ASX ANNOUNCEMENT
Heavy Rare Earths Limited (ASX: HRE)
1 March 2023

SUBSTANTIAL NEW BODY OF RARE EARTH MINERALISATION CONFIRMED AT COWALINYA

- **Assays received for additional 51 holes from HRE's rare earth exploration and resource expansion drilling program at Cowalinya**
- **Thickest mineralised intercept at Cowalinya to date – 42 metres @ 790 ppm TREO from 12 metres in hole AC226 – within a substantial new Western Zone of rare earth mineralisation**
- **Drill intersections from the Western Zone include:**
  - **AC225: 19 metres @ 3190 ppm TREO (32.5% magnet REOs) from 16 metres**
    - **including 8 metres @ 5382 ppm TREO from 24 metres**
  - **AC279: 10 metres @ 1580 ppm TREO (27.4% magnet REOs) from 29 metres**
    - **including 4 metres @ 2486 ppm TREO from 31 metres**
  - **AC275: 18 metres @ 1344 ppm TREO (22.2% magnet REOs) from 19 metres**
    - **including 2 metres @ 3492 ppm TREO from 19 metres**
    - **including 4 metres @ 1936 ppm TREO from 27 metres**
  - **AC302: 12 metres @ 1207 ppm TREO (23.8% magnet REOs) from 18 metres**
    - **including 2 metres @ 3455 ppm TREO from 26 metres**
  - **AC274: 26 metres @ 1133 ppm TREO (25.7% magnet REOs) from 14 metres**
    - **including 10 metres @ 1559 ppm TREO from 16 metres**
  - **AC226: 42 metres @ 790 ppm TREO (25.4% magnet REOs) from 12 metres**
    - **including 6 metres @ 1795 ppm TREO from 26 metres**

Heavy Rare Earths Limited (**"HRE"** or **"the Company"**) is pleased to report assays from another 51 air core holes from its recently completed 438-hole rare earth exploration and resource expansion drilling program at its 100 per cent-owned Cowalinya project on E63/1972 in the Norseman-Esperance region of Western Australia.

On reviewing the results, HRE Executive Director Richard Brescianini commented, "The assays being reported today are the most significant of the program to date. We are now seeing solid evidence of a new and substantial body of rare earth mineralisation in saprolite to the west of our Cowalinya South resource. This Western Zone is consistently thicker and appears to have better grade characteristics than Cowalinya South. It is unconstrained in its lateral extent.

"In the coming weeks, we will report assays from another 107 holes to the west and south-west of Cowalinya South which have the potential to expand this exciting new discovery. I am confident this will be the foundation of an updated resource for the project which I anticipate will be estimated by mid-year."

Assays of saprolite in the 9 km^2 area immediately west of the Cowalinya South resource[1] continue to return thick developments of rare earth mineralisation featuring a higher average grade (784 ppm TREO) and width (11.9 metres) compared with the existing resource, including consistently enhanced concentrations of the important magnet rare earths. Within this zone are numerous shallow high-grade intervals that are summarised in Table 1, including:

8 metres @ 5382 ppm TREO from 24 metres depth in hole AC225 (within 19 metres @ 3190 ppm TREO from 16 metres)

4 metres @ 4266 ppm TREO from 17 metres in hole AC221 (within 10 metres @ 2087 ppm TREO from 17 metres).

This large new Western Zone of rare earths is now apparent in a systematic drill pattern up to 4.3 kilometres west of the existing resource along five adjacent 400-metre-spaced drill lines between 6358200N and 6359800N (Figure 1). Subject to confirmatory assays from a number of holes west of AC233, AC289, AC218 and AC201, this zone could also extend westwards into HRE's recently acquired E63/2144 tenement.

Cross sections along two of these five drill lines are shown in Figures 2 and 3. Section A-B along 6359400N now contains complete assays for holes AC225 and AC226 in which mineralisation previously remained open at depth *(refer to ASX announcement 31 January 2023)*. Rare earth mineralisation has now been shown to continue uninterrupted to bedrock in both holes, with AC226 assaying **42 metres @ 790 ppm TREO from 12 metres depth, the thickest mineralised intercept drilled at Cowalinya to date.**

Assays for the program's remaining 246 holes, including from the central and northern parts of the tenement for which none have been received, will be reported by the Company in the period ahead.

Table 1: Mineralised saprolite intervals from all 2022 drilling that exceed the average grade-thickness of the mineralised horizon in the Cowalinya deposit.
Newly reported holes are highlighted at the top.

HOLE NO.	FROM (m)	TO (m)	INTERVAL (m)	TREO (ppm)	Magnet REOs/TREO
AC225	16	35	19	3190	32.5%
AC226	12	54	42	790	25.4%
AC232	18	25	7	1047	33.8%
AC263	18	28	10	1026	28.0%
AC265	26	40	14	796	20.1%
AC268	24	34	10	888	25.5%
AC274	14	40	26	1133	25.7%
AC275	19	37	18	1344	22.2%
AC278	24	49	25	449	23.6%

[1] Table 5.1 of Appendix 7 (Cowalinya Resource Report) of the Independent Geologist's Report contained in HRE's IPO Prospectus.

AC279	**29**	**39**	**10**	**1580**	**27.4%**
AC281	**20**	**33**	**13**	**740**	**26.9%**
AC283	**19**	**31**	**12**	**531**	**25.0%**
AC285	**21**	**37**	**16**	**489**	**26.9%**
AC286	**9**	**21**	**12**	**718**	**24.3%**
AC287	**14**	**43**	**29**	**701**	**25.3%**
AC288	**20**	**32**	**12**	**816**	**27.2%**
AC289	**11**	**35**	**24**	**747**	**28.0%**
AC297	**17**	**31**	**14**	**464**	**22.2%**
AC301	**18**	**32**	**14**	**689**	**26.2%**
AC302	**18**	**30**	**12**	**1207**	**23.8%**
AC339	**28**	**44**	**16**	**688**	**23.9%**
AC110	18	29	11	826	26.2%
AC111	16	30	14	712	27.9%
AC112	19	29	10	663	29.2%
AC115	22	29	7	1042	27.1%
AC118	19	35	16	396	22.0%
AC119	16	25	9	673	22.9%
AC122	16	21	5	1258	27.6%
AC124	14	30	16	539	22.5%
AC129	15	25	10	740	22.5%
AC130	18	38	20	726	22.4%
AC134	6	18	12	632	19.4%
AC137	15	29	14	758	26.3%
AC142	14	25	11	768	25.9%
AC165	23	35	12	500	23.5%
AC175	22	44	22	576	21.8%
AC178	28	40	12	563	26.0%
AC179	14	36	22	665	24.8%
AC181	15	26	11	745	27.3%
AC193	20	40	20	448	24.3%
AC194	20	28	8	727	24.1%
AC195	15	30	15	541	21.3%
AC196	19	37	18	631	23.2%
AC198	35	45	10	640	19.8%
AC199	21	35	14	412	25.4%
AC200	20	26	6	1862	25.8%
AC201	22	40	18	710	22.2%
AC204	15	33	18	473	25.7%
AC206	22	34	12	568	23.6%
AC211	20	37	17	402	26.5%
AC212	22	36	14	1033	29.0%

AC213	17	29	12	748	27.4%
AC221	17	27	10	2087	25.1%
AC222	15	35	20	407	22.0%
AC223	11	28	17	1069	26.3%
AC224	9	21	12	509	22.1%
AC244	20	27	7	895	30.9%
AC245	14	27	13	500	22.1%
AC246	18	25	7	824	23.7%

TREO = La_2O_3+CeO_2+Pr_6O_{11}+Nd_2O_3+Sm_2O_3+Eu_2O_3+Gd_2O_3+Tb_4O_7+Dy_2O_3+Ho_2O_3+Er_2O_3+Tm_2O_3+Yb_2O_3+Lu_2O_3+Y_2O_3
Magnet REOs = Pr_6O_{11}+Nd_2O_3+Tb_4O_7+Dy_2O_3

-- Ends --

This announcement has been approved by the Board of HRE.

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About Heavy Rare Earths Limited
Heavy Rare Earths Limited (ASX:HRE) is an Australian rare earth exploration and development company. HRE's key exploration project is Cowalinya, near Norseman in Western Australia. This is a clay-hosted rare earth project with a JORC Inferred Resource of 28 Mt @ 625 ppm TREO and a desirable rare earth composition where 25% are the valuable magnet rare earths and 23% the strategic heavy rare earths.

Competent Persons Statement
The Exploration Results contained in this announcement were compiled by Mr. Richard Brescianini. Mr. Brescianini is a member of the Australian Institute of Geoscientists (AIG). He is a director and full-time employee of Heavy Rare Earths Limited. Mr. Brescianini has more than 35 years' experience in mineral exploration 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 JORC Code.

The Mineral Resources contained in this announcement have been extracted from the Independent Geologist's Report included in the Company's Initial Public Offering (IPO) Prospectus, a copy of which was lodged with the Australian Securities and Investments Commission (ASIC) on 5 July 2022. The Company confirms that it is not aware of any new information or data that materially affects the Mineral Resources as contained in the Company's IPO Prospectus. All material assumptions and technical parameters underpinning the Mineral Resources in the Company's IPO Prospectus continue to apply and have not materially changed.

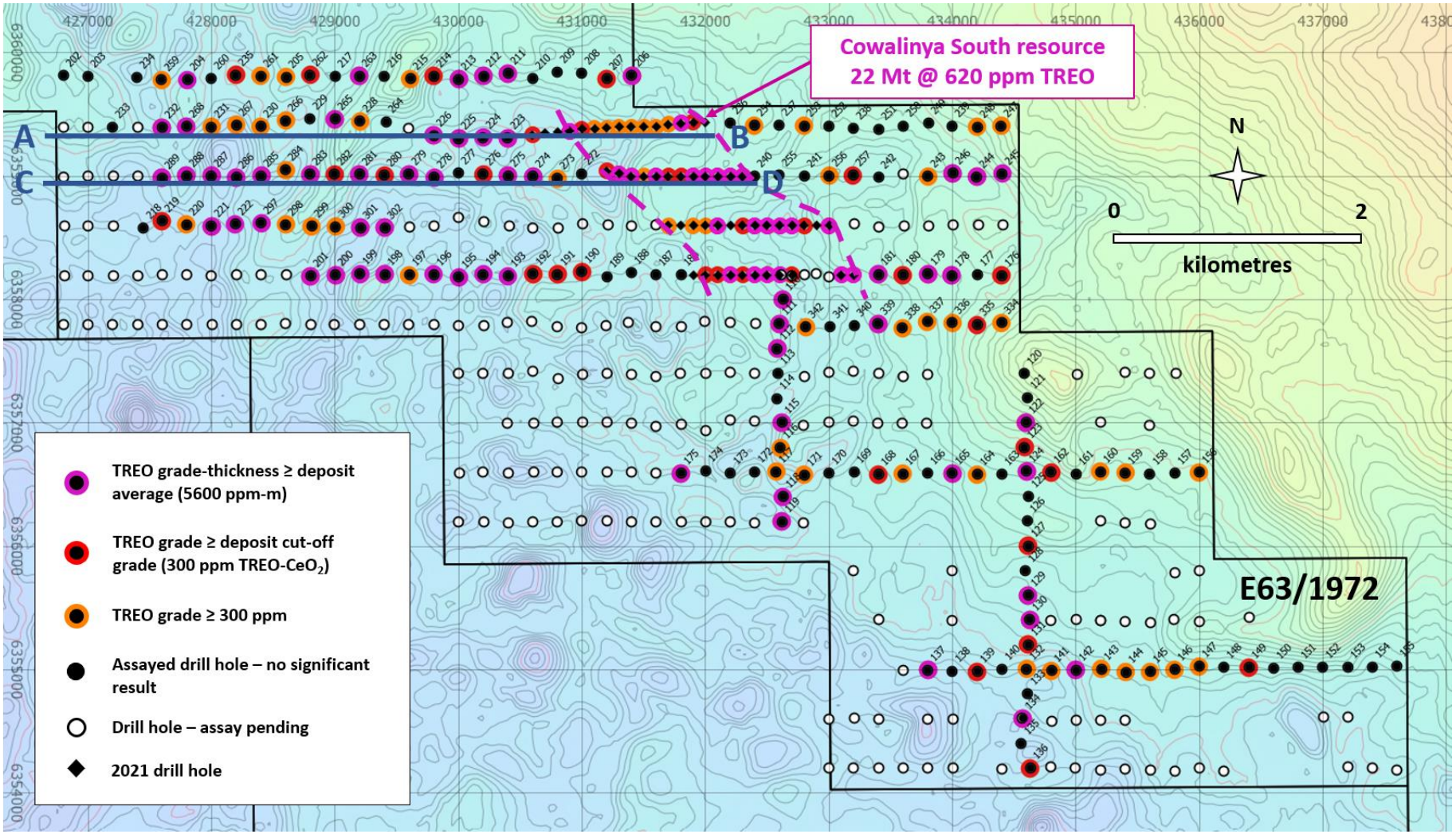

Figure 1: Plan view of Cowalinya air core drilling on E63/1972 showing holes with significant intervals of REE mineralisation.
Background image: Landgate digital elevation model.

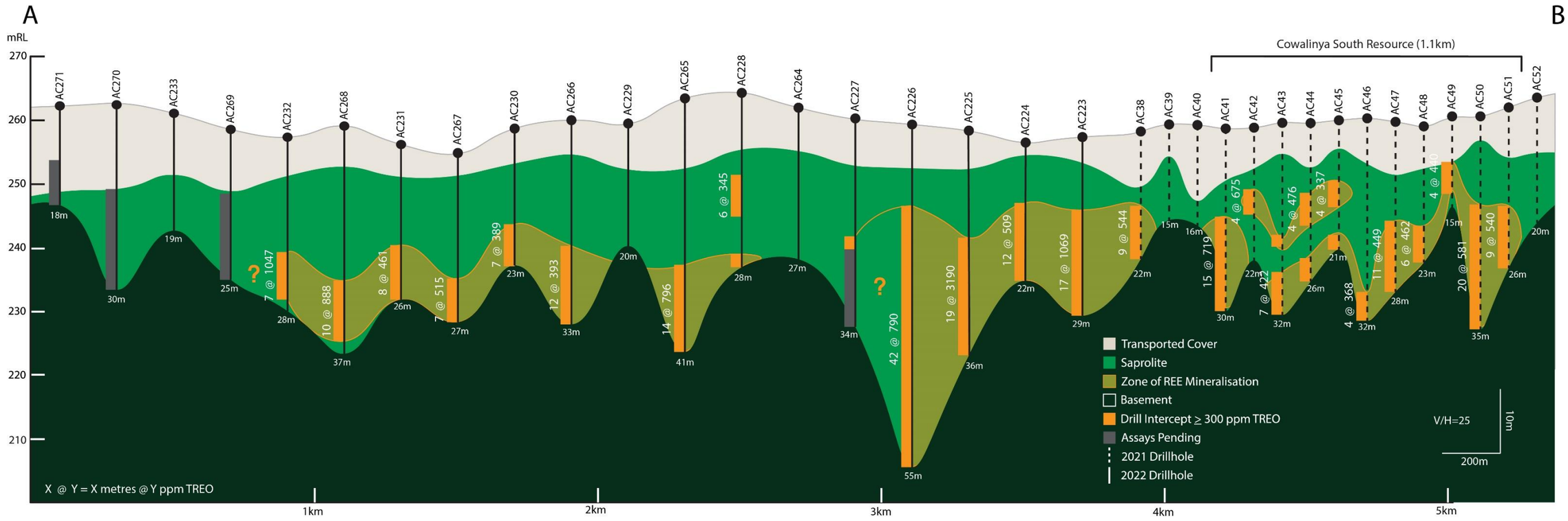

Figure 2: Cross section along drill line A-B (6359400N).
Location of A-B shown on Figure 1.

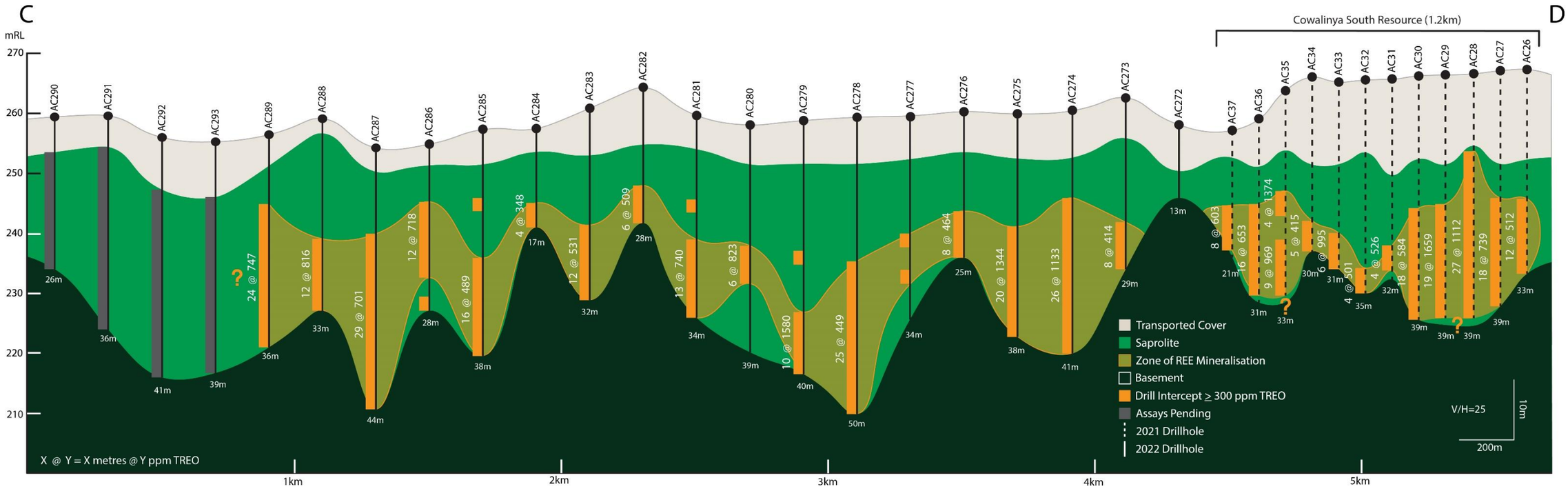

Figure 3: Cross section along drill line C-D (6359000N).
Location of C-D shown on Figure 1.

Table 2: Mineralised saprolite intervals that assay ≥300 ppm TREO.

HOLE NO.	FROM (m)	TO (m)	INTERVAL (m)	TREO (ppm)	TREO-CeO_2 (ppm)	Magnet REOs/TREO
AC222	15	17	2	360	157	14.6%
AC222	17	19	2	572	398	25.1%
AC222	19	21	2	518	357	22.3%
AC222	21	23	2	565	407	24.9%
AC222	23	25	2	343	250	23.0%
AC222	25	27	2	263	165	22.8%
AC222	27	29	2	429	247	21.5%
AC222	29	31	2	253	158	21.9%
AC222	31	33	2	405	230	21.3%
AC222	33	35	2	222	149	21.3%
AC222	35	37	2	366	216	21.6%
AC222	43	45	2	347	209	21.7%
AC225	16	18	2	1238	894	34.9%
AC225	18	20	2	1449	972	27.6%
AC225	20	22	2	1273	765	22.8%
AC225	22	24	2	1017	474	18.8%
AC225	24	26	2	6211	5461	41.3%
AC225	26	28	2	7222	6682	44.5%
AC225	28	30	2	4110	3826	38.0%
AC225	30	32	2	3983	3682	34.4%
AC225	32	34	2	2415	2098	33.3%
AC225	34	35	1	2782	2248	27.3%
AC226	12	14	2	363	284	27.1%
AC226	14	16	2	197	123	18.4%
AC226	16	18	2	703	261	13.9%

AC226	18	20	2	369	261	25.8%
AC226	20	22	2	400	296	26.9%
AC226	22	24	2	645	478	27.5%
AC226	24	26	2	637	435	25.1%
AC226	26	28	2	1583	1308	29.4%
AC226	28	30	2	2793	2475	33.1%
AC226	30	32	2	1009	772	27.8%
AC226	32	34	2	552	368	24.6%
AC226	34	36	2	640	412	27.0%
AC226	36	38	2	797	555	28.4%
AC226	38	40	2	573	408	28.3%
AC226	40	42	2	537	402	26.9%
AC226	42	44	2	759	467	24.9%
AC226	44	46	2	495	377	27.0%
AC226	46	48	2	1292	1112	24.2%
AC226	48	50	2	947	791	23.5%
AC226	50	52	2	855	752	21.4%
AC226	52	54	2	444	369	21.9%
AC232	18	20	2	1086	692	31.5%
AC232	20	21	1	1191	795	31.6%
AC232	21	23	2	1376	1098	35.7%
AC232	23	25	2	605	492	35.3%
AC256	16	18	2	370	211	21.9%
AC256	18	20	2	200	118	21.7%
AC256	20	22	2	838	574	31.0%
AC256	22	24	2	304	210	29.1%
AC256	24	25	1	589	456	28.4%
AC257	21	23	2	473	304	23.1%

AC257	23	25	2	614	454	22.4%
AC257	25	27	2	501	372	18.4%
AC257	27	28	1	707	501	25.3%
AC259	21	23	2	389	209	19.0%
AC259	23	24	1	505	267	22.8%
AC260	24	26	2	652	348	26.3%
AC261	12	14	2	506	259	13.0%
AC261	14	16	2	391	191	17.4%
AC261	16	18	2	688	326	18.9%
AC261	18	20	2	509	256	17.8%
AC262	14	16	2	823	766	36.6%
AC262	20	22	2	990	877	35.4%
AC262	22	23	1	661	457	25.3%
AC263	18	20	2	405	333	28.7%
AC263	20	22	2	2631	2445	38.8%
AC263	22	24	2	1027	846	28.3%
AC263	24	26	2	746	543	22.2%
AC263	26	28	2	321	204	22.3%
AC265	26	28	2	407	157	14.1%
AC265	28	30	2	330	154	17.2%
AC265	30	32	2	785	551	25.6%
AC265	32	34	2	1256	984	23.9%
AC265	34	36	2	865	709	19.7%
AC265	36	38	2	694	492	21.0%
AC265	38	40	2	1234	574	19.3%
AC266	14	16	2	368	177	17.7%
AC266	20	22	2	371	201	21.3%
AC266	22	24	2	325	177	21.1%

AC266	24	26	2	260	154	22.1%
AC266	26	28	2	533	290	22.5%
AC266	28	30	2	492	280	25.3%
AC266	30	32	2	377	222	26.0%
AC267	19	21	2	593	355	18.8%
AC267	21	23	2	755	381	20.4%
AC267	23	25	2	272	150	24.3%
AC267	25	26	1	368	217	24.7%
AC268	24	26	2	629	359	24.1%
AC268	26	28	2	2513	2012	31.0%
AC268	28	30	2	493	267	23.2%
AC268	30	32	2	430	265	24.4%
AC268	32	34	2	376	234	24.6%
AC273	20	22	2	381	246	24.4%
AC273	22	24	2	503	304	21.0%
AC273	24	26	2	364	190	19.0%
AC273	26	28	2	408	234	20.2%
AC274	14	16	2	632	266	12.3%
AC274	16	18	2	1506	846	22.0%
AC274	18	20	2	1156	918	30.2%
AC274	20	22	2	2117	1964	37.7%
AC274	22	24	2	1798	1438	30.1%
AC274	24	26	2	1216	1015	29.8%
AC274	26	28	2	1076	856	30.0%
AC274	28	30	2	962	689	25.7%
AC274	30	32	2	726	506	24.7%
AC274	32	34	2	1437	955	23.9%
AC274	34	36	2	756	503	22.3%

AC274	36	38	2	668	454	22.5%
AC274	38	40	2	680	461	22.8%
AC275	19	21	2	3492	2140	26.9%
AC275	21	23	2	392	144	11.5%
AC275	23	25	2	1035	625	18.6%
AC275	25	27	2	1325	755	19.3%
AC275	27	29	2	1932	1825	25.1%
AC275	29	31	2	1940	1750	27.0%
AC275	31	33	2	1005	940	23.7%
AC275	33	35	2	135	117	23.7%
AC275	35	37	2	839	746	24.2%
AC276	16	18	2	372	244	21.7%
AC276	18	20	2	198	141	22.3%
AC276	20	22	2	348	237	23.5%
AC276	22	24	2	938	626	25.4%
AC277	19	21	2	638	429	26.0%
AC277	25	27	2	415	302	23.5%
AC278	24	26	2	445	272	22.8%
AC278	26	28	2	680	366	21.7%
AC278	28	30	2	362	207	20.8%
AC278	30	32	2	398	232	23.2%
AC278	32	34	2	458	257	21.6%
AC278	34	36	2	528	315	23.9%
AC278	36	38	2	355	250	25.3%
AC278	38	40	2	350	266	24.3%
AC278	40	42	2	432	316	24.6%
AC278	42	44	2	519	333	24.3%
AC278	44	46	2	515	334	24.6%

AC278	46	48	2	419	279	26.1%
AC278	48	49	1	315	200	23.8%
AC279	21	23	2	505	341	23.7%
AC279	29	31	2	926	456	18.5%
AC279	31	33	2	2421	2212	35.9%
AC279	33	35	2	2552	2341	29.9%
AC279	35	37	2	1250	1027	29.7%
AC279	37	39	2	752	478	23.0%
AC280	20	22	2	1788	1422	29.5%
AC280	22	24	2	272	192	22.9%
AC280	24	26	2	408	255	21.6%
AC281	14	16	2	835	805	40.5%
AC281	20	22	2	308	232	22.8%
AC281	22	24	2	1412	962	27.7%
AC281	24	26	2	366	276	27.7%
AC281	26	28	2	1058	615	27.5%
AC281	28	30	2	640	417	27.5%
AC281	30	32	2	552	377	27.8%
AC281	32	33	1	944	808	27.7%
AC282	21	23	2	1087	788	35.4%
AC282	23	25	2	113	64	23.6%
AC282	25	27	2	327	166	22.7%
AC283	19	21	2	415	239	24.3%
AC283	21	23	2	446	236	23.9%
AC283	23	25	2	582	376	26.5%
AC283	25	27	2	730	392	25.2%
AC283	27	29	2	638	379	24.7%
AC283	29	31	2	373	237	25.3%

AC284	12	14	2	328	155	21.1%
AC284	14	16	2	368	184	23.8%
AC285	11	13	2	305	231	28.8%
AC285	21	23	2	389	246	28.9%
AC285	23	25	2	405	250	27.0%
AC285	25	27	2	900	683	33.3%
AC285	27	29	2	671	406	27.8%
AC285	29	31	2	470	285	26.8%
AC285	31	33	2	359	213	24.6%
AC285	33	35	2	401	221	23.2%
AC285	35	37	2	321	183	23.2%
AC286	3	5	2	338	275	32.1%
AC286	9	11	2	914	645	36.3%
AC286	11	13	2	322	231	31.1%
AC286	13	15	2	1256	421	14.0%
AC286	15	17	2	746	312	17.7%
AC286	17	19	2	532	322	24.0%
AC286	19	21	2	538	299	22.3%
AC286	25	27	2	756	423	24.5%
AC287	0	2	2	322	217	26.6%
AC287	14	16	2	377	203	23.9%
AC287	16	18	2	622	354	26.2%
AC287	18	20	2	375	209	25.6%
AC287	20	22	2	1300	686	21.3%
AC287	22	24	2	782	427	24.2%
AC287	24	26	2	1621	1105	30.4%
AC287	26	28	2	634	378	26.2%
AC287	28	30	2	426	270	26.9%

AC287	30	32	2	426	237	25.1%
AC287	32	34	2	480	287	26.0%
AC287	34	36	2	523	296	23.1%
AC287	36	38	2	878	506	22.9%
AC287	38	40	2	739	467	26.2%
AC287	40	42	2	711	459	25.9%
AC287	42	43	1	546	344	25.8%
AC288	20	22	2	937	514	24.0%
AC288	22	24	2	894	597	25.6%
AC288	24	26	2	973	636	28.3%
AC288	26	28	2	819	652	28.1%
AC288	28	30	2	670	498	31.5%
AC288	30	32	2	605	458	26.1%
AC289	11	13	2	559	499	33.2%
AC289	13	15	2	491	346	22.1%
AC289	15	17	2	962	735	32.4%
AC289	17	19	2	1084	798	31.1%
AC289	19	21	2	679	518	31.8%
AC289	21	23	2	573	440	21.8%
AC289	23	25	2	888	630	23.1%
AC289	25	27	2	1254	780	26.4%
AC289	27	29	2	809	462	27.9%
AC289	29	31	2	516	309	30.0%
AC289	31	33	2	511	355	27.6%
AC289	33	35	2	639	474	28.5%
AC297	7	9	2	377	212	27.2%
AC297	17	19	2	683	280	15.6%
AC297	19	21	2	272	191	25.1%

AC297	21	23	2	668	516	22.3%
AC297	23	25	2	376	247	23.4%
AC297	25	27	2	345	241	23.9%
AC297	27	29	2	462	300	22.9%
AC297	29	31	2	442	280	22.3%
AC298	23	25	2	324	205	14.2%
AC298	25	27	2	269	169	23.8%
AC298	27	29	2	323	204	26.0%
AC299	26	28	2	367	236	26.8%
AC299	28	30	2	187	124	26.0%
AC299	30	32	2	350	254	29.8%
AC300	11	13	2	355	166	11.3%
AC300	21	23	2	363	198	26.7%
AC300	23	25	2	392	229	30.8%
AC300	25	27	2	441	273	25.8%
AC301	6	8	2	377	323	43.8%
AC301	8	10	2	183	158	38.1%
AC301	10	12	2	680	606	43.1%
AC301	18	20	2	386	294	31.2%
AC301	20	22	2	277	124	19.8%
AC301	22	24	2	1156	664	27.1%
AC301	24	26	2	742	273	18.5%
AC301	26	28	2	1001	614	30.9%
AC301	28	30	2	543	385	32.9%
AC301	30	32	2	717	435	22.9%
AC302	18	20	2	438	178	16.4%
AC302	20	22	2	323	101	12.2%
AC302	22	24	2	921	472	15.3%

AC302	24	26	2	897	584	24.3%
AC302	26	28	2	3455	2708	39.3%
AC302	28	30	2	1207	925	35.1%
AC334	11	13	2	305	165	19.5%
AC334	13	15	2	382	209	22.7%
AC334	15	17	2	431	247	24.3%
AC334	17	19	2	350	185	21.2%
AC335	13	15	2	722	370	20.6%
AC335	15	17	2	458	261	23.1%
AC336	14	16	2	314	190	21.1%
AC336	16	18	2	365	225	21.3%
AC336	18	20	2	408	251	23.0%
AC336	24	26	2	423	238	21.2%
AC337	13	15	2	592	354	28.1%
AC337	15	17	2	298	154	24.0%
AC337	17	19	2	537	373	28.3%
AC337	19	21	2	366	162	19.4%
AC337	21	23	2	495	268	26.6%
AC338	24	26	2	343	223	26.4%
AC338	26	28	2	361	231	25.2%
AC338	28	30	2	444	259	23.4%
AC338	30	31	1	383	228	26.5%
AC339	20	22	2	391	107	9.5%
AC339	22	24	2	323	101	11.5%
AC339	28	30	2	591	338	21.1%
AC339	30	32	2	705	468	27.4%
AC339	32	34	2	879	635	31.1%
AC339	34	36	2	867	651	28.0%

AC339	36	38	2	777	578	19.5%
AC339	38	40	2	720	511	22.6%
AC339	40	42	2	480	338	21.7%
AC339	42	44	2	487	347	19.7%
AC342	21	23	2	502	258	24.7%
AC342	23	25	2	328	194	27.1%

TREO = La_2O_3+CeO_2+Pr_6O_{11}+Nd_2O_3+Sm_2O_3+Eu_2O_3+Gd_2O_3+Tb_4O_7+Dy_2O_3+Ho_2O_3+Er_2O_3+Tm_2O_3+Yb_2O_3+Lu_2O_3+Y_2O_3.
Magnet REOs = Pr_6O_{11}+Nd_2O_3+Tb_4O_7+Dy_2O_3.

Table 3: Cowalinya air core holes for which rare earth assays are reported in Table 2.

HOLE NO.	NORTHING (m)	EASTING (m)	RL (m)	DIP (°)	TOTAL DEPTH (m)
AC222	6358611	428191	256.2	-90	46
AC225	6359305	430000	259.4	-90	36
AC226	6359329	429799	260.1	-90	55
AC232	6359395	427600	258.0	-90	28
AC241	6358999	432801	265.1	-90	27
AC255	6359007	432598	265.4	-90	30
AC256	6359005	433003	264.8	-90	26
AC257	6359008	433195	264.8	-90	29
AC259	6359779	427596	259.1	-90	25
AC260	6359793	427999	259.4	-90	27
AC261	6359810	428398	260.0	-90	22
AC262	6359818	428796	262.7	-90	24
AC263	6359812	429196	263.1	-90	28
AC264	6359441	429410	262.6	-90	27
AC265	6359463	429000	264.2	-90	41
AC266	6359452	428598	260.8	-90	33
AC267	6359414	428200	255.0	-90	27
AC268	6359402	427798	259.9	-90	37
AC272	6359019	430998	257.8	-90	13
AC273	6358983	430799	262.0	-90	29
AC274	6358997	430601	260.1	-90	41
AC275	6359002	430399	259.7	-90	38
AC276	6359015	430199	260.1	-90	25
AC277	6359023	430000	259.1	-90	34
AC278	6358992	429804	258.8	-90	50
AC279	6359017	429598	258.6	-90	40
AC280	6359006	429399	257.9	-90	39
AC281	6359014	429198	259.5	-90	34
AC282	6359018	428996	263.6	-90	28
AC283	6359016	428796	260.5	-90	32
AC284	6359052	428599	257.2	-90	17
AC285	6359002	428400	257.5	-90	38

AC286	6358990	428198	254.7	-90	28
AC287	6359001	427997	254.1	-90	44
AC288	6359002	427798	258.8	-90	33
AC289	6358985	427599	256.3	-90	36
AC297	6358620	428400	259.4	-90	46
AC298	6358606	428598	261.5	-90	31
AC299	6358593	428809	260.9	-90	33
AC300	6358591	429005	257.3	-90	28
AC301	6358580	429204	255.5	-90	33
AC302	6358580	429402	255.7	-90	33
AC334	6357811	434397	272.8	-90	20
AC335	6357797	434199	270.8	-90	20
AC336	6357811	433998	268.5	-90	27
AC337	6357821	433795	266.7	-90	24
AC338	6357771	433595	266.1	-90	32
AC339	6357804	433396	263.8	-90	45
AC340	6357790	433203	262.9	-90	44
AC341	6357776	433011	261.3	-90	31
AC342	6357777	432812	261.0	-90	26

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Section 1: Sampling Techniques and Data

Sampling techniques	Nature and quality of sampling (e.g., cut channels, random chips, or specific specialized 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.	At the end of the current program, a total of 547 vertical aircore holes have been drilled by HRE on the Cowalinya project, 109 holes in 2021 and 438 holes in 2022. Maximum hole depth is 59 metres. All holes have been tested for supergene rare earth element (REE) mineralisation hosted by saprolitic clays. Drilling in 2021 overlapped extensively with areas previously aircore drilled by two companies exploring for gold (AngloGold Ashanti Ltd and Great Southern Gold Pty Ltd). One-metre samples are collected from a cyclone into plastic bags. All holes drilled in 2022 have been 2 metre composite sampled with 1 metre samples at end of hole. Overlying transported sediments are not routinely sampled as they do not contain anomalous amounts of REEs.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	For aircore drilling, regular air and manual cleaning of cyclone is being undertaken. Certified standards and duplicate samples are submitted with drill samples.
	Aspects of the determination of mineralisation that are Material to the Public Report.	Aircore drilling is used to obtain 1m samples which are collected in plastic bags. Samples ranging from 1m to 2m composites are taken for analysis. Sample size is 2-3 kilograms in weight. At LabWest Minerals Analysis (LabWest) in Perth, Western Australia, samples are dried, crushed, split and pulverized with a 0.1-gram sub-sample set aside for assay.
Drilling techniques	Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	The drill type is aircore, a form of reverse circulation (RC) drilling using slim rods and a 3.5-inch blade bit. The samples recovered are typically rock chips and powder, similar to RC drilling.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Aircore recovery is visually assessed by comparing drill chip volumes in sample bags for individual metres. Estimates of sample recovery are recorded on drill logs. Routine checks for correct sample depths are undertaken. Aircore sample recoveries are visually checked for recovery, moisture and contamination and are considered to be acceptable within industry standards. The cyclone is routinely cleaned ensuring no material build up.

	Measures taken to maximize sample recovery and ensure representative nature of the samples.	Due to the generally good drilling conditions through dry saprolite the site geologist believes the samples are reasonably representative. Poor sample recovery is regularly recorded in the first couple of metres of a hole and often when hard bedrock is intersected – usually less than a full metre is recovered. Wet samples with moderate recoveries are encountered most often in the transported sand/silcrete layer lying immediately above saprolite.
	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.	No sample bias has been identified to date. Future studies will be undertaken.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Chip/clay samples are geologically logged in enough detail to discern lithological units. Logging is appropriate for this style of drilling and current stage of the project.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging is qualitative in nature.
	The total length and percentage of the relevant intersections logged.	All aircore holes are completely geologically logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Not applicable.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	One-metre samples are collected from a cyclone into plastic bags. Two-metre composites and single metre samples are collected by spearing each plastic bag with a scoop down the side of the bag and dragging it back up the side of the bag so as not to lose any sample – this achieves a representative sample from top to bottom through the entire bag. The vast majority of samples are dry sampled.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sampling technique is appropriate for the sample types and stage of the project.
	Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples.	QAQC procedures involve the use of certified standards every 20th sample.
	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.	A field duplicate is taken every 20th sample.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample size of 2-3 kilograms is considered appropriate to the grain size and style of mineralisation being investigated.

Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Analyses are done at LabWest using their AF-02S technique: lithium meta/tetraborate fusion with ICP-MS/OES finish. This technique is considered to be a 'total' digest. A suite of 15 REEs – lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), samarium (Sm), europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb), lutetium (Lu), and yttrium (Y) – plus scandium (Sc), thorium (Th) and uranium (U), and oxides of aluminium (Al), calcium (Ca), iron (Fe), magnesium (Mg) and phosphorus (P), are measured.
	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.	Not applicable.
	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.	OREAS standards and/or blanks are inserted every 20th sample. Field duplicates are taken every 20th sample. LabWest uses OREAS standards, blanks and sample repeats. Acceptable levels of accuracy have been achieved.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections have yet to be verified by an independent geological consultant. They have been verified by alternative company geological personnel.
	The use of twinned holes.	Two holes have been twinned at Cowalinya: AC4 and AC222.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All data have been entered into Excel spreadsheets.
	Discuss any adjustment to assay data.	No data has been adjusted.
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Hole collars are surveyed using a hand-held Garmin Etrex 22x GPS with ±3 metre accuracy. Northings, eastings and elevations are recorded using the hand-held GPS.
	Specification of the grid system used.	GDA94 z51.

	Quality and adequacy of topographic control.	The Cowalinya project is located in relatively flat terrain. Topographic control is provided by Landgate's Digital Elevation Model over the region which has an expected horizontal accuracy of 10 metres and vertical accuracy of 2 metres (both 95% confidence interval).
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Generally 400 metres x 200 metres.
	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.	Data spacing is considered sufficient for this style of mineralisation to establish Inferred Mineral Resources. The mineralisation occurs as extensive, generally flat lying supergene blankets hosted in saprolitic clays.
	Whether sample compositing has been applied.	All holes have been assayed by 2 metre composite samples, compiled from 1 metre drilled samples. Additionally, a 1 metre end-of-hole sample is submitted for a 63 multi-element assay. A total of 759 samples (including standards, blanks and field duplicates) have been submitted for assay.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Sampling is likely to be unbiased as vertical holes are intersecting flat lying mineralisation.
	If the relationship between the drilling orientation and the orientation of key mineralized structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	It is unlikely to be biased.
Sample security	The measures taken to ensure sample security.	Experienced field assistants have undertaken the sampling and delivery of samples to the freight company in Esperance, which provides a direct delivery service to LabWest in Perth.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have been commissioned to date.

Section 2: Reporting of Exploration Results

Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	Exploration licence E63/1972 is located 55 kilometres east-north-east of Salmon Gums in Western Australia. It consists of 80 graticular blocks comprising an area of 224 km^2. It is situated on unallocated crown land. The registered holder of the tenement is Heavy Rare Earths Limited (HRE). Full native title rights have been granted over the tenement and surrounding lands to the Ngadju people, with whom cultural heritage surveys are undertaken in advance of substantial disturbance exploration works.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The tenement is in good standing. There are no impediments to operating on the tenement other than requirements of the DMIRS and the Heritage Protection Agreement, all of which are industry standard.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	AngloGold Ashanti and Great Southern Gold previously worked in the area of E63/1972 exploring for gold mineralisation. Surface geochemical sampling and aircore drilling was undertaken by both companies but no significant gold mineralisation was discovered. Both companies assayed bottom of hole samples for a suite of multi-elements including REEs. Anomalous bedrock REE values were recorded in numerous holes from their drilling. Great Southern Gold also assayed for La and Ce for the entire length of a number of holes. AngloGold Ashanti flew an airborne magnetic/radiometric survey to assist with mapping of buried bedrock lithologies. Buxton Resources and Toro Energy also previously worked in the area of E63/1972 exploring for gold and nickel mineralisation, and uranium mineralisation, respectively. Both companies flew time-domain electromagnetic surveys to aid in their exploration targeting. No significant mineralisation was discovered.
Geology	Deposit type, geological setting and style of mineralisation.	The deposit type being investigated is low grade saprolite clay-hosted supergene rare earth mineralisation. This style of supergene rare earth mineralisation is developed over bedrock granitic rock types (granites and granitic gneisses) which contain anomalous levels of REEs. Although low grade, low mining and processing costs can make this type of deposit profitable to exploit.

Drillhole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes: - easting and northing of the drillhole collar - elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar - dip and azimuth of the hole - down hole length and interception depth - hole length.	All relevant data for the drilling is shown in Table 3.
Data aggregation methods	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.	All REE assay results have been converted to oxide (REO) values using the following industry standard element-to-stoichiometric oxide conversion factors: La_2O_3 = La x 1.1728 CeO_2 = Ce x 1.2284 Pr_6O_{11} = Pr x 1.2082 Nd_2O_3 = Nd x 1.1664 Sm_2O_3 = Sm x 1.1596 Eu_2O_3 = Eu x 1.1579 Gd_2O_3 = Gd x 1.1526 Tb_4O_7 = Tb x 1.1762 Dy_2O_3 = Dy x 1.1477 Ho_2O_3 = Ho x 1.1455 Er_2O_3 = Er x 1.1435 Tm_2O_3 = Tm x 1.1421 Yb_2O_3 = Yb x 1.1387 Lu_2O_3 = Lu x 1.1371 Y_2O_3 = Y x 1.2699. These oxide values are summed to produce a TREO grade for each assay sample. Minimum grade cut-off used is 300 ppm TREO. Maximum internal dilution is 2 metres @ <300 ppm TREO. No high cut-off has been applied. Length weighted averages have been applied to intersections.

	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.	Intervals reporting >1000 ppm TREO are reported separately.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used.
Relationship between mineralisation widths and intercept lengths	If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').	To date the targeted mineralisation appears to occur in flat lying sheets and drill holes have all been drilled at 90° vertically. The down hole length of intercept is effectively a true thickness of mineralisation.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.	Refer to Figure 1 for plan view of the Cowalinya drillhole collar locations. Refer to Figures 2 and 3 for drillhole sections 6359400N (A-B) and 6359000N (C-D) respectively.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Summary assays for all mineralised intervals ≥300 ppm TREO are presented in Table 2.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Particle size analysis on mineralised saprolite shows that, on average: - 78.5% of REEs are confined to the -25 µm size fraction - the -25 µm fraction comprises 37.2% of the bulk saprolite feed mass - the REE grade of the -25 µm fraction is 116% higher than the bulk saprolite feed grade. Preliminary leach testwork has shown up to 91% TREO recovery from Cowalinya South using 5% hydrochloric acid at 30°C. U and Th values are reported as they are considered to be deleterious elements in rare earth processing. The highest values recorded for these elements on the project to date are 55 ppm U_3O_8 and 81 ppm ThO_2.
Further work	The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).	Comprehensive metallurgical testwork is in progress and petrological studies will be completed to identify REE-bearing mineral species.

	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Potential extensions to the Cowalinya South deposit are indicated in Figure 1.