ASX ANNOUNCEMENT

04 December 2023

2.5KM LONG FRACTIONATED PEGMATITE CORRIDOR IDENTIFIED, BLACK HILLS, SOUTH DAKOTA

- A recent mapping and sampling program[1] identified two outcropping groups of fractionated pegmatites at Patriot's Keystone Project that show potential for lithium (Li) mineralisation:
  - The Big Dog-New Road-Towel Trail pegmatite cluster, and
  - The Tin Hill-Gilt Edge-Rattlesnake pegmatite cluster.
- The two clusters lie along a broader, 2.5km long and 400m wide, NNW-SSE-striking corridor defined by 20+ outcropping pegmatites. The corridor and pegmatite alignments are parallel to the regional-scale Silver City Fault and dominant structural fabric in the area.
- Portable XRF and LIBS readings[2] of individual pegmatite outcrops, up 350m-long and 60m-wide, are indicative of high degrees of fractionation and, therefore, Li mineralisation potential.
- Patriot's Keystone Project is located 3.5km from the historic high-grade Etta lithium mine[3], which recorded a head grade of up to ~6.0% Li_2O and yielded up to >14m-long spodumene crystals, believed to be the largest ever mined[4].

Patriot Lithium Limited ("**Patriot**", "**PAT**" or the "**Company**") is pleased to report results of a recent mapping and sampling program[1] undertaken at the Company's Keystone and Tinton West Projects in the Black Hills of South Dakota and Wyoming.

Patriot CEO and MD Mr Nicholas Vickery commented:

"The results from this latest round of mapping and sampling are very encouraging, identifying a 2.5km long, NNW-SSE-striking corridor defined by a series of highly fractionated pegmatites with individual pegmatite outcrops up to 350m-long and 60m-wide, and only 3.5km from historic high-grade mines.

While we have not yet confirmed whether these pegmatites are lithium mineralised, the XRF and LIBS readings indicate high degrees of fractionation of pegmatites in this corridor and therefore the potential for lithium mineralisation in the subsurface. We look forward to undertaking further work to help better define this potential and identify drill targets to test."

[1] *Patriot ASX announcement dated 12 September 2023.*
[2] *Portable XRF (X-ray fluorescence) and LIBS (laser-induced breakdown spectroscopy) readings should not be considered substitutes for laboratory analysis and are not representative of whole rock concentration but represent a concentration measured at a single point. Portable XRF and LIBS tools have been used to aid geological interpretation.*
[3] *The claims over these historic mines are not owned by Patriot.*
[4] *Page et al. (1953). Pegmatite investigations 1942-1945, Black Hills, South Dakota. USGS Professional Paper, 247, 228 p.*

Black Hills mapping and sampling program

A recent month-long mapping and sampling program conducted at PAT's Keystone and Tinton West Projects in the Black Hills of South Dakota and Wyoming (Figure 1) confirmed the many known pegmatites and identified several new outcropping pegmatites. These pegmatite outcrops were screened using portable XRF and LIBS instruments, and a total of 189 rock chip samples were collected for laboratory assaying. The main aim of the program was to systematically map and sample outcropping pegmatites to better understand their Li mineralisation potential and local geological and structural setting.

Given the complex nature and strong internal zonation, both laterally and vertically, of lithium-caesium-tantalum (LCT) pegmatites in the Keystone pegmatite district[4,5], any Li mineralisation that may be present in pegmatites at PAT's Keystone and Tinton West Projects is not necessarily evident in outcrop. Rather, it is more likely that only unmineralized wall or core zones are exposed at surface. Using a combination of portable XRF and LIBS instruments, as done in this program, can help prioritize pegmatites in real-time in the field based on whether a pegmatite contains any elevated Li and/or has a low K/Rb ratio. This ratio is widely understood to be an indication of Li prospectivity with values ≤30 deemed highly significant[6].

To further corroborate the field observations and real-time measurements, PAT collected a total of 189 rock chip samples that have been sent to SGS in Burnaby BC for assaying. Laboratory results are expected to be received within the coming weeks.

Key results

Keystone Project (100% PAT)

The Keystone Project (Figure 1) is centred upon the town of Keystone, a small settlement in the central-eastern Black Hills, ~26 km southwest of Rapid City. It covers ~34 km^2 of Li prospective ground in the prolific high-grade Black Hills Li province.

The claim blocks comprising PAT's Keystone Project are in the immediate neighbourhood of the Etta, Edison, Hugo and Bob Ingersoll mines, the largest and most significant historic hardrock Li producers in the Black Hills[4]. Iris Metals' (ASX: IR1) Beecher project, which recently returned drill intercepts of 60m @ 1.21% Li_2O and 78m @ 1.03% Li_2O[7], is located ~24km southwest of the Keystone Project and underlain by a similar geological setting.

PAT's recent field program has identified two outcropping groups of fractionated pegmatites at Patriot's Keystone Project that show potential for Li mineralisation (Figure 2):

- The Big Dog-New Road-Towel Trail pegmatite cluster, and
- The Tin Hill-Gilt Edge-Rattlesnake pegmatite cluster.

The above pegmatites have been sampled extensively with portable XRF and LIBS readings returning promising results, including multiple samples with K/Rb ratios ≤30 and elevated spot Li values up to 683 ppm (Table 1). Overall, 145 rock chip samples have been collected at the Keystone Project and sent to the SGS laboratory in Burnaby BC for assaying.

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[5]Norton and Redden (1990). Relations of zoned pegmatites to other pegmatites, granite, and metamorphic rocks in the southern Black Hills, South Dakota. American Mineralogist, 75, pp. 631-655.
[6]Selway et al. (2006). A review of rare-element (Li-Cs-Ta) pegmatite exploration techniques for the Superior Province, Canada, and large worldwide tantalum deposits. Exploration and Mining Geology, 14(1-4), pp. 1-30.
[7]Iris Metals Limited (ASX: IR1) ASX announcements dated 9 August 2023 and 9 October 2023.

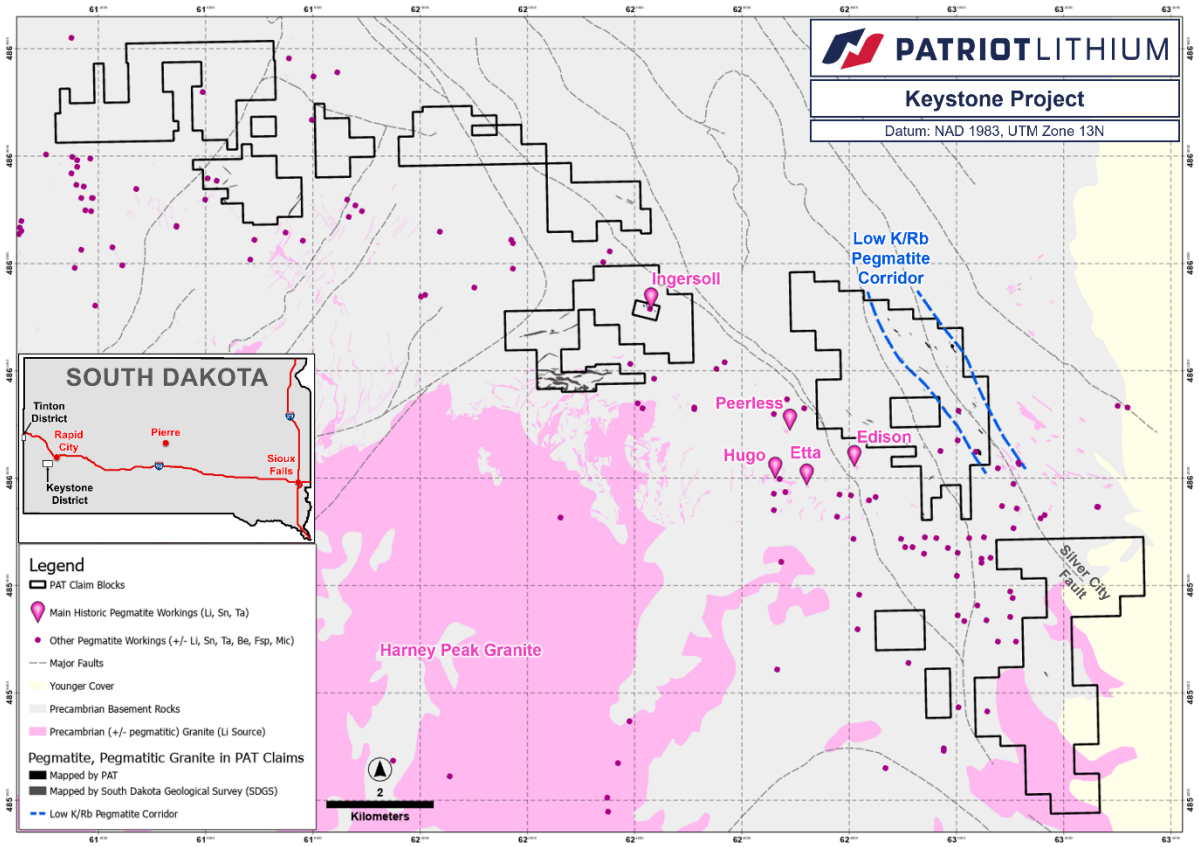

Figure 1. *Simplified geological map illustrating the Keystone lithium district showing the location of the newly identified 'low K/Rb pegmatite corridor' within PAT's Keystone Project, Black Hills, South Dakota.*

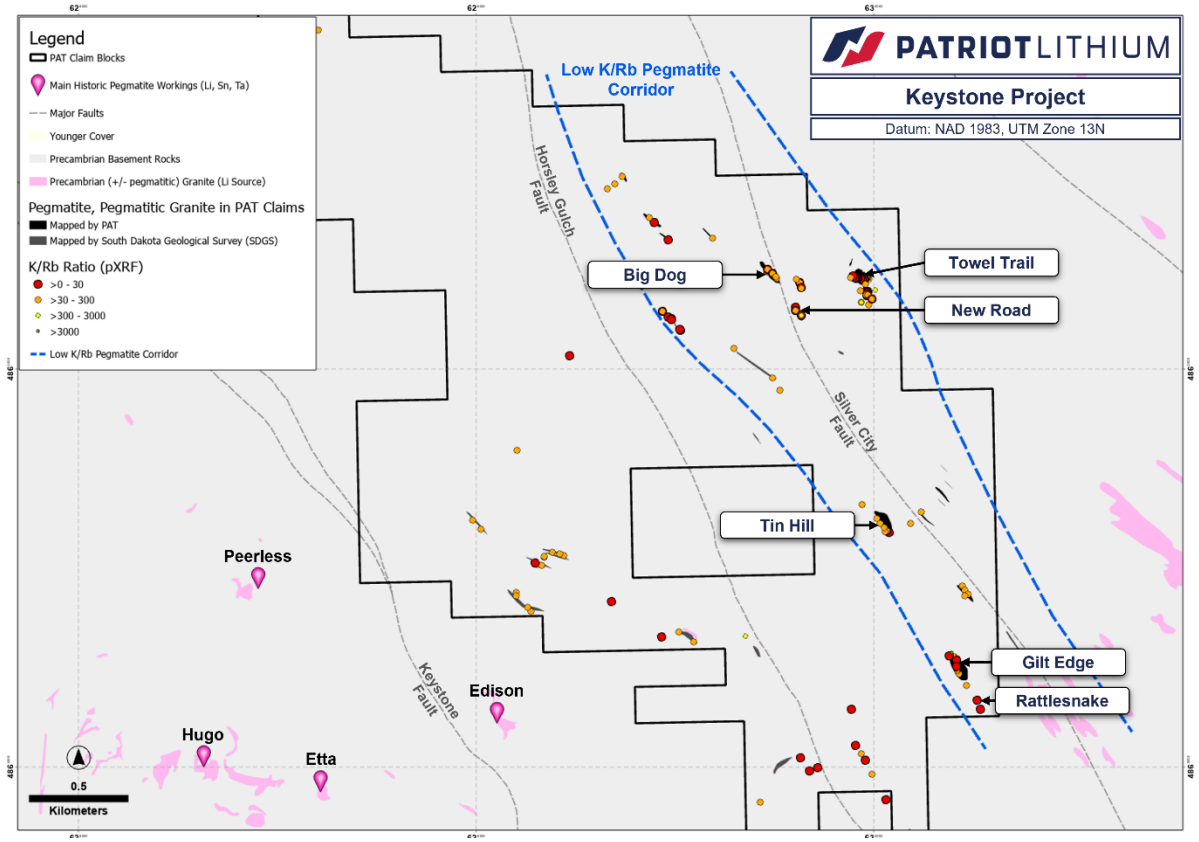

Figure 2. *Close-up of the newly identified 'low K/Rb pegmatite corridor.'*

The NNW-SSE-striking Big Dog pegmatite is a prominent topographic feature, towering up to 10m above the surrounding rocks. The pegmatite, which is up to 10m wide, can be traced in outcrop for ~110m. It is composed of large diameter (5 to 50mm) crystals of quartz (25-30%), feldspar (50-60%), muscovite (20%), and tourmaline (trace). The pegmatite shows zoning, with quartz and K-feldspar margins, and mica-rich cores. New Road, a newly identified, narrow (<5m wide) pegmatite located ~210m south-southeast of and along strike from Big Dog, also strikes NNW-SSE and may form part of the same pegmatite dyke system.

The recently identified, NNW-SSE-striking Towel Trail pegmatite is composed of large diameter (10 to 100mm) crystals of quartz (5-90%), K-feldspar (0-60%), plagioclase (0-30%), muscovite (5-30%), and tourmaline (trace). It is located ~400m east of Big Dog and can be traced along strike over a distance of ~220m. Individual surface outcrops are up to ~85m long and 60m wide. Portable XRF and LIBS scans returned highly encouraging K/Rb ratios and anomalous Li values.

The Tin Hill pegmatite, located ~1.1km south of the Towel Trail pegmatite, was a small historic producer of tin[8]. It is ~350m long and up to 50m wide, has an irregular but broadly elliptical shape, and appears to strike NNW-SSE. The pegmatite is composed of K-feldspar (10-50%), plagioclase (10-20%), quartz (20-40%), and muscovite (20-30%).

The Gilt Edge pegmatite[9], a small historic producer of beryllium and feldspar, crops out ~740m to the south-southeast and along strike from Tin Hill. Together with the Rattlesnake pegmatite, an interpreted southern extension, the NNW-SSE-striking Gilt Edge pegmatite can be traced along strike for ~350m with individual outcrops up to 150m long and 50m wide. The pegmatites are composed of K-feldspar (60-75%), quartz (25-95%) muscovite (2-5%), and tourmaline 0-5%). Quartz crystals are up to 1m in diameter.

All pegmatite intruded a basement of biotite schist and (± graphite-bearing) phyllite.

As a whole, the Big Dog-New Road-Towel Trail and Tin Hill-Gilt Edge-Rattlesnake pegmatite clusters, and the numerous smaller pegmatites that accompany them, form a 2.5km long and 400m wide, NNW-SSE-striking pegmatite corridor that is parallel to the regional-scale Silver City Fault and dominant structural fabric in the area. This interpreted and potentially fertile pegmatite corridor will be the focal point of follow-up soil work planned by PAT.

Tinton West Project (100% PAT)

The Tinton West Project (Figure 3), which straddles the state line between South Dakota and Wyoming, is located ~24km southwest of the city of Spearfish in the northwestern Black Hills region. The Company's claim blocks cover ~10km^2 of the Tinton Inlier, a small domal uplift of crystalline Black Hills basement surrounded by younger sedimentary rocks. The basement rocks are host to numerous pegmatite occurrences, including the historic Rough & Ready and Giant Volney tin-tantalum and Li mines[3].

Mapping of the Tinton district by the United States Geological Survey in 1941[10] focused on identifying tin-bearing pegmatites. Several tin-bearing pegmatites were delineated in the area now covered by Patriot's Tinton West claims, typically striking NNW-SSE. The largest of

[8]*Deposit ID 10153343: USGS Mineral Resources Data System (MRDS).*
[9]*Deposit ID 10154221: USGS Mineral Resources Data System (MRDS).*
[10]*Smith and Page (1941). Tin-bearing pegmatites of the Tinton district, Lawrence County, South Dakota, a preliminary report. In: Strategic Minerals Investigations, USGS Bulletin 922-T, pp 595-630.*

these, the 465m long and 30-50m wide Sand Creek pegmatite, was sampled at 50m intervals. Portable XRF and LIBS readings, whilst not as encouraging as those from the Keystone Project, showed K/Rb ratios of ≤100 in three and elevated Li in one of 10 samples (Table 1).

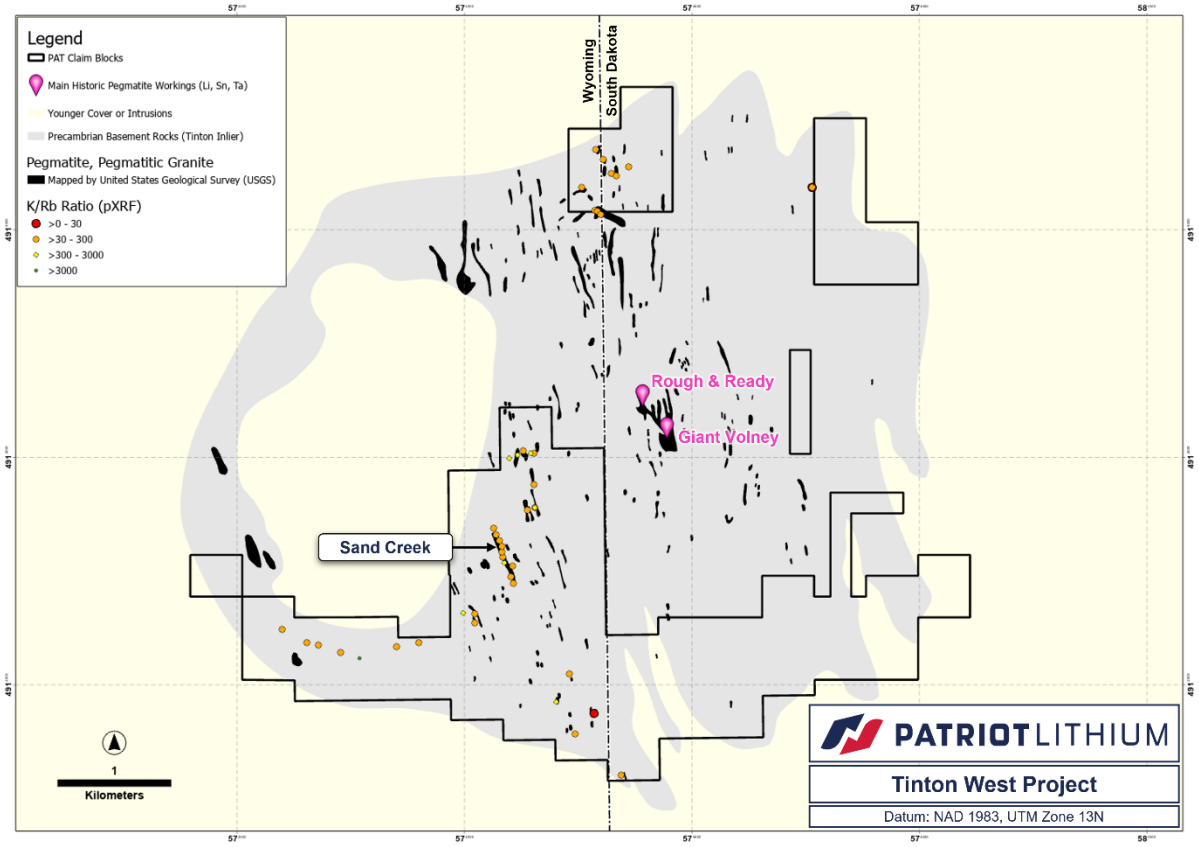

Figure 1. *Simplified geological map of the Tinton lithium district showing PAT claim blocks and locations of pXRF readings.*

Overall, 43 rock chip samples have been collected at the Tinton West Project and sent to the SGS laboratory in Burnaby BC for assaying.

Next steps

Once laboratory assays are received, the program results will be assessed to refine a planned soil sampling survey designed to cover the Big Dog-New Road-Towel Trail and Tin Hill-Gilt Edge-Rattlesnake pegmatite clusters and projected extensions.

Geophysical methods such as GPR may be employed to image the 3D geometry of the pegmatite intrusions to aid design of drill holes.

PAT will continue its environmental study work in parallel to allow drilling permitting and approvals to progress as quickly as reasonably practicable.

This announcement is authorised for ASX release by Nicholas Vickery, Managing Director of the Company.

ENDS

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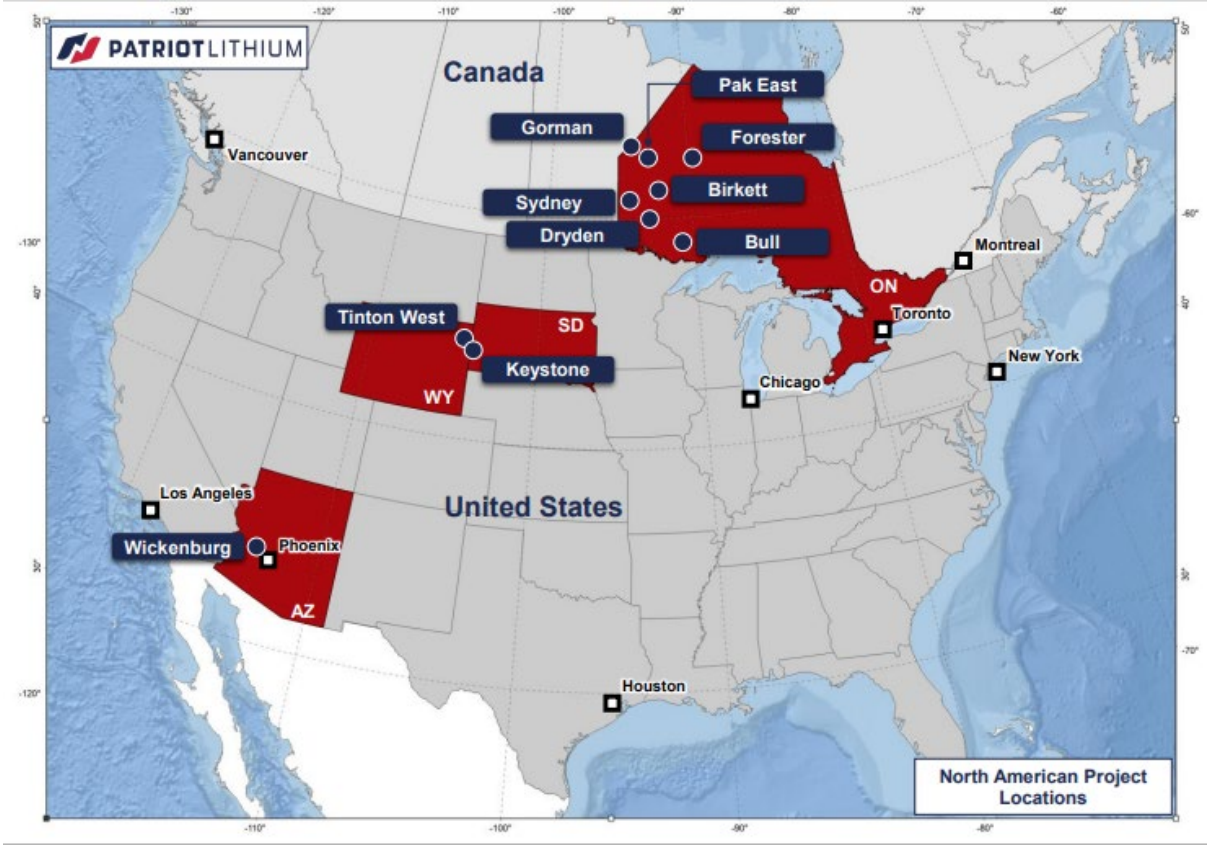
ABOUT PATRIOT LITHIUM LIMITED

Patriot Lithium Limited is primarily focused on the exploration of high-grade, hard rock lithium projects located in the highly prospective Archean Greenstone Belts in northwest Ontario, Canada, and the prolific Black Hills lithium district of South Dakota and Wyoming.



Competent Person's Statement

The information in this announcement that relates to Exploration Results is based on information compiled and conclusions derived by Dr Oliver Kreuzer

Dr Kreuzer is a Member (#2762) and Registered Professional Geologist (RPGeo #10073) of the Australian Institute of Geoscientists (AIG) and a Member (#208656) of the Australasian Institute of Mining and Metallurgy (AusIMM). Dr Kreuzer, a Principal of Corporate Geoscience Group, is not an employee of Patriot Lithium Limited but holds securities in the Company. Dr Kreuzer has sufficient experience which is relevant to the style of mineralisation and types of deposit under consideration and to the activity being undertaken to qualify as a Competent Person 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. Dr Kreuzer consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Table 1. *Portable XRF and LIBS readings. Key to abbreviations: blk = black; kspar = K-feldspar; musc = muscovite; plag = plagioclase; spod = spodumene. Dash indicates that no reading was obtained.*

Sample No.	East UTM	North UTM	LIBS measurement			pXRF measurement		
			Mineral	Li ppm	Mineral	K %	Rb ppm	K/Rb ratio
947259	623,143	4,863,387	musc	17	kspar	8.7	1504	58
947260	629,972	4,862,450	-	-	rock	2	173	114
947261	629,968	4,862,458	kspar	39	kspar	0.5	42	108
947262	629,966	4,862,458	kspar	38	kspar	0.2	10	237
947263	629,963	4,862,462	kspar	0	kspar	10.9	2910	37
947264	629,961	4,862,457	kspar	73	kspar	0.1	20	38
947265	629,953	4,862,451	plag	0	musc	6.6	2838	23
947266	629,949	4,862,452	plag	0	kspar	0.2	7.9	218
947267	629,949	4,862,453	qtz	41	musc	7.5	3544	21
947268	629,946	4,862,449	musc	195	musc	6.6	1480	44
947269	629,942	4,862,448	kspar	0	kspar	12.3	2960	41
947270	629,942	4,862,449	kspar	0	musc	2.1	724	29
947271	629,940	4,862,447	kspar	99	musc	7.1	2951	24
947272	629,932	4,862,454	musc	48	musc	6	2125	28
947273	629,923	4,862,454	kspar	0	kspar	0.7	183	36
947274	629,922	4,862,458	kspar	160	kspar	10.2	3024	34
947275	629,922	4,862,458	musc	78	musc	5.7	2097	27
947276	629,914	4,862,454	musc	165	musc	6	3987	15
947277	629,917	4,862,458	plag	16	plag	-	-	-
947278	629,916	4,862,461	kspar	0	kspar	3.1	988	31
947280	629,908	4,862,458	musc	18	musc	7.2	2378	30
947281	629,910	4,862,465	kspar	124	kspar	5.8	1974	29
947282	629,907	4,862,460	kspar	0	kspar	2.7	907	29
947283	629,903	4,862,460	musc	0	musc	9.2	3045	30
947284	629,894	4,862,467	musc	0	musc	6.2	2433	26
947285	629,882	4,862,461	rock	0	rock	4.2	285	147
947286	630,006	4,862,396	rock	0	rock	1.4	43	335
947287	629,963	4,862,393	musc	41	musc	5.7	1632	35
947288	629,968	4,862,389	musc	55	musc	4.1	3931	10
947289	629,967	4,862,367	musc	32	kspar	13.4	5957	23
947290	629,964	4,862,386	musc	0	musc	9.1	3183	29
947291	629,967	4,862,375	musc	0	musc	8.8	4490	20
947292	629,962	4,862,372	rock	0	rock	4.9	332	146
947293	629,941	4,861,318	musc	0	musc	8.5	2425	35
947294	630,079	4,861,177	musc	0	musc	9.6	3924	24
947295	630,059	4,861,189	musc	0	musc	9.4	2294	41
947296	630,064	4,861,188	musc	0	musc	7.9	2413	33
947297	630,064	4,861,188	musc	0	musc	9.5	3189	30
947298	630,064	4,861,188	musc	36	musc	8.4	2039	41
947300	630,055	4,861,182	rock	90	rock	2.1	181	115
947301	574,427	4,912,892	musc	0	rock + musc	3	267	113
947302	574,409	4,912,954	musc	0	rock + musc	4.9	595	83
947303	574,424	4,913,044	musc	0	rock + musc	5.4	269	200
947304	574,350	4,913,075	musc	0	rock + musc	3	11	2755
947305	574,339	4,913,122	musc	0	rock + musc	6	596	100
947306	574,330	4,913,166	musc	0	rock + musc	6.3	451	140
947307	574,328	4,913,220	kspar	31	rock	0.3	12	247
947308	574,309	4,913,270	musc	109	kspar?	2.3	207	110
947309	574,276	4,913,323	musc	0	kspar	6.1	638	95
947310	574,259	4,913,375	musc	0	rock	1	63	165
947311	575,033	4,916,376	musc	0	musc + rock	0.6	24	236
947312	575,148	4,916,169	musc	0	musc	6.4	786	82
947313	575,172	4,916,164	musc	23	musc	2.8	298	95
947314	575,197	4,916,139	musc	0	musc	4.4	298	149
947315	575,156	4,916,708	musc	27	musc	7.2	551	130
947316	575,216	4,916,622	musc	0	musc	10.1	1288	78
947317	575,293	4,916,497	musc	0	musc	6.5	708	92
947318	575,333	4,916,477	musc	0	musc	9.8	3180	31
947320	575,441	4,916,558	musc	13	musc	6.7	907	74

Sample No.	East UTM	North UTM	LIBS measurement		pXRF measurement			
			Mineral	Li ppm	Mineral	K %	Rb ppm	K/Rb ratio
947321	575,376	4,911,203	musc	83	musc	5.3	215	245
947322	574,925	4,912,094	musc	102	musc	3.1	222	138
947323	574,809	4,911,848	musc	92	musc + rock	3.5	41	856
947324	574,973	4,911,568	musc	0	musc + rock	4.3	188	228
947325	575,138	4,911,749	musc	0	musc	4.9	2157	23
947326	577,057	4,916,377	-	-	musc	6.8	2768	24
947326	577,057	4,916,377	musc	0	kspar	1.2	52	225
947327	628,022	4,861,195	musc	109	musc	6.1	731	83
947328	628,206	4,861,591	musc	0	musc	10.9	3235	34
947329	630,240	4,861,283	musc	40	musc	1.5	381	39
947330	630,185	4,861,222	musc	0	musc	5.7	1546	37
947331	628,468	4,862,068	musc	0	musc	5.2	1972	26
947332	628,894	4,862,736	musc	0	musc	8.5	5375	16
947333	574,552	4,913,539	musc	0	musc	2.8	195	144
947334	574,618	4,913,556	musc	0	musc	6.1	378	160
947334	574,618	4,913,556	musc	50	musc	3.7	97	380
947335	574,611	4,913,759	musc	0	musc	1.2	119	101
947336	574,612	4,914,033	musc	0	musc	6	1203	50
947337	574,514	4,914,061	musc	0	musc	5.9	612	97
947338	574,470	4,914,020	musc	0	musc	1.7	54	311
947338	574,470	4,914,020	musc	0	musc	1.7	54	311
947340	574,088	4,912,627	musc	0	musc	5.6	1156	49
947340	574,088	4,912,627	musc	0	musc	5.6	1156	49
947341	574,090	4,912,547	musc	0	musc	0.4	110	37
947341	574,090	4,912,547	musc	0	musc	0.4	110	37
947342	573,991	4,912,632	rock	33	musc	4.4	139	317
947342	573,991	4,912,632	rock	33	musc	4.4	139	317
947343	573,599	4,912,369	musc	115	musc	5.3	1630	32
947343	573,599	4,912,369	musc	115	musc	5.3	1630	32
947344	573,402	4,912,337	plag	54	plag?	0.4	54	69
947344	573,402	4,912,337	plag	54	plag?	0.4	54	69
947344	573,402	4,912,337	-	-	blk specks	2.3	259	89
947344	573,402	4,912,337	-	-	blk specks	2.3	259	89
947345	572,911	4,912,286	musc	0	rock	1	80	128
947345	572,911	4,912,286	musc	0	rock	1	80	128
947346	572,613	4,912,369	musc	0	kspar	2.5	114	215
947346	572,613	4,912,369	musc	0	kspar	2.5	114	215
947347	572,394	4,912,489	musc	0	musc	8.3	647	129
947347	572,394	4,912,489	musc	0	musc	8.3	647	129
947348	629,931	4,862,392	-	-	kspar	11.5	2313	50
947349	629,968	4,862,374	musc	0	kspar	11.7	2204	53
947350	629,976	4,862,321	-	-	musc	1.7	417	42
947351	629,957	4,862,428	-	-	kspar	7.3	1885	39
947352	629,627	4,862,436	musc	0	musc	5.5	2128	26
947352	629,627	4,862,436	-	-	kspar	10.4	1692	61
947353	629,612	4,862,450	-	-	kspar	11.4	2245	51
947354	629,092	4,860,628	-	-	kspar	10.9	1944	56
947355	629,020	4,860,677	musc	0	musc	3.5	592	59
947356	628,932	4,860,655	-	-	-	-	-	-
947357	628,682	4,860,830	-	-	-	-	-	-
947358	628,439	4,861,061	musc	0	kspar + rock	1.6	374	43
947360	628,342	4,861,054	-	-	kspar	0.9	262	33
947361	628,302	4,861,016	-	-	musc	5.7	1193	48
947361	628,302	4,861,016	-	-	kspar	0.2	7.8	291
947362	628,202	4,860,875	-	-	musc	7.7	1927	40
947363	629,511	4,862,455	musc	49	musc	7.6	1545	49
947363	629,511	4,862,455	-	-	kspar	10.9	1484	73
947364	629,462	4,862,487	musc	123	musc	5.6	1276	44
947364	629,462	4,862,487	-	-	kspar + rock	0.2	18	86
947364	629,462	4,862,487	-	-	kspar	0.2	2.5	794
947365	629,466	4,862,502	musc	0	musc	0.3	207	14
947365	629,466	4,862,502	-	-	kspar	0.3	9.6	283

Sample No.	East UTM	North UTM	LIBS measurement		pXRF measurement			
			Mineral	Li ppm	Mineral	K %	Rb ppm	K/Rb ratio
947366	629,489	4,862,478	musc	0	musc	6.5	2299	28
947366	629,489	4,862,478	-	-	kspar	0.5	21	226
947367	629,507	4,862,465	musc	107	musc	5.3	1704	31
947367	629,507	4,862,465	-	-	kspar	0.5	34	139
947367	629,507	4,862,465	-	-	kspar + rock	0.3	23	150
947368	628,937	4,862,291	musc	0	musc	7	2366	30
947368	628,937	4,862,291	-	-	musc	6.3	1768	36
947369	628,966	4,862,262	-	-	-	-	-	-
947370	628,981	4,862,254	musc	52	musc	9.7	3564	27
947371	629,026	4,862,194			musc	3	944	32
947371	629,026	4,862,194	musc	46	musc	9.2	2410	38
947371	629,026	4,862,194	-	-	-	-	-	-
947372	630,444	4,860,908	musc	27	kspar	9.4	1106	85
947373	630,456	4,860,889	-	-	musc	5.1	986	52
947373	630,456	4,860,889	musc	88	kspar	13.3	1834	72
947374	630,475	4,860,868	musc	108	musc	10.6	2087	51
947374	630,475	4,860,868	-	-	kspar	5.7	963	60
947375	630,459	4,860,860	musc	154	musc	10	2136	47
947375	630,459	4,860,860	-	-	kspar	5.3	1012	52
947376	628,327	4,861,014	musc	0	kspar + rock	3.8	222	172
947377	628,382	4,861,080	musc	0	musc	4.2	1292	33
947378	628,343	4,861,058	musc	240	musc	5.7	1645	35
947380	627,980	4,861,238	musc	0	musc + rock	1	85	121
947381	628,297	4,861,025	musc	0	musc	4.8	1720	28
947382	628,419	4,861,072	musc	0	musc + rock	2	584	34
947383	628,274	4,860,782	musc	78	musc + rock	3.7	522	71
947384	628,259	4,860,803	musc	26	musc + rock	2.2	306	71
947385	628,202	4,860,861	musc	0	musc + rock	0.2	11	226
947386	624,392	4,863,275	kspar	0	kspar	8.6	2807	30
947387	630,520	4,860,336	musc	683	musc	6.7	2741	25
947388	629,678	4,859,980	musc	31	musc	-	-	-
947389	629,629	4,860,046	musc	0	musc	-	-	-
947390	629,991	4,859,963	-	-	kspar	8.9	1539	58
947391	629,959	4,860,031	-	-	-	-	-	-
947392	629,908	4,860,108	musc	-	-	-	-	-
947393	629,937	4,860,065	-	-	musc	0.7	191	39
947394	628,660	4,862,906	musc	24	kspar	0.8	226	36
947395	628,696	4,862,931	musc	0	musc	6.5	1126	57
947396	628,733	4,862,969	musc	0	musc	2.7	667	40
947397	628,869	4,862,761	musc	0	musc	6.3	679	93
947398	628,964	4,862,651	musc	0	musc	7.5	2820	27
947400	629,188	4,862,658	musc	0	musc	8.7	2297	38
947401	629,294	4,862,102	musc	0	musc	5.3	1577	34
947402	629,491	4,861,954	musc	63	musc	9.4	2216	42
947403	629,526	4,861,893	musc	0	musc	8.1	1742	46
947404	629,367	4,859,294	musc	0	musc	3.5	1489	23
947405	629,989	4,862,352	musc	94	kspar	6.2	2385	26
947406	629,989	4,862,352	musc	0	musc	8.4	2382	35
947407	629,633	4,862,260	musc	0	musc	3.3	542	61
947408	629,023	4,862,200	musc	42	musc	9.4	3510	27
947409	628,983	4,862,249	musc	0	musc	9.1	3257	28
947410	630,428	4,860,468	kspar	25	kspar	12.5	3277	38
947411	630,421	4,860,483	kspar	0	kspar	12.6	3124	40
947412	630,421	4,860,493	kspar	12	kspar	8.7	2128	41
947413	630,052	4,861,203	musc	163	musc	9.4	2765	34
947414	630,033	4,861,223	musc	0	musc	12	2064	58
947415	630,016	4,861,247	musc	21	musc	9.5	1562	61
947416	630,016	4,861,247	musc	36	kspar	4	132	299
947417	574,394	4,913,992	musc	0	rock	1.8	53	338
947417	574,394	4,913,992	musc	0	rock	1.8	53	338
947418	630,403	4,860,552	musc	273	musc	1	60	167
947420	573,076	4,912,235	kspar	0	plag?	0	0.001	152000

Sample No.	East UTM	North UTM	LIBS measurement			pXRF measurement		
			Mineral	Li ppm	Mineral	K %	Rb ppm	K/Rb ratio
947421	574,580	4,914,040	rock	0	rock	1.6	50	328
947422	629,636	4,862,410	-	-	musc	2.2	770	28
947422	629,636	4,862,405	musc	44	musc	7.6	2055	37
947423	572,717	4,912,350	rock	0	rock	2.8	142	199
947424	629,636	4,862,268	-	-	musc	7.4	3374	22
947424	629,636	4,862,268	musc	67	musc	7.6	2655	29
947424	629,636	4,862,268	-	-	kspar	0.4	31	118
947424	629,636	4,862,268	musc	159	kspar	0.7	13	549
947425	629,606	4,862,309	-	-	musc	5.7	1923	30
947426	629,606	4,862,294	musc	0	musc	9	2958	30
947426	629,606	4,862,294	-	-	kspar	9.9	1784	55
947427	629,937	4,862,335	musc	169	musc	2.9	587	50
947427	629,937	4,862,335	-	-	kspar	0.1	3.1	450
947427	629,937	4,862,335	-	-	kspar + rock	0.5	6.8	705
947428	630,415	4,860,538	-	-	-	-	-	-
947429	630,378	4,860,556	musc	0	musc	2.1	1668	13
947430	630,393	4,860,573	-	-	plag?	0.1	0.01	52100
947431	630,415	4,860,506	-	-	kspar	12.6	2992	42
947431	630,415	4,860,506	musc	253	musc	-	-	-
947432	630,466	4,860,409	-	-	plag?	0.2	15	119
947433	630,537	4,860,291	musc	555	musc	9.7	4094	24
947434	629,719	4,859,994	musc	0	musc	-	-	-
947434	629,719	4,859,994	musc	0	musc	-	-	-
947435	629,401	4,859,244	musc	0	musc	3	827	37
947436	629,486	4,859,266	musc	67	musc	3.5	403	86
947437	629,382	4,859,350	musc	71	musc	5	337	149
947438	629,352	4,859,393	musc	88	musc	1.8	99	179
947440	629,419	4,859,412	musc	30	musc	4.1	308	132
947441	629,151	4,859,528	musc	82	musc	1.1	584	19
947442	629,429	4,859,824	musc	0	musc	1.8	298	61
947443	627,206	4,863,703	musc	165	musc	4.1	217	190
947444	630,032	4,859,506	musc	0	musc	5.1	352	145
947445	630,262	4,859,365	musc	0	musc	6.3	683	92
947446	630,368	4,859,372	kspar	0	musc	9.6	1614	59
947446	630,368	4,859,372	spod?	21	musc	8.8	983	89
947447	630,215	4,859,520	kspar	0	kspar	11.5	1516	76
947448	630,252	4,859,623	kspar	0	kspar	10.9	1078	101
947449	630,295	4,859,642	kspar	0	kspar	11.2	850	131
947450	630,113	4,859,612	kspar	0	plag?	0.1	1.6	404
947451	630,180	4,859,670	musc	0	musc	0.6	81	80
947452	630,191	4,859,670	musc	0	kspar	0.4	13	345
947453	630,061	4,859,833	musc	32	kspar	3.6	1355	27
947454	629,886	4,860,288	musc	0	musc	4.4	2573	17
947455	629,352	4,860,659	musc	0	musc	1.6	39	397

APPENDIX 1: JORC CODE, 2012 EDITION – TABLE 1

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 (eg 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.*	• Rock sampling of pegmatites at the Keystone and Tinton West projects was performed to gather samples representative of the overall mineralogical composition of the outcrops. The samples were mainly randomly selected rock chips. In instances where the rock was poorly exposed, grabs from float and subcrop were taken. Results presented in this document relate to readings obtained with hand-held portable X-ray fluorescence spectrometer (pXRF) and laser-induced breakdown spectrometer (LIBS) instru-ments. Most readings were taken from potassium feldspar or muscovite crystals within the rock chip samples, which were also submitted for laboratory ICP-MS analysis (results pending).
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	• The coarse grained to mega-crystic and highly inhomogenous nature of pegmatite bodies makes representative sampling on a small scale impractical. Only bulk samples can be truly representative. The aim of the current sampling program was to obtain a qualitative indication of the degree of pegmatite fractionation and lithium fertility and, therefore, the potential of the sampled pegmatites to host lithium mineralization.
	• *Aspects of the determination of mineralisation that are Material to the Public Report.*	• Mineralization was not determined using the pXRF measurements. These were taken to gain an indication of potential lithium fertility to guide future exploration. The lithium concentrations determined using the LIBS instrument refer to a sub-millimetre scale area on an individual crystal and are not representative of the concentration in the rock sample as a whole.
	• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent*	• The portable XRF instrument used for this work does not produce element determinations on par with a commercial assay lab. The values are semi-quantitative at lower concentrations. However, the accuracy is sufficient for the present purpose of determining approximate elemental ratios. • The use of absolute Rb concentration and K/Rb ratios as a guide to potential

Criteria	JORC Code explanation	Commentary
	sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	lithium fertility is discussed in the paper referenced above.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Not applicable. No drilling results are being reported here.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *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.*	• Not applicable. No drilling results are being reported here
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Not applicable. No drilling results are being reported here
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	• Not applicable. No drilling results are being reported here
	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	• Not applicable. No drilling results are being reported here
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• Not applicable. No assay results are being reported here.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	• Not applicable. No assay results are being reported here.
	• *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.*	• Not applicable as not appropriate for this early stage of reconnaissance exploration.

Criteria	JORC Code explanation	Commentary
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Sample sizes smaller than one tonne are unlikely to be representative, given the inhomogeneity of LCT pegmatites. However, the size of rock samples being collected by Patriot is appropriate for this early stage of reconnaissance exploration.
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.* • *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.* • *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.*	• No assay results are being reported here. The estimates of elemental abundance reported were made using pXRF LIBS instruments. Note that the readings are taken on a small area on the surface of individual crystals, not on pulverized and homogenized whole rock samples. Therefore, they are not representative of the composition of the rock sample. The instruments are calibrated using pads provided by the manufacturer each time they are powered on. But it should be noted that handheld instruments of this type do not produce results on par with laboratory instruments in terms of accuracy and repeatability. • The LIBS instrument used was a SciAps Z-901 Li system. • The pXRF instrument used was a SciAps X-505 Mining and Soil analyser.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	• Not Applicable. As of the date of this announcement, no drill sampling has been conducted by Patriot.
	• *The use of twinned holes.*	• Not Applicable. No prior drilling has been conducted on any of the company's projects.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	• Sample location data are recorded on the geologist's GPS-based field computer and downloaded to data files containing sample numbers, coordinates and descriptions for upload to a centralized cloud database and pairing with assay data uploaded from certificates supplied by the lab.
	• *Discuss any adjustment to assay data.*	• No adjustments were performed
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.*	• Coordinates of samples are recorded using an android field computer GPS with an accuracy of <2 m.
	• *Specification of the grid system used.*	• The grid system used for the Keystone and Tinton Projects is UTM projection, NAD83, Zone 13 North
	• *Quality and adequacy of topographic control.*	• GPS accuracy (<2 m) is adequate for

Criteria	JORC Code explanation	Commentary
		reconnaissance stage exploration intended to establish the presence of a mineralised system and plan follow-up drilling, trenching, etc.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.*	• Rock samples were taken where pegmatite is exposed in outcrop and sample material could be broken off by hammer. This sampling was not done on a regular grid and should not be considered to be representative of all mapped pegmatite.
	• *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.*	• Not applicable as no Mineral Resources or Ore Reserves have been determined.
	• *Whether sample compositing has been applied.*	• No sample compositing has been applied.
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.*	• Sampling was conducted in order to characterize the composition of the sampled rock in a preliminary fashion. No results are reported here. More sampling may be deemed necessary after detailed mapping.
	• *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.*	• Not applicable. No drilling has been completed on these projects.
Sample security	• *The measures taken to ensure sample security.*	• Not applicable. No samples taken for assay are being reported here.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No formal audits or reviews of sampling techniques and data were conducted given the early-stage nature of the reported exploration activity. The company conducts regular review of all quality control analytical results.

SECTION 2: REPORTING OF EXPLORATION RESULTS

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding*	• The Keystone Project consists of 407 mining claims covering 34 km^2 located on Federal land administered by the United States Forest Service in the State of South Dakota, United States of America. • The Tinton West Project consists of 121 mining claims covering 10 km^2 located on Federal land administered by the United States Forest Service in the States of Wyoming and South Dakota,

Criteria	JORC Code explanation	Commentary
	royalties, native title interests, historical sites, wilderness or national park and environmental settings.	United States of America. • The claims are in the name of New Energy Metals (US) Inc, a wholly owned subsidiary of the Company. • No royalties or other interests apply to the property. • The company is not aware of any material facts which would affect their title to these claims.
	• *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.*	• The Company considers the likelihood of tenure forfeiture to be low given the laws and regulations governing exploration in the US and Canada and the ongoing expenditure budgeted for by the Company. The Company is not aware of any material facts which would affect their title to these claims.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The exploration and mining history of the region dates back to 1874 when placer gold was discovered near Custer by General Custer Exploration and is also home to the Homestake gold mine at Lead which was discovered in 1876 (DeWitt et al., 1986) and produced 40 Moz of gold between 1878 and 2000, when mining ceased (Redden and DeWitt, 2008). Shortly after the discovery of the Homestake deposit, many of the Tertiary gold deposits in the Lead-Deadwood area were also discovered. • Placer cassiterite was discovered in the Tinton area around the same time as the gold (c. 1876), as a byproduct of the placer gold mining, with the pegmatite deposits discovered shortly thereafter, in this area as well as the southern Black Hills area around Keystone and Custer (DeWitt et al., 1986). These constitute the two main pegmatite fields in the Black Hills region, namely the one around Harney Peak in the southern Black Hills, in the Pennington and Custer counties, and the other in the northern Black Hills, in the Tinton district, in Lawrence County. These two areas have produced mica, beryl, columbite-tantalite, microlite, amblygonite, spodumene, lepidolite, pollucite, rose quartz, feldspar, and cassiterite (Page et al., 1953) and were an important source of mica, feldspar, beryl, and lithium minerals during World War II (Norton et al., 1964).
Geology	• *Deposit type, geological setting and style of mineralisation.*	**<u>Keystone Project</u>** • The Keystone Project is underlain by Palaeoproterozoic age metasediments comprising mostly metagreywackes, metaconglomerate, quartzites phyllites, biotite schists and iron formation. The claims also contain a number of, from a past production perspective, less significant pegmatite workings for which little to no information is available. Most of the pegmatites within the claims strike northwest-southeast to west-northwest to east-southeast, parallel to the regional fabric; in

Criteria	JORC Code explanation	Commentary
		the northwest the structural grain is largely north-west-southeast and the pegmatites here are orientated in the same direction. **<u>Tinton West Project</u>** • The Tinton West Project is located within an inlier of Palaeoproterozoic basement rocks exposed on a small domal uplift, surrounded by unconformably overlying Cambrian to Carboniferous age sedimentary rocks. The basement rocks comprise quartz-mica, graphitic and hornblende schists intruded by foliation-parallel to slightly transgressive pegmatites, typically striking north-northwest and dipping at 40°-70° to the northwest. Approximately 240 pegmatites, which includes a number of LCT pegmatites, have been mapped over an area of approximately 15km2. A small proportion of these pegmatites are mineralised with respect to lithium, tin and tantalum; and 40 contain cassiterite mineralisation. The primary minerals exploited from the pegmatites in the Tinton area were cassiterite, columbite-tantalite, amblygonite and spodumene.
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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.*	• Not applicable as of the date of this announcement, no drilling has been conducted by Patriot on the Keystone or Tinton West projects.
	• *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.*	• Not Applicable.
Data aggregation methods	• *In reporting Exploration Results, weighting aver-*	• Not Applicable. As of the date of this announcement, no data aggregation has been conducted by Patriot.

Criteria	JORC Code explanation	Commentary
	aging 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.*	• Not Applicable. As of the date of this announcement, no data aggregation has been conducted by Patriot.
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Not Applicable. As of the date of this announcement, no data aggregation has been conducted by Patriot.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.*	• Not Applicable. As of the date of this announcement, no drilling of mineralization has been reported by Patriot.
	• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*	• Not Applicable. As of the date of this announcement, no drilling of mineralization has been reported by Patriot.
	• *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').*	• Not Applicable. As of the date of this announcement, no drilling of mineralization has been reported by Patriot.
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.*	• Not Applicable. As of the date of this announcement, no drilling of mineralization has been reported by Patriot.
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 prac-*	• Preliminary results highlighted herein are being used to guide exploration. All rock samples results are reported herein.

Criteria	JORC Code explanation	Commentary
	ticed to avoid misleading reporting of Exploration Results.	
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.*	• Not applicable at this stage
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• Further priority rock chip samples will be collected using a sawn channel sampling methodology and sent for assay • Soil sampling around outcrops where anomalous levels of lithium and pathfinder elements are returned from the current phase of rock sampling will be completed to identify any areas of potential mineralization lying beneath soil cover • Results from the above sampling programs, together with possible ground geophysical surveys such as gravity and GPR, will be used to design an initial drilling program
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Not applicable at this stage