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# **Pioneer Resources Limited (ASX: PIO)**

#### **QUARTERLY ACTIVITIES REPORT**

#### FOR THE PERIOD ENDED 30 SEPTEMBER 2016

**31 October 2016, Pioneer Resources Limited ("Pioneer" or the "Company" (ASX:PIO))** is continuing to execute its strategy of advancing demand-driven mineral commodity projects, resulting in substantial progress to its quality lithium and gold projects in Ontario, Canada and Western Australia.

- With cash reserves of \$5.4 million at the end of the quarter, a very active exploration programme will continue during the last quarter of 2016 and into 2017;
- Primary focus is to continue to advance lithium targets. Drilling Approval for the Mavis Lithium Project
  received on 28 October 2016, and drilling crews prepare to mobilise. Drill-ready lithium and caesium
  targets at the Pioneer Dome will be further advanced this quarter as well;
- Drilling at the Blair Dome Nickel Project, partially funded under the State-Awarded EIS scheme, is planned for late 2016 / early 2017; and
- A Joint Venture with Northern Star Resources Limited (ASX: NST) is expected to expedite exploration
  programmes at the Acra Gold Project, and provides a clear future option for mining and treatment
  following a significant gold discovery.

During the quarter the Company announced that very exciting drill results were returned from the first round of drilling at the Company's Pioneer Dome Lithium Project. The drill programme resulted in the discovery of a previously unrecognised, extensive, Lithium Caesium Tantalum ("LCT") Pegmatite field, with several significant lithium intersections and a very high grade caesium drill intersection returned.

#### PIONEER DOME Lithium Project -Eastern Goldfields, WA

Work completed included the maiden 5,233m, 64 hole RC drilling programme, plus approximately 10,000 soil geochemistry samples taken for new target generation, along with concurrent geological mapping.

The RC drilling programme returned significant results from the PEG008A lithium target, including:

PDRC015 7m at 1.52%Li₂O from 52m in PDRC015 and 6m at 27.7% Cs₂O from 47m
 PDRC021 12m at 1.37%Li2O from 54m and 10m at 408ppm Ta₂O₅ from 54m
 PDRC056 6m at 1.79% Li₂O from 48¹
 PDRC057 12m at 1.41% Li₂O from 60¹
 PDRC059 5m at 2.08% Li₂O from 37m

 All pegmatite targets identified within the 14km long Eastern Pegmatite Corridor have now been soil sampled. Approximately 10,000 pXRF screening analyses are being processed and from these, groups of samples anomalous in "LCT" elements will be commercially analysed for Li. Geochemistry programmes are continuing progressively along eastern and southern Pioneer Dome targets. • Initially, drilling is being planned to further test the high grade caesium mineralisation intersected in PDRC015, with further lithium-focussed drilling to follow.

#### MAVIS LAKE and RALEIGH Lithium Projects - Spodumene Pegmatites in Ontario, Canada

- The Company further expanded its Ontario tenement holding by way of new tenement applications adjacent to the current projects;
- Raleigh and Mavis Lake are 60km apart and are within a trucking distance should the projects be developed. Both projects have drill intersections of high grade lithium-bearing spodumene;
- Work this quarter included:
  - o Mavis litho-geochemistry: 372 samples. Approximately 30% of assays have been received
  - Raleigh litho-geochemistry: samples: 401 samples. To date no assay results have been received
  - Mavis ground magnetic surveys: Three grids totalling 340 line kilometres
  - o Raleigh drone-platformed aeromagnetic survey: commenced
  - Negotiations leading to the award of a Drilling Approval involving Ministry of Northern Development and Mines (MNDM) and a number of First Nations stakeholders.
- A budget of C\$1,000,000 has been approved for the current financial year, principally for up to 3,000m of diamond drilling split between the Mavis Lake and Raleigh projects.
- Final preparation for drilling to commence at the Mavis Project is underway following the receipt of a Drilling Approval from the MNDM, issued on 28th October 2016.
- A Drilling Proposal for the Raleigh Project will be submitted for approval when litho-geochemistry with mapping, and stakeholder consultations are completed. Pioneer's Managing Director, David Crook, attended pre-requisite meetings with First Nations Bands from the Kenora-Thunder Bay area during October 2016. Subject to the timely receipt of the Drilling Approval, drilling may commence late in the first quarter of 2017.

#### ACRA Gold Project – Joint venture with Northern Star

- Subsequent to the end of the September 2016 quarter the Company announced that it had finalised an agreement with gold miner Northern Star Resources Limited ("NST") by which NST may earn up to a 75% Project Interest in the Acra Gold Project by satisfying the following:
  - NST will acquire an initial 20% of the Acra Gold Project by making a cash payment of \$500,000;
  - NST will then have the option to acquire an additional 55% (total 75%) of the Project by expending \$3M over three years.
  - o Importantly, when NST has earned its 75% Joint Venture Interest, Pioneer will remain 25% holders of the project and be free carried to point of an approval by the Department of Mines and Petroleum of a mining proposal. Details of this transaction were detailed in an ASX announcement dated 20 October 2016.

#### BLAIR Nickel Project – EIS-subsidised Drilling to Test the Blair Dome Concept

- A geological model update for the interpreted Blair Dome was completed using all current geological, geochemical and geophysical knowledge of the project;
- EIS funding award of up to \$86,500 for drilling to test the Blair Dome structural concept.

Pioneer's Managing Director David Crook said. "We are entering a period of substantial work for our Western Australian and Canadian lithium projects; and by attracting the experienced and successful Northern Star Minerals to the Acra Project speaks not only to the significant potential of the project, but also de-risks Pioneer financially, and exploration momentum should increase. We look forward to working with our joint venture partners together of course with our own Western Australian team to deliver results from key Projects as rapidly as possible."

#### **CORPORATE**

At 30 September 2016 the Company had cash reserves of \$5.4 million and no debt.

Earlier in the quarter, Pioneer completed a successful Share Purchase Plan (SPP) which raised a total of \$1,518,300 (before issue costs). In addition to these shares a prospectus was lodged with ASIC on 24 September 2016 for the offer of one listed option for every three shares subscribed for as a part of the SPP. This offer closed on 7 October 2016 and resulted in an additional 14.06 million listed options being issued on 12 October 2016. These listed options are exercisable at \$0.06 each and expire on 31 July 2018.

A General Meeting of the Company was held on 13 September 2016 to approve and ratify previous share issues under various placements and the offer of options to SPP subscribers as well as and the issue of Director options.



Clockwise from top. Spodumene in outcrop at PEG018 drill site; During October, Pioneer's Managing Director David Crook visited Mavis Lake drill sites; Helicopter Drone used for aeromagnetic survey at the Raleigh Prospect; Claim peg marks the corner of a new ILC-Pioneer tenement at the Raleigh Project.

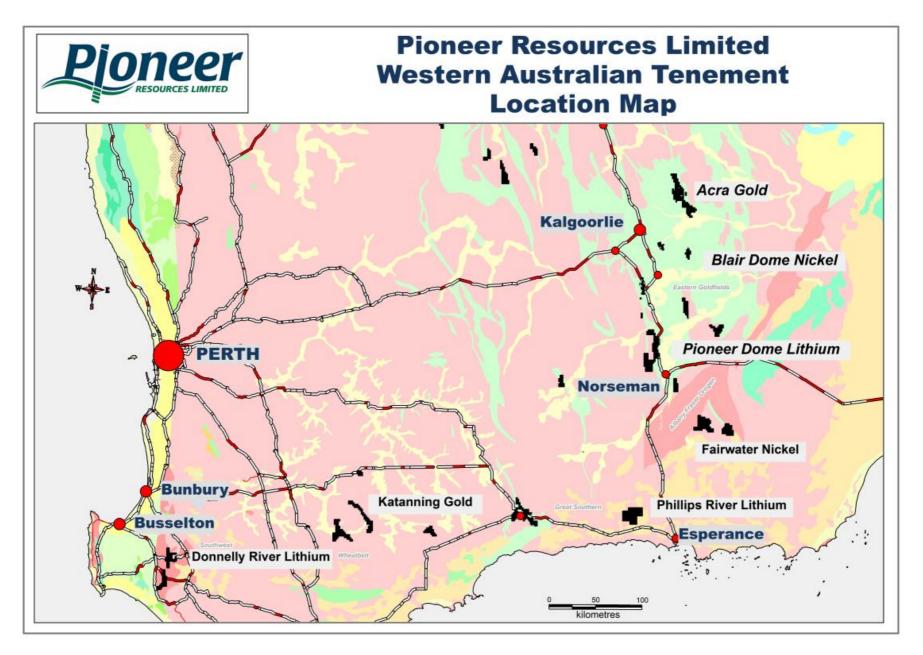


Figure 1: Pioneer Resources Limited Western Australian Tenement Location Plan. Further tenement information is listed in Appendix 1.

#### **EXPLORATION REVIEW: SEPTEMBER 2016.**

The Company's strategy is to actively explore for key, global demand-driven commodities in highly prospective geological domains, in areas with low geopolitical risk and with established infrastructure. The Company's portfolio includes high quality lithium assets in Canada and WA, plus strategically located gold and nickel projects in mining regions of Western Australia.

### Pioneer Dome Lithium Project

Pioneer 100%, Lithium, Caesium, Nickel Sulphide.

The Pioneer Dome Lithium-Caesium Project is located approximately 130km south of Kalgoorlie, and 200km north of Esperance, in WA, in an area that is infrastructure-rich, with the Goldfields-Esperance Highway, rail, gas and water passing through the tenements.

The Company's tenure consists of approximately 379km<sup>2</sup> of tenements, comprising six exploration licences, of which one is granted and five are applications.

In April 2016 Company geoscientists recognised the project as having potential for lithium mineralisation following a review of historic exploration reports. Geochemistry, geophysics and geological mapping were compiled resulting in the identification of a 'Pegmatite Corridor', now known to host lithium-bearing LCT pegmatites, that extends for over 14 kilometres along the eastern margin of the Pioneer Dome.

The initial exploration programme consisted of an orientation soil and rock chip sampling over the PEG009 pegmatite. Subsequently, over 15,000 soil samples have been collected and samples are being processed progressively, initially by an in-house analysis using the Company's pXRF hand-held analyser and from these, groups of samples anomalous in "LCT" elements will be commercially analysed for Lithium.

Geochemistry samples have now been taken for all of the eastern Pegmatite Corridor with additional soil sampling programmes completed on the Company's tenements to the south and west of the main pegmatite corridor. From this, further drill targets are anticipated, with preliminary results from PEG003, PEG004, PEG006 and PEG009 looking encouraging for lithium.

#### **Lithium Discovery Confirmed**

Drilling has confirmed that the Project hosts rare-metal LCT Pegmatites.

The first pass drilling programme saw 64 reverse circulation (RC) drill holes completed for 5,223m. Drilling at target PEG008A intersected pegmatites containing lithium, caesium and tantalum (refer to Figure 2) in a cluster of drill holes over a strike length of 320m. The more southern PEG008B, which also has a strong LCT soil geochemical anomaly, has not yet been drilled. Significant drill intersections from the drilling include;

0	PDRC015	7m at 1.52%Li <sub>2</sub> O from 52m in PDRC015 and
		6m at 27.7% Cs <sub>2</sub> O from 47m
0	PDRC021	12m at 1.37%Li <sub>2</sub> O from 54m and
		10m at 408ppm Ta <sub>2</sub> O <sub>5</sub> from 54m
0	PDRC056	6m at 1.79% Li <sub>2</sub> O from 48 <sup>1</sup>
0	PDRC057	12m at 1.41% Li <sub>2</sub> O from 60 <sup>1</sup>
0	PDRC059	5m at 2.08% Li <sub>2</sub> O from 37m

#### Lithium

The PEG008A pegmatite is up to 80m thick and exhibits extreme mineral differentiation, meaning that drilling tested the most lateral zone of the pegmatite intrusion. Detailed mapping is providing information about critical zoning within PEG008 and other of the pegmatites that show anomalous LCT soil geochemistry.

Zonation of a range of elements, including of beryllium, tin, lithium, tantalum to caesium within pegmatites as distance from the parent granite increases, is well documented. The characteristics evident to date at PEG008A are those of an extremely distal pegmatite zone, which is characterised by the occurrence of pollucite, a globally significant and rare ore mineral of caesium. In this zone lithium may occur in micas, lepidolite and other exotic minerals along with broad zones of quartz. Mapping and litho-geochemistry is being completed to provide vectors towards more proximal pegmatite zones, where the mineralisation model suggests spodumene is more likely to have formed.

When lithium minerals are fine grained, as is the case at PEG008, the determination of the mineralogy requires XRD and/or microscopic petrography to be definitive. Both XRD and petrography is underway on several samples from the PRG008 drilling.

#### Caesium

PDRC015 intersected 6m of high grade caesium grading 27.7% Cs<sub>2</sub>O from 47m, likely to be in the form of 'pollucite,' one of the main ore minerals of caesium. Drill intersections of this grade and width are extremely rare; a literature search has identified less than five occurrences globally where caesium occurs at this grade and down-hole width. The largest use of caesium is in the manufacture of very high value caesium formate brines for high-pressure/high-temperature oil and gas drilling. Caesium formate acts to stabilise rock formations, does not cause corrosion of drilling equipment and can enhance hydrocarbon recovery. (e.g. Downs et al).

The largest known deposit of pollucite is at the Tanco Mine, owned and operated by Cabot Corporation at Bernic Lake, Manitoba, Canada. Further information for caesium and the Tanco Deposit is readily available, including from (Tuck (USGS) 2015) and Martins et al (2013).

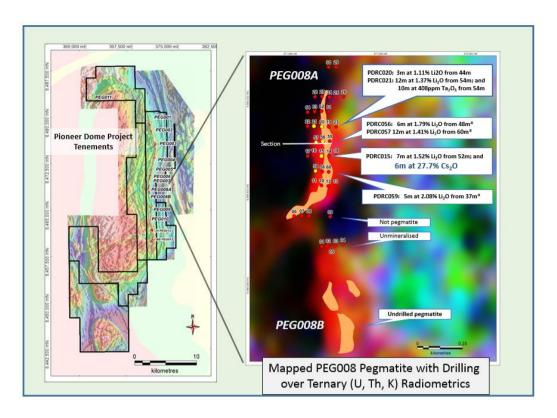
#### **Target Generation Continuing**

Concurrently with drilling, a further 10,000 soil samples have been taken, covering all eastern and south western Pioneer Dome tenements. The soil samples are in the process of being screened for LCT elements using a pXRF analyser and then selected samples will be submitted to a commercial laboratory for analysis for lithium, caesium and related elements.

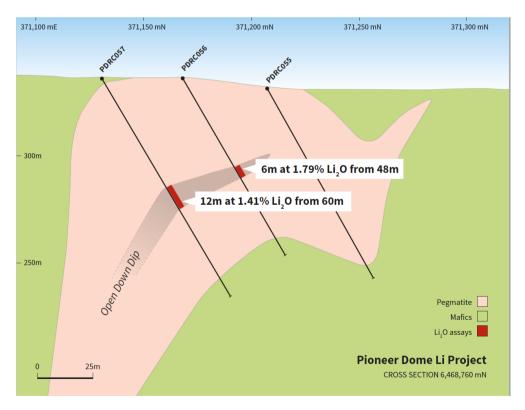
In addition to the soil sampling programme, detailed mapping and prospecting is ongoing within anomalies identified from soil geochemistry. Geological mapping and analysis of assay results is providing the next phase of drill targets, with PEG003, PEG004, PEG006 and PEG009 looking encouraging for lithium..

#### **Planned Work Programs**

- Soil samples from the 14km long Pegmatite Corridor will be screened for the presence of LCT element anomalism using a pXRF portable analyser, and selected samples will be submitted to a commercial laboratory for analysis for lithium, caesium tantalum and other pegmatite-suite elements.
- Detailed geological mapping of pegmatites and field evaluation of soil anomalies has identified typical
  zonation patterns diagnostic of mineralised pegmatite systems. This includes the extremely
  differentiated surface expression of the pollucite (caesium) zone intersected in PDRC015. Drilling is
  being planned at PEG008B to focus on more proximal zones which could host spodumene
  mineralisation.
- Diamond drilling is being planned to further test the extensions of the recently drilled pollucite (caesium) zone mineralisation as a priority.



**Figure 2:** LHS Pioneer Dome Project Tenements over aeromagnetic imagery, showing the location of known pegmatites PEG001 to PEG014. RHS Enlargement of PEG008 showing location of drill hole collars and mineralisation intersections, overlying a ternary radiometric image that highlights the location and structure of the pegmatite lenses.



**Figure 3:** Schematic cross section of PEG008A showing the location of mineralisation in drill holes PDRC056 and PDRC057. Intersections in both PDRC056 and PDRC057 are three meter composite samples; individual one meter samples have been collected and submitted to a commercial laboratory for chemical analysis.

# Mavis Lake and Raleigh Lithium Project

Pioneer Option to earn up to 80%. Lithium.

The Mavis and Raleigh Lithium Projects are situated 19 and 80 kilometres respectively east from the town of Dryden, Ontario (Figure 4).

The Company was attracted to the Projects because of the demonstrated presence of high grade spodumene mineralisation in drilling (see Table 1 below), which greatly decreases exploration risk; and the close proximity of major infrastructure, including to the Trans-Canada highway and railway, and the town of Dryden, a small industrial hub, which provide an excellent base and access, thus reducing project capital and exploration operating costs.

A C\$1 million budget has been allocated across the Mavis and Raleigh lithium pegmatite projects. Exploration programmes in progress include mapping, litho-geochemical sampling, and ground and airborne geophysics. This work, being completed across both project areas, (see Figures 5 and 6) is leading up to a 3,000m diamond drilling programme split between the projects. This work is expected to be undertaken during the fourth quarter of 2016 and into the first quarter of 2017.

Table 1: Selected Significant Drilling Intersections from Spodumene Pegmatites			
Mavis Lake – Fairservice Drilling	Raleigh Drilling		
• MF-11-08: 7m at 1.83% Li <sub>2</sub> O from 4m	<ul> <li>RL10-1: 7.8m at 1.49% Li<sub>2</sub>O from 153.2m</li> </ul>		
• MF-11-09: 7.8m at 1.86% Li <sub>2</sub> O from 18	8.85m • RL10-2: 8.5m at 2.38% Li <sub>2</sub> O from 84m,		
MF-11-12: 16m at 1.53% Li <sub>2</sub> O from 12!	5m • RL10-3: 5.95m at 1.64% Li <sub>2</sub> O from 103.05m		
• MF-11-12: 26.25m at 1.55% Li <sub>2</sub> O from	152m Includes 5m at 0.032% Ta <sub>2</sub> O <sub>5</sub> from 104m		
• MF-12-24: 16.4m at 1.86% Li <sub>2</sub> O from 1	.61.9m • RL10-5: 5m at 1.31% Li <sub>2</sub> O from 26m		
• MF-12-25: 5.15m at 1.75% Li2O from 2	130.7m Includes 5m at 0.022% Ta <sub>2</sub> O <sub>5</sub> from 27m		
• MF-12-28: 6m at 2.53% Li <sub>2</sub> O from 6m	RL10-6: 14.2m at 1.07% Li <sub>2</sub> O from 114m		
• MF-12-33: 3m at 2.26% Li <sub>2</sub> O from 22m			

<sup>\*</sup> All widths reported are drill core widths and have not been converted into true width. Appropriate rounding of Li<sub>2</sub>O values applied.

#### **WORK PROGRAMS**

#### **Mavis Lake**

- 58 line km ground magnetic survey completed and imagery received;
- Assays from 100 litho-geochemical samples (see text below) and geological mapping provide new targets for spodumene mineralisation. A further 400 litho-geochemical samples have been taken in priority areas, including extensions to the spodumene pegmatite targets in the recently acquired Mavis West Area (assays have not been received yet).
  - Rare-metal pegmatite intrusions may cause pre-existing rocks to chemically react with fluids related to the intrusion, which contain rare metals including lithium, caesium and rubidium. Litho-geochemistry samples look to detect trace amounts of the rare-metals in the resulting dispersion halo a distance away from, and thereby providing a vector to the mineralised pegmatite.
- A tenement covering pegmatite occurrences to the west of Mavis Lake (Mavis West) was pegged during the quarter. This increases the Mavis Lake Project area by 640 hectares to a total of 3,133 hectares.
- Diamond Drilling targeting the outcropping spodumene pegmatites including the Mavis Lake Pegmatite MPEG018 (Figure 5 below) is expected to commence in November 2016.

#### Raleigh

- Recently staked claims increase the total area of the Raleigh project to 936 hectares.
- A 500 litho-geochemical sample programme with accompanying mapping has been completed, to infill
  large lithium litho-geochemical anomalies. This is expected to generate additional drilling targets along
  strike from the Johnsons Pegmatite, the Crocker Bay Pegmatite and the RPEG002 trend. (Assays have
  not been received).
- Extensional drilling of known spodumene-bearing pegmatites is scheduled for quarter 1, 2017. Targets to be drilled will include RPEG001 and Johnsons Pegmatite;
- Comprehensive airborne magnetic survey will be flown in late October to early November over the entire project to delineate pegmatites and enable drill hole targeting.

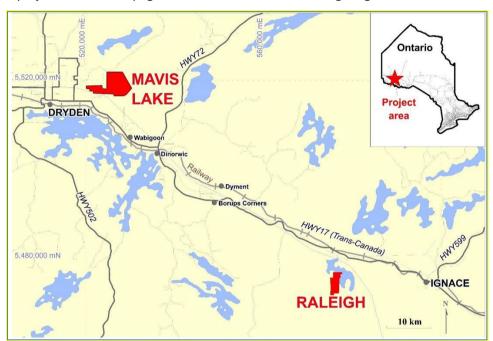


Figure 4. Location of Raleigh and Mavis Lithium Projects, Northwest Ontario, Canada.



Looking across a forestry clear-cut area and muskeg swamp to MPEG018, at the Mavis Lithium Project

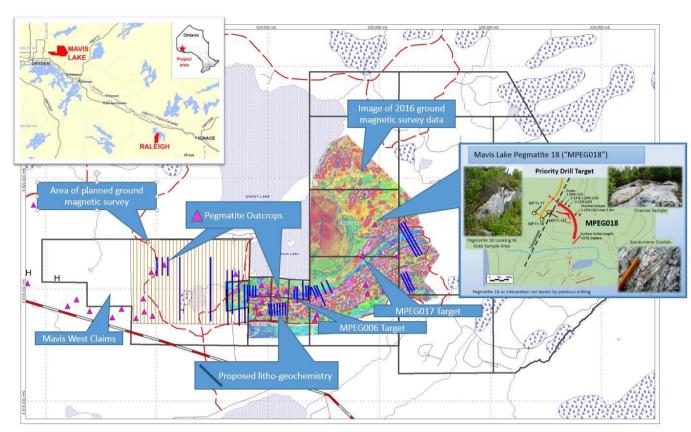


Figure 5: Mavis Lake Project Group - 2016 summary plan. The plan shows the location of the recently staked Mavis West claims, known pegmatites, the extent of planned and completed magnetic surveys and the proposed lithogeochemistry sampling traverses.

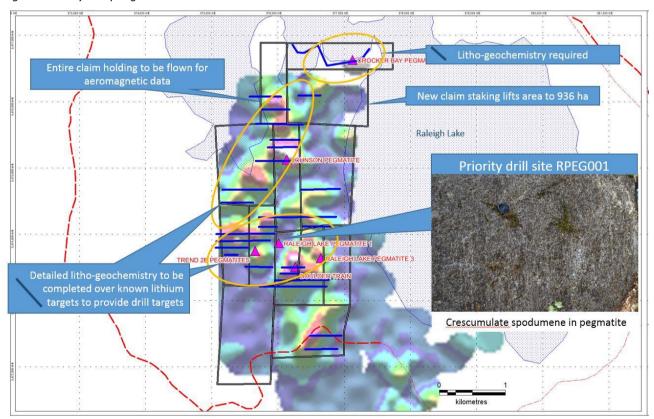


Figure 6: Raleigh Project - 2016 summary plan. The plan shows known pegmatites, Li litho-geochemistry, and the areas where detailed litho-geochemistry will be undertaken. The entire claim block will be covered by an aeromagnetic survey.

# **Other Western Australian Lithium Projects**

#### Phillips River Lithium Project

Pioneer 100%. Lithium.

- 100km east of the Mt Cattlin Lithium Mine, Ravensthorpe, in WA.
- Exploration licenses recently granted. Initial discussions with the landholders regarding access around cropping times have been held and early stage exploration comprising geochemistry orientation surveys prior to more comprehensive surveys may commence late in 2016 or in early 2017. Aboriginal Heritage Protection agreements are also being completed.
- Orientation work will aim to validate the historical lithium anomalies and and then undertake detailed soil geochemistry within the four target areas identified from the roadside sampling completed by a previous tenement holder.

#### **Donnelly River Lithium Project**

Pioneer 100%. Lithium.

- Located approximately 20km south and south west of the Greenbushes Lithium Mine, southern WA the
  project is predominantly within state forests which require various environmental management
  procedures and free hold farmland that will require land access agreements to be negotiated with the
  various landowners.
- Pioneer has an ongoing option to acquire 100% of the project which consists of two tenement applications
- The grant of the tenements is subject to the approval of a Conservation Management Plan (CMP) by the Environmental Protection Agency with the CMP prepared during the quarter.
- Once the CMP is approved and the tenements granted exploration will initially consist of soil sampling and mapping along various existing forestry tracks.

#### **Regional Lithium Projects**

Pioneer 90-100%. Lithium.

In addition to the Pioneer Dome, Phillips River and Donnelly River lithium projects detailed above, a series of regional projects have been acquired over the previous six months with the targets based on regional historic datasets and conceptual models. These are at locations near Gascoyne Junction (Bogadi), Mt Manning, Jundee Mt Deans and Norseman, in Western Australia.

In the case of the Bogadi Project (Pioneer 90%), earlier geochemistry programmes have identified a 25km long lithium-in-clay anomaly. Other projects are more conceptual, with no earlier lithium exploration.

Pioneer's exploration strategy of reconnaissance-style soil geochemistry over priority areas, along with geological mapping, is progressing over these projects to cost effectively and rapidly evaluate the lithium potential. If the initial exploration is encouraging then follow-up exploration including blanket soil geochemistry over confirmed targets will ensue.

# Western Australian Gold Projects

#### **Acra Gold Project**

Pioneer 100%, reducing to 25%. Gold Joint Venture with Northern Star Minerals Limited.

Subsequent to the end of the quarter the Company entered into a significant exploration joint venture with Northern Star Resources Limited ("Northern Star") intended to fast track exploration at the Acra Gold Project. Northern Star will pay Pioneer \$500,000 cash for an initial 20% interest, and must expend a further \$3,000,000 within 3 years to earn an additional 55% (total 75%). Northern Star will continue to sole fund all Joint Venture expenditure and all other costs incurred on the project prior to receiving an approval for a Mining Proposal.

Significantly the agreement means that:

- exploration programmes will be well funded and expedited by one of Western Australia's most successful gold project developers and miners;
- there is a clear path to mining and processing (subject to mining and offtake agreements) for any gold
  ore discovered within the project, with the Kanowna Belle Gold Mill owned by Northern Star located
  40km to the west of the project connected by existing haul roads already in place within the area, and
- Pioneer, through its free-carried position) is not required to contribute to any further exploration expenditure until a Mining Proposal is approved.

Pioneer is thus financially de-risked in relation to the project and continues to hold a significant 25% interest in the Project. On approval of a Mining proposal Pioneer has the option to contribute to development costs (on a pro rata basis) or reduce its interest, including the sale of its interest on normal commercial terms.

In addition to the \$500,000 payment to Pioneer, Northern Star must undertake a minimum of \$1,500,000 of Exploration Expenditure and ensure the tenements remain in good standing before it can withdraw from the Joint Venture.

#### **Katanning Gold Project**

Pioneer 100%. Gold

The Katanning Gold Project, located in southern Western Australia, maintains the Company's direct exposure to a gold project. The Project opportunity was identified by the Company's consultant geochemist and acquired through pegging.

The Project consists of four exploration licences, with two being adjacent to the Ausgold Limited (ASX: AUC) 637,000oz Katanning project.

Within the four tenements there has been historical drilling and exploration with several encouraging drill intersections. These drilling intersections and all the historical exploration are currently being compiled and validated.

Subsequent to the end of the quarter all four tenements were granted. Once the historical exploration is validated, land access agreements with the various farmers will be negotiated and with targets identified, the next phase of exploration will commence. It is expected that the initial exploration will consist of geochemistry and geophysics ahead of drilling. Access agreements may limit exploration activity while the target areas are under crop, therefore limiting significant ground disturbance including drilling during the December to April period.

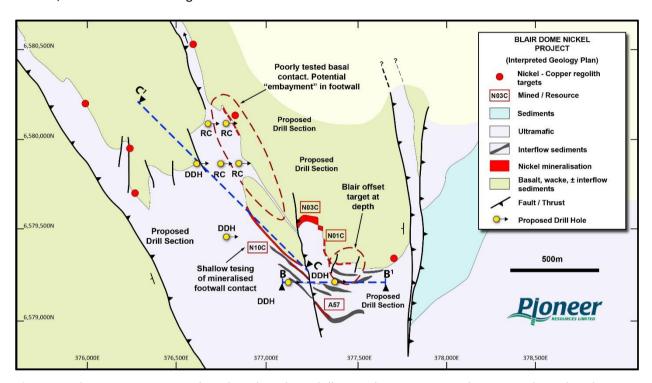
# Western Australian Nickel Projects

#### Blair Dome Nickel Project (Includes Blair Nickel Mine)

Pioneer 100%.

The Blair Dome Nickel Project, located 35 kilometres south east of Kalgoorlie, WA, or 40 km by road north of the Kambalda nickel concentrator covers an area of 29 km<sup>2</sup>. The Blair Mine closed in 2008, at a time of depressed nickel prices, having produced 1.26mt of nickel ore at 2.62% Ni.

Pioneer's recent work has suggested that the Blair Nickel Mine occurs at the southern end of a geological dome. Mineralisation, anomalies and targets are evident along the semi-oval surface expression of the basal ultramafic contact, which has a strike length of 12km within Pioneer's tenure.



**Figure 7:** Blair Dome interpreted geology based on drilling and aeromagnetic data centred on the Blair Mine. (Langworthy 2015). The map shows the locations of the Blair Mine mineralisation, and geological targets that are considered prospective, along with proposed drill holes.

#### **Work Program**

- A three dimensional geological model for the Blair Dome has been completed. The model based on the
  dome interpretation integrates the geology, geochemistry and geophysical knowledge and will allow
  better targeting of the EIS funded drilling.
- Included in the geological model was all geophysical data including all the near-mine EM surveys (including moving loop, fixed loop and down-hole). This has assisted in evaluation and ranking of the various EM anomalies.
- Drill targeting and testing the Blair Dome interpretation with pre-collared diamond drill holes is expected be undertaken in late 2016 / early 2017.

#### Fairwater Nickel Project

Pioneer 75%.

The Fairwater Project is located between 100 and 130km south west of Independence Groups' (ASX: IGO) Nova and Bollinger nickel deposits, in the Albany-Fraser Orogen, south eastern Western Australia.

Previous drilling within the project has been less than 200m deep and targeted the centre of the main magnetic anomaly. Future exploration will require drilling the ultramafic body at greater depth and will target possible feeder dykes within the larger ultramafic intrusion.

No exploration was conducted during the quarter.

Yours faithfully

**Managing Director** 

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#### **Competent Person**

The information in this report that relates to Exploration Results is based on information supplied to and compiled by Mr David Crook and Mr Paul Dunbar. Mr Crook is a full time employee of Pioneer Resources Limited and Mr Dunbar is a consultant to Pioneer Resources Limited. Both Mr Crook and Mr Dunbar are members of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists and have sufficient experience which is relevant to the exploration processes undertaken to qualify as a Competent Person as defined in the 2012 Editions of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr Crook and Mr Dunbar consent to the inclusion of the matters presented in the announcement in the form and context in which they appear.

#### **Caution Regarding Forward Looking Information**

This document may contain forward looking statements concerning the projects owned by the Company. Statements concerning mining reserves and resources may also be deemed to be forward looking statements in that they involve estimates based on specific assumptions.

Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.

Forward looking statements in this document are based on the Company's beliefs, opinions and estimates of the Company as of the dates the forward looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.

There can be no assurance that the Company's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that the Company will be able to confirm the presence of additional mineral deposits, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of the Company's mineral properties. Circumstances or management's estimates or opinions could change. The reader is cautioned not to place undue reliance on forward-looking statements.

#### **Glossary**

"Aircore" is a blade drilling technique which returns relatively uncontaminated samples through a central annulus inside the drill pipes. It is used to test the regolith (near surface unconsolidated and weathered rock) as an alternative to RAB drilling when conditions are wet, sandy or holes need to go deeper than by RAB.

Elements: "Ag" means silver, "Au" gold, "B" Boron, "Be" beryllium, "Cs" caesium, "Cu" copper, "Li" Lithium, "Nb" niobium, "Ni" nickel, , "Pb" lead, "Pd" palladium, "Pt" platinum, "Rb" rubidium, "Sb" antimony, "Sn" tin, "Ta" tantalum, "Zn" zinc.

" $Cs_2O$ " means Caesium Oxide, and is the elemental metal quantity converted to its oxide (in percent (%)), which is a form of reporting used for caesium in scientific literature. The conversion factor for Cs to  $Cs_2O$  is 1.06.

"Diamond Drilling" or "Core Drilling" uses a diamond-set drill bit to produce a cylindrical core of rock.

"EM" means electromagnetic, a geophysical survey technique used to locate conductive rocks which may include nickel sulphide mineralisation. There are a number of configurations of transmitters, receivers and processing available depending on the application including Ground EM: commonly 'moving loop' or 'fixed loop'; DHEM using a 'down hole' receiver coil; and 'versatile time domain' – VTEM which is an airborne system. SAMSON is a type of receiver with a very low signal to noise ratio.

"g/t" means grams per tonne (used for precious metals) and is equivalent to ppm.

"Li<sub>2</sub>O" means Lithia, or Lithium Oxide, and is the elemental metal quantity converted to its oxide (in percent (%)), which is a form of reporting used for lithium in scientific literature. The conversion factor for Li to Li<sub>2</sub>O is 2.152.

"Mafic" and "Ultramafic" are a class of igneous rocks high in magnesium "ma" and iron "fic", which are thought to be derived from magma from near the earth's mantle.

"Pegmatite" is a common plutonic rock of variable texture and coarseness that is composed of interlocking crystals of widely different sizes. They are formed by fractional crystallization of an incompatible element-enriched granitic melt. Several factors control whether or not barren granite will fractionate to produce a fertile granite melt (Černý 1991; Breaks 2003):

- presence of trapped volatiles: fertile granites crystallize from a volatile-rich melt.
- composition of melt: fertile granites are derived from an aluminium-rich melt.
- source of magma: barren granites are usually derived from the partial melting of an igneous source (I-type), whereas fertile granites are derived from partial melting of a peraluminous sedimentary source (S-type).
- degree of partial melting: fertile granites require a high degree of partial melting of the source rock that produced the magma.

Initially, fractional crystallization of a granitic melt will form barren granite consisting of common rock forming minerals such as quartz, potassium feldspar, plagioclase and mica. Because incompatible rare elements, such as Be, Li, Nb, Ta, Cs, B, which do not easily fit into the crystal of these common rock-forming minerals, become increasingly concentrated in the granitic melt as common rock forming minerals continue to crystallize and separate from the melt.

"Spodumene" is a lithium aluminosilicate (pyroxene) found in certain rare-element pegmatites, with the formula LiAlSi<sub>2</sub>O<sub>6</sub>. Spodumene is the principal lithium mineral sourced from pegmatites and is the preferred source for high purity lithium products.

"ppm" means 1 part per million by weight.

"RAB" means rotary air blast, a cost-effective drilling technique used to test the regolith (near surface unconsolidated and weathered rock) for plumes of trace-level gold that may have dispersed from a nearby

primary source of gold. In this type of work gold values above 0.2g/t are considered anomalous and above 1g/t, very anomalous.

"RC" means reverse circulation, a drilling technique that is used to return uncontaminated pulverised rock samples through a central tube inside the drill pipes. RC samples can be used in industry-standard Mineral Resource estimates.

"Regolith" means the layer of loose, heterogeneous material covering solid rock. It includes dust, soil, broken rock, and other related materials. In Western Australia it most commonly refers to the almost ubiquitous layer of weathered and decomposed rock overlying fresh rock.

"N", "S", "E", or "W" refer to the compass orientations north, south, east or west respectively.

"pXRF" means portable x-ray fluorescence. Pioneer owns a Bruker portable XRF analyser which is an analytical tool providing semi-quantitative analyses for a range of elements 'in the field'.

Note 1: denotes 3m composite assay

#### References

- Acra: Refer Company's announcements to ASX dated 16 April 2014, 22 October 2014, 26 June 2015, 6
   October, 2015, 18 December, 2105, 15 February 2016, 21 October 2016
- Blair: Refer Company's announcements to ASX dated 18 November 2013 (Blair Resource Estimate), May 2014, 27 January 2015, 18 May 2015, 20 July 2015.
- Mavis Lake and Raleigh: Refer Company's announcements to ASX dated 15 March 2016, 20 April 2016, 13 July 2016, 26 July 2016, 12 October 2016
- Phillips River: Refer Company's announcements to ASX dated 6 April 2016
- Donnelly: Refer Company's announcements to ASX dated 26 April 2016
- Pioneer Dome: Refer Company's announcements to ASX 19 May 2016, 27 July 2016, 28 August 2016, 1
   September 2016, 4 October 2016, 17 October 2016

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WD Maier, RH Smithies, CV Spaggiari, CL Kirkland, O Kiddie, and MP Roberts (2016): *The Evolution of Mafic and Ultramafic Rocks of the Mesoproterozoic Fraser Zone, Albany-Fraser Orogen, and Implications for Ni-Cu Potential of the Region.* 

T Martins, P Kremer and P Vanstone (2013): "Field Trip Guidebook FT-C1 / Open File OF2013-8. The Tanco Mine: Geological Setting, Internal Zonation and Mineralogy of a World-Class Rare Element Pegmatite Deposit."

CA Tuck (2015) "U.S. Geological Survey, Mineral Commodity Summaries, January 2015, (Cesium)"

The Company it is not aware of any new information or data that materially affects the information included in this Report

Pioneer Resources Ltd  Tenement Schedule  (Consolidated Basis)					
Tenement	Holder	Notes			
Golden Ridge Nickel Pr	oject Located 30km SE of Kalgoorlie, WA				
M26/220	Golden Ridge North Kambalda Pty Ltd	1			
M26/222	Golden Ridge North Kambalda Pty Ltd	1, 11			
M26/284	Golden Ridge North Kambalda Pty Ltd	1, 11			
M26/285	Golden Ridge North Kambalda Pty Ltd	1, 11			
L26/272	Golden Ridge North Kambalda Pty Ltd	1			
Juglah Dome Gold/VMS	 S Project Located 58km SE of Kalgoorlie, WA				
E25/381	Western Copper Pty Ltd	4			
E25/514	Pioneer Resources Limited				
E25/523	Western Copper Pty Itd	4, 13			
-	ated 60km NE of Kalgoorlie, WA				
E27/278	Pioneer Resources Limited	2, 8			
E27/438	Pioneer Resources Limited	8			
E27/491	Pioneer Resources Limited	8			
E27/520	Pioneer Resources Limited	2, 8			
E27/548	Pioneer Resources Limited	8			
E27/549	Pioneer Resources Limited	8			
E28/1746	Pioneer Resources Limited	2, 8			
E28/2483	Pioneer Resources Limited	8			
P28/1120	Pioneer Resources Limited	8			
Fairwater Nickel Project	t Located 220km SE of Kalgoorlie, WA				
E63/1244	Pioneer Resources Limited / National Minerals Pty Ltd	10			
E63/1665	Pioneer Resources Limited / National Minerals Pty Ltd	10			
E63/1714	Pioneer Resources Limited / National Minerals Pty Ltd	10			
-	t Located 133km SSE of Kalgoorlie, WA				
E15/1515	Pioneer Resources Limited				
E15/1522	Pioneer Resources Limited				
E63/1669	Pioneer Resources Limited				
E63/1782	Pioneer Resources Limited				
E63/1783	Pioneer Resources Limited				
E63/1785	Pioneer Resources Limited				
E63/1825	Pioneer Resources Limited				
Katanning Gold Projec	Katanning Gold Project Located 260km SE of Perth, WA				
E70/4827	Pioneer Resources Limited				
E70/4828	Pioneer Resources Limited				
E70/4835	Pioneer Resources Limited				
E70/4836	Pioneer Resources Limited				
Phillips River Lithium Project Located 50km NW of Esperance, WA.					
E74/581	Pioneer Resources Limited				
E63/1776	Pioneer Resources Limited				

Tenement	Holder	Notes			
Bodardi Lithium Project Loc	cated 240km SE of Carnarvon, WA				
E09/2180	Pioneer Resources Limited / Milford Resources Pty Ltd	12			
	·				
Donnelly Lithium Project Lo	Donnelly Lithium Project Located 15km SW of Greenbushes, WA				
E70/4826	Paul Winston Askins	14			
E70/4829	Paul Winston Askins	14			
Lithium Regional Projects, I	ocated in WA	•			
E30/487	Pioneer Resources Limited				
E53/1899	Pioneer Resources Limited				
E15/1536	Pioneer Resources Limited				
E15/1537	Pioneer Resources Limited				
E63/1796	Pioneer Resources Limited				
E77/2378	Pioneer Resources Limited				
	nium Projects, Located 10km and 60km East of Dryden, Ontario	o, Canada			
4208712	International Lithium Corporation	15			
4208713	International Lithium Corporation	15			
4208714	International Lithium Corporation	15			
4218370	International Lithium Corporation	15			
4218371	International Lithium Corporation	15			
4242501	International Lithium Corporation	15			
4242502	International Lithium Corporation	15			
4242505	International Lithium Corporation	15			
4245250	International Lithium Corporation	15			
4274924	International Lithium Corporation	15			
4274925	International Lithium Corporation	15			
4274926	International Lithium Corporation	15			
4274927	International Lithium Corporation	15			
4251131	International Lithium Corporation	15			
4251132	International Lithium Corporation	15			
4251133	International Lithium Corporation	15			
4251134	International Lithium Corporation	15			
4251135	International Lithium Corporation	15			
4251136	International Lithium Corporation	15			
4251137	International Lithium Corporation	15			
4251138	International Lithium Corporation	15			
4251139	International Lithium Corporation	15			
4251140	International Lithium Corporation	15			
K489140	International Lithium Corporation	15			
K498288	International Lithium Corporation	15			
K498289	International Lithium Corporation	15			
K498290	International Lithium Corporation	15			
K498292	International Lithium Corporation	15			
Wattle Dam Nickel Project L	ocated 65km S of Kalgoorlie, WA				
M15/1101	Maximus Resources Limited	3, 5			
M15/1263	Maximus Resources Limited	3, 5			
M15/1264	Maximus Resources Limited	3, 5			
M15/1323	Maximus Resources Limited	3, 5			
M15/1338	Maximus Resources Limited	3, 5			
M15/1769	Maximus Resources Limited	3, 5			

Tenement	Holder	Notes
M15/1770	Maximus Resources Limited	3, 5
M15/1771	Maximus Resources Limited	3, 5
M15/1772	Maximus Resources Limited	3, 5
M15/1773	Maximus Resources Limited	3, 5
Larkinvilla Lithium Ni	ckel Project Located 75km S of Kalgoorlie, WA	
M15/1449	Maximus Resources Limited / Pioneer Resources Limited	6.7
		6, 7
P15/5912	Maximus Resources Limited / Pioneer Resources Limited	6, 7
Maggie Hays Hill JV, L	ocated 140km SE of Southern Cross	
E63/1784	Poseidon Nickel Limited / Pioneer Resources Ltd	16
Ravensthorpe Copper	-Gold Project Located 340km SW of Kalgoorlie, WA	
E74/311	ACH Minerals Pty Limited	9
E74/379-1	ACH Minerals Pty Limited	9
E74/392	ACH Minerals Pty Limited	9
E74/399	ACH Minerals Pty Limited	9
E74/406	ACH Minerals Pty Limited	9
E74/486	ACH Minerals Pty Limited	9
E74/537	ACH Minerals Pty Limited	9
E74/558	ACH Minerals Pty Limited	9
E74/560	ACH Minerals Pty Limited	9
M74/163	ACH Minerals Pty Limited	9
P74/305	ACH Minerals Pty Limited	9
P74/349	ACH Minerals Pty Limited	9

Notes:			
1	Golden Ridge North Kambalda P/L is a wholly-owned subsidiary of Pioneer		
2	Heron Resources Limited retains nickel laterite ore		
3	Heron Resources Limited retains pre-emptive right to purchase Nickel Laterite Ore		
4	Western Copper Pty Limited is a wholly-owned subsidiary of Pioneer		
5	Wattle Dam JV Agreement: Title, Mineral Rights held by Maximus Resources Limited, except nickel. Pioneer 20% free carried interest in NiS minerals		
6	Larkinville JV Agreement: Maximus Resources Limited 75% in Gold and Tantalite, Pioneer 25% free carried interest		
7	Larkinville JV Agreement: Maximus has an 80% interest in nickel rights, Pioneer 20% free carried interest		
8	Subsequent to the end of the Quarter Pioneer announced a possible Joint Venture of the ACRA project where (subject to completion) Northern Star Minerals Limited may earn 75%. Pioneer 25% free carried interest.		
9	Ravensthorpe: Title and rights to all minerals held by ACH Minerals Pty Limited. Pioneer 1.5% NSR		
10	Fairwater JV Agreement: Pioneer 75% Interest, National Minerals P/L 25% free carried interest		
11	Gold royalty held by Morgan Stanley Finance Pty Limited and Morgan Stanley Capital Group Inc.		
12	Milford Resources Pty Limited 10% free carried interest		
13	1% gross royalty held by Walter Scott Wilson		
14	Subject to an Option Agreement with P Askins		
15	Subject to an earn-in Joint Venture with International Lithium Corp.		
16	Maggie Hays Lake JV Agreement: Poseidon Nickel Limited 80%, Pioneer 20% & free carried interest to commencement of mining.		

+Rule 5.5

# **Appendix 5B**

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

#### Name of entity

# PIONEER RESOURCES LIMITED ABN Quarter ended ("current quarter") 44 103 423 981 30 September 2016

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(848)	(848)
	(b) development	-	-
	(c) production	-	-
	(d) staff costs	(158)	(158)
	(e) administration and corporate costs	(346)	(346)
1.3	Dividends received (see note 3)	-	-
1.4	Interest received	13	13
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Research and development refunds	464	464
1.8	Other (provide details if material)	2	2
1.9	Net cash from / (used in) operating activities	(873)	(873)

2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) property, plant and equipment	(58)	(58)
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	- -

<sup>+</sup> See chapter 19 for defined terms

1 September 2016

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	-	-
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(58)	(58)

3.	Cash flows from financing activities		
3.1	Proceeds from issues of shares	1,518	1,518
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	(222)	(222)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
3.10	Net cash from / (used in) financing activities	1,296	1,296

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	5,098	5,098
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(873)	(873)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(58)	(58)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	1,296	1,296
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	5,463	5,463

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	3	31
5.2	Call deposits	5,460	5,067
5.3	Bank overdrafts		-
5.4	Other (provide details)		-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	5,463	5,098

6.	Payments to directors of the entity and their associates	Current quarter \$A'000				
6.1	Aggregate amount of payments to these parties included in item 1.2	121				
6.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-				
6.3	Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2					
Mana	ging Director and Non-Executive Directors' remuneration - \$121k					
7.	Payments to related entities of the entity and their associates	Current quarter \$A'000				
7.1	Aggregate amount of payments to these parties included in item 1.2	-				
7.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-				
7.3	7.3 Include below any explanation necessary to understand the transactions included i items 7.1 and 7.2					

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

8.	Financing facilities available Add notes as necessary for an understanding of the position	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000	
8.1	Loan facilities	-	-	
8.2	Credit standby arrangements	-	-	
8.3	Other (please specify)	-	-	
8.4	Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.			

9.	Estimated cash outflows for next quarter	rter \$A'000 800	
9.1	Exploration and evaluation		
9.2	Development	-	
9.3	Production	-	
9.4	Staff costs	175	
9.5	Administration and corporate costs	275	
9.6	Other (provide details if material)	-	
9.7	Total estimated cash outflows	1,250	

10.	Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	P28/1120 E77/2377 E77/2379	Registered Holder amalgamated into E28/2483 Registered Applicant Registered Applicant	100% 100% 100%	0% 0% 0%
10.2	Interests in mining tenements and petroleum tenements acquired or increased	E63/1825	Registered Applicant	0%	100%

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

#### **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sign here: Date: 27 October 2016 (Company Secretary)

Print name: Julie Anne Wolseley

#### **Notes**

- The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
- 2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

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<sup>+</sup> See chapter 19 for defined terms