

ASX ANNOUNCEMENT

11 January 2016

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## **PILBARA AWARDS KEY CONTRACTS FOR PILGANGOORA FEASIBILITY STUDY AS FINAL 2015 DRILL RESULTS PAVE WAY FOR IMMINENT RESOURCE UPGRADE**

*FURTHER OUTSTANDING HIGH-GRADE INTERCEPTS REINFORCE QUALITY AND SCALE OF DEPOSIT*

### **HIGHLIGHTS**

- All major contracts awarded for the Pilgangoora Feasibility Study, due for completion by mid-2016, with Como Engineers appointed as lead contractor for engineering, design and study management services.
- Feasibility Study to focus on standalone 2Mtpa operation at Pilgangoora producing lithium (spodumene) concentrates targeting the glass and ceramics industry as well as the rapidly growing lithium battery market.
- Pre-Feasibility Study financials targeted for release in March with final Feasibility Study due in July, paving the way for development of world-class project to proceed.
- Work now underway on next key resource upgrade, due later this month, following receipt of final assay results from 2015 drilling program. Further significant widths and outstanding grades returned from Western and Central Pegmatite systems (Table 1.)

Australian strategic metals company Pilbara Minerals Ltd (ASX: PLS) is pleased to advise that it has commenced the Feasibility Study on its flagship 100%-owned **Pilgangoora Lithium-Tantalite Project**, located near Port Hedland in WA, following the award of all key contracts and appointment of consultants.

The major contract – for engineering, design and metallurgical study management services for the process plant and infrastructure components of the Definitive Feasibility Study (DFS) – has been awarded to respected Australian-based engineering, metallurgy and construction services group Como Engineers Pty Ltd (“Como Engineers”).

The process plant and infrastructure design contract includes the mine site footprint and encompasses metallurgical input, implementation planning, capital and operating cost estimates, risk and operations management, as well as design of roads and supporting infrastructure and implementation planning.

The Company is also pleased to advise that all results have now been received from the highly successful 2015 resource in-fill and extensional drilling program at Pilgangoora, with further exceptional thick, high-grade intercepts received from both the Central and Western Pegmatites.

These results will be incorporated in the next major resource upgrade for Pilgangoora, which is expected to be completed later this month and will underpin both the Definitive Feasibility Study, due for completion by mid-year, and the Pre-Feasibility Study, due for completion by March 2016.

### **Pilgangoora Definitive Feasibility Study (DFS)**

All the major consultant groups have now been commissioned to deliver the key components of the DFS according to their relevant disciplines after agreeing and tendering a Scope of Work. The major components which have been awarded are:

- Process Plant and Infrastructure – Como Engineers;
- Metallurgical Testwork Management – Como Engineers;
- Mining – MiningPlus;
- Geology and Resources – Trepanier Pty Ltd;
- Tailings Management Facility and Geotechnical – ATC Williams;
- Hydrogeology and Hydrology – Groundwater Resource Management.

Consultants have also been commissioned to undertake the following:

- Environmental Surveys, Approvals and Licensing Documentation;
- Financial Modelling; and
- Owner's Team Assistance and Project Reviews.

The first Feasibility Study team meeting was held on Wednesday, 6<sup>th</sup> January 2016 at which key objectives and deliverables were discussed. The Feasibility Study team has agreed to deliver Pre-Feasibility Study level project financials in early March and the full Feasibility Study in July 2016. A site familiarisation tour is being conducted on Thursday, 14<sup>th</sup> January for all the major consultant groups.

The first phase of the comprehensive metallurgical testwork program has already commenced and is planned to be completed at the end of the March 2016 Quarter with the second phase program covering the variability testing, locked cycle flotation and dense media separation testwork to be completed in May. Further environmental surveys are also planned for the March 2016 Quarter.

The DFS is being undertaken on the basis of developing a standalone operation at Pilgangoora with an annualised ore throughput rate of 2Mtpa, producing lithium concentrates targeting the glass and ceramics industry and the rapidly growing global lithium-ion battery market. As the Pilgangoora deposit also contains tantalum, the DFS will also encompass production of tantalum concentrates, which will provide a by-product credit that will offset the production costs of the lithium concentrate.

### **Pilgangoora Reverse Circulation Program**

Assay results have now been received for the remaining 19 RC drill holes (*see highlighted drill-holes shown in Appendix 1*) with the latest results coming from in-fill drilling within the Central and West Pegmatite systems.

Drill holes PLS192, PLS199, PLS210, PLS220 and PLS236 all targeted the deeper extensions of the Western Pegmatite system and drilling returned significant results including **12m @ 1.91% Li<sub>2</sub>O** from 129m (PLS192); **7m @ 1.97% Li<sub>2</sub>O** from 8m (PLS210); **25m @ 1.86% Li<sub>2</sub>O** from 158m and **6m @ 1.51% Li<sub>2</sub>O** from 156m (PLS220); and **10m @ 1.59% Li<sub>2</sub>O** from 169m and **14m @ 1.52% Li<sub>2</sub>O** from 179m (PLS236).

In-fill drill holes PLS241 to PLS243, PLS254 and PLS255 targeted the upper Western Pegmatite system as well lower zones of the Central System. Drilling was successful returning a number of significant intercepts including **29m @ 1.38% Li<sub>2</sub>O** from 8m (PLS241); **9m @ 1.53% Li<sub>2</sub>O** from 67m; **12m @ 1.41% Li<sub>2</sub>O** from



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*109m; and **6m @ 1.40% Li<sub>2</sub>O** from 155m; **15m @ 1.06% Li<sub>2</sub>O** from surface (PLS254); **8m @ 1.86% Li<sub>2</sub>O** from 99m and **32m @ 1.77% Li<sub>2</sub>O** from 45m (PLS255); and **16m @ 1.87% Li<sub>2</sub>O** from 145m.*

In-fill drilling in the Central Pegmatite system continued to deliver thick, high-grade intersections from drill holes PLS 224, PLS225 and PLS 356, including: **31m @ 1.80% Li<sub>2</sub>O** from 113m (PLS224); **9m @ 2.38% Li<sub>2</sub>O** from 137m (PLS225); and **14m @ 1.61% Li<sub>2</sub>O** from 151m and **53m @ 1.76% Li<sub>2</sub>O** from 79m (PLS356).

Full intersections and assay results are provided in Table 1 on page 6 onwards of this release.

### **Management Comment**

Pilbara Minerals' Executive Director, Mr Neil Biddle, said the Company was gearing up rapidly for a transformational year in 2016 as it delivered on its strategy of advancing the world-class Pilgangoora lithium-tantalum project to production as quickly as possible.

"We have well and truly hit the ground running this year with a full Feasibility Study team now appointed, in place and working around the clock to deliver on our objectives of releasing PFS-level financial results by March and a full DFS by July 2016," he said. "We are pleased to have secured the services of a highly experienced and competent group of industry professionals and engineering and metallurgical consultants – led by the team at Como Engineers – to deliver the Pilgangoora DFS on time and on budget.

"The flip side of the severe downturn in the resource sector is that it has made it a lot easier to secure the best possible industry professionals for the job at very competitive rates, and we look forward to working with this highly skilled team to move Pilgangoora into production as quickly as possible.

"The final batch of drill results from the 2015 in-fill and extensional program have also come in, confirming beyond any doubt the scale and quality of the resource at Pilgangoora, which is firmly established as a the second largest spodumene deposit in the world with further growth potential.

"Work is already underway on the next major resource upgrade, which should be finalised in the coming weeks. That will set the platform for a very busy period of news-flow as we unlock the huge potential of the Pilgangoora lithium-tantalum deposit, which is one of the most advanced and significant new spodumene deposits in the world.

"Our aim is to have Pilgangoora in full production by 2018, positioning it to capitalise on the extremely robust market outlook for lithium – which is increasingly being recognised by analysts and fund managers as one of the most desirable commodities to invest in over the next decade," Mr Biddle said.



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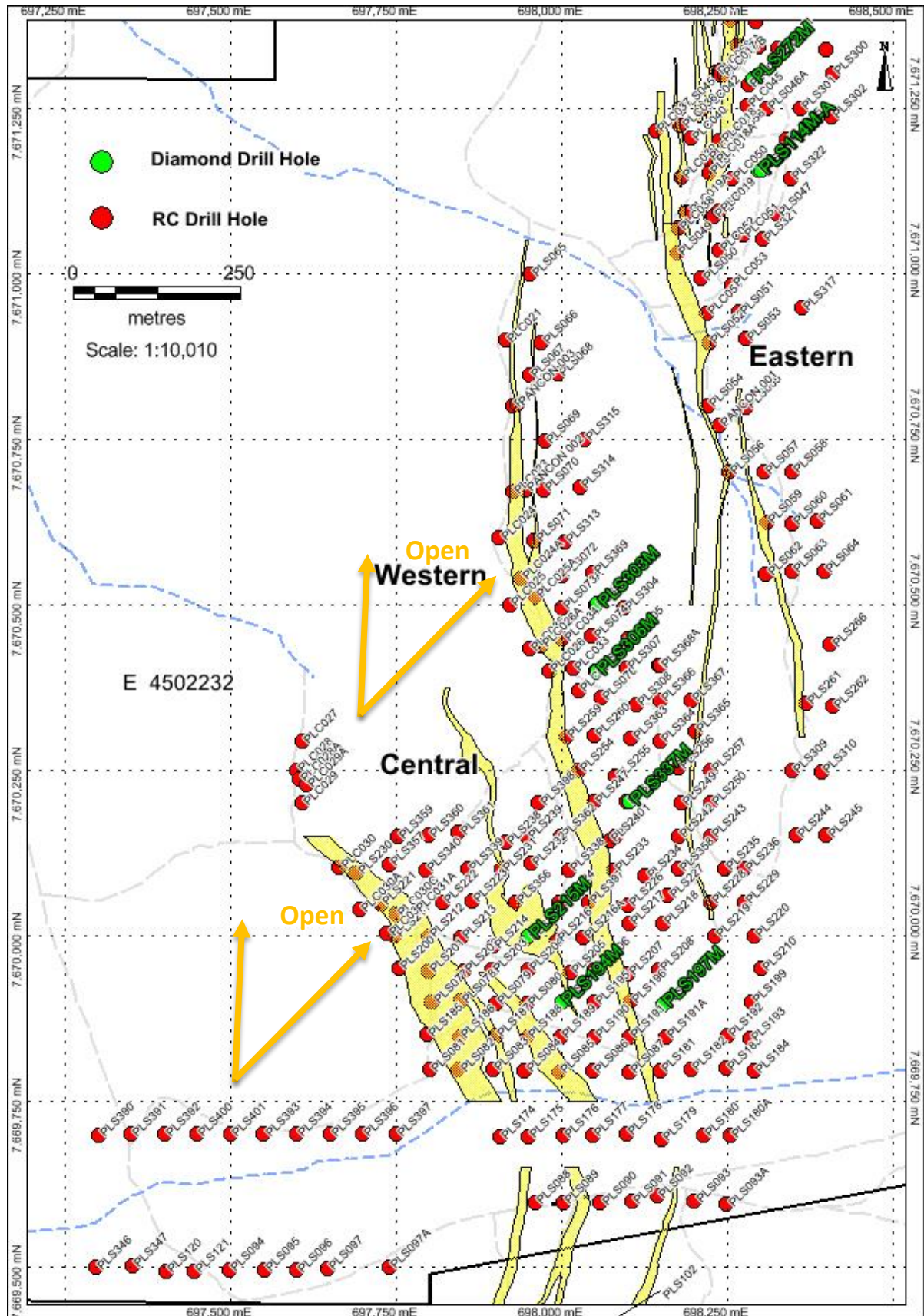


Figure 1: 1:5000 scale, RC drill collars at the Western and Central Pegmatites, EL45/2232



Table 1 below lists all recently received assay results from all drill holes in this report.

**Table 1: Drilling Intersections (>1% Li<sub>2</sub>O)**

Hole Id	From (m)	To (m)	Thickness (m)	Li <sub>2</sub> O (%)	Ta <sub>2</sub> O <sub>5</sub> (ppm)
PLS184	111	113	2	1.05	100
PLS184	118	120	2	1.89	140
PLS184	133	136	3	1.20	60
PLS192	111	113	2	1.55	100
PLS192	121	123	2	1.54	65
PLS192	182	194	12	1.91	84
PLS210	8	15	7	1.97	77
PLS210	158	183	25	1.86	74
PLS219	5	10	5	1.38	116
PLS219	112	117	5	1.65	104
PLS219	121	126	5	1.72	78
PLS219	129	130	1	1.92	100
PLS220	17	19	2	1.57	105
PLS220	21	22	1	1.28	130
PLS220	115	117	2	1.21	130
PLS220	156	162	6	1.51	90
PLS220	168	178	10	1.59	72
PLS224	113	144	31	1.80	105
PLS225	5	6	1	2.07	150
PLS225	99	101	2	1.40	50
PLS225	106	107	1	1.12	90
PLS225	137	146	9	2.38	137
PLS225	151	165	14	1.61	52
PLS229	184	185	1	1.16	90
PLS229	186	187	1	1.35	90
PLS236	41	42	1	1.15	90
PLS236	54	56	2	1.51	90
PLS236	136	138	2	1.34	70
PLS236	140	141	1	1.51	60
PLS236	179	193	14	1.52	126
PLS236	198	199	1	1.25	120
PLS241	8	37	29	1.38	152
PLS241	59	60	1	1.67	70
PLS241	67	76	9	1.53	80
PLS241	109	121	12	1.41	73
PLS241	155	161	6	1.40	75
PLS241	169	170	1	1.44	170
PLS254	0	15	15	1.06	140
PLS254	19	20	1	1.10	70
PLS254	49	50	1	1.62	120
PLS254	53	54	1	1.66	100
PLS254	99	107	8	1.86	61



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Hole Id	From (m)	To (m)	Thickness (m)	Li <sub>2</sub> O (%)	Ta <sub>2</sub> O <sub>5</sub> (ppm)
PLS255	45	77	32	1.77	134
PLS255	91	96	5	1.60	78
PLS255	100	103	3	1.64	80
PLS255	145	161	16	1.87	88
PLS356	17	24	7	1.57	69
PLS356	28	30	2	1.28	110
PLS356	57	60	3	2.81	173
PLS356	79	132	53	1.76	95
PLS398	25	31	6	1.64	127
PLS398	76	82	6	1.78	70
PLS398	85	86	1	1.05	10

**Table 2: Drilling Intersections (>100 ppm Ta<sub>2</sub>O<sub>5</sub>)**

Hole Id	From (m)	To (m)	Thickness (m)	Ta <sub>2</sub> O <sub>5</sub> (ppm)	Li <sub>2</sub> O (%)
PLS184	111	116	5	108	0.66
PLS184	119	120	1	190	1.26
PLS192	2	3	1	110	0.76
PLS192	4	5	1	110	0.11
PLS192	109	115	6	113	0.78
PLS192	180	185	5	114	1.68
PLS192	190	191	1	110	1.54
PLS199	6	11	5	144	1.68
PLS199	14	16	2	125	0.09
PLS199	137	138	1	110	1.56
PLS199	139	143	4	120	1.22
PLS199	145	146	1	130	2.86
PLS199	158	159	1	110	0.28
PLS199	160	161	1	100	0.21
PLS210	7	8	1	120	0.21
PLS210	9	10	1	140	1.51
PLS210	155	159	4	138	1.06
PLS210	161	162	1	130	1.33
PLS210	166	167	1	100	2.71
PLS210	169	170	1	100	0.98
PLS219	5	13	8	123	1.04
PLS219	109	115	6	142	1.26
PLS219	117	119	2	105	0.64
PLS219	124	125	1	110	1.28
PLS219	127	130	3	113	0.70
PLS219	133	134	1	120	0.70
PLS220	14	15	1	110	0.02
PLS220	16	24	8	140	0.74



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Hole Id	From (m)	To (m)	Thickness (m)	Ta <sub>2</sub> O <sub>5</sub> (ppm)	Li <sub>2</sub> O (%)
PLS220	115	116	1	170	1.33
PLS220	154	157	3	183	0.61
PLS220	159	160	1	100	1.34
PLS220	162	164	2	105	0.21
PLS220	166	167	1	130	0.08
PLS220	173	174	1	130	1.84
PLS224	11	16	5	128	0.64
PLS224	63	66	3	130	1.91
PLS224	78	79	1	100	0.93
PLS224	81	82	1	100	0.03
PLS224	84	87	3	167	0.03
PLS224	112	123	11	159	1.81
PLS224	125	126	1	110	1.81
PLS224	142	144	2	175	1.38
PLS225	5	8	3	160	1.05
PLS225	84	85	1	100	0.17
PLS225	88	89	1	240	0.09
PLS225	94	99	5	142	0.28
PLS225	107	109	2	135	0.42
PLS225	136	151	15	131	1.65
PLS225	166	168	2	120	0.50
PLS229	32	33	1	190	0.25
PLS229	106	107	1	300	0.06
PLS229	166	174	8	164	0.03
PLS229	175	176	1	100	0.02
PLS229	179	181	2	110	0.05
PLS229	183	184	1	100	0.02
PLS236	41	42	1	240	1.15
PLS236	54	55	1	100	1.49
PLS236	58	62	4	258	0.33
PLS236	133	134	1	180	0.82
PLS236	142	143	1	130	0.15
PLS236	146	148	2	185	0.04
PLS236	178	180	2	115	0.60
PLS236	182	185	3	100	1.70
PLS236	186	187	1	100	0.50
PLS236	188	189	1	100	1.46
PLS236	190	195	5	206	1.33
PLS236	197	199	2	120	0.99
PLS236	200	203	3	153	0.73
PLS241	7	13	6	147	1.50
PLS241	17	42	25	163	1.11
PLS241	57	59	2	140	0.42
PLS241	70	71	1	110	1.83
PLS241	72	74	2	110	1.30
PLS241	106	109	3	113	0.02
PLS241	121	123	2	165	0.53



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Hole Id	From (m)	To (m)	Thickness (m)	Ta <sub>2</sub> O <sub>5</sub> (ppm)	Li <sub>2</sub> O (%)
PLS241	155	156	1	120	1.35
PLS241	169	173	4	163	0.64
PLS242	2	5	3	143	1.05
PLS242	57	58	1	110	0.46
PLS242	65	68	3	123	0.73
PLS242	70	76	6	150	0.30
PLS242	88	93	5	128	0.23
PLS242	97	99	2	115	1.85
PLS242	106	107	1	160	1.41
PLS242	110	111	1	100	1.62
PLS242	113	114	1	110	2.50
PLS242	117	119	2	135	1.02
PLS243	14	16	2	145	0.78
PLS243	39	47	8	159	1.34
PLS243	118	119	1	150	0.63
PLS243	142	144	2	225	0.99
PLS243	145	146	1	110	1.33
PLS243	151	152	1	100	2.00
PLS243	154	155	1	110	2.31
PLS243	157	164	7	161	0.88
PLS243	166	167	1	110	1.13
PLS254	0	1	1	100	1.46
PLS254	3	5	2	100	0.80
PLS254	6	14	8	184	1.05
PLS254	16	18	2	110	0.58
PLS254	20	21	1	110	0.45
PLS254	48	50	2	120	1.00
PLS254	51	52	1	100	0.82
PLS254	53	54	1	100	1.66
PLS254	77	80	3	103	0.32
PLS254	96	99	3	123	0.27
PLS254	109	112	3	117	0.14
PLS255	50	51	1	100	1.51
PLS255	55	57	2	115	2.27
PLS255	60	77	17	184	1.74
PLS255	93	94	1	100	2.13
PLS255	101	102	1	100	1.73
PLS255	151	154	3	157	2.30
PLS255	160	162	2	125	0.97
PLS356	6	8	2	200	0.62
PLS356	21	22	1	140	1.73
PLS356	29	30	1	140	1.28
PLS356	58	61	3	190	1.55
PLS356	79	80	1	100	1.45
PLS356	96	108	12	177	1.75
PLS356	109	110	1	100	1.70
PLS356	120	121	1	130	1.42



Hole Id	From (m)	To (m)	Thickness (m)	Ta <sub>2</sub> O <sub>5</sub> (ppm)	Li <sub>2</sub> O (%)
PLS356	126	127	1	100	1.80
PLS356	130	133	3	140	1.14
PLS358	86	89	3	153	1.97
PLS358	93	103	10	170	0.55
PLS358	111	113	2	100	1.67
PLS395	108	110	2	145	0.47
PLS395	114	116	2	140	0.01
PLS397	30	32	2	160	0.38
PLS398	23	31	8	131	1.25
PLS398	73	76	3	107	0.25
PLS398	84	85	1	130	0.82

### About Pilbara Minerals

Pilbara Minerals (“Pilbara” – ASX: PLS) is a mining and exploration company listed on the ASX, specialising in the exploration and development of the specialty metals lithium and tantalum. Pilbara owns 100% of the world class Pilgangoora lithium-tantalite project which is the second largest spodumene (lithium aluminium silicate) project in the world. Pilgangoora is also one of the largest pegmatite hosted tantalite resources in the world and Pilbara proposes to produce tantalite as a by-product of its lithium production.

### About Lithium

Lithium is a soft silvery white metal which is highly reactive and does not occur in nature in its elemental form. It has the highest electrochemical potential of all metals, a key property in its role in Lithium ion batteries. In nature it occurs as compounds within hard rock deposits and salt brines. Lithium and its chemical compounds have a wide range of industrial applications resulting in numerous chemical and technical uses. A key growth area is its use in lithium batteries as a power source for a wide range of applications including consumer electronics, power station-domestic-industrial storage, electric vehicles, power tools and almost every application where electricity is currently supplied by fossil fuels.

### About Tantalum

The tantalum market is boutique in size with around 1,300 tonnes required each year. Its primary use is in capacitors for consumer electronics, particularly where long battery life and high performance is required such as smart phones, tablets and laptops.

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### **Competent Person's Statement**

*The information in this report that relates to Exploration Results is based on and fairly represents information and supporting documentation prepared by Mr John Young (Technical Director of Pilbara Minerals Limited). Mr Young is a shareholder of Pilbara Minerals. Mr Young is a member of the Australasian Institute of Mining and Metallurgy and has 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 Young consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.*

**Appendix 1 – Drilling Information Pilgangoora Lithium – Tantalum Project**

Hole ID	East GDA94	North GDA94	RL	Dip	Azm	Depth
PLS184	698290	7669795	200	-60	270	186
PLS192	698250	7669850	200	-60	270	180
PLS199	698283	7669900	200	-60	270	180
PLS210	698300	7669950	200	-60	270	186
PLS219	698230	7670000	200	-60	270	150
PLS220	698280	7670000	200	-60	270	186
PLS224	697995	7670050	200	-60	270	150
PLS225	698040	7670050	200	-60	270	168
PLS236	698275	7670100	200	-60	270	204
PLS241	698080	7670143	200	-60	270	180
PLS242	698175	7670150	200	-60	270	124
PLS243	698222	7670149	200	-60	270	174
PLS254	698025	7670250	200	-60	270	114
PLS255	698080	7670240	200	-60	270	166
PLS356	697930	7670050	200	-55	270	138
PLS395	697650	7669700	200	-60	270	125
PLS396	697700	7669700	200	-60	270	104
PLS397	697750	7669700	200	-60	270	100
PLS398	697965	7670200	200	-60	270	96
PLS194M	698000	7669900	200	-60	270	104
PLS215M	697950	7670000	200	-60	270	119

**Results not included in this report**

## JORC Code, 2012 Edition – Table 1 report

### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<i>Nature and quality of sampling (e.g. cut channels, 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.</i>	Pilbara Minerals Limited (PLS) have completed a <b>89 drill holes for 11837m</b> . Results being reported are for 19 RC holes, See Appendix 1.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	PLS RC holes were sampled every metre, with samples split on the rig using a cyclone splitter. The sampling system consisted of a rig mounted cyclone with cone splitter and dust suppression system. The cyclone splitter was configured to split the cuttings at 85% to waste (to be captured in 600mm x 900mm green plastic mining bags) and 15% to the sample port in draw-string calico sample bags (10-inch by 14-inch).
	<i>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 (e.g. ‘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 (e.g. submarine nodules) may warrant disclosure of detailed information.</i>	PLS holes were all RC, with samples split at the rig, samples are then sent to NAGROM Perth laboratory and analysed for a suite of 18 elements. Analysis was completed by XRF and ICP techniques.

Criteria	JORC Code explanation	Commentary
<b>Drilling techniques</b>	<i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).</i>	RC Drilling was completed by a track mounted Schramm T450 with an automated rod-handler system and on-board compressor rated to 1,350cfm/800psi. Drilling used a reverse circulation face sampling hammer. The sampling system consisted of a rig mounted cyclone with cone splitter and dust suppression system.
<b>Drill sample recovery</b>	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Sample recovery was recorded as good for RC holes.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	Whilst drilling through the pegmatite, rods were flushed with air after each 6 metre interval.
	<i>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.</i>	Samples were dry and recoveries are noted as "good."
<b>Logging</b>	<i>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.</i>	1m samples were laid out in lines of 20 or 30 samples with cuttings collected and geologically logged for each interval and stored in 20 compartment plastic rock-chip trays with hole numbers and depth intervals marked (one compartment per 1m). Geological logging information was recorded directly onto hard copy logging sheets and later transferred an Excel spreadsheet. The rock-chip trays are to be stored in PLS Perth office.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	Logging has primarily been quantitative.
	<i>The total length and percentage of the relevant intersections logged.</i>	The database contains lithological data for all holes in the database.
<b>Sub-sampling techniques and sample preparation</b>	<i>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.</i>	RC samples were generally dry and split at the rig using a cyclone splitter, which is appropriate and industry standard.

Criteria	JORC Code explanation	Commentary
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	PLS samples have field duplicates, field standards and blanks as well as laboratory splits and repeats.
	<i>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.</i>	Field duplicates were taken approximately every 20m, and standards and blanks every 50 samples.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Drilling sample sizes are considered to be appropriate to correctly represent the tantalum and lithium mineralization at Pilgangoora based on the style of mineralization (pegmatite) and the thickness and consistency of mineralization.
<b>Quality of assay data and laboratory tests</b>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	PLS samples were assayed at NAGROM Pty Ltd 's Laboratory in Perth WA, for a 18 element suite using XRF on fused beads, and total acid digestion with an ICP finish.
	<i>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.</i>	No geophysical tools were used to determine any element concentrations used in this resource estimate.
	<i>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.</i>	PLS duplicates of the samples were taken at twenty metre intervals with blanks and standards inserted every 50m. Comparison of duplicates by using a scatter chart to compare results show the expected strong linear relationship reflecting the strong repeatability of the sampling and analysis process. The PLS drilling contains QC samples (field duplicates, blanks and standards plus laboratory pulp splits, and NAGROM internal standards), and have produced results deemed acceptable.
<b>Verification of sampling</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Infill drilling completed by PLS in this program has confirmed the approximate width and grade of historical drilling.



Criteria	JORC Code explanation	Commentary
<b>and assaying</b>	<i>The use of twinned holes.</i>	
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	An electronic database containing collars, surveys, assays and geology is maintained by Trepanier Pty Ltd, an Independent Geological consultancy.
	<i>Discuss any adjustment to assay data.</i>	Li was converted to Li <sub>2</sub> O for the purpose of reporting. The conversion used was Li <sub>2</sub> O = Li x 2.153
<b>Location of data points</b>	<i>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.</i>	PLS holes were surveyed using DGPS in GDA94, Zone 50. Down hole surveying of drill holes was conducted using a Reflex EZ-shot, electronic single shot camera to determine the true dip and azimuth of each hole. Measurements were recorded at the bottom of each hole. Drill hole collar locations will be surveyed at the end of the program by a differential GPS (DGPS).
	<i>Specification of the grid system used.</i>	The grid used was MGA (GDA94, Zone 50)
	<i>Quality and adequacy of topographic control.</i>	The topographic surface used was supplied by GAM
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	Drilling spacings varied between 50m to 200m apart
	<i>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.</i>	The interpretation of the mineralised domains are supported by a moderate drill spacing, plus both geological zones and assay grades can be interpreted with confidence.
	<i>Whether sample compositing has been applied.</i>	No compositing

Criteria	JORC Code explanation	Commentary
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	The mineralisation dips approximately 30-60 degrees at a dip direction of 090 degrees . The drilling orientation and the intersection angles are deemed appropriate.
	<i>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.</i>	No orientation-based sampling bias has been identified.
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	Chain of custody for PLS holes were managed by PLS personnel.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	Sampling techniques for historical assays have not been audited. The collar and assay data have been reviewed by checking all of the data in the digital database against hard copy logs. All PLS assays were sourced directly from the NAGROM laboratory

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<i>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</i>	PLS owns 100% of tenement E45/2232, M45/333
	<i>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.</i>	No known impediments.

Criteria	JORC Code explanation	Commentary
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Talison completed RC holes in 2008 GAM completed RC holes between 2010 and 2012.
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation.</i>	The Pilgangoora pegmatites are part of the later stages of intrusion of Archaean granitic batholiths into Archaean metagabbros and metavolcanics. Tantalum mineralisation occurs in zoned pegmatites that have intruded a sheared metagabbro.
<b>Drill hole Information</b>	<i>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.</i>	Refer to Appendix 1 this announcement.
<b>Data aggregation methods</b>	<i>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. The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	Length weighed averages used for exploration results reported in Table 2 and 3. Cutting of high grades was not applied in the reporting of intercepts in Table 2 and 3 No metal equivalent values are used.
<b>Relationship between mineralisation</b>	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	Downhole lengths are reported in Table 1 and 2. Down hole lengths are reported, true widths are not known, The pegmatites dip between 30 and 70



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Criteria	JORC Code explanation	Commentary
<b>n widths and intercept lengths</b>	<i>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').</i>	degrees to the east and the majority of drilling is a t -60 degrees to the west, so thickness are approximate true widths.
<b>Diagrams</b>	<i>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.</i>	See Figures 1-3
<b>Balanced reporting</b>	<i>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.</i>	Comprehensive reporting of drill details has been provided in Appendix 1 of this announcement.
<b>Other substantive exploration data</b>	<i>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.</i>	All meaningful & material exploration data has been reported.
<b>Further work</b>	<i>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.</i>	The aim is to upgrade the existing JORC compliant resource calculation.