PILBARA MINERALS
LIMITED

ACN 112-425-788

ASX ANNOUNCEMENT **20th August 2015**

PILGANGOORA LITHIUM PROJECT ON TRACK FOR NEXT MAJOR RESOURCE UPGRADE FOLLOWING OUTSTANDING NEW HIGH-GRADE DRILL RESULTS

DIAMOND DRILLING CONFIRMS LOW-IRON SPODUMENE POTENTIAL AS RC DRILLING FURTHER EXTENDS THE RESOURCE

HIGHLIGHTS:

- **Outstanding assay results received from the first three of six HQ diamond core holes** completed at Pilbara's 100%-owned **Pilgangoora Lithium-Tantalum Project** with excellent correlation achieved between previous RC drilling and diamond core drilling and significant assays including:
    - ***14m @ 1.66% Li_2O and 446ppm Ta_2O_5*** *from 29m (PLS270M);and*
      5m @ 2.71% Li_2O and 388ppm Ta_2O_5 *from 47m;*
    - ***16m @ 1.44% Li_2O and 401ppm Ta_2O_5*** *from 29m (PLS269M); and*
      7m @ 1.57% Li_2O and 180ppm Ta_2O_5 *from 76m;*
    - ***13m @ 1.65% Li_2O and 252ppm Ta_2O_5*** *from 33m (PLS272M);and*
      11m @ 1.23% Li_2O and 472ppm Ta_2O_5 *from 89m.*

- **Further thick, high-grade lithium-tantalum intersections recorded in the next 29 Reverse Circulation (RC) drill-holes completed at Pilgangoora during July**, with latest results from the northern end of the **Eastern Pegmatite** returning significant assay results including:
    - ***11m @ 1.68% Li_2O and 451ppm Ta_2O_5*** *from 18m (PLS013);*
    - ***9m @ 1.57% Li_2O and 192ppm Ta_2O_5*** *from 12m(PLS035);and*
      10m @ 1.53% Li_2O and 174ppm Ta_2O_5 *from 46m;*
    - ***7m @ 1.26% Li_2O and 186ppm Ta_2O_5*** *from 60m (PLS031);*
    - ***6m @ 1.71% Li_2O and 312ppm Ta_2O_5*** *from 5m (PLS007);*
    - ***5m @ 1.48% Li_2O and 264ppm Ta_2O_5*** *from 17m (PLS32);and*
      7m @ 1.39% Li_2O and 251pm Ta_2O_5 *from 60m;*
    - ***4m @ 2.15% Li_2O and 255ppm Ta_2O_5*** *from 8m(PLS033), and:*
      3m @ 2.04% Li_2O and 163 ppm Ta_2O_5 *from 52;*
    - ***5m @ 1.25% Li_2O and 534ppm Ta_2O_5*** *from 59m(PLS116);*
    - ***6m @ 1.16% Li_2O and 182ppm Ta_2O_5*** *from 20m(PLS125);*

- **Three drilling rigs are currently on site with one RC rig testing northern extensions of the resource (along the Eastern Pegmatite)** a **second RC rig** drilling the **southern extensions of the Western Pegmatite**. The **diamond core rig has now completed four of the six planned metallurgical holes.**

Australian strategic metals company Pilbara Minerals Ltd (ASX: PLS) is pleased to advise that it is on track to complete a further significant update to the JORC Mineral Resource for its flagship 100%-owned **Pilgangoora Tantalum-Lithium Project**, located near Port Hedland in WA, in September after receiving further outstanding results from ongoing diamond and Reverse Circulation drilling at the rapidly growing project.

Three rigs are currently operating at Pilgangoora as Pilbara continues to accelerate resource development and feasibility work as part of its strategy to advance this potentially world-scale lithium deposit towards development as rapidly as possible, to capitalise on high levels of interest from potential customers and off-take partners.

Two RC rigs are focusing on extensions to the resource to the north and south, while the diamond rig is extracting core for metallurgical testwork purposes while also validating previous RC drilling and providing additional confidence in the resource.

The latest drilling results from Pilgangoora have confirmed the continuity of the resource along the northern end of the Eastern Pegmatite with assay results returning high-grade tantalum intersections with associated lithium (between 1-1.5% Li_2O).

The individual pegmatite widths are generally narrower and vary between 2m and 10m but contain significant tantalum (Ta_2O_5) grades, such as those seen in hole PLS013 which intersected five pegmatite dykes all returning intersections grading over 400ppm Ta_2O_5. Using 100ppm Ta_2O_5 as the intersection cut-off, the middle pegmatite returned an intersection of **14m @ 419 ppm Ta_2O_5 and 1.16% Li_2O.**

Drilling is continuing along the southern extension of the Western Pegmatite, where recent RC drilling has extended the continuity of this mineralised pegmatite a further 500m to the south (see Figure 1 and 4).

Visible spodumene is evident in the drill intersections and it is expected that results from this work will contribute towards the updated JORC resource estimate planned to be finalised in September. Full intersections and assay results are provided in Table 2 on page 8 onwards of this release.

Figure 1: View south along the Western Pegmatite, with the diamond core rig in the foreground

Preliminary results have been received for the first three of six planned HQ diamond holes, which are designed to supply core for further detailed mineralogy, petrology and metallurgical test work.

Two of the planned holes were designed as direct twins of existing RC holes over the entire width of the pegmatite. Hole PLS270M returned an outstanding intersection of **27m @ 1.65% Li_2O and 383ppm Ta_2O_5 from 29m,** which compares well to the previous RC hole PLS117 which returned an average grade of 1.74% Li_2O and 359ppm Ta_2O_5 over the same interval.

Pilbara's Executive Director, Mr Neil Biddle, said the outstanding results flowing from the expanded resource drilling program would be incorporated in a new resource estimate to be completed in September.

"With every week of drilling we gain more confidence in the grade, continuity and scale of the Pilgangoora deposit, which continues to grow rapidly in stature as one of the most significant hard rock lithium deposits in the world," he said. "Initial results from diamond drilling have validated the previous thick RC intercepts, returning some impressive intercepts from the central part of the resource, while also providing core for use in the next important phase of metallurgical testwork.

"In parallel with this, we now have two RC rigs working around the clock to scope out potential extensions of the resource both to the north and south. This work has been very successful, clearly demonstrating the substantial growth potential of the deposit beyond the currently defined resource boundaries.

"We are looking forward to incorporating all of this drill data and information in our next resource upgrade, which should be available towards the end of next month. That will provide the foundation for our Feasibility Study, giving us the confidence to progress our existing off-take arrangements to the next stage and commence funding discussions."

Pilgangoora Diamond Drilling Program – Discussion

Five HQ diamond drill holes have so far been completed for 581.3m of drilling out of the original six planned. Results have been received for the first three holes, PLS269M, PLS270M and PLS272M. All three are located within the main resource area along the Eastern Pegmatite system and are twins of existing RC holes for grade comparison purposes.

Significant diamond drill intersections (>1% Li_2O lower cut) received;

- 16m @ 1.44% Li_2O and 401ppm Ta_2O_5 from 29m and 7m @ 1.57% Li_2O and 180ppm Ta_2O_5 from 76m (PLS269M);
- 13m @ 1.65% Li_2O and 252ppm Ta_2O_5 from 33m (PLS272M);and 11m @ 1.23% Li_2O and 472ppm Ta_2O_5 from 89m (PLS272M); and
- 14m @ 1.66% Li_2O and 446ppm Ta_2O_5 from 29m and 5m @ 2.71% Li_2O and 388ppm Ta_2O_5 from 47m (PLS270M).

In comparing assays from individual metre samples from the diamond and RC drill holes there are differences which are not unexpected due to the nature of the mineralisation and variation in sample size.

However, over the entire width of the pegmatite diamond drill hole **PLS270M returned 27m @ 1.65% Li_2O and 383ppm Ta_2O_5 from 29m,** which compares well to adjacent RC hole PLS117 which returned an average grade of **1.74% Li_2O and 359ppm Ta_2O_5 over the same interval.**

Of significance was the consistent reduction in the iron grade (Fe_2O_3) between the diamond and RC results, which can be explained by contamination by the wearing and erosion of steel in the drilling equipment by the mineral spodumene. The graph below (Figure 2) illustrates the variability in the LiO_2 grades and the consistent difference between the Fe_2O_3 grades.

The diamond drilling will produce approximately 1800kg of pegmatite for definitive metallurgy, with initial testwork being conducted on 80kg of core from the interval 21-47m in PLS272M. This program will comprise Size Analysis, Heavy Liquid Separation work, Davis Tube test work, Bond Ball Work Index tests and Bond Abrasion test work.

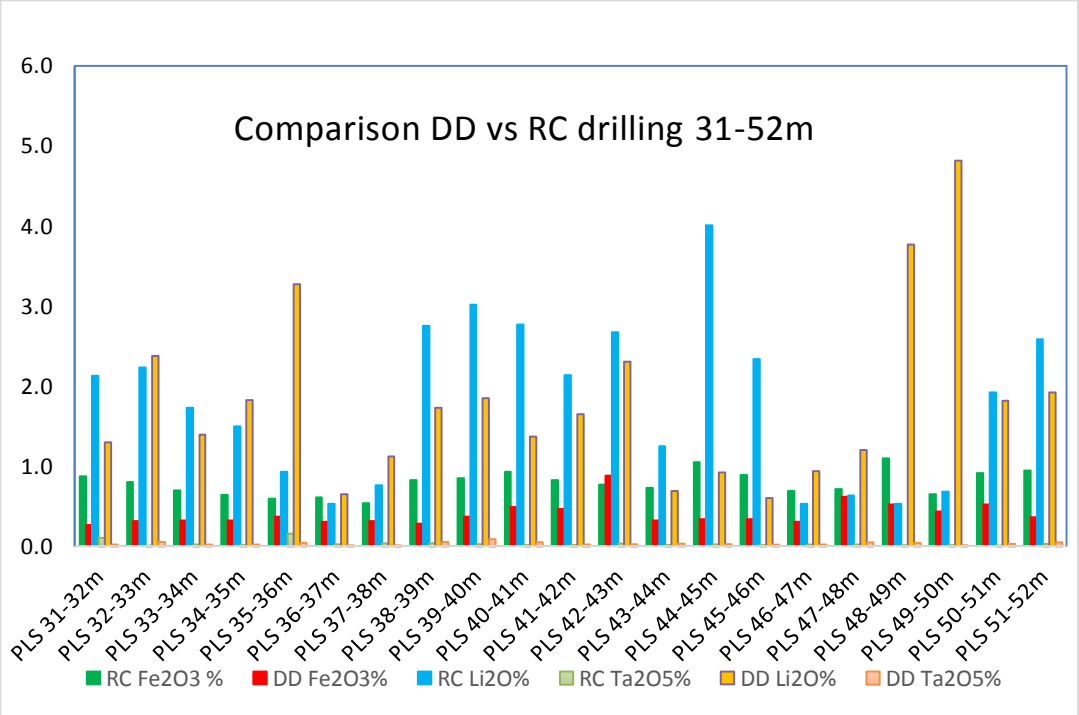


Figure 2: Graphical comparison of RC assays vs. Diamond Core assays

Table 1: Diamond drilling completed to date

Hole ID	North GDA94 Actual	East GDA94 Actual	RL	Dip	AZ	Depth
PLS114M	7671155	698297.2	209.635	-70	270	38.5
PLS114M-A	7671156	698300.5	209.879	-70	270	183.5
PLS272M	7671293	698288.2	205.927	-90	0	121.3
PLS270M	7671427	698310.1	204.652	-90	0	90.7
PLS269M	7671443	698353.1	212.34	-60	270	147.3

Ore Characterisation Work

Detailed logging of the major geological units identifiable in core of holes PLS269M, 270M and 272M from the Eastern Pegmatite has been completed.

The key lithological units in Table 2 have been broken down by major mineralogy, with the aim being to enable the Company's geologists to identify the lithologies in 1 metre intervals in RC drill cuttings.

Fine grained spodumene is subordinate in abundance to coarse spodumene. It is estimated that the coarse-to-fine spodumene ratio is 4:1 or more, for the occurrence of discrete units. Fine and coarse spodumene are separated on the basis of an average grain size (maximum dimension) of ~10 mm. This separation is made for potential metallurgical purposes.

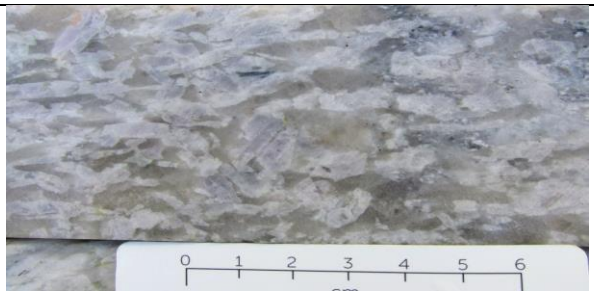
Table 2: Key Lithological Units at Pilgangoora

Unit	Li grade expected	Ta grade expected	Description and mineralogy	Comments
Coarse spodumene	High	Medium to High	Coarse (> 1 cm in maximum dimension, occasionally to megacrystic sizes) spodumene laths in a fine grained matrix, typically	The main unit targeted. Coarse spodumene may comprise up to 50% of these units.
Fine grained spodumene	High	Medium to High	Finer (< 1 cm in maximum dimension) spodumene laths in a fine grained matrix, typically comprised of quartz	May occur as interlocking masses of fine spodumene and quartz
Fine grained albite	Low	Medium to High	Fine grained albite, subordinate quartz. May have ~0-10% mica content.	"Sugary albite" unit; more common adjacent to wallrock contacts
K-feldspar	Low to moderate	Low	Black mottled coarse to megacrystic microcline, cut by albite and secondary feldspar	May occasionally contain spodumene laths

Other altered spodumene – spodumene dominant (75%+) units also have small amounts of secondary feldspar, muscovite, lepidolite, and chlorite. It is anticipated that further refinement of this classification will take place as detailed petrology and mineral chemistry work is carried out. Samples have been taken from all diamond holes for further mineralogical work.

The images presented are from diamond drill-hole PLS272M:

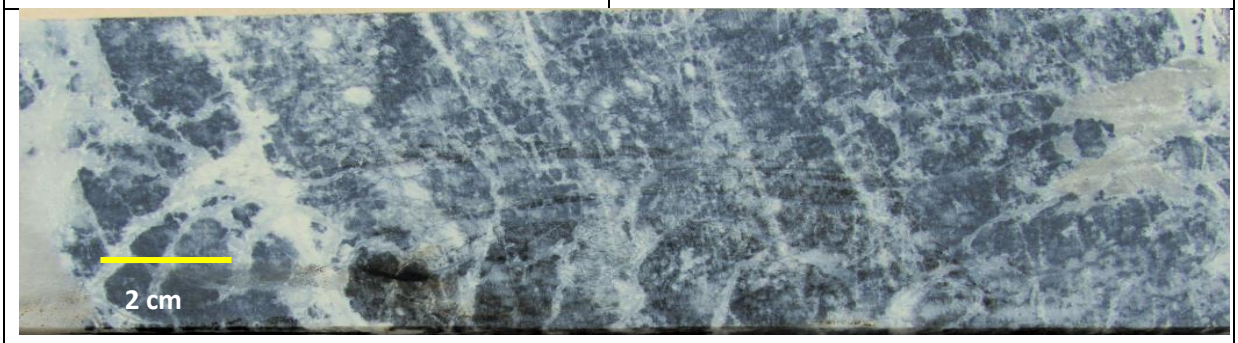
Coarse Grained Spodumene unit, with finely crystalline albite-quartz matrix. The brighter white grains and patches are most probably secondary feldspars, and minor possible relic microcline. Mica content is likely to be quite minor (≤1%).



Detail of **'ideal ore' – coarse Spodumene** (~40%) with quartz matrix, minor mica and secondary feldspar. Pull apart structures affecting very coarse elongate spodumene crystals may be seen in the upper right part of the image.

Fine Spodumene Unit, with average spodumene grain size of < 1 cm. Matrix of fine grained albite-quartz, minor very fine-fine grained micas.

Fine grained albite unit. The tan tinted portions are dominantly quartz. Dark disseminated minerals are expected to be mainly to be very fine grained micas.



Microcline (K-feldspar) unit, comprised of massive (megacrystic) mottled microcline, fractured by albite±quartz veinlets, and creamy white secondary feldspar mainly on the left of the image.

Figure 3 – Photographs of the Main lithological Units within pegmatite in drill-hole PLS272M

Pilgangoora Reverse Circulation Program – Discussion

Results have now been received from a further **29 RC drill holes for 2227m**, with this latest phase of RC drilling focused on extensions to known mineralisation and under drilled sections along the northern end of the Eastern Pegmatite. The Eastern Pegmatite was the focus of the previous resource drilling, as part of the Priority 1 campaign in 2014 and 2015 (see Figure 4).

The drilling to date has confirmed the continuity of mineralisation over 400m from 7671500mN to 7671900mN, and over 300m 7672700mN to 7673000mN. Significant assays were returned from holes PLS013 (11m @ 1.68% Li_2O and 451ppm Ta_2O_5 from 18m), PLS035 (9m @ 1.57% Li_2O and 192ppm Ta_2O_5 from 12m) and PLS035 (10m @ 1.53% Li_2O and 174ppm Ta_2O_5 from 46m).

Typical intersections range in width from 2-8m in the northern end of the Eastern Pegmatite with up to six individual pegmatites identified. Using a >1% Li_2O lower cut the weighted average grade of Li_2O and Ta_2O_5 intersected in pegmatites range from 1.44% to 1.50% and 224ppm to 336ppm respectively (see Tables 1 and 2).

Significant higher grade zones returning grades of >1.5% Li_2O (Holes PLS013 and PLS035, see Table 1, highlighted in yellow) and localised thickening of the pegmatites remain targets for further in-fill.

Figure 4 – Proposed RC Drill pad Western Pegmatite EL45/2232

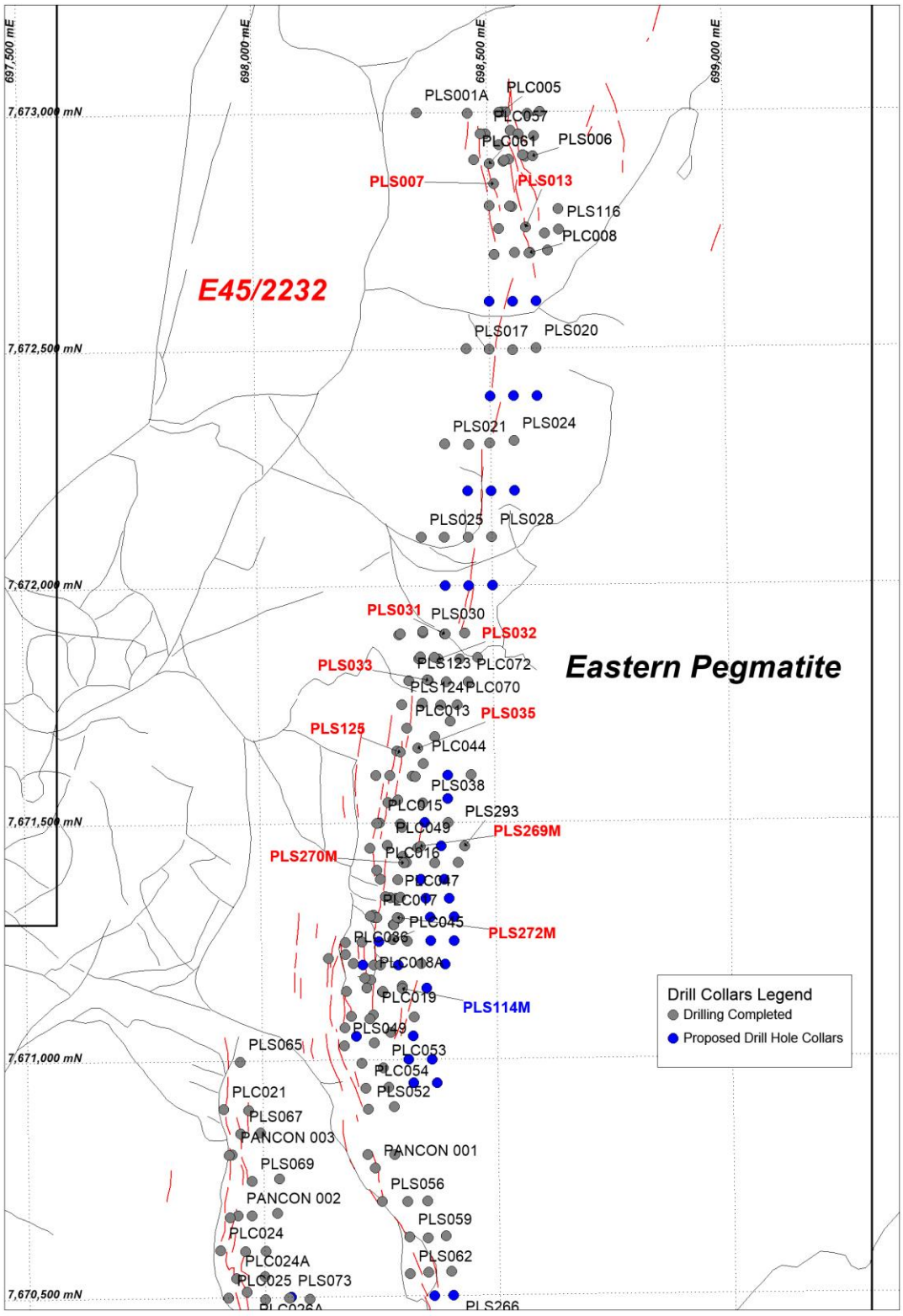


Figure 5 – 1:10,000 Scale Pilgangoora RC Collar Locations EL45/2232

Table 2 below lists all recently received assay results from all drill holes in this report.

Table 2: Drilling Intersections (>1% Li_2O)

Hole Id	From (m)	To (m)	Thickness (m)	Li_2O (%)	Ta_2O_5 (ppm)
PLS029	NSR				
PLS030	62	63	1	1.89	620
	83	84	1	1.04	280
PLS031	17	19	2	1.51	510
	30	34	4	1.77	243
	60	67	7	1.26	186
	89	93	4	1.00	148
	104	106	2	1.77	250
PLS032	17	22	5	1.48	264
	31	33	2	1.43	205
	44	45	1	1.65	430
	60	67	7	1.39	251
	91	92	1	1.59	300
PLS122	17	18	1	1.36	100
	33	34	1	2.00	260
PLS033	8	12	4	2.15	255
	21	23	2	1.25	150
	52	55	3	2.04	163
	93	94	1	1.13	430
PLS123	25	29	4	1.74	245
	63	64	1	1.09	380
PLS034	7	11	4	1.63	233
	17	19	2	1.31	160
	47	49	2	1.22	255
PLS124	26	29	3	1.52	133
PLS035	8	9	1	1.41	100
	12	21	9	1.57	192
	46	56	10	1.53	174
	94	95	1	1.30	420
	102	103	1	1.84	140
PLS125	20	26	6	1.16	182
	68	70	2	1.57	265
PLS037	1	2	1	1.67	270
PLS041	21	22	1	1.08	120

Hole Id	From (m)	To (m)	Thickness (m)	Li_2O (%)	Ta_2O_5 (ppm)
PLS001	NSR				
PLS002	NSR				
PLS003	6	7	1	1.10	390
PLS004	3	5	2	1.39	100
	8	10	2	1.70	150
	13	16	3	1.14	197
PLS005	74	80	6	1.16	142
PLS006	17	19	2	1.25	350
	58	61	3	1.18	480
PLS006A	18	19	1	1.36	490
	34	35	1	1.14	510
PLS007	5	11	6	1.71	312
	13	14	1	1.17	460
PLS011	NSR				
PLS013	4	6	2	1.25	576
	10	12	2	1.56	545
	18	29	11	1.68	451
	45	47	2	1.49	505
	49	51	2	1.94	400
PLS014	NSR				
PLS016	NSR				
PLS116	59	64	5	1.25	534
PLS269M	4	6	2	1.43	540
	57	73	16	1.44	401
	76	83	7	1.57	180
	102	105	3	1.68	270
PLS270M	20	21	1	1.92	280
	29	43	14	1.69	446
	47	52	5	2.71	388
	55	59	4	1.26	370
PLS272M	26	29	3	1.95	197
	33	46	13	1.65	252
	89	105	11	1.23	472

Table 3: Drilling Intersections (>100 ppm Ta2O5)

Hole Id	From (m)	To (m)	Thickness (m)	Ta_2O_5 (>100ppm)	Li_2O (%)
PLS029	5	7	2	305	0.17
PLS030	14	22	8	384	0.27
	49	50	1	220	0.34
	62	64	2	375	1.08
	82	84	2	205	1.04
PLS031	16	21	5	360	0.81
	30	35	5	286	1.52
	42	43	1	300	0.18
	44	46	2	280	0.26
	60	66	6	202	1.27
	91	94	3	240	1.22
	102	106	4	253	0.68
PLS032	17	22	5	264	1.48
	31	36	5	216	0.81
	43	46	3	263	0.76
	61	67	6	278	1.33
	90	93	3	273	0.86
PLS122	15	22	7	160	0.38
	32	35	3	323	0.85
	56	57	1	230	1.24
	71	73	2	260	0.09
PLS034	87	89	2	185	0.15
	99	102	3	213	0.15
PLS124	22	30	8	189	0.89
	51	52	1	180	0.11
	61	63	2	110	0.30
PLS035	8	22	14	177	1.25
	46	56	10	174	1.53
	71	72	1	180	0.16
	88	90	2	205	0.61
	94	96	2	370	0.88
	98	104	6	205	0.77
PLS125	20	29	9	194	0.92
	42	43	1	170	0.05
	60	61	1	110	0.09
	67	71	4	302	0.90
PLS037	0	2	2	350	1.20
	9	10	1	130	0.22
	34	40	6	230	0.55

Hole Id	From (m)	To (m)	Thickness (m)	Ta_2O_5 (>100ppm)	Li_2O (%)
PLS041	14	16	2	150	0.75
	23	24	1	110	0.40
	33	37	4	203	0.46
	61	63	2	165	0.66
PLS001	NSR				
PLS001A	35	42	7	341	0.90
PLS002	NSR				
PLS003	4	11	7	239	0.59
PLS004	2	6	4	105	0.91
	8	11	3	137	1.47
	13	17	4	173	1.44
	46	50	4	280	0.34
PLS005	76	82	6	207	1.04
PLS006	12	13	1	130	0.10
	17	20	3	340	0.94
	58	64	6	448	0.79
	83	84	1	180	0.34
PLS006A	17	20	3	307	0.81
	32	36	4	480	0.89
PLS007	5	16	11	361	1.17
	37	39	2	215	0.15
PLS011	NSR				
PLS013	3	12	9	407	0.95
	16	30	14	419	1.16
PLS014	31	32	1	170	0.79
PLS016	35	36	1	393	1.01
PLS116	35	36	1	210	0.84
	59	65	6	513	1.16
PLS269M	3	6	3	393	1.27
	57	83	26	316	1.37
PLS270M	29	60	31	381	1.56
PLS272M	20	48	28	246	1.15
	88	107	14	422	1.06

About Pilbara Minerals

Pilbara Minerals (Pilbara) is a mining and exploration company listed on the ASX, specialising in the exploration and development of the specialty metals tantalum and lithium. Pilbara is currently developing the Tabba Tabba Tantalum deposit, located approximately 50km south-east of Port Hedland through a 50% Joint Venture. Pilbara is also drilling out the advanced 100%-owned Pilgangoora tantalum-lithium deposit close to Tabba Tabba.

The primary source of tantalum is from minerals such as tantalite, columbite, wodginite and microlite contained in pegmatite ore bodies. The largest deposits are located in Australia, Brazil and Africa.

Tantalum's **major use is** in the production of electronic components, **especially for capacitors,** with additional use in components for chemical plants, nuclear power plants, airplanes and missiles. It is also used as a substitute for platinum.

The tantalum market is boutique in size with around 1,300 tonnes required each year. However the market is rapidly growing due to capacitor use in wireless and handheld devices. PLS's Tabba Tabba Project could supply approximately 7% of the annual market consumption over two years. There are two major buyers of tantalum raw product worldwide: HC Stark and Global Advanced Metals.

Lithium is a soft silvery white metal and has the highest electrochemical potential of all metals. In nature it occurs as compounds within hard rock deposits and salt brines. Lithium and its chemical compounds have a wide range of beneficial properties 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 electric bikes, motor vehicles, buses, trucks and taxis.

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Competent Person's Statement

The Company confirms it is not aware of any new information or data that materially affects the information included in the June 1 , 2015 Pilgangoora Mineral Resource Estimate and that all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its maiden resource announcement made on June 1, 2015.

The information in this report that relates to Exploration Results and Exploration Targets is based on and fairly represents information and supporting documentation prepared by Mr John Young (Exploration Manager 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 – Total Drilling Completed

Hole ID	North GDA94 Actual	East GDA94 Actual	RL	Dip	AZ	Depth
PLS029	7671900	698302.8	181.7	-60	270	60
PLS030	7671904	698350.7	182.6	-60	270	90
PLS031	7671898	698399	182.4	-60	270	120
PLS032	*7671850	698385	186.3	-60	270	100
PLS122	*7671850	698345	185.0	-60	270	80
PLS033	7671802	698359.4	186.3	-60	270	110
PLS123	*7671800	698320	185.0	-60	270	91
PLS034	7671752	698348.5	186.0	-60	270	110
PLS124	*7671750	698305	185.0	-60	270	80
PLS035	7671657	698337.2	189.9	-60	270	106
PLS125	*7671650	698300	185.0	-60	270	73
PLS037	7671600	698247.8	196.2	-60	270	43
PLS041	7671500	698248.1	189.4	-60	270	66
PLS001A	*7673000	69835	185.0	-60	90	56
PLS001	7672999	698525.5	185.3	-60	270	70
PLS002	*7673000	698615	192.3	-60	270	80
PLS003	*7672960	698530	189.4	-60	270	70
PLS115	7672954	698565.7	189.2	-60	270	70
PLS004	7672954	698485.8	188.4	-60	270	55
PLS005	7672898	698535.1	201.4	-60	270	86
PLS006	*7672905	698595	200.6	-90	270	110
PLS007	*7672850	698510	206.5	-60	270	70
PLS011	*7672800	698505	201.0	-60	270	51
PLS013	7672756	698579	194.3	-60	270	50
PLS014	7672754	698521.9	192.7	-60	270	50
PLS116	7672751	698649.1	203.1	-60	270	70
PLS015	7672703	698555.8	189.7	-60	270	70
PLS016	7672707	698625.4	195.6	-60	270	70
PLS006A	*7672909	698575	200.0	-60	270	70

***Hole Surveys not received as yet**

Hole ID	**North GDA94 Actual**	**East GDA94 Actual**	**RL**	**Dip**	**AZ**	**Depth**
Diamond Core Holes						
PLS114M	7671155	698297.2	209.635	-70	270	38.5
PLS114M-A	7671156	698300.5	209.879	-70	270	183.5
PLS272M	7671293	698288.2	205.927	-90	0	121.3
PLS270M	7671427	698310.1	204.652	-90	0	90.7
PLS269M	7671443	698353.1	212.34	-60	270	147.3

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
Sampling techniques	• *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.*	Pilbara Minerals Limited (PLS) have completed **29 drill holes for 2227m.** Results being reported are for 29 RC holes (PLS029 to PLS 006A, see Appendix 1). **5 HQ Diamond Drill holes have been completed for 581.3m**, results ae being reported for PLS269M, PLS270M and PLS272M.
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• 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). • HQ Core measured and marked up on site and photographed prior to transport to Perth.
	• *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.*	• 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. HQ Core measured and marked up on site and photographed prior to transport to Perth, where 10mm fillet taken for analysis. Analysis was completed by XRF and ICP techniques.

Criteria	JORC Code explanation	Commentary
	submarine nodules) may warrant disclosure of detailed information.	
Drilling techniques	• *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).*	• RC Drilling was completed by an 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. • HQ Diamond Drilling completd by Hydco 1200H with an automated rod-handler system
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	• Sample recovery was recorded as good for RC holes. • HQ core sample recovery excellent.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• Whilst drilling through the pegmatite, rods were flushed with air after each 6 metre interval.
	• *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.*	• Samples were dry and recoveries are noted as “good.”
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.*	• 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. • HQ core was cut and logged in 1 m intervals.
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	• Logging has primarily been quantitative.
	• *The total length and percentage of the relevant intersections logged.*	• The database contains lithological data for all holes in the database.
Sub-	• *If core, whether cut or sawn and whether quarter, half or all core*	• RC samples were generally dry and split at the rig using a cyclone splitter,

Criteria	JORC Code explanation	Commentary
sampling techniques and sample preparation	*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.*	which is appropriate and industry standard. • HQ Core was filleted (sawn), equivalent to a ¼ core size sample taken.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	• PLS samples have field duplicates, field standards and blanks as well as laboratory splits and repeats.
	• *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.*	• Field duplicates were taken approximately every 20m, and standards and blanks every 50 samples.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• 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.
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.*	• 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.
	• *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.*	• No geophysical tools were used to determine any element concentrations used in this resource estimate.
	• *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.*	• 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

Criteria	JORC Code explanation	Commentary
		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.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.*	• Infill drilling completed by PLS in this program has confirmed the approximate width and grade of historical drilling. • 3 HQ diamond holes were completed as twins, and has confirmed the approximate width and grade of previous RC drilling
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• An electronic database containing collars, surveys, assays and geology is maintained by Trepanier Pty Ltd, an Independent Geological consultancy.
	• *Discuss any adjustment to assay data.*	• Li was converted to Li_2O for the purpose of reporting. The conversion used was Li_2O = Li x 2.153
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.*	• 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).
	• *Specification of the grid system used.*	• The grid used was MGA (GDA94, Zone 50)
	• *Quality and adequacy of topographic control.*	• The topographic surface used was supplied by GAM
Data spacing and	• *Data spacing for reporting of Exploration Results.*	• Drilling spacings varied between 50m to 200m apart

Criteria	JORC Code explanation	Commentary
distribution		
	• *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.*	• 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.
	• *Whether sample compositing has been applied.*	• No compositing
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.*	• The mineralisation dips approximately 45-60 degrees at a dip direction of 090 degrees • The drilling orientation and the intersection angles are deemed appropriate.
	• *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.*	• No orientation-based sampling bias has been identified.
Sample security	• *The measures taken to ensure sample security.*	• Chain of custody for PLS holes were managed by PLS personnel.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• 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

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*	• PLS owns 100% of tenement E45/2232, M45/333
	• *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.*	• No known impediments.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Talison completed RC holes in 2008 • GAM completed RC holes between 2010 and 2012.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• 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.
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 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*	• Length weighed averages used for exploration results reported in Table 1 and 2. Cutting of high grades was not applied in the reporting of intercepts in Table 1 and 2 • No metal equivalent values are used.

Criteria	JORC Code explanation	Commentary
	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.*	
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 Table 2 and 3
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.*	• See Figures 5
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 & 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,*	• The aim is to upgrade the existing JORC compliant resource calculation.

Criteria	JORC Code explanation	Commentary
	including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	