

**September 2016 Quarterly Report** 

28 October 2016

# Boorara Pit Complete Mined 34,000 tonnes at estimated grade of 1.8 g/t

- ► Trial open pit at Boorara to 20 metres depth in the Southern deposit extracted some 34,000 tonnes grading about 1.8 grams per tonne (g/t) gold.
- Milling at FMR Coolgardie mill commenced on October 13<sup>th</sup> and expected completion in early November.
- Milling slower than anticipated due to viscosity of ore but to 20<sup>th</sup> October 15,000 tonnes grading an estimated 1.7 g/t has been treated.
- Metallurgical test work of the Nimbus high grade silver lodes averaging 773 g/t (25 ounces/t) has commenced on the RC chips from Lode 4 and reported a preliminary silver recovery of 83% to silver dore using the Acid Albion leach process.
- The sale of the Coolgardie gold assets to Primary Gold was executed on 10<sup>th</sup> October and final Completion expected in early December 2016.
- Commenced the 4,100 metre Reverse Circulation (RC) drilling below 100 metres at Boorara.
- Cash balance at 30<sup>th</sup> September was A\$2.3m plus A\$0.5m deposit held for the Coolgardie asset sale.



# **Boorara Trial Open Mining**

Boorara Gold Project is located about one (1) kilometre (km) from south-west of MacPherson Resource's (MacPherson's) 100 per cent owned Nimbus Project, which is in turn located 10km east of Kalgoorlie's Super Pit gold mine.

The Boorara trial open pit to 20 metres was approved by your Board to expose the Boorara gold ore body and to further understand the digging and breaking characteristics of the ore and waste. A total of 34,000 tonne of ore grading 1.8 g/t was mined from the Boorara trial pit over a 6 week period.

The trial open pit was situated in the oxide profile of the orebody. The open pit has exposed quartz veining that is associated with gold mineralisation that has been measured confirming the current interpretation. The host to mineralisation at the Boorara trial pit is the quartz rich differentiated oxidized granophyric dolerite. Approximately 20 ounces of gold specimens were recovered from a quartz vein in the wall of the trial pit.

A total of 34,000 wet tonnes of ore was transported to the FMR owned Greenfields Coolgardie mill where it is being treated under a toll treatment agreement. Currently the milling rate is slower than anticipated due to viscosity issues associated with the Boorara oxide ore.



Figure 1: Boorara trial pit coarse gold



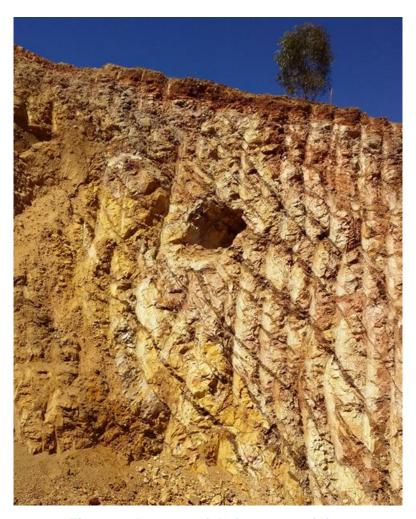


Figure 2: Boorara trial pit quartz veining

# **Previous Nimbus Metallurgical Testing**

In the first half of calendar 2016, the Company's metallurgical test work reported silver recoveries of up to 97.18% from a Nimbus silver zinc concentrate successfully completing the first phase of its processing study for the Nimbus Silver-Zinc Project, assessing flotation models to produce a saleable zinc concentrate followed by a Merrill-Crowe silver leach.

This test work examined options to leach silver from the zinc concentrate to potentially produce higher value, separate silver dore, and zinc concentrate product streams.

Silver recoveries varied depending upon cyanide leaching conditions with best recoveries using high uneconomic levels of cyanide (1000 kg/t NaCN).

## **Current Nimbus Metallurgical Test Work with Core Resources**

The main goals of the current metallurgical test work program are to determine if it is technically and economically feasible to extract silver from the Nimbus high grade silver lodes whilst reducing the cyanide requirement of the silver leach and examining opportunity to increase the grind size.

To support the development of the project, MacPhersons appointed Core Resources in late July 2016 to



undergo a desktop study investigating three possible technologies, as well as preliminary test work supporting the analysis of these options.

We anticipate a final report on the outcomes of the preliminary test work in November 2016.

## **Desktop study**

The desktop study by Core Resources reported the following three processes may be applicable:

- 1. Acid Albion Leach in summary, the Albion Process involves;
  - an ore crush to 80% passing 75 microns or at least 106 microns then feed to an IsaMill crushing to 8-10 microns ("fines").
  - Add sulphuric acid and oxygen to the Albion Leach ("fines") to break down the sulphides and sulphates.
  - Then Screen via a Solid Liquid Separation a thickener or a filter (or both).
  - Most of the zinc and impurities stay in solid or tail of thickener and silver/lead in solution.
  - Silver/lead Solution undergo cyanide leach then screen out via thickener or filter with mostly silver sent to Merrill-Crowe to produce a dore.
- A Sodium-assisted Alkaline Albion Leach-similar to Acid Leach but initially add lime instead of sulphuric
  acid. In addition, a flotation circuit is added in order to float the final zinc/silver mix with the silver solids
  sent to cyanide leach, then to the Merrill-Crowe;
- 3. ITOS Chloride Leach.

## Core Resources preliminary test work

The essence of the preliminary test work is to specifically look at:

- Producing a silver dore (or bar) product and/or a saleable zinc concentrate/precipitate;
- Managing impurities and allowing for a stable residue product to be formed; and,
- Provide an order of magnitude for capital and operating cost estimates.

In August, MacPhersons sent Core Resources 37 kilograms of Reverse Circulation (RC) chips from the high grade silver zone, Lode 4.

We have near completed the test work using the RC chips on the three processes and Core has determined that the Acid Albion Leach process reported the best result for an 83% silver recovery. The ITOS Chloride leach test was unsuccessful.



# **Sale of Coolgardie Gold Assets**

On 10<sup>th</sup> October 2016, MacPhersons Resources Limited ("MacPhersons") announced the Company had executed a Share Sale Agreement ("Agreement") with Primary Gold Limited ("Primary") for the sale of its 100% owned Coolgardie gold assets. The sale is to be effected through the sale of MacPhersons 100% owned subsidiary company MacPhersons Reward Pty Ltd.

Under the Agreement, Primary will pay MacPhersons A\$10m. The Agreement will be satisfied by A\$5m in cash, to be paid in instalments over a 12-month period and A\$5m comprised of 40 million Primary ordinary shares with an issue price of 12.5 cents per share. The Primary ordinary shares will be subject to escrow periods as detailed below over 12 months from Completion.

Final Completion of the sale of the Assets and all final regulatory approvals is expected to occur following approval of the allotment of 40 million Primary shares at the Primary Annual General Meeting in late November 2016.

The Agreement covers the entire MacPherson's tenure in the Coolgardie gold belt some 39 kilometres west of Kalgoorlie in Western Australia.

Commenting on the decision to sell the Coolgardie gold assets, MacPherson's Managing Director Jeff Williams said:

"The sale is part of our plan to focus on our core assets at the Nimbus silver and Boorara gold advanced projects, 10 kilometres south-east of Kalgoorlie. In addition, we will now be able to take advantage of our highly prospective exploration tenements adjacent to the Kalgoorlie super pit and minimise our financial commitments outside our core advanced projects".

The consideration will be paid to MacPhersons as set out below.

#### Cash Consideration

- 1. A\$0.5m deposit in cash has been received;
- 2. On Completion under the Agreement, Primary pay A\$1.5m to MacPhersons;
- 3. Six (6) months from Completion, Primary pay A\$1.5m to MacPhersons;
- 4. 12 months from Completion, Primary pay the final cash payment of A\$1.5m to MacPhersons;

#### **Share Consideration**

The issue of Primary Shares to MacPhersons are as follows:

- 1. The 40 million shares at an issue price of 12.5 cents per share.
- 2. The Shares will be escrowed in three equal tranches over the 12 months from Completion:
  - a. One third of the Primary ordinary shares or 13,333,333 will be escrowed for six (6) months;
  - b. The second tranche of Primary shares of 13,333,333 will be escrowed for nine (9) months, and
  - c. The final tranche of 13,333,334 Primary shares will be escrowed for 12 months.

The Agreement contained terms, conditions and warranties consistent with agreements of this nature.



## Corporate

# Cash balance at 30 September 2016 was A\$2.3m and A\$0.5 held in trust for the Coolgardie asset sale.

Cash used during the quarter amounted to A\$1.1m, representing mainly payments for trial mining operations, metallurgical test work and administration costs. The cash balance as at 30<sup>th</sup> September 2016 stood at A\$2.3m. For the December quarter, there will be administration costs, ongoing expenses for studies on the Core Resources test work in Brisbane, the payment for exploration and mining at Boorara, and milling operations at the FMR facility in Coolgardie.

## For further information please contact:

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**OR** 

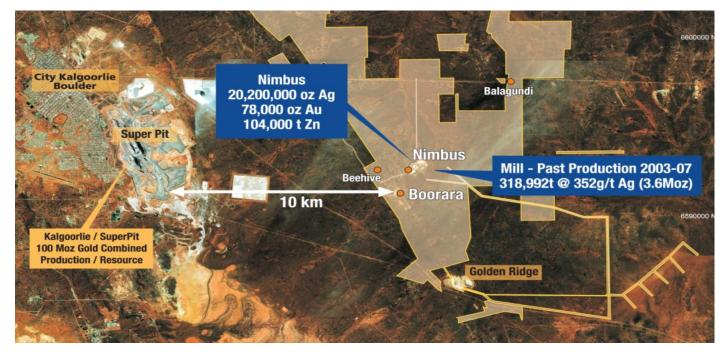
Andrew Pumphrey General Manager +61 419 965 976

## **About MacPhersons**

MacPhersons Resources Ltd (MRP) is a Western Australian resource company with a number of advanced gold, silver and zinc projects.

The company's long term objective is the development of its existing assets and unlocking the full potential of its 100% owned highly prospective Boorara/Nimbus and Coolgardie projects.

For more information on MacPhersons Resources Limited and to subscribe for regular updates, please visit our website at: <a href="www.mrpresources.com.au">www.mrpresources.com.au</a> or contact our Kalgoorlie office on <a href="mailto:info@mrpresources.com.au">info@mrpresources.com.au</a> or - 08 9068 1300.





# **Competent Person's Statement**

The information is this report that relates to exploration results, mineral resources and ore reserves is based on information compiled by Andrew Pumphrey who is a Member of the Australian Institute of Geoscientists and is a Member of the Australasian Institute of Mining and Metallurgy. Andrew Pumphrey is a full time employee of Macphersons Resources Ltd and 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 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". Mr Pumphrey has given his consent to the inclusion in this report of the matters based on the information in the form and context in which it appears.

# **Schedule of mining Tenements**

Project	Location	Tenement Number	Economic Entity's Interest at Quarter End	Change in Economic Entity's Interest During Quarter
MacPhersons Reward	Coolgardie, WA	L15/312	100%	No Change
MacPhersons Reward	Coolgardie, WA	LA15/352	100%	No Change
MacPhersons Reward	Coolgardie, WA	M15/0040	100%	No Change
MacPhersons Reward	Coolgardie, WA	M15/0128	100%	No Change
MacPhersons Reward	Coolgardie, WA	M15/0133	100%	No Change
MacPhersons Reward	Coolgardie, WA	M15/0147	100%	No Change
MacPhersons Reward	Coolgardie, WA	M15/0148	100%	No Change
MacPhersons Reward	Coolgardie, WA	M15/1808	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/4792	0%	Surrendered
MacPhersons Reward	Coolgardie, WA	P15/4793	0%	Surrendered
MacPhersons Reward	Coolgardie, WA	P15/4794	0%	Surrendered
MacPhersons Reward	Coolgardie, WA	P15/4795	0%	Surrendered
MacPhersons Reward	Coolgardie, WA	P15/5261	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/5273	0%	Surrendered
MacPhersons Reward	Coolgardie, WA	P15/5274	0%	Surrendered
MacPhersons Reward	Coolgardie, WA	P15/5719	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/5720	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/5721	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/5722	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/5723	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/5724	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/5725	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/5901	100%	No Change
MacPhersons Reward	Coolgardie, WA	P15/5902	100%	No Change



Project	Location	Tenement Number	Economic Entity's Interest at Quarter End	Change in Economic Entity's Interest During Quarter
Nimbus/Boorara	Kalgoorlie, WA	E25/511	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	L25/0032	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	L26/0240	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	L26/0252	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	L26/0266	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	LA26/0275	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	L25/0035	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	L25/0036	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	L26/0270	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	L26/0274	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	M25/0355	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	M26/0029	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	M26/0161	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	M26/0277	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	M26/0318	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	M26/0490	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	M26/0598	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2003	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2004	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2005	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2006	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2007	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2014	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2015	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2016	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2017	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2061	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2068	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2069	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2192	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2193	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2194	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2195	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2196	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2229	0%	Surrendered



Project	Location	Tenement Number	Economic Entity's Interest at Quarter End	Change in Economic Entity's Interest During Quarter
Nimbus/Boorara	Kalgoorlie, WA	P25/2230	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P25/2231	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P25/2247	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2261	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2292	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P25/2322	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3634	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3635	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3636	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3640	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3699	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3700	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3704	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3741	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3742	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3791	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3792	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3793	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3794	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3795	100%	No Change
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Nimbus/Boorara	Kalgoorlie, WA	P26/3797	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/3798	100%	No Change
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Nimbus/Boorara	Kalgoorlie, WA	P26/3800	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/4020	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/4035	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/4036	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/4053	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/4054	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P26/4055	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4199	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4200	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4201	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4202	100%	Under Application



Project	Location	Tenement Number	Economic Entity's Interest at Quarter End	Change in Economic Entity's Interest During Quarter
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4203	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4204	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4205	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4206	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4207	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	PLA26/4208	100%	Under Application
Nimbus/Boorara	Kalgoorlie, WA	P27/2041	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2042	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2043	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2044	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2045	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2050	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2051	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2052	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2118	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2119	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2120	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2121	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2122	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2123	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2124	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2125	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2126	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2127	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2128	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2129	0%	Surrendered
Nimbus/Boorara	Kalgoorlie, WA	P27/2138	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2139	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2140	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2141	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2142	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2146	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2147	100%	No Change
Nimbus/Boorara	Kalgoorlie, WA	P27/2148	100%	No Change