, the MMP will be lodged with DPIR for assessment.

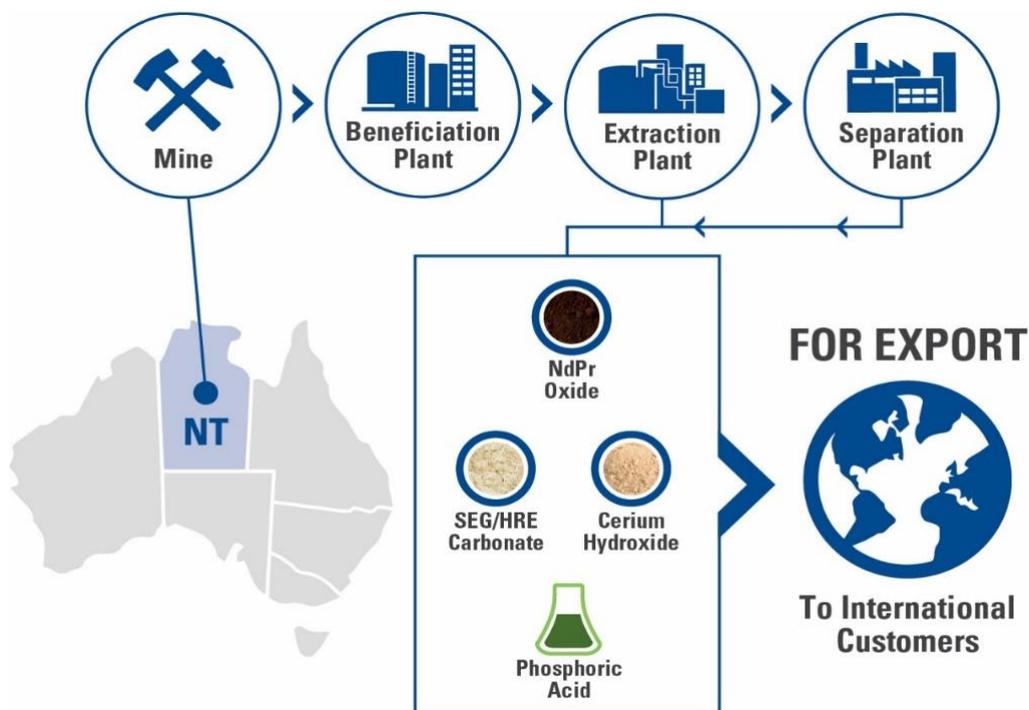


Figure 3: Nolans is 100% Australian domiciled and permitted for rare earth mining, beneficiation, extraction and separation at a single site

Exploration

Nolans (Rare Earths)

A program of nine diamond core holes was completed at the Nolans Bore deposit over a six-week period commencing late-September. The purpose of the program was twofold:

- Five shallow infill holes (total 485.9 metres) targeting Indicated Resources and material types in the Southeast Zone of the deposit to confirm detailed geological and material type information, and to provide representative core samples of mineralized material types that were the subject of flotation variability test work; and
- Four deep holes (total 1,764.1 metres) targeting depth extensions of mineralization beneath the 23-year life-of-mine pit in the North and Southeast zones of the deposit.

All drill samples have been submitted for assay and final assays have been received and reported for two of the nine holes to date (NBDH1103 and 1104; refer to ASX announcement 17 December 2019). Results are consistent with expectations and include an interval of 43.62 metres @ 6.0% TREO and 28% P₂O₅ from 19 metres in hole NBDH1103 (**Figure 4**).



Figure 4: NdPr-rich apatite intersection (51.12m – 59.66m) in drill core from hole NBDH1103.

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Bonya Joint Venture (Tungsten; Base and Precious Metals; Vanadium)

Exploration licences 29701 and 32167 (Bonya project) are located 280 kilometres north-east of Alice Springs. Arafura holds a 60% joint venture (JV) interest in the Bonya project and Thor Mining Plc (Thor) (AIM, ASX: THR) holds 40% with Thor acting as project manager. The project is located adjacent to Thor's Molyhil Tungsten-Molybdenum (W-Mo) development project. Thor completed an updated feasibility study on Molyhil in 2018.

During the reporting period Thor completed a nineteen-hole, 1,386-metre reverse circulation (RC) drilling program at the White Violet (11 holes) and Samarkand (8 holes) tungsten deposits to augment initial drilling completed at these sites in April 2019. Final assays have been received and reported by the JV (*refer to ASX announcement 9 January 2020*) with the best results as follows:

White Violet

- 23m @ 0.58% WO₃ from surface, including 6m at 1.7% WO₃ from surface in hole 19RC035;
- 8m @ 0.74% WO₃ from 65m, including 2m at 2.48% WO₃ from 69m in hole 19RC037;
- 1m @ 0.70% WO₃ from 42m; and 1m at 2.32% WO₃ from 50m in hole 19RC042; and
- 3m @ 1.02% WO₃ from 22m, including 1m at 2.64% WO₃ from 22m in hole 19RC039.

Samarkand

- 1m @ 0.79% WO₃ from 12m in hole 19RC044;
- 7m @ 0.28% WO₃ from 43m, and 9m @ 1.1% Cu from 45m, plus 2m @ 2.17% WO₃ and 0.78% Cu from 78m in hole 19RC046; and
- 1m @ 2.07% WO₃ from 18m in hole 19RC048.

An independent resource geologist has been engaged by the JV with the objective of preparing estimates of Mineral Resources for both deposits.

Mt Porter- Frances Creek (Gold Royalty)

Arafura sold its interests to the Mt Porter Mineral Titles and Frances Creek Gold Rights (the Tenements) to Ark Mines Limited (AHK) in June 2016 (*refer to ASX Announcement 20 June 2016*). In addition to the cash consideration, AHK agreed to pay Arafura a 2.5% royalty on gross sales of gold processed from ore mined from the Tenements. Arafura has since had its rights secured by caveats lodged against the Tenements. In September 2019, AHK appointed KordaMentha as Voluntary Administrators who sought to remove the caveats to improve the saleability of these assets. The Company believes it should retain its equitable interests and has sought to have these caveats remain. From a financial reporting perspective, no future income or carrying value of these rights have been recognised in Arafura's consolidated financial statements.

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In January 2020, KordaMentha announced that Ausgold Trading Pty Ltd would purchase AHK's mining tenements and associated assets for a consideration of \$4.2 million. The purchase appears to have a 6-month settlement period.

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Table 1: Indicative Project Timeline *Estimate of times for Project and Production are indicative only and are subject to change*



*Early Works Construction & Procurement to the items that follow are subject to:
 - Product Offtake being secured
 - Sufficient Project Funding secured
 - Permitting and other related activities being completed
 - Each previous activity being completed successfully
 Delays to commencing Early Works Construction will also impact the timing of Plant Construction and Commissioning.

Community

The draft local indigenous community engagement and employment strategy for the Nolans Project was completed during Q4 CY2019 and incorporates feedback received from stakeholders in the strategy. The Company held a number of workshops in Alice Springs and Darwin with stakeholders to discuss the strategy and to gain an understanding of the commitment that could be received from them in the implementation of the strategy. It is currently with the Australian Government's Northern Australia Infrastructure Facility (NAIF) for review prior to finalisation and release.

During the quarter Arafura presented at the Aboriginal Economic Development Forum held in Darwin to highlight to opportunities that the Nolans Project presents to the local and Northern Territory economy and community.

ABC Alice Springs visited the Nolans site during the last days of the Nolans Bore drilling program and reviewed activities at the site. They conducted interviews with personnel and acquired archive material for use in future news stories.

NdPr Oxide and Other Products

Marketing & Offtake

Arafura's primary focus remains on advancing negotiations towards binding offtake agreements for its NdPr oxide product which is a key raw material feedstock for the Neodymium Iron Boron (NdFeB) magnet alloy market. The Company's NdPr oxide marketing strategy is underpinned by targeting customers in the high growth NdFeB permanent magnet supply chain for electric vehicles (EV), the clean energy economy and factory automation. The potential for NdPr supply imbalance will be more pronounced for supply chain stakeholders not aligned with the *Made in China 2025* strategy. Marketing efforts are focused on customers incentivised to reduce their Chinese NdPr supply risk. Target customers include:

- Japan – NdFeB magnet manufacturers and trading houses for eventual use in the Japanese automotive sector and in factory automation.
- Europe and South Korea – Automotive, OEMs, wind turbine and consumer electronics makers diversifying NdPr supply risk and seeking product traceability.
- China – Tier one NdFeB magnet manufacturers that have significant export sales to Europe, Japan and the USA.

During the quarter, Arafura increased sales activities with marketing visits to Japan, Europe and China to continue offtake and supply chain discussions with potential customers including advanced discussions with the Company's Chinese magnet partners, Tianhe Magnetics (Tianhe) and JingCi Material Science (JingCi). Potential customers remain engaged and the Company has commercial relationships at various stages with buyers across Europe, Japan and South Korea. Arafura continued

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high level discussions with Tianhe and their end users interested in sustainable supply chain outside China for potential tripartite arrangements.

Magnet customers in China and Japan have requested samples of high purity NdPr oxide from Arafura's rare earth separation pilot for product qualification for its intended application. This will add further verification of Arafura's product by end-users and should be completed in Q1 CY2020.

In India, engagement continues with Indian fertilizer conglomerates and commercial negotiations are ongoing. The Company recently shipped samples of merchant grade phosphoric acid from its phosphate extraction pilot for confirmatory testing by two fertilizer companies. Feedback was positive.

In December Arafura expanded its customer engagement to the USA, entering into a strategic relationship with USA Rare Earth LLC to allow for the treatment of Arafura's SEG-HRE carbonate product by USA Rare Earth's proprietary processing technology. USA Rare Earth and its JV partner Texas Mineral Resources Corp. submitted a tender for the U.S. Department of Defense (DoD) Cornerstone Initiative for Heavy Rare Earth Element Separation. The objective of this Initiative is to establish a commercially sustainable U.S. domestic capability for separation of heavy rare earths for use by the DoD and other civilian products. The Initiative aims to meet supply chain opportunities outside the *Made in China 2025* strategy.

In Q1 CY2020, the Company is continuing with its customer engagement and offtake discussions and is planning further visits in China, Japan, South Korea and Europe. Sales opportunities exist in the USA and the market is showing interest for non-Chinese sources of supply with the key end user markets being the electronics and automotive industries.

Product Traceability

In Q1 2020 Arafura entered into a Memorandum of Understanding (MOU) with Source Certain International (Source Certain), a leading global provider of provenance verification and traceability services. Source Certain has pioneered provenance verification technology that uses various scientific methods to forensically trace products, food items and minerals back to their source of origin.

Source Certain's most widely known application is the use of its fingerprinting technology and method to identify mine of origin, the real provenance, of gold and diamonds. Arafura has partnered with Source Certain to apply this technology to the Nolans Project. Source Certain has delivered the technical specifications that will allow Arafura and value chain partners to forensically trace NdPr from end product magnets, back to the Nolans ore body and in doing so underpin the Project's unique Australian provenance and sustainability promises.

From its market engagement Arafura knows verification and traceability will be central to the sustainability objectives of many downstream NdPr users in the clean energy economy. Auto makers like BMW see sustainability as being central to expanding electromobility and recently announced a five-year supply contract with Ganfeng Lithium Co. Ltd. (Ganfeng) for lithium to be used in BMW's battery cell manufacture. Ganfeng sources hard rock lithium from Australia, operating under strict

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sustainability standards. BMW will then make this material available to Chinese battery manufacturers CATL and SDI. The supply contract structure provides BMW with security of supply and product traceability. In its engagement with customers, Arafura offers similar contract structures and sustainability standards for NdPr oxides and metals. The Company is working with Source Certain to assist in a provenance tracking model for NdPr used in magnets and to deliver a verification traceability model combined with security of supply for NdPr as part of its product offering to potential end users.

Table 2: Rare Earths Product Distribution Plan

Customer / Target Region		Amount (tonnes p.a.)	Offtake Status	Proportion of Revenue
NdPr Oxide – targeting contract with NdFeB magnet companies &/or end users				
JingCi Material Science		900	MoU	96%
Baotou Tianhe Magnetics		900	MoU	
Japan		56	2.6	
South Korea		2,557	In progress	
Europe				
USA				
SEG-HRE Carbonate – targeting contract with rare earth processors				
China		606 (TREO equivalent)	In progress	1%
Japan				
Cerium Hydroxide – targeting contracts with rare earth processors				
Baotou Xinyuan Rare Earth Hi-tech		8,383 (TREO equivalent)	MoU	3%

From rare earth products only

Japan, U.S. – Australia: Critical Minerals Strategy

In a recent supplementary budget, Japan's industry ministry secured an additional US\$423 million in the current financial year (to March 2020), for the purpose of securing supplies of critical commodities. Approximately 45% of the increased budget is planned to diversify sources for rare earths and cobalt. China dominates the world's NdPr supply chain from ore through to magnets. Japan is looking to diversify its reliance on single countries and raise self-sufficiency through sourcing from companies in which Japan holds equity interests.

The increased focus by the Japanese government in diversifying NdPr supply is entirely consistent with the feedback Arafura received from its industry and customer engagement in Japan during the quarter. The Company understands there has been increased government engagement between Japan and Australia to examine options for diversification of supply.

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Engagement during the quarter between the USA and Australia continued to examine ways to facilitate a boost in the Australian production of rare earths. The engagement included various meetings between Australia's Resources Minister Matt Canavan and the U.S. Commerce Secretary Wilbur Ross along with industry representatives including Arafura. Initiatives being considered by the Australian Government include financial support through Export Finance Australia (EFA), access to funding through the Defence Export Facility and a review of the NAIF to enable borrowers to access government funding from multiple sources.

In November Minister Canavan announced the creation of the Critical Minerals Facilitation Office (CMFO). The new office will act as a central coordination point to facilitate the growth of Australia's critical minerals sector and will work with companies looking to access funding through EFA and NAIF. A key objective of the CMFO is to position Australia as a global leader in the ethical and environmentally responsible supply of critical minerals, including rare earths.

HSBC Global Research's January 2020 report (*Fragile Planet 2020 – Scoring Climate Risks: Who is the Most Resilient*) notes there are natural advantages for countries that have the potential to be part of the cleantech value chain and benefit from the low-carbon transition. HSBC notes there is increased likelihood of being successful and competitive in a new cleantech industry if a country can leverage from its existing production capability. Additionally, development of downstream processing and diversification along the value chain broadens commodity price volatility exposure. The CMFO's role includes ensuring Australia's policy and regulatory settings support investment in the critical minerals sector and to unlock downstream opportunities. Arafura believes its ore-to-oxide strategy for the Nolans Project (**Figure 3**) is entirely consistent with the CMFO's objectives and the cleantech value chain opportunities outlined in the HSBC report.

NdPr Market

The price of NdPr oxide on an ex-works China basis started trading at the beginning of the quarter at US\$45 per kilogram before a price adjustment, then remained stable for the duration of the quarter with lower trading activity.

The outlook for Q1 CY2020 is for rare earths to remain relatively stable. NdPr oxide prices are seeing limited impact from the U.S.-China trade war, however prices for magnetic materials used in vehicle electrification may increase and in the longer term.

January is expected to be sluggish due to lower business activity leading up to Chinese New Year season. Thereafter, we may see an increase in trading activity as magnet end users start to replenish stock.

China's exports of rare earth permanent magnets rose by 6% to 28,900 tonnes during January to October 2019. Demand for higher value-added rare earth magnets continued to increase from end users in Germany and the USA. Chinese magnet manufacturer JingCi was quoted by Asian Metal and expects its Q4 CY2019 production output to be up by 21% compared with year on year output. JingCi

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noted increased orders from the wind power and air conditioning industries during the period. JingCi advised it currently carries minimal stock and produces according to received orders.

China made a supply adjustment in the quarter with the Ministry of Industry and Information Technology (MIIT) lifting official rare earth quota from 115,000 tonnes of TREO to 127,000 tonnes of TREO reflecting the growing demand for rare earth products from downstream sectors including the magnet industry. The light rare earth quotas have been allocated to the large state-owned enterprises operating in Inner Mongolia, Shandong and Sichuan provinces and distributed to downstream processors that have government authority and production and environmental licenses.

There was some speculation in the market that China’s move to raise the annual mining quota may weigh on prices and present challenges to the agreement between the U.S. and Australia to accelerate new projects aimed at diversifying the supply chain risk. The increase in the rare earth quotas coincided with news of increased reliance by China on U.S. rare earth mineral concentrates, with Argus Media Group reporting in January imports from the U.S. rose by 61% to 41,284 tonnes in the period from January to November 2019.

Figure 5: NdPr Oxide Price
EXW China VAT included, converted to US\$



Source: Asian Metal and OANDA

Project Funding

Arafura continued to progress its engagement with key advisor groups and Export Credit Agencies (ECA) during the quarter to accelerate Nolans Project funding initiatives. The discussions were held with key parties, including corporate advisors, and potential debt arrangers to work towards the appointment of its key advisors in the new year. In conjunction with offtake discussions the Company also met with groups in Japan, Germany, the USA and Australia to understand debt funding opportunities that will likely be linked with NdPr supply diversification objectives being pursued across multiple jurisdictions. The Nolans Project's long operational life and ore-to-oxide production profile places the Company in a strong position to be a key player for NdPr users who are not aligned with the *Made In China 2025* strategy.

During the quarter Arafura worked collaboratively with Talaxis Ltd (**Talaxis**) to examine a strategic equity investment strategy, product offtake opportunities and assist with market engagement for the advancement of the Nolans Project. Talaxis acquired a 5% strategic interest in Arafura through its participation as a sub- underwriter in Arafura's \$23.2 million underwritten entitlement offer (*refer to ASX announcement 20 June 2019*). The companies have worked to formalise an agreement under which Talaxis will continue to assist Arafura to:

- Introduce strategic equity partners to finance the development of the Nolans Project;
- Assist with offtake and marketing services including identifying counterparties for the Nolans product mix; and
- Identify optimal logistics route, access to infrastructure for transport and handling for Nolans products and project inputs including regents.

Arafura expects the Talaxis agreement will be executed in January 2020. Talaxis is a wholly owned subsidiary of Noble Group Holdings Limited, Asia's leading independent energy products and industrial raw materials supply chain manager. Arafura through its work to date with Talaxis is keen to leverage the global reach and resources of Talaxis and the Noble Group.

Corporate

Cash Position

Arafura had \$22.93 million in cash reserves at 31 December 2019 and is in a strong position to advance the Nolans Project.

In October, the Company received a \$1.5 million refundable tax offset from the Australian Taxation Office for eligible research and development expenditure in relation to the development of the Nolans Project.

For the quarter ended 31 December 2019, average monthly cash expenditure was \$1,170,000 compared with \$717,000 for the June 2019 quarter. The monthly average for the quarter was higher

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as a result of the completion of drilling programs at Nolans Bore and on the Bonya JV as well as the commencement of metallurgical and pilot work programs. The Company expects the expenditure profile for Q1 CY2020 to increase as a result of continued activities in relation to pre-execution readiness as well as completion of the rare earth separation pilot program alongside other technology programs currently underway.

Appointment of Cathy Moises

In December the Company announced the appointment of Cathy Moises as non-executive director. Cathy brings a wealth of knowledge and experience in financial markets and the resources industry, which is highly relevant to the key workstreams of advancing product offtake and project funding. Cathy has extensive experience in the resources sector having worked as a senior resources analyst for several major stockbroking firms including McIntosh (now Merrill Lynch), County Securities (now Citigroup) and Evans and Partners where she was a partner of that firm. More recently, she was Head of Research at Patersons Securities Limited.

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Nolans Project Exploration Results, Mineral Resources and Ore Reserves

The information in this report that relates to Exploration Results was released in an announcement dated 17 December 2019 (Initial Results Drilling Program at Nolans) and was completed in accordance with the guidelines of the JORC Code (2012). The information in this report that relates to Mineral Resources was released in an ASX announcement dated 7 June 2017 (Detailed Resource Assessment Completed) and was completed in accordance with the guidelines of the JORC Code (2012). The information in this report that relates to Ore Reserves was released in an ASX announcement dated 7 February 2019 (Nolans Project Definitive Feasibility Study) and was completed in accordance with the guidelines of the JORC Code (2012).

Arafura confirms that it is not aware of any new information or data that materially affects the information included in these original market announcements and that all material assumptions and technical parameters underpinning the estimates in the original market announcements continue to apply and have not materially changed. Arafura confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcements.

Mineral Resources

RESOURCES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P ₂ O ₅ %	NdPr Enrichment %
Measured	4.9	3.2	13	26.1
Indicated	30	2.7	12	26.4
Inferred	21	2.3	10	26.5
TOTAL	56	2.6	11	26.4

As announced on 7 June 2017. 1.0% TREO cut-off grade. Numbers may not compute exactly due to rounding. "NdPr enrichment" is the proportion of TREO comprising Nd₂O₃ and Pr₆O₁₁.

Ore Reserves

RESERVES	TONNES (m)	RARE EARTHS TREO %	PHOSPHATE P ₂ O ₅ %	NdPr Enrichment %
Proved	4.3	3.1	13	26.1
Probable	14.9	2.9	13	26.5
TOTAL	19.2	3.0	13	26.4

As announced on 7 February 2019. Numbers may not compute exactly due to rounding. "NdPr enrichment" is the proportion of TREO comprising Nd₂O₃ and Pr₆O₁₁.

Bonya JV Competent Persons Statement

The information in this report that relates to Bonya exploration results is based on information compiled by Richard Bradey, who holds a BSc in Applied Geology and an MSc in Natural Resource Management and who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Bradey is an employee of Thor Mining PLC. He 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

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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' (JORC Code 2012). Mr Bradey consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Production Targets and Forecast Financial Information

The information in this report that relates to production targets and forecast financial information derived from a production target is extracted from an ASX announcement dated 7 February 2019 (Nolans Project Definitive Feasibility Study). Arafura confirms that all material assumptions underpinning the production target and forecast financial information derived from production targets set out in the announcement released on 7 February 2019 continue to apply and have not materially changed.

Forward Looking Statements

This report includes forward-looking statements. These statements relate to the Company's expectations, beliefs, intentions or strategies regarding the future. These statements can be identified by the use of words like "will", "progress", "anticipate", "intend", "expect", "may", "seek", "towards", "enable" and similar words or expressions containing same.

The forward-looking statements reflect the Company's views and assumptions with respect to future events as of the date of this announcement and are subject to a variety of unpredictable risks, uncertainties, and other unknowns. Actual and future results and trends could differ materially from those set forth in such statements due to various factors, many of which are beyond our ability to control or predict. Given these uncertainties, no one should place undue reliance on any forward-looking statements attributable to the Company, or any of its affiliates or persons acting on its behalf. The Company does not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. Neither the Company nor any other person, gives any representation, warranty, assurance, nor will guarantee that the occurrence of the events expressed or implied in any forward-looking statement will actually occur. To the maximum extent permitted by law, the Company and each of its advisors, affiliates, related bodies corporate, directors, officers, partners, employees and agents disclaim any responsibility for the accuracy or completeness of any forward-looking statements whether as a result of new information, future events or results or otherwise.

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Mining exploration entity and oil and gas 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, 01/05/13, 01/09/16

Name of entity

Arafura Resources Ltd	
ABN	Quarter ended ("current quarter")
22 080 933 455	31 December 2019

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(2,764)	(3,969)
(b) development	-	-
(c) production	-	-
(d) staff costs	(397)	(735)
(e) administration and corporate costs	(447)	(1,148)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	103	197
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	(2)	(2)
1.7 R&D refund - Non Capitalised Portion	237	237
1.8 Other (provide details if material)	-	-
1.9 Net cash from / (used in) operating activities	(3,270)	(5,420)
2. Cash flows from investing activities		
2.1 Payments to acquire:		
(a) property, plant and equipment	(3)	(15)
(b) tenements (see item 10)	(1)	(11)
(c) investments	-	-
(d) other non-current assets	-	-

Quarterly Activities Report and Appendix 5B

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	-	-
	(b) security deposits on tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (R&D Refund – Capitalised Portion)	1,278	1,278
2.6	Net cash from / (used in) investing activities	1,274	1,252
3.	Cash flows from financing activities		
3.1	Proceeds from issues of shares	-	23,246
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	-	(1,551)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	-	21,695
4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	24,921	5,398
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(3,270)	(5,420)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	1,274	1,252

Quarterly Activities Report and Appendix 5B

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	21,695
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	22,925	22,925

5. Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts		Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	1,258	3,356
5.2	Call deposits	21,667	21,565
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	22,925	24,921

6. Payments to directors of the entity and their associates

**Current quarter
\$A'000**

6.1 Aggregate amount of payments to these parties included in item 1.2

(189)

6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3

-

6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

Salaries, fees and superannuation of Directors of the Company.

7. Payments to related entities of the entity and their associates

**Current quarter
\$A'000**

7.1 Aggregate amount of payments to these parties included in item 1.2

-

7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3

-

7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

N/A.

Quarterly Activities Report and Appendix 5B

8. Financing facilities available <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

N/A

9. Estimated cash outflows for next quarter	\$A'000
9.1 Exploration and evaluation	3,900
9.2 Development	-
9.3 Production	-
9.4 Staff costs	400
9.5 Administration and corporate costs	600
9.6 Other (provide details if material)	-
9.7 Total estimated cash outflows	4,900

10. Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1 Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	See Appendix A below.			

Quarterly Activities Report and Appendix 5B

Compliance Statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here:  Date: 28 January 2020.
 (Company secretary)

Print name: Peter Sherrington

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 that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, 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. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

Appendix A – Mining Tenements Held as at 31 December 2019

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
ML 30702				100%	100%	Application Lodged
ML 30703				100%	100%	Application Lodged
ML 30704				100%	100%	Application Lodged
EL 28473 EL 28498 EL 29509 EL 31224 EL 31284 EL 31957	Aileron–Reynolds, NT	Arafura Resources Ltd	Exploration Licence	100% 100% 100% 100% 100% 100%	100% 100% 100% 100% 100% 100%	
EL 29701	Bonya JV, NT	Arafura Resources Ltd	Exploration Licence	60%	60%	Thor Mining Plc 40%, Arafura Resources Limited 60%
EL 32167	Jervois Vanadium, NT	Arafura Resources Ltd	Exploration Licence	60%	60%	Thor Mining Plc 40%, Arafura Resources Limited 60%