

(ASX: PIO)

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QUARTERLY ACTIVITIES REPORT

FOR THE QUARTER ENDED 31 DECEMBER 2019

LITHIUM & CAESIUM

PIONEER DOME PROJECT - DOME NORTH AREA: LITHIUM (SPODUMENE)

 Maiden Li₂O (spodumene) Inferred Mineral Resource announced for the Cade Deposit of 8.2 million tonnes at 1.23% Li₂O (ASX release 25 November 2019):

Cade Lithium Deposit November 2019 Mineral Resource		
(0.5% Li2O cut-off grade)		
Classification	Tonnes (Mt)	Li₂O (%)
Inferred	8.2	1.23
Total	8.2	1.23

- **Exploration Target*** established for the Dome North Area of between **17 and 27 million tonnes** at a grade between **1.0% and 1.4% Li₂O**, in addition to the Cade Deposit (thus a total target endowment of 25-35 million tonnes inclusive of the Cade Deposit). (ASX release 25 November 2019).
- A total of 46 exploration reverse circulation (RC) drill holes (Dome North) and six diamond drill holes (Cade) were completed, subsequent to the Cade Resource estimation, comprising 8,365m of RC (incl. 6 pre collars for the DD holes) and 642m diamond drilling respectively.
- Two pegmatite targets drilled, intersecting spodumene (ASX release 25 November 2019).

PIONEER DOME PROJECT - SINCLAIR MINE: CAESIUM (POLLUCITE)

- Higher grade (>8% Cs₂O) caesium ore trucked from the Sinclair Mine site to the Port of Esperance in November. (This material was containerised and exported in January 2020).
- A\$1.5 million to A\$2.0 million anticipated from a price reconciliation adjustment and the sale of lower grade material (~3.0%-5.5% Cs₂O) during the March and June quarters. Total sales of all pollucite material from the Sinclair Mine are now anticipated to reach A\$19 million (January 2019 to June 2020).

NICKEL SULPHIDES

GOLDEN RIDGE PROJECT: Mapping and geochemistry of zones prospective for nickel sulphides continued, ahead of a planned programme of RC drilling and down-hole EM surveys.

PIONEER DOME PROJECT – DOME EAST: Mapping and geochemistry were undertaken along-strike of the Cassini nickel sulphide deposit and the Juno 4 nickel sulphide prospect held by Mincor Resources NL (ASX:MCR). The Cassini host-rocks are interpreted to extend southwards into the eastern flank of the Pioneer Dome Project.

CORPORATE

• At 31 December 2019, the Company held cash reserves of \$5.2 million and no debt.









DECEMBER 2019 QUARTERLY ACTIVITIES REPORT

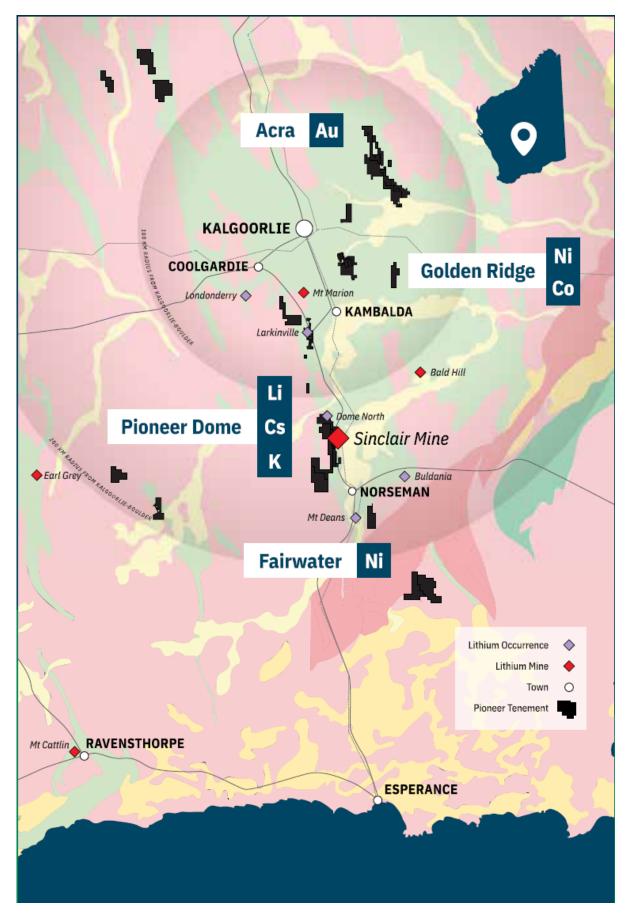


Figure 1: Company Project Location Plan. Tenement information is listed in Appendix 1.

PIONEER DOME PROJECT: Eastern Goldfields, Western Australia.

Pioneer 100%, Lithium, Caesium, Tantalum, Nickel Sulphides

The Pioneer Dome Project is located in Western Australia's Eastern Goldfields, approximately 130km south of Kalgoorlie and 200km north of the Port of Esperance (Figure 1). The southern Yilgarn area is recognised as highly endowed with spodumene deposits, including the Bald Hill Mine, Mt Marion Mine and the Buldania spodumene deposit. The Earl Grey deposit and the Mt Cattlin Mine are further west and south, respectively.

DOME-NORTH AREA: LITHIUM

First Drill Program:

Final assays for the remaining 11 holes out of the first 26-hole drilling programme were received in October. This drilling programme tested two of four lithium-caesium-tantalum ("LCT") pegmatite priority targets and resulted in the discovery of the Cade Spodumene Deposit. Two other pegmatites, 'Target 1' and 'Target 3', to the west of Cade were found to be mineralised.

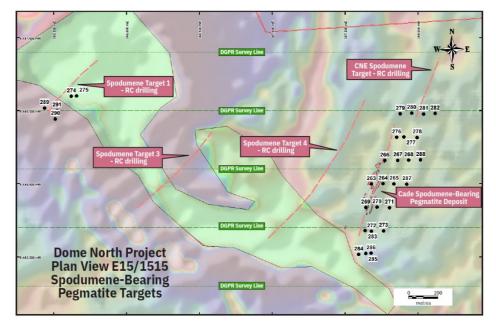


Figure 2: Pioneer Dome North prospect showing spodumene drill targets and drill hole collar points from the August drill programme. (Abbreviated Collar ID's are prefixed with PDRC).

The four targets identified to date have the same apparent orientation and dip, suggestive of regional pegmatite stacking. Holes drilled into the Cade deposit were at near right angles to the dip of the pegmatite, meaning that the reported intersections are close to 'true width' and all intersections reported are less than 250m vertical depth. Detailed drill result tables were included in ASX releases dated 26 September 2020 and 10 October 2020 and included the following:

Cade Deposit

Heller Deposit

PDRC275:

PDRC291:

- PDRC265: 25m at 1.61 Li₂O from 122m
- PDRC267: 33m at 1.63 Li₂O from 116m
- PDRC268: 18m at 1.47 Li₂O from 206m
- PDRC270: 23m at 1.36 Li₂O from 50m
- PDRC277: 10m at 1.60 Li₂O from 115m
- PDRC278: 15m at 1.48 Li₂O from 205m
- PDRC287: 13m at 1.00 Li₂O from 248m
- PDRC288: 15m at 1.13 Li₂O from 271m

10m at 1.08 Li₂O and 129ppm Ta₂O₅ from 275m

10m at 1.00 Li₂O from 48m

The first drill program demonstrated that the Cade Deposit offered both meaningful size and grade and so a Mineral Resource (Inferred) was calculated and reported in November (*ASX release 25 November 2019*), estimating 8.2 million tonnes at 1.23% Li₂O:

Cade Lithium Deposit November 2019 Mineral Resource		
(0.5% Li2O cut-off grade)		
Classification	Tonnes (Mt)	Li₂O (%)
Inferred	8.2	1.23
Total	8.2	1.23

Note: Appropriate rounding applied

The discovery of multiple pegmatite outcrops, of which three were drill-tested and found to be mineralised, allowed an initial Exploration Target* for the Dome North Area of between 17 and 27 million tonnes at a grade between 1.0 and 1.4% Li2O to be estimated. This is in addition to the Cade Deposit 8.2Mt Inferred Resource, detailed above.

* The potential quantity and grade of the Exploration Target is conceptual in nature. There is insufficient exploration information generated to estimate a Mineral Resource and it is uncertain that further exploration will result in the estimation of a Mineral Resource.

Second Drill Program:

The second drilling programme commenced in November and was completed mid-December. The assay results are expected early February. The program comprised 8,365 metres of Reverse Circulation (RC) drilling and 642 metres of diamond drilling. Part of the program was designed to test extensions to the Cade deposit as well as to complete six diamond holes to obtain samples for metallurgical testwork. Extensions to the 'Target 1' deposit (subsequently named the 'Heller Deposit'), two other mapped pegmatite outcrops and several targets identified by the deep ground penetrating radar and geochemical programs were also tested.

SINCLAIR MINE: CAESIUM

The remaining high grade (>8% Cs_2O) caesium ore was trucked from the Sinclair Mine site to the Port of Esperance in November and was containerised and exported in January 2020.

In total, the pollucite shipped to date contained 1,159 tonnes of caesium oxide (Cs_2O). This figure reconciles well with the quantity of Cs_2O (1,167 tonnes) reported in the pre-mining Mineral Resource Statement for the Sinclair Mine (*ASX release 28 November 2018*).

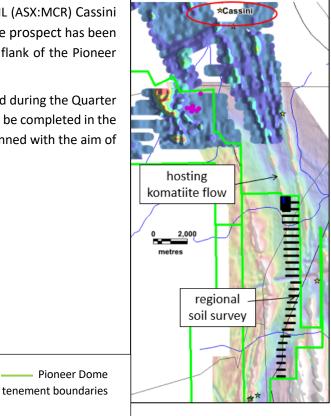
Post Quarter End: In January 2020, Pioneer and Sinomine Specialty Fluids (the offtaker), reached in-principle agreement to adjust upwards the price on the high grade pollucite already invoiced and for a Sinomine company to purchase all remaining lower-grade pollucite material that fell below the offtake agreement minimum grade threshold. Pioneer expects to receive a further A\$1.5 million to \$2.0 million in sales as a consequence. Total sales of all pollucite material from the Sinclair Mine are now expected to reach A\$19 million (from January 2019 to June 2020).

Marketing of the other materials mined (feldspar, petalite and lepidolite) has not as yet yielded any sales . Various leads will be pursued however Pioneer will treat this commercial activity as a low priority.

DOME-EAST AREA: NICKEL SULPHIDES

The north-south trend hosting the Mincor Resources NL (ASX:MCR) Cassini nickel sulphide deposit and the Juno 4 nickel sulphide prospect has been interpreted as extending southwards into the eastern flank of the Pioneer Dome Project.

Initial mapping and geochemistry programs commenced during the Quarter and the results and interpretation of them is planned to be completed in the March quarter. Further work programs can then be planned with the aim of identifying and ranking target areas.



GOLDEN RIDGE NICKEL PROJECT (Includes Blair Nickel Sulphide Mine) – Western Australia

Pioneer 100%: Nickel Sulphides, Cobalt Laterites, Nickel Laterites

The Golden Ridge Project is located 35kms south-east of Kalgoorlie and covers an area of 121 km2 of the Blair Dome. The Project includes the Blair Nickel Sulphide Mine, which closed in 2008 during a time of low nickel prices, having produced 1.26Mt of nickel ore at 2.62% nickel.

Mapping and geochemical soil programmes at the Leo's Dam prospect were completed during the Quarter. The Leo Dam prospect is considered highly prospective and a first priority nickel sulphide target. It is located approximately 2kms north-east of the Blair Nickel Mine.

Planning for an RC drill programme at the Leo's Dam prospect was undertaken during the Quarter. This work will follow up a previously reported intersection of 22 metres at 1.02% Ni and 475ppm Cu (*refer ASX release dated 25 January 2018*).

The programme will consist of six holes up to 300 metres in depth which will then form a platform to conduct downhole electromagnetic (DHEM) surveys with the objective of identifying potential for massive sulphide mineralisation, as anomalous conductive zones in the vicinity (~100 metres) of the drill holes.

GOLD PROJECT FARMINS & JOINT VENTURE

ACRA JOINT VENTURE: Northern Star Resources Limited (ASX:NSR) 75% - Pioneer 25%

Four RC drill holes were completed during the Quarter at the Matrix prospect, which is located along strike from a small open pit. One intercept indicates that a steeply dipping ultramafic-basalt contact could be a viable target, although the tenor of mineralisation returned at depth has downgraded the target. Three holes adequately tested outcropping quartz veins at depth and returned some sporadic anomalous gold results which are not considered to indicate economic viability of mineralisation at this target north of the Matrix pit.

KANGAN FARMIN-JV: Novo Resources Corp (TSX.V NVO) & Sumitomo Corporation 70% - Pioneer 30%

Most activities to date have been focussed on the Egina Mining Lease with Novo now stepping out into neighbouring areas. The Egina Mining Lease is not part of the Kangan Project but is located ~5 kms from the nearest Kangan tenement boundary. Novo Resources reported in December 2019 that its exploration activities have confirmed the presence of extensive areas of gold-bearing gravels at its South Egina and Paradise targets. The Kangan Project lies in between the Egina Mining Lease and the Paradise target.

BALAGUNDI FARMIN-JV: Black Cat Syndicate Limited (ASX:BC8) 75% - Pioneer 25%

No material activities on the Balagundi tenement were reported by Black Cat during the Quarter.

CORPORATE

At 31 December 2019, the Company's closing cash balance was \$5.2 million and further sales of pollucite worth between A\$1.5 million and \$2.0 million are anticipated to be received by 30 June 2020 from final high grade reconciliations as well as sales of low grade pollucite which was not previously classified as saleable under the offtake agreement.

The Company is debt-free.

Post Quarter End: Experienced mining executive Timothy (Tim) Spencer, who has been with Pioneer since October 2017 in the roles of Chief Financial Officer and Company Secretary, was appointed as Chief Executive Officer, effective 24 January 2020. Mr Spencer replaced David Crook, who stepped down after 16 years of service to Pioneer as Managing Director.

This report has been approved by the Board of Directors

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About Pioneer Resources Limited

Having successfully completed its first mining operation at the Sinclair Caesium Mine, and now well-funded through the sale of pollucite, Pioneer returns to being an active explorer focused on key global demand-driven commodities, looking for its next mining opportunity. 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 high-quality lithium asset in Canada.

Lithium: In addition to the Pioneer Dome LCT Project, the Company holds a 51% Project interest in the Mavis Lake Lithium Project, Canada where Company drilling has intersected spodumene.

Nickel: The Company owns the Golden Ridge Project which includes the suspended Blair Nickel Sulphide Mine, located between Kalgoorlie and Kambalda, WA. Near-mine target generation is continuing, with the Company announcing a new disseminated nickel sulphide drilling discovery at the Leo's Dam Prospect in 2018, highlighting the prospectivity of the greater project area.

Gold: Pioneer's key gold projects are free-carried with well credentialed JV partners:

- Acra JV Project near Kalgoorlie W.A.: Northern Star Resources limited has earned a 75% Project Interest and continues to fully fund exploration programmes until a decision to mine.
- Kangan Project in the West Pilbara W.A: A farmin & JV agreement with Novo Resources Corp and Sumitomo Corporation will fully fund gold exploration programmes until a decision to mine is made, with Pioneer retaining a 30% free-carried position. During the quarter approximately 30 line-kilometres of ground-penetrating radar was completed to map potential gold targets.
- Balagundi Project: A farmin & JV agreement with where Black Cat Syndicate Limited may earn a 75% interest in the Project located at Bulong, near Kalgoorlie, W.A.

Competent Person

The information above that relates to the Company's Resources and Exploration Results is extracted from various ASX Announcements, including on 25 November 2019 entitled "Initial Inferred Mineral Resource for the Cade Spodumene Deposit and Initial Exploration Target for the Dome North Area" and for which Competent Persons consents were obtained. The Competent Persons' consents remain in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent. The reports are available to review on the ASX website and on the Company's website at <u>www.PIOresources.com.au</u>. The Company confirms that it is not aware of any new information or data that materially effects the information included in the original market announcement, and, in the case of estimates of Mineral Resources, that all market assumptions and technical assumptions underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

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.

Т	enement Schedule (Consolidated Basis)		
Tenement	Holder	Notes	Status
Golden Ridge Nickel Projec	t Located 30km SE of Kalgoorlie, WA		
E26/186	Golden Ridge North Kambalda Pty Ltd	1	Granted
E26/211	Golden Ridge North Kambalda Pty Ltd	1	Granted
M26/220	Golden Ridge North Kambalda Pty Ltd	1	Granted
M26/222	Golden Ridge North Kambalda Pty Ltd	1, 11	Granted
M26/284	Golden Ridge North Kambalda Pty Ltd	1, 11	Granted
M26/285	Golden Ridge North Kambalda Pty Ltd	1, 11	Granted
L26/272	Golden Ridge North Kambalda Pty Ltd	1	Granted
Fairwater Nickel Project Loo	cated 220km SE of Kalgoorlie, WA		
E63/1665	Pioneer / National Minerals Pty Ltd	10	Granted
E63/1714	Pioneer / National Minerals Pty Ltd	10	Under application
Pioneer Dome Project Loop	ted 133km SSE of Kalgoorlie, WA		
E15/1515	Pioneer Resources Limited		Granted
E15/1522	Pioneer Resources Limited		Granted
E15/1725	Pioneer Resources Limited		Under application
E63/1669	Pioneer Resources Limited		Granted
E63/1782	Pioneer Resources Limited		Granted
E63/1783	Pioneer Resources Limited		Granted
E63/1785	Pioneer Resources Limited		Granted
E63/1825	Pioneer Resources Limited		Granted
L63/77	Pioneer Resources Limited		Granted
M63/665	Pioneer Resources Limited		Granted
Kangan Lithium Project Loc	ated 80km S of Port Hedland, (Wodgina)	WA	
E45/4948	Pioneer Resources Limited	19	Under application
E47/3318-I	Pioneer Resources Limited	15, 17	Granted
E47/3321-I	Pioneer Resources Limited	15, 17	Granted
E47/3945	Pioneer Resources Limited	19	Granted
Donnelly Lithium Project Lo	cated 15km SW of Greenbushes, WA		
E70/4826	Paul Winston Askins	12	Under application
E70/4829	Paul Winston Askins	12	Under application
Regional Projects, Located	 in WA		
E15/1710	Pioneer Resources Limited		Under application
E30/487	Pioneer Resources Limited		Granted
E63/1796	Pioneer Resources Limited		Granted
E30/509	Pioneer Resources Limited		Under application
E30/510	Pioneer Resources Limited		Under application
E27/575	Milford Resources Pty Ltd	18	Granted
E63/1959	Pioneer Resources Limited		Under application
Balagundi			
E27/558	Pioneer Resources Limited	19	Granted

	Tenement Schedule (Consolidated Basis)		
Tenement	Holder	Notes	Status
Mavis Lake Proiect. Loc	ated 10km East of Dryden, Ontario, Canada		
4208712	International Lithium Corporation	13	Granted
4208713	International Lithium Corporation	13	Granted
4208714	International Lithium Corporation	13	Granted
4251131	International Lithium Corporation	13	Granted
4251132	International Lithium Corporation	13	Granted
4251133	International Lithium Corporation	13	Granted
4251134	International Lithium Corporation	13	Granted
4251135	International Lithium Corporation	13	Granted
4251136	International Lithium Corporation	13	Granted
4251137	International Lithium Corporation	13	Granted
4251138	International Lithium Corporation	13	Granted
4251139	International Lithium Corporation	13	Granted
4251140	International Lithium Corporation	13	Granted
K489140	International Lithium Corporation	13	Granted
K498288	International Lithium Corporation	13	Granted
K498289	International Lithium Corporation	13	Granted
K498290	International Lithium Corporation	13	Granted
K498292	International Lithium Corporation	13	Granted
	i		
Acra Gold Project Locat	ed 60km NE of Kalgoorlie, WA		
E27/278	Pioneer / Northern Star Resources Ltd	2, 8	Granted
E27/438	Pioneer / Northern Star Resources Ltd	2, 8	Granted
E27/491	Pioneer / Northern Star Resources Ltd	8	Granted
E27/520	Pioneer / Northern Star Resources Ltd	2, 8	Granted
E27/548	Pioneer / Northern Star Resources Ltd	8	Granted
E27/579	Pioneer / Northern Star Resources Ltd	2, 8	Granted
E28/1746	Pioneer / Northern Star Resources Ltd	2, 8	Granted
E28/2483	Pioneer / Northern Star Resources Ltd	8	Granted
L20/2403		0	
Wattle Dam Nickel Proje	ect Located 65km S of Kalgoorlie, WA		
M15/1101	Maximus Resources Limited	3, 5	Granted
M15/1263	Maximus Resources Limited	3, 5	Granted
M15/1264	Maximus Resources Limited	3, 5	Granted
M15/1323	Maximus Resources Limited	3, 5	Granted
M15/1328	Maximus Resources Limited	3, 5	Granted
M15/1769	Maximus Resources Limited	3, 5	Granted
M15/1769 M15/1770	Maximus Resources Limited	3, 5	Granted
M15/1770 M15/1771	Maximus Resources Limited	3, 5	Granted
	Maximus Resources Limited	3, 5	Granted
M15/1772	Maximus Resources Limited	3, 5	Granted
M15/1773		5, 5	Granteu
arkinville Lithium Nick	el Project Located 75km S of Kalgoorlie, WA		
M15/1449	Pioneer / Maximus Resources Limited	6, 7	Granted
P15/5912	Pioneer / Maximus Resources Limited	6, 7	Granted
		0, 7	
	cated 1/IIIkm SE et Southern Creec		
Maggie Hays Hill JV, Loo E63/1784	Pioneer / Poseidon Nickel Limited	14	Granted

DECEMBER 2019 QUARTERLY ACTIVITIES REPORT

Т	enement Schedule (Consolidated Basis)		
Tenement	Holder	Notes	Status
Ravensthorpe Copper-Gold	Project Located 340km SW of Kalgoor	lie, WA	
E74/311	ACH Minerals Pty Limited	9	Granted
E74/379-I	Galaxy Lithium Australia Limited	16	Granted
E74/399	Galaxy Lithium Australia Limited	16	Granted
E74/406	Galaxy Lithium Australia Limited	16	Granted
E74/486	ACH Minerals Pty Limited	9	Granted
E74/537	ACH Minerals Pty Limited	9	Granted
E74/558	ACH Minerals Pty Limited	9	Granted
E74/559	ACH Minerals Pty Limited	9	Granted
E74/560	ACH Minerals Pty Limited	9	Granted
M74/163	ACH Minerals Pty Limited	9	Granted
P74/349	ACH Minerals Pty Limited	9	Granted
Katanning Gold Project			
E70/5040	Ausgold Exploration Pty Ltd	20	Granted
E70/5042	Ausgold Exploration Pty Ltd	20	Granted
E70/5043	Ausgold Exploration Pty Ltd	20	Granted
E70/5044	Ausgold Exploration Pty Ltd	20	Granted

Note	
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
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	Acra JV Agreement Northern Star Resources Limited 75% interest. 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	Subject to an Option Agreement with P Askins
13	Subject to an earn-in Joint Venture with International Lithium Corp.
14	Maggie Hays Lake JV Agreement: Poseidon Nickel Limited 80%, Pioneer 20% & free carried interest to commencement of mining.
15	FMG Pilbara Pty Ltd 1.5% NSR royalty
16	Ravensthorpe: Title and lithium/tantalum rights held by Galaxy Lithium Australia Limited. All other mineral rights held by ACH Minerals Pty Limited. Pioneer 1.5% NSR
17	Kangan Farmin Agreement: Novo Resources Corp. may earn a 70% Project Interest (excluding lithium and related minerals)
18	Cessna Dam JV Agreement. Pioneer may earn an 80% Interest. Milford 20% free carried interest.
19	Balagundi Farmin Agreement: Black Cat Syndicate Limited may earn a 75% Project interest.
20	Katanning Gold Project, 1.5% NSR