

# Second Quarter Report 2017

FOR THE THREE MONTHS ENDING 30 JUNE 2017

<b>OZ Minerals Contained Metal Production</b>	<b>FY 2017 Guidance</b>	<b>Mar 2017</b>	<b>Jun 2017</b>	<b>Jun YTD 2017</b>
Total Copper (Tonnes)	105,000 - 115,000	25,079	28,163	53,242
Total Gold (Ounces)	115,000 - 125,000	26,135	32,136	58,271
C1 Cash Costs (US cents/lb)	85 - 95	100	81	90

## Production, costs and Carrapateena development continue to plan

- Prominent Hill on track to deliver all guidance metrics.
- Copper production up 12% and gold production up 23% on Q1.
- All-In Sustaining Cost (AISC) of US 115c/lb and C1 cost of US 81c/lb.
- Second permanent decline at Prominent Hill on target for breakthrough late August.
- Carrapateena decline development on schedule.
- West Musgrave studies completed on energy, water and transport logistics.
- Cash balance lifts to \$625M from \$594M in Q1 after growth investment and tax payment.

“Strong production and lower costs quarter on quarter see us tracking positively towards achieving annual guidance. The Prominent Hill mine plan has production ramping up in the latter half of the year, supported by completion of the second permanent decline expected in late August.

“Operating discipline at Prominent Hill is yielding improvements to underground operations with a 17 per cent increase in production quarter on quarter, driving productivity and reducing costs.

“At Carrapateena, the boxcut for the second parallel decline is nearing completion with the decline scheduled to break through in late August. Underground development is advancing both declines, which is improving overall development rates. A further update on Carrapateena is expected in Q3.

“Studies on the Concentrate Treatment Plant are progressing, with the project now being managed separately and to a different time line to Carrapateena.

“The quarter ended with a cash balance of \$625 million, up from \$594 million at the end of Q1, achieved after a \$22 million investment in the Carrapateena project, \$20 million addition to ore inventory and \$69 million tax payment.

“At West Musgrave, energy, water and transport logistics studies have been completed. Other study work is continuing with a decision expected in Q4 on whether to progress to a Pre-Feasibility Study and earn-in to the project.

“We are advancing our pipeline of exploration projects with drilling and geophysics underway. A decision was made to exit the Yandal One exploration Joint Venture with Toro Energy this quarter, as drilling programs did not meet the required technical hurdles. Our approach to exploration sees us exit projects quickly if they do not meet our expectations.”



**Andrew Cole, Managing Director and CEO**

## SOCIAL PERFORMANCE

A small increase in total recordable injury frequency rate per million hours worked was recorded at the end of June 2017 compared to the end of the prior quarter (6.53 vs. 6.18), driven by an increase in injuries at Prominent Hill (3 vs. 2). Continued efforts to improve the safety performance of the Prominent Hill underground mine saw a 75 per cent reduction in recordable injuries for H1 2017 relative to H2 2016. There were no injuries recorded at Carrapateena in Q2.

During the quarter, OZ Minerals was a joint recipient of the South Australian Premier's Award for Social Inclusion for the innovative partnership agreement reached with the Kokatha Aboriginal Corporation, the traditional owners for the Carrapateena Project.

Community consultations were held in the Upper Spencer Gulf region and a local business information session was held in Port Augusta on the contracting process to be deployed for the Carrapateena project.

The lean, agile and innovative culture change program currently underway is focussing on leadership principles and supporting behaviours across the company. During the quarter, Rebecca McGrath succeeded Neil Hamilton as Chairman of the OZ Minerals Board. Two new directors joined the board, which now has equal gender representation providing leadership and mentoring opportunities for our emerging female leaders.

## PROMINENT HILL OPERATIONS

### Overview

A strong second quarter saw Prominent Hill produce 28,163 tonnes of copper and 32,136 ounces of gold. Production has continued in accordance with the mine plan and remains on track to achieve guidance.

The ramp up in production over the prior quarter was driven by an increase in underground ore mined. The second permanent underground access decline is on schedule for breakthrough in late August, which will assist the underground ore production ramp up through the second half of the year.

Payable copper and gold volume increases saw All-In Sustaining Costs (AISC) and C1 costs materially lower than the prior quarter, with both remaining on track to meet annual guidance.

For operating and cost statistics, please refer to Tables 1 and 2 on pages 8 and 9 of this report.

### Mining

#### Open Pit

Ore mined in the quarter was 3.7Mt, consisting of 3.41Mt of copper-gold ore and 0.25Mt of gold only ore. Waste movement of 1.9Mt was 14 per cent below the prior quarter.

The strip ratio decreased to 0.5:1 from 0.6:1 in the prior quarter, in line with the mine plan, with the full year ratio expected to remain at the guided level of circa 0.5 times.

The open pit demobilisation of one excavator and associated reduction in truck fleet (five trucks) was completed during the quarter, leaving a remaining fleet of 12 trucks and a smaller primary excavator.

Proactive pit wall monitoring identified a potential stability risk in the south wall hard rock basement andesite, below the current ramp to the pit floor. A preventative remediation plan is being implemented with a supportive insitu buttress to be installed and cable-bolting program underway.

## Underground Operations

Underground operations delivered 593kt of ore at 2.07 per cent copper, with annual ore production remaining on track for full year guidance of 2.3 – 2.6Mt. Ore tonnage hauled was 17 per cent higher than the previous quarter, driven by improved effective use of the truck fleet and the mobilisation of two additional haulage trucks. Activity was further supported by higher drilled stocks increasing volumes of ready to fire ore and the introduction of double-sided paste exposures reducing schedule constraints.

The second permanent access decline continued to progress well with 1,079 metres of decline development (1,282 metres inclusive of associated infrastructure development) completed to date. Development completion is scheduled for late August, supporting increased haulage and ore production through H2.

Innovations in the underground continue to be pursued with the trial of inflatable ‘blast balls’ underway, targeting improved blast hole confinement to further improve fragmentation and reduce unwanted oversize material in stopes.

The Malu pump station procurement and installation will begin in Q3, contributing to an increased capital spend for the underground through H2, as per annual guidance.

## Processing

There was 2.4Mt of ore milled for the quarter, which was in line with the prior quarter. The scheduled concentrator shutdown, inclusive of relining both the ball mill and sag mill, was completed safely and ahead of schedule.

Copper content in concentrate produced was 45 per cent with gold at 16 g/t. Higher quarter on quarter copper head grade was driven by increased underground material mined and processed.

Plant recoveries increased to 89 per cent for copper and 74 per cent for gold as a result of operational improvements made to the cleaner circuit and slightly higher feed grades.

Approximately half of the planned asset preventative maintenance strategy reviews have been completed with the first of the improvement outcomes being prepared for internal approval and implementation early in Q3. The analysis program remains on track for completion in H2, with performance assessments of the initiatives taking place over a rolling 6 to 12 month period.

Technology partners specialising in advanced analytics and machine learning are currently being evaluated, to further optimise plant effectiveness and provide new insights for preventative maintenance strategies.

## Costs

C1 cash costs of US 81c/lb and AISC of US 115c/lb improved over last quarter due to more payable copper and gold produced and less mining expenditure. C1 and AISC remain on track to meet annual guidance.

C1 costs were lower, predominantly due to more copper and gold produced (higher grade and recovery) and lower mining costs with the open pit demobilisation.

Open pit mining unit costs were \$6.52/t for the quarter, which is lower than the prior quarter due to one-off cost savings.

With the open pit fleet demobilisation successfully completed in Q2, open pit unit costs are expected to increase in line with annual guidance, though absolute costs are expected to reduce.

The lower strip ratio this quarter compared to the prior quarter resulted in a smaller mining cost deferral.

Second quarter underground operating costs of \$57/t were within guidance, however year to date costs remain slightly higher at \$62/t due to elevated costs incurred in Q1. The planned completion of the second underground decline in late August will support increased production in H2 and reduce underground operating unit costs to the guided range of \$50 to \$60/t for the year.

## Sales and Marketing

Shipments of Prominent Hill concentrates for the quarter totalled 72,458 dry metric tonnes, containing 32,927 tonnes of copper, 38,006 ounces of gold and 265,295 ounces of silver.

## CARRAPATEENA PROJECT

### Operational Update

Development of the Carrapateena declines are progressing to plan, with total development at 2,049 metres (1,142 metres to the face of the Tjati decline) and a vertical depth of 180 metres. The Tjati decline has moved into the Woomera Shale zone.

Geotechnical and water drilling was completed on the Western Access road during the quarter with results currently under review.

Development of the second decline boxcut is occurring simultaneously to the underground development of the decline. A short waste rise has been mined between the two declines, increasing the heading turnaround time and shortening the bogging cycle. Upon breakthrough into the boxcut, expected in late August, the second decline will be established as the primary ventilation circuit.

The dual decline approach removes the need for airway rises during the initial development phase, provides emergency egress and removes interaction between both mine vehicles and haulage fleet and mining and conveyor maintenance. The reduced profile Tjati decline and smaller second decline require an incremental increase of circa 30 per cent in development waste volumes over the original single larger access decline design. Additional costs associated with increased material movement will be offset with savings from the removal of vent rises, emergency hoist and spillage protection from the original Pre-Feasibility study design.

An update on the Carrapateena project is expected in Q3.

Expenditure for Q2 relating to the Carrapateena project was \$22.4 million.

## TECHNOLOGY PROJECTS

### Concentrate Treatment Plant update

The CTP project advanced on a number of fronts during the quarter.

Test work continued, with a focus on understanding the impact of feed mineralogy on process performance and waste management. This work is critical to planning for treatment of Prominent Hill and Carrapateena concentrates which have different mineralogies. Engineering of a new circuit configuration, known as the S-Circuit have progressed and a further enhancement with potential for lower operating costs known as the C-Circuit is underway. Infrastructure layout concepts were developed for the Port Augusta site in support of the work completed to date. Trade-off studies on flowsheet configuration, logistics, plant throughput, waste disposal options and plant location were completed.

Planning for the Government approvals process advanced with a number of potential pathways identified and community stakeholder meetings commenced.

Expenditure for Q2 relating to the Concentrate Treatment Plant was \$2.6 million.

## WEST MUSGRAVE PROJECT

Significant progress on the further scoping study was made during the quarter with several studies completed.

WSP-Parsons Brinckerhoff have completed the energy study assessing the suitability of renewable (wind, solar, hybrid) and conventional fuel (diesel, gas, LNG) options. Renewable energy options included a more detailed assessment of areas that could provide improved wind resource for potentially siting a large wind farm. The preferred power generation solution is dependent upon the scale of processing throughput and is not expected to be finalised until a later stage.

The water study conducted by CDM Smith evaluating key water related factors for the project has been completed. A detailed desktop assessment of all potential groundwater sources incorporated the results from three groundwater exploration holes that were drilled during the quarter. The study demonstrated multiple water supply options with nearby (<25km) paleochannel aquifers highly likely to have the potential to support water requirements for the project. Final water study results will be released with the further scoping study report.

Qube Bulk have completed the review of transport logistics confirming the export of concentrates through Esperance or Geraldton ports is the preferred route, combining road and rail transport. Transport costs for inbound mine consumables and back-loading options have also been assessed to determine if overall transport costs can be further reduced.

Metallurgical test work designed to cover larger scale and lower head grade process plant options is in progress. The aim of this program is to increase confidence in metallurgical recoveries at lower head grades across primary, transitional and weathered ore domains, with a significant component of the test work covering optimisation of the process flow sheet and testing of alternative reagent regimes. The program is progressing well with completion of all test work expected in late July.

The resource extension drill program at Babel, primarily conducted outside the existing resource, has identified a number of zones where mineralisation remains open. Geological interpretation and modelling of Nebo and Babel is completed with results to be incorporated in a resource update currently underway.

Completion of the West Musgrave further scoping study and decision on progression to Pre-Feasibility Study and 51 per cent earn-in is expected in Q4.

Expenditure on the West Musgrave project for Q2 was \$1.6 million.

## EXPLORATION AND GROWTH

Red Tiger Resources commenced drilling on the Intercept Hill project during the quarter. Three drill holes for ~2,900m were completed. Whilst no significant mineralisation was intercepted, a single drill hole intercepted a substantial thickness of alteration consistent with an IOCG system.

Work on the Eloise project restarted after the cessation of the wet season. Our partners, Minotaur Exploration, completed four holes (~3,000m) testing the Iris and Electra anomalies. All holes intercepted low-grade copper/gold mineralisation with results including<sup>1</sup>:

- EL17D01 intersected 25m @ 0.23% Cu and 0.03g/t Au from 832m

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<sup>1</sup> This information is extracted from the announcements by Minotaur Exploration Limited titled "Drilling Update at Eloise JV, Cloncurry" and "Eloise JV drill results" released on 16 June 10 & July 2017 respectively, and are available at [www.minotaurexploration.com.au/investor-information/asx-announcements](http://www.minotaurexploration.com.au/investor-information/asx-announcements). OZ Minerals is not aware of any new information or data that materially affects the information included in that announcement. OZ Minerals confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from that announcement

- EL17D02 returned low-grade copper and gold in several thin zones including 7m at 0.23% copper and 0.08g/t gold from 836m, corresponding with the down-hole location of the modelled EM conductor.
- EL17D03 intersected 27m @ 0.26% copper and 0.09g/t gold from 536m
- EL17D04 intersected 5m @ 1.00% copper and 0.11g/t gold from 439m within a broader zone of 37m @ 0.31% copper and 0.04g/t gold from 438m.

A ground geophysics program (magnetic and gravity) began on the Alvito project in Portugal, managed and operated by our partners Avrupa Minerals. The extensive survey is expected to be completed in Q3 and drilling will commence shortly afterwards.

The Oaxaca project with Acapulco Gold in southern Mexico commenced an initial field program with a focus on the Riqueza Marina 1 and 2 exploration claims. Geological mapping and sampling was completed and identified areas of hydrothermal alteration which require further investigation.

No work was undertaken on the Coompana project. The scientific drill program, sponsored by Geological Survey of South Australia in conjunction with Geoscience Australia, is still underway.

OZ Minerals withdrew from the Yandal One project with Toro Energy during the quarter as the project failed to meet the required technical hurdles. The project successfully identified laterite nickel mineralisation and ultramafic rocks but no sulphide mineralisation was intercepted.

The collaborative venture with Minotaur Resources on the Mt Woods project completed heritage clearances for the Skylark shear zone (20km NW of Prominent Hill). It is anticipated a 90 line/km EM survey will commence in Q3.

Unaudited exploration expenditure for Q2 was \$3.9 million.

## **CORPORATE**

The gold hedging strategy implemented in April 2016 was extended by another 17,500 ounces during the quarter, bringing the total amount of gold hedged to 236,933 ounces at an average price of A\$1,760/oz. Full exposure to the spot gold price continues to be maintained until mid-2018.

The 2016 income tax provision of \$69 million was paid in June.

Rebecca McGrath succeeded Neil Hamilton as Chairman of the OZ Minerals Board. Tonianne Dwyer and Peter Tomsett joined the Board, replacing positions held by Neil and Paul Dowd.

## Corporate Information

### Webcast

As is OZ Minerals' established practice, a presentation associated with this Quarterly Report will be broadcast at 10am (AEST) on the day that the Report is lodged with the ASX. Access to this live broadcast is available to all interested parties via the OZ Minerals website ([www.ozminerals.com](http://www.ozminerals.com)) and is archived on the website shortly thereafter for ongoing public access. The date of each Quarterly Report presentation is announced in advance and can be found on the OZ Minerals website.

While we will endeavour to release the Report on the date provided in advance, we may bring the announcement forward if the relevant information is finalised earlier than expected or delay the Report if information is not final.

### Issued Share Capital at 24 July 2017

Ordinary Shares	298,664,750
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### Share Price Activity for the June Quarter (Closing Price)

High \$8.44
Low \$6.34
Last \$7.48 (24 July 2017)
Average daily volume 3.5 million shares

### Share Registry

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## OZ Minerals Prominent Hill Production and Costs

Table 1: Operating Statistics

		Q1 2017	Q2 2017	YTD 2017
MINED (TONNES)	MALU OP COPPER-GOLD ORE	3,406,525	3,411,900	6,818,425
	MALU OP GOLD-ONLY ORE	306,627	249,845	556,472
	UNDERGROUND TOTAL ORE	505,835	593,285	1,099,120
	OP WASTE	2,271,226	1,942,903	4,214,129
MINED GRADE SOURCE				
MALU OP - COPPER-GOLD ORE	COPPER (%)	0.98	0.98	0.98
	GOLD (G/T)	0.50	0.55	0.53
MALU OP - GOLD-ONLY ORE	COPPER (%)	0.10	0.12	0.11
	GOLD (G/T)	0.74	0.96	0.84
UNDERGROUND - TOTAL ORE	COPPER (%)	1.84	2.07	1.96
	GOLD (G/T)	0.69	0.71	0.70
ORE MILLED	(TONNES)	2,398,120	2,397,009	4,795,129
MILLED GRADE	COPPER (%)	1.21	1.32	1.26
	GOLD (G/T)	0.47	0.57	0.52
	SILVER (G/T)	3.53	3.55	3.54
RECOVERY	COPPER (%)	86.8	88.8	87.8
	GOLD (%)	72.0	73.5	72.8
	SILVER (%)	72.6	75.4	74.0
COPPER CONCENTRATE PRODUCED	TONNES	54,264	62,772	117,036
CONCENTRATE GRADE	COPPER (%)	46.2	44.9	45.5
	GOLD (G/T)	15.0	15.9	15.5
	SILVER (G/T)	113.4	102.2	107.4
CONTAINED METAL IN	COPPER (TONNES)	25,079	28,163	53,242
CONCENTRATES PRODUCED	GOLD (OZ)	26,135	32,136	58,271
	SILVER (OZ)	197,803	206,213	404,016
TOTAL CONCENTRATE SOLD	(DM TONNES)	41,889	72,458	114,347



Table 2: Operating Costs ('C1 Costs')

<b>US Cents per pound</b>	<b>Q1 2017</b>	<b>Q2 2017</b>	<b>YTD 2017</b>
Mining costs	103.4	87.3	95.0
Deferred mining	(4.0)	(1.4)	(2.7)
Ore inventory adjustment	(26.8)	(24.5)	(25.6)
<b>Total Mining costs</b>	<b>72.6</b>	<b>61.4</b>	<b>66.7</b>
Site processing costs	29.5	27.8	28.6
TC/RC and transport	49.9	52.4	51.2
Net By - Product credit	(62.3)	(69.1)	(65.9)
Other direct cash costs	10.5	8.5	9.5
<b>Total C1 costs</b>	<b>100.2</b>	<b>81.0</b>	<b>90.1</b>
Royalties	15.9	15.8	15.9
Other indirect costs	3.6	3.9	3.8
<b>Total cash costs</b>	<b>119.7</b>	<b>100.7</b>	<b>109.8</b>
D&A	115.9	101.5	108.1
Other non-cash costs (D&A capitalised into inventory)	(41.4)	(40.2)	(40.7)
Net realisable value adj. - low grade gold ore	5.7	(11.3)	(3.3)
<b>Total production costs</b>	<b>199.9</b>	<b>150.7</b>	<b>173.9</b>

Table 3: Guidance

<b>GUIDANCE</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>PROMINENT HILL:</b>			
COPPER PRODUCTION*	105,000 - 115,000 TONNES	90,000 - 100,000 TONNES	90,000 - 100,000 TONNES
GOLD PRODUCTION*	115,000 - 125,000 OUNCES	120,000 - 130,000 OUNCES	120,000 - 130,000 OUNCES
OPEN PIT TOTAL MOVEMENT	15Mt - 20MT	< 5MT	
OPEN PIT STRIP RATIO	CIRCA 0.5 TIMES	CIRCA 0.25 TIMES	
OPEN PIT UNIT MINING COSTS**	\$7.25 - \$7.75/TONNE		
UNDERGROUND ORE MOVEMENT	2.3 - 2.6MT		
UNDERGROUND UNIT MINING COSTS**	\$50 - \$60/TONNE		
UNDERGROUND CAPITAL EXPENDITURE	\$45 - \$55 MILLION (INC. DEVELOPMENT)		
SITE SUSTAINING CAPITAL EXPENDITURE	\$15 - \$20 MILLION		
ALL IN SUSTAINING COST	US 120c – US 130c/lb		
C1 COSTS (OP & UG)	US 85c – 95c/lb		
<b>OTHER:</b>			
EXPLORATION	\$10 - \$15 MILLION		
WEST MUSGRAVE SCOPING STUDY	CIRCA \$3 MILLION		

\*\* Open Pit Unit Mining Costs include geology costs. Underground Unit Mining Costs include geology costs and exclude underground capital expenditure

**\* Production Targets Cautionary Statement**

Production Targets for the Prominent Hill Underground only are based on:

Proved Ore Reserve	47%
Probable Ore Reserve	33%
Measured Mineral Resource	0%
Indicated Mineral Resource	4%
Inferred Mineral Resource	16%

Production Targets for the entire Prominent Hill asset are based on:

Proved Ore Reserve	46%
Probable Ore Reserve	40%
Measured Mineral Resource	0%
Indicated Mineral Resource	3%
Inferred Mineral Resource	11%

The modifying factors used in the estimation of the Ore Reserve were also applied to the Mineral Resources in the generation of the production target. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production targets will be realised.

The Ore Reserve and Mineral Resource Estimate underpinning these Production Targets were prepared by a Competent Person in accordance with the JORC Code 2012. The production targets are the result of detailed studies based on the actual performance of our existing mines and processing plant. These studies include the assessment of mining, metallurgical, ore processing, marketing, government, legal, environmental, economic and social factors.

Further information on Prominent Hill Resources and Reserves is available in the document entitled "Prominent Hill 2016 Mineral Resource and Ore Reserve Statement and Explanatory Notes" which is annexed to the ASX Release entitled "Prominent Hill mine life extended to 2028" released on 15 November 2016 and available at <http://www.ozminerals.com/media/prominent-hill-mine-life-extended-to-2028-and-2016-mineral-resource-and-ore/>. OZ Minerals confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. OZ Minerals confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.