



## ASX ANNOUNCEMENT

12 January 2022

# High-grade Heavy Rare Earths up to 8.77% TREO at Killi Killi East including 6,221ppm dysprosium.

Tanami Project (100% ownership), Western Australia

## Highlights

- October follow-up field program returns further high-grade rare earth rock chip results from Killi Killi East and Watts Rise prospects.
- Assays up to **8.77% TREO** with 13 of 23 samples returning assays greater than 1% TREO and **heavy rare earths comprising on average 76% TREO**:
  - **8.77% TREO** including **6,221ppm dysprosium**
  - **5.87% TREO** including 3,214ppm dysprosium and 10,836ppm neodymium
  - **5.67% TREO** including 4,407ppm dysprosium
  - **5.35% TREO** including 2,686ppm dysprosium and 8,643ppm neodymium
- **REE drill target** extended at Killi Killi East 1 to at least **800m** strike length and at Killi Killi East 2 to **500m** strike length.
- Rock chip samples from Killi Killi East 2 also returned assays of **3.13 g/t and 1.33 g/t Au** confirming the gold mineralisation located in previous sampling program.
- Killi Killi East and Watts Rise geochemical soil sampling results expected in late January / February.
- PVW's maiden Tanami drilling program planned to commence in April at Watts Rise and Killi Killi East prospects targeting REE and Au mineralisation.



Figure 1: Rock chip sample TARK0033 (5.87% TREO)

TREO = Total Rare Earth Oxides – Total of La<sub>2</sub>O<sub>3</sub>, CeO<sub>2</sub>, Pr<sub>6</sub>O<sub>11</sub>, Nd<sub>2</sub>O<sub>3</sub>, Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Tm<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>

**Corporate Office**  
Level 3, 1138 Hay Street  
West Perth WA, 6005

T: +61 (0)408 931 746  
info@pvwresources.com.au  
pvwresources.com.au

**ASX: PVW**  
ABN 36 124 541 466

For personal use only



PVW  
Resources

Tanami

PVW Resources ('PVW', "the Company") is pleased to provide an update on rare earth and gold assay results received from the field program completed in October 2021 at the Tanami REE/Gold project. The field program completed in October included rock chip sampling, reconnaissance geological mapping, soil sampling and ground radiometrics at the Killi Killi East and Watts Rise prospects. Results are still pending for the soil sampling program however assays have been received for the 23 rock chip samples, 20 of which were from Killi Killi East, one from Watts Rise and two from regional sampling. Figures 2 and 5 below show the location of the samples at Killi Killi East and Watts Rise.

**Executive Director Mr George Bauk said,** "These results continue to confirm the huge potential for Heavy Rare Earth mineralisation at the Killi Killi Project. The exploration team continues to define Heavy Rare Earth mineralisation along the 18km corridor and now have **identified two priority drill target areas with strike lengths of at least 800m at Killi Kill East 2 and 500m at Killi Killi East 1.**"

"Following the receipt of soil samples and the geophysical interpretation of recent airborne surveys, the team will finalise the maiden drill program which is being prepared to commence in April following the northern wet season. The significant number of high-grade rock chip samples provide PVW with a large number of walk up targets in an emerging rare earths province."

"Whilst the results continue to deliver significant presence of Heavy Rare Earths including dysprosium and terbium, we have also seen some significant numbers for neodymium and praseodymium which are all critical in the permanent magnets."

As follow-up to the rock chip sampling program conducted at the Tanami Project in August 2021, results of which were announced on 13 October 2021 (ASX:PVW - "Confirmation of high-grade Heavy Rare Earths at Tanami"), a second program of rock chip sampling was completed in October 2021. Of the 20 samples taken at the Killi Killi East prospect, **12 have returned assays greater than 1% TREO** with the average ratio of Heavy Rare Earths (HRE\*) to TREO for these samples being 76% (see Table 1 and Figure 3 below). This dominance of heavy rare earths is related to the rare earth mineral xenotime. The presence of xenotime at Killi Killi East and Watts Rise was confirmed by the mineralogical studies completed by PVW, details of which were released on 7 January 2022 in the ASX announcement titled "Mineralogy confirms Heavy Rare Earths contained in xenotime mineralisation at the Tanami HRE Project – Additional Information".

The new sampling results have now outlined a drill target with high-grade surface mineralisation occurring over an approximate strike length of 800m at Killi Killi East 1 and at least 500m at Killi Killi East 2 (see Figure 2 below). The REE mineralisation predominantly occurs within the Pargee Sandstone close to the unconformity with the underlying older Killi Killi Formation. Significantly, the most recent assay results have returned REE mineralisation from what is interpreted to be brecciated and altered Killi Killi Formation (samples TARK0030, 0031, 0032). This suggests there is potential for mineralisation within the Killi Killi Formation and hence a significantly more extensive target than previously thought.

\*HRE or HREO = Heavy Rare Earth Oxides – Total of Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Tm<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub>

For personal use only



Three of the rock chip samples from Killi Killi East 2 also returned anomalous gold assays with assays of 3.13 g/t, 1.33 g/t and 0.58g/t Au (samples TARK0033, 0041, 0042). These samples were taken as follow-up to the gold assays of up to 8.94g/t and 4.43g/t Au from the August sampling program, with gold mineralisation occurring in the Pargee Sandstone / conglomerate proximal to the unconformity. All the samples discussed above are selective in nature with a high potential for bias and should not be considered as being representative of the overall mineralised structure or zone.

A new interpretation of geophysical data from the Watts Rise-Killi Killi East trend is nearing completion which will assist in drill targeting of the 18km long Pargee Sandstone - Killi Killi unconformity. Drilling is planned to commence in April at both Watts Rise and Killi Killi East, focused on the surface REE mineralisation identified to date as well as regional conceptual drill targets. Preliminary metallurgical studies are also currently underway with results expected in March.

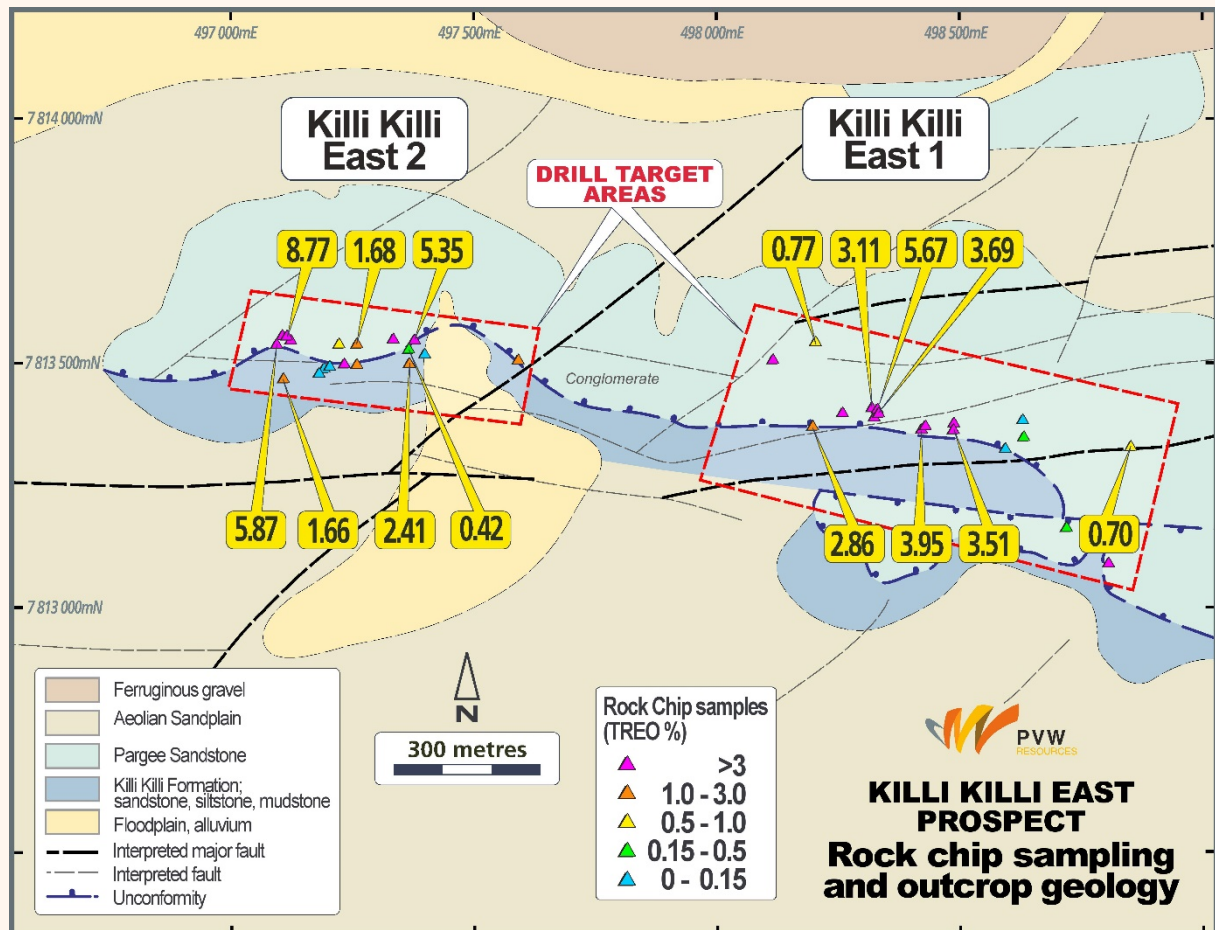


Figure 2: Killi Killi East prospect – PVW rock chip sampling locations with samples from October field program with >0.15% TREO labelled





Table 1 – Summary of rare earth and gold assay rock chip results (see Appendix 1 for full details)

Prospect	Sample id	TREO %	HREO %	Dy <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>4</sub> O <sub>7</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	Au g/t
KK East 1	TARK0021	0.06	12.26	3	191	1	10	0.038
KK East 1	TARK0022	0.01	19.89	2	16	0	11	0.003
KK East 1	TARK0023	0.77	13.04	48	1668	11	484	0.003
KK East 1	TARK0024	2.86	82.59	2123	2018	240	15493	0.006
KK East 1	TARK0025	0.70	32.75	153	1140	19	1346	0.008
KK East 2	TARK0026	1.66	66.95	1182	2228	191	6261	0.030
KK East 2	TARK0027	0.07	65.78	50	85	9	269	0.001
Regional	TARK0028	0.01	20.13	2	13	0	8	0.002
KK East 2	TARK0029	1.68	67.49	1004	2286	146	6959	0.007
KK East 2	TARK0030	5.35	57.58	2686	8643	437	19049	0.003
KK East 2	TARK0031	0.42	84.15	293	321	44	2362	<0.0005
KK East 2	TARK0032	2.41	69.67	1492	2963	230	10654	0.006
KK East 2	TARK0033	5.87	62.72	3214	10836	514	21715	0.579
Watts Rise	TARK0034	2.54	80.64	1710	2193	220	13842	0.007
KK East 1	TARK0035	3.51	82.80	2559	2554	351	18922	0.028
Regional (Watts Rise)	TARK0036	0.01	17.68	2	19	0	13	0.001
KK East 2	TARK0037	8.77	80.17	6221	6229	903	45843	0.052
KK East 1	TARK0038	5.67	90.24	4407	2508	598	35049	0.123
KK East 1	TARK0039	3.69	83.62	2697	2566	354	20699	0.065
KK East 1	TARK0040	3.95	83.66	2961	2683	431	21842	0.037
KK East 2	TARK0041	0.04	18.34	7	107	1	34	3.130
KK East 2	TARK0042	0.04	10.60	3	82	1	11	1.330
KK East 1	TARK0043	3.11	85.36	2548	2204	365	17271	0.037

HREO % = Heavy Rare Earth Oxides - Total of Sm<sub>2</sub>O<sub>3</sub>, Eu<sub>2</sub>O<sub>3</sub>, Gd<sub>2</sub>O<sub>3</sub>, Tb<sub>4</sub>O<sub>7</sub>, Dy<sub>2</sub>O<sub>3</sub>, Ho<sub>2</sub>O<sub>3</sub>, Er<sub>2</sub>O<sub>3</sub>, Tm<sub>2</sub>O<sub>3</sub>, Yb<sub>2</sub>O<sub>3</sub>, Lu<sub>2</sub>O<sub>3</sub>, Y<sub>2</sub>O<sub>3</sub> as a percentage of TREO

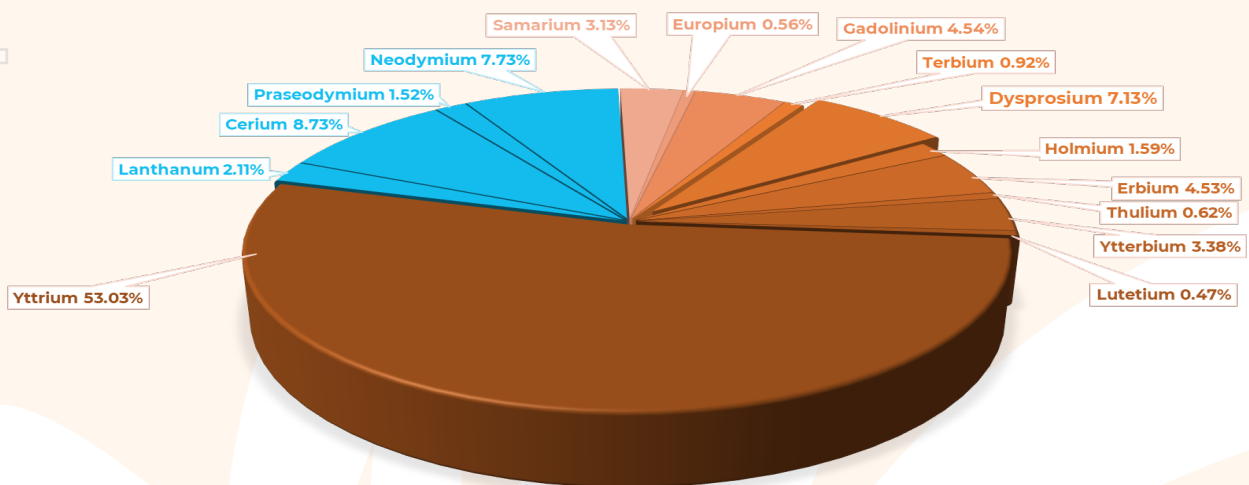


Figure 3: Pie chart showing average distribution of REO for all rock chip samples taken in 2021 from Killi Killi East and Watts Rise with TREO >1% (27 samples)



## Killi Killi East

The rare earth mineralisation occurs mostly within a basal conglomerate unit of the Pargee Sandstone. Where mineralised, the conglomerate unit is often strongly hematitic but also displays silicification and brecciation in places. Field evidence suggests the mineralisation is both structurally and lithologically controlled. Cross-cutting structures possibly act as structural traps for mineralisation along this trend, with the basal conglomerate unit providing a suitable lithochemical host. Potential for REE mineralisation hosted within the Killi Killi Formation has also now been recognized. The drill program for Killi Killi East will be finalized once the geochemical soil sampling results have been received however the current rock chip results and geological mapping have defined drill targets of at least 800m and 500m strike length at Killi Killi East 1 and 2 respectively (see Figure 2 above).

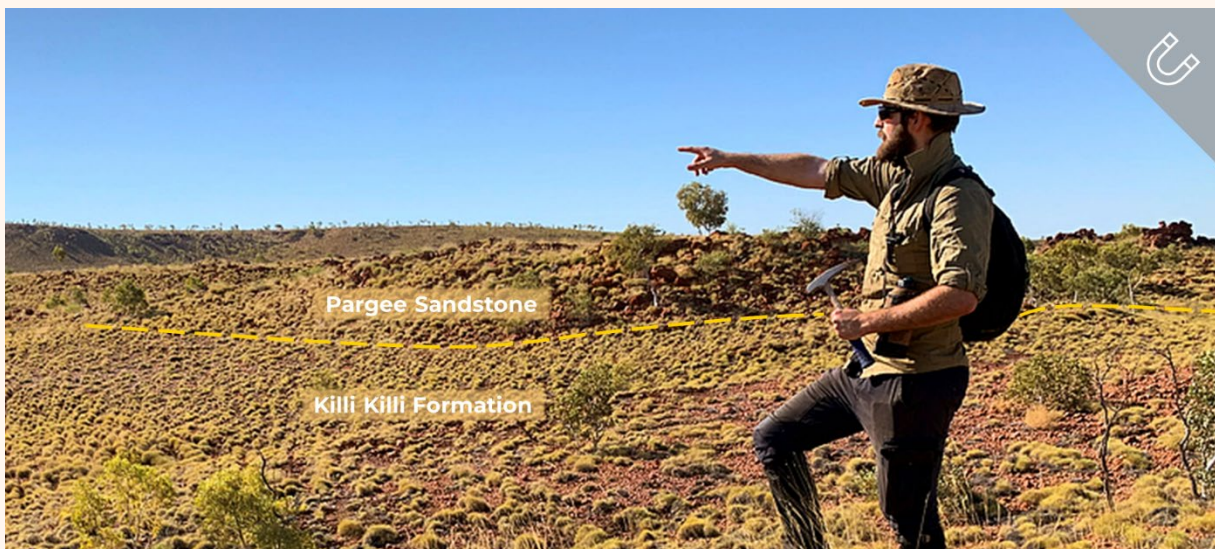


Figure 4: View of Killi Killi East showing unconformity between Pargee Sandstone and Killi Killi Formation

## Watts Rise

The Watts Rise prospect is located approximately 12km northwest of Killi Killi East. Only two rock chip samples were taken there in the October 2021 field program, one of which was a barren sample of Pargee Sandstone, for litho-geochemical purposes. The other sample returned an assay of 2.54% TREO which was proximal to a sample of 3.9% TREO taken in the August 2021 field program. The rare earth mineralisation at Watts Rise also occurs within a basal conglomerate unit of the Pargee Sandstone, close to the unconformity with the Killi Killi Formation (see Figure 5 below). The drill program for Watts Rise will be finalised once the geochemical soil sampling results have been received.



### Regional REE Target

The contact between the Pargee Sandstone and the Killi Killi Formation is a regional-scale unconformity of over 18km strike length and is considered prospective for hydrothermal unconformity-related REE mineralisation, examples of which occur across a large part of the Birrindudu Basin (eg. Browns Range, Boulder Ridge). The two main prospect areas, Killi Killi East and Watts Rise occur 12km apart and are both located close to the contact between the Pargee Sandstone and the Killi Killi Formation (see Figure 5). PVW Resources exploration program will target faults and structures that transect the regional unconformity and potentially act as conduits for mineralising fluids. Deposits of the hydrothermal unconformity-related style can have a small areal footprint (<200m) which may require detailed geological mapping and close spaced drilling. As part of the drilling program in April, regional targets along the unconformity between Watts Rise and Killi Killi East will also be tested. These regional targets are currently still being finalised.

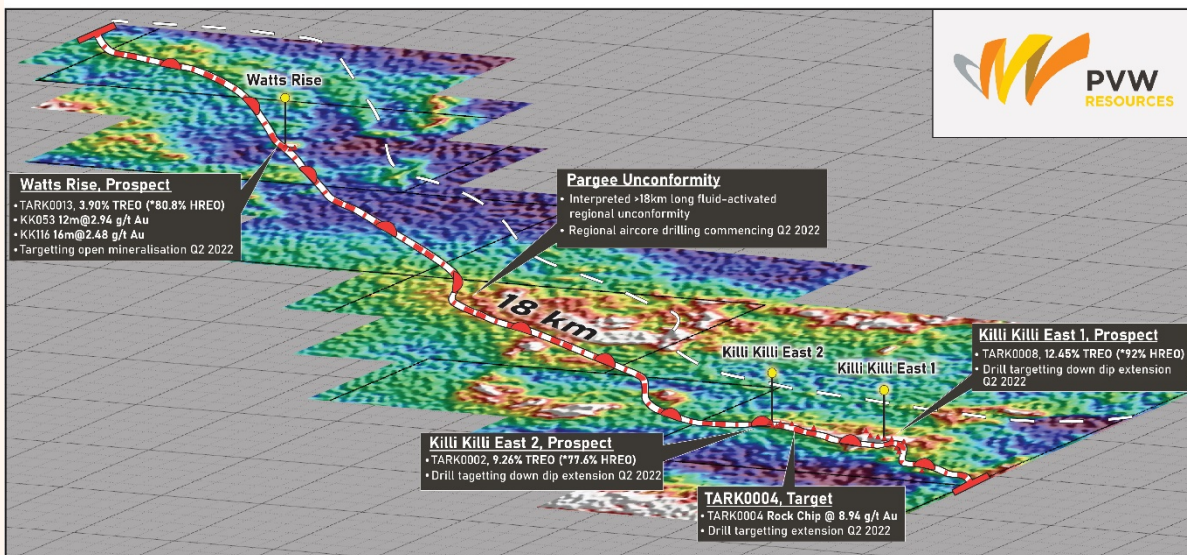


Figure 5: Tanami Project – Regional REE target (Watts Rise- Killi Killi Trend)

### Key Next Steps

Task	Commence	Description
Geochemical soil sampling results	January/February	Geochemical soil sampling results from Killi Killi East and Watts Rise
Geophysical Interpretation	January	Geophysical interpretation of Watts Rise-Killi Killi trend
Preliminary metallurgy study results	March	Initial metallurgical testwork
Drilling	April	Maiden REE/Au drilling program at Watts Rise and Killi Killi prospects

For personal use only





### About Rare Earths

Rare Earths are fundamental to the modern economy, enabling significant dollars in global GDP via a wide range of clean energy including the electrification of transport, information technology, defense and industrial applications such as robotics.

Unique magnetic and electrochemical properties of the Rare Earth elements enable technologies to perform with greater efficiency, performance and durability – often by reducing weight, emissions or energy consumption.

Rare Earths drive technology to power global economic growth, enable life-saving products, and help shrink our carbon footprint. With the infancy of technological development, application of Rare Earths has just commenced.

Light Rare Earths														Heavy Rare Earths		
Lanthanum 57 <b>La</b> 138.91	Cerium 58 <b>Ce</b> 140.12	Praseodymium 59 <b>Pr</b> 140.01	Neodymium 60 <b>Nd</b> 144.24	Samarium 62 <b>Sm</b> 150.36	Europium 63 <b>Eu</b> 151.96	Gadolinium 64 <b>Gd</b> 157.25	Terbium 65 <b>Tb</b> 158.93	Dysprosium 66 <b>Dy</b> 162.50	Helmium 67 <b>Ho</b> 164.93	Erbium 68 <b>Er</b> 167.26	Thulium 69 <b>Tm</b> 168.93	Ytterbium 70 <b>Yb</b> 173.04	Lutetium 71 <b>Lu</b> 174.967	Yttrium 39 <b>Y</b> 88.906		

Figure 7: Light and heavy rare earths

- Diesel fuel additive**
  - Cerium
  - Lanthanum
- Catalytic converter**
  - Cerium/Zirconium
  - Lanthanum
- 25+ motors throughout vehicle**
  - Neodymium
  - Praseodymium
  - Dysprosium
- UV cut glass**
  - Cerium
- Glass/mirrors polishing**
  - Cerium
- LCD Screens**
  - Cerium
  - Europium
  - Yttrium
- Component sensors**
  - Yttrium
- Headlight glass**
  - Neodymium
- Hybrid electric motor and generator**
  - Neodymium
  - Praseodymium
  - Dysprosium
  - Terbium
- Hybrid NiMH Battery**
  - Cerium
  - Lanthanum

Figure 6: Rare earth elements used in electric vehicles

For personal use only



For personal use only

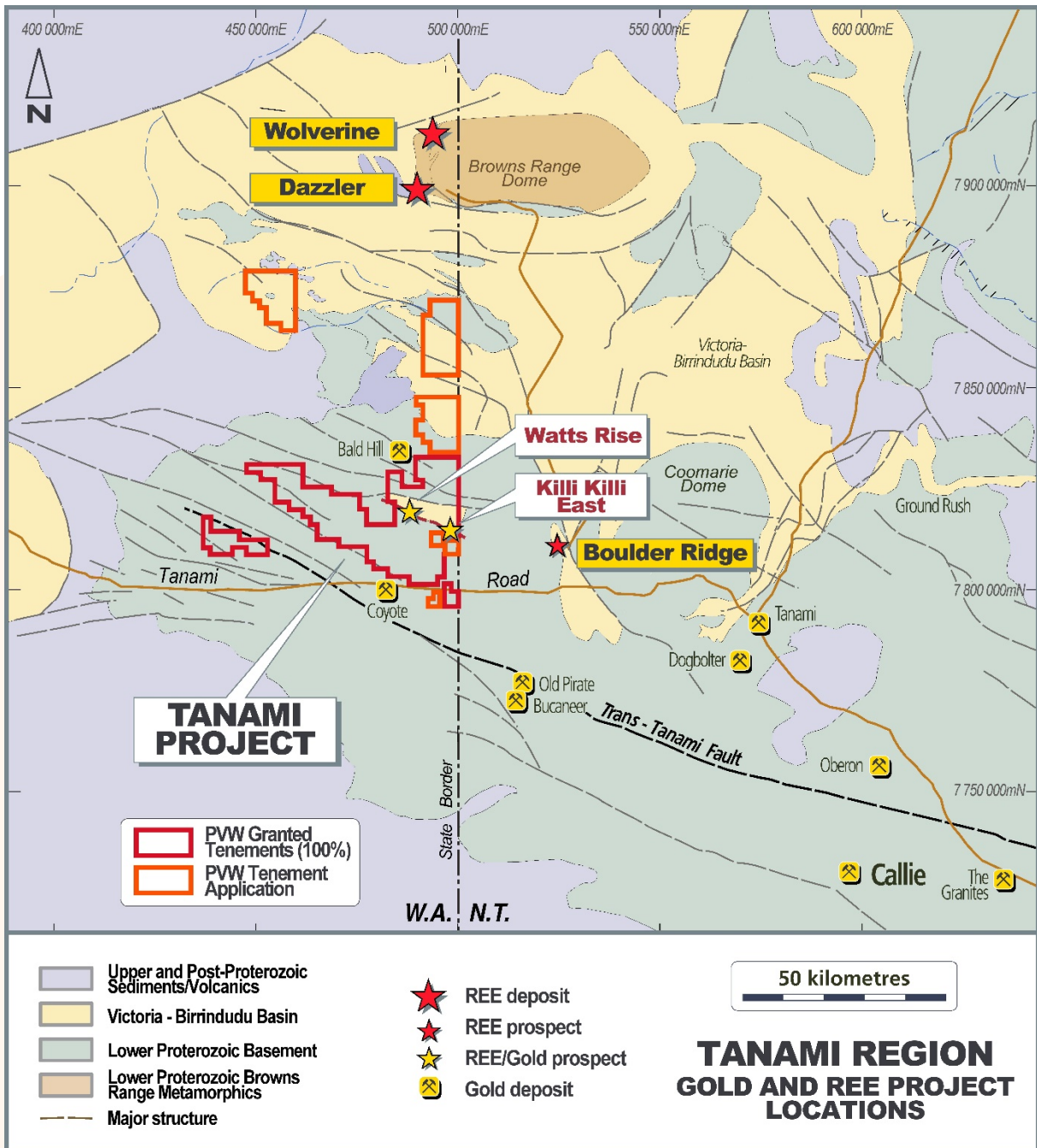


Figure 8: PVW Tanami Project location showing tenement holdings and REE prospects





### Hydrothermal unconformity-related REE deposits

Hydrothermal unconformity-related REE deposits are a class of REE deposits that have a similar geological setting to unconformity-related uranium deposits of Australia and Canada. The best known examples are at Browns Range where mineralisation occurs as xenotime-rich veins and breccias close to a regional unconformity between Archean metasediments and overlying younger Proterozoic sandstones. The deposits formed at 1.65 to 1.61Ga (Nazari-Dehkordi et al, 2018) along or adjacent to steeply dipping faults that transect the unconformity. The Killi Killi East prospect shares many geological similarities with this style of mineralisation.

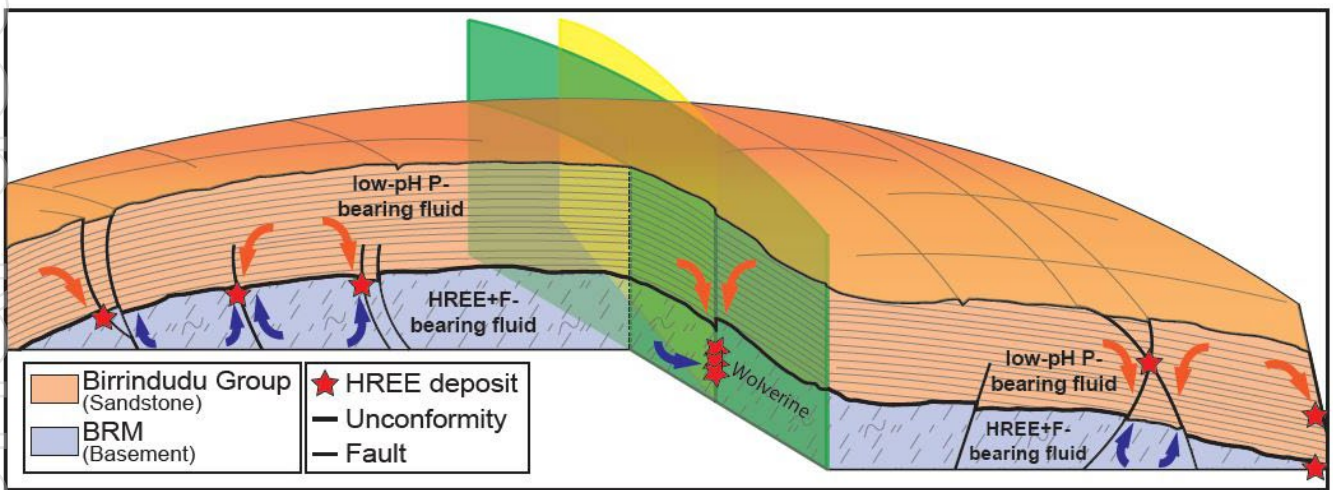


Figure 9: Model for the formation of hydrothermal unconformity related REE deposits

(Diagram from Nazari-Dehkordi et al, 2018)



**PVW**  
Resources

**Tanami**

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

The information in this documents that relates to Exploration Results is based on information compiled by Mr Robin Wilson who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Wilson is a consultant to PVW Resources and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (the JORC Code). Mr Wilson consents to the inclusion of this information in the form and context in which it appears.

### **Authorisation**

This announcement has been authorised for release by the Board of PVW Resources Limited.

For further information, please contact:

**George Bauk**

Executive Director

+61 408 931 746

[george@totode.com.au](mailto:george@totode.com.au)

**Joe Graziano**

Company Secretary

+61 411 649 551



### Appendix 1

Table 2: Rock chip assay results and sample locations (grid system – MGA94 Zone 52)

Sample id	Northing	Easting	Prospect	Sample type	Rock type	CeO <sub>2</sub> ppm	Dy <sub>2</sub> O <sub>3</sub> ppm	Er <sub>2</sub> O <sub>3</sub> ppm	Eu <sub>2</sub> O <sub>3</sub> ppm	Gd <sub>2</sub> O <sub>3</sub> ppm	Ho <sub>2</sub> O <sub>3</sub> ppm	La <sub>2</sub> O <sub>3</sub> ppm	Lu <sub>2</sub> O <sub>3</sub> ppm	Nd <sub>2</sub> O <sub>3</sub> ppm	Pr <sub>6</sub> O <sub>11</sub> ppm	Sm <sub>2</sub> O <sub>3</sub> ppm	Tb <sub>4</sub> O <sub>7</sub> ppm	Tm <sub>2</sub> O <sub>3</sub> ppm	Y <sub>2</sub> O <sub>3</sub> ppm	Yb <sub>2</sub> O <sub>3</sub> ppm	TREO %	Th ppm	U ppm	Au ppb
TARK0021	7813380	498634	KKE 1	Rock Chip	Pebble Conglomerate	237.08	3.47	0.74	3.93	16.37	0.55	75.29	0.19	191.29	41.56	38.27	1.24	0.11	10.16	1.14	0.06	6.5	45.4	38.1
TARK0022	7813324	498597	KKE 1	Rock Chip	Pebble Conglomerate	48.28	1.84	0.89	0.79	2.74	0.44	23.81	0.17	15.86	4.84	3.83	0.4	0.13	10.79	1.02	0.01	6.6	4.88	2.8
TARK0023	7813543	498205	KKE 1	Rock Chip	Pebble Conglomerate	3021.86	48.09	49.06	20.15	97.05	14.66	1501.18	6.98	1667.95	541.27	219.16	11.28	7.9	483.83	51.13	0.77	37.2	5.17	3
TARK0024	7813369	498199	KKE 1	Rock Chip	Gritty Sandstone/Conglomerate	1916.3	2123.25	1760.99	93.79	835.64	510.89	656.77	220.6	2017.87	384.21	493.99	239.84	275.25	15492.78	1560.02	2.86	17.3	59.7	6.4
TARK0025	7813326	498855	KKE 1	Rock Chip	Gritty Sandstone	2333.96	152.64	154.37	18.99	131.4	41.35	897.19	24.11	1139.57	304.47	207.57	19.07	24.21	1346.09	157.14	0.7	39.4	3.23	7.6
TARK0026	7813465	497107	KKE 2	Rock Chip	Pebble Conglomerate	2125.13	1182.13	630.07	135.47	1198.7	231.39	684.92	52.65	2227.82	432.54	728.23	190.73	74.46	6260.61	398.55	1.66	9.9	160	30.1
TARK0027	7813516	497399	KKE 2	Rock Chip	Pebble Conglomerate	105.27	49.58	21.27	9.15	58.21	8.96	43.51	1.92	84.68	16.91	37.8	9.42	2.25	269.22	13.44	0.07	3.3	20.4	0.9
TARK0028	7812748	499490	Regional	Rock Chip	Scree	32.92	1.88	0.71	0.52	2.03	0.26	17.12	0.11	13.18	3.67	2.32	0.32	0.13	8.13	0.46	0.01	3.2	0.86	1.7
TARK0029	7813538	497259	KKE 2	Rock Chip	Pebble Conglomerate	2076	1004.24	510	112.32	923.23	216.5	674.36	65.84	2286.14	409.58	827.95	146.19	80.75	6959.05	462.31	1.68	23.3	106	6.7
TARK0030	7813541	497376	KKE 2	Rock Chip	Breccia	11301.28	2685.62	1406.51	390.21	2697.08	520.06	758.8	125.08	8643.02	1993.53	2423.56	437.42	165.6	19048.5	904.13	5.35	15.5	583	2.8
TARK0031	7813526	497368	KKE 2	Rock Chip	Breccia	218.66	292.66	169.24	34.74	244.35	60.25	78.69	15.92	320.76	48.57	178.58	43.86	20.67	2362.01	117.29	0.42	3.5	35.6	< 0.5
TARK0032	7813499	497366	KKE 2	Rock Chip	Breccia	2739.33	1492.01	890.79	195.69	1279.39	315.01	1026.2	88.35	2962.66	595.64	938.12	229.56	116.49	10654.46	625.15	2.41	7.4	88.8	5.5
TARK0033	7813537	497093	KKE 2	Rock Chip	Gritty Sandstone	7087.87	3213.56	1806.73	489.79	3227.28	647.21	2122.77	167.15	10835.86	1848.55	3606.36	513.95	227.28	21715.29	1218.41	5.87	9.7	475	579
TARK0034	7818880	487613	WR	Rock Chip	Gritty Sandstone	1854.88	1710.07	1223.55	128.53	1076.53	403.22	485.54	126.22	2192.83	385.42	710.83	220.43	164.46	13841.91	882.49	2.54	5.4	48.2	7
TARK0035	7813369	498487	KKE 1	Rock Chip	Gritty Sandstone	2346.24	2559.37	1715.25	218.84	1832.63	579.62	690.78	179.66	2554.42	453.08	1252.37	350.62	230.7	18921.51	1263.96	3.51	6	549	28.2
TARK0036	7819060	487703	Regional	Rock Chip	Pebble Conglomerate	62.89	2.17	0.77	0.52	2.84	0.53	27.56	0.19	18.9	5.88	3.36	0.43	0.19	12.95	0.8	0.01	5.8	1.09	0.6
TARK0037	7813550	497116	KKE 2	Rock Chip	Gritty Sandstone	7333.55	6220.53	3853.6	552.32	4668.03	1328.78	2427.7	433.24	6228.58	1413.59	3049.75	903.4	502.52	45843.39	2983.39	8.77	4.6	185	52.1
TARK0038	7813400	498329	KKE 1	Rock Chip	Pebble Conglomerate	2039.14	4407.17	2858.75	319.58	2846.92	988.57	540.66	275.18	2507.76	442.2	1484.29	598.46	358.62	35049.24	1958.56	5.67	14.1	709	123
TARK0039	7813398	498329	KKE 1	Rock Chip	Breccia	2358.53	2697.1	1829.6	199.16	1671.27	623.15	641.52	187.62	2566.08	480.86	1058.71	354.05	237.56	20699.37	1320.89	3.69	12.7	389	64.6
TARK0040	7813368	498427	KKE 1	Rock Chip	Gritty Sandstone	2567.36	2961.07	1658.08	259.37	2247.57	633.46	720.1	152.37	2682.72	477.24	1461.1	430.57	214.71	21842.28	1161.47	3.95	6.4	260	36.8
TARK0041	7813486	497197	KKE 2	Rock Chip	Gritty Sandstone	165.83	6.56	2.65	2.3	10.65	1.11	62.74	0.34	107.43	24.65	18.79	1.27	0.4	34.41	2.51	0.04	8	32.9	3130
TARK0042	7813484	497196	KKE 2	Rock Chip	Gritty Sandstone	152.32	2.65	0.88	1.45	6.98	0.45	61.92	0.08	82.35	20.9	12.18	0.66	0.11	11.05	1.14	0.04	9.1	33.9	1330
TARK0043	7813400	498330	KKE 1	Rock Chip	Pebble Conglomerate	1584.64	2547.89	1475.12	206.11	1821.11	544.11	405.79	127.36	2204.5	355.21	1061.03	365.47	143.9	17270.64	957.65	3.11	7.3	457	37.3





**About PVW Resources:**



**Tanami Region – 100% ~1,400km<sup>2</sup>**

The Tanami Region hosts the large Callie gold deposit currently being mined by Newmont.

Limited exploration has been undertaken in the Tanami and many view this area as highly prospective and very underexplored.

Over the past 3 years the company has put together a 1,400km<sup>2</sup> mostly contiguous land package with significant REE results, geological understanding and historical drill results that require immediate follow up.

Previous exploration in the early 2010's resulted in 12m @ 2.94 g/t Au from surface and 5m @ 6.99 g/t Au also from surface.

Recent 2021 exploration by PVW has confirmed the REE potential with spectacular rock chip results from Killi Killi East including Assays up to

12.45% TREO with 14 of 20 samples returning assays greater than 1% TREO and heavy rare earths comprising on average 80% of TREO:

- 12.45% TREO including 11,592ppm dysprosium
- 9.26% TREO including 7,070ppm dysprosium
- 7.38% TREO including 6,324ppm dysprosium
- 3.90% TREO including 2,743ppm dysprosium (located 12km from the Killi Killi East prospect).

For recent REE results refer to ASX:PVW, 13 Oct 2021, Confirmation of high-grade Heavy Rare Earths at Tanami. All historical Tanami Project exploration drilling results refer to ASX:PVW, Thred Prospectus Appendix A - Independent Geologists Report, Appendix 1.

For personal use only



### Leonora Region – 100% 195km<sup>2</sup>

The company owns 100% Jungle Well and the Brilliant Well projects both with immediate follow up targets. Jungle Well has a 26,800oz Au inferred resource JORC12 compliant, the open pit was mined previously in 1996 during a low gold price. Drilling plans to explore the extension of the existing resource and along strike following up an intersection of 13.2m @ 1.74 g/t which was drilled exploring for Nickel.

The Brilliant Well Project is south of the Bundarra Gold Project (owned by Northern Star) with gold intersections from various drilling programs in 2011 and by PVW in 2019 which included 4m @ 4.09 g/t and 10m @ 3.36 g/t in historical 2011 drilling.

All Leonora Project exploration drilling results refer to ASX:PVW, Thred Prospectus Appendix A - Independent Geologists Report, Appendix 1.

**Jungle Well Deposit**  
**November 2019 Maiden Inferred Mineral Resource Estimate**  
**(0.5g/t Au Cut-off)**

Type	Tonnage Kt	Au g/t	Au Ounces
LG Stockpile	7	1.3	300
Oxide	210	1.0	6,800
Transitional	309	1.1	10,600
Fresh	208	1.4	9,200
<b>Total</b>	<b>735</b>	<b>1.1</b>	<b>26,800</b>

*Note: Refer to the Thred Ltd website Prospectus – Appendix A - Independent Geologists Report, 2.4 Mineral Resource Estimation – Jungle Well Deposit. The Company confirms that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed at the time of publication.*

### Kalgoorlie Region – 100% 150km<sup>2</sup>

Right in and amongst the heartland of gold in Western Australia, PVW has a 150km<sup>2</sup> tenement package within close proximity to many operating gold processing plants. Near term drill targets: Regional Bedrock Targets including previous drill results including 6m @ 2.61 g/t and 4m @ 2.39 g/t and new conceptual targets. Aircore drilling at the Black Flag prospect and auger drilling at King of The West and the Pappy Prosect have confirmed these target areas are very prospective with initial exploration efforts returning positive results requiring ongoing follow up. Significant drill results have been returned for granites and within greenstones. Paleochannel targets with possible links to bedrock mineralisation are yet to be tested. All historical Kalgoorlie Project exploration drilling results refer to ASX:PVW, Thred Prospectus Appendix A - Independent Geologists Report, Appendix 1.

### West Yilgarn Region – 100% 950km<sup>2</sup>

The most recent addition to the PVW portfolio, the Ballinue Project is located in the Mid West region of Western Australia, over the Narryer Terrane and the Murchison Domain, within the West Yilgarn Ni-Cu-PGE Province. The West Yilgarn Province is defined by a corridor along the western margin of the Yilgarn Craton, bounded on the west by the Darling Fault and extending east for some 100km. The corridor hosts significant new discoveries, the most significant being Chalice Mining – Julimar Project (ASX:CHN). PVW's Ballinue Project is in the application phase and the company eagerly awaits grant of these tenements to commence systematic exploration, focusing on testing magnetic anomalies that could be the result of Layered Mafic-Ultramafic Intrusions.

### Right place for the right times for the right commodities

Western Australia is one of the leading investment jurisdictions according to the recent Fraser Institute rankings. During the challenging times we live in during COVID-19 all our projects and people are in Western Australia with excellent access to the projects. Finally, Western Australia is a global leader in gold production and gold exploration and producer of Rare Earths. .

For personal use only



**JORC CODE, 2012 Edition Table 1**

**• Section 1 Sampling Techniques and Data**

Criteria	JORC Code explanation	Commentary
<p><i>Sampling techniques</i></p>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>At the Killi Killi East and Watts Rise prospects rock chip samples were taken from in-situ mineralisation using a handheld geo-pick. Typically, samples are in excess of 1kg. The samples were selected using a spectrometer and Olympus portable XRF measuring yttrium and other elements (eg. strontium) in areas of interpreted outcropping mineralisation. Yttrium is a reliable indicator of rare earth mineralisation. and has been used extensively at Browns Range which exhibits a similar style of mineralisation as at Killi Killi, A total of 23 samples were taken – 20 from Killi Killi East, 1 from Watts Rise and 2 from regional sampling.</li> <li>The PXRF instrument is calibrated and serviced regularly, with daily instrument calibration completed. In addition, standards were analysed daily.</li> <li>Rock chip samples were taken for an indication of mineralisation only. As point samples they have a high potential of bias and should not be considered as being representative of the overall mineralised structure. The whole sample collected was crushed and pulverised prior to analysis.</li> </ul>
<p><i>Drilling techniques</i></p>	<ul style="list-style-type: none"> <li><i>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).</i></li> </ul>	<ul style="list-style-type: none"> <li>Not applicable – no drilling carried out.</li> </ul>





Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable – no drilling carried out.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>Geology, alteration and structure were recorded at selected sample sites. These records are qualitative in nature.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable – no drilling carried out.</li> <li>Not applicable – no drilling carried out.</li> <li>Sample preparation follows industry standard practice. Samples are dried, crushed (2mm) and rotary divided where required. Pulverisation is undertaken by LM1 mill, and bowls are barren-washed after each sample.</li> <li>No sub-sampling undertaken on assayed samples. No field duplicates collected as samples were taken for indications of mineralisation only. As point samples they have a high potential of bias and should not be considered as being representative of the overall mineralised structure</li> <li>Sample sizes of greater than 1kg are considered appropriate for the style of mineralisation.</li> </ul>



Criteria	JORC Code explanation	Commentary
<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><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></li> <li><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></li> </ul>	<ul style="list-style-type: none"> <li>Samples were assayed by LabWest, Malaga, WA. The method used is AF02, whereby samples are fused in an alkaline salt (lithium meta/tetraborate) and dissolved in nitric acid for determination of major rock-forming elements by ICP-OES and resistate traces, such as the rare earth elements, by ICP-MS. Gold was measured by the WAR-25 method in which a 25g portion of pulverised sample is analysed using an aqua-regia digestion, with determination by ICP-MS. After the initial results were received the eight samples with the highest TREO assays were repeated with the same assay method. The repeated assay values are reported herein.</li> <li>In the field an Olympus XRF handheld tool was used to provide a preliminary quantitative measure of mineralisation. A reading time of 30 -60 seconds was used. Calibration of the PXRF is daily and an yttrium standard is checked daily.</li> <li>Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in-house procedures.</li> </ul>
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Verification of results by more than one company geologist.</li> <li>Not applicable – no drilling.</li> <li>Primary data was collected into a spread sheet to be loaded to the Company database.</li> <li>Adjustments made to the assay data were limited to the conversion of reported elemental assays for a range of elements to the equivalent oxide compound as applicable to rare earth oxides. In all instances the original elemental data will be stored in the database and the equivalent oxide values loaded into appropriately labelled fields identifying them as calculated values. Selected checks on these calculated fields</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>did not identify any issues.</p> <p>The oxides were calculated from the element according to the following factors:  <math>CeO_2 - 1.2284</math>, <math>Dy_2O_3 - 1.1477</math>, <math>Er_2O_3 - 1.1435</math>, <math>Eu_2O_3 - 1.1579</math>, <math>Gd_2O_3 - 1.1526</math>, <math>Ho_2O_3 - 1.1455</math>, <math>La_2O_3 - 1.1728</math>, <math>Lu_2O_3 - 1.1371</math>, <math>Nd_2O_3 - 1.1664</math>, <math>Pr_6O_{11} - 1.2082</math>, <math>Sm_2O_3 - 1.1596</math>, <math>Tb_4O_7 - 1.1421</math>, <math>Tm_2O_3 - 1.1421</math>, <math>Y_2O_3 - 1.2699</math>, <math>Yb_2O_3 - 1.1387</math></p> <p>Ratios of each oxide to Total Rare Earth Oxides (TREO) are used to determine the percentages of heavy (HRE) and light (LRE) rare earth oxides.</p> <p>Rare earth oxide is the industry accepted form for reporting rare earths. The TREO (Total Rare Earth Oxide) is calculated from addition of <math>La_2O_3</math>, <math>CeO_2</math>, <math>Pr_6O_{11}</math>, <math>Nd_2O_3</math>, <math>Sm_2O_3</math>, <math>Eu_2O_3</math>, <math>Gd_2O_3</math>, <math>Tb_4O_7</math>, <math>Dy_2O_3</math>, <math>Ho_2O_3</math>, <math>Er_2O_3</math>, <math>Tm_2O_3</math>, <math>Yb_2O_3</math>, <math>Y_2O_3</math>, and <math>Lu_2O_3</math>. Note that <math>Y_2O_3</math> is included in the TREO calculation.</p> <p>HREO% is determined by the formula:  <math>HREO\% = \frac{[Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Y_2O_3 + Lu_2O_3]}{[La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Y_2O_3 + Lu_2O_3 (TREO)]} \times 100</math></p>
<p>Location of data points</p>	<ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>Measurement points were located with a handheld GPS with an accuracy of +/- 5 metres.</li> <li>The grid system used by PVW is MGA94 Zone 52</li> <li>Not applicable at this stage of exploration.</li> </ul>
<p>Data spacing and distribution</p>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Rock chip sampling was undertaken at random intervals where mineralisation is indicated by spectrometer readings and portable XRF readings of yttrium.</li> <li>Not applicable – early-stage exploration only.</li> </ul>





Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"><li>• <i>Whether sample compositing has been applied.</i></li></ul>	<ul style="list-style-type: none"><li>• No compositing applied</li></ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"><li>• <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></li><li>• <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></li></ul>	<ul style="list-style-type: none"><li>• Sampling orientation was appropriate for early-stage exploration and as an indicator of mineralisation only.</li><li>• Not applicable – no drilling carried out.</li></ul>
<i>Sample security</i>	<ul style="list-style-type: none"><li>• <i>The measures taken to ensure sample security.</i></li></ul>	<ul style="list-style-type: none"><li>• Not applicable</li></ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"><li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li></ul>	<ul style="list-style-type: none"><li>• No detailed audits or reviews have been conducted due to this being early-stage exploration.</li></ul>



- Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>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, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Fieldwork was completed on the exploration licences E80/4029 and E80/4197 within PVW's Tanami Project. The tenements are located approximately 220km southeast of Halls Creek in the Tanami Desert. PVW Resources owns 100% of all mineral rights on the granted tenements. The tenements are located within the fully determined Tjurabalan native title claim.</li> <li>The tenements are in good standing with no known impediments.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Orion Metals Limited completed the original gold and REE exploration prior to PVW Resources.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>At the Killi Killi East and Watts Rise prospect the REE mineralisation is predominantly hosted in a basal conglomerate unit of the Birrindudu Basin which unconformably overlies the older Killi Killi Formation. This geological setting is analogous to that of the heavy rare earth (xenotime) deposits at Northern Minerals Browns Range Project and in particular the high-grade Dazzler deposit. The potential style of mineralisation is hydrothermal unconformity-related REE mineralisation.</li> </ul>
<b>Drill hole information</b>	<ul style="list-style-type: none"> <li>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:             <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length</li> </ul> </li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable – no drilling carried out</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>None applied or considered necessary for the style of sampling undertaken.</li> <li>Not applicable</li> <li>No metal equivalents reported.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable – no drilling carried out</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Relevant diagrams have been included within the text of the report. Plan views are included to demonstrate the geological interpretation.</li> </ul>
<b>Balanced Reporting</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All rock chip assay results reported herein.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>The results are considered indicative only of the mineralisation in the area.</li> <li>Petrology and mineralogy studies have been completed on rock chip samples from previous program by PVW and reported in December 2021. The main REE mineral is xenotime with lesser florencite and goyazite.</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Further work</b>	<ul style="list-style-type: none"><li>• <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large- scale step-out drilling).</i></li><li>• <i>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></li></ul>	<ul style="list-style-type: none"><li>• Ground radiometric surveys and regional soil sampling have been completed at Killi Killi East and Watts Rise prospects and across the regional unconformity. Results for this work program are currently still awaited. It is expected that a drill program will commence in April 2022 at the end of the wet season. Metallurgical studies are also underway for samples from Watts Wise and Killi Killi East. Results are expected from this work in March 2022.</li><li>• Diagrams showing the geological interpretation are included in the body of the report above.</li></ul>

### **Section 3 Estimation and Reporting of Mineral Resources**

Not applicable

### **Section 4 Estimation and Reporting of Ore Reserves**

Not applicable