

# CHILWA CONFIRMS FIRST CARBONATITE DISCOVERY WITH ELEVATED RARE EARTH ELEMENTS GRADES AT MPYUPYU TARGET

## KEY POINTS

- Results reported for the first hole (MPYDD001) at the Company's Mpyupyu target.
- The first hole intersected elevated TREO grades, with peak values of 2,935 ppm (154.1 to 155m downhole), supporting the interpretation of a mineralised syenite-fenite system.
- Consistently elevated REE grades were recorded throughout the saprolite and into fresh syenite-fenite basement. Notable intercepts include 1,567ppm TREO over 48.5m (from 73.2m downhole) as well as 1,545ppm TREO over 33m (from 132.9m downhole)
- A total of 10 diamond drill holes are planned over a thorium anomalous Carbonatite hosted REE target, one of 47 targets identified within the Company's geophysics and soil geochemistry program (see announcement dated 13 October 2025).
- Drilling has intersected ferro-carbonatite and silico-carbonatite units, at MPYDD001 as well as MPYDD003, for which ICP-MS results are expected in one to two weeks.
- Hole 3 at Mpyupyu (MPYDD003) has concluded at 217 metres with visual sulphides. Refer Figure 5 & 6.

## OVERVIEW

Chilwa Minerals Limited (ASX: CHW) ("Chilwa" or "the Company") announces the receipt of ICP-MS assay results from diamond drilling conducted on the second of 47 geophysical anomalies identified during the airborne radiometric and magnetic survey completed in the latter half of 2024. The anomalies, considered potential REE mineralisation targets, were characterised by Thorium, Potassium, magnetic signatures, and zoned intrusive bodies. These targets have undergone ground verification through mapping, soil geochemistry, and rock-chip sampling, with subsequent diamond drilling undertaken for further evaluation. Final results of soil geochemistry over these anomalies has allowed ranking of the anomalies in order of REE mineralisation prospectivity (see announcement dated 13 October 2025).



**Chilwa Minerals' Managing Director, Cadell Buss, commented:**

*"This discovery represents a significant development for the Company, and initial assay results confirm the substantial rare earth element (REE) potential of the Mpyupyu target. These findings support the Company's assessment that there is a significant REE system<sup>1</sup> within our tenement areas.*

*The combination of consistent TREO values and discrete higher-grade zones aligns with our targeting model and provides encouragement as drilling on Mpyupyu continues.*

*Our comprehensive exploration program, which encompassed airborne geophysical surveys as well as soil geochemistry sampling and analysis<sup>2</sup> in this established carbonatite and REE district, has yielded positive results. Consequently, we have been able to prioritise 18 of the 47 identified carbonatite targets. Please refer to figure 1 below.*

*The model for this target is being developed using data from both global and regional deposits, including notable examples such as Songwe Hill -Mkango Resources Ltd (LSE:MKA.I, TSX:MKA.I), where carbonatite-hosted rare earth element mineralisation is associated with adjacent syenite intrusives. Refer to relevant company announcement available on LSE/TSX<sup>3</sup> This geological context is mirrored at the Mpyupyu target, where preliminary fieldwork dating back to 1960 identified the presence of radioactive augerine dykes.<sup>4</sup>*

*Attention is currently focussed on the third and fourth drillholes in the sequence. Samples from the third hole have been sent for analysis, and drilling of the fourth drillhole is in progress. The results and ongoing drilling contribute to understanding the structure and potential REE mineralisation. "These results combined with recent confirmation of a Monazite stream in our Heavy Mineral Sands flow sheet<sup>5</sup> has given us further confidence that we are searching for a major Rare Earth System as opposed to one deposit."*

## **RARE EARTH PROGRAM BACKGROUND**

Chilwa commenced diamond drilling in early 2025 on its Critical Minerals Project, located at the western and southern shores of Lake Chilwa in Southern Malawi, after initial geophysical survey interpretations identified magnetic and radiometric anomalies potentially linked with REE carbonatite mineralisation. The Company also operates an advanced exploration stage Heavy Mineral Sands project within the same tenement and has established a dual exploration strategy, with dedicated teams working within the REE and Heavy Mineral Sands programs.

By mid-October 2025 (see announcement dated 13 October 2025) a soil geochemistry program was completed over all anomalies which allowed ranking the targets based on key variables including Heavy and Light Rare Earths affinity. Drilling was completed at the Mposa anomaly in the north of the licence and progressed to a target in the Mpyupyu area in August 2025.

<sup>1</sup> Refer ASX announcement 9 May 2025

<sup>2</sup> Refer ASX announcement 13 October 2025

<sup>3</sup> Refer to Mkango Resources – Songwe Hills Definitive Feasibility Study announcement 22 August 2022

<sup>4</sup> 1: M.S. Garson 1960 -The Geology of the Lake Chilwa Area, Bulletin number 12, Nyasaland protectorate, Geological Survey Department [Songwe Hill reference]

<sup>5</sup> Refer ASX announcement 30 September 2025

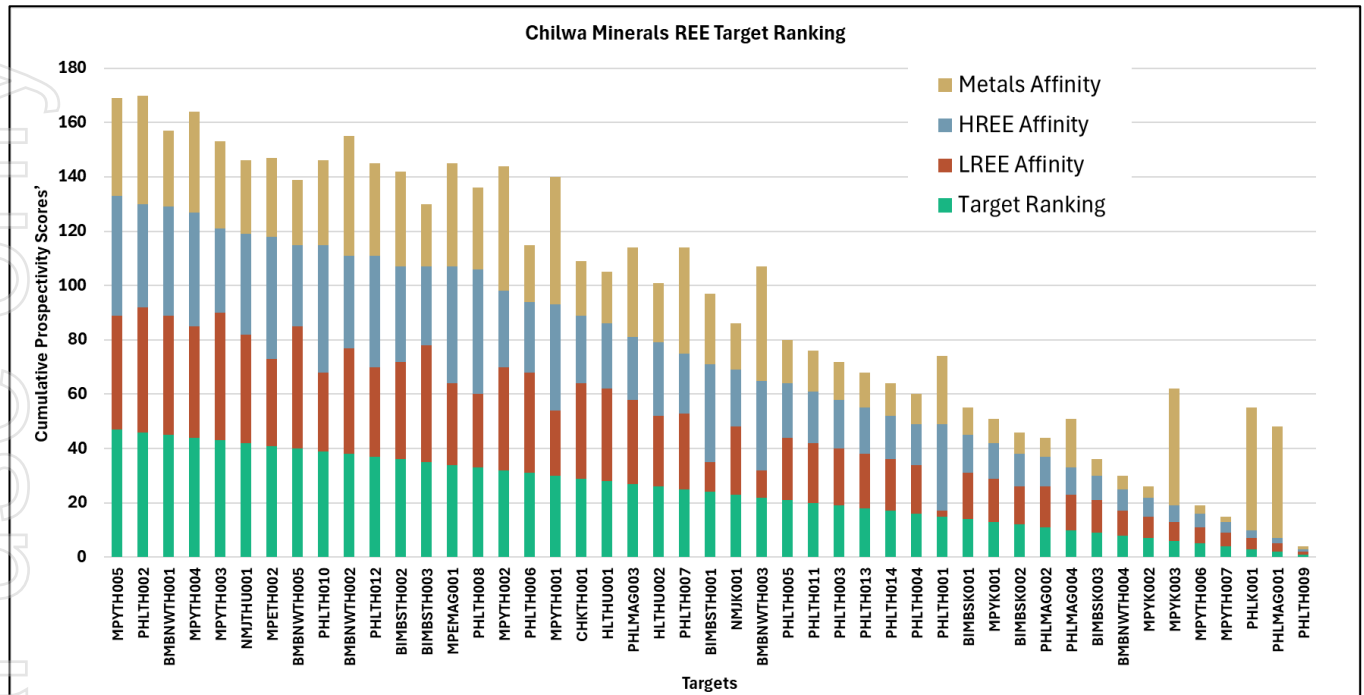


Figure 1: Chilwa Minerals REE target ranking

### What these results mean for the Chilwa Critical Minerals Project.

Numerous REE carbonatite deposits exhibit a geomorphological relationship whereby carbonatite bodies occur in more subdued topography, with circular or arcuate syenitic intrusions forming prominent topographic highs.

Examples include the Lofdal deposit, as well as Okorusu in Namibia. Locally, the Songwe Hill (Mkango Resources) project in Malawi, 40km southwest of the Mpyupyu target illustrates the same genetic setting with a syenite intrusion juxtaposed with a REE bearing Carbonatite.<sup>6</sup>

- Carbonatite (carbonate-dominant minerals) weathers faster → low ground
- Syenite/nepheline syenite resists erosion → forms topographic highs

The Mpyupyu Hill syenite forms a clear topographic high adjacent the current drilling program on the flanks of the hill.

The elevated REE grades, as well as lithologies intercepted in this drill hole confirm the target as a REE mineralised intrusive complex, with work ongoing to understand the overall structure and inform further exploration drilling.

<sup>6</sup> Refer to Mkango Resources- Songwe Hills Definitive Feasibility Study announcement 22 August 2022

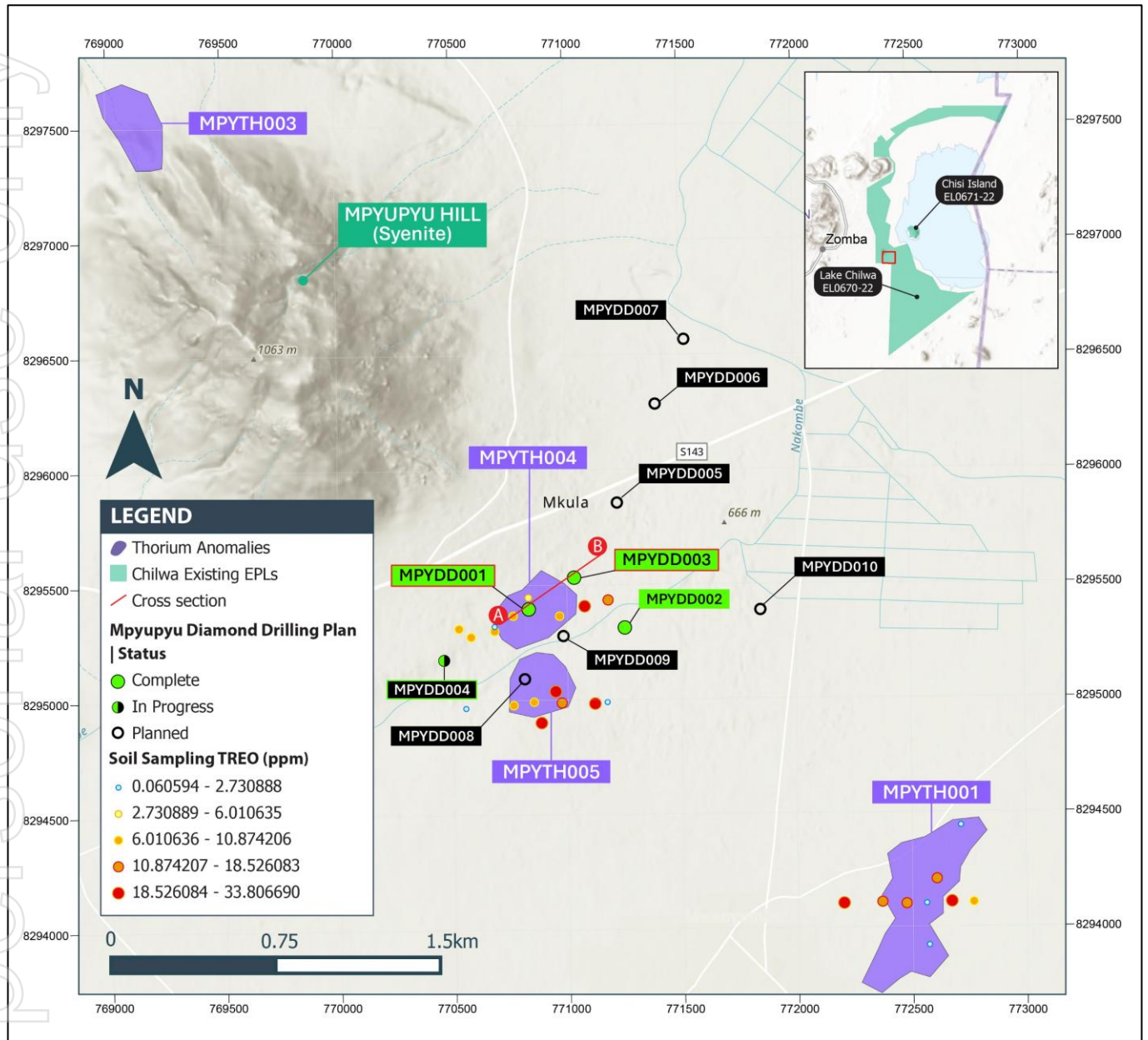
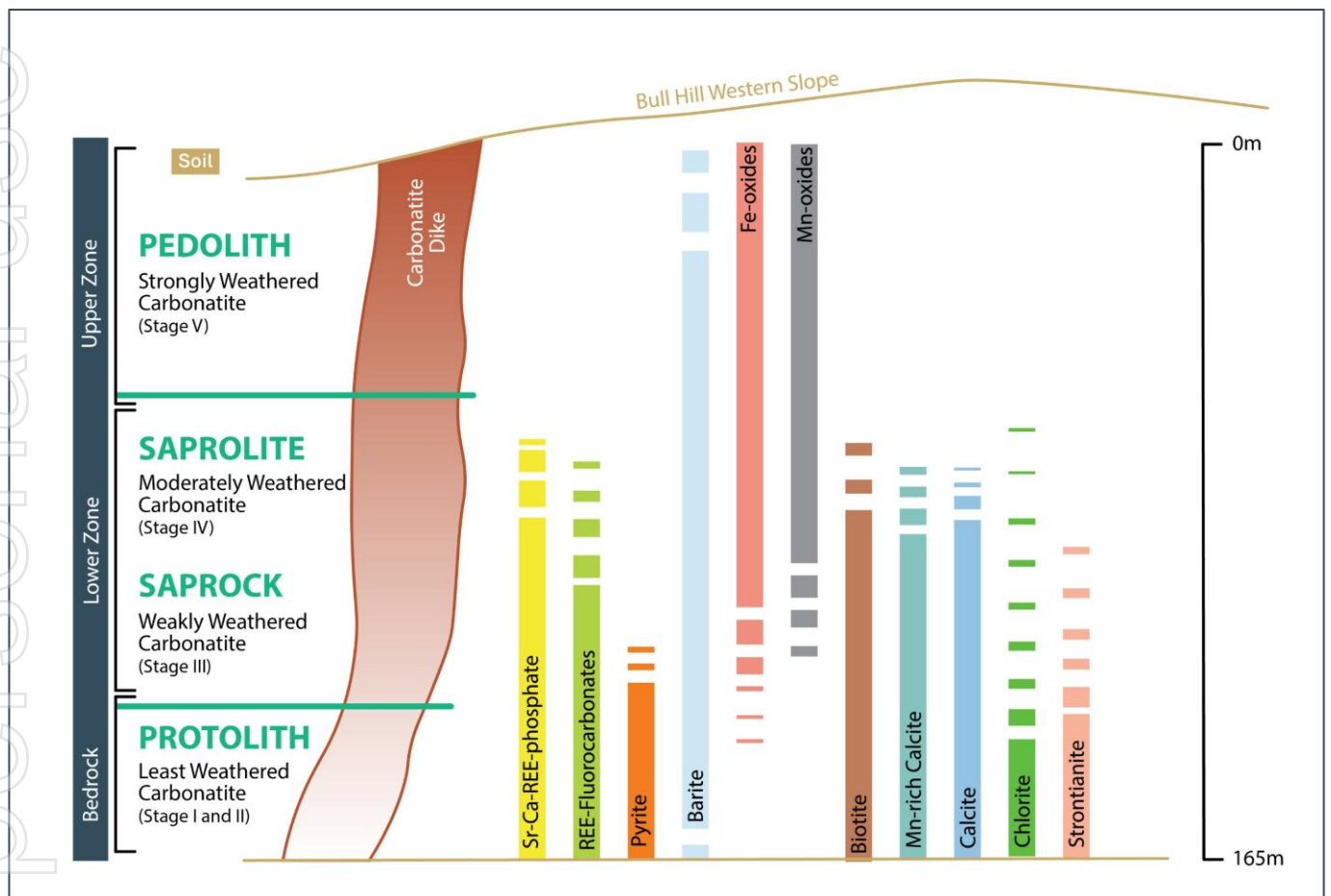


Figure 2: Diamond drilling locations at the Mpyupyu target with ionic leach soil sampling results (see announcement 9 May 2025)

### Rare Earth Rich Carbonatites

Chilwa’s work on the license to date has demonstrated that two dominant styles of rare earth enriched carbonatite mineral systems occur. A number of processes lead to economic levels of both light and heavy rare earths. Original primary alkaline intrusives (carbonatites) can be inherently enriched in REE elements, or can be subsequently enriched by alteration processes (fenetisation) related to their emplacement. **Figure 3** below illustrates the profile of an enriched carbonatite system (Bear Lodge, USA) and its mineral associations.



**Figure 3 4: Cross Section Bear Lodge REE Deposit, USA, showing regolith divisions with REE and Mineral distributions (Modified after Siegfried et.al.,2025).**

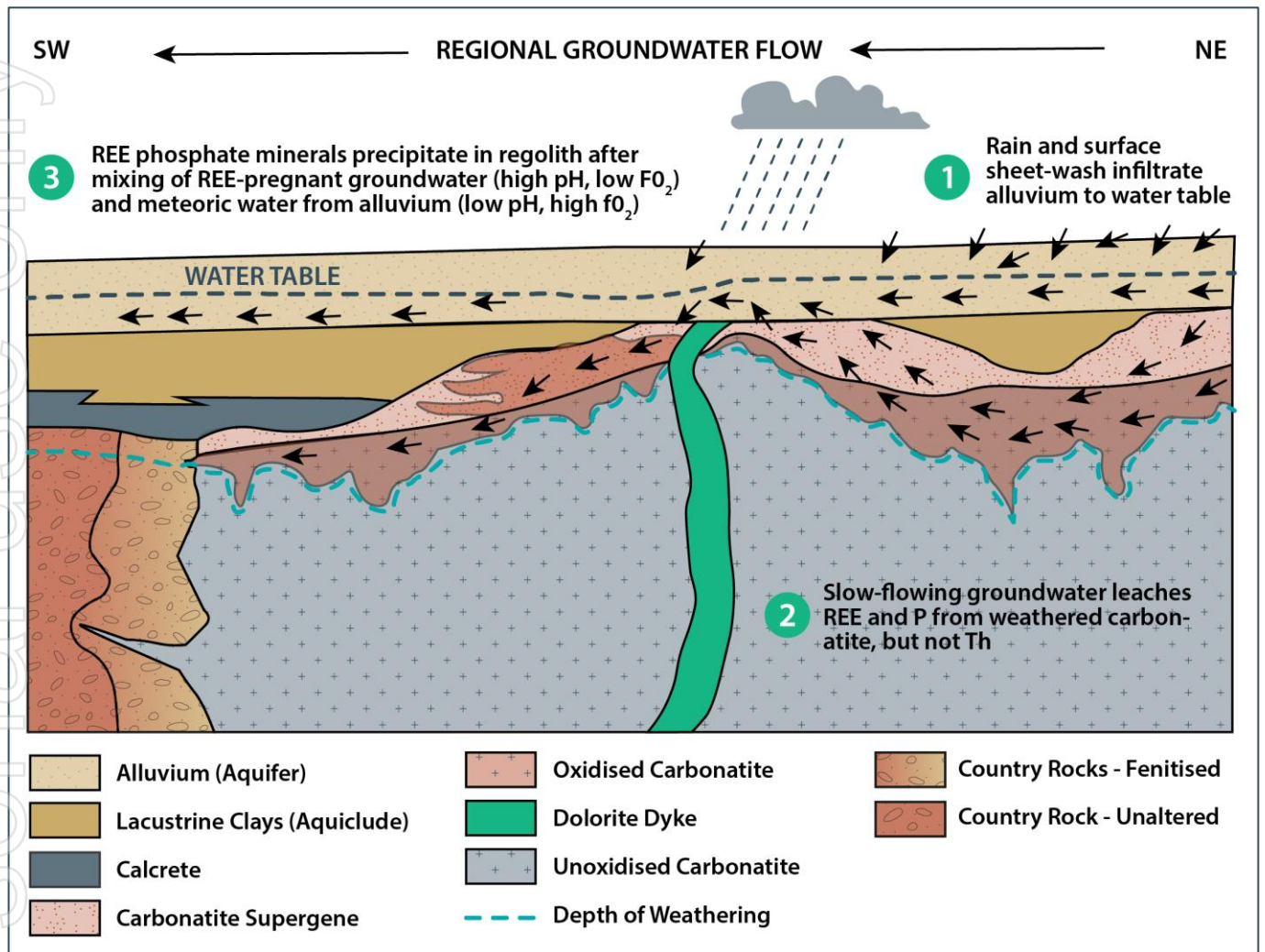
Initial interpretations of drill core and assay results for hole MPYDD001 indicate this deposit style as a close analogy to the Mpyupyu target. Table 1 summarizes the key outcomes from interpretation of results for Hole MPYDD001 through several discrete REE mineralised intervals.

Table 1 – REE bearing zones and their lithological affinities for hole MPYDD0001.

Geology	Visual Sulphides	Depth m	Average Nb+LREE ppm	Average Y+HREE ppm	TREO ppm
Trachyte		1-5	595	90	652
Breccia		5-9	315	52	355
Trachyte		19-47	754	103	832
Ferruginized Carbonatite		47-74	313	37	387
Siliceous Carbonate	Trace	74-81	2427	272	1856
Siliceous Carbonate	Trace	81-82	1813	217	1553
Siliceous Carbonate	Trace	82-87	2148	230	2013
Siliceous Carbonate	Trace	87-89	1959	200	1429
Siliceous Carbonate	Trace	89-94	1614	183	1368
Siliceous Carbonate	Trace	94-97	2980	205	2218
Siliceous Carbonate	Trace	97-102	2256	216	1887
Siliceous Carbonate	Trace	102-110	1712	163	1339
Siliceous Carbonate	Trace	110-123	1522	227	1163
Ferruginized Carbonatite		123-133	358	30	418
Nepheline Syenite	Trace	133-139	1773	301	1556
Nepheline Syenite	Trace	139-148	1656	431	1545
Nepheline Syenite	Trace	148-155	1313	169	1221
Nepheline Syenite	Trace	155-161	2209	297	2105
Nepheline Syenite	Trace	161-167	1380	148	1072
Siliceous Carbonate		167-168	545	107	293

Hole MPYDD001 demonstrates several discrete REE zones within the target. The REE mineralization is dominantly light REE, enriched in Nb and associated with sulphide alteration. Siliceous carbonatite occurs between 74-123m down hole while nepheline syenite between 133-167m is similarly enriched.

REE enriched intrusive sources usually undergo significant modification by chemical processes (weathering), and redistribution by erosion and redeposition of minerals and materials formed subsequent to weathering processes. **Figure 4** (below) - Mt Weld REE deposit, Australia, typifies this style.



**Figure 4: Schematic cross section of Mt Weld REE deposit (+10MT @ 10% TREO), showing predominantly LREE supergene enrichment within a residual ancient regolith horizon, beneath 60m of more recent overburden, with the primary bedrock source occurring in oxidised carbonatite and primary fenitized country rocks (Modified after Siegfried et. al., 2025)**

Currently the Company is focussed on prioritizing and testing it's 47 geophysical/geochemical targets to assess the 'primary style' of carbonatite REE enriched targets. Drilling at Mpyupyu conclusively showed REE concentrations in the weathered rock and in transported overburden above as a potential example of this second, supergene enrichment style of REE deposit.

### MPYUPYU ANOMALY (Target #2)

Diamond drilling is ongoing at the Mpyupyu area, approximately 2km from the Company's Mpyupyu Mineral sands deposits (see MRE update announcement dated 30 June 2025). A Riebeckite-Augerine-Syenite dyke outcrops at that location and was first studied by Garson 1960<sup>7</sup> and found to bear radioactive pyrochlore (a primary source of niobium and tantalum).

<sup>7</sup> Refer to 'The Geology of the Lake Chilwa' by M.S Garson

Chilwa’s geophysics program identified the area as Thorium anomalous, with follow up ionic leach soil results complementing the geophysics interpretation.

Three holes have already been completed over the anomaly, with a fourth hole, of a total of ten planned, now in progress. The announcement provides the results from the first of those four holes with the balance of the results expected over the following 4 to 6 weeks.

**Significant Rare Earth Element intercepts for MPYDD001 include the following:**

- 48.5m @ 1,567 ppm TREO from 73.2m, incl. 10m @ 1,973 ppm from 92m downhole (true width currently unknown due to single drill hole).
- 33m @ 1,545 ppm REE from 132.9m, incl. 5.9m @ 2,164 ppm from 154.1 downhole (true width currently unknown due to single drill hole).

Mineralisation occurs as disseminated REE-bearing minerals in carbonatite magmatic complex rocks.

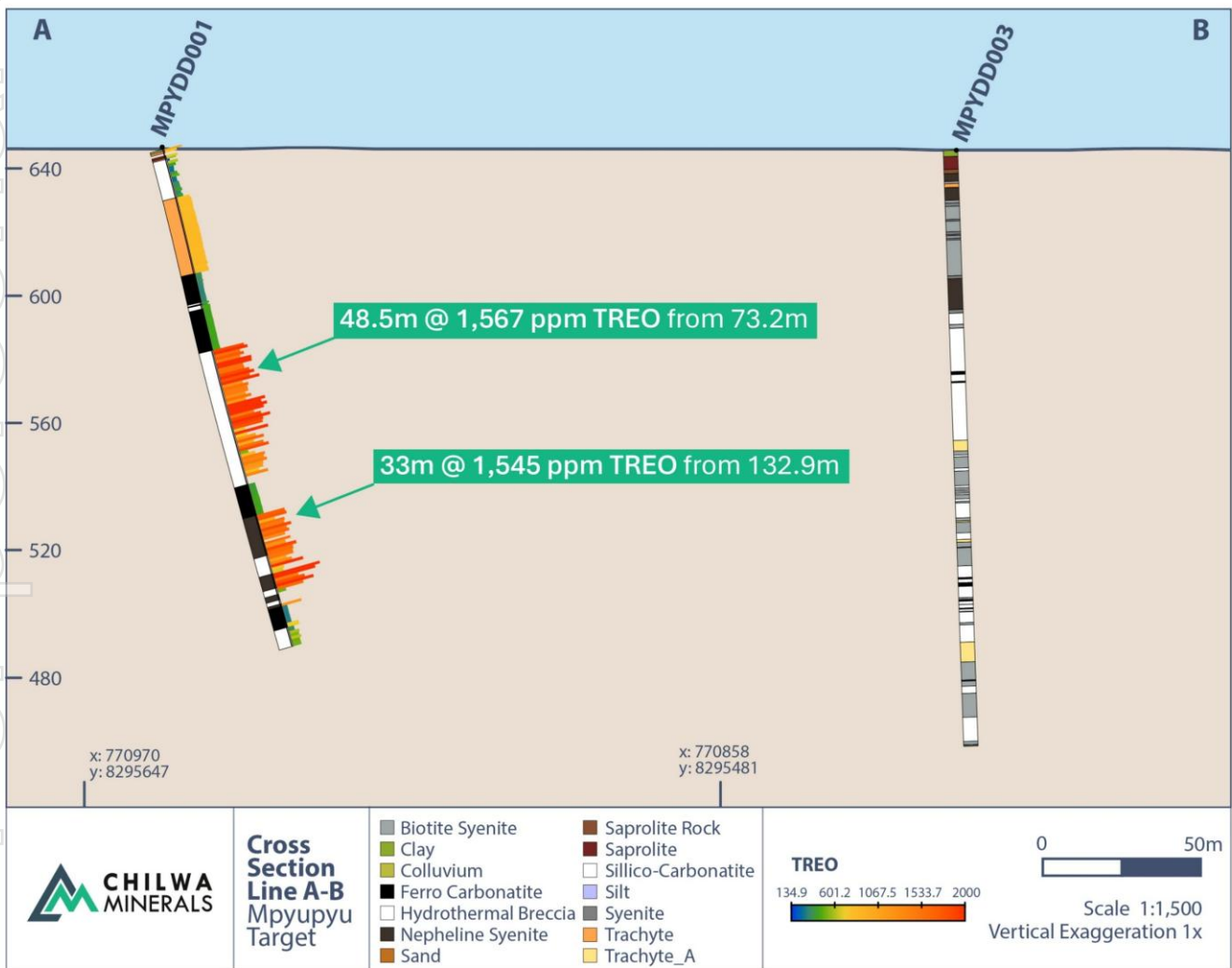


Figure 5 5: Cross-section through MPYDD001 and MPYDD003 (see figure 2 for section line) Results for MPYDD003 are expected within 4-6 weeks

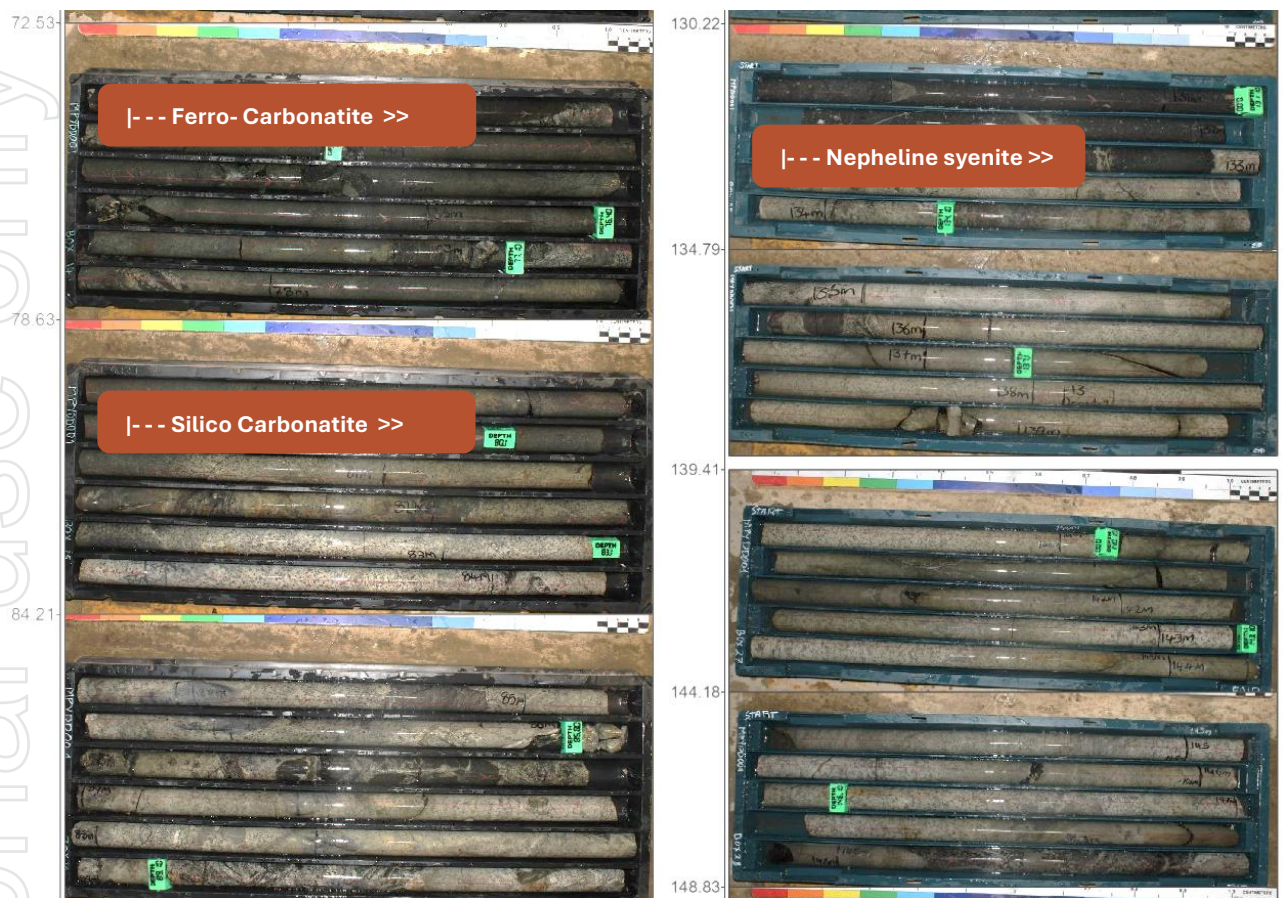
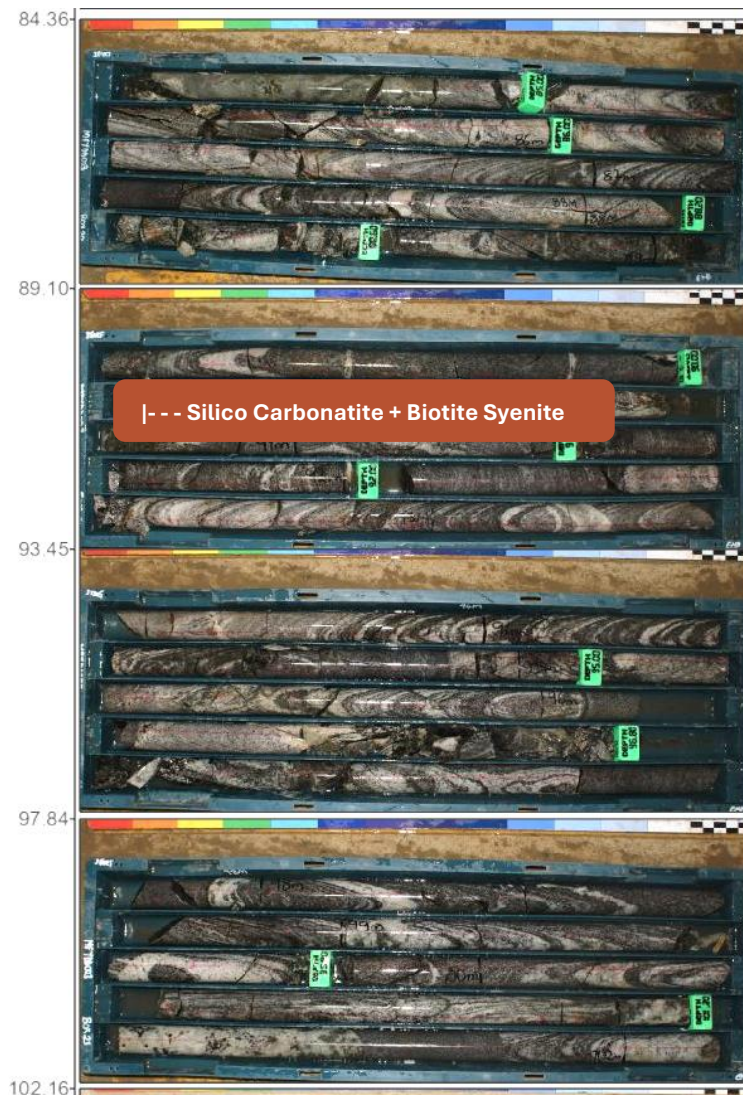


Figure 66: Drill core from MPYDD001 for the notable intercepts shown in Figure 5. Left: Ferro-carbonatite and Siliceous-Carbonatite lithologies approximately 72m to 100m downhole. Right: Predominantly Nepheline Syenite unit from approximately 130 to 150m downhole. Full REE and TREO ppm values for these intervals are provided in Appendices to this announcement.



**Figure 7 Drill core from MPYDD003 (approximately 84-102 downhole) 250 m Northwest of MYPDD001. Lithologies intercepted as Silico- Carbonatite intercalated or interlayered with Biotite Syenite**

The visual representations and interpretations included in this release are based on preliminary geological observations and available data at the time of reporting. These images and associated interpretations are conceptual in nature and should not be relied upon as definitive evidence of mineralisation or resource potential. Further drilling, sampling, and analytical work is required to confirm geological continuity and grade distribution. The Company cautions that visual estimates of mineral content are inherently subjective and may not correlate with assay results.

## FURTHER WORK PROGRAMME

- Further ICP-MS assay results are expected for MPYDD002,3 and 4 in the coming weeks.
- Drilling to continue around the Mpyupyu magmatic complex with further drilling directed by assay results and structural interpretations.
- Progress options for a second diamond drill rig to expedite the work programme.
- Sample preparation and assay will continue with either complete or selective sampling as appropriate.

**-ENDS-**

This Announcement has been authorised by the Managing Director.

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## Compliance Statement

The information in this announcement that relates to exploration results prepared and first disclosed under JORC Code 2012.

The previously reported exploration results referred to in this announcement were prepared and reported in accordance with the JORC Code (2012 Edition) and are available on the ASX platform. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements, and that all material assumptions and technical parameters underpinning the exploration results continue to apply and have not materially changed.

## Competent Person Statement

The information in this report that relates to the REE exploration results is based on, and fairly represents, information and supporting documentation prepared by Mr Russell Birrell who is a Member of the Australian Institute of Geoscientists and a Fellow of the Association of Applied Geochemists. Mr Birrell is an employee of Globex Solutions Pty Ltd and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration 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'. Mr Birrell confirms there is no potential for a conflict of interest in acting as a Competent Person and has provided his prior written consent to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## ABOUT CHILWA MINERALS

Chilwa Minerals Limited (ASX:CHW) is exploring the Lake Chilwa mineral system in southern Malawi.

The Lake Chilwa Critical Minerals Project hosts significant mineral sands mineralisation, with sonic drilling underway to expand and increase the quality of the existing mineral resources.

Since listing, drilling at Mposa has intersected thicker sequences with higher grades, with a high-quality assemblage of value minerals.

Rare earth mineralisation has also been identified within the clay profile, with a dedicated team recruited to assess the REE potential of the Project, which is located in an area of well-known carbonatite-hosted REE mineralisation.

## References

1: M.S. Garson 1960 -The Geology of the Lake Chilwa Area, Bulletin number 12, Nyasaland protectorate, Geological Survey Department





CHILWA CONFIRMS FIRST CARBONATITE DISCOVERY WITH ELEVATED RARE EARTH ELEMENTS GRADES AT MPYUPYU TARGET



Hole Number	Sample ID	From	To	Sample Type	Ce	CeO <sub>2</sub>	Dy	Dy <sub>2</sub> O <sub>3</sub>	Er	Er <sub>2</sub> O <sub>3</sub>	Eu	Eu <sub>2</sub> O <sub>3</sub>	Gd	Gd <sub>2</sub> O <sub>3</sub>	Ho	Ho <sub>2</sub> O <sub>3</sub>	La	La <sub>2</sub> O <sub>3</sub>	Lu	Lu <sub>2</sub> O <sub>3</sub>	Nd	Nd <sub>2</sub> O <sub>3</sub>	Pr	Pr <sub>6</sub> O <sub>11</sub>	Sc	Sc <sub>2</sub> O <sub>3</sub>	Sm	Sm <sub>2</sub> O <sub>3</sub>	Tb	Tb <sub>4</sub> O <sub>7</sub>	Tm	Tm <sub>2</sub> O <sub>3</sub>	Y	Y <sub>2</sub> O <sub>3</sub>	Yb	Yb <sub>2</sub> O <sub>3</sub>	TREO
					ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MPYDD001	MPY90648	43.00	44.00	DD	259.89	319.24	13.32	15.29	6.68	7.64	0.50	0.58	11.68	13.47	2.77	3.17	138.01	161.86	1.19	1.36	102.47	119.52	29.77	35.97	5.78	8.86	16.57	19.21	1.88	2.21	1.30	1.48	72.51	92.08	7.84	8.93	810.86
MPYDD001	MPY90649	44.00	45.00	DD	274.26	336.91	13.56	15.57	6.91	7.90	0.53	0.61	12.13	13.98	2.89	3.31	144.86	169.89	1.25	1.42	107.12	124.94	31.36	37.88	6.01	9.22	17.27	20.02	1.95	2.29	1.34	1.53	74.48	94.58	8.26	9.41	849.49
MPYDD001	MPY90651	45.00	45.50	DD	272.30	334.50	13.65	15.66	6.85	7.83	0.51	0.59	12.04	13.88	2.85	3.27	144.24	169.16	1.22	1.39	105.83	123.45	31.15	37.63	5.53	8.49	17.15	19.88	1.93	2.27	1.34	1.53	74.28	94.33	8.03	9.14	843.00
MPYDD001	MPY90652	45.50	47.00	DD	98.93	121.52	5.75	6.60	2.50	2.85	2.88	3.34	5.77	6.64	1.07	1.23	49.07	57.55	0.29	0.33	52.28	60.98	13.02	15.73	18.01	27.62	10.08	11.69	0.98	1.15	0.36	0.41	27.17	34.50	2.03	2.31	354.46
MPYDD001	MPY90653	47.00	48.00	DD	91.84	112.82	5.53	6.34	2.41	2.75	2.90	3.36	5.53	6.37	1.03	1.18	45.60	53.48	0.29	0.33	49.61	57.86	12.13	14.65	18.95	29.06	9.63	11.17	0.93	1.09	0.35	0.40	26.10	33.15	2.03	2.31	336.33
MPYDD001	MPY90654	48.00	48.60	DD	104.20	128.00	5.74	6.59	2.57	2.94	3.06	3.55	5.78	6.66	1.07	1.23	49.63	58.21	0.31	0.36	52.19	60.87	12.92	15.61	18.92	29.02	10.26	11.89	0.96	1.13	0.38	0.44	26.38	33.50	2.29	2.60	362.60
MPYDD001	MPY90655	48.60	50.00	DD	89.00	109.32	5.49	6.30	2.33	2.66	2.97	3.44	5.45	6.29	1.00	1.15	42.92	50.34	0.26	0.30	48.48	56.55	11.77	14.22	19.23	29.50	9.60	11.13	0.92	1.08	0.33	0.38	25.44	32.30	1.91	2.17	327.13
MPYDD001	MPY90656	50.00	51.00	DD	84.83	104.21	5.04	5.79	2.09	2.39	2.84	3.29	5.28	6.08	0.92	1.05	41.81	49.03	0.22	0.25	46.32	54.02	11.32	13.68	18.79	28.82	9.20	10.67	0.88	1.04	0.28	0.33	23.88	30.33	1.64	1.87	312.85
MPYDD001	MPY90657	51.00	52.00	DD	84.56	103.87	4.98	5.71	2.03	2.32	2.78	3.21	5.20	5.99	0.90	1.03	41.05	48.14	0.22	0.25	45.85	53.48	11.24	13.58	18.25	27.99	8.95	10.38	0.84	0.99	0.29	0.33	22.99	29.19	1.61	1.84	308.30
MPYDD001	MPY90658	52.00	53.00	DD	80.81	99.26	5.01	5.75	2.08	2.37	2.73	3.16	5.09	5.87	0.91	1.05	39.08	45.83	0.22	0.26	45.08	52.59	10.91	13.18	20.22	31.02	8.96	10.40	0.86	1.01	0.29	0.34	23.46	29.79	1.64	1.86	303.72
MPYDD001	MPY90659	53.00	54.00	DD	87.36	107.32	5.09	5.84	2.12	2.42	2.85	3.30	5.36	6.17	0.91	1.04	43.08	50.53	0.23	0.26	47.63	55.55	11.66	14.09	18.91	29.00	9.29	10.78	0.87	1.03	0.29	0.33	23.93	30.39	1.68	1.91	319.96
MPYDD001	MPY90661	54.00	55.00	DD	88.51	108.73	5.15	5.91	2.15	2.45	2.90	3.35	5.46	6.29	0.93	1.07	43.42	50.92	0.23	0.26	48.38	56.43	11.82	14.28	18.46	28.32	9.39	10.89	0.89	1.05	0.29	0.33	24.08	30.58	1.68	1.91	322.78
MPYDD001	MPY90662	55.00	55.86	DD	87.89	107.97	5.06	5.81	2.13	2.43	2.85	3.30	5.33	6.14	0.92	1.06	43.43	50.94	0.23	0.26	47.48	55.38	11.66	14.09	16.57	25.42	9.15	10.61	0.88	1.03	0.29	0.34	24.72	31.40	1.71	1.95	318.12
MPYDD001	MPY90663	55.86	56.47	DD	126.43	155.30	6.36	7.30	3.80	4.35	1.51	1.75	5.11	5.89	1.36	1.56	73.63	86.35	0.64	0.73	44.17	51.52	13.68	16.53	20.51	31.46	7.70	8.93	0.92	1.08	0.67	0.76	37.09	47.10	4.38	4.99	425.59
MPYDD001	MPY90664	56.47	57.00	DD	85.72	105.30	6.04	6.93	3.17	3.62	2.47	2.86	5.12	5.90	1.22	1.40	44.66	52.38	0.45	0.51	42.50	49.57	10.81	13.06	19.52	29.94	8.41	9.75	0.91	1.08	0.50	0.58	33.86	43.00	3.14	3.58	329.45
MPYDD001	MPY90666	57.00	58.25	DD	127.66	156.81	7.84	9.00	4.88	5.58	1.88	2.17	5.93	6.83	1.75	2.00	70.67	82.88	0.81	0.93	49.89	58.19	14.40	17.40	16.42	25.19	9.36	10.85	1.12	1.31	0.86	0.98	48.08	61.05	5.62	6.40	447.59
MPYDD001	MPY90667	58.25	59.00	DD	132.68	162.99	5.10	5.86	2.37	2.71	2.62	3.04	5.73	6.60	0.96	1.10	73.99	86.78	0.29	0.33	55.66	64.92	15.47	18.69	15.46	23.72	9.47	10.99	0.87	1.02	0.34	0.39	26.12	33.17	2.11	2.40	424.69
MPYDD001	MPY90668	59.00	60.00	DD	132.43	162.67	5.15	5.91	2.37	2.71	2.64	3.06	5.96	6.87	0.96	1.10	73.26	85.92	0.30	0.35	56.02	65.34	15.46	18.68	15.71	24.09	9.63	11.17	0.88	1.04	0.36	0.41	25.71	32.65	2.18	2.48	424.44
MPYDD001	MPY90669	60.00	61.00	DD	133.11	163.51	5.02	5.77	2.29	2.62	2.60	3.01	5.95	6.86	0.94	1.07	74.23	87.06	0.29	0.33	56.61	66.02	15.57	18.82	15.55	23.86	9.64	11.18	0.86	1.01	0.34	0.39	24.84	31.55	2.06	2.34	425.40
MPYDD001	MPY90671	61.00	62.00	DD	132.73	163.04	5.08	5.83	2.36	2.70	2.64	3.05	5.90	6.80	0.95	1.08	74.01	86.80	0.30	0.34	56.32	65.69	15.55	18.79	15.56	23.87	9.72	11.27	0.86	1.02	0.34	0.39	25.48	32.35	2.11	2.41	425.44
MPYDD001	MPY90672	62.00	63.00	DD	135.31	166.21	5.15	5.92	2.40	2.74	2.62	3.04	5.85	6.74	0.97	1.11	75.99	89.12	0.30	0.34	56.53	65.93	15.65	18.91	15.61	23.94	9.58	11.11	0.87	1.03	0.35	0.40	27.81	35.32	2.12	2.41	434.27
MPYDD001	MPY90673	63.00	64.00	DD	136.74	167.98	5.14	5.90	2.34	2.68	2.65	3.06	5.83	6.71	0.94	1.08	76.47	89.68	0.29	0.33	56.71	66.15	15.86	19.16	15.53	23.81	9.75	11.30	0.87	1.03	0.34	0.39	26.19	33.26	2.04	2.32	434.85
MPYDD001	MPY90674	64.00	65.00	DD	132.72	163.04	4.98	5.72	2.26	2.59	2.62	3.03	5.81	6.70	0.92	1.06	74.07	86.87	0.28	0.32	56.10	65.43	15.48	18.70	16.09	24.67	9.64	11.18	0.86	1.01	0.33	0.38	24.94	31.67	2.02	2.30	424.67
MPYDD001	MPY90675	65.00	66.00	DD	135.81	166.83	5.09	5.84	2.32	2.65	2.65	3.06	5.92	6.82	0.96	1.10	75.70	88.79	0.29	0.33	57.24	66.76	15.81	19.10	15.38	23.58	9.82	11.39	0.88	1.04	0.35	0.40	25.31	32.14	2.10	2.39	432.23
MPYDD001	MPY90676	66.00	67.00	DD	135.88	166.91	5.03	5.77	2.28	2.61	2.60	3.01	5.89	6.79	0.93	1.07	75.41	88.44	0.28	0.32	56.38	65.77	15.73	19.01	14.03	21.52	9.60	11.14	0.87	1.03	0.33	0.38	24.72	31.39	2.02	2.29	427.44
MPYDD001	MPY90677	67.00	68.00	DD	136.81	168.05	5.04	5.78	2.28	2.60	2.64	3.05	5.79	6.68	0.93	1.07	76.68	89.94	0.29	0.33	58.33	68.03	16.03	19.37	14.77	22.66	9.85	11.43	0.87	1.02	0.34	0.39	24.81	31.50	2.02	2.30	434.19
MPYDD001	MPY90678	68.00	69.00	DD	135.11	165.97	5.00	5.74	2.24	2.57	2.63	3.04	5.83	6.72	0.92	1.05	75.54	88.59	0.28	0.32	57.18	66.70	15.79	19.07	14.27	21.88	9.62	11.15	0.85	1.00	0.33	0.38	24.52	31.14	2.02	2.30	427.62
MPYDD001	MPY90679	69.00	70.00	DD	134.64	165.39	4.96	5.69	2.32	2.65	2.64	3.05	5.88	6.77	0.92	1.05	75.05	88.01	0.29	0.33	56.80	66.25	15.78	19.06	14.35	22.01	9.68	11.22	0.86	1.01	0.33	0.37	24.66	31.32	2.00	2.28	426.46
MPYDD001	MPY90681	70.00	71.00	DD	135.69	166.69	4.62	5.30	2.13	2.44	2.68	3.10	5.50	6.34	0.88	1.01	75.96	89.08	0.28	0.32	56.83	66.29	15.74	19.01	13.78	21.13	9.28	10.77	0.81	0.96	0.34	0.38	24.94	31.68	1.86	2.12	426.62
MPYDD001	MPY90682	71.00	72.00	DD	135.71	166.70	4.62	5.30	2.17	2.48	2.65	3.07	5.42	6.24	0.89	1.02	75.81	88.91	0.27	0.31	56.29	65.66	15.66	18.92	14.74	22.61	9.26	10.74	0.81	0.95	0.34	0.38	25.10	31.87	1.83	2.09	427.25
MPYDD001	MPY90683	72.00	73.20	DD	137.03	168.33	4.92	5.65	2.48	2.84	2.69	3.11	5.47	6.30	0.99	1.13	76.46	89.68	0.33	0.38	57.26	66.78	15.75	19.03	15.93	24.43	9.36	10.85	0.85	1.00	0.40	0.46	30.				

CHILWA CONFIRMS FIRST CARBONATITE DISCOVERY WITH ELEVATED RARE EARTH ELEMENTS GRADES AT MPYUPYU TARGET



Hole Number	Sample ID	From	To	Sample Type	Ce	CeO <sub>2</sub>	Dy	Dy <sub>2</sub> O <sub>3</sub>	Er	Er <sub>2</sub> O <sub>3</sub>	Eu	Eu <sub>2</sub> O <sub>3</sub>	Gd	Gd <sub>2</sub> O <sub>3</sub>	Ho	Ho <sub>2</sub> O <sub>3</sub>	La	La <sub>2</sub> O <sub>3</sub>	Lu	Lu <sub>2</sub> O <sub>3</sub>	Nd	Nd <sub>2</sub> O <sub>3</sub>	Pr	Pr <sub>6</sub> O <sub>11</sub>	Sc	Sc <sub>2</sub> O <sub>3</sub>	Sm	Sm <sub>2</sub> O <sub>3</sub>	Tb	Tb <sub>4</sub> O <sub>7</sub>	Tm	Tm <sub>2</sub> O <sub>3</sub>	Y	Y <sub>2</sub> O <sub>3</sub>	Yb	Yb <sub>2</sub> O <sub>3</sub>	TREO
					ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MPYDD001	MPY90699	87.00	88.00	DD	529.43	650.35	23.45	26.92	15.09	17.26	0.65	0.76	17.38	20.03	5.65	6.47	320.29	375.64	3.68	4.19	126.67	147.75	47.48	57.36	6.34	9.72	21.59	25.04	3.29	3.86	3.95	4.51	169.90	215.75	26.65	30.35	1595.96
MPYDD001	MPY90701	88.00	89.00	DD	477.59	586.67	23.65	27.14	14.80	16.93	0.64	0.74	16.77	19.33	5.76	6.59	293.70	344.45	3.31	3.76	117.39	136.93	43.06	52.03	7.03	10.79	20.32	23.56	3.24	3.82	3.58	4.09	174.54	221.64	22.72	25.87	1484.36
MPYDD001	MPY90702	89.00	90.00	DD	421.20	517.41	17.78	20.40	10.90	12.47	0.96	1.11	14.43	16.63	4.26	4.88	245.54	287.97	2.52	2.87	109.70	127.96	39.37	47.57	9.11	13.98	18.45	21.39	2.60	3.06	2.57	2.94	140.62	178.57	16.54	18.83	1278.03
MPYDD001	MPY90703	90.00	91.00	DD	526.92	647.27	21.47	24.64	12.45	14.23	1.24	1.43	15.91	18.33	5.25	6.02	325.80	382.10	2.72	3.09	140.23	163.56	48.96	59.16	10.29	15.78	23.26	26.98	3.05	3.59	3.10	3.54	150.28	190.84	19.00	21.63	1582.20
MPYDD001	MPY90704	91.00	92.00	DD	68.90	84.64	6.18	7.09	2.89	3.31	1.77	2.04	4.48	5.16	1.39	1.59	32.82	38.50	0.52	0.60	34.56	40.31	8.64	10.44	21.23	32.57	7.45	8.64	0.95	1.11	0.63	0.72	38.87	49.36	3.63	4.13	290.19
MPYDD001	MPY90705	92.00	93.00	DD	417.40	512.74	12.81	14.70	7.49	8.57	1.06	1.23	10.93	12.60	3.12	3.57	260.12	305.06	1.81	2.06	104.28	121.64	37.54	45.35	13.04	20.01	15.73	18.25	1.87	2.20	1.88	2.14	95.94	121.83	11.80	13.44	1205.38
MPYDD001	MPY90706	93.00	94.00	DD	852.01	1046.61	21.45	24.61	12.26	14.02	0.99	1.14	20.61	23.75	5.15	5.90	541.48	635.05	2.78	3.16	199.75	232.99	75.07	90.70	8.56	13.13	27.54	31.93	3.15	3.70	3.02	3.45	161.45	205.02	18.76	21.36	2356.53
MPYDD001	MPY90707	94.00	95.00	DD	744.15	914.11	19.74	22.66	11.65	13.32	0.69	0.80	18.98	21.88	4.75	5.44	473.61	555.45	2.88	3.27	176.37	205.72	66.25	80.04	8.67	13.29	24.90	28.87	2.85	3.35	2.97	3.39	142.97	181.55	18.99	21.62	2074.78
MPYDD001	MPY90708	95.00	96.00	DD	867.30	1065.39	20.15	23.13	11.76	13.45	0.76	0.88	21.49	24.77	4.85	5.55	563.46	660.82	2.79	3.17	204.08	238.04	76.49	92.41	7.93	12.16	27.52	31.92	3.01	3.54	2.94	3.36	146.12	185.56	18.72	21.31	2385.48
MPYDD001	MPY90709	96.00	97.00	DD	749.24	920.37	24.90	28.58	14.05	16.07	0.80	0.92	21.35	24.61	5.91	6.78	447.30	524.60	3.36	3.82	195.99	228.60	69.46	83.93	9.43	14.46	29.91	34.68	3.60	4.23	3.53	4.03	177.67	225.63	22.64	25.78	2147.08
MPYDD001	MPY90710	97.00	98.00	DD	472.64	580.58	25.30	29.04	15.95	18.24	0.81	0.94	14.75	17.01	6.52	7.46	294.94	345.91	3.47	3.95	117.02	136.49	42.61	51.48	5.97	9.15	20.14	23.35	3.25	3.82	4.12	4.71	185.24	235.23	25.26	28.76	1496.12
MPYDD001	MPY90711	98.00	99.00	DD	631.31	775.51	28.10	32.25	17.61	20.14	0.82	0.95	17.41	20.06	7.23	8.28	413.24	484.64	3.88	4.41	146.22	170.56	54.87	66.29	6.78	10.40	23.02	26.70	3.57	4.20	4.55	5.19	183.62	233.17	27.69	31.53	1894.29
MPYDD001	MPY90712	99.00	100.00	DD	864.24	1061.64	20.12	23.09	12.01	13.73	1.05	1.22	18.85	21.73	4.86	5.57	568.77	667.05	2.86	3.25	199.54	232.75	74.87	90.46	8.99	13.79	26.54	30.78	2.91	3.42	2.98	3.40	166.16	211.01	18.87	21.49	2404.36
MPYDD001	MPY90713	100.00	101.00	DD	685.67	842.28	18.49	21.22	10.92	12.48	0.97	1.12	16.07	18.52	4.50	5.15	443.17	519.75	2.71	3.08	158.35	184.70	59.44	71.82	9.55	14.65	22.87	26.52	2.68	3.16	2.80	3.20	136.64	173.52	18.07	20.58	1921.74
MPYDD001	MPY90714	101.00	102.00	DD	640.48	786.77	21.10	24.21	12.89	14.74	1.03	1.19	16.30	18.79	5.22	5.98	403.99	473.80	3.31	3.76	157.85	184.11	57.20	69.11	9.86	15.12	23.80	27.60	2.94	3.45	3.37	3.85	148.54	188.64	21.90	24.94	1846.08
MPYDD001	MPY90715	102.00	103.00	DD	233.28	286.56	7.10	8.15	4.06	4.64	2.03	2.35	6.33	7.30	1.65	1.89	149.25	175.04	1.02	1.16	64.68	75.45	22.62	27.33	5.91	9.06	9.62	11.15	0.99	1.17	0.93	1.06	54.05	68.64	6.59	7.50	688.44
MPYDD001	MPY90716	103.00	104.00	DD	723.29	888.49	23.53	27.01	14.01	16.03	1.12	1.30	17.91	20.65	5.62	6.44	457.57	536.64	3.56	4.05	170.66	199.05	66.15	79.93	6.89	10.57	25.86	29.99	3.11	3.65	3.41	3.89	186.72	237.12	23.20	26.42	2091.23
MPYDD001	MPY90717	104.00	105.00	DD	243.18	298.72	9.69	11.13	5.59	6.39	1.59	1.84	7.35	8.47	2.26	2.59	143.29	168.05	1.33	1.51	71.50	83.40	24.56	29.67	5.57	8.54	11.32	13.12	1.28	1.51	1.28	1.46	74.65	94.80	8.75	9.97	741.16
MPYDD001	MPY90718	105.00	106.00	DD	433.09	532.01	14.40	16.53	7.83	8.95	1.43	1.65	11.56	13.33	3.26	3.73	253.66	297.50	1.78	2.03	105.35	122.88	40.17	48.53	4.70	7.20	17.28	20.04	1.98	2.33	1.77	2.03	99.66	126.55	11.70	13.32	1218.60
MPYDD001	MPY90719	106.00	107.00	DD	579.25	711.55	20.90	23.99	12.79	14.63	0.67	0.78	15.19	17.51	5.00	5.73	355.19	416.57	3.25	3.70	138.70	161.78	53.93	65.16	7.01	10.75	22.33	25.89	2.71	3.18	3.14	3.58	154.91	196.72	21.91	24.94	1686.47
MPYDD001	MPY90721	107.00	108.00	DD	544.10	668.37	19.07	21.89	10.56	12.08	0.83	0.96	15.38	17.73	4.36	5.00	315.91	370.50	2.45	2.79	136.61	159.34	51.53	62.26	8.66	13.28	22.54	26.14	2.61	3.07	2.39	2.74	144.33	183.28	16.12	18.36	1567.78
MPYDD001	MPY90722	108.00	109.00	DD	649.24	797.53	20.92	24.01	12.11	13.85	0.93	1.08	16.71	19.26	4.87	5.58	393.78	461.82	2.81	3.20	155.32	181.17	60.28	72.82	9.10	13.96	24.59	28.52	2.82	3.31	2.81	3.21	157.17	199.59	18.70	21.30	1850.20
MPYDD001	MPY90723	109.00	110.60	DD	158.33	194.49	7.98	9.16	4.58	5.24	1.24	1.44	5.44	6.27	1.91	2.18	97.10	113.88	0.94	1.07	45.61	53.20	15.69	18.96	5.80	8.90	7.86	9.11	1.02	1.20	0.99	1.13	64.23	81.57	6.49	7.40	515.21
MPYDD001	MPY90724	110.60	112.00	DD	266.01	326.77	15.97	18.33	9.62	11.00	1.03	1.20	9.80	11.30	3.87	4.43	154.80	181.55	2.13	2.42	78.40	91.45	26.81	32.40	11.08	16.99	13.75	15.95	1.99	2.34	2.23	2.55	131.90	167.50	14.76	16.81	902.98
MPYDD001	MPY90726	112.00	113.00	DD	458.36	563.05	27.40	31.45	17.98	20.56	0.59	0.68	14.60	16.83	7.01	8.03	261.68	306.90	4.25	4.83	113.96	132.93	43.49	52.54	6.96	10.68	20.65	23.95	3.13	3.68	4.31	4.92	209.55	266.11	28.98	33.00	1480.13
MPYDD001	MPY90727	113.00	114.00	DD	440.82	541.51	24.26	27.85	16.09	18.40	0.54	0.62	13.59	15.67	6.23	7.14	248.27	291.17	4.06	4.62	110.18	128.52	42.02	50.77	4.97	7.62	19.43	22.53	2.82	3.32	3.98	4.55	173.53	220.37	27.48	31.29	1375.91
MPYDD001	MPY90728	114.00	115.00	DD	476.32	585.11	27.75	31.85	18.35	20.98	0.66	0.76	16.04	18.49	6.93	7.93	264.64	310.36	4.96	5.64	121.84	142.11	45.60	55.10	6.76	10.37	22.99	26.66	3.33	3.91	4.71	5.38	197.90	251.31	33.48	38.12	1514.10
MPYDD001	MPY90729	115.00	116.00	DD	391.19	480.54	21.65	24.84	15.40	17.61	0.53	0.61	12.22	14.09	5.70	6.53	214.49	251.55	4.34	4.94	102.10	119.09	38.12	46.05	5.76	8.83	18.79	21.79	2.47	2.91	3.92	4.48	155.01	196.84	28.12	32.02	1232.73
MPYDD001	MPY90731	116.00	117.00	DD	375.69	461.50	18.48	21.21	12.69	14.51	0.53	0.62	12.22	14.08	4.69	5.37	198.34	232.62	3.94	4.48	99.10	115.59	36.74	44.39	8.86	13.59	18.94	21.96	2.33	2.74	3.34	3.82	153.07	194.38	25.12	28.60	1179.46
MPYDD001	MPY90732	117.00	118.00	DD	250.20	307.34	16.59	19.04	9.71	11.10	0.48	0.56	11.05	12.74	3.88	4.45	140.96	165.32	2.43	2.76	86.27	100.62	27.39	33.09	3.69	5.66	16.27	18.87	2.17	2.55	2.35</						

CHILWA CONFIRMS FIRST CARBONATITE DISCOVERY WITH ELEVATED RARE EARTH ELEMENTS GRADES AT MPYUPYU TARGET



Hole Number	Sample ID	From	To	Sample Type	Ce	CeO <sub>2</sub>	Dy	Dy <sub>2</sub> O <sub>3</sub>	Er	Er <sub>2</sub> O <sub>3</sub>	Eu	Eu <sub>2</sub> O <sub>3</sub>	Gd	Gd <sub>2</sub> O <sub>3</sub>	Ho	Ho <sub>2</sub> O <sub>3</sub>	La	La <sub>2</sub> O <sub>3</sub>	Lu	Lu <sub>2</sub> O <sub>3</sub>	Nd	Nd <sub>2</sub> O <sub>3</sub>	Pr	Pr <sub>6</sub> O <sub>11</sub>	Sc	Sc <sub>2</sub> O <sub>3</sub>	Sm	Sm <sub>2</sub> O <sub>3</sub>	Tb	Tb <sub>4</sub> O <sub>7</sub>	Tm	Tm <sub>2</sub> O <sub>3</sub>	Y	Y <sub>2</sub> O <sub>3</sub>	Yb	Yb <sub>2</sub> O <sub>3</sub>	TREO
					ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
MPYDD001	MPY90751	134.00	135.00	DD	590.07	724.84	25.57	29.35	17.01	19.45	1.03	1.20	17.22	19.84	6.56	7.52	376.95	442.09	4.87	5.54	140.47	163.84	52.48	63.41	6.93	10.63	24.44	28.34	3.25	3.83	4.58	5.23	187.64	238.28	31.23	35.56	1798.93
MPYDD001	MPY90752	135.00	135.90	DD	331.20	406.85	16.79	19.27	9.31	10.65	1.02	1.19	12.30	14.17	4.02	4.60	177.43	208.08	1.85	2.10	94.62	110.37	32.14	38.83	4.83	7.41	18.33	21.26	2.28	2.68	2.17	2.48	111.86	142.06	13.00	14.80	1006.80
MPYDD001	MPY90753	135.90	137.00	DD	491.96	604.33	30.81	35.36	21.19	24.23	1.45	1.68	16.94	19.53	8.01	9.18	280.68	329.19	5.60	6.37	121.28	141.46	44.45	53.71	7.47	11.45	23.31	27.03	3.70	4.35	5.73	6.54	214.28	272.11	37.94	43.21	1589.71
MPYDD001	MPY90754	137.00	138.00	DD	466.20	572.68	28.20	32.37	19.51	22.31	1.02	1.18	15.93	18.36	7.27	8.33	266.79	312.89	5.31	6.04	116.08	135.40	42.00	50.75	6.27	9.62	23.00	26.67	3.42	4.02	5.40	6.17	209.88	266.52	35.96	40.95	1514.28
MPYDD001	MPY90755	138.00	139.00	DD	581.30	714.07	33.08	37.97	22.13	25.31	1.14	1.32	20.32	23.43	8.36	9.57	333.73	391.40	5.62	6.39	153.18	178.67	54.52	65.87	7.14	10.95	31.37	36.38	4.19	4.92	6.00	6.85	272.20	345.67	38.76	44.14	1902.90
MPYDD001	MPY90756	139.00	140.20	DD	457.41	561.89	28.14	32.29	19.89	22.75	0.99	1.14	17.23	19.86	7.26	8.32	235.49	276.18	5.62	6.39	128.31	149.66	43.88	53.02	8.40	12.88	26.89	31.18	3.53	4.15	5.52	6.31	279.84	355.37	37.19	42.35	1583.73
MPYDD001	MPY90757	140.20	142.00	DD	401.96	493.76	48.57	55.74	34.89	39.90	1.41	1.63	21.60	24.90	12.92	14.80	214.37	251.42	8.52	9.69	110.17	128.51	38.14	46.08	8.48	13.00	29.14	33.79	5.56	6.54	9.47	10.82	409.07	519.48	60.10	68.44	1718.49
MPYDD001	MPY90758	142.00	142.75	DD	331.48	407.19	42.25	48.49	29.52	33.76	1.14	1.32	19.30	22.24	11.08	12.69	158.47	185.85	7.21	8.20	99.09	115.58	32.88	39.73	7.01	10.75	26.25	30.44	4.93	5.80	8.02	9.16	320.75	407.32	50.98	58.05	1396.57
MPYDD001	MPY90759	142.75	143.60	DD	438.12	538.19	44.39	50.95	29.82	34.10	1.22	1.41	20.60	23.74	11.44	13.10	231.54	271.55	7.07	8.04	119.31	139.17	41.82	50.53	6.23	9.56	28.54	33.09	5.22	6.15	7.93	9.06	319.29	405.47	50.38	57.36	1651.48
MPYDD001	MPY90761	143.60	144.90	DD	286.92	352.45	40.23	46.18	26.64	30.47	1.10	1.27	17.97	20.71	10.30	11.80	152.45	178.79	6.08	6.91	96.84	112.96	30.47	36.81	3.68	5.65	24.41	28.31	4.71	5.55	6.93	7.92	315.54	400.70	43.29	49.30	1295.77
MPYDD001	MPY90762	144.90	146.00	DD	512.70	629.80	52.60	60.37	35.91	41.06	1.58	1.83	22.83	26.31	13.72	15.72	284.98	334.23	7.47	8.50	131.57	153.47	47.15	56.97	6.46	9.91	30.91	35.85	6.00	7.06	9.35	10.67	363.11	461.12	55.85	63.60	1916.46
MPYDD001	MPY90763	146.00	147.40	DD	459.63	564.61	40.26	46.21	26.94	30.81	1.08	1.25	19.89	22.93	10.33	11.83	241.46	283.18	5.96	6.77	121.08	141.23	43.20	52.19	6.30	9.67	28.01	32.48	4.79	5.63	7.02	8.02	296.61	376.67	43.40	49.41	1642.89
MPYDD001	MPY90764	147.40	149.00	DD	516.00	633.86	23.50	26.97	14.22	16.26	1.21	1.40	15.99	18.43	5.76	6.59	288.33	338.16	3.41	3.88	125.18	146.01	46.20	55.82	11.83	18.15	23.27	26.98	2.98	3.51	3.54	4.04	172.90	219.56	22.81	25.98	1545.59
MPYDD001	MPY90766	149.00	150.00	DD	364.66	447.94	15.40	17.68	8.94	10.22	1.17	1.35	11.29	13.02	3.71	4.25	206.46	242.13	2.05	2.33	90.20	105.21	32.93	39.79	10.23	15.69	16.42	19.04	2.04	2.40	2.11	2.41	111.15	141.15	13.28	15.12	1079.74
MPYDD001	MPY90767	150.00	151.00	DD	464.15	570.16	18.63	21.38	10.69	12.23	1.27	1.47	13.99	16.12	4.48	5.14	266.37	312.40	2.32	2.64	113.60	132.50	42.05	50.80	12.36	18.96	20.38	23.63	2.48	2.92	2.52	2.87	127.30	161.66	15.65	17.82	1352.70
MPYDD001	MPY90768	151.00	152.00	DD	629.12	772.81	33.63	38.59	26.72	30.56	0.95	1.10	19.19	22.12	9.26	10.60	382.61	448.73	7.75	8.81	154.04	179.67	56.94	68.79	7.71	11.83	27.73	32.16	3.93	4.63	7.76	8.86	275.75	350.18	52.62	59.91	2049.35
MPYDD001	MPY90769	152.00	153.00	DD	239.00	293.58	11.40	13.08	6.49	7.42	2.62	3.04	8.54	9.84	2.75	3.15	145.19	170.27	1.42	1.62	74.21	86.56	23.70	28.63	9.66	14.81	13.12	15.21	1.56	1.84	1.51	1.72	81.08	102.97	9.56	10.89	764.64
MPYDD001	MPY90771	153.00	154.10	DD	206.70	253.91	9.87	11.33	6.59	7.54	2.89	3.34	7.09	8.17	2.52	2.89	127.76	149.84	1.53	1.74	63.10	73.60	20.22	24.43	12.34	18.93	10.70	12.41	1.28	1.51	1.70	1.94	74.08	94.08	10.81	12.30	677.98
MPYDD001	MPY90772	154.10	155.00	DD	1018.02	1250.53	33.11	38.00	22.94	26.23	0.88	1.01	24.80	28.59	8.62	9.88	637.69	747.88	5.50	6.26	221.30	258.12	88.14	106.49	12.86	19.72	35.12	40.72	4.27	5.02	6.25	7.13	270.63	343.67	39.97	45.51	2934.76
MPYDD001	MPY90773	155.00	156.00	DD	949.49	1166.35	21.90	25.13	18.07	20.66	0.66	0.77	18.14	20.91	6.02	6.90	625.01	733.02	4.55	5.17	192.67	224.73	78.69	95.07	6.30	9.66	25.31	29.34	2.72	3.20	5.27	6.02	163.84	208.07	34.00	38.72	2593.71
MPYDD001	MPY90774	156.00	157.00	DD	480.59	590.36	24.32	27.91	17.86	20.42	0.87	1.01	14.53	16.74	6.62	7.58	263.76	309.33	4.22	4.80	116.86	136.31	43.54	52.61	9.47	14.53	20.94	24.28	2.85	3.36	4.66	5.32	189.22	240.29	29.62	33.73	1488.58
MPYDD001	MPY90775	157.00	158.00	DD	555.24	682.06	33.27	38.19	27.59	31.55	0.60	0.70	16.08	18.53	9.66	11.06	331.95	389.32	6.60	7.51	129.19	150.69	49.91	60.30	8.56	13.13	23.35	27.07	3.58	4.21	7.37	8.42	283.81	360.41	47.06	53.58	1856.72
MPYDD001	MPY90776	158.00	159.25	DD	698.98	858.62	45.75	52.50	36.10	41.28	0.82	0.95	21.34	24.60	12.93	14.81	433.44	508.34	7.72	8.78	162.67	189.74	61.61	74.43	5.90	9.05	29.85	34.62	4.91	5.77	9.32	10.65	374.54	475.63	56.99	64.90	2374.67
MPYDD001	MPY90777	159.25	160.00	DD	583.11	716.30	15.67	17.98	8.51	9.73	2.66	3.08	15.93	18.36	3.64	4.17	344.34	403.84	1.81	2.06	160.97	187.76	54.61	65.98	14.35	22.00	26.54	30.78	2.35	2.77	1.92	2.20	103.65	131.63	11.92	13.58	1632.21
MPYDD001	MPY90778	160.00	161.55	DD	144.40	177.38	8.28	9.50	4.78	5.46	1.81	2.10	6.22	7.17	2.03	2.32	81.94	96.09	1.03	1.17	52.72	61.50	15.42	18.63	11.15	17.11	9.81	11.38	1.13	1.33	1.13	1.29	62.11	78.88	7.08	8.06	499.36
MPYDD001	MPY90779	161.55	163.50	DD	447.78	550.05	22.75	26.11	13.58	15.53	0.63	0.72	15.31	17.64	5.60	6.42	245.55	287.98	2.89	3.29	111.42	129.96	40.50	48.93	7.78	11.94	22.20	25.74	3.00	3.53	3.34	3.81	163.06	207.07	20.81	23.70	1362.46
MPYDD001	MPY90781	163.50	165.00	DD	433.70	532.76	16.91	19.41	10.39	11.88	1.77	2.05	13.45	15.51	4.12	4.72	238.18	279.33	2.40	2.73	112.95	131.74	40.10	48.45	9.13	14.00	20.74	24.05	2.28	2.68	2.62	2.99	122.13	155.09	16.25	18.51	1265.89
MPYDD001	MPY90782	165.00	165.90	DD	418.00	513.47	17.55	20.14	11.03	12.61	0.60	0.70	12.59	14.51	4.33	4.96	235.51	276.21	2.84	3.23	97.38	113.59	36.88	44.55	5.20	7.97	18.65	21.62	2.30	2.71	2.95	3.37	134.65	170.99	19.44	22.14	1232.78
MPYDD001	MPY90783	165.90	167.00	DD	82.32	101.12	4.72	5.41	1.99	2.28	2.68	3.10	4.89	5.63	0.99	1.14	44.17	51.80	0.29	0.33	39.92	46.57	9.95	12.02	13.46	20.64	7.96	9.23	0.76	0.89	0.37	0.42	28.28	35.92	2.05	2.33	298.84
MPYDD001	MPY90784	167.00	168.00	DD	81.20	99.74	4.48	5.14	1.78	2.03	2.71	3.14	4.80	5.53	0.89	1.02	43.47	50.99	0.26	0.30	40.13	46.80	9.91	11.97	15.28	23.											

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**Table 3: Locations all drill holes shown or mentioned in this announcement.**

Project	Hole number	Depth	Area	Grid	Northing	Easting	Azimuth	Elevation
CHILWA REE	MPYDD001	180.4	MPYUPYU	WGS 84 / UTM zone 36S	8295396	770820	270	630.8
CHILWA REE	MPYDD002	110.8	MPYUPYU	WGS 84 / UTM zone 36S	8295313	771252	290	622
CHILWA REE	MPYDD003	217.8	MPYUPYU	WGS 84 / UTM zone 36S	8295618	770967	300	635

**Table 4: Significant intercepts calculations**

Project	Hole number	Depth From (m)	Depth To (m)	Intercept
CHILWA REE	MPYDD001	73.2	121.7	<b>50.2m @ 1,561 ppm TREO</b>
	Incl.	73.2	100	<b>22m @ 1,806 ppm TREO</b>
CHILWA REE	MPYDD001	132.9	165.9	<b>41m @ 1,182 ppm TREO</b>
	Incl.	154.1	163.55	<b>9m @ 1,742 ppm TREO</b>
CHILWA REE	MPYDD001	154.1	155	<b>0.9m @ 2,889.25 ppm TREO</b>

**APPENDIX 1 – JORC TABLE 1****Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<p><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></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></p> <p><i>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></p>	<p>Sampling was undertaken on diamond drill core (PQ, HQ and NQ diameters) recovered from reconnaissance drilling. Half-core sampling was carried out using a diamond saw. Intervals were selected based on geological logging (lithology, alteration, mineralisation, veining). No XRF tools were used for external reporting, only for qualitative field guidance.</p> <p>Samples were collected in 1 m or lithology-constrained intervals. 2.5–5 kg of half-core material was collected per sample, prepared internally (crushed to &lt;1mm) in house prep lab and sent to an accredited lab for REE assay by ICP-MS/OES.</p> <p>Mineralisation was logged visually and confirmed using historic data and petrography.</p>
<b>Drilling techniques</b>	<p><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</i></p>	<p>Reconnaissance drilling was completed using diamond drilling (PQ, HQ and NQ core diameter) with standard wireline/winch technique. Core</p>

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Criteria	JORC Code explanation	Commentary
	<i>is oriented and if so, by what method, etc).</i>	orientation was conducted with results indicating low quality data set.
<b>Drill sample recovery</b>	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p> <p><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></p>	<p>Core recoveries were recorded for each run by measuring recovered length vs drilled length. Recoveries generally exceed 99% in fresh rock and 93% in weathered zone. Poorly recovered zones were logged as poor recovery or core loss as applicable.</p> <p>Drilling was monitored continuously. Drillers used manual extraction off the core barrel techniques throughout the exercise. Sampling avoided zones of core loss.</p> <p>No bias has been observed. medium-grained REE/Nb minerals are not expected to be preferentially lost. However, this will be reassessed as project advances.</p>
<b>Logging</b>	<p><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <p><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></p> <p><i>The total length and percentage of the relevant intersections logged.</i></p>	<p>All drill core was geologically logged (lithology, alteration, structure, mineralisation, veining) to industry standards. Logging is suitable to support Geological Modelling requirements.</p> <p>Logging was both qualitative and semi-quantitative. All cores were photographed (wet and dry). Modal mineralogy was estimated visually.</p> <p>100% of core was logged from surface to end of hole.</p>
<b>Sub-sampling techniques and sample preparation</b>	<p><i>If core, whether cut or sawn and whether quarter, half or all cores taken.</i></p> <p><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p>	<p>Sample Core was half-core sampled using a diamond saw. In some instances, quarter-core for duplicate.</p> <p>Not applicable – diamond core only.</p> <p>Sample prep followed industry best practices: drying, crushing 80% to &lt; 1 mm to, splitting, bagging 100g per sample for shipment.</p>

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Criteria	JORC Code explanation	Commentary
	<p><i>Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.</i></p> <p><i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second- half sampling.</i></p> <p><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p>	<p>QAQC includes field duplicates, blanks, certified reference materials (CRMs) inserted at regular intervals (~1:20).</p> <p>Field and laboratory duplicates strongly replicated indicating sampling precision.</p> <p>REE-bearing minerals (e.g. Synchysite, Bastnasite, monazite, pyrochlore,) are fine- to medium-grained; current sample sizes (2.5 –5 kg) are appropriate.</p>
<b>Quality of assay data and laboratory tests</b>	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis include instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></p> <p><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></p>	<p>Assays conducted at UIS Analytical Services Pty.Ltd in Johannesburg. ICP-MS and ICP-OES were used for REE suite-, Ce, La, Tb, Dy, Pm, Pr, Nd, Sm, Gd, Eu, Ho, Er, Tm, Lu, Yb, Y and Sc ensuring near-total digestion of resistant minerals.</p> <p>Handheld Olympus Vanta XRF used only for qualitative logging guidance. Not used in public reporting.</p> <p>QAQC program includes insertion of CRMs, blanks, duplicates. Initial internal lab QC and CRM results indicate acceptable accuracy and precision. Independent check assays to follow.</p>
<b>Verification of sampling and assaying</b>	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>	<p>Logging and sampling verified by project geologist and reviewed by the Chief Project Geologist.</p> <p>No twinning conducted during this a reconnaissance stage.</p> <p>All logging and sampling data recorded digitally in the field/core sample shed, validated, and backed up on secure servers. Hardcopy backups also maintained.</p>

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Criteria	JORC Code explanation	Commentary
		No adjustments to raw assay data. REO calculated from elemental REE data using standard conversion factors.
<b>Location of data points</b>	<p><i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<p>Drill collar locations surveyed using differential GPS (DGPS) with sub-metre accuracy. Downhole surveys conducted with AXIS gyro tools.</p> <p>WGS84 / UTM Zone 36S.</p> <p>LiDAR-based topographic control used for collar elevations and drill planning. Accuracy within <math>\pm 0.5</math> m.</p>
<b>Data spacing and distribution</b>	<p><i>Data spacing for reporting Exploration Results.</i></p> <p><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></p> <p><i>Whether sample compositing has been applied.</i></p>	<p>Reconnaissance holes spaced at <math>\sim 300 \times 300</math> m grid, sufficient for early-stage targeting but not for resource estimation.</p> <p>No Mineral Resource defined at this stage. Drill hole spacing is not yet sufficient for Inferred classification.</p> <p>No compositing done for reporting purposes.</p>
<b>Orientation of data in relation to geological structure</b>	<p><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></p> <p><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></p>	<p>Analysis of the structure tested is ongoing to arrive to a determination of true width of mineralisation.</p> <p>Holes were oriented to intercept interpreted geophysical anomaly structures.</p> <p>Orientation is believed to be suitable for initial reconnaissance drilling. Any bias will be evaluated as more structural data is obtained.</p>
<b>Sample security</b>	<p><i>The measures taken to ensure sample security.</i></p>	<p>Samples were stored securely on site, transported by Chilwa Minerals Field personnel and shipped directly to the laboratory via tracked courier. Chain-of-</p>

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Criteria	JORC Code explanation	Commentary
		custody protocols were followed until delivery to UIS Analytic Laboratory.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	Internal review of sampling protocols conducted. External audit planned upon receipt of entire Mposa assay batches.

**Section 2 Reporting Exploration Results**

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<p><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></p> <p><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></p>	Chilwa Minerals Africa Limited (Chilwa) has been granted the exploration licences EL0670/2R1, EL0835-23 and EL0671-22R allowing exploration for HMS deposits, REE (and other minerals) over an area of 865.896km <sup>2</sup> .
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<p>Systematic exploration for REE mineralisation and Carbonatites has not been undertaken within the tenement, however, has been conducted in the immediate regional area (eg Tundulu and Songwe hills).</p> <p>Academic research into the deposition of the HMS deposits around Lake Chilwa have been undertaken since the 1980's.</p> <p>Exploration of the HMS mineralisation in the lake Chilwa area has been undertaken by various government concerns and companies, commencing with Claus Brinkmann between 1991 and 1993 as part of an</p>

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Criteria	JORC Code explanation	Commentary
		<p>initiative by the German Government to aid mineral development in Malawi.</p> <p>Millennium Mining Limited (MML) concluded exploration work in the area, focusing on the northern deposits of Halala and Namanja during the early 2000s.</p> <p>In 2014, Tate Minerals (Tate) undertook a desktop review of the work undertaken by Claus Brinkmann and entered into a Joint Venture agreement with Mota-Engil Investments (Malawi) Limited (MEIML) to explore EL 0572/20, an EL that contains the current target area.</p> <p>In August 2015, MEIML commenced a drilling programme on the Mpyupyu, Halala, Mposa, and Bimbi targets. This work was completed in November 2015.</p>
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation.</i>	Potential REE mineralisation within and beneath previously identified Heavy Mineral Sands deposits. As well as potential separate REE deposits within or resulting from Alkaline magmatic activity (Carbonatites) in the area, a component of the Cretaceous age Chilwa Alkaline province.
<b>Drill hole Information</b>	<p><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i></p> <ul style="list-style-type: none"> <li>• <i>easting and northing of the drill hole collar</i></li> <li>• <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>• <i>dip and azimuth of the hole</i></li> <li>• <i>downhole length and interception depth</i></li> <li>• <i>hole length.</i></li> </ul>	<p>A full table of results is provided in <b>Appendix 1</b>.</p> <p>Details are provided in Table 2 in the announcement.</p>

**CHILWA CONFIRMS FIRST CARBONATITE DISCOVERY WITH ELEVATED RARE EARTH ELEMENTS GRADES AT MPYUPYU**



Criteria	JORC Code explanation	Commentary
	<p><i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></p>	
<b>Data aggregation methods</b>	<p><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></p> <p><i>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.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	<p>Length-weighted average grades were used to report grades with a cut-off grade of 1,500ppm TREO applied with minor (up to 2m) intervals below 1,000m, for a weighted average interval of a minimum 1,000ppm TREO, as is deemed appropriate for early-stage exploration reporting.</p> <p>Interval calculation used a standard length-weighted (weighted average grade) techniques as shown in table 3.</p> <p>No metal equivalent values were reported. All grades are reported as individual elemental values (ppm) and Total Rare Earth Oxide (TREO) values, calculated using standard oxide conversion factors.</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i></p>	<p>Addressed in Table 3 above with detail on intercepts quoted in the announcement.</p>
<b>Diagrams</b>	<p><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view</i></p>	<p>Maps, sections and plan view are provided in the accompanying press release.</p>

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Criteria	JORC Code explanation	Commentary
	<i>of drill hole collar locations and appropriate sectional views.</i>	
<b>Balanced reporting</b>	<i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i>	All relevant information has been included in this press release and is considered to represent a balanced report.
<b>Other substantive exploration data</b>	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to):  geological observations; geophysical survey results;  geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	See previous Company announcements for further reference.
<b>Further work</b>	<i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).  Diagrams clearly highlighting the areas of possible extensions, including the main geological  interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	Reconnaissance Diamond Drilling testing all 47 geophysics anomalies as well as geochemistry soil anomalies.