

15 March 2023

## ASX ANNOUNCEMENT

# High-Grade Rare Earth Elements (REE) Confirmed in Eurelia Trench Samples

### Highlights

- Sample results from historical trenches at the Eurelia Project have confirmed high-grade rare earth elements (REE) and niobium (Nb) mineralisation up to 1.02% (10,250ppm) TREO (total rare earth oxides) and 819ppm Nb.<sup>1</sup>
- Drill program approval is pending at Eurelia, with drilling planned for May 2023.
- Walloway Project aeromagnetic data has revealed numerous magnetic anomalies similar to the Walloway Carbonatite, and modelling and drill targeting is underway.
- Both projects are highly prospective for carbonatite-hosted rare earth mineralisation including neodymium and praseodymium, and niobium, all critical minerals used extensively in electric vehicles.

**Olympio Metals Limited (ASX:OLY) (Olympio or the Company)** is pleased to announced that re-sampling of historical trench samples has confirmed the previous high-grade REE results, with TREO grades up to **1.02% TREO (10,250ppm), and 819ppm niobium.**<sup>1</sup>

The TREO grade is increasing trending south towards the Walloway Carbonatite, which is postulated to be the source of the mineralisation. Previous trench samples have delineated a >10km trend of coincident elevated niobium and REEs.

### **Olympio's Managing Director, Sean Delaney, commented:**

*"The REE and niobium trench sample assays have confirmed that the Eurelia Project is enriched in REE and presents an exciting drill target with potential for economic REE mineralisation over a significant strike extent. A drilling plan has been submitted for regulatory approval and we look forward to drilling the targets as soon as the approval is granted.*

*The Walloway Project to the south of Eurelia is also advancing quickly, where numerous carbonatite-style magnetic anomalies have been identified, comparable to the magnetic response of the Walloway Carbonatite. Magnetic modelling is currently underway to better define these anomalies and define drill targets for potential REE mineralisation."*

<sup>1</sup> See Tables 1 and 2 and the Appendix for full table of results.

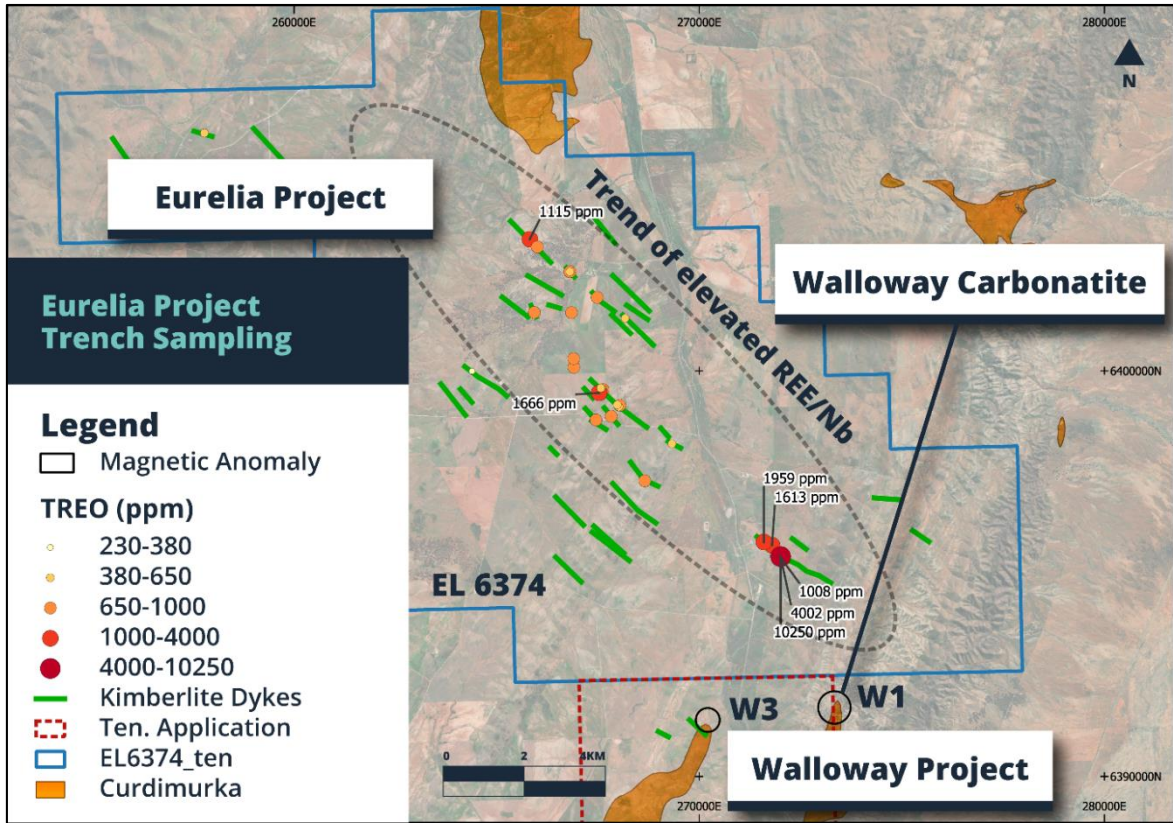


Figure 1. TREO assays for Eureka trench samples

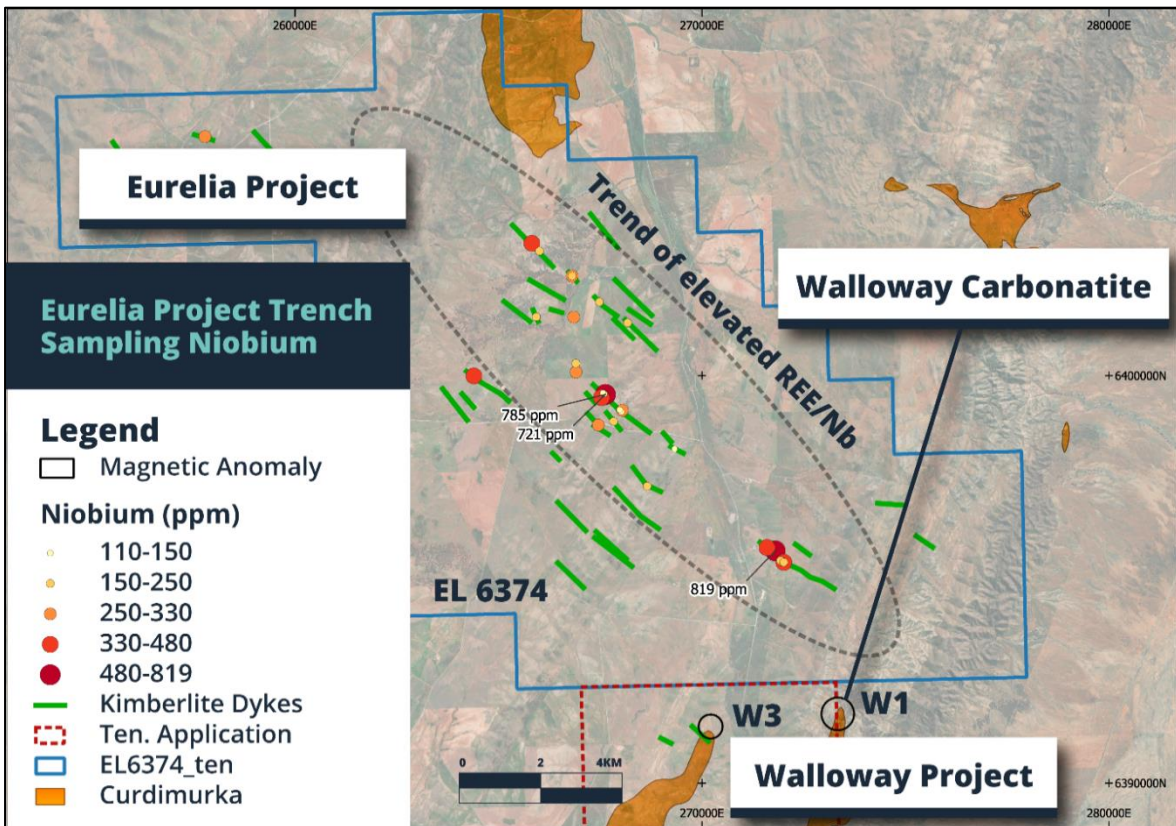


Figure 2. Niobium results for Eureka trench samples

## **TECHNICAL DISCUSSION**

The **Eurelia Project Joint Venture** and the **Walloway Project** are located within the Adelaide Geosyncline in South Australia and encompass a large area prospective for carbonatite-hosted REE mineralisation. Eurelia/Walloway are located near the intersection of two regionally significant crustal structures (Figure 3).

The Eurelia Project Joint Venture (**Eurelia**) is a JV between Copper Claim and Olympio covering EL6374. The 100% owned Walloway Project (**Walloway**) is an ELA (tenement application) immediately south of Eurelia (Figure 4).

The Walloway Project area covers a portion of a defined carbonatite, the Walloway Carbonatite, which the Company believes is highly prospective for niobium and/or REE mineralisation.

Review of aeromagnetic data has highlighted numerous magnetic signatures similar to the Walloway Carbonatite signature on the eastern boundary of the area, but which **have never been drill tested**. Advance inversion modelling of these targets is almost complete, and it is expected that numerous high priority carbonatite drill targets will result.

Furthermore, the significant niobium and REE trend of the Eurelia Project extends south on to the Walloway Project (Figure 1), increasing further the potential for Walloway to host significant REE mineralisation.

### **Assaying Of Historical Eurelia Trench Samples**

Historical trench samples were collected by Flinders Diamonds in the period 2004-2009 (Miller & Parker 2010). The samples have been stored by JV partner, Copper Claim, in secure storage in Adelaide, and these were recently made available to Olympio exploration staff for sampling. The stored historical samples were typically 10-20kg and were representatively sampled as 200-300g samples. The samples were assayed at ALS by method ME-MS81D (trace elements including REE). All 42 available samples in storage were submitted for re-analyses, and the assay results are presented in Tables 1 and 2 below.

The sampling has identified numerous zones consistently enriched in REE and Nb (refer Figures 1 and 2).

In the south of the Eurelia tenement, a >500m strike length of REE mineralisation has been identified with TREO consistently >0.1%. The sampling has supported historical REE and Nb assay results at Eurelia (see ASX release 9<sup>th</sup> December 2022) and has produced compelling targets with significant strike potential. Olympio geologists have been to site to review the drill targets and met the landowners. An EPEPR drill proposal has been submitted to the SA Department of Mines. Drilling will commence as soon as the regulatory approvals are granted.



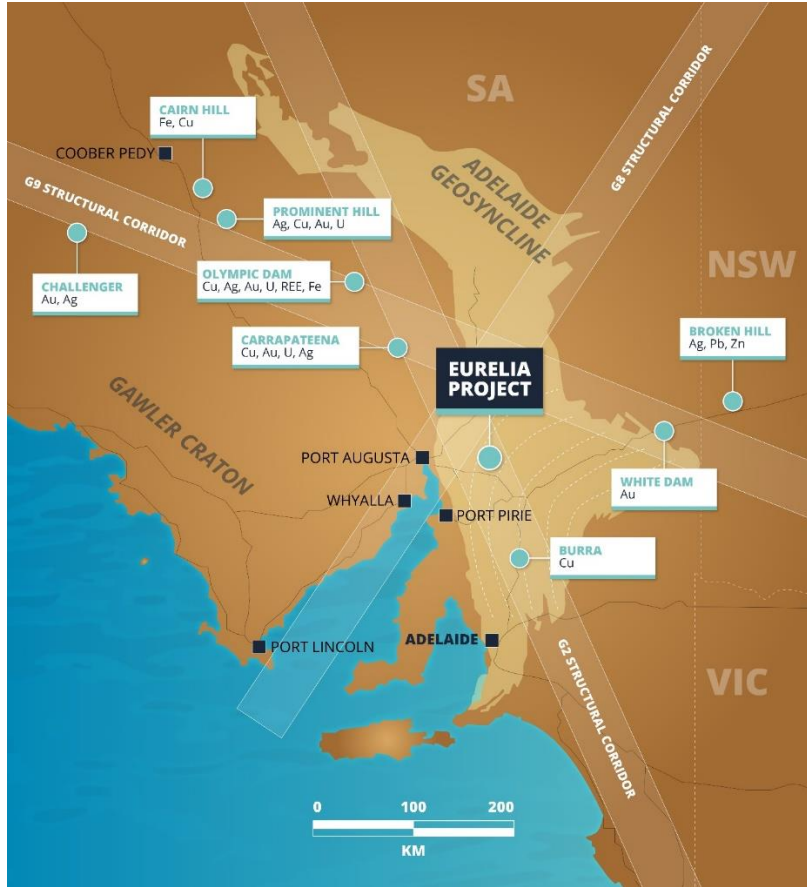


Figure 3. Eurelia Project location

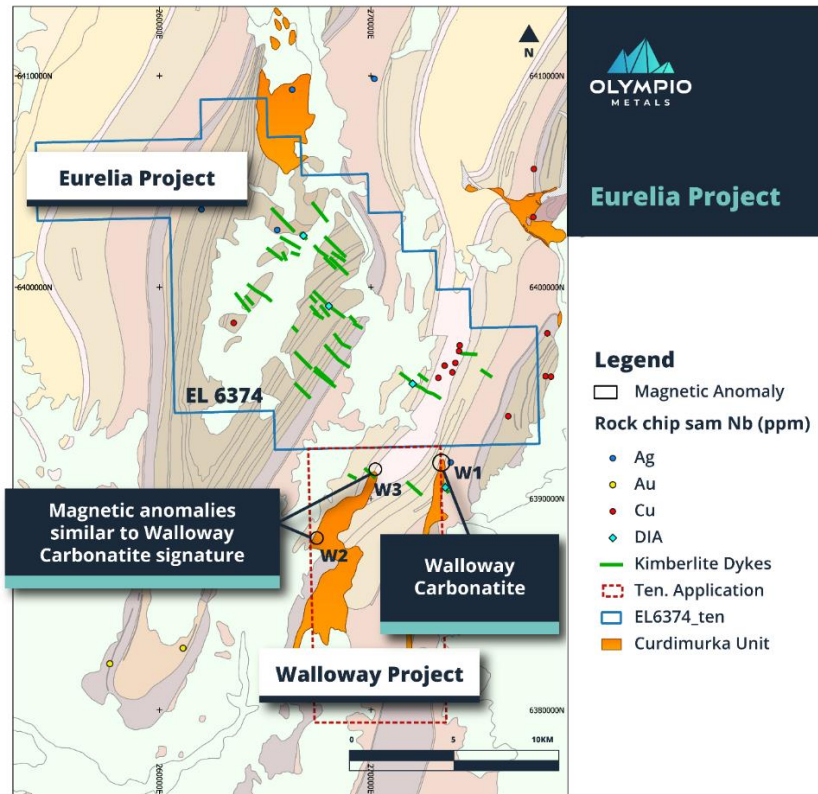


Figure 4 Eurelia geology and mineralisation

## About Carbonatites

Carbonatites are a type of igneous rock defined by their composition being rich in carbonate minerals, typically calcite or dolomite. They often occur as plugs within alkali intrusive complexes, or as dykes, sills, breccias or veins. They are generally associated with major crustal scale features in rift-related tectonic settings.

Carbonatites may be mineralised with REEs, niobium, phosphorus, tantalum, uranium, thorium, copper, iron, titanium, vanadium, barium, fluorine and zirconium.

Carbonatite-hosted mineralisation is one of the main sources of economic REE and niobium ores globally, with Lynas Rare Earths' (LYC:ASX) large Mt Weld mine in Western Australia and MP Minerals' large Mountain Pass mine in California both hosted in carbonatites.

The Walloway Carbonatite is considered part of the Eurelia kimberlite field. The Eurelia kimberlite dykes are the only diamond bearing kimberlites in South Australia, providing further confirmation of the deep mantle association of the G2 structural corridor in the Walloway/Eurelia region.

## Project Background

### *Walloway Carbonatite*

The Walloway Carbonatite is part of a suite of small dykes and plugs of carbonate-rich and chemically evolved ultramafic lamprophyre of Jurassic age (~170 Ma), within a small contemporaneous diapiric zone (Walloway Diapir, ~10km long x 100-800m wide) in the Orroroo (Eurelia) region at the eastern margin of the Gawler Craton in South Australia (Jaques, 2008, Nelson et. al. 1988).

The Walloway Carbonatite occurs on the very eastern margin of the Walloway ELA. A historical rock chip sample of the Walloway carbonatite dyke within the ELA area had a grade of 518ppm Nb. The carbonatite is essentially unexplored for REE and incompatible elements.

The Walloway Carbonatite was the first mantle rock-type found in the Eurelia field (1971). Recent magnetic modelling of the Walloway Carbonatite by Olympio suggests that a large carbonatite body is buried to the immediate north of the exposed carbonatite dykes. The modelling is being refined, and will be published once results are finalised.

The Walloway Carbonatite (and the Eurelia dykes) show elevated REE and Nb, and further investigation is required to establish the scale and characteristics of the enrichment.

Detailed magnetics have not been flown over the majority of the Walloway application EL.

**The announcement is authorised by the Board of Olympio Metals.**

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**Competent Person's Statement**

The information in this announcement that relates to exploration results is based on information compiled by Mr. Neal Leggo, a Competent Person who is a Member of the Australian Institute of Geoscientists and a consultant to Olympio Metals Limited. Mr. Leggo has sufficient experience which is 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". Mr Leggo consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

**References**

**Cooper, S.A.** 2016 Eurelia Project EL5373, Annual Technical Report to 17/1/2016, Copper Claim Pty Ltd, unpublished exploration report,

**Cooper, S.A. & Morris, B.J.,** 2012. A review of kimberlites and related rocks in South Australia, 2012/00006, Department for Manufacturing, Innovation, Trade, Resources and Energy

**Jaques, A.L.** 2008. Australian Carbonatites: Their Resources and Geodynamic Setting, 9<sup>th</sup> International Kimberlite Conference Extended Abstract

**Miller, D.T, & Parker, F.M** 2010. Annual Technical Report for period to 31/12/2009, EL3919, 4184, 4209, 4208, 3444, 3693, 4404, Report 09/55, PIRSA Open File Envelope ENV9915

**Nelson, D.R., Chivas, A.R., Chappell, B.W., McCulloch, M.T.,** 1988. Geochemical and isotopic systematics in carbonatites and implications for the evolution of ocean-island sources. *Geochimica et Cosmochimica Acta*, 52, 1-17.

**SARIG,** 2022. Extract of data from South Australian Resource Information Gateway Orroroo S154-01 Surface Geochemistry November 2022; <https://map.sarig.sa.gov.au/>

Table 11 Trench sample REE Analyses ME-MS81D

Sample #	Trench	E_MGA54	N_MGA54	Sample tpe	Ce ppm	Dy ppm	Er ppm	Eu ppm	Gd ppm	Ho ppm	La ppm	Lu ppm	Nd ppm	Pr ppm	Sm ppm	Tb ppm	Tm ppm	Y ppm	Yb ppm	TREO ppm
EU0001	ORR-K2-W3-T1	267630	6399535	ROCK	394	6.14	2.34	3.5	9.71	0.9	207	0.24	114	33.3	15.35	1.12	0.3	22.7	1.73	976
EU0002	ORR-K7-T1	266810	6402442	ROCK	317	4.45	1.62	3.29	8.21	0.75	186.5	0.19	103.5	32.3	14.85	0.94	0.21	17.8	1.29	832
EU0003	ORR-K2-T1	268018	6399112	ROCK	189	2.48	0.79	2.05	5.48	0.4	117	0.08	63.6	19.25	9.38	0.58	0.1	10.4	0.48	505
EU0004	ORR-K2A-T1	268043	6399147	ROCK	360	5.56	2.01	4.36	10.7	0.95	211	0.19	126.5	36.8	17.5	1.24	0.29	24.7	1.37	964
EU0005	ORR-K7-T1	266810	6402442	ROCK	188.5	3.11	1.12	2.01	5.5	0.51	101	0.14	60.4	18.05	8.6	0.62	0.15	13.2	0.87	485
EU0006	ORR-41D_ext-T3	271598	6395778	ROCK	419	50.5	23.3	17.2	80.8	8.9	249	2.9	370	74.9	88.8	10.05	2.96	220	18.7	1959
EU0007	ORR-K7-T1	266810	6402442	ROCK	190	3.38	1.46	2.12	6.04	0.55	116.5	0.16	71.6	20.3	10.35	0.68	0.16	17.1	0.91	530
EU0008	ORR-K7-T1	266810	6402442	ROCK	284	4.85	1.85	3.19	9.03	0.78	167.5	0.18	105	29.9	14.15	0.99	0.23	20.7	1.27	772
EU0009	ORR-K2-T1	268018	6399112	ROCK	195.5	2.59	0.91	2.27	5.03	0.37	120	0.07	68.6	20.6	9.28	0.53	0.09	12	0.51	526
EU0021	CA-142-T1	266850	6401435	ROCK	327	6.94	2.85	4.27	10.95	1.06	193	0.34	121.5	34.4	16.5	1.31	0.35	35.7	2.1	911
EU0022	MOO-44B-T1	257790	6405862	ROCK	145.5	5	1.84	3.18	8.91	0.77	116.5	0.16	88.7	24	12.9	0.94	0.22	20.3	1.36	514
EU0023	WL-74-T1	268657	6397287	ROCK	316	4.18	1.59	3.61	8.09	0.64	176.5	0.14	110	32.7	14.55	0.93	0.18	16.2	1.02	824
EU0025	WL-63-T1	267455	6398788	ROCK	327	5.72	2.26	3.29	9.36	0.95	154.5	0.26	100.5	29.4	13.95	1.08	0.29	23.4	2.24	811
EU0028	WL-96-T1	267831	6398877	ROCK	243	8.97	3.79	4.36	13.85	1.52	125.5	0.33	107.5	28.9	19.05	1.73	0.48	39.8	2.96	722
EU0032	ORR-K7-T1	266810	6402442	ROCK	268	3.77	1.56	3.17	7.54	0.56	182	0.13	100.5	30.1	13.5	0.77	0.16	17.6	1	756
EU0033	ORR-K2-T2	267980	6399160	ROCK	179.5	2.28	0.75	2.01	4.35	0.36	110	0.08	63.6	18.6	8.15	0.45	0.1	10.6	0.59	482
EU0034	ORR-K2-W3-T1	267630	6399535	ROCK	224	4.81	2.53	2.38	6.63	0.86	121	0.26	62.3	18.65	9.87	0.96	0.29	21.8	1.8	575
EU0035	WL-57-T8	267595	6399562	ROCK	99.8	3.61	1.81	1.46	4.33	0.65	56	0.23	35.1	10.3	5.97	0.57	0.23	16.9	1.9	287
EU0036	WL-57-T9	267602	6399552	ROCK	122.5	2.2	1.43	1.12	3.17	0.39	88.6	0.17	35.6	11.1	4.91	0.35	0.18	10.3	1.29	340
EU0037	WL-57-T6	267572	6399572	ROCK	138.5	2.36	0.81	1.56	4.24	0.41	85.7	0.1	49.5	14.1	7.29	0.39	0.1	11.4	0.67	381
EU0038	WL-58-T1	267532	6399455	ROCK	633	8.61	3.24	7.09	17.15	1.34	377	0.29	226	67.1	30.4	1.83	0.36	37.8	1.86	1696
EU0039	WL-58-T1	267532	6399455	ROCK	625	8.37	2.74	6.91	16.7	1.34	366	0.26	227	65.2	29.2	1.76	0.3	35.9	1.9	1666
EU0040	ORR-41d-ext-T14	272011	6395419	ROCK	3750	146	93.4	36.8	172.5	30.6	1240	12.4	1180	303	208	24.3	13.05	1185	81.3	10250
EU0041	ORR-K7-T1	266810	6402442	ROCK	273	4.27	1.61	3.18	7.94	0.67	193	0.16	103.5	30.1	13.3	0.82	0.21	17.6	1.26	780
EU0042	CA-129-T1	268174	6401294	ROCK	197	3.55	1.67	2.18	6.23	0.64	113	0.19	71.5	20	10.2	0.74	0.18	17	1.36	535
EU0043	EU-42-EXT-T3	272012	6395417	ROCK	1680	37.1	11.45	22.3	69.3	4.86	477	0.86	628	160	123.5	8.35	1.2	96.2	7.27	4002
EU0045	ORR-41d-ext-T11	271934	6395460	ROCK	227	5.13	3.12	2.24	6.9	1.05	113.5	0.51	59.9	18	9.52	0.92	0.44	26.2	3.03	575
EU0046	ORR-41d-ext-T10	271981	6395431	ROCK	370	7.83	2.8	5.1	14.2	1.2	208	0.22	135.5	40.5	18.05	1.64	0.32	32.7	1.76	1008
EU0047	CA-067-T1	265821	6403243	ROCK	269	14	6.03	6.99	21.6	2.32	275	0.72	187.5	53.6	27.4	2.65	0.78	62	4.43	1115
EU0048	CA-123-T1	267482	6401807	ROCK	253	4.19	1.66	2.65	6.84	0.72	140.5	0.18	88.2	26	11.9	0.87	0.2	16.8	1.42	667
EU0049	ORR-41D_ext-T1	271800	6395698	ROCK	670	8.62	3.86	6.1	15	1.51	326	0.41	183	56.5	24.5	1.92	0.49	39.4	2.91	1613
EU0050	ORR-K7-T1	266810	6402442	ROCK	269	4.09	1.3	2.86	6.92	0.59	167.5	0.15	94.9	28.4	11.9	0.84	0.17	16.4	1.13	727
EU0051	WL-76-T1	269329	6398200	ROCK	199.5	2.6	0.82	2.05	4.91	0.41	114	0.08	68	20.6	9.4	0.56	0.1	10	0.59	521

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EU0052	WL-76-T1	269329	6398200	DUP	197	2.33	0.8	2.27	4.94	0.39	114	0.09	66.8	20.6	9.83	0.59	0.11	10	0.57	517
EU0058	CA-079-T1	266008	6403054	ROCK	291	4.43	1.57	3.58	8.92	0.7	180	0.13	104.5	32	15.1	0.96	0.19	18.2	0.74	794
EU0071	CA-103-T1	265931	6401439	ROCK	233	5.17	2.21	3.57	8.97	0.87	140	0.22	93.5	27.5	12.9	1.06	0.23	29.2	1.6	672
EU0072	CA-103-T1	265931	6401439	DUP	253	5.34	2.56	3.53	9.13	1.02	148	0.28	99.1	29.4	13.8	1.17	0.32	31	2.01	720
EU0073	CA-127-T2	266906	6400087	ROCK	356	4.32	1.61	3.26	7.86	0.75	167	0.2	109	33.2	15	0.96	0.22	15.8	1.38	862
EU0074	CA-127-T2	266906	6400087	DUP	373	4.75	1.93	3.74	8.34	0.75	170.5	0.22	113.5	34.2	15	1.1	0.23	16.8	1.38	896
EU0075	WL-76-T1	269329	6398200	ROCK	176.5	2.6	0.95	2.13	4.91	0.41	100.5	0.11	61.5	18.5	8.44	0.58	0.14	10.9	0.83	467
EU0076	CA-127-T1	266903	6400298	ROCK	317	5.19	2.23	3.32	7.83	0.94	126	0.25	90.5	27	13.05	1.13	0.32	21.2	1.96	744
EU0079	WLW-12A-T1	264397	6399990	ROCK	80.9	3.74	1.83	1.27	3.81	0.66	43.5	0.29	25.2	7.58	4.65	0.59	0.25	16.6	1.77	232

Table 22 Trench assays selected elements (Me-MS81)

Sample #	Ba ppm	Cr ppm	Cs ppm	Ga ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Sr ppm	Ta ppm	Th ppm	U ppm	V ppm	W ppm	Zr ppm	SiO <sub>2</sub> %	Fe <sub>2</sub> O <sub>3</sub> %	CaO %	MgO %	TiO <sub>2</sub> %	MnO %	P <sub>2</sub> O <sub>5</sub> %
EU0001	690	6380	0.33	27.9	18.25	785	0.7	4.7	37.8	39.6	86.3	18.35	686	1.4	789	15.1	51.8	0.08	1.22	7	0.28	0.45
EU0002	2790	1995	3.67	8.4	5.64	260	88.3	1.9	355	11.3	34.9	1.72	179	1	257	27.2	12.75	10.6	13.9	1.8	0.26	0.9
EU0003	2000	1555	0.51	3	3.19	148.5	40.4	1.1	585	6.3	14.4	3.5	136	1.2	152	21.1	7.57	15.45	19.85	0.97	0.12	0.7
EU0004	1905	610	4.26	15.5	10	325	84.5	3	472	14.4	27.7	4.94	317	0.8	430	30.2	12.55	8.84	14.9	3.94	0.19	1.36
EU0005	1535	1190	1.89	4.6	3.03	165	51	0.8	373	7.1	22.3	1	105	0.7	158	13.75	6.56	17.75	15.9	1.02	0.14	0.51
EU0006	1905	4620	4.73	14.3	17.7	331	60.1	2.4	206	16.4	42.4	7.83	280	6.6	1150	44	20.3	0.34	2.02	2.72	4.92	0.29
EU0007	1730	1075	2.02	4.2	3.31	158	40.2	1.2	392	6.6	19.65	1.04	88	<0.5	155	14.7	6.29	19.5	17.15	0.96	0.13	0.49
EU0008	2650	2130	2.96	6.9	5.78	312	76.6	1.7	360	12.9	38.4	1.42	210	0.9	268	23.5	10.9	13.35	15.95	1.72	0.2	0.85
EU0009	1305	1565	0.66	2.5	3.84	147.5	45.9	0.8	537	6.7	14.8	3.27	117	1.1	161	20.9	6.77	16.45	19	0.95	0.15	0.51
EU0021	7420	562	1.82	14	9.83	255	34.1	2.5	360	12.2	25.6	3.37	243	1.2	624	24.5	11.25	21.3	3.25	3.34	2.63	0.27
EU0022	1295	1580	12.95	21.5	10.45	293	75.5	3.5	258	16.8	23.1	10.1	423	1.6	476	41.5	18.4	1	4.13	5.91	0.07	0.07
EU0023	1770	1620	2.62	11.8	6.21	236	46	2.3	388	13.1	25.4	2.62	282	1.2	249	32.7	12.5	4.98	20.1	2.5	0.21	0.6
EU0025	2320	1150	3.29	12.2	8.6	260	40.3	3.7	204	12.2	26.3	7.46	354	2.3	377	41.7	19.2	0.96	5.27	2.74	1.05	0.2
EU0028	1150	1180	2.37	18.8	8.67	195.5	26.2	3.3	197.5	10.7	20.1	4.57	259	1.9	357	50.4	14.6	0.45	2.94	4.23	0.02	0.06
EU0032	2260	1655	2.82	6.2	4.59	208	58.2	1.6	400	8.8	27	1.3	124	0.6	211	21.6	9.08	15.6	15.95	1.3	0.18	0.61
EU0033	1220	1710	0.55	3	3.64	141	34.7	0.7	313	7.2	15.25	3.24	66	0.5	160	21.5	7.14	14.4	20.5	0.96	0.11	0.36
EU0034	1170	5650	0.58	28	20.4	721	1.5	4.7	53.5	37.3	83.4	18.05	650	1.5	951	15.2	49	0.13	0.92	6.75	0.21	0.43
EU0035	1105	753	2.73	17	8.72	136	62.3	2.6	378	7.6	19.6	2.59	193	2.6	436	59.5	11.1	0.32	3.06	2.54	0.02	0.11
EU0036	829	1240	2.87	16.4	6.14	113	46.2	2.9	193.5	5.9	18.25	5.42	160	2	262	55.5	13.05	0.22	2.99	1.85	0.02	0.07
EU0037	1300	1175	1.52	5.4	3.19	111.5	51.1	1.1	373	5.8	12.4	2.07	133	0.6	159	27.5	6.74	15.1	15.75	1.2	0.12	0.36
EU0038	2440	4900	1.74	14.4	12.95	479	26.7	2.9	589	23.4	52	7.97	423	1.9	618	36.8	26.1	0.89	6.14	3.54	0.2	0.29



EU0039	2500	4710	1.49	13.3	11.7	474	22.3	2.7	706	23.2	48.8	7.02	385	1.8	617	42.6	24.5	0.98	6.21	3.46	0.19	0.29
EU0040	5780	3000	4.06	5.3	7.26	216	46.5	2.9	3040	12.4	29.3	7.21	123	1.7	321	50.5	15.85	0.72	2.37	2.12	0.07	1.68
EU0041	1575	1495	1.86	5.6	3.5	220	36.1	1.6	378	8.3	24.6	1.34	124	0.5	167	16.9	8.44	16.45	17	1.23	0.22	0.67
EU0042	1475	756	1.64	8.5	5.9	151	44.2	1.7	1010	8.3	17.65	3.57	139	1.1	236	31.4	7.65	17.15	12.15	1.7	0.16	0.52
EU0043	1000	6450	2.8	13.4	15.1	467	20.3	2.9	298	28.2	56.6	11.25	263	2.1	810	28.1	34.6	0.47	1.83	4.32	0.22	0.54
EU0045	1375	3360	1.44	12.1	14.9	242	35	2.5	251	13.8	28.2	6.95	193	3.2	889	59.3	17.2	0.54	1.78	2.42	0.03	0.23
EU0046	1695	3870	1.11	10.2	7.68	249	17	2.4	221	15	34.4	5.41	145	1.7	395	47.6	16.65	2.88	4.56	2.32	0.18	1.64
EU0047	726	1840	0.41	14.4	11.65	400	7.8	4.5	152.5	21.3	42.6	5.12	296	1.9	491	39.8	23.4	0.69	7.16	4.05	0.17	0.23
EU0048	2270	650	4.43	10.6	5.38	185.5	127	1.9	235	9.1	24.5	2.39	146	1.3	240	35.5	8.27	12.4	8.55	1.49	0.1	0.55
EU0049	294	9130	0.25	22	27.1	819	2.4	5.7	137.5	43.7	76.9	16.75	659	3.9	1835	15.55	51.5	0.13	1.42	6.47	0.4	0.51
EU0050	1980	1525	2.84	5.7	4.33	221	56.7	1.5	393	9.2	27.7	1.43	126	0.5	204	21	8.88	15.65	16.3	1.34	0.18	0.63
EU0051	1285	1670	1.22	3.7	3.9	136.5	41	1	239	7.6	17	4.14	157	0.6	182	25.2	8.17	4.84	24.8	1.02	0.13	0.31
EU0052	1335	1680	1.32	3.5	3.57	133	45.4	1	243	5.9	17	3.83	155	0.6	158	25.5	7.5	5.3	25.7	0.99	0.12	0.31
EU0058	1520	1285	1.02	6.2	7.38	240	53.3	2.3	409	13.1	23.3	2.46	259	3.5	296	20.4	10.45	14.85	16.05	2.29	0.13	0.14
EU0071	2700	1340	6.44	17.3	6.41	213	39.9	3.9	210	14.1	23.1	3.65	280	3.2	262	53.4	11.1	0.99	6.49	4.51	0.03	0.07
EU0072	2380	1385	6.74	15.6	6.84	233	42.4	2.8	208	14.7	23.3	3.93	315	3.3	283	50.5	11.65	0.87	6.89	4.61	0.02	0.07
EU0073	>10000	1420	4.15	15.3	7.76	273	27.6	2.8	519	15.6	29.3	2.6	216	0.8	345	37.2	13.2	4.31	9.53	2.79	0.19	0.43
EU0074	1550	1485	3.96	15.6	8.02	281	28.7	2.3	302	16.3	31.1	2.67	229	1.1	353	38.5	13.35	6.09	9.82	2.84	0.19	0.43
EU0075	1360	1695	3.21	5.2	4.95	118.5	72.3	1.3	324	6.6	16.6	3.38	94	0.9	213	30.3	6.97	9.17	19.25	0.93	0.12	0.29
EU0076	2030	595	2.75	17.9	8.17	208	25.2	2.8	173.5	12	24.4	2.15	302	1.3	334	47.3	13.5	1.14	6.75	3.6	0.22	0.15
EU0079	677	1540	0.59	29.6	14.9	408	5.3	4.3	101	26.2	39.6	6.38	403	4.1	701	23.4	37.1	0.29	0.65	7.43	0.05	0.56

personal use only

## Appendix 1: JORC Code Table 1 - Eurelia Project

### Section 1 Sampling Techniques and Data

Criteria	Explanation	Comment																																																
Sampling techniques	<i>Nature and quality of sampling.</i>	<p>All sampling was derived from archived historical samples stored in Adelaide by EL6374 tenement holder Copper Claim. The stored samples were from trenching programs undertaken by Flinders Diamonds in the period 2004-2009. All details of the trench sampling program are recorded in Miller &amp; Parker 2010, (ENV9915). Since being collected, all trench samples were stored in green plastic drill bags sealed with a zip-tie, and stored in a secure storage facility in Adelaide. Samples varied from ~5-20kg.</p> <p>Samples were typically rock, with fragments to 20cm. Rock fragments were chipped with hammer by Olympio staff and representatively grab sampled.</p> <ul style="list-style-type: none"> <li>• REE assay results for relevant samples reported in this announcement can be found in table 1, selective multi element results can be found in table 2.</li> <li>• TREO is calculated, thus: CeO<sub>2</sub> + Dy<sub>2</sub>O<sub>3</sub> + Er<sub>2</sub>O<sub>3</sub> + Eu<sub>2</sub>O<sub>3</sub> + Gd<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + La<sub>2</sub>O<sub>3</sub> + Lu<sub>2</sub>O<sub>3</sub> + Nd<sub>2</sub>O<sub>3</sub> + Pr<sub>6</sub>O<sub>11</sub> + Sm<sub>2</sub>O<sub>3</sub> + Tb<sub>4</sub>O<sub>7</sub> + Tm<sub>2</sub>O<sub>3</sub> + Y<sub>2</sub>O<sub>3</sub> + Yb<sub>2</sub>O<sub>3</sub></li> <li>• HREO:TREO (Heavy Rare Earth Oxide) is the ratio (%) of HREO to TREO</li> <li>• HREO = Dy<sub>2</sub>O<sub>3</sub> + Er<sub>2</sub>O<sub>3</sub> + Ho<sub>2</sub>O<sub>3</sub> + Lu<sub>2</sub>O<sub>3</sub> + Tb<sub>4</sub>O<sub>7</sub> + Tm<sub>2</sub>O<sub>3</sub> + Y<sub>2</sub>O<sub>3</sub> + Yb<sub>2</sub>O<sub>3</sub></li> <li>• All REE sample results were returned as ppm and have subsequently been converted according to the following conversion factors:</li> </ul> <table border="1" data-bbox="805 1086 1241 1780"> <thead> <tr> <th>Element</th> <th>Conversion factor (oxide)</th> <th>Equivalent oxide</th> </tr> </thead> <tbody> <tr><td>Ce</td><td>1.2284</td><td>CeO<sub>2</sub></td></tr> <tr><td>Dy</td><td>1.1477</td><td>Dy<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Er</td><td>1.1435</td><td>Er<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Eu</td><td>1.1579</td><td>Eu<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Gd</td><td>1.1526</td><td>Gd<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Ho</td><td>1.1455</td><td>Ho<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>La</td><td>1.1728</td><td>La<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Lu</td><td>1.1371</td><td>Lu<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Nd</td><td>1.1664</td><td>Nd<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Pr</td><td>1.2082</td><td>Pr<sub>6</sub>O<sub>11</sub></td></tr> <tr><td>Sm</td><td>1.1596</td><td>Sm<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Tb</td><td>1.1762</td><td>Tb<sub>4</sub>O<sub>7</sub></td></tr> <tr><td>Tm</td><td>1.1421</td><td>Tm<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Y</td><td>1.2699</td><td>Y<sub>2</sub>O<sub>3</sub></td></tr> <tr><td>Yb</td><td>1.1387</td><td>Yb<sub>2</sub>O<sub>3</sub></td></tr> </tbody> </table>	Element	Conversion factor (oxide)	Equivalent oxide	Ce	1.2284	CeO <sub>2</sub>	Dy	1.1477	Dy <sub>2</sub> O <sub>3</sub>	Er	1.1435	Er <sub>2</sub> O <sub>3</sub>	Eu	1.1579	Eu <sub>2</sub> O <sub>3</sub>	Gd	1.1526	Gd <sub>2</sub> O <sub>3</sub>	Ho	1.1455	Ho <sub>2</sub> O <sub>3</sub>	La	1.1728	La <sub>2</sub> O <sub>3</sub>	Lu	1.1371	Lu <sub>2</sub> O <sub>3</sub>	Nd	1.1664	Nd <sub>2</sub> O <sub>3</sub>	Pr	1.2082	Pr <sub>6</sub> O <sub>11</sub>	Sm	1.1596	Sm <sub>2</sub> O <sub>3</sub>	Tb	1.1762	Tb <sub>4</sub> O <sub>7</sub>	Tm	1.1421	Tm <sub>2</sub> O <sub>3</sub>	Y	1.2699	Y <sub>2</sub> O <sub>3</sub>	Yb	1.1387	Yb <sub>2</sub> O <sub>3</sub>
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Criteria	Explanation	Comment
<b>Drilling techniques</b>	<i>Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i>	No drilling reported.
<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>	No information regarding sample recovery are available.
<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>	Historical costeans were logged by a geologist on site, and are recorded in tabular format.
<b>Sub-sampling techniques and sample preparation</b>	<p><i>If core, whether cut or sawn and whether quarter, half or all core 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><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>All re-sampling of archived historical costean samples was undertaken by two experienced Olympio geologists.</p> <p>Sub-Sampling techniques for costean rock-chip samples at source when originally collected are unknown.</p> <p>Historical, stored costean samples were typically rock, with fragments to 20cm. Rock fragments were chipped with hammer by Olympio staff, and representatively grab sampled. Samples were ~200-300g collected in a paper soil Geochem bag. Duplicate samples and standards were included in the lab submission.</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 including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></p> <p><i>Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.</i></p>	All assays were conducted by ALS in Perth. The assay method used is ME-MS81D, a specialty assay technique for REE and Trace Elements, Li-Borate fusion, acid dissolution and ICP-MS analysis. Duplicates and standards were used in the lab submission.
<b>Verification of sampling and assaying</b>	<p><i>The verification of significant intersections by independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p>	No verification details are available.

Criteria	Explanation	Comment
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	
	<i>Discuss any adjustment to assay data.</i>	
<b>Location of data points</b>	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i>	Location methods for samples were handheld GPS, see ENV9915. It All data is provided in GDA94 MGA54.
	<i>Specification of the grid system used.</i>	
	<i>Quality and adequacy of topographic control.</i>	
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	Not applicable
	<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>	
	<i>Whether sample compositing has been applied.</i>	
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	Not applicable
	<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>	
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	Samples are stored in a secure sample storage facility in Adelaide, managed by tenement holder Copper Claim Ltd.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	No information is available.

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i>	The exploration results reported pertain to EL 6374 and ELA 2022/00114 in South Australia. Tenement EL6374 (previously EL5373) is held by private company, Australian Diamond Mining Group Pty Ltd (ADMG). Another private company, Copper Claim, has held 100% of the non-diamond mineral rights on Tenement EL6374 by agreement with ADMG since December 2017.
	<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>	The current tenement, Eureka EL6374, expired on the 17/11/2022, and a renewal application was made by ADMG on 24/10/2022. Olympio's agreement with Copper Claim for EL6374 is for all mineral rights excluding copper and the already excluded diamond rights held by ADMG. The Wallaway application (EL Application 2022/00114) was made in November 2022 by Olympio Metals and covers 81km <sup>2</sup> . Olympio is unaware of any impediments for exploration on these licences.
<b>Exploration done by other parties</b>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	The Company has not undertaken any field exploration. All exploration results reported are from work by previous explorers or government agencies. Results reported have been based on historical data sourced from open file reports and open file digital data.

Criteria	JORC Code explanation	Commentary
		Previous explorers of the Eurelia region include DeBeers, Orogenic Exploration, Flinders Diamonds Limited (Flinders Mines Limited after 2008) and Copper Claim Pty Ltd.
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation.</i>	The Eurelia Project is located within the Adelaide Geosyncline in South Australia and comprises mostly folded Proterozoic sediments of the Adelaidean System typically associated with regional NE and NW trending faults and anticlinal fold structures. This structural pattern is associated with the Late Cambrian-Early Ordovician Delamerian Orogeny, which created complex folding and faulting associated with a dominant east-west oriented compression. Extensive areas of outcropping diapiric breccia correlated with the Willouran Callanna Beds (Curdimurka Group) occur in zones of structural weakness and as exposures in the crests of anticlinal fold structures.  The Walloway Carbonatite occurs within the project area. It is part of suite of small dykes and plugs of carbonate-rich and chemically evolved ultramafic lamprophyre of Jurassic age (~170 Ma), within a small contemporaneous diapiric zone (Walloway Diapir, ~10km long x 100-800m wide) in the Orroroo (Eurelia) region at the eastern margin of the Gawler Craton (Jaques, 2008, Nelson et. al. 1988).
<b>Drill hole information</b>	<i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: eastings and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole downhole length and intersection depth hole length.</i>	Summaries of significant previous drill intersection on the Project are provided in the report.  The Eurelia Project area has previously been explored for diamonds and copper with earlier explorers having little focus on the REE prospectivity. Few historical samples were analysed for REE or niobium.
	<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>	Drillhole information pertaining to diamond and copper prospectivity have been excluded (to some extent) on the justification that the company does not hold the rights to diamond mineralisation or copper mineralisation.
<b>Data aggregation methods</b>	<i>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.</i>	Not applicable
	<i>Where aggregate intersections 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>	Not applicable
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	Metal equivalent values have been reported as TREO (total rare earth oxides) which provides an arithmetic addition of the analytical results for each of the elements analysed. Each element is given an equal weighting. There are a total of 28 elements classified as rare earth oxides but not all were assayed. The analytical results for each individual element have also been reported for all 42 samples.
<b>Relationship between mineralisation widths and intersection lengths</b>	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	Not applicable
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	Not applicable, as the geometry of the mineralisation with respect to the drill angles has yet to be verified.
	<i>If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. "downhole length, true width not known").</i>	Not applicable
<b>Diagrams</b>	<i>Appropriate maps and sections (with scales) and tabulations of intersections should be included for any significant discovery being reported These should include, but not be limited to a plan view of</i>	Appropriate maps have been provided as colour figures in the announcement.



Criteria	JORC Code explanation	Commentary
	<i>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 available samples collected by the previous explorer were re-analysed by Olympio. Reporting is considered balanced, in context of the early stage of the project – where the tenements have recently been acquired by Olympio.
<b>Other substantive exploration data</b>	<i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	All material data encountered by Olympio to date has been reported, either in this announcement or Olympio’s announcement of 9 Dec 2022..
<b>Further work</b>	<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>	Olympio will undertake further validation and field confirmation of previous drill and sampling data at the various prospects. Once the previous data review is completed, it is planned that Olympio will undertake surface exploration programs and drilling programs to test high-priority targets.
	<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>	Olympio will conduct more detailed assessment of exploration potential which will be communicated in diagrams in future announcements.