

## PIONEER COMMENCES MINING OPERATIONS AT SINCLAIR CAESIUM MINE

**Perth, Western Australia: 13 September 2018:** Pioneer Resources Limited (the "Company" or "Pioneer") (ASX: PIO) is pleased to announce that mining operations have commenced at the Company's Sinclair Caesium Mine, located within the 100%-held Pioneer Dome Project, approximately 140km south of Kalgoorlie in Western Australia (Figure 4).

The Company advises that extraction of overburden (Figure 1) from the upper reaches of the Sinclair Mine Stage 1 Pollucite Pit (Figure 2) is now underway, which will provide access to the deposit of the caesium mineral pollucite, located at depth of approximately 40 metres below surface.

The Company's primary focus for the Sinclair Mine is the extraction of the caesium (pollucite) deposit, which is expected to deliver significant revenue to Pioneer. The Sinclair Mine will however also yield a range of other minerals.

The Sinclair Mine is Australia's first commercial caesium producer, and one of only 3 in the world. Pioneer is delighted with the progress of the mining set-up to date. The Company's mining contractor, Hampton Transport Services, recently completed mobilisation to site as well as preliminary site-works, pre-cursors to the commencement of full-scale mining at the Project.



**Figure 1:** Extraction of overburden at the Sinclair Caesium Mine is underway

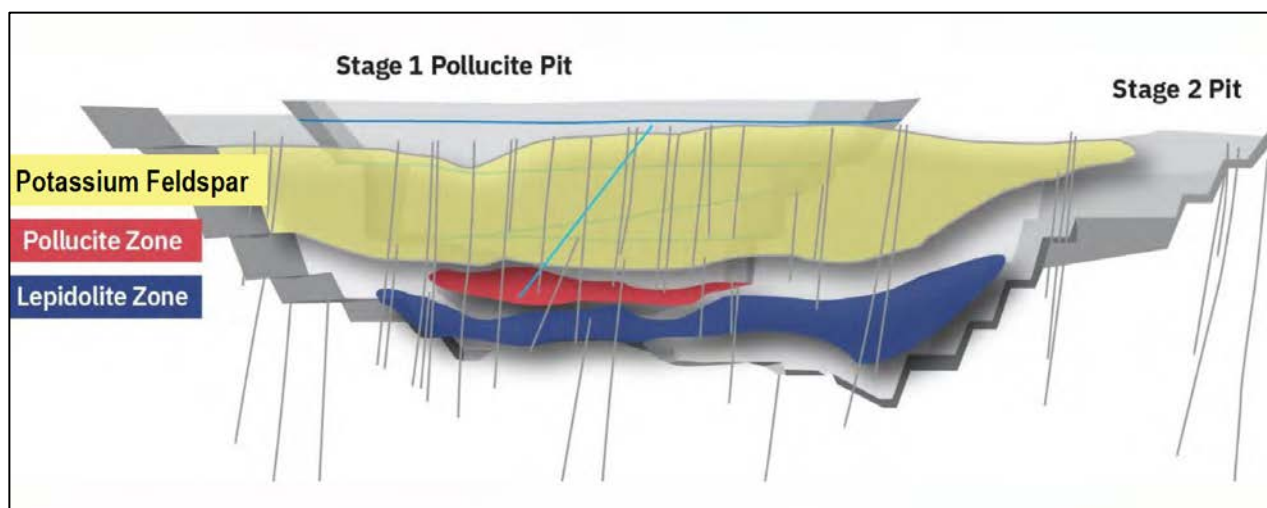
## Offtake and Funding Agreement

In June 2018, Pioneer announced that it had entered into a binding Offtake and Funding Agreement with Cabot Specialty Fluids Ltd, a wholly owned subsidiary of Cabot Corporation (Cabot) (NYSE:CBT) (ASX announcement, 20 June 2018). Under the Agreement Cabot will buy 100% of the caesium ore from the Sinclair Mine, which will be shipped as a Direct Shipping Ore (DSO) product.

Further, the Company recently announced it had received US\$4.8 million (~AUD\$6.5 million) from Cabot pursuant to the Offtake and Funding Agreement to fund the development and mining of the Sinclair Caesium Deposit (ASX announcement, 30 August 2018).

## Potassium Feldspar and other Minerals - Potential to Extend Mine Life

Much of the overburden that requires extraction to provide access to the objective Sinclair Caesium Deposit is high quality potassium feldspar (refer to Figure 2 below and ASX Announcement, 30 July 2018). The potassium feldspar represents a potentially valuable secondary revenue stream for the mine, and it will be stockpiled on-site while the Company advances off-take discussions with end-users (see also Figure 3).



**Figure 2:** Sinclair Mine showing Caesium (Pollucite) Zone and Potassium Feldspar Zone

Potassium feldspar is a commercially valuable mineral used in the manufacture of high-end ceramics, sanitaryware and glassware, and variants may be used in the production of advanced “high-temperature” insulators and electro-ceramics.

The Company has provided an Exploration Target<sup>1</sup> of 500,000t - 750,000t of potassium feldspar, estimated from surface to a vertical depth of 45 metres (refer to ASX announcement, 30 July 2018) targeting the A-Grade ceramic product specification with key element grade ranges of:

- |                        |                      |
|------------------------|----------------------|
| • $K_2O$               | <b>10.8% ± 1.0%</b>  |
| • $Na_2O$              | <b>2.0% ± 1.0%</b>   |
| • $SiO_2$              | <b>64.0% ± 2.0%</b>  |
| • $Al_2O_3$            | <b>18.5% ± 1.0%</b>  |
| • $R_2O: (Na_2O+K_2O)$ | <b>14.5% ± 1.0%</b>  |
| • $Fe_2O_3$            | <b>0.08% ± 0.01%</b> |

*Note 1: The potential quantities and grades of the Exploration Target are conceptual in nature and there has been insufficient exploration work completed to date to define a Mineral Resource. It is not certain that further Exploration will result in the estimation of a Mineral Resource.*

The Company is currently in the process of finalising a maiden potassium feldspar Resource Estimate for the Sinclair Project.

Other minerals that will be extracted from within the Sinclair Stage 1 Pollucite Pit concurrently with the caesium deposit include the lithium minerals petalite and lepidolite; and silica. These minerals will all be stockpiled separately on-site while commercial arrangements progress (Figure 3).

Pioneer will advise the market of any material progress in these discussions.



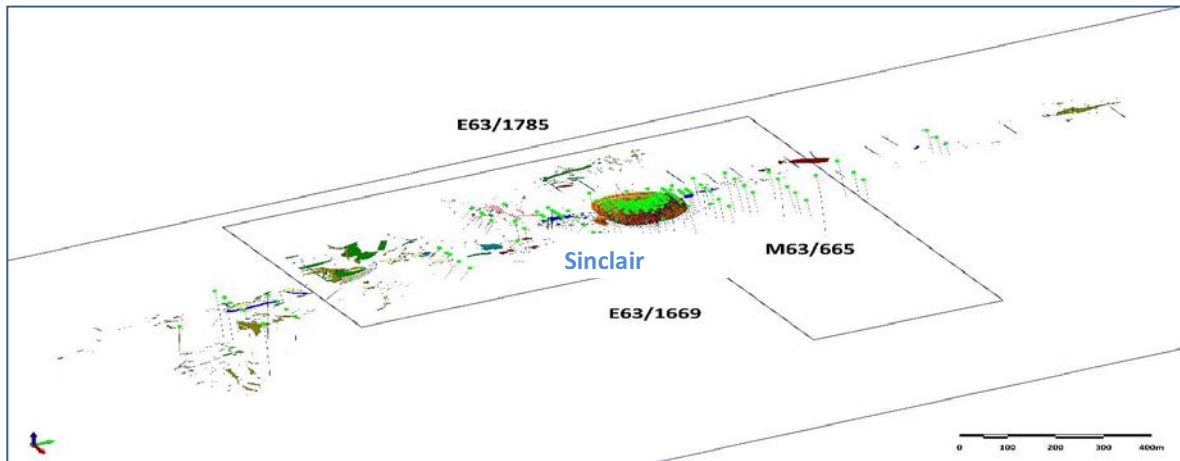
**Figure 3:** Pioneer Geologist Stuart Kerr with potassium feldspar extracted from the Sinclair Mine.

Pioneer Managing Director David Crook said;

*“The commencement of operations at the Sinclair Mine, two years after the discovery hole was drilled, is a major milestone for the Company, and a testament to the many people who have been involved with the Project, to get it to this point.*

*We look forward to an efficient and safe mining operation, which, while modest in size, should provide funds for drilling and further discoveries at the Pioneer Dome and other Company Projects.”*

**Outlook: Sinclair Mine is just the beginning to unlocking the potential of the Pioneer Dome**



**Figure 4:** showing the 2km strike length identified to date.

The Company is very encouraged by what it has learned in respect of the very rare geological conditions needed to form pollucite within an LCT Pegmatite, from its development activities at the Sinclair Mine.

Drilling and mapping has also demonstrated that key geological features evident at the Sinclair Mine occur within immediately adjacent pegmatites that form a swarm along strike, north and south, over a strike length of 2 kilometres. Priority will be given to drilling within this 'greater' Sinclair Pegmatite area and will then continue to progressively test other pegmatites within the project's 13km-long pegmatite corridor.

Yours faithfully

**Managing Director**

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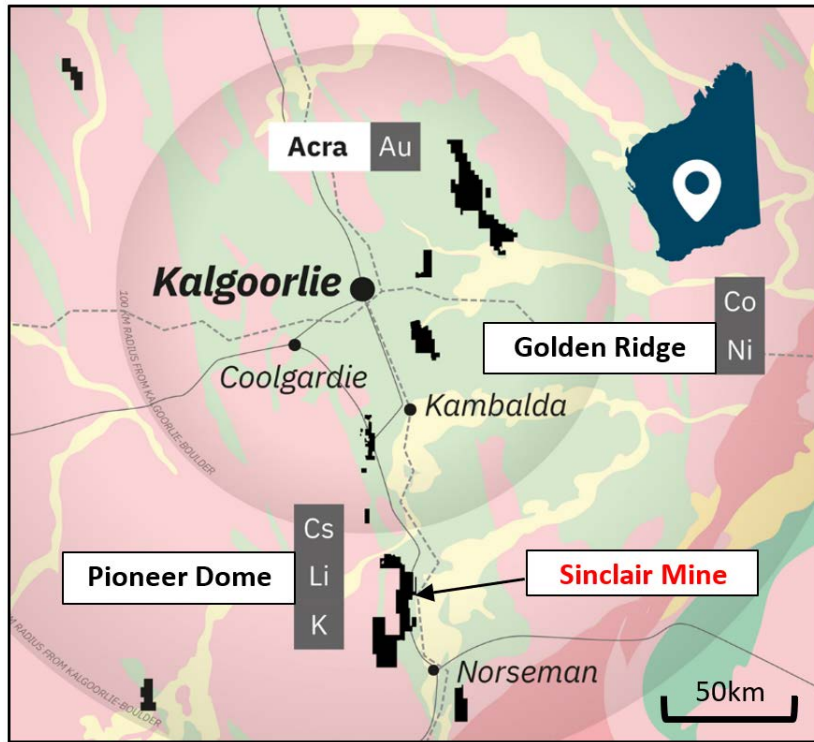


Figure 4: Sinclair Mine location, approximately 140km south of Kalgoorlie, WA.

**References**

Pioneer Dome: Refer Company’s quarterly technical reports, and announcements to ASX 19 May 2016, 27 July 2016, 28 August 2016, 1 September 2016, 4 October 2016, 17 October 2016, 14 November 2016, 2 December 2016, 13 December 2016, 13 January 2017, 24 January 2017, 23 February 2017, 20 March 2017, 22 March 2017 (Sinclair Measured Resource Statement), 20 June 2017, 22 August 2017, 9 October 2017, 2 November 2017, 17 January 2018, 21 February 2018, 19 April 2018, 25 July 2018, 27 July 2018, 30 July 2018, 30 August 2018.

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

Charles River Associates (2013) Potassium Feldspar Study Market Assessment Report to I-Minerals

Shackleton, I., (1995) Annual Report for period 21 September 1994 to 20 September 1995, Mining Lease 45/258 Pippingarra Feldspar Deposit, Western Australia. WAMEX report a47062.

**About Cabot Corporation**

Cabot Corporation (NYSE: CBT) is a global specialty chemicals and performance materials company, headquartered in Boston, Massachusetts. The company is a leading provider of rubber and specialty carbons, activated carbon, inkjet colorants, caesium formate drilling fluids, masterbatches and conductive compounds, fumed silica, and aerogel. For more information on Cabot, please visit the company’s website at: <http://www.cabotcorp.com>.

Cabot also owns Tantalum Mining Corporation (TANCO) in Lac du Bonnet, Manitoba, Canada, which contains a substantial portion of the world’s known pollucite reserves.

## About Pioneer Resources Limited

Pioneer is a soon-to-be miner and active explorer focused on key global demand-driven commodities. The Company operates a portfolio of strategically located lithium, caesium, potassium ("alkali metals"), nickel, cobalt and gold projects in mining regions in Western Australia, plus a portfolio of high quality lithium assets in Canada. Drilling is in progress, or has been recently completed, at each of these Projects.

**Pioneer Dome Project and the Sinclair Zone Caesium Deposit:** In early 2017 Pioneer reported the discovery of Australia's first caesium (in the mineral 'pollucite') deposit. Pollucite is a high value mineral and global supply is very constrained. It is a rare caesium mineral that forms in extremely differentiated LCT pegmatite systems. The primary use of caesium is in Caesium Formate brine used in high temperature/high pressure oil and gas drilling.

The Project has seen well developed thicknesses of microcline mineralisation intersected in drilling. Also, the lithium minerals petalite and lepidolite have been intersected in drilling.

**Cobalt: Golden Ridge Project, WA:** Cobalt demand is expanding in response to its requirement in the manufacture of cobalt-based lithium batteries in certain electric vehicles and electricity stabilisation systems (powerwalls). Other uses include in super-alloys, including jet engine turbine blades, and for corrosion resistant metal applications.

**Nickel: Blair Dome/Golden Ridge Project:** The price for nickel is steadily improving. The Company owns the closed Blair Nickel Sulphide Mine located between Kalgoorlie and Kambalda, WA, where near-mine target generation is continuing. The Company recently announced a significant new nickel sulphide drilling intersection at the Leo's Dam Prospect, highlighting the prospectivity of the greater project area.

**Lithium: Mavis Lake and Raleigh Projects, Canada:** Pioneer Dome Project, WA: Lithium has been classed as a 'critical metal' meaning it has a number of important uses across various parts of the modern, globalised economy including communication, electronic, digital, mobile and battery technologies; and transportation, particularly aerospace and automotive emissions reduction. Critical metals seem likely to play an important role in the nascent green economy, particularly solar and wind power; electric vehicle and rechargeable batteries; and energy-efficient lighting.

### 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 David Turvey.

Mr Crook is a fulltime employee of Pioneer Resources Limited. Mr Crook is a member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists and has 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 consents to the inclusion of the matters presented in the announcement in the form and context in which they appear.

Mr Turvey is engaged as a consultant to Pioneer Resources Limited. Mr Turvey is a member of the Society of Economic Geologists and the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the mineral described 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 Turvey consents 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 Announcement may contain forward looking statements concerning the projects owned or being earned in 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.

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