

Quarterly Activities Report – September 2019

Highlights

- Successful ramp up of mining and processing operations following the South Dune transition.
- Achieved mining rates equivalent to 19.6Mtpa in the quarter, exceeding the 18Mtpa plan.
- Record zircon recoveries.
- Ongoing supply constraints support continued strengthening of rutile and ilmenite prices.
- Additional exploration licence applications submitted in Kenya.
- No lost time or medical treatment injuries.
- Toliara Project DFS remains on schedule for completion in December 2019.

African mineral sands producer, **Base Resources Limited** (ASX & AIM: BSE) (**Base Resources** or the **Company**) is pleased to provide a quarterly operational, development and corporate update.

Kwale Mineral Sands Operations (**Kwale Operations**) in Kenya successfully ramped up mining operations at the South Dune orebody following the transition from the fully depleted Central Dune orebody at the end of June. As expected, mining commenced on the northern fringes of the South Dune, where grades are lower, resulting in reduced output of finished products. Ore grades improved throughout the quarter as mining proceeded further into the orebody.

The Toliara mineral sands project (**Toliara Project**) in the south-west of Madagascar saw sound progress on all workstreams and remains on schedule to complete the definitive feasibility study (**DFS**) in December 2019.

KWALE OPERATIONS

Production & Sales	Sept 2018 Quarter	Dec 2018 Quarter	Mar 2019 Quarter	June 2019 Quarter	Sept 2019 Quarter
Production (tonnes)					
Ilmenite	118,265	108,465	87,179	88,789	73,808
Rutile	25,125	24,505	20,171	22,588	16,390
Zircon	9,683	8,252	6,943	7,063	6,980
Zircon low grade	-	-	172	347	466
Sales (tonnes)					
Ilmenite	107,632	106,788	81,339	99,620	60,109
Rutile	23,580	24,008	14,593	31,889	14,018
Zircon	8,973	8,791	7,260	7,968	6,713
Zircon low grade ¹	-	-	115	219	839

Mining operations were successfully commissioned on the South Dune orebody, with mining ramp-up exceeding expectations with an annualised mining rate of close to 20Mtpa achieved in the quarter, higher than the 18Mtpa plan. Mined ore grade improved throughout

¹ Reported as tonnes of zircon contained in concentrate, it realises 90% to 100% of the value of the equivalent volume of standard grade zircon, due to rutile credits.

the quarter, from an average of 1.8% heavy mineral (**HM**) in July to 3.6% in September, as all three mining units progressed beyond the fringes of the orebody.

Mining & WCP Performance	Sept 2018 Quarter	Dec 2018 Quarter	Mar 2019 Quarter	June 2019 Quarter	Sept 2019 Quarter
Ore mined (tonnes)	4,791,969	5,036,211	4,349,984	3,644,160	4,909,999
HM %	4.78	3.60	3.59	3.52	2.66
HMC produced (tonnes)	199,079	148,937	154,001	131,475	114,149

Wet concentrator plant (**WCP**) production of heavy mineral concentrate (**HMC**) reduced to 114kt (last quarter: 131kt) due to the lower mined ore grades. HMC stockpiles were drawn down 9kt to close the quarter at 11kt as a result of lower HMC production. HMC stocks started to increase in September as mined ore grade increased. Sand tails continued to be deposited into the mined-out Central Dune area.

MSP Performance	Sept 2018 Quarter	Dec 2018 Quarter	Mar 2019 Quarter	June 2019 Quarter	Sept 2019 Quarter
MSP Feed (tonnes of HMC)	194,311	191,633	155,373	160,766	121,600
MSP feed rate (tph)	91	90	78	76	67
MSP recovery %					
Ilmenite	101	102	104	100	103
Rutile	99	99	102	104	103
Zircon	79	73	78	76	86

Mineral separation plant (**MSP**) feed rates were lower than the prior quarter, reflecting the available HMC. The lower feed rates in the quarter were partially offset by a higher proportion of contained zircon in the HMC and higher recoveries for most products, particularly zircon. The higher zircon recovery is a function of the mineral properties encountered to date in the South Dune, which contributed to improved separation efficiency, as well as lower MSP feed rates enabling further optimisation of the zircon wet circuit. A planned 14-day MSP shutdown to replace the refractory linings in the HMC dryer took place in July.

As mined ore grades, and consequently HMC production, improved throughout the quarter, the MSP feed was increased to 84tph in early October with the increased HMC production from the WCP, with a consequent increase in output of finished product.

Bulk loading operations at the Company's Likoni Port facility continued to run smoothly, dispatching more than 72kt of ilmenite, rutile and low-grade zircon during the quarter (last quarter: 145kt). Containerised shipments of rutile and zircon through the Mombasa Port proceeded to plan.

Summary of unit costs & Revenue per tonne (US\$)	Sept 2018 Quarter	Dec 2018 Quarter	Mar 2019 Quarter	June 2019 Quarter	Sept 2019 Quarter
Unit operating costs per tonne produced	\$103	\$115	\$138	\$127	\$173
Unit cost of goods sold per tonne sold	\$124	\$146	\$151	\$180	\$213
Unit revenue per tonne of product sold	\$354	\$377	\$368	\$482	\$469
Revenue: Cost of goods sold ratio	2.8	2.6	2.4	2.7	2.2

Total operating costs were higher than the previous quarter due to higher power costs associated with the additional mining volume and pumping distance (\$0.8 million higher than last quarter) and an increase in the non-cash rehabilitation expense (\$0.5 million higher than last quarter) associated with clearing of land ahead of mining activities. The higher total operating costs, when combined with the lower production volumes, resulted in a higher unit operating cost of US\$173 per tonne produced (rutile, ilmenite, zircon and low-grade zircon) (last quarter: US\$127 per tonne).

Unit cost of goods sold is influenced by both the underlying operating costs and product sales mix. Operating costs are allocated to

each product based on revenue contribution, which sees the higher value rutile and zircon products attracting a higher cost per tonne than the lower value ilmenite. Therefore, the greater the sales volume of rutile and zircon relative to ilmenite in a quarter, the higher both unit revenue per tonne and unit cost of goods sold will be.

Ilmenite, and the majority of rutile, is sold in bulk, with typical shipment sizes of 50-54kt for ilmenite and 10-12kt for rutile, which means any given quarter will usually contain either one or two rutile and ilmenite sales. Zircon is sold in smaller parcels and sales generally align with production volume. Product sales mix will therefore vary depending on the number of bulk shipments of ilmenite and rutile in each quarter.

Cost of goods sold of US\$213 per tonne sold (operating costs, adjusted for stockpile movements, and royalties) was higher due to the higher operating cost per tonne produced and sales mix (last quarter: US\$180). The higher proportion of ilmenite sold in the quarter contributed to a small reduction in the average revenue per tonne to US\$469 per tonne (last quarter: US\$482 per tonne). From the combination of the above, the revenue to cost of goods sold ratio for the quarter fell to 2.2 (last quarter: 2.7).

FY20 PRODUCTION GUIDANCE

Kwale Operations production guidance for FY20 remains unchanged at:

- Rutile - 64,000 to 70,000 tonnes.
- Ilmenite - 315,000 to 350,000 tonnes.
- Zircon - 25,000 to 28,000 tonnes.

The above FY20 production guidance is based on the following assumptions:

- Mining of 18.0Mt at an average HM grade of 3.58%, with all FY20 volume coming from Ore Reserves².
- MSP feed rate at an average of 75tph.
- MSP product recoveries of 100% for ilmenite, 99% for rutile and 77% for zircon.

MARKETING

Ongoing constraints on the global supply of sulphate ilmenite and high-grade chloride feedstocks (including rutile) have maintained tight market conditions for titanium minerals resulting in continued positive price momentum.

Chinese pigment production, no longer being materially encumbered by environmental inspections and shutdowns, has increased in 2019 which has led to strong demand for ilmenite. It is understood that de-stocking by western pigment consumers had largely run its course by the end of last quarter. Global pigment producers have indicated that underlying demand for pigment remains firm, albeit not as strong as initially expected. Ongoing global economic uncertainties appear to be leading to cautious pigment buying behaviour and a preference for consumers to maintain low inventory levels. However, demand is sufficient for most major chloride pigment producers to continue operating at high production levels.

National and state government bans on private mining of mineral sands in India are expected to remain in place over the medium to longer term and will continue to result in significant quantities of ilmenite being removed from the market. No new ilmenite export quotas have been issued in Vietnam which is also continuing to impact global ilmenite supply. The emerging ilmenite deficit, created by strong demand and supply restrictions, continued to support a strengthening ilmenite price through the quarter. Demand for Base Resources ilmenite from existing customers remains greater than the Company's ability to supply and enquiries continue to be received from potential new customers globally.

Ongoing constraints on high grade feedstock supply has continued to support price improvement for rutile. Prices for Base Resources rutile strengthened again in the quarter with further improvements contracted for the December quarter.

The zircon market came under renewed pressure through the quarter due to ongoing global economic uncertainties. Major global suppliers of zircon are reported to have offered price rebates and discounts to some customers for the remainder of the 2019 calendar

² The Ore Reserves estimates underpinning the above production targets were prepared by Competent Persons in accordance with the JORC Code (2012 edition). The above production targets are the result of detailed studies based on the actual performance of the Kwale mine and processing plant. These studies include the assessment of mining, metallurgical, ore processing, environmental and economic factors.

year. As a result, the price for Base Resources zircon in the coming quarter has been contracted at a slight discount to September quarter prices.

SAFETY

With no lost time or medical treatment injuries occurring during the quarter, or in the past year, Kwale Operations' lost time injury frequency rate (**LTIFR**) and total recordable injury frequency rate (**TRIFR**) are both zero. No injuries were recorded in the quarter for the Toliara Project and the total number of injuries of any type since project commencement remains at zero. Compared to the Western Australian All Mines 2017/2018 LTIFR of 2.0, this is an exceptional performance reflective of the ongoing focus and importance placed on safety by management. Base Resources' employees and contractors have now worked 18.0 million man-hours LTI free, with the last LTI recorded in early 2014. Further, 8.3 million hours have been worked without a medical treatment injury.

COMMUNITY AND ENVIRONMENT

Agricultural livelihood programs at Kwale, run in conjunction with partners Business for Development, DEG, FMO, Australia's DFAT and the Cooperative Bank of Kenya continue to develop. During the quarter extensive discussions were held with Australian clothing manufacturer and retail group Cotton On and the Government of Kenya to explore opportunities for value addition to the Kenyan cotton industry.

Crop harvesting, supported by Base Resources, of maize, green grams, legumes, rice and sunflower is underway and yields look promising. Unseasonal rains in September delayed cotton harvesting.

Rehabilitation of the Tailings Storage Facility (**TSF**) outer wall continues with good progress achieved. Local community groups have increased the supply of grass seeds for the rehabilitation process and earned significant income as a result. The increasing participation of community groups for various activities on site continues to have a positive impact on nearby communities. Test work to formulate the water retention layer "mix" required for successful rehabilitation of the Central Dune sand landform was well advanced by the end of the quarter.

At the Toliara Project, three community water supply boreholes have been drilled and construction of tank stands completed. The installation of solar pumping equipment is currently underway, with additional boreholes planned using drilling equipment donated by Base Resources. With the planning formalities now completed, construction of schools and medical facilities will commence following identification of suitable local building contractors.

Training programs continue to build capacity for the Toliara Project with the intent of improving skills and increasing opportunities for local people to secure jobs during construction and beyond. Over 580 local people have now undergone training programs including heavy equipment operation, wet trades, agriculture and other courses aimed at increasing employability and livelihoods. In addition to these programs, 25 young men and women from the Toliara area recently travelled to the Kwale Operation in Kenya to begin their two-year apprentice programs.

BUSINESS DEVELOPMENT

Toliara Project development - Madagascar

Work on the DFS continued in the quarter and remains on target for completion in December 2019, ahead of a planned decision to proceed to construction in 2020. On this schedule, it could be expected that the Toliara Project would be brought into production in 2022.

Key activities during the quarter included:

- An additional 18,900 metres of definitional drilling in 531 holes, taking the total to 29,760 metres of drilling in 770 holes.
- The conclusion of the mineral separation plant test work and flowsheet verification.
- Geotechnical investigation programs for the camp, mine site facilities, power plant and bridge over the Fiherenana river.
- The completion of hydrogeological investigation of the underground water aquifer and identification of future borehole locations.

- Receipt of bids from tenderers for the mine site power station (via an independent power producer model), marine facilities, and bulk earth works for the early works camp and temporary access road.
- Issuing requests for tenders to shortlisted companies for the export facility shed foundation, the bridge over the Fiherenana river, the fuel supply contract and two accommodation camp blockwork buildings.
- Issuing DFS budget quotation requests for all major construction and supply components of the project not otherwise included in the above tender packages.
- Progression of baseline studies in accordance with environmental approvals.
- Progression of the land acquisition process.

Key activities for the coming quarter include:

- Finalising the DFS report.
 - Finalising an Ore Reserve estimate for DFS financial modelling based on the 2018 Ranobe Deposit Mineral Resource estimate³.
 - Receiving and reviewing DFS budget quotation requests for all major construction and supply components of the project.
 - Reviewing tenders for the marine works and mine site power station.
 - Preparing the DFS Capex and Opex estimates for the DFS financial model.
- Preparing the application for certification under the Large Mining Investment Code.
- Submission of drill samples for assay and geological interpretation as the first stage of a Ranobe Mineral Resource Estimate update.
- Continuing baseline studies and land acquisition programs.
- Continuing training for local staff ahead of planned construction.
- Awarding the temporary access road, camp bulk earth works and blockwork contracts ahead of early works construction expected to start in early 2020.

Total expenditure on the Toliara Project for the quarter was US\$9.0 million (last quarter: US\$5.7 million).

Extensional exploration – Kenya

Mining tenure arrangements continue to progress with the Kenyan Ministry of Petroleum and Mining as a precursor to an anticipated updated Ore Reserve based on the expanded 2017 Kwale South Dune Mineral Resource as announced on 4th October 2017⁴.

A concept study for mining of the 171Mt North Dune resource commenced during the quarter and, should the outcome be positive, a pre-feasibility study will be commissioned in 2020.

Completion of the remaining drilling program (4,200 metres) in the North-East Sector (Kwale East) of PL 2018/0119 remains suspended pending community access being secured. Drill assay results to date have shown potential for some limited extensional economic resource close to the Central Dune (Bumamani), but this remains subject to more detailed evaluation.

Drilling of the southern and central sections of the Vanga Prospecting License (**PL/2015/0042**) was completed during the quarter with limited mineralised intersections. Further drilling is planned in the northern Vanga section once community access to the remaining land areas is secured. A north eastern extension of the Vanga Prospecting Licence is under application (**App No/1753**) to cover further prospective ground which has since become available. After wider prospectivity work, additional prospecting license applications have been lodged for an area south of Lamu (**Apps No/2136, 2146 and 2153**) together with an area in the Kuranze region of Kwale county about 70 km west of the Kwale Operation (**App No/2123**).

³ For further information refer to Base Resources market announcement on 23 January 2019 “Updated Ranobe Deposit Mineral Resources (corrected)” available at <https://www.baseresources.com.au/investor-centre/asx-releases/>.

⁴ Refer to Base Resources market announcement “Mineral Resource Increase for Kwale South Dune” released on 4 October 2017, which is available at <http://www.baseresources.com.au/investor-centre/asx-releases/>.

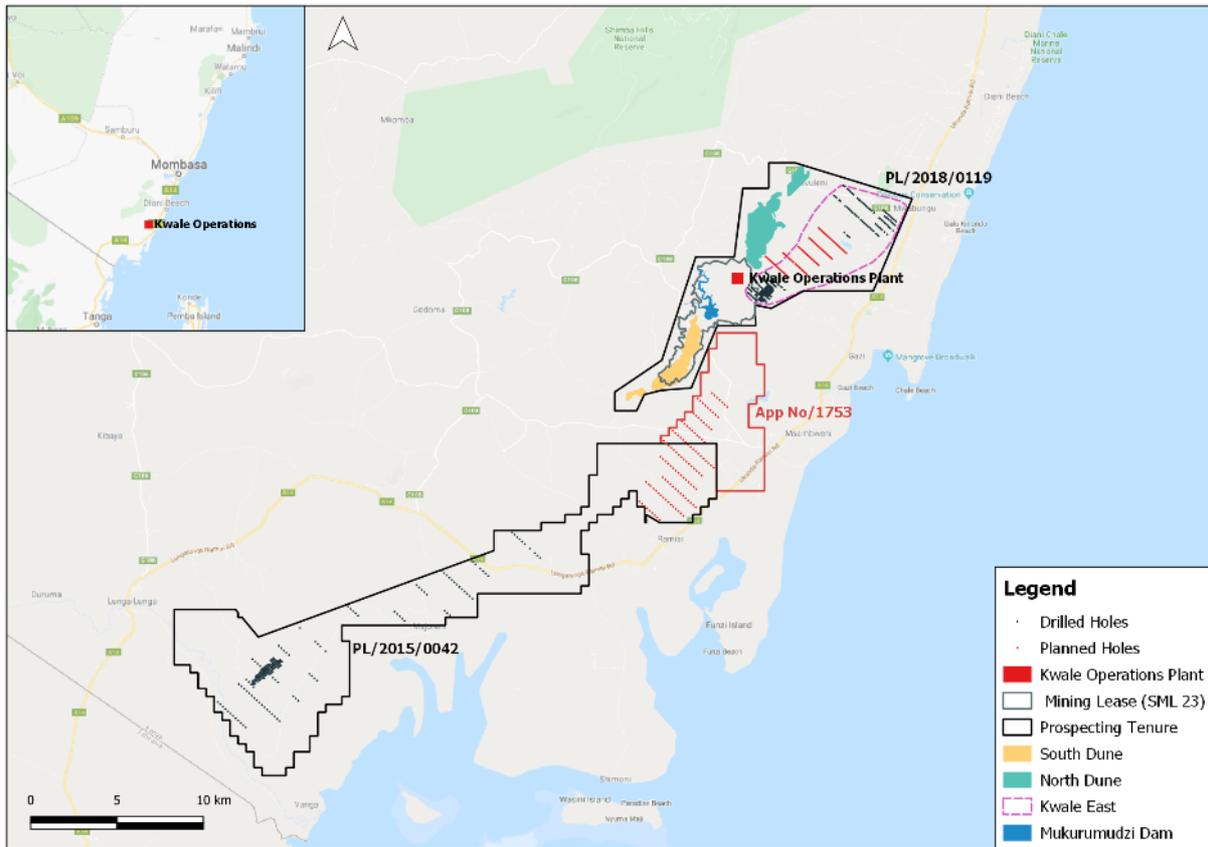


Figure 1 – Extensional exploration at Kwale Operations

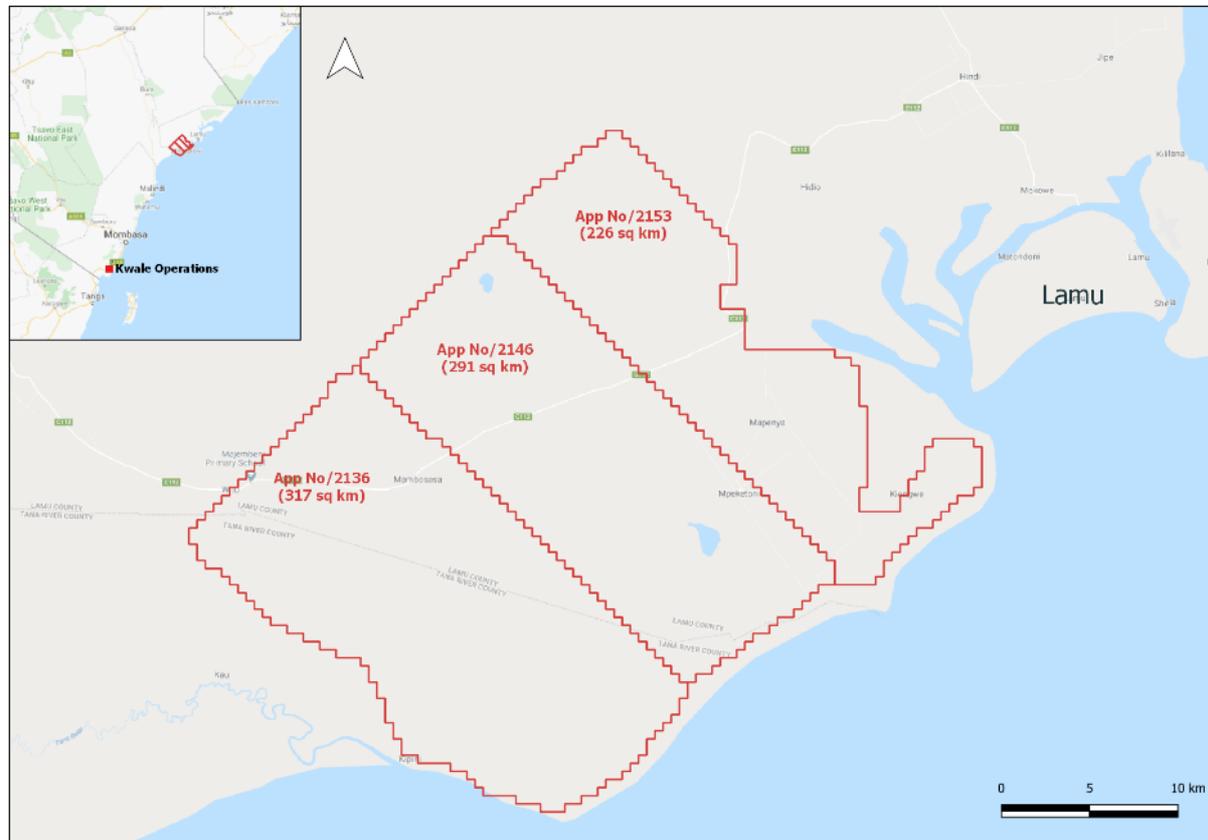


Figure 2 – Lamu prospecting license applications

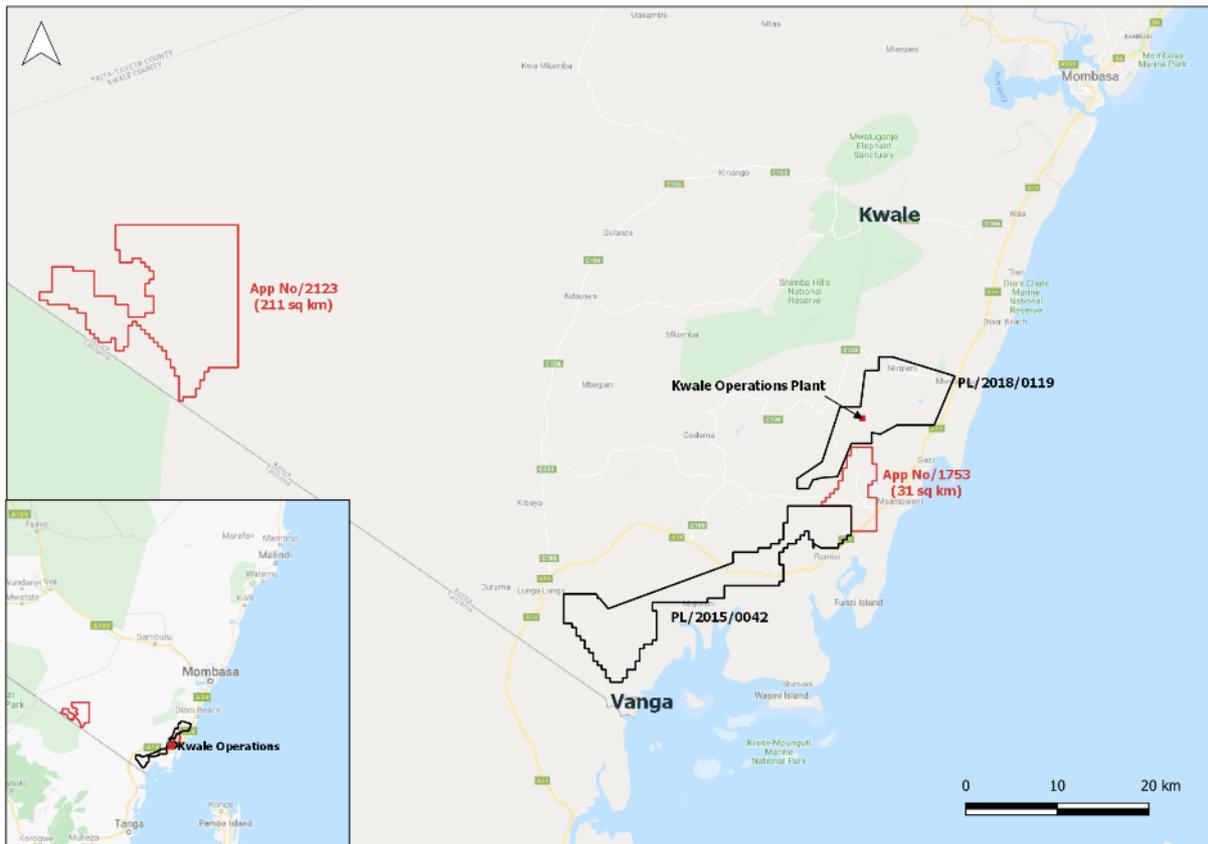


Figure 3 – Kuranze prospecting license applications (No/2123)

Expenditure on exploration activities in Kenya during the quarter was US\$0.2 million (last quarter: US\$0.4 million).

CORPORATE

Kenyan VAT receivable

As previously announced, Base Resources has refund claims for VAT paid in Kenya, relating to both construction of the Kwale Project and the period since operations commenced, totalling approximately US\$22.7 million at 30 September 2019. These claims are proceeding through the Kenya Revenue Authority process with refunds totalling US\$2.5 million received during the quarter (last quarter: US\$3.5 million). Base Resources is continuing to engage with the Kenyan Treasury and the Kenya Revenue Authority, seeking to expedite the refunds.

In summary, at 30 September 2019:

- Net cash of US\$30.6 million, consisting of:
 - Cash and cash equivalents of US\$45.6 million.
 - Revolving Credit Facility debt of US\$15.0 million.
- 1,166,623,040 fully paid ordinary shares on issue.
- 48,586,062 performance rights issued pursuant to the terms of the Base Resources Long Term Incentive Plan.

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About Base Resources

Base Resources is an Australian based, African focused, mineral sands producer and developer with a track record of project delivery and operational performance. The Company operates the established Kwale Operations in Kenya and is developing the Toliara Project in Madagascar. Base Resources is an ASX and AIM listed company. Further details about Base Resources are available at www.baseresources.com.au.