HIGH-GRADE RARE EARTH LEACH TESTING BEGINS

HIGHLIGHTS:

- **Leach testing of high-grade samples from the Company's Palmares REE Project (specifically tenement 871332/2020) has commenced**, to assess recovery rates and processing pathways.
- Tenement 871332/2020 is only 1 of 18 tenements that form part of the Palmares REE Project portfolio (~348km^2)[1] – Figure 1.
- **Trench assays at the Feirinha Prospect delivered up to 1.69% TREO[2] (16,884 ppm)**, with significant heavy rare earth enrichment **(Dy, Tb, Y).**
- Rock chip **assays returned up to 1.31% TREO[2] (13,082 ppm), strongly enriched in Nd and Pr,** essential for permanent magnets in EVs, wind turbines, and defence technologies.
- Numerous G2 pegmatites, which are the main host rock containing elevated levels of REE have been mapped for approx. a 1.3km strike length, with known repetitions along strike.
- **Pegmatite G2 population averages 0.40% TREO (3,977 ppm)**, with multiple high-grade samples exceeding 0.5% TREO, highlighting consistent high-grade mineralisation.
- A selection of 15 samples from trench & rock chip samples have been dispatched to ALS Laboratories for leach testing (Refer Appendix 1 Table 1), with results expected by end of September.
- Palmares is strategically positioned within Bahia State, Brazil, surrounded by major ASX-listed REE companies, confirming district-scale potential.
- Magnum's recently appointed Company geologist is also currently undertaking a detailed review of available data across the remaining tenements, which cover **~1,549km^2 (includes the Azimuth REE project) and make Magnum one of the largest landholders for REE in the region[1]**.

Magnum Mining & Exploration Limited (ASX: MGU, "Magnum" or "the Company") is pleased to announce that it will immediately commence leach testing on high-grade samples (**Refer Appendix 1 Table 1**) taken from the Palmares Rare Earth Element (REE) Project. This work follows the exceptional trenching and sampling results, which confirm Palmares as a very prospective new REE project. The leach testing description from ALS Analytical Laboratories are shown in Appendix 2.

Chairman Michael Davy commented:

"The sample results previously taken from the Palmares REE Project validate the high-grade continuity of mineralisation on the tenement, specifically on the G2 pegmatites which average 0.40% TREO. Individual grades up to 1.69% TREO, coupled with enrichment in Nd and Pr and high-value heavy rare earths, demonstrate the potential of Palmares. Along with the high-grades previously sampled, the estimated 1.3km strike length of the G2 pegmatites make tenement 871332/2020 a viable prospect for drilling. Given the general exploration potential for REE across the Company's portfolio in Brazil spanning 1,549km^2, we

consider it prudent to first undertake a leach testing trial to demonstrate recoveries, before committing to drilling. This aligns with the Company's current focus of assessing its portfolio of projects, with the aim of maximising value from each project through targeted low cost programs, to ensure more substantial expenditure is warranted."

Background:

The Palmares REE Project comprises 18 granted claims (~348 km²)[1] (**Figure 1**) in Bahia State, Brazil. Exploration has identified extensive pegmatite swarms hosting high-grade REE mineralisation. Importantly, less than 0.1% of the Palmares ground has been tested, leaving significant upside potential.

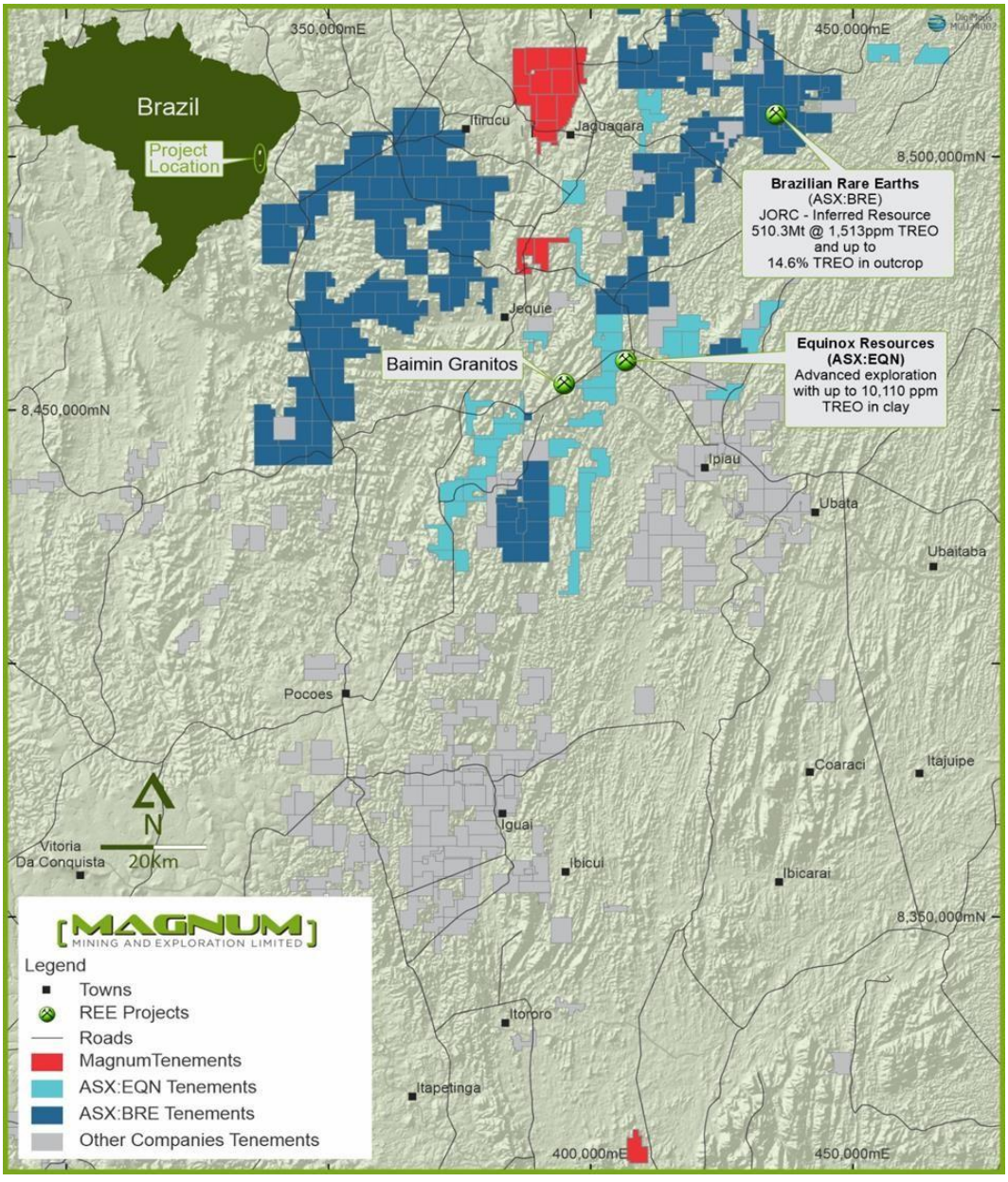

Figure 1 The Palmares REE Projects are located across the states of Bahia, Minas Gerais and Goias states in southcentral Brazil.

Next Steps:

- Immediate commencement of leach testing on trench and rock chip samples (**Appendix 1 Table 1**) from Feirinha Prospect (Tenement 871332/2020) (**Figure 2 & 3**).
- Design of a drilling program to test extensions of high-grade mineralisation, dependent on results from the leach testing expected end of September.
- Assessment of regional exploration across the remaining 17 tenements that form part of the Palmares REE Project, as well as the Azimuth REE Project, to build on the pipeline of targets.

With prior high-grade mineralisation established and leach testing commenced, Palmares is positioned to rapidly progress towards drilling if favourable leaching results are forthcoming, which could demonstrate Palmares potential as a significant REE project.

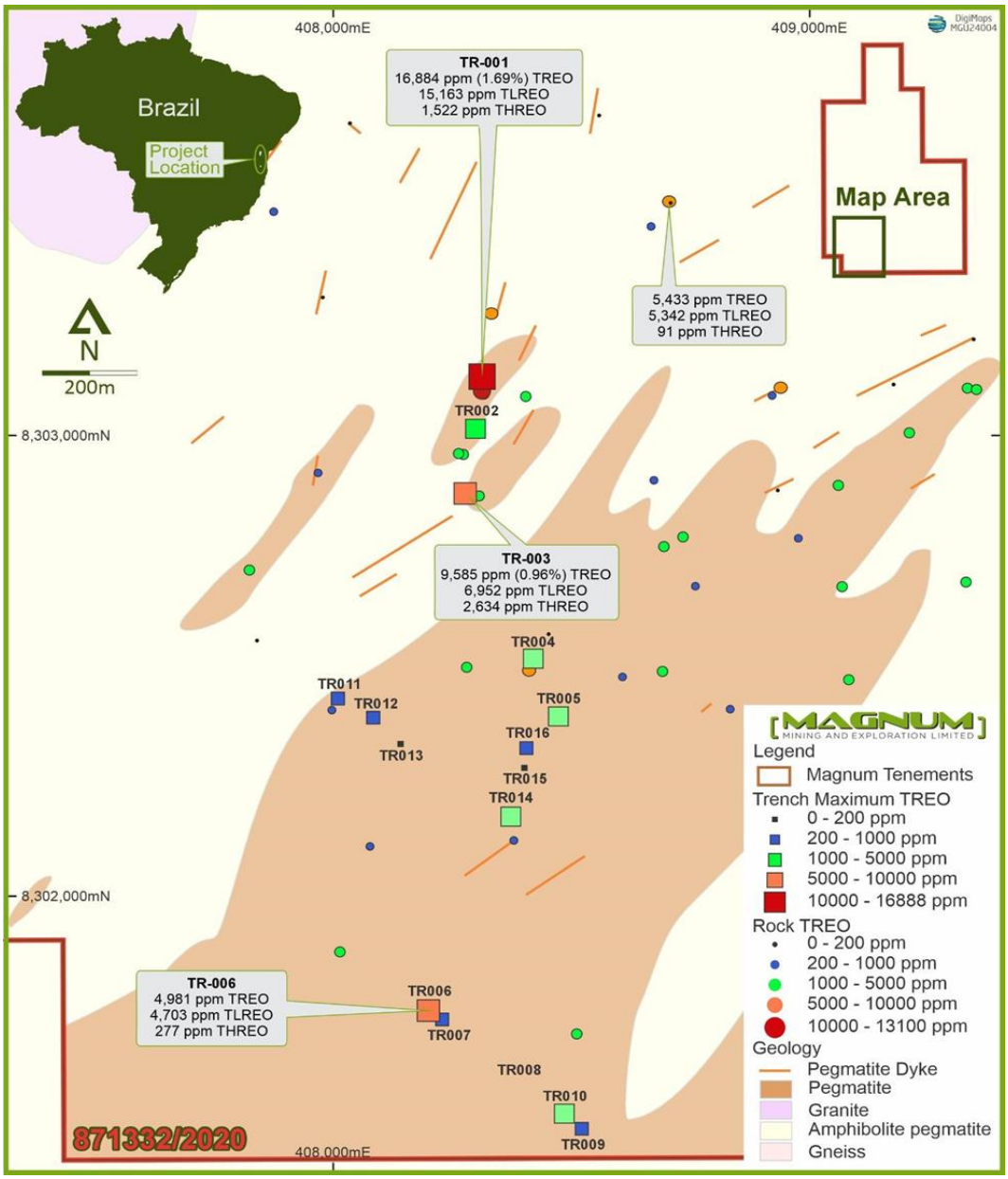

Figure 2 Feirinha Prospect Total Rare Earth Oxide assays from rock sampling and maximum values from trenches.

Figure 3 Typical landscapes in the Feirinha Prospect area. Access to the ground is relatively easy with a network of local roads and tracks.

In addition, the Company's geologist is undertaking a further review of the tenements in the Azimuth REE Project, which includes 72 granted exploration permits covering ~1,201km^2 in Brazil[3].

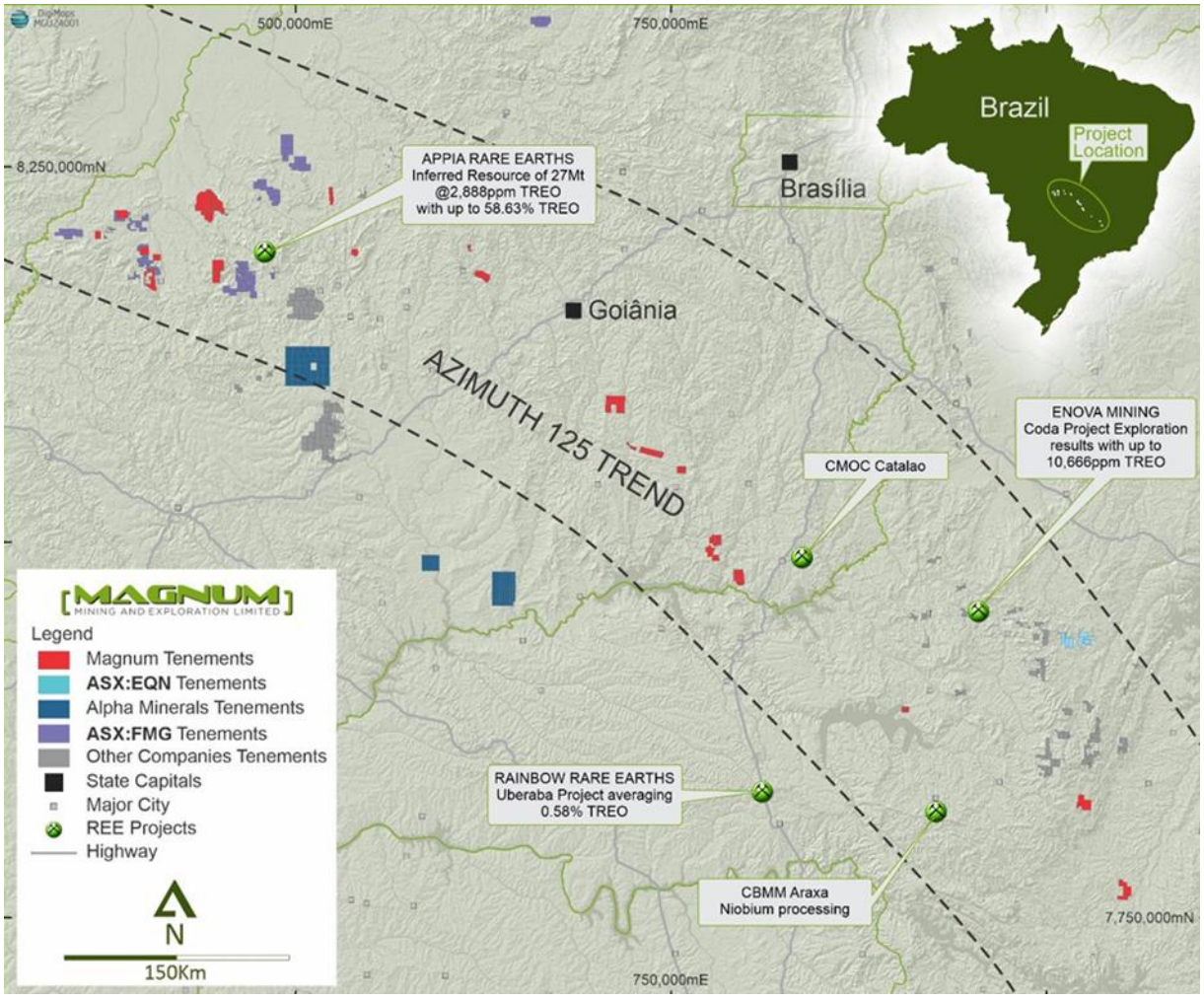

Figure 4 Location of Magnum's Azimuth REE Project tenements on the Azimuth 125 trend.

Authority:

This announcement has been authorised for release by the Board of **Magnum Mining and Exploration Limited**.

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Competent Person's Statement:

The information in this report that relates to **Exploration Results** is based on information compiled by **Arnel Mendoza [Arnel]**, who is a Member of Australian Institute of Geoscientists.

Arnel is a consultant with Magnum Mining & Exploration Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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" (JORC Code)**.

Arnel Mendoza consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

The information in this announcement that is footnoted below (1-3) relates to exploration results that have been released previously on the ASX. 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 estimates continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's finding is presented have not been materially modified from the original market announcements.

ASX Announcements referenced to directly in this release.

1. *"MAGNUM ENTERS INTO AGREEMENT TO SECURE MAJOR RARE EARTHS LANDHOLDING IN BRAZIL" released on the ASX on 21st of November 2024 and available to view on https://www.mmel.com.au/site/investor-information/asx-annoucements-and-financial-reports*
2. *"PALMARES DELIVERS UP TO 1.69% TREO GRADES (REVISED)" released on the ASX on 20th of December 2024 and available to view on* https://www.mmel.com.au/site/investor-information/asx-annoucements-and-financial-reports .
3. *"RARE EARTH EXPLORATION TARGETS IDENTIFIED AT AZIMUTH" released on the ASX on 11th of December 2024 and available to view on https://www.mmel.com.au/site/investor-information/asx-annoucements-and-financial-reports*

Disclaimer

Forward-looking statements are statements that are not historical facts. Words such as “expect(s)”, “feel(s)”, “believe(s)”, “will”, “may”, “anticipate(s)”, “potential(s)”and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, but are not limited to: (i) those relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits and conclusions of economic evaluations, (ii) risks relating to possible variations in reserves, grade, planned mining dilution and ore loss, or recovery rates and changes in project parameters as plans continue to be refined, (iii) the potential for delays in exploration or development activities or the completion of feasibility studies, (iv) risks related to commodity price and foreign exchange rate fluctuations, (v) risks related to failure to obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals or in the completion of development or construction activities, and (vi) other risks and uncertainties related to the Company’s prospects, properties and business strategy. Investors are cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and the Company does not undertake any obligation to revise and disseminate forward-looking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

Appendix 1:

Table 1 Samples collected for Leach Testing

Sample	Trench	X	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
PAL-RC-108	outcrop	408189	8301685	969.8	1259.2	104.18	275.3	22.8	2.64	11.33	1.43
PAL-RC-230	outcrop	407915	8302018	614.3	1201.1	115.71	383.2	45.1	1.76	25.09	2.29
PAL-RC-440	outcrop	410293	8306583	1185.5	1979.6	178.17	554.8	50.2	3.85	21.59	1.76
PAL-RC-451	outcrop	408411	8302490	1470.3	2630	242.67	733	78.4	10.36	44.21	6.33
PAL-RC-460	outcrop	408691	8302488	629.5	1228	114.69	381.4	55.1	8.13	41.24	7.07
PAL-RC-541	outcrop	408306	8302869	605.7	1208.7	121.58	437.3	77.9	12.71	65.79	11.26
PAL-TR-001	PPA-TR001	408316	8303118	914	1971.6	218.06	799.3	154.2	24.22	122.14	19
PAL-TR-002	PPA-TR001	408320	8303116	1170.2	2745.8	266.72	928.1	135.4	18.69	91.18	14.02
PAL-TR-003	PPA-TR001	408320	8303116	1721.7	4036.4	416.68	1505.4	247.6	36.07	171.43	24.01
PAL-TR-004	PPA-TR001	408320	8303116	2866.1	6507.1	677.32	2441.7	405.8	58.84	277.11	35.71
PAL-TR-014	PPA-TR003	408291	8302859	1234.9	2820.7	328.52	1241.8	273.6	42.41	239.66	41.26
PAL-TR-019	PPA-TR004	408404	8302518	911.8	1631.1	167.76	562.3	91	13.68	67.51	10.61
PAL-TR-020	PPA-TR005	408475	8302383	748.4	1144.2	123.55	413	63.2	9.83	47.08	7.13
PAL-TR-022	PPA-TR005	408476	8302383	1174.6	1585.5	137.2	396.9	38	4.32	18.97	2.57
PAL-TR-040	PPA-TR006	408214	8301745	1253.6	1850.6	216.39	621.8	65.6	9.31	43.54	5.62

Appendix 1 (cont'd)

Table 1 Samples collected for Leach Testing (cont'd)

Sample	Dy	Ho	Er	Tm	Yb	Lu	Y	Sc	REE mag (Nd-Sm-Pr-Dy)	ETRT	TREO
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
PAL-RC-108	6.99	1.33	4.16	0.7	5.4	1.23	31.08	<0,5	409.27	2697.6	0.32
PAL-RC-230	8.44	1.31	2.83	0.35	2.1	0.31	31.32	-	552.45	2435.2	0.29
PAL-RC-440	5.61	0.75	1.39	0.14	0.7	0.09	18.04	-	788.78	4002.2	0.48
PAL-RC-451	34.81	6.58	19.05	2.76	19.5	3.09	172.89	3.4	1088.88	5474.0	0.66
PAL-RC-460	42.59	8.25	23.34	3.31	21.1	2.8	211.21	0.5	593.78	2777.7	0.33
PAL-RC-541	70.61	14.31	44.11	6.43	42	6.06	397.12	1.5	707.39	3121.6	0.38
PAL-TR-001	109.41	21.55	66.37	10.6	75	11.03	576.67	0.5	1280.97	5093.2	0.61
PAL-TR-002	82.82	17.14	52.16	8.52	59.9	9.12	454.01	0.5	1413.04	6053.8	0.73
PAL-TR-003	124.46	22.45	60.55	9.1	60.2	8.9	546.35	0.5	2294.14	8991.3	1.08
PAL-TR-004	174.67	28.72	69.29	8.65	52.5	7.36	606.94	0.5	3699.49	14217.8	1.71
PAL-TR-014	247.8	49.1	139.88	20.49	122.4	15.15	1282.89	0.5	2091.72	8100.6	0.97
PAL-TR-019	61.74	11.58	32.48	4.85	32.8	4.53	311.27	0.7	882.8	3915.0	0.47
PAL-TR-020	41.4	7.7	21.05	2.97	19.2	2.86	187.89	0.5	641.15	2839.5	0.34
PAL-TR-022	13.01	2.43	6.94	1.2	10	1.96	59.9	1.1	585.11	3453.5	0.41
PAL-TR-040	25.28	4.74	13.05	1.72	10.5	1.54	122.54	6.5	929.07	4245.8	0.51

Geochemistry / Method Description

ME-MS19

Low-Level Rare Earth Element Analysis by Ammonium Sulphate Leach and ICP-MS

Sample Decomposition:

Ammonium Sulphate Leach (GEO-AS04)

Analytical Method:

Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES) and

Inductively Coupled Plasma - Mass Spectrometry (ICP-MS)

A prepared sample (30g) is leached by 0.5M Ammonium Sulphate solution and agitated by tumbling. After leaching, the mixture is centrifuged, and an aliquot of the solution is taken and diluted with 2% nitric acid. Digestion process is optimised to improve recoveries of rare-earth elements. The resulting solution is analysed by a combination of ICP-AES and ICP-MS.

NOTE: The low detection limits are particularly useful for REE exploration in clays, soils, or sediments. This method is not appropriate for mineralised samples.

Analytes and Ranges (ppm)									
Al	5-250000	Er	0.004-1000	Mg	1-250000	Rb	0.05-10000	Tm	0.002-1000
B	10-10000	Eu	0.004-1000	Mn	0.2-50000	Sc	0.005-10000	U	0.005-10000
Ba	0.5-10000	Fe	5-500000	Mo	0.01-10000	Si	10-10000	V	0.4-10000
Be	0.01-1000	Gd	0.005-1000	Na	50-100000	Sm	0.004-1000	W	0.01-10000
Ca	20-250000	Hf	0.005-500	Nb	0.005-500	Sn	0.05-500	Y	0.005-500
Ce	0.005-500	Ho	0.002-1000	Nd	0.05-10000	Sr	0.03-10000	Yb	0.004-1000
Co	0.005-10000	K	20-100000	Ni	0.1-10000	Ta	0.005-500	Zr	0.01-500
Cs	0.005-500	La	0.002-10000	P	5-10000	Tb	0.002-1000		
Cu	0.04-10000	Li	0.2-10000	Pb	0.05-10000	Th	0.005-10000		
Dy	0.005-1000	Lu	0.002-1000	Pr	0.004-1000	Ti	5-100000		

February 2024
Revision 2.1

Geochemistry / Method Description

ME-MS19a

Low-Level Rare Earth Element Analysis by Ammonium Sulphate Leach and ICP-MS at pH 4

Sample Decomposition:

Ammonium Sulphate Leach (GEO-AS04a)

Analytical Method:

Inductively Coupled Plasma - Atomic Emission Spectrometry (ICP-AES) and

Inductively Coupled Plasma - Mass Spectrometry (ICP-MS)

A prepared sample (30g) is leached at pH 4 by 0.5M ammonium sulphate solution and agitated by tumbling. After leaching, the mixture is filtered, and an aliquot of the solution is taken and diluted with 2% nitric acid. The resulting solution is analysed by a combination of ICP-AES and ICP-MS.

NOTE: The low detection limits are particularly useful for REE exploration in clays, soils, or sediments. This method is not appropriate for mineralised samples.

Analytes and Ranges (ppm)									
Al	5-250000	Er	0.004-1000	Mg	1-250000	Rb	0.05-10000	Tm	0.002-1000
B	10-10000	Eu	0.004-1000	Mn	0.2-50000	Sc	0.005-10000	U	0.005-10000
Ba	0.5-10000	Fe	5-500000	Mo	0.01-10000	Si	10-10000	V	0.4-10000
Be	0.01-1000	Gd	0.005-1000	Na	50-100000	Sm	0.004-1000	W	0.01-10000
Ca	20-250000	Hf	0.005-500	Nb	0.005-500	Sn	0.05-500	Y	0.005-500
Ce	0.005-500	Ho	0.002-1000	Nd	0.05-10000	Sr	0.03-10000	Yb	0.004-1000
Co	0.005-10000	K	20-100000	Ni	0.1-10000	Ta	0.005-500	Zr	0.01-500
Cs	0.005-500	La	0.002-10000	P	5-10000	Tb	0.002-1000		
Cu	0.04-10000	Li	0.2-10000	Pb	0.05-10000	Th	0.005-10000		
Dy	0.005-1000	Lu	0.002-1000	Pr	0.004-1000	Ti	5-100000		

July 2024
Revision 1.0