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MINERAL RESOURCE ESTIMATE FOR THE SINCLAIR CAESIUM PROJECT

Australia's First Caesium Resource: 10,500t grading 17.1% Cs_2O

- **Metallurgy Underway - Preliminary Indications for Caesium Formate Production**
- **Mine Planning Underway – Mining Lease Applied For and Design Work Commences**
- **January Drill Results Include 3m at 11.5% Cs_2O from 49m in PDRC094**

Perth, Western Australia: 22 March, 2017: Pioneer Resources Limited (the "Company" or "Pioneer") (ASX: PIO) is pleased to announce a Mineral Resource Estimate for the Sinclair Caesium Zone, which is within the Company's 100%-owned Pioneer Dome Lithium-Caesium-Tantalum ("LCT") Project.

Caesium, within the mineral pollucite, is currently mined in small quantities at the Tanco Mine in Manitoba, Canada, and sporadically at the Bikita Mine in Zimbabwe. Supply is considered very constrained.

The Pioneer Dome LCT Project is well serviced by existing mining-related infrastructure with the Goldfields to Esperance Highway and Railway traversing the Project. It is situated 30km north of Norseman and 150km south of the regional centre of Kalgoorlie (*Figure 1).*

MINERAL RESOURCE ESTIMATE

The Mineral Resource Estimate is **10,500t of the caesium ore 'pollucite' with a grade of 17.1% Cs_2O,** as summarised by category in Table 1 below:

Table 1. Mineral Resource Summary by Category: Sinclair Caesium Deposit

Classification	Tonnes (t)	Cs_2O (%)
Measured	10,500	17.1
Total	10,500	17.1

Note: Appropriate rounding applied

DRILLING INTERSECTS ADDITIONAL CAESIUM AND PROVIDES ADDITIONAL TARGETS

During January 2017, the Company completed 22 reverse circulation ("RC") drill holes (PDRC088-PDRC109) for 1,446 metres, drilled along strike both north and south of the Sinclair Caesium Zone to test for evidence of further caesium mineralisation.

The high-value caesium mineral pollucite was intersected at an extension to the Sinclair Zone, bringing the mineralised strike length to 70m (*Figure 2 and Appendix 1*). In addition, geochemical vectors for pollucite were indicated in the drill information, making the Sinclair Caesium Zone one of a number of caesium and lithium targets to be further investigated going forward.

Significant high grade caesium drill intersections from the January 2017 drilling included:

PDRC090: 1m at 12.3% Cs_2O from 48m
PDRC093: 2m at 10.4% Cs_2O from 49m
PDRC094: 3m at 11.5% Cs_2O from 49m

The results listed above are in addition to earlier reported caesium intersections including:

PDRC015: 6m at 27.7% Cs_2O from 47m
PDRC074: 7m at 17.12% Cs_2O from 49m
PDRCD068: 3.85m at 27.78% Cs_2O from 44.35m
PDRCD071: 6.35m at 18.60% Cs_2O from 41.4m
PDRC083: 12m at 15.77% Cs_2O from 43m

Pioneer's Managing Director, David Crook, said *"The Mineral Resource Estimate is a significant step toward the Company realising the value of the Sinclair Caesium Zone, which was discovered in September 2016.*

"Preliminary metallurgy is looking very positive, with a simple process identified that can produce the very high value, high density caesium formate brine for use in the Oil and Gas industry.

METALLURGY

Strategic Metallurgy Pty Ltd has been engaged to conduct a series of tests to determine an optimal processing route, along with capital and operating cost estimates for the selected processing route. Material for the initial metallurgical testing is a 25kg composite sample from the RC and Diamond Drilling completed in 2016.

The metallurgical tests on the pollucite sample have readily resulted in the production of a very high density, clear fluid that is expected to be confirmed through chemical analysis as caesium formate brine.

The second round, testing the leaching characteristics of varying size fractions, has commenced.

The Company is also advancing negotiations with parties interested in securing pollucite or caesium product offtake.

BASIS FOR THE MINERAL RESOURCE ESTIMATE

The Mineral Resource estimate presumes a single body of pollucite (hydrated caesium alumina-silicate) approximately 40m below surface within a highly fractionated LCT pegmatite intrusive. Geologically, the pollucite occurs within the most-highly differentiated 'core' of the PEG08 pegmatite.

The deposit has been drilled on a 10 x 10m grid using Industry-standard RC and Diamond drilling techniques, allowing the Mineral Resource Estimate to be classified as a Measured Resource. There are over 70 bulk density measurements within the deposit, all holes have been downhole surveyed with a north seeking gyroscope probe and the collar coordinates have been surveyed with a RTK DGPS by a licenced surveyor.

Reverse circulation drill holes were sampled on a 1m basis downhole, and Diamond sampling was conducted on a geological unit basis, with a minimum downhole sample length of 0.3m and a maximum downhole length of 1m. All samples were submitted to Intertek Genalysis for a 48-element geochemical analysis suite that utilised a four acid digestion and an ICP-MS determination.

All ore range chemical assay results were re-assayed using fused disk preparation with a mixed acid digestion followed by an ICP-MS determination. Standards and duplicates were inserted to confirm the accuracy and quality of the assay results. All QAQC samples returned results within acceptable limits.

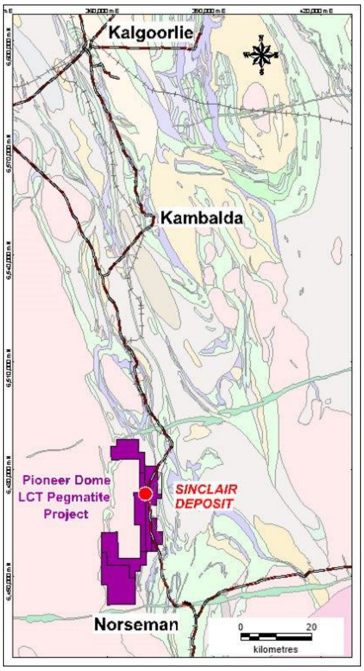


***Figure 1**. Location diagram for the Pioneer Dome Lithium Caesium project*

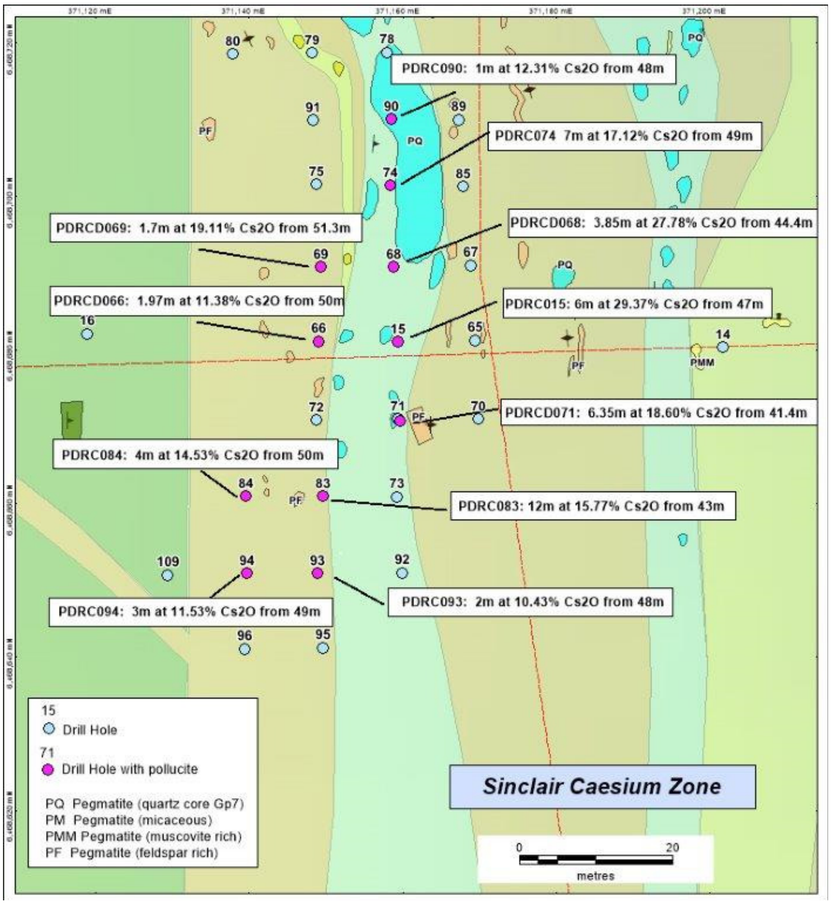
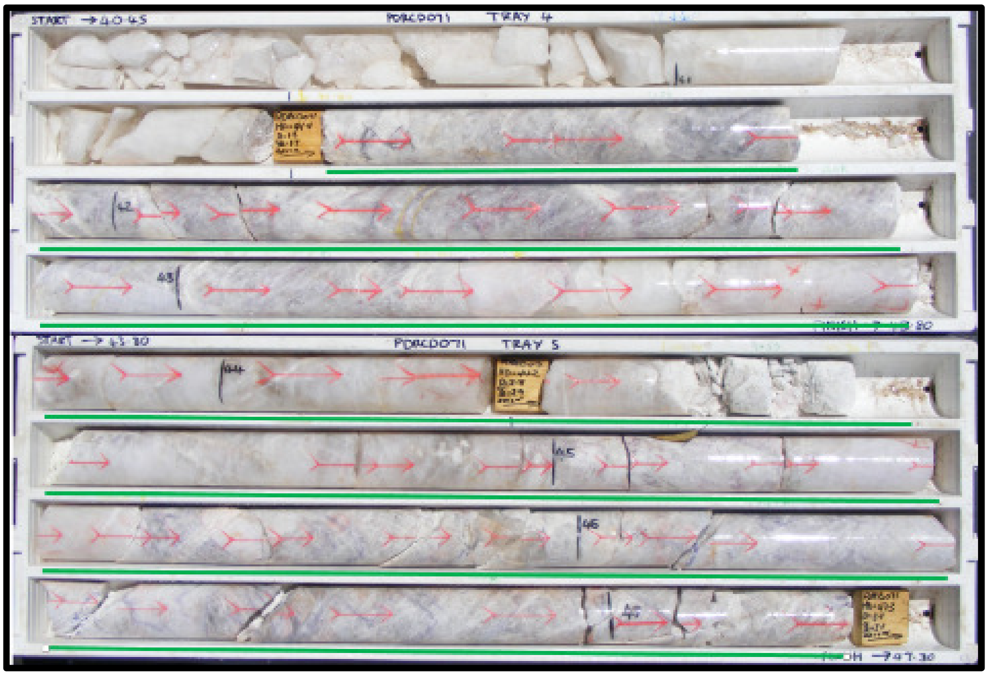


***Figure 2.** Drill hole Plan and interpreted Geology of the Sinclair Caesium Deposit project*



***Photograph 1. From diamond core hole PDRCD071,** Pioneer's geologists have logged the interval between 41.40m and 47.70m (highlighted in green) as being predominantly pollucite.*

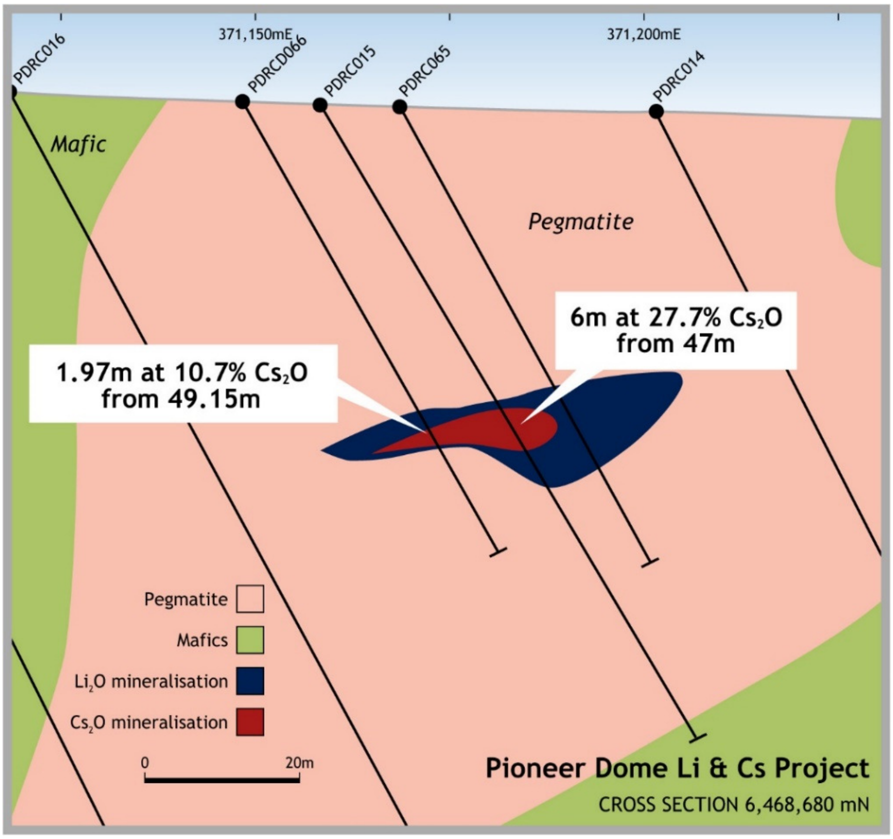


Figure 3. *Cross section through the Sinclair Deposit Caesium at 6,468,680mN.*

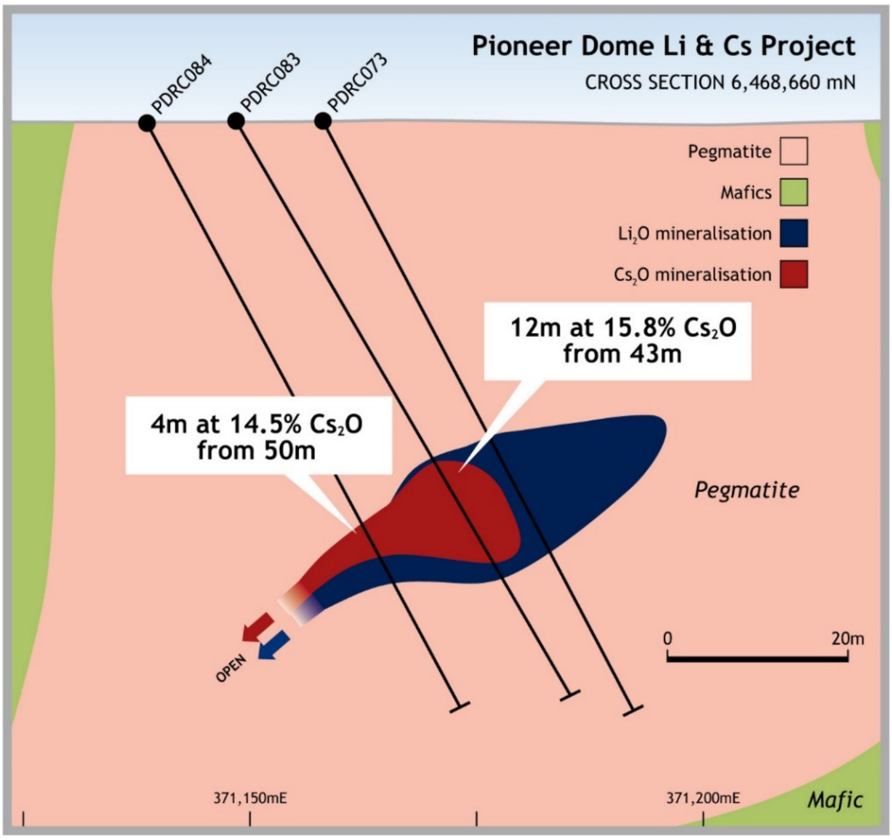


Figure 4. *Cross section through the Sinclair Caesium Deposit at 6,468,660mN*

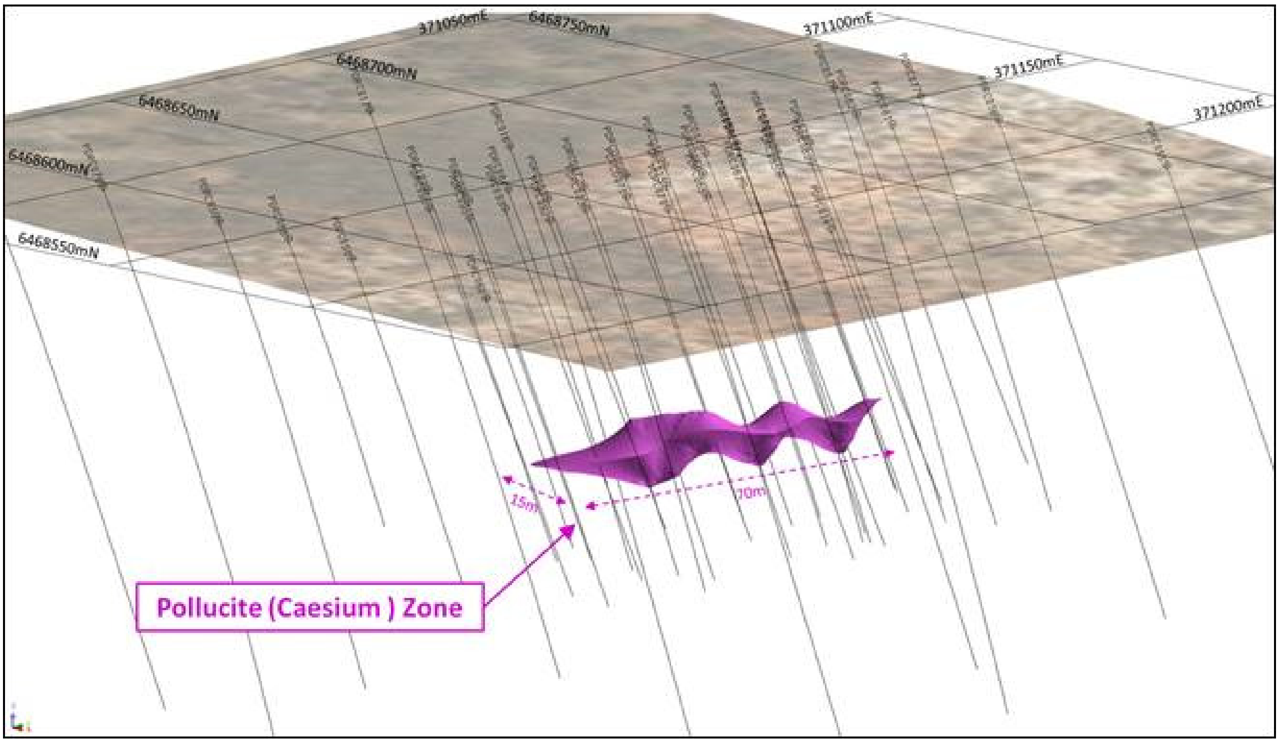


Figure 5. *Oblique view of the overall Sinclair Deposit wireframe looking northwest. The Pollucite zone is 70m long and 15m wide.*

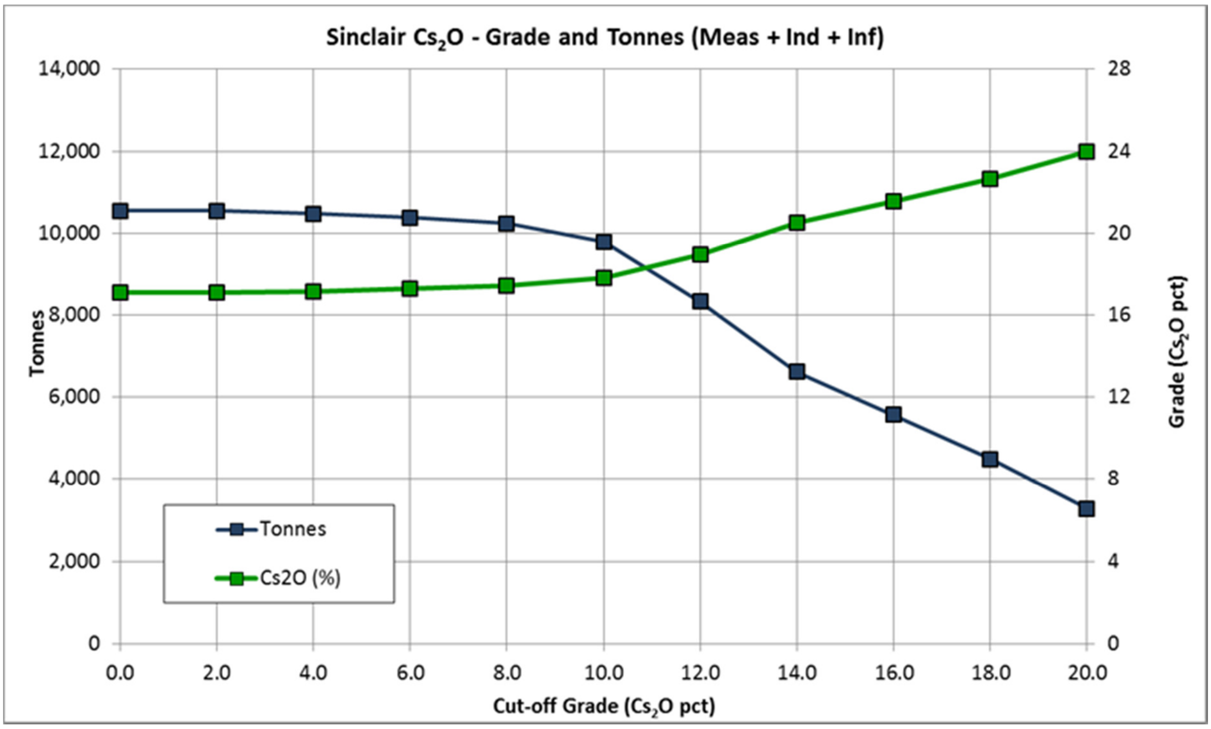


Figure 6*. Grade-tonnage curves from the Resource Estimation of the Sinclair Deposit.*

OUTLOOK

The Company is preparing to collect a bulk sample of pollucite for larger scale comminution and metallurgical test work by way of an adit. Preparation includes a mine design, environmental studies and a safety management plan.

In addition, drilling and soil geochemistry has identified other priority exploration targets for caesium and lithium with the next round of drilling planned to resume in the June quarter of 2017. Specific holes will also be drilling for geotechnical studies.

About Pioneer Resources Limited

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 and caesium assets in Canada and WA, plus strategically located gold and nickel projects in mining regions of Western Australia.

The Company is currently awaiting assay results from a drilling programme recently completed at the Mavis Lake spodumene project in Ontario.

Pioneer's priority is to advance the Sinclair Caesium Zone towards commercialisation, and to advance other lithium (in spodumene) and caesium (in pollucite) targets, including those at PEG004, PEG008 and PEG009, within the Pioneer Dome.

The Company recently announced a joint venture for its Acra Gold Project by which Northern Star Resources Limited may earn a 75% interest.

The Company also owns a portfolio of nickel, gold and base metal prospects. A drilling programme is forecast at the Blair Nickel Mine before May 2017, and an appraisal of the cobalt potential of the Golden Ridge Project is in progress.

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References

Company announcements to ASX 19 May 2016, 27 July 2016, 28 August 2016, 1 September 2016, 4 October 2016, 17 October 2016, 14 November 2016, 13 December 2016 and Quarterly Activity Reports.

Competent Person' Statement

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 employed by Dunbar Resource Management who consultants to Pioneer Resources. Both Mr Crook and Mr Dunbar are members of The Australasian Institute of Mining and Metallurgy (member 105893 and 204611) and members of the Australian Institute of Geoscientists. Mr Crook and Mr Dunbar have sufficient experience of relevance to the styles of mineralisation and types of deposit under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves

The information in this report that relates to Mineral Resources is based on and fairly represents information compiled by Mr Paul Dunbar and Mr Lauritz Barnes, both of whom are consultants to Pioneer Resources Limited. Mr Barnes and Mr Dunbar are members of the Australasian Institute of Mining and Metallurgy and have sufficient experience of relevance to the styles of mineralisation and types of deposits under consideration, and to the activities undertaken to qualify as Competent Persons as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Specifically, Mr Dunbar is the Competent Person for the database, geological model and interpretation plus completed the site inspections. Mr Barnes is the Competent Person for the resource estimation. Mr Dunbar and Mr Barnes consent to the inclusion in this report of the matters based on their information 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.

MARCH 2017 SINCLAIR RESOURCE ESTIMATE AND REPORTING CRITERIA

As per ASX Listing Rule 5.8 and the 2012 JORC reporting guidelines, a summary of the material information used to estimate the Mineral Resource is detailed below (for more detail please refer to JORC 2012 - Table 1).

Location and Description

The Sinclair Caesium Deposit, owned 100% by Pioneer Resources Limited, is located approximately 40km north of Norseman in the Eastern Goldfields Province of Western Australia. The Pioneer Dome project is well serviced by existing infrastructure including a sealed road, water pipeline, rail and a gas pipeline all are related to the modern mining history within the Pioneer tenement package and the proximity to other current and historic operations and the nearby regional centre of Kalgoorlie.

Geology and geological interpretation

The Pioneer Dome Project area occurs within the southern part of the Norseman-Wiluna greenstone belt of the Yilgarn craton. The dominant geological features are the late Archean Pioneer Dome and the older mafic and ultramafic units of the greenstone belt. Late stage pegmatite intrusive sills and dykes intrude the older stratigraphy including a granite gneiss, located to the west of the Sinclair Deposit.

Locally, the underlying geology comprises a series of N striking, westerly dipping belts of Archaean mafic, ultramafic and sedimentary rocks. The entire sequence is intruded by a series of pegmatite dikes and sills associated with the later stage Pioneer Dome granite intrusive. These pegmatite dykes form a swarm of intrusive bodies along a strike length of approximately 15km along the eastern edge of the granite dome. The area has been extensively explored since the late 1960's for nickel sulphide mineralisation associated with the extensive ultramafic volvanic units in the area. Historical exploration consisted of geological mapping, trenching, geophysical surveys and minor drilling. No historical drilling or exploration was conducted targeting lithium, caesium or tantalum nor the abundant pegmatite bodies.

The Sinclair Caesium deposit occurs within a large differentiated pegmatite within the large pegmatite swarm adjacent to the Pioneer Dome. Several of these pegmatite intrusive bodies, including the PEG08 intrusive which hosts the Sinclair Caesium deposit, have a geochemical signature associated with the Lithium Caesium Tantalum (LCT) subclass of pegmatites (London 2008). The Peg 08 pegmatite and Sinclair deposit are geologically similar to the large Tanco Mine at Bernic Lake, Manitoba.

The caesium mineral pollucite is the primary mineral of interest within the Sinclair Caesium deposit. The Pollucite occurs as a unique monomineralic (or almost monomineralic) zone within the larger lepidolite zone within the core of the pegmatite. A common quartz and or lithium silicate zone occurs either within or adjacent to the pollucite zone. The pollucite zone is spatially located within the core of the larger PEG 08 pegmatite body at a vertical depth of approximately 40m below surface.

Drilling techniques and hole spacing

The Resource Estimate is based on a total of seven Reverse Circulation (RC) drill holes have been completed from surface and five Diamond holes that have Pre-collars drilled, by RC, to an approximate depth of 35m. In addition to these twelve holes that define the deposit an additional approximately 12 holes have been drilled to the east and along strike and limit the extent of the deposit to the east and north, the deposit is open to the west and to the south. RC drilling was using a nominal 5 ¾ inch drill bit with the diamond drilling consisting of NQ sized core. Core was oriented relative to the bottom of the hole with meter marks determined from the drillers blocks and core loss determined from the distance drilled against the length of core collected. The sample recovery was always greater than 95%, therefore no sample bias was derived from the sample recovery. Sample Recovery from the RC drilling was determined from the relative size of the bulk residue material collected. The RC sample recovery was consistent irrespective of the geological units being drilled.

Drilling commenced in the Peg 08 target zone in September 2016 with an initial very wide spaced series of RC drill traverses. Drill hole PDRC015 intersected the core of the pegmatite and the pollucite mineralisation returning a drill intersection of 6m at 27.7% Cs_2O from 47m downhole. Additional detailed RC and Diamond drilling was undertaken in November 2016 with additional extensional RC drilling completed in January 2017. The drilling has been conducted on a 10m x 10m drill pattern around the initial drill intersection with extensional drilling occurring on a slightly wider drill spacing.

All holes within the Resource area have been geophysically logged with several downhole logging tools including gamma, active source density, optical tele viewer, magnetic susceptibility, orientation tools and point resistivity. The downhole logging data assisted in the overall geological model and provided confidence in the geological continuity of the pollucite mineralisation.

Sampling and sub-sampling techniques

Sampling information used in the resource estimation was derived from diamond core drilling and RC drilling. Samples were collected at 1m intervals for the RC drilling with the diamond core sampling being much more selective. For the core samples a minimum sample width was 30cm with a maximum of 1m. The RC samples were an approximately 3kg sample collected from a cone splitter attached to the drill cyclone. Duplicate samples were collected via a spear sample of the residue material which was initially collected in buckets with later RC drilling programs collecting the bulk residue in plastic bags. The Diamond core was sampled as half core cut by a diamond saw.

within geologically consistent mineralised zones. Sample sizes were determined to avoid sampling across geological/mineralisation boundaries.

Sample Analysis Method

Sample preparation involved crushing and pulverising each entire sample. A sub-sample was analysed for a forty-eight element geochemical suite including lithium, caesium, tantalum and associated elements using a four acid digestion and an ICP-MS analytical technique (4A/MS). The upper range for Caesium by the four-acid digestion is 2000ppm Cs. All over range samples were re assayed using a fused disk (sodium peroxide), multi-acid digestion with concentrations determined by ICP-MS.

Bulk Density

The bulk density (BD) determination was carried out using the Gravimetric or water immersion method, whereby half core samples were weighed dry and again while immersed in water. A calculation is used to determine the bulk density of the drill core. Additional samples were tested by a gas pycnometer which directly measures the density of the sample.

A total of 30 samples were used to determine the Bulk density by water immersion with an additional 44 samples had a density determined by a gas pycnometer determination by Intertek Genalysis.

Analysis of the density data has resulted in a density of 2.83 being used in converting the volume of the mineralisation to a Resource Tonnage.

A review of the Bulk Density against the caesium grades has been completed with a weakly positive correlation between grade and density however estimation of the density for different grade zones of the deposit does not make a material difference to the overall Resource tonnage or grades.

Cut-off grades

In additional to the detailed geological logging, internal pegmatite zonation boundaries typically coincide with anomalous or depleted Cs, Li and Ta which assisted in confirming geological continuity of the mineralised zone. Changes in rock density also assisted in refining the positions of key contacts. All pegmatite zonation (and grade) contact models were built in Leapfrog™ Geo software and exported for use as domain boundaries for the block model.

Estimation Methodology

Grade estimation used both Inverse Distance Squared and Ordinary Kriging (for comparison) for Cs (%) using GEOVIA Surpac™ software into the domain. The estimate was resolved into 2m (E) x 2m (N) x 1m (RL) parent cells that had been sub-celled at the domain boundaries for accurate domain volume representation. Estimation parameters were based on the variogram models, data geometry and kriging estimation statistics. Potential top-cuts were analysed by completing an outlier analysis using a combination of methods including grade histograms, log probability plots and other statistical tools. Based on this statistical analysis of the data population, top-cuts were not required for Cs %. Cs_2O (%) is included in the block model as a direct calculation from Cs (%) using the equation Cs_2O (%) = Cs (%) x 1.0602. Tonnes have been reported on a dry basis.

Classification Criteria

The Sinclair Cs zone resource has been classified based on confidence in the detailed geological understanding and defined continuity of the mineralised zone (drill spacing 10m x 10m) and the available bulk density data. All factors considered, the resource estimate has been classified as a Measured Resources.

Previous Mining and Metallurgical Methods and Parameters

There has been no previous mining within the PEG 08 pegmatite nor the Sinclair Deposit. Metallurgical testing of the caesium and pollucite mineralisation is underway with the objective to confirm the high density caesium formate brine is able to be produced from the pollucite that is the basis of the Resource and also to provide a Scoping Study operating cost estimate for the production of the caesium formate. While this metallurgical testing is ongoing Pioneer can confirm that a high density brine (SG of 2.1g/cc) has been produced from the ground Pollucite. Additional testing is underway to determine the density and chemical composition of the dense brine.

APPENDIX 1

Table 1: Summary of drill intersections used in the Resource Estimate

`	Hole Type	MGA Easting	MGA Northing	RL	Dip	MGA Azimuth	Hole Depth	Depth From	Interval Length	Cs2O (%)
PDRC015	RC	371,159.34	6,468,681.10	331.29	-60	90	108.0	46.0	8.0	22.6
PDRC074	RC	371,158.32	6,468,701.46	332.50	-60	90	73.0	49.0	7.0	16.2
PDRC083	RC	371,149.50	6,468,660.93	330.53	-60	90	73.0	43.0	13.0	14.8
PDRC084	RC	371,139.49	6,468,660.97	330.78	-60	90	73.0	50.0	4.0	14.5
PDRC090	RC	371,158.47	6,468,710.05	332.98	-60	90	66.0	48.0	1.0	12.3
PDRC093	RC	371,148.82	6,468,650.95	330.14	-60	90	72.0	48.0	2.0	10.4
PDRC094	RC	371,139.61	6,468,650.87	330.09	-60	90	78.0	49.0	3.0	11.5
PDRCD066	RCD	371,148.97	6,468,681.13	331.66	-60	92	66.6	49.2	2.0	11.4
PDRCD068	RCD	371,158.83	6,468,690.83	332.03	-60	90	66.3	44.0	4.2	25.7
PDRCD069	RCD	371,149.24	6,468,690.79	332.19	-60	90	69.6	51.3	1.7	19.1
PDRCD071	RCD	371,159.40	6,468,671.00	330.88	-60	90	66.6	41.4	2.0	28.2
PDRCD071	RCD	371,159.40	6,468,671.00	330.88	-60	90	66.6	45.0	2.8	22.2
PDRCD072	RCD	371,148.68	6,468,670.91	331.14	-60	92	75.3	51.0	1.2	2.2

APPENDIX 2

Table 2: Collar Coordinates for RC drilling completed in January 2017

Hole Id	Hole Type	Grid ID	Easting	Northing	RL	RC Meters	Total Depth
PDRC089	RC	MGA94_51	371,167.2	6,468,710.0	332.41	66	66
PDRC090	RC	MGA94_51	371,158.5	6,468,710.0	332.98	66	66
PDRC091	RC	MGA94_51	371,148.3	6,468,710.0	333.05	78	78
PDRC092	RC	MGA94_51	371,159.9	6,468,651.0	329.78	60	60
PDRC093	RC	MGA94_51	371,148.8	6,468,650.9	330.14	72	72
PDRC094	RC	MGA94_51	371,139.6	6,468,650.9	330.09	78	78
PDRC095	RC	MGA94_51	371,149.5	6,468,641.2	330.01	66	66
PDRC096	RC	MGA94_51	371,139.4	6,468,641.1	330.37	75	75
PDRC097	RC	MGA94_51	371,149.6	6,468,494.4	338.80	36	36
PDRC098	RC	MGA94_51	371,138.6	6,468,494.5	339.76	42	42
PDRC099	RC	MGA94_51	371,128.6	6,468,494.5	339.46	48	48
PDRC100	RC	MGA94_51	371,118.6	6,468,494.2	338.64	48	48
PDRC101	RC	MGA94_51	371,108.4	6,468,493.9	338.02	54	54
PDRC102	RC	MGA94_51	371,103.6	6,468,494.0	337.80	72	72
PDRC103	RC	MGA94_51	371,148.0	6,468,460.6	339.45	18	18
PDRC104	RC	MGA94_51	371,127.6	6,468,460.5	340.49	36	36
PDRC105	RC	MGA94_51	371,117.2	6,468,460.7	339.82	54	54
PDRC106	RC	MGA94_51	371,097.3	6,468,460.9	339.57	72	72
PDRC107	RC	MGA94_51	371,087.6	6,468,493.2	338.80	87	87
PDRC108	RC	MGA94_51	371,056.6	6,468,608.2	334.54	108	108
PDRC109	RC	MGA94_51	371,129.4	6,468,650.7	330.71	72	72
PDRC110	RC	MGA94_51	371,091.5	6,468,727.7	333.90	138	138

Notes:

- Hole locations were measured by a licenced surveyor in MGA 94 zone 51 using a DGPS which is considered fit for purpose.
- The azimuth is in degrees magnetic as derived from a hand held compass.

JORC (2012) Code – Table 1

Section 1 - Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Pioneer Dome Project, Sinclair Caesium Prospect.

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (eg cut Faces, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*	• Reverse circulation (RC) and • HQ Core samples from holes drilled from surface.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	• Industry-standard reverse circulation drilling, using a face-sampling hammer with a booster and auxiliary compressors used to ensure dry samples. • Duplicate samples and Certified Reference Standards were inserted at regular intervals to provide assay quality checks. The standards and duplicates reported within acceptable limits. • Industry-standard HQ2 diamond core drilling using a diamond-set cutting bit. • Certified Reference Standards were inserted at regular intervals to provide assay quality checks. The standards reported within acceptable limits. • Samples are considered 'fit for purpose', being to detect anomalous metal element occurrences.
	Aspects of the determination of mineralisation that are Material to the Public Report. *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Reverse circulation drilling was used to obtain 1 m samples or 3m composite samples of approximately 3.5 kg which are delivered to the laboratory. Following preparation by grinding, a subsample is taken, the size of which is determined by the analytical process or concentration of metal elements. • Half core samples of lengths determined by geology vary in weight. • The analytical process for a package of elements specific for exploring LCT pegmatites included digestion by a four acid digestion with a Mass Spectrometer (MS) determination (Intertek analysis code 4A Li48-MS). Over range samples were re analysed by a sodium peroxide zirconium crucible fusion.
Drilling techniques	*Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Reverse Circulation Drilling, 4.5 inch drill string, Face-sampling hammer, Auxiliary and Booster compressors used to exclude ground water. • HQ standard core drilling.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	• During drilling the geologist recorded occasions when sample quality is poor, sample return was low, when the sample was wet or compromised in another way.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	• Sample recovery is generally good for RC drilling using the equipment described. • Sample recovery is mostly under the control of the drill operator and is generally influenced by the experience and knowledge of the operator. • Sample recovery for core drilling is usually very high. Core measurements enable core recoveries to be calculated and form part of the QA/QC record.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	• Because the sample recoveries are assumed to be high, any possible relationship between sample recovery and grade has not been investigated.
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	• Lithological logs exist for these holes in a database. Fields captured include lithology, mineralogy, sulphide abundance and type, alteration, texture, recovery, weathering and colour.
	Whether logging is qualitative or quantitative in nature. Core (or costean, Face, etc) photography.	• Logging has primarily been qualitative. • Qualitative litho-geochemistry based on pXRF analyses is used to confirm rock types. • A representative sample of each meter is sieved and retained in chip trays for future reference. • XRD analysis of selected pulps retained from the chemical analysis may be undertaken once all chemical assays have been received.
	The total length and percentage of the relevant intersections logged.	• The entire length of the drill holes has been geologically logged.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.* *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• All one meter intervals are collected via a cone splitter directly attached to the cyclone when dry. All samples were dry. Individual samples were approximate 3.5kg. The bulk residue was collected via plastic drums and laid out in order on the drill pad. • One metre samples from the 'target zone' were submitted to the laboratory. Three metre composites were collected for the remainder of the drill hole. • The sample collection, splitting and sampling for this style of drilling is standard industry practise and fit for purpose. • No assays from the Core drilling have been included in this release, however the core was cut with half core sampled with a maximum sample length being 100cm and a minimum length being 30cm. From the core drilling, only zones considered prospective for lithium or caesium have been sampled.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	• Cyclones are routinely cleaned after each 6m rod. • Geologist looks for evidence of sample contamination, which was recorded where present.

Criteria	JORC Code explanation	Commentary
		• The use of booster and auxiliary compressors ensures samples are dry, which best ensures a quality sample. • The cut core was sampled with the right-hand side of the core always collected for chemical analysis, the orientation line was retained.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	• Standard Reference Material is included at a rate of 1 per 30 samples for all assay submissions. • Duplicate field samples for the RC drilling are routinely inserted at a 1 per 30 samples. • Laboratory quality control samples used and monitored by the laboratory and the company.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	• The sample size is considered appropriate for the style of deposit being sampled.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	• The sample preparation and assay method used is standard industry practice and is appropriate for the deposit.
	For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	• Pioneer owns a Bruker S1 Titan 800 handheld XRF instrument which is used to provide the geologist with basic, qualitative litho-geochemistry data only. This data is not considered reportable.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	• Standards and laboratory checks have been assessed. Most of the standards show results within acceptable limits of accuracy, with good precision in most cases. Internal laboratory checks indicate very high levels of precision.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.*	• Significant intersections are calculated and checked by suitably qualified personnel. • No holes have been twinned
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	• Pioneer has a digital SQL drilling database where information is stored. • The Company uses a range of consultants to load and validate data, and appraise quality control samples.
	Discuss any adjustment to assay data.	• Pioneer has adjusted the lithium (Li), tantalum (Ta) and caesium (Cs) assay results to determine Li2O, Ta2O5 and Cs2O grades. This adjustment is a multiplication of the elemental Li, Ta and Cs assay results by 2.153, 1.221 and 1.06 to determine Li2O, Ta2O5 and Cs2O grades respectively.
Location of data points	*Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	• Collar surveys were initially completed using a hand-held GPS with an accuracy of +-3 metres. The collar locations of the holes have since been surveyed by a licenced surveyor using a differential GPS. The new-collar surveys provide very accurate positions for all holes including the RL of each drill collar.
	Specification of the grid system used.	• MGA94 (Zone 51)

Criteria	JORC Code explanation	Commentary
	Quality and adequacy of topographic control.	• Topographic control is by DGPS, carried out by a licensed surveyor.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	• Individual drill hole spacing varies. This drill programme was predominantly drilled on a 10x10m grid.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	• A mineral resource estimate has been completed and is the basis for this report. Given the detailed work completed the Mineral Resource Estimate has been classified as Measured.
	Whether sample compositing has been applied.	• Yes, for the drill intersection summary at the start of this announcement.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• The strike of the mineralisation is estimated at to be broadly north – south, therefore the angled holes have been usually drilled towards East. Scissor holes have been drilled to confirm the dip of mineralisation. • Down hole intersections are estimated to closely approximately true widths based on the interpretation of the pegmatite bodies and the orientation of the drilling.
Sample security	*The measures taken to ensure sample security.*	• Pioneer uses standard industry practices when collecting, transporting and storing samples for analysis. • Drilling pulps are retained by Pioneer off site.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	• Sampling techniques for assays have not been specifically audited but follow common practice in the Western Australian exploration industry. • The assay data and quality control samples are periodically audited by an independent consultant.

Section 2 - Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites*	The drilling reported herein is entirely within E63/1669 which is a granted Exploration Licence. A mining lease application (MLA63/665) has been lodged and is currently being processed. The tenement is located approximately 40km N of Norseman WA. Pioneer Resources Limited is the registered holder of the tenement and holds a 100% unencumbered interest in all minerals within the tenement. The tenement is on vacant crown land. The Ngadju Native Title Claimant Group has a determined Native Title Claim which covers the Pioneer Dome project.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	At the time of this Statement E63/1669 is in Good Standing. To the best of the Company's knowledge, other than industry standard permits to operate there are no impediments to Pioneer's operations within the tenement.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	There has been no previous LCT pegmatite exploration on the Pioneer Dome project. Previous mapping by the Western Australian Geological Survey and Western Mining Corporation (WMC) in the 1970's identified several pegmatite intrusions however these were not systematically explored for Lithium or associated elements.
Geology	*Deposit type, geological setting and style of mineralisation.*	The Project pegmatites are consistent with records of highly differentiated Lithium Caesium Tantalum (LCT) pegmatite intrusion. This type of pegmatite intrusions are the target intrusions of hard rock lithium deposits.
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes, including easting and northing of the drill hole collar, elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar, dip and azimuth of the hole, down hole length and interception depth plus hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	Refer to Appendix 1 of this announcement.
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*	Intersections noted are from 1m sample intervals or from three-meter composite samples where specifically noted. Intersections are based on a 0.75% (lower) cut-off for lithium and 10% for caesium with a minimum width of 1m, a maximum of three meters of internal and no external dilution. No metal equivalent values have been used.

Criteria	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	Downhole lengths are reported in Appendix 1. The current geological interpretation, based on RC drilling and mapping, suggests that the true widths are similar to the down hole widths.
Diagrams	*Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	Refer to maps in this report.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Comprehensive reporting of drill details has been provided in Appendix 1 of this announcement.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	All meaningful and material exploration data has been reported.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Work that is currently underway or remains outstanding includes; • Metallurgical testing • Bulk Sample collection (methods are currently being investigated) • Extensional drilling • Negotiations with potential end users.

Section 3 – Estimation and Reporting of Mineral Resources

(Criteria listed in the section1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	• The drilling have been imported into a relational SQL server database using DatashedTM (Industry standard drill hole database management software). • All of the available drilling data has been imported into 3D mining and modelling software packages (SurpacTM and LeapfrogTM), which allow visual interrogation of the data integrity and continuity. All of the resource interpretations have been carried out using these software packages. During the interpretation process it is possible to highlight drilling data that does not conform to the geological interpretation for further validation.
	• *Data validation procedures used.*	• Data validation checks were completed on import to the SQL database. • Data validation has been carried out by visually checking the positions and orientations of drill holes.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*	• Paul Dunbar (consultant to Pioneer Resources) has visited the site numerous times.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The confidence in the geological interpretation is considered robust as the continuity of the GP8 (pollucite) zone within the pegmatite is consistent between drillholes. • No assumptions have been made regarding the geological interpretation. • There have been no alternative interpretations have been considered at this stage. • The key factors affecting continuity is the presence of the pollucite zone within the pegmatite.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The Mineral Resource estimate contains a single sub-horizontal, gently undulating domain striking approximately 015°. • The mineralised domain has dimensions of approximately 70m maximum length, up to 20m wide and up to 10m thick laying 40m below surface.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.*	• Grade estimation used both Inverse Distance Squared and Ordinary Kriging (for comparison) for Cs (%) using GEOVIA Surpac™ version 6.7.4. • Drillhole samples were flagged with the wireframed domain code. • Sample data was composited to 1m which is the most frequent sampling interval. • Influences of extreme sample distribution outliers were reduced by top-cutting on a domain basis. Top-cuts were decided by using a combination of methods including grade histograms, log probability plots and statistical tools. Based on this statistical analysis of the data population, no top-cuts were applied.

Criteria	JORC Code explanation	Commentary
	• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Directional variograms were modelled by domain using traditional variograms. Nugget values are moderate to high and grade ranges generally short (approximately 25-30m). • The Block Model was constructed with parent blocks of 2m (E) x 2m (N) x 1m (RL) parent cells that was sub-celled to 0.5m (E) x 0.5m (N) x 0.25m (RL) at the domain boundaries for accurate domain volume representation. • Search ellipse sizes were based primarily on a combination of the variography and the trends of the wireframed mineralized zones. Hard boundaries were applied to the estimation domain. • Three estimation passes were used. The first pass had a limit of 15m, the second pass 30m and the third pass searching a large distance to fill and blocks within the wireframed zones. Passes used various maximum / minimum sample numbers and maximum samples per hole – based on the sample distribution and number of samples contained within each domain. • Validation of the block model included a volumetric comparison of the resource wireframe to the block model volume. Validation of the grade estimate included comparison of block model grades to the declustered input composite grades plus swath plot comparison by easting, northing and elevation. Visual comparisons of input composite grades vs. block model grades were also completed. • Cs_2O (%) is included in the block model as a direct calculation from Cs (%) using the equation Cs_2O (%) = Cs (%) x 1.0602
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Tonnes have been estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Grade envelopes have been wireframed to a 1% Cs cut-off which equates to the pollucite geological zone within the pegmatite. • The 1% Cs cut-off grade was selected as it best represents the boundary between the back ground grade (<1% Cs) and the distinct high grade pollucite domain (>10% Cs).
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Pioneer has not undertaken any mining studies to date, however it is assumed that any future mining methods would be underground, selective and relatively small scale so as to optimise the grade of the ore and minimise dilution.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made*	• As documented in the text of this ASX release metallurgical tests are currently underway with a preliminary high density formate brine with a density of 2.1g/cc. This brine was generated from a high grade caesium composite and is therefore expected to be confirmed as a caesium formate brine. Additional information will

Criteria	JORC Code explanation	Commentary
	when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	be available once the chemical and physical properties of the preliminary brine is confirmed and additional leach tests are completed.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Environmental studies including Flora and Fauna studies are underway. Given the very small size of the Sinclair Deposit any waste material generated from the extraction is expected to be very small. As the pegmatite body contains no sulphides it is expected that the ore and waste would be benign and have a very low acid forming potential.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• Bulk density measurements have been carried out on 30 core samples, of which 17 are in the pollucite zone. • Pyncnometry measurements have been completed for 44 samples comprising RC chips and core samples. • An analysis of bulk density measurements against Cs grades has been completed. A clear positive correlation exists between Cs and bulk density. • Both the gravimetric determination and pyncnometry gave similar results, indicating that porosity is not an issue for this material.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The Sinclair Cs zone resource has been classified on the basis of confidence in the detailed geological understanding and defined continuity of the mineralised zone (drill spacing 10m x 10m) and the available bulk density data. • All factors considered; the resource estimate has been assigned to Measured resources.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• No external audits of the resource have been carried out.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	• The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. • The statement relates to global estimates of tonnes and grade.

Criteria	JORC Code explanation	Commentary
	• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	