

# Quarterly Activities Report – September 2018

18 October 2018

## HIGHLIGHTS

- Mined ore tonnes increased by 35% in the quarter following the successful implementation of the Kwale Phase 2 mine optimisation project.
- Record production of 25,125 tonnes rutile and 9,683 tonnes of zircon for the quarter.
- Continued strengthening of rutile and zircon prices.
- No lost time or medical treatment injuries.
- Exploration drilling at Kwale Operations North Dune completed.
- Preferred development options for mining, processing and infrastructure selected for the Toliara Project.
- Net debt reduced by US\$9.4 million to US\$23.8 million.
- Kwale Project Debt Facility retired 20 months ahead of schedule.

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

The main focus at the Kwale Mineral Sands Operations (Kwale Operations) in Kenya, was ongoing optimisation of the recently upgraded wet concentrator plant (WCP) recoveries and preparation for relocating mining operations to the South Dune in July 2019, together with exploration drilling programs in pursuit of mine life extensions.

The Company progressed its Toliara mineral sands project (**Toliara Project**) in the south-west of Madagascar with a range of mining, processing and infrastructure options evaluated and preferred development options selected in the quarter. The project remains on track to complete the Pre-Feasibility Study in Q1 2019, ahead of a Definitive Feasibility Study phase and planned decision to proceed to construction in Q4 2019.

# **KWALE OPERATIONS**

PRODUCTION	Sept 2017	Dec 2017	Mar 2018	June 2018	Sept 2018
& SALES	Quarter	Quarter	Quarter	Quarter	Quarter
Production (tonnes)					
Ilmenite	119,376	119,209	111,630	114,773	118,265
Rutile	22,789	22,798	21,634	24,451	25,125
Zircon	9,136	9,569	9,166	9,286	9,683
Zircon low grade <sup>1</sup>	1,425	-	-	-	-
Sales (tonnes)					
Ilmenite	106,260	119,554	140,665	107,170	107,632
Rutile	12,594	25,377	25,526	25,635	23,580
Zircon	9,283	8,144	9,884	9,007	8,507
Zircon low grade <sup>1</sup>	-	3,287	-	-	-

<sup>&</sup>lt;sup>1</sup> Zircon low grade tonnes contained in concentrate, equivalent to approximately 70-80% of the value of primary zircon.

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Mining continued in the Central Dune with three hydraulic mining units fully commissioned and operating above design mining rates by quarter end. Mined grades were lower, as expected, with all mining located on the western and northern fringes of the orebody. Following the Kwale Phase 2 wet concentrator plant upgrade completed in March 2018, which included a 69% increase in spiral capacity, recoveries of heavy minerals (**HM**) to concentrate are now achieving design levels.

MINING & WCP	Sept 2017	Dec 2017	Mar 2018	June 2018	Sept 2018
PERFORMANCE	Quarter	Quarter Quarter		Quarter	Quarter
Ore mined (tonnes)	3,023,550	2,882,529	1,883,159	3,543,430	4,791,969
HM %	8.01	7.61	6.88	6.36	4.78
HMC produced (tonnes)	238,580	196,725	125,298	192,559	199,079

Wet concentrator plant production of heavy mineral concentrate (**HMC**) for the quarter increased to 199kt (193kt last quarter) despite lower feed grades as mining volumes increased. Heavy mineral concentrate stockpiles increased from 78kt to 86kt by quarter end. Construction of the tailings storage facility outer sand wall was completed in the quarter and the facility now has sufficient capacity to accommodate slimes impoundment for the remainder of the current life of mine. Following completion of the tailings storage facility outer wall, all sand tails are now being deposited into the mined-out area of the Central Dune, representing the first stage of rehabilitation in this section.

Good rains continued throughout the quarter with the Mukurumudzi Dam remaining full.

MSP PERFORMANCE	Sept 2017	Dec 2017	Dec 2017 Mar 2018		Sept 2018	
	Quarter	Quarter	Quarter	Quarter	Quarter	
MSP Feed (tonnes of HMC)	190,499	190,798	180,128	192,376	194,311	
MSP feed rate (tph)	91	91	92	90	91	
MSP recovery %						
Ilmenite	100	100	101	100	101	
Rutile	100	100	99	101	99	
Zircon	75	77	78	79	79	

Mineral separation plant (**MSP**) availability was good at 97% (98% last quarter) with a total of 194.3kt of heavy mineral concentrate processed (192.3kt last quarter). All recoveries were at, or above, design levels and production of all finished products was higher than the prior quarter as a result of the higher throughput and higher contained valuable heavy minerals in the feed. A five day shutdown of the MSP planned in November for maintenance to the HMC dryer will impact production in the coming quarter.

Bulk loading operations at the Company's Likoni Port facility continued to run smoothly, dispatching more than 128kt of ilmenite and rutile during the quarter (130kt last quarter). Containerised shipments of rutile and zircon through the Mombasa Port proceeded according to plan.

SUMMARY OF UNIT COSTS	Sept 2017	Dec 2017	Mar 2018	June 2018	Sept 2018
& REVENUE PER TONNE (US\$)	Quarter	Quarter	Quarter	Quarter	Quarter
Unit operating costs per tonne produced	\$90	\$92	\$98	\$102	\$103
Unit cost of goods sold per tonne sold	\$107	\$120	\$114	\$143	\$124
Unit revenue per tonne of product sold	\$285	\$344	\$314	\$376	\$354
Revenue:Cost of goods sold ratio	2.7	2.9	2.8	2.6	2.8

Total operating costs were marginally higher than last quarter with higher tonnes mined, but due to a similar increase in

overall production volumes the unit operating cost of US\$103 per tonne produced (rutile, ilmenite and zircon) remains in line with the prior quarter (US\$102 per tonne). Unit operating costs are higher than the same period last year (September 2017: US\$90 per tonne) due to higher operating costs associated with a 60% increase in mining volume following implementation of the Kwale Phase 2 mine optimisation project. Cost of goods sold of US\$124 per tonne sold (operating costs, adjusted for stockpile movements, and royalties) was lower than last quarter due to an increase in finished product stocks, resulting in a re-allocation of US\$1.8 million of operating costs (increase of US\$1.5 million last quarter as stocks were reduced) from cost of goods sold to the finished product inventory asset.

Revenue per tonne of product sold varies significantly each quarter, with the number of bulk rutile sales during that quarter being the primary factor. In a normal year, there are usually seven or eight bulk rutile sales of approximately 10-12kt each, which means any given quarter will typically contain either one or two of these sales. As annual rutile sales account for approximately 40% of revenue but only 15% of volume, the number of bulk rutile sales in a quarter has a significant bearing on revenue, but not sales volume. The September quarter had two bulk rutile sales taking total rutile sales to 23.6kt, lower than last quarter's 25.6kt total rutile sales. Despite higher zircon prices in the quarter, lower rutile sales volume and weaker ilmenite prices have resulted in the average revenue per tonne decreasing to US\$354 per tonne (US\$376 per tonne last quarter).

### MINING TRANSITION TO THE SOUTH DUNE

Engineering work, procurement, clearing and earthworks for the planned transition of mining from the Central Dune to the South Dune in July 2019 continued with orders placed for all major items of equipment. The total cost of works for the mine move are forecast to be US\$12.3 million and will be incurred over financial year 2019 (**FY19**). The project primarily involves the supply and installation of 7,400m of slurry and water piping, an 8,500m 11kV power line, a bridge across the Mukurumudzi Dam spillway, a 1.25MW slurry booster pump and a 1MW process water booster pump.

Total expenditure on the mining transition to the South Dune for the September quarter was US\$0.3 million.

### **FY19 PRODUCTION GUIDANCE**

Kwale Operations production guidance for FY19 remains unchanged at:

- Rutile 88,000 to 93,000 tonnes.
- Ilmenite 420,000 to 450,000 tonnes.
- Zircon 32,000 to 37,000 tonnes.

The above production guidance is based on the following assumptions for FY19:

- Mining of 18.3Mt at an average heavy mineral grade of 3.98%, all from Ore Reserves<sup>2</sup>. Forecast mining volumes are significantly higher than FY18 (11.3Mt) facilitated by the addition of a third hydraulic mining unit as part of the Kwale Phase 2 upgrade project to offset declining ore grades.
- Mineral separation plant feed rate at an average of 89tph, consistent with recent performance.
- Mineral separation plant product recoveries of 100% for ilmenite, 99% for rutile and 77% for zircon, consistent with recent performance.

<sup>&</sup>lt;sup>2</sup> 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.

### MARKETING

The global titanium dioxide pigment industry remained firm through the quarter with most western pigment producers continuing to operate at, or near, capacity. Following more than two years of continued quarterly growth, some major pigment producers indicated that prices were stabilising as consumption eased after the seasonally strong June quarter. Pigment producers in China continue to target maximum output levels but remain hampered by periodic environmental inspection shutdowns.

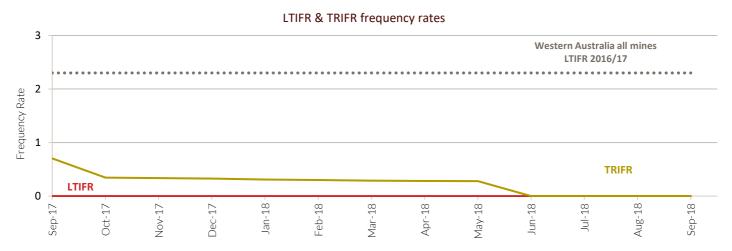
Demand for ilmenite from the Chinese pigment industry was steady through the quarter with growth being constrained by the impact of periodic environmental inspections on both domestic ilmenite suppliers and pigment producers, as well as the general economic uncertainties relating to trade tensions with the USA. Domestic ilmenite prices in China remained stable while a weakening RMB:USD exchange rate resulted in a slight erosion of the USD prices achieved for imported ilmenite through the quarter. The relative stability of both pigment and ilmenite pricing in China is expected to continue through Q4 2018.

Supply constraints in the high-grade feedstock sector (which includes rutile), together with demand strength from all end use sectors, continued to support upward pricing momentum for rutile. Improvement in rutile pricing was experienced through the quarter and further gains are expected to be achieved through the upcoming quarters.

Zircon demand continued to be strong through the quarter with volumes requested by customers exceeding the Company's capacity to supply. Ongoing tight supply from major zircon producers through 2018 have supported a series of substantial price increases, however, the economic uncertainties currently being experienced in China are leading to more modest price increases for Q4 2018. While zircon demand in China is softening on economic concerns, overall global demand remains very strong.

### SAFETY

With no lost time or medical treatment injuries occurring during the quarter or in the past year, the Group's lost time injury frequency rate (**LTIFR**) and total recordable injury frequency rate (**TRIFR**) remain at zero, an exceptional performance reflective of the ongoing focus and importance placed on safety by management. Base Resources' employees and contractors have now worked 14.1 million man-hours LTI free, with the last LTI recorded in early 2014.



# COMMUNITY AND ENVIRONMENT

Agricultural livelihood programs at Kwale, run in conjunction with partners Business for Development, DEG, FMO, Australia's DFAT and Kenya Red Cross, continue to develop with encouraging support from both national and county Kenyan governments. These programs have expanded to involve over 3,000 smallholder farmers and community groups.

Sorghum and cotton harvesting have both been affected by wet conditions, although the potato crop has benefitted from the rain with better yields than last year. Beekeeping, pulses and poultry continue to add value to communities with poultry focused primarily on women in the household.

Construction continues on the PAVI Business Park in Kwale, allocated to the cotton farmers' cooperative for the purposes of building processing and storage facilities that will enable farmers to realise additional value from their crop. Discussions are underway with donor agencies to assist with associated activities.

More than 150 tertiary scholarships were awarded to students from Kwale County in the quarter.

Rehabilitation of the tailings storage facility outer sand wall is underway with approximately 25% revegetated so far. Several different rehabilitation techniques have been trialled and are being implemented in the ongoing slope stabilisation process.

At the Toliara Project, an integrated community development plan is being prepared in partnership with local authorities and communities.

### BUSINESS DEVELOPMENT

#### TOLIARA PROJECT DEVELOPMENT - MADAGASCAR

Base Resources' development plan is on track to complete a full study phase ahead of a decision to proceed to construction in Q4 2019. This timetable is expected to see the Toliara Project in production in Q4 2021.

During the quarter, the Pre-Feasibility Study progressed with a range of mining, processing and infrastructure options evaluated and the preferred development options selected. The full Pre-Feasibility Study is on target for completion in Q1 2019. The Definitive Feasibility Study completion is expected in H2 2019.

A number of long lead activities which feed into the Pre-Feasibility Study and the Definitive Feasibility Study were progressed during the quarter, including:

- Processing of the 100 tonne bulk sample excavated in Q1 2018 was undertaken by Mineral Technologies in Australia, completing the wet concentrator plant test work required for flowsheet design.
- Completion of the first 3,541 metres of the infill and resource definition drill program.
- Development of environmental and social management plans have commenced. Discussions with the University of Toliara commenced to conduct environmental baseline studies in accordance with environmental approvals.
- The land acquisition program has progressed with land identification completed, consultation on resettlement underway and establishment of the land compensation committee in process.

Progression of the Pre-Feasibility Study will be the primary focus in Q4 2018, including:

- Completion of the mineral separation plant test work and flowsheet design, using the heavy mineral concentrate produced by the wet concentrator plant testwork.
- Generation of marketing samples for each product from the mineral separation plant test work.
- Update of the Ranobe deposit mineralogy.
- As land access allows, continue the drilling program, targeting an increase in measured and indicated ore resources.
- Progress camp design and develop environmental management plan for early camp construction.

• Finalising the learning and development strategy for training local staff ahead of planned construction.

Total expenditure on the Toliara Project for the September quarter was US\$2.2 million.

It is noted that national elections will take place in Madagascar in the coming quarter, with the first round of voting on 7 November followed by an expected second round on 19 December.

### **EXTENSIONAL EXPLORATION - KENYA**

Mining tenure arrangements are being progressed with the Kenyan Ministry of Petroleum and Mining as a precursor to an updated Ore Reserve based on the expanded 2017 Kwale South Dune Mineral Resource as announced on 4<sup>th</sup> October 2017<sup>3</sup>.

Extensional exploration drilling in the North-East Sector (now called Kwale East) of the Company's Kwale Special Prospecting License (SPL) 173, adjacent to the Kwale Operation's Central Dune, commenced in Q2 2018 with 274 holes for 3,835 metres of drilling having been completed. Completion of the remaining drilling program (4,200 metres) in this area remains suspended pending resolution of community access issues. Drill assay results to date have shown potential for some limited extensional economic resource close to the Central Dune (Bumamani), but remains subject to more detailed evaluation.

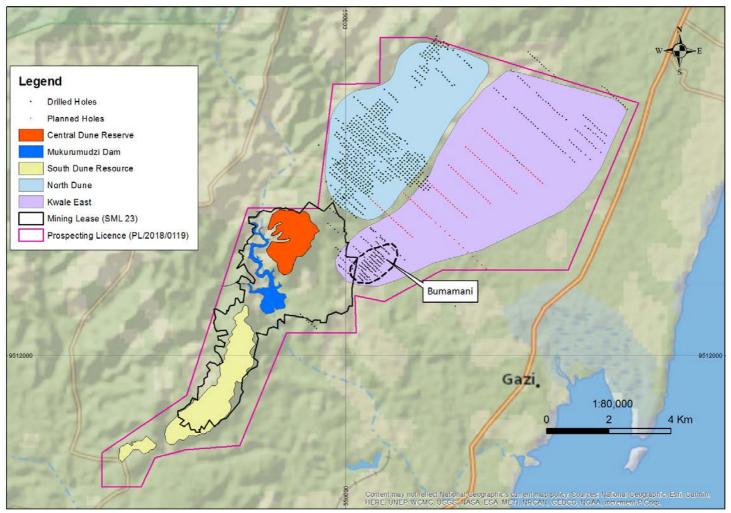
During the prior quarter, the Company commenced a re-evaluation, including infill drilling, of the higher-grade areas of the North Dune, motivated by an improved economic environment, refined resource definition methodology and insights from five years of operations on the Central Dune. The drill program is now complete, with 573 holes for 20,598 metres drilled. Drill assay results are expected to be available over the course of Q4 2018 and a Mineral Resource estimate for the North Dune is expected during Q1 2019.

The Company's Vanga SPL application has been approved by the Mineral Rights Board and is awaiting issuance. Once issued, the planned drilling program is scheduled to commence in Q1 2019.

Expenditure on exploration activities in Kenya during the quarter were US\$0.6 million.

Following expiry of Kwale SPL 173 in May 2018, a new Prospecting Licence (PL 2018/0119) for the area surrounding Kwale Operations has been offered by the Ministry of Mines for re-grant, following approval by the Mineral Rights Board, and is now awaiting issuance. The new licence will be issued under the recent *Mining Act 2016*, which mandates that the size of the area in a prospecting licence be reduced by not less than half at each renewal date. As such, the prospecting licence area will be reduced by 50% to 88km<sup>2</sup> (refer to the below map). The new prospecting licence will be valid for three years with the option to extend.

<sup>&</sup>lt;sup>3</sup> Refer to Base Resources market announcement "Mineral Resource Increase for Kwale South Dune" released on 4 October 2017, which is available at <a href="http://www.baseresources.com.au/investor-centre/asx-releases">http://www.baseresources.com.au/investor-centre/asx-releases</a>.



Extensional exploration drilling at Kwale Operations

# CORPORATE

### EARLY RETIREMENT OF THE KWALE PROJECT DEBT FACILITY

On 9 October 2018, the Company repaid the outstanding balance of the US\$215.0 million Kwale Project Debt Facility (**Project Debt Facility**), 20 months ahead of schedule. The Project Debt Facility was repaid from a combination of cash reserves and utilisation of the existing Revolving Credit Facility following a concurrent increase in the Revolving Credit Facility from US\$30.0 million to US\$75.0 million.

Early retirement of the Project Debt Facility demonstrates the continued strong performance of Kwale Operations and, together with the increased Revolving Credit Facility, provides the group with additional funding flexibility, longer tenor and reduced debt servicing costs.

At 30 June 2018, the Company had total debt outstanding of US\$92.5 million, consisting of the Project Debt Facility of US\$80.0 million and the Revolving Credit Facility of US\$12.5 million. Following repayment of the Project Debt Facility, the outstanding balance of the Revolving Credit Facility is US\$48.1 million.

### NET DEBT REDUCTION

During the quarter, the Company's net debt reduced by US\$9.4 million to US\$23.8 million. The net debt reduction was lower than the prior quarter's US\$27.6 million, primarily due to lower sales revenue (US\$3.7 million lower) and an increase in working capital (principally debtors due to timing of sales) of US\$13.7 million (US\$9.5 million reduction last quarter).

## KENYAN VAT RECEIVABLE

As previously announced, Base Resources has refund claims for VAT paid in Kenya, relating to both the construction of the Kwale Project and the period since operations commenced, totalling approximately US\$22.9 million at 30 September 2018. These claims are proceeding through the Kenya Revenue Authority process, although no refunds were received during the quarter (US\$1.4 million last quarter). Base Resources is continuing to engage with the Kenyan Treasury and the Kenya Revenue Authority, seeking to expedite the remainder of the refunds.

In summary, at 30 September 2018:

- Net debt of US\$23.8 million, consisting of:
  - Cash and cash equivalents were US\$31.6 million (unrestricted) and an additional US\$29.7 million (restricted debt service reserve account).
  - o Debt of US\$85.0 million (Kwale Project Debt Facility US\$72.5 million and Corporate RCF US\$12.5 million).
- 1,127,575,014 shares on issue.
- 61,425,061 options (exercise price of A\$0.40, expiring 31 December 2018).
- 71,281,661 performance rights issued pursuant to the terms of the Base Resources Long Term Incentive Plan.

Following vesting of performance rights on 4 October 2018, issued pursuant to the 2015 cycle of the Base Resources Long Term Incentive Plan, 1,166,623,040 shares and 25,533,230 performance rights were on issue.

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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 <u>www.baseresources.com.au</u>.