

## ASX / MEDIA ANNOUNCEMENT

ASX: NCZ

## **Quarterly Activities Report December 2018**

#### Processing Plant

- Processing plant load commissioning and ramp up continuing, with strong progress made in overall plant availability and stability during Q4 2018
- Consistent progressive increase in zinc and silver recoveries through the quarter
- Operations now regularly achieving 40-45% total zinc recovery (~70% of overall target nameplate recovery), with up to 49% total zinc recovery recently achieved
- Quarterly production of 25,500t of zinc concentrate from tailings operations at a grade averaging 47.0% Zn, 7.5% Pb, 6.5% SiO<sub>2</sub> & 150g/t Ag
- Continued improvement in overall grade, with operations now consistently above the average Q4 2018 grade, producing a 47% 51% zinc concentrate
- The progressive improvements in both recovery & grade during the quarter has resulted in a 55% increase in the average monthly production rate of zinc metal
- New Century is now targeting continued progression toward full nameplate plant recoveries in Q2 2019

### Shipping & Sales

- Total 25,000t of zinc concentrate shipments to date (China & Europe)
- China shipping & sales:
  - First shipment into China (11,000t) completed
  - Further spot sales into China under contract, with next shipment (22,000t) scheduled for March 2019 and monthly shipments anticipated to follow
  - Total 40,000t to date in sales to China completed or under contract
- Europe shipping & sales:
  - First spot sale & ship loading of zinc concentrate for Europe (14,000t) complete
  - Further European spot sale under contract (11,000t shipment February 2019)
  - Total 25,000t to date in sales to Europe completed or under contract



 Initial European shipment represents the first zinc concentrate delivered to New Century's current long term offtake partners

### Hydraulic Mining

- Mining ramp up continuing, with improved operational stability during Q4 2018
- Implementation of a third mining cannon and an additional pump train underway, targeting production increase to a minimum 8Mtpa and up to 10Mtpa
- Continued strong reconciliation of mining grade to the ore reserve model, with the ore grade mined during Q4 2018 averaging 2.95% Zn
- New Century is targeting an overall hydraulic mining development timeline of Phase 1 mining rate (8Mtpa) by the end of Q1 2019 and full ramp up to Phase 2 mining rate (15Mtpa) by end of 2019

## Other

- The Expansion PFS, which is assessing potential for development of insitu zinc & lead resources, now due for completion at the end of Q1 2019, in line with completion of Phase 1 ramp up of tailings mining rate
- Completion of A\$40M senior secured debt facility with NAB

**New Century Resources Limited (Company or New Century) (ASX:NCZ)** is pleased to provide an update on load commissioning and operational ramp up at Century during Q4 2018.



# **Operational Developments**

#### **Processing Plant**

- Plant load commissioning and operational ramp up continued throughout Q4 2018, with a progressive increase in all aspects of production, including metal recovery, concentrate tonnage and overall product quality
- Consistent increase in zinc and silver recoveries throughout Q4 2018, with the operations now regularly achieving 40-45% total zinc recoveries (i.e. ~70% of overall target nameplate recovery) and up to 49% total zinc recovery recently achieved
- Continued improvement in rougher/scavenger recovery, which is now achieving up to full target nameplate recovery
- Continued program of bottleneck removal in the cleaner circuit, with the first implemented initiatives already providing a step change in recovery performance
- Q4 2018 concentrate production of 25,500t at 47.0% Zn, 7.5% Pb, 6.5% SiO<sub>2</sub> and 150g/t Ag
- Progressive load commissioning process and plant improvements initiatives have resulted in the average monthly production rate of zinc metal increasing by over 55% during the quarter

During the quarter the Company continued the process of plant load commissioning and operational ramp up. Strong progress to overall plant availability and stability has been made to date, which is reflected in continued improvements to all production metrics including the operations now regularly achieving 40-45% total zinc recovery (~70% of overall target nameplate recovery).



Figure 1: Century's processing plant ramp up performance against other ASX listed start-up operations through to the end of Q4 2018 (Source: public company data & Credit Suisse estimates)

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As shown in Figure 2 below, within the overall recovery increase achieved to date, the individual circuits all continue to improve, via:

- the rougher/scavenger circuit now achieving up to 100% of target nameplate recovery (i.e. up to 70% of total zinc in the feed recovered into the rougher/scavenger concentrate); and
- the first initiatives associated with the progressive removal of bottlenecks in the cleaner circuit providing a step change in recovery performance.

The performance of the rougher/scavenger circuit achieving up to 70% total recovery of zinc from the plant feed is significant, in that only zinc recovered by this circuit can ultimately report to final product after the cleaning stage.



Figure 2: Flowsheet of operations at the Century Zinc Mine annotated for the current performance of each unit process during the course of the load commissioning process

The plant operations team is also targeting progressive improvement in concentrate quality toward New Century's target long term steady state concentrate specification (see Figure 5). During the quarter, the Company continued to improve the stability of concentrate quality, producing saleable commissioning grade concentrate averaging 47.0% Zn, 7.5% Pb and 6.5% SiO<sub>2</sub> and 150g/t Ag.

The overall grade has continued to improve throughout the quarter, with the operations now above the average Q4 2018 grade, consistently producing a 47% - 51% zinc concentrate.

As discussed in the 'Shipping & Sales' section of this report, the Company has experienced strong demand for its current commissioning grade concentrate to date, which is anticipated to continue as concentrate quality improves through the load commissioning process.

Focus for the plant during Q1 2019 remains on maintaining plant uptime and steady state operations, while continuing the implementation of process improvements, in particular those associated with the cleaner circuit.





Figures 3 & 4: Cleaner 1A operational and 1B now online (left) & installation of pipe racks as part of the refurbishment and upgrade of launder spray and reagent dosing systems (right)

|                  | New Century<br>Steady State<br>Specification | New Century<br>Commissioning<br>Specification | McArthur<br>River<br>(Glencore) | Dugald River<br>(MMG) | Gamsberg<br>(Vedanta) | Red Dog<br>(Teck) |
|------------------|--|---|---------------------------------|-----------------------|-----------------------|-------------------|
| Zn               | 51 - 54.5 %                                  | 46 - 50 %                                     | 47%                             | 52%                   | 50%                   | 55.6%             |
| Fe               | 0.8 - 2.0 %                                  | 1.5 - 4.5 %                                   | 5.9%                            | 11.0%                 | 8.9%                  | 5.0%              |
| Mn               | <0.15 %                                      | <0.15 %                                       | <0.01 %                         | 2.0%                  | 2.6%                  | <0.01 %           |
| SiO <sub>2</sub> | 5.0 - 7.5 %                                  | 3.0 - 7.0 %                                   | 4.6%                            | 3.5%                  | 2.0%                  | 4.5%              |
| С                | 3.0 - 5.0 %                                  | 3.0 - 5.0 %                                   | <0.1%                           | <0.1%                 | 0.2%                  | <0.1%             |
| Cd               | 0.08 - 0.15 %                                | 0.08 - 0.15 %                                 | 0.12%                           | <0.1 %                | <0.1 %                | 0.4%              |
| As               | <0.01 %                                      | <0.01 %                                       | 0.20%                           | 0.02%                 | <0.01 %               | 0.02%             |
| Hg               | <50 ppm                                      | <50 ppm                                       | 40 ppm                          | 15 ppm                | 22 ppm                | 80 ppm            |
| Cu               | <0.6 %                                       | <0.6 %  | 1.1%                            | 0.2%                  | O.1%                  | 0.2%              |
| Pb               | 1.2 - 3.0 %                                  | 6.0 - 10.0%                                   | 4.6%                            | 0.2%                  | O.1%                  | 3.8%              |
| S                | 27 - 30 %                                    | 27 - 30 %                                     | 30.0%                           | 31.0%                 | 29.4%                 | 31.7%             |
| Ag               | 50 - 250 ppm                                 | 100 - 200 ppm                                 | 130 ppm                         | 80 ppm                | 2 ppm                 | 150 ppm           |

Figure 5: Peer concentrate comparison of New Century's current commissioning concentrate and targeted steady state specification (Source: Wood Mackenzie, August 2018, note peer concentrate specifications are indicative only and may not represent current concentrate qualities)

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### Shipping & Sales

- First shipment of 11,000t of New Century concentrate into China complete
- Further subsequent spot sale contracts into China in place & first spot sales into Europe
- Total 25,000t of shipments completed to date
- Shipments into Europe include the first purchase and delivery of zinc concentrate to New Century's existing long term offtake partners

During the quarter, the Company continued to ramp up activities associated with its concentrate slurry pipeline, port facility and transhipment vessel, culminating in the successful restart of regular concentrate shipments from the mining operations.

To date 25,000t of zinc concentrate produced from the operations has been shipped, with exports destined for smelters in both China and Europe. The first shipment to China has been completed and the second shipment has been loaded and is en-route to Europe.

Completed shipments to date have received no penalties for lead or carbon and only an immaterial penalty for silica.

| Data    | Contracted Shipments (delivered or scheduled) |          |  |  |  |
|---------|---|----------|--|--|--|
| Date    | China   | Europe   |  |  |  |
| Q3 2018 | -   | -        |  |  |  |
| Q4 2018 | 11,000t                                       | 14,000t* |  |  |  |
| Q1 2019 | 22,000t                                       | 11,000t  |  |  |  |
| Total   | 33,000t                                       | 25,000t  |  |  |  |

Table 1: New Century current and projected shipping metrics

\* Shipment loading and payment completed early January 2019

The Company has received continued strong demand for its current commissioning grade concentrate, with 33,000t of Q1 2019 production already under sales contract.

Regular spot sales into China have been achieved via pre-payment contracts, with 11,000t of 40,000t delivered into those contracts to date. The next shipment into China (22,000t) is scheduled for March 2019, after which regular monthly shipments are anticipated to follow.

Spot sales into Europe have been via CIF contracts, with 14,000t of 25,000t delivered into those contracts to date. The next shipment into Europe is scheduled for February 2019, with production of concentrate for this shipment nearing completion.

The first European shipment also represents the first sale to New Century's long term offtake partners. New Century continues to progress the overall concentrate quality towards its steady state specification (see Figure 5), following which it anticipates regular supply to all existing long term offtake partners.





Figure 6: First grab of New Century concentrate associated with the initial shipment into China



Figure 7: Discharge of New Century concentrate onto a port stockpile in China

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### Hydraulic Mining

- Hydraulic mining progressive ramp up continued throughout Q4 2018
- Mining grades reconciling strongly with the ore reserve model, averaging 2.95% Zn as expected
- Process underway for installation of a third cannon and an additional pump train, to boost the overall mining rate consistently above 8Mtpa and up to 10Mtpa

During the quarter the Company continued the hydraulic mining ramp up toward the Phase 1 nameplate mining rate (8Mtpa), with the operations currently achieving a rate of up to 7.3Mtpa.

The mining grades during operations to date have reconciled strongly with the mine plan, averaging 2.95% Zn over the quarter.



Figure 8: Century's hydraulic mining ramp up performance against other ASX listed start-up mining operations to the end of Q4 2018 (Source: public company data & Credit Suisse estimates)

New Century's mining contractors NPE are currently rolling out the installation of a third cannon (currently two in operation) and an additional high pressure water pumping train in order to bring the operation to a consistent rate above a minimum 8Mtpa and up to 10Mtpa.

The installation of the third cannon at the hydraulic mining operations forms part of the Company's existing planned overall expansion up to a 15Mtpa mining rate as part of the Phase 2 process (at which time a total of five cannons are scheduled to be in operation).



The third cannon and pump train are targeted to be online by the end of Q1 2019. Other areas of focus for the hydraulic mining operations for Q1 2019 are on maintaining consistent uptime, steady state feed density and continuing the ramp up process.





Figures 9 & 10: Overview of hydraulic mining progress at the Century Mine

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## Expansion Prefeasibility Study Continuing

During the quarter the Company continued the Expansion PFS to investigate the incorporation of Century's existing in-situ Mineral Resources into the current tailings only mine plan.

As outlined in the Restart Feasibility Study (see ASX announcement 28 November 2017), once steady operations at 8Mtpa have been achieved (Phase 1), the operations are scheduled to ramp-up in Phase 2 to 15Mtpa on tailings via refurbishment of the remainder of the plant.

While the Company remains fully committed to the Phase 1 operational ramp up, it is assessing the potential for an improved project value proposition via replacing the Phase 2 expansion on tailings only to instead compliment the tailings operations with the introduction of in-situ Mineral Resources on the mining lease (9.3Mt at 10.8% Zn + Pb & 66g/t Ag - see statement of JORC 2012 Resources & Reserves in this report).

New Century considers that the PFS has the potential to increase the previously announced (tailings only) 6.3-year mine life and 264,000tpa full scale zinc metal production. Different blending strategies, as well as plant configurations, are being investigated to determine the optimum pathway for zinc and lead production from the expanded operations.

Should New Century elect to expand operations via the insitu Mineral Resources, the Company will refurbish the existing carbon and lead floatation circuits within the plant, enabling production of separate zinc and lead concentrates as per historical operations.

Completion and release of the PFS has been delayed until the end of Q1 2019, with all resources of the Company fully focused on the ramp up process for Phase 1 of the current tailings operations. Once the completion of Phase 1 ramp up is at or nearing completion, the Company will finalise the Expansion PFS, allowing the selected mine plan and plant configuration from the PFS to form the basis of detailed design work. Pending the successful outcome of this work, the selected flow sheet will then be progressively incorporated into site operations.

### 2018 Exploration IP Program

During the quarter, the Company completed its 2018 Exploration Program, with the focus being an Induced Polarisation (IP) survey over a section of the Mining Lease considered prospective for further Century style mineralisation.

Work completed to date has now formed the basis of drill planning of identified targets, which is scheduled to occur in Q2 2019 on completion of the wet season.



# **Corporate Developments**

#### Completion A\$40M Debt Facility with NAB

During the quarter the Company completed a A\$40M senior secured debt and bank guarantee facility with National Australia Bank (ASX:NAB).

Provision of this facility followed an extensive process of technical, commercial and legal due diligence by NAB and the facility is believed to represent the first project debt financing package provided for a mine rehabilitation and tailings reprocessing operation by a 'Big 4' Australian bank.

## **Other Projects: Kodiak Coal Project (NCZ 70%)**

The Kodiak Coal Project is currently on care and maintenance.

The Company continues to consider options with regard to the future of the Kodiak Coking Coal Project in Alabama, USA, including assessing options in relation to financing, joint venture opportunities or a disposal of the asset.

To learn more, please visit: <u>www.newcenturyresources.com</u>

For further information, please contact:

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| Mineral<br>Resources           | Tonnes<br>(Mt)        | Zn<br>(%)          | Pb<br>(%)        | Ag<br>(g/t)       | Zn (t)            | Pb (t)            | Ag (Oz)               |
|--------------------------------|-----------------------|--------------------|------------------|-------------------|-------------------|-------------------|-----------------------|
| South Block<br>(Indicated)     | 6.1                   | 5.3                | 1.5              | 43                | 322,000           | 90,000            | 8,550,000             |
| Silver King<br>(Inferred)      | 2.7                   | 6.9                | 12.5             | 120               | 186,000           | 337,500           | 10,500,000            |
| East Fault Block<br>(Inferred) | 0.5                   | 11.6               | 1.1              | 48                | 60,000            | 5,500             | 800,000               |
|                                |                       |                    |                  |                   |                   |                   |                       |
| TOTAL                          | 9.3                   | 6.1                | 4.7              | 66                | 568,000           | 433,000           | 19,850,000            |
| TOTAL<br>Ore Reserves          | 9.3<br>Tonnes<br>(Mt) | 6.1<br>ZnEq<br>(%) | 4.7<br>Zn<br>(%) | 66<br>Ag<br>(g/t) | 568,000<br>Zn (t) | 433,000<br>Pb (t) | 19,850,000<br>Ag (Oz) |

#### Statement of JORC 2012 Compliant Resources & Reserves

#### Zinc Equivalent Calculation

ZnEq was calculated for each block of the Century Tailings Deposit from the estimated block grades. The ZnEq calculation takes into account, recoveries, payability (including transport and refining charges) and metal prices in generating a zinc equivalent value for each block grade for Ag and Zn. ZnEq = Zn%+ + Ag troy oz/t\*0.002573. Metal prices used in the calculation are: Zn US\$3,000/t, and Ag US\$17.50/troy oz.

#### Competent Persons Statement

#### Mineral Resources

The information in this announcement that relates to Inferred Mineral Resources on the Silver King Deposit and the East Fault Block Deposit was first reported by the Company in its prospectus released to ASX on 20 June 2017, and the South Block Deposit was first reported by the Company to the ASX on 15 January 2018. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements, 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. The Company 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.



#### Ore Reserves

The information in this announcement that relates to the Ore Reserve at the Century Tailings Deposit was first reported by the Company in its ASX announcement titled "New Century Reports Outstanding Feasibility Results that Confirm a Highly Profitable, Large Scale Production and Low Cost Operation for the Century Mine Restart" dated 28 November 2017. The Company 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. The Company 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.

#### Appendix 1:

The following information is provided pursuant to Listing Rule 5.3.3 for the quarter ended 31 December 2018:

| Project                       | Location               | Status      | Interest |
|-------------------------------|------------------------|-------------|----------|
| Century Zinc Mine             | Queensland, Australia  |             |          |
| ML 90058                      | Mt Isa                 | Granted     | 100%     |
| ML 90045                      | Mt Isa                 | Granted     | 100%     |
| EPM 10544                     | Mt Isa                 | Granted     | 100%     |
| EPM 26722                     | Mt Isa                 | Granted     | 100%     |
| EPM 26772                     | Mt Isa                 | Granted     | 100%     |
| EPM 26812                     | Mt Isa                 | Granted     | 100%     |
| EPM 26873                     | Mt Isa                 | Granted     | 100%     |
| EPM 26868                     | Mt Isa                 | Application | 100%     |
| EPM 26874                     | Mt Isa                 | Application | 100%     |
| EPM 26778                     | Mt Isa                 | Application | 100%     |
| EPM 26976                     | Mt Isa                 | Application | 100%     |
| Kodiak Coking Coal Project    | Alabama, USA           |             |          |
| Coke Seam, Gurnee Property    | Shelby & Bibb Counties | Lease       | 70%      |
| Atkins Seam, Gurnee Property  | Shelby & Bibb Counties | Lease       | 70%      |
| Gholson Seam, Gurnee Property | Shelby & Bibb Counties | Lease       | 70%      |
| Clark Seam, Gurnee Property   | Shelby & Bibb Counties | Lease       | 70%      |