

ASX: VMM MARKET ANNOUNCEMENT

THICK INTERCEPTS OF SAPROLITIC CLAY UP TO 87M AT COLOSSUS IONIC REE PROJECT

ASX Release: 20 October 2023

Highlights

- 87 metres of highly weathered saprolitic clay intersected from the third Diamond Drill Hole (CS-DDH-003) at the Colossus Project.
- ▶ Hole CS-DDH-003, located within Cupim South prospect, has confirmed the presence of a vast clay horizon which shares the same mineralogical characteristics as nearby high-grade Ionic Clay Rare Earth projects within the Alkaline Complex.
- ► The First Diamond Hole drilled into the Carijo Prospect (CJ-DDH-001) has intersected ~50 metres of highly weathered saprolitic clay. This is now the deepest and thickest clay profile intercepted by any company in the northern half of the complex so far. Hole CJ-DDH-001 was drilled about 350m South-East of the Viridis surface grab sample PC-10: 2,753ppm TREO which Ionic Clay recovery has been confirmed with Ammonium sulfate desorption test, pH4 leaching⁹.
- ▶ The First Diamond Hole drilled into the Fazenda Prospect (FZ-DDH-001) has intersected ~47 metres of highly weathered saprolitic clay, significantly extending the previously understood clay depth within tenements located on the northern part of the Alkaline complex. Hole FZ-DDH-001 was drilled ~2.3km North-East of historic Fazenda auger hole, FC-AG-121: 3m @1,792ppm TREO (22% MREO) [ending in mineralisation in the 'leached layer']².
- ▶ Within Colossus' Northern Prospects, Viridis has now confirmed clay mineralisation over an area of ~5km², with true depths of clays ranging from 47 to 50 metres. To date, all clay mineralisation within this area of the complex has shown high grades of Ionic Clay Rare Earths.
- Over 90% of Auger drilling from Phase I & II exploration completed to date has terminated in clay mineralisation and shows the saprolite clay body to remain open at depth. Hole FZ-DDH-001 and CJ-DDH-001 have already confirmed that the clay mineralisation continues far beyond what both historic and current Auger drilling has demonstrated.
- A total of 120 holes have been completed to date by Viridis, with drill material sent to the SGS-GEOSOL and ALS laboratory for preparation and assays.
- ▶ Viridis continues to move towards completion of its Phase I & II exploration programs with five drill rigs operating simultaneously across the Colossus Project.

Executive Chairman Agha Shahzad Pervez commented:

"The team is highly encouraged by the ~87 metres of saprolitic-clay intersected in only the third diamond drill hole, known to be the main hosting mineralogy of Ionic Adsorbed Rare Earths in this complex. This diamond intercept illustrates the world-class depths of clay horizons within the Colossus Project, far beyond what Auger drilling has defined to date.

We have also completed three diamond drill holes within the Northern Concessions, which include Mining Licenses that have shown the clay profiles extend to depths of up to 50 metres. The two diamond drill holes completed at Fazenda and Carijo prospects are the deepest clay intercepts discovered by any company within the upper half of the alkaline complex. This is incredibly promising as Viridis expects these northern tenements to comprise part of its maiden resource."

Drilling Update

Viridis Mining and Minerals Limited ("Viridis" or "Company") is pleased to report its progress on its diamond drilling program at Colossus, which has intercepted thick saprolitic clays of up to 87 metres (Cupim South), 47 metres (Fazenda) and 50 metres (Carijo). The intercepts from the first diamond drill holes significantly extend the depth of clay horizons within the relevant Colossus prospects.

Viridis has now completed a total of 120 holes across the Colossus Project, with the latest batch of drill core samples collected from diamond and auger drilling and sent to the SGS-GEOSOL and ALS laboratories for preparation and assays.



Figure 1: Auger and Diamond core samples at the Viridis warehouse, located in Poços de Caldas

The Company continues to progressively drill through its concessions using cost-efficient Auger drilling while in parallel running Diamond and adapted RC drilling to gain a more complete understanding of the true depths of the clay profiles within Colossus. To date, Viridis has had a 100% success rate in intercepting clay mineralisation across all its completed holes, which is a testament to the homogenous mineralisation of clays within this complex, with over 90% of Auger holes drilled to date ending in clay saprolite. The Company looks forward to receiving assays from the drilling campaign, which will be released to the market once received.

On completion of the Phase I drill program, Viridis intends to commence detailed metallurgical testing to optimise recoveries using Ammonium Sulfate desorption / leaching.



Cupim South Prospect

The Cupim South Prospect adjoins the Cupim Vermelho Norte Inferred Resource – 104Mt @2,485ppm TREO which forms part of the Caldeira Ionic Clay Rare Earth Project (409Mt @2,626ppm TREO)¹.

The Cupim South Prospect was a greenfield exploration concession within the Colossus Project with no historic drilling undertaken. The recent Diamond Drill (CS-DDH-003) intercept of 87 metres of clay exemplifies the deep weathering horizon present within this concession.



Figure 2: Location of CS-DDH-003 which has intercepted 87-metres of saprolitic clay within the Cupim South Prospect^{1,9}

Fazenda Prospect

Diamond Hole: FZ-DDH-001

Historic hand-held auger results and surface sampling on this Mining License had previously confirmed the presence of Ionic Clay Rare Earths to limited depths of 3 m (ending in mineralisation)². With the first diamond hole completed, Viridis can now **confirm clay mineralisation covering an area of ~2.6 km² just within the Fazenda Prospect, with clay depths to date reaching up to 47m (FZ-DDH-001)**.

The completion of the first diamond hole on the Fazenda prospect has significantly expanded the depth potential of the Clay body. It exemplifies the intensive weathering of the region which has led to these deep clay horizons. FZ-DDH-001 currently stands as the second thickest known clay profile intercepted within the northern half of the Alkaline Complex, after the 50 m clay intercept of CJ-DDH-001 (Carijo Prospect within Colossus).

Auger Drilling

A total of 70 auger drill holes have been completed so far on the Fazenda prospect, with all Auger holes from Phase I exploration ending in clay mineralisation. Auger drill rigs have depth limitations and terminate upon reaching the water table or a maximum of ~20 metres. All 70 auger drill holes completed to date at Fazenda have been sent to SGS-GEOSOL for assays.



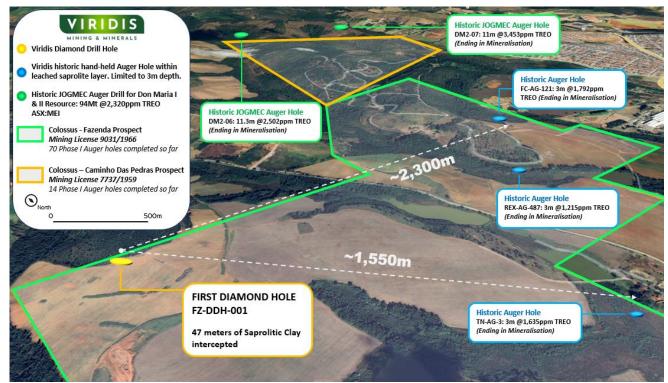


Figure 3: Location of FZ-DDH-001 within the southern half of Fazenda Prospect Mining License, which has intercepted 47m of Saprolitic Clay. Image shows proximity to other historic hand-held Auger Holes which were drilled into the "leached layer", limited to a maximum depth of $3m^{2,8}$.



Figure 4: Drilling of the FZ-DDH-001 diamond hole within the Colossus Project.



Carijo Prospect

The Carijo Prospect is an extension to the Fazenda Mining License which forms part of the Colossus Northern Concessions. Viridis has recently commenced Auger Drilling within Carijo, having only completed 13 Auger Holes, which have all intersected clay mineralisation.

Viridis has also completed the first diamond hole within the Carijo prospect (CJ-DDH-001), which has successfully intersected 50 m of saprolitic clay, making this the thickest known clay intercept within the northern half of the Alkaline Complex.

Hole CJ-DDH-001 was drilled ~350m South-East of Viridis' surface grab sample PC-10, which returned an exceptional 2,753ppm TREO at the surface within the leached layer of the saprolite⁹. The Carijo Prospect has now displayed both remarkable surface grades of lonic Rare Earths and outstanding depths of clays which are now awaiting assays.

The completion of these diamond holes means Viridis has now confirmed clay mineralisation across an area of 5 km² within the Northern Concessions with full depths of clay mineralisation ranging from 47 to 50 metres. The two diamond holes completed so far within Northern Concessions, have confirmed saprolitic clay mineralisation within this area is far deeper than what was previously understood.



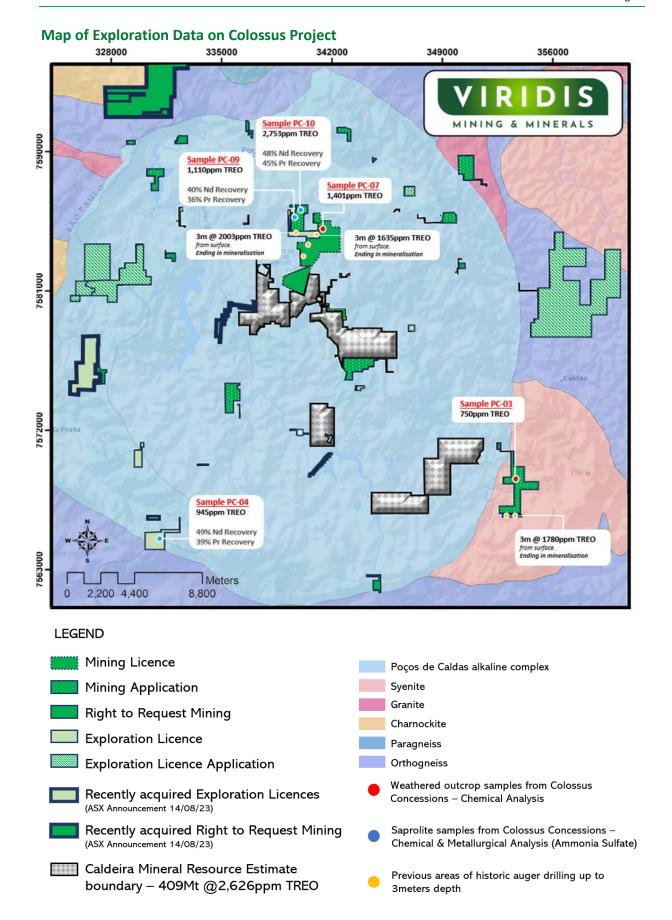


Figure 5: Map of all sample locations on Colossus concessions and areas previously drilled by 3-metre Auger holes that have all ended in mineralisation 1,2,9 .



Geology of Ionic Clays

In the Poços de Caldas Complex, we find the optimal conditions for an Ionic Absorption Clay ("IAC") type rare earth elements ("REE") deposit. Its alkaline rocks, rich in feldspars, weather mainly into kaolinite. Simultaneously, these rocks contain bastnaesite, a rare earth fluocarbonate. Upon weathering, bastnaesite releases REEs, which ionically bond with the existing clay minerals, further upgrading the region's mineral profile⁴.

The upper layer in this region consists of clayey soil and bauxite. Through lateralisation, some of the upper layer's rare earths are mobilised to the intermediate horizon, where kaolinite is the main clay mineral, retaining the REEs in ionic form adsorbed onto its structure^{4,6,7}.

Within IAC deposits, the top layer presents the lowest levels of REE mineralisation, as illustrated in the deposition model of both Malaysian and South China Ionic Clay Projects (see Figure 6 and Figure 7).

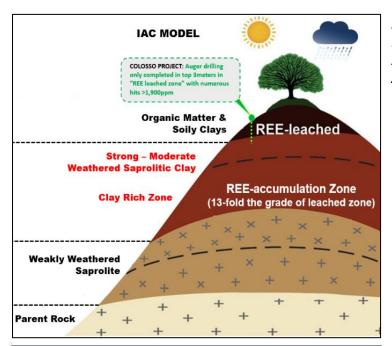


Figure 6: Deposition Model of Malaysian Ionic Clay Project superposition of Colossus Project Auger Drill depths⁵.

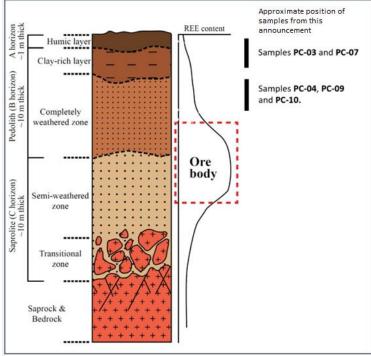


Figure 7: General IAC Deposition Model (Li & Zhou, 2020) with an estimated placement of the Colossus Project samples based on their visual and chemical characteristics⁷.



Contacts

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About Viridis Mining and Minerals

Viridis Mining and Minerals Limited is a resource exploration and development company with assets in Brazil, Canada and Australia. The Company's Projects comprise:

- The Colossus Project, which the Company considers to be prospective for Rare Earth Elements;
- The South Kitikmeot Project, which the Company considers to be prospective for gold;
- The Boddington West Project, which the Company considers to be prospective for gold;
- The Bindoon Project, which the Company considers to be prospective for nickel, copper and platinum group elements; and
- The Poochera and Smoky Projects, which the Company considers to be prospective for kaolinhalloysite; and
- The Ytterby and Star Lake Projects, which the Company considers prospective for Rare Earth Elements.

Competent Person Statement

Dr. José Marques Braga Júnior, the in-country Executive Director of Viridis' Brazilian subsidiary (Viridis Mining and Minerals Brazil Ltda), compiled and evaluated the technical information in this release and is a member of the Australian Institute of Geoscientists (AIG) (MAusIMM, 2023, 336416), accepted to report in accordance with ASX listing rules. Dr Braga has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australian Code for Reporting of Regulation, Exploration Results, Mineral Resources, and Ore Reserves. Dr Braga consents to the inclusion in the report of the matters based on information in the form and context in which it appears.

All announcements referred to throughout can be found on the Company's website – viridismining.com.au.

Forward-Looking Statements

This announcement contains 'forward-looking information' based on the Company's expectations, estimates and projections as of the date the statements were made. This forward-looking information includes, among other things, statements concerning the Company's business strategy, plans, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations, mineral reserves and resources, results of exploration and related expenses. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'anticipate', 'project', 'target', 'potential', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this announcement are cautioned that such statements are only predictions and that the Company's results or performance may differ materially. Forward-looking information is subject to known and unknown risks, uncertainties, and other factors that may cause the Company's actual results, level of activity, performance or achievements to materially differ from those expressed or implied by such forward-looking information.

Cautionary Note

The information in this announcement with respect to diamond and auger holes is based solely on a visual inspection of the drill core samples from the hole. The assay and analysis of the core samples are pending. About the disclosure of visual intersections of clay, the Company cautions that visual intersections of clay should never be considered a proxy or substitute for laboratory analysis. Laboratory assay results are required to confirm the full thickness and grade of visual intersections of clay reported in the preliminary geological logging. The Company will update the market when laboratory analytical results become available.



References

- 1. Meteoric Resources NL (ASX: MEI) announcement dated 1 May 2023 'Caldeira REE Project Maiden Mineral Resource'
- 2. VMM ASX announcement dated 1 August 2023 'Acquisition Potential Tier One Ionic Clay Rare Earth Project'
- 3. MEI announcement dated 24 July 2023 'Diamond Drilling Confirms Ultra High-Grade REEs Extend Significantly Beneath Resource'
- 4. Polygenetic processes in the genesis of clay deposit of Poços de Caldas alkaline massif in southeastern Brazil, C. Montes, A. Melfi, A. Carvalho, A. Viera-Coelho, Journal of Applied Clay Science, 2016
- 5. Comparison of characteristics and geochemical behaviors of REEs in two weathered granitic profiles generated from metamictized bedrocks in Western Peninsular Malaysia, A. Yaraghi, K. Ariffin, N. Baharun, Journal of Asian Earth Sciences, 2020
- 6. Adsorption of rare earth elements in regolith-hosted clay deposits, A. Borst, M. Smith et al., 2020
- 7. The role of clay minerals in the formation of the regolith-hosted heavy rare earth element deposits, M. Li, M. Zhou, Journal of American Mineralogist, 2020
- 8. VMM ASX announcement dated 14 September 2023 'Maiden Drilling Program Commences At Colossus Ionic Clay Project'
- 9. VMM ASX announcement dated 29 August 2023 'Initial Metallurgical Work Confirm Colossus True IAC Project'



Appendix A: Drill Locations

Drill ID	ANM Process No.	East (m)	North (m)	Elevation (m)	Total Depth (m)
A1-15	7737/1959	340013.9312	7581393.472	1346	8.0
A1-27	7737/1959	339675.2058	7581807.551	1319	2.0
A1-29	7737/1959	340029.9059	7581810.781	1356	12.0
A1-31	7737/1959	340391.9692	7581706.978	1314	15.0
A1-35	7737/1959	339800.2575	7581997.146	1389	15.0
A1-36	7737/1959	339975.8604	7581991.475	1382	10.0
A1-37	7737/1959	340167.5519	7582028.599	1361	15.0
A1-38	7737/1959	340415.6557	7582040.105	1332	15.0
A1-39	7737/1959	339631.5254	7582198.983	1373	9.0
A1-40	7737/1959	339802.9694	7582213.676	1348	4.5
A1-41	7737/1959	339999.0012	7582203.105	1357	13.0
A1-42	7737/1959	340159.751	7582131.97	1355	14.0
A1-43	7737/1959	340414.3929	7582201.267	1343	11.0
A1-44	7737/1959	340198.4742	7582396.645	1320	10.0
A1-45	7737/1959	340422.199	7582413.035	1314	6.0
A1-46	7737/1959	340580.3465	7582604.08	1296	15.0
A2-101	9031/1966	341623.7869	7584998.052	1285	10.0
A2-102	9031/1966	341797.3253	7585003.898	1305	8.8
A2-103	9031/1966	341974.0145	7585028.996	1310	10.9
A2-104	9031/1966	342203.4112	7585005.52	1297	8.7
A2-109	9031/1966	341795.6929	7585207.276	1293	5.0
A2-110	9031/1966	340817.6371	7585478.015	1263	1.9
A2-111	9031/1966	341000.005	7585399.992	1269	6.0



Drill ID	ANM Process No.	East (m)	North (m)	Elevation (m)	Total Depth (m)
A2-116	9031/1966	340800.0003	7585600.005	1271	4.0
A2-117	9031/1966	341000.0004	7585599.96	1300	4.0
A2-118	9031/1966	340800.0035	7585800.002	1274	2.6
A2-119	9031/1966	340999.994	7585800.018	1303	10.0
A2-120	9031/1966	340800.0089	7586000.001	1288	5.0
A2-121	9031/1966	341000.0031	7586000.003	1307	11.8
A2-20	9031/1966	340813.1599	7583416.242	1277	8.0
A2-21	9031/1966	341002.4795	7583401.387	1298	12.0
A2-26	9031/1966	340800.1771	7583602.583	1282	8.0
A2-27	9031/1966	341008.8696	7583600.201	1294	8.0
A2-30	9031/1966	341601.9207	7583604.603	1310	11.0
A2-31	9031/1966	341794.9435	7583601.514	1320	6.0
A2-32	9031/1966	341994.2601	7583600.524	1356	7.5
A2-33	9031/1966	342196.8707	7583603.628	1354	15.0
A2-34	9031/1966	342402.9141	7583600.738	1309	11.0
A2-40	9031/1966	340801.5253	7583802.789	1283	9.0
A2-41	9031/1966	341005.1108	7583798.009	1287	3.0
A2-43	9031/1966	341409.0057	7583804.356	1332	9.0
A2-44	9031/1966	341602.4402	7583794.961	1328	14.0
A2-45	9031/1966	341800.7309	7583797.086	1314	7.0
A2-46	9031/1966	342001.862	7583801.413	1335	10.0
A2-47	9031/1966	342199.0729	7583801.126	1328	11.0
A2-48	9031/1966	342400.5862	7583796.397	1303	8.0
A2-53	9031/1966	340613.5365	7584013.116	1272	9.0



Drill ID	ANM Process No.	East (m)	North (m)	Elevation (m)	Total Depth (m)
A2-54	9031/1966	340799.0272	7584003.038	1286	11.0
A2-55	9031/1966	340995.8551	7583994.09	1279	5.0
A2-57	9031/1966	341401.425	7583996.569	1321	7.0
A2-58	9031/1966	341600.544	7584002.579	1308	11.0
A2-59	9031/1966	341801.2387	7583997.417	1299	9.0
A2-60	9031/1966	342005.9565	7583997.358	1313	12.0
A2-61	9031/1966	342211.3873	7584002.116	1318	12.0
A2-62	9031/1966	342391.3974	7583999.229	1297	7.0
A2-63	9031/1966	340400.0616	7584197.248	1279	8.0
A2-64	9031/1966	340601.6006	7584203.37	1299	16.0
A2-65	9031/1966	340802.7209	7584201.592	1286	6.0
A2-67	9031/1966	341198.8706	7584200.153	1294	11.0
A2-68	9031/1966	341398.8678	7584196.302	1296	10.0
A2-69	9031/1966	341599.9993	7584199.466	1286	7.0
A2-70	9031/1966	341800.9026	7584197.487	1283	6.0
A2-71	9031/1966	341995.7041	7584199.875	1291	6.0
A2-72	9031/1966	342197.7797	7584197.242	1301	12.0
A2-73	9031/1966	342399.4345	7584193.455	1287	8.5
A2-74	9031/1966	340399.1948	7584400.159	1277	10.0
A2-75	9031/1966	340599.9523	7584403.545	1285	9.0
A2-78	9031/1966	341205.9361	7584400.431	1283	12.0
A2-79	9031/1966	341400.0014	7584399.864	1277	4.0
A2-80	9031/1966	341592.5596	7584396.672	1273	4.0
A2-82	9031/1966	341968.0979	7584370.898	1279	5.0



Drill ID	ANM Process No.	East (m)	North (m)	Elevation (m)	Total Depth (m)
A2-83	9031/1966	342190.8096	7584411.67	1279	5.0
A2-84	9031/1966	342305.2723	7584330.67	1281	4.0
A2-85	9031/1966	341198.1675	7584595.723	1266	3.0
A2-86	9031/1966	341399.9947	7584598.051	1269	4.0
A2-87	9031/1966	341655.4815	7584691.471	1285	13.0
A2-88	9031/1966	341795.8836	7584662.337	1301	16.0
A2-89	9031/1966	341999.1892	7584602.356	1303	0.0
A2-90	9031/1966	342148.5491	7584611.735	1298	3.5
A2-93	9031/1966	341403.0426	7584806.979	1268	2.0
A2-94	9031/1966	341643.2159	7584812.078	1287	7.0
A2-95	9031/1966	341799.172	7584802.156	1318	12.0
A2-96	9031/1966	341998.2602	7584763.306	1330	15.0
A2-97	9031/1966	342196.5649	7584801.486	1308	11.0
A2-98	9031/1966	342391.2397	7584791.003	1282	3.0
FZ-DDH-001	9031/1966	340399.9923	7584600.015	1273	50.2
A3-01	830927/2016	340799.9901	7584599.99	1276	9.0
A3-02	830927/2016	340998.5172	7584598.152	1272	10.5
A3-03	830927/2016	339403.7387	7584798.245	1286	8.0
A3-04	830927/2016	339599.9987	7584799.989	1288	4.0
A3-05	830927/2016	339799.9762	7584799.98	1262	13.0
A3-06	830927/2016	340200.0066	7584800.003	1263	12.0
A3-07	830927/2016	340400.0049	7584800.015	1269	7.0
A3-09	830927/2016	340599.9897	7584800.018	1273	8.0
A3-10	830927/2016	340999.9899	7584800.002	1270	10.0



Drill ID	ANM Process No.	East (m)	North (m)	Elevation (m)	Total Depth (m)
A3-11	830927/2016	340205.8499	7584614.096	1263	10.0
A3-13	830927/2016	339571.7641	7584691.127	1284	6.0
A3-14	830927/2016	339405.7876	7584609.208	1289	6.0
A3-17	830927/2016	340200.001	7586000.006	1324	5.0
A3-18	830927/2016	340399.9876	7586000.007	1320	10.0
A4-25	830113/2006	340199.9908	7586200.003	1291	10.0
A4-26	830113/2006	3401662.16	7586011.47	1326	13.0
A4-29	830113/2006	342895.3931	7576568.471	1405	2.0
CJ-DDH-001	830113/2006	343319.2552	7576044.081	1404	55.9
CS-DDH-001	833560/1996	343073.9127	7575412.584	1465	26.3
CS-DDH-002	833560/1996	342076.9422	7583670.552	1354	21.3
CS-DDH-003	833560/1997	342229.8593	7584021.733	1317	90.9
MF-16	833560/1996	343400.1212	7575937.983	1374	2.8
MF-21	833560/1996	342970.1818	7575834.913	1428	8.4
MF-22	833560/1996	343112.7804	7575949.432	1439	20.0
MF-23	833560/1996	343258.5664	7576096.992	1403	11.0
MF-27	833560/1996	342834.9336	7575952.045	1447	5.5
MF-28	833560/1996	342980	7576093	1449	7.6
MF-29	833560/1996	343119.6449	7576231.275	1411	11.0
MF-32	833560/1996	342706.199	7576082.11	1409	11.0
MF-33	833560/1996	342835.5109	7576237.15	1426	8.3
MF-34	833560/1996	342974.497	7576371.433	1410	9.7
MF-36	833560/1996	342697.3843	7576371.308	1398	9.5
MF-37	833560/1996	342840.2917	7576508.07	1401	10.0



Appendix B: JORC Code, 2012 Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	 Nature and quality of sampling (e.g. 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. Include reference to measures taken to ensure sample retrospectivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information. 	 Nature of Sampling: Both diamond core drilling and auger drilling methods were used for sampling. Auger drilling was performed using diameters of 4", 3.5", 2.5", and 2", and to a depth of up to 21 metres. In contrast, diamond core drilling was executed using HQ and HWL diameters, continuing until contact with fresh rock was achieved. These techniques were implemented to secure accurate and representative sampling while preserving the integrity of the collected cores and samples. Method of Collection: Samples from auger drilling, conducted at various diameters, were retrieved directly from the auger and immediately preserved in identified and sealed plastic bags to prevent contamination. Diamond core drilling was employed until fresh rock was encountered, with cores housed in plastic trays, each marked to identify each stage of drilling advance and core recovery. Sample care: Initial inspections of samples were carried out in the field by the assigned geologist, followed by a secondary review upon their arrival at the storage facility, which included a thorough check of the drilling reports and a physical examination of the cores and auger samples. Detailed logging of all drill and auger holes was conducted, emphasizing the collection of precise geological information and ensuring the integrity of each sample. Sample Weight: The sample weights varied according to the method and core diameter, with auger drilling samples ranging from 4Kg to 12Kg and diamond core drilling samples from 2Kg to 6Kg. Packaging & Labeling: Auger samples were placed in double plastic bags post-collection, sealed to prevent contamination, and labelled with 'pc', followed by a unique identification number for traceability. Diamond drilling cores were stored in dedicated plastic boxes, labelled clearly with information including depth, sample interval, and specifics of the drilling advances and recovery.
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, facesampling bit or other type, whether core is oriented and if so, by what method, etc).	 Type of Drill: The exploration program employed two primary drilling techniques: auger drilling and diamond core drilling. Auger drilling, using diameters of 4", 3.5", 2.5", and 2", targeted surface and near-surface samples down to 21 metres. Diamond core drilling, with HQ and HWL bit sizes, was used for continuous core samples down to the fresh rock. Drill Method: Auger drilling utilized a bucket drill bit, ideal for shallow depths and quick surface geological investigations. Diamond core drilling was implemented to obtain continuous rock core and provide an uninterrupted record of rock formations. Drill Rig: Lightweight, mechanized rigs were used for auger drilling, ensuring efficient penetration to the desired depths. More robust rigs capable of reaching fresh rock were used for diamond core drilling, ensuring high-quality core recovery. Drill Parameters: Auger drilling was conducted to a maximum depth of 21 metres, with various drill bit diameters. Diamond drilling continued until fresh rock was encountered, using HQ and HWL bit sizes to ensure core integrity. Drill Orientation: Drilling was exclusively vertical, with no orientation monitoring due to the straightforward nature of the approach, deemed most suitable for the geological targets.
Drill sample recovery	 Method of recording and assessing core and chip sample recoveries and results assessed. Measures are taken to maximise sample recovery and ensure representative nature of the samples. 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. 	 Recovery Rates: The project achieved an excellent recovery, with 99% of samples exhibiting above 80% recovery. Each drilling session was documented, assuring thorough record-keeping. Recovery rates were calculated by comparing actual core or chip lengths with expected run lengths, and all data was logged immediately and precisely.



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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	 Consistent drilling protocols, immediate secure packaging, and minimal handling were standard practices to optimize sample integrity and recovery. No significant bias was detected between sample recovery and grade, suggesting reliable assay data with minimal material loss or gain across varying grain sizes. Geological and Geotechnical Detail: Both core and auger samples from the boreholes were geologically and geotechnically logged in detailed accordance with the NBR 9603 standards. This level of detail is sufficient to support appropriate Mineral Resource estimation, mining studies, and metallurgical studies. Nature of Logging: Logging is both qualitative and quantitative in nature. Descriptive attributes such as colour and consistency provide qualitative insights, while parameters like weight, diameter, and net advance offer quantitative data. Additionally, core samples were systematically photographed, ensuring a visual record of the core was available to complement the logs. Colour: Recording the observed colour of the sample. Extent of Logging: 100% of the boreholes, encompassing their entire length, were logged. This includes all relevant intersections, ensuring that no significant geological features or sample attributes
Sub- sampling techniques and sample preparation	 If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all subsampling stages to maximise representivity of samples. 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. Whether sample sizes are appropriate to the grain size of the material being sampled. 	 Sample Preparation Facility: Auger samples were processed at the SGS-GEOSOL laboratory, while diamond drill hole (DDH) samples were handled by ALS laboratory. Both facilities are located in Vespasiano-MG, Brazil. General Sample Preparation: Samples underwent rigorous physical preparation following standard industry practices at the SGS-GEOSOL laboratory. This encompassed: Homogenization: Comprehensive mixing was performed on the samples to ensure uniform particle distribution. Separation: From each sample, an aliquot of 150g was reserved for ammonium sulfate leaching tests. Drying: All samples were dried at a controlled temperature of 105°C. Sub-sampling: Utilizing a Jones splitter, sub-samples of approximately 250g were extracted. Pulverization: The 250g sub-sample was pulverized using a steel mill until 95% of the sample particles achieved a fineness below 150 mesh. For the DDH samples, twin duplicates were dispatched to assess the representativity of the samples.
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. 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. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established. 	Laboratory: All assay tests for the auger samples were conducted by the SGS-GEOSOL laboratory in Brazil and all the DDH samples were conducted by the ALS laboratory in Australia. Assay Techniques: a. ICP MS _ Determination by Fusion with Lithium Metaborate - ICP MS for Major Oxides. Some elements and their detection limits include: Al2O3



		b. PHY01E: Loss on Ignition (LOI) was determined by calcining the sample at 1000°C.
		c. IMS95R: Lithium Metaborate Fusion followed by Inductively Coupled Plasma Mass Spectrometry (ICP MS) was employed to determine concentrations of Rare Earth elements. Detection limits for some elements include:
		Ce 0.1 - 10000 (ppm) Dy 0.05 - 1000 (ppm)
		Gd 0.05 - 1000 (ppm) Ho 0.05 - 1000 (ppm)
		Nd 0.1 - 10000 (ppm) Pr 0.05 - 1000 (ppm)
		Th 0.1 - 10000 (ppm) Tm 0.05 - 1000 (ppm)
		Yb 0.1 - 1000 (ppm) Eu 0.05 - 1000 (ppm)
		Er 0.05 - 1000 (ppm) Lu 0.05 - 1000 (ppm)
		La 0.1 - 10000 (ppm) Tb 0.05 - 1000 (ppm)
		Sm 0.1 - 1000 (ppm) Y 0.05 - 10000 (ppm)
		U 0.05 - 10000 (ppm)
		Quality Control: The laboratory follows strict quality control procedures, ensuring the accuracy and precision of the assay data. Internally, the laboratory uses duplicate assays, standards, and blanks to maintain quality.
		Comments on Assay Data and Tests: The assay techniques employed are well-suited for the elements and minerals of interest. The methods utilised, combined with the reputable quality control practices of the SGS-GEOSOL laboratory, ensure the reliability of the assay data.
Verification of sampling	The verification of significant intersections by either independent or alternative company	Significant intersections have not been independently verified by alternative company personnel as of yet.
and assaying	personnel. The use of twinned holes. Documentation of primary data, data entry.	 Twinned holes are not being used in the current exploration program.
	 Documentation of primary data, data entry procedures, data verification, and data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	 Primary data collection follows a structured protocol, with standardized data entry procedures in place. Data verification procedures ensure that any anomalies or discrepancies are identified and rectified. All data is stored both in physical forms, such as hard copies and electronically, in secure databases with regular backups.
		 No adjustments have been made to the assay data. Rigorous quality control measures are in place at the laboratories being used. This includes duplicate coarse and pulp samples, specific standards for rare earths, preparation blanks, granulometric control, and mass control during the crushing and pulverization stages. The results of the analyses and controls have not been announced
		yet.
Location of data points	 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. Specification of the grid system used. 	The positioning of the drill has been achieved with high precision using a GPS RTK (Real-Time Kinematic) system. This sophisticated GPS provides real-time corrections, ensuring a level of accuracy within centimetres. The grid system employed for the present is based on the SIRCAS.
	Quality and adequacy of topographic control.	 The grid system employed for the project is based on the SIRGAS 2000 UTM coordinate system. This universal grid system facilitates consistent data interpretation and integration with other geospatial datasets.
		 To ensure the quality and reliability of the topographic location data, benchmark and control points were established within the project area.



Data spacing and distribution	 Data spacing for reporting of Exploration Results. Whether the data spacing and distribution are sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	 The auger drilling is conducted on a regular grid with a spacing of 200 x 200 metres. This grid spacing is designed to provide a detailed exploration framework suitable for the area of interest, and aims to define our initial inferred resource, offering a foundational understanding of the geological and grade continuity in the targeted zone. The data spacing and distribution for the auger drilling are considered appropriate for the intended purpose of establishing an inferred mineral resource. Diamond drilling, on the other hand, is not being conducted on a predefined exploration grid. Instead, exploratory boreholes are being drilled to provide insights into specific areas of interest and potential mineralization zones. The exploratory nature of the diamond drilling further supports the overall geological understanding, although its data spacing is not predefined. No sample compositing has been applied in the reporting of the exploration results. Each sample is treated and reported individually to maintain the highest level of detail and accuracy.
Orientation of data about 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. If the relationship between the drilling orientation and the orientation of crucial mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	 All drill holes were vertically oriented, which is deemed appropriate given the nature of the deposit. The deposit in question is a supergene deposit with a much larger areal extent than the thickness of the mineralized body. This type of deposit tends to be horizontally extensive with relatively consistent thickness. Given the vast area extent of the deposit and its relatively consistent thickness, vertical drilling is best suited to achieve unbiased sampling. This orientation allows for consistent intersecting of the horizontal mineralized zones and provides a representative view of the overall geology and mineralization. There is no indication that the orientation of the drilling has introduced any sampling bias about the crucial mineralized structures. The drilling orientation aligns well with the known geology of the deposit, ensuring accurate representation and unbiased sampling of the mineralized zones. Any potential bias due to drilling orientation is considered negligible in this context.
Sample security	The measures taken to ensure sample security.	All samples were collected by field personnel and carefully packed in labelled plastic bags. Once packaged, the samples were transported directly to the SGS-GEOSOL or ALS laboratories in Brazil. The samples were secured during transportation to ensure no tampering, contamination, or loss. Chain of custody was maintained from the field to the laboratory, with proper documentation accompanying each batch of samples to ensure transparency and traceability of the entire sampling process. Using a reputable laboratory further reinforces the sample security and integrity of the assay results.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	 As of the current reporting date, no external audits or reviews have been conducted on the sampling techniques, assay data, or results obtained from this work. However, internal processes and checks were carried out consistently to ensure the quality and reliability of the data.

Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section).

Criteria	JORC Code explanation	Commentary
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	 All samples were acquired from tenements owned by Viridis Mining and Minerals Ltd, following an agreement with the Varginha Parties. Specifically:
	interests, historical sites, wilderness or national	Prospecto Lagoa:
	park and environmental settings.	• ANM 009.031/1966
	 The security of the tenure held at the time of 	Area: 446.66 hectares
	reporting along with any known impediments	Status: Mine Concession
	to obtaining a licence to operate in the area.	Location: Fazenda
		• ANM 007.737/1959
		Area: 182.71 hectares
İ		Status: Mine Concession
		Location: Caminho das Pedras



Criteria	JORC Code explanation	Commentary
		 ANM 830.113/2006 Area: 137 hectares Status: Mining Application Location: Carijo ANM 830.927/2016 Area: 70.37 hectares Status: Autorização de Pesquisa (Research Authorization) Location: Ceten Prospecto Cupim South: ANM 833.560/1996
Exploration done by other	Acknowledgment and appraisal of exploration by other parties.	Location: Cupim Vermelho Historical exploration in the area comprises notable endeavours by various entities:
parties		 The Colossus project is geologically intertwined with the Caldeira Project, sharing the same geological context.
		 Varginha Mineração previously undertook regional drilling exercises, utilising a powered auger drill rig to produce open holes.
		 This historical data provides essential context and complements current exploration efforts in understanding the region's geological potential.
Geology	Deposit type, geological setting and style of mineralisation.	The geology of the region where the deposit is located can be summarised as follows:
		 Deposit Nature: The deposit under study is recognised as an Ionic Adsorption Clay Rare Earth Element (REE) deposit. Its spatial positioning is within and adjacent to the renowned Poços De Caldas Alkaline massif complex.
		 Poços de Caldas Complex: This geological entity stands as one of the most extensive alkaline massif intrusions globally, enveloping an area of roughly 800 km². It stretches across the Brazilian states of São Paulo and Minas Gerais. From a macro perspective, it portrays a near-circular structure with an approximate diameter of 30 km. This formation has a semblance of a collapsed caldera. Delving deeper, the dominant rocks within the alkaline complex encompass phonolite, nepheline syenites, sodalite syenites, and many volcanic rocks. This diverse geological setting has played a crucial role in dictating mineral occurrences and potential mining prospects.
		 REE Mineralisation: The specific REE mineralisation highlighted in this disclosure leans towards the lonic Clay type. Evidence pointing to this is mainly derived from its occurrence within the saprolite/clay zone of the weathering profile of the Alkaline granite basement. The enriched MREO (Medium Rare Earth Oxides) composition also attests to this classification.
		 Relevant Additional Information: The Ionic Adsorption Clay Rare Earth Element deposits, particularly in regions like Poços de Caldas, have recently gained significant attention due to the global demand surge for rare earth elements. These elements, especially the heavy rare earths, have vital applications in modern technologies such as renewable energy systems, electronics, and defence apparatus. The ability of these deposits to offer relatively environmentally friendly mining prospects compared to traditional hard rock REE mines further enhances their appeal.
		Given the strategic importance of REEs in modern industries, a thorough understanding and exploration of such geologies becomes paramount. The unique geological setting of the Poços de Caldas complex presents both opportunities and challenges, making further detailed study and research essential for sustainable exploitation.
Drill hole Information	A summary of all information material to the understanding of the exploration results,	Auger Drilling (Trado): Total number of holes: 114



Criteria	JORC Code explanation	Commentary
	including a tabulation of the following information for all Material drill holes: • Easting 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 • down hole length and interception depth • hole length. • 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.	Average depth per hole: 9.1 metres Total samples generated: 999 Diamond Drilling: Total number of holes: 6 Average depth per hole: 46.7 metres Total samples generated: 280
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. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	Data collected for this project includes surface geochemical analyses, geological mapping, and prior auger drilling results. Data were compiled without selective exclusion. All analytical methods and aggregation were done according to industry best practices, as detailed in previous discussions.
Relationship between mineralisation widths and intercept lengths	 These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole 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'). 	 Given the nature of the deposit, which is a supergene deposit with a much larger areal extent than its thickness, the drilling orientation is suitable for accurately representing the mineralized zones. All drill holes are vertical and are appropriate for the deposit type, ensuring unbiased sampling of the mineralization. Due to the geometry of the mineralization and the vertical orientation of the drill holes, the down hole lengths can be considered close representations of the true widths of the mineralized zones. However, for absolute precision, further studies would be required. In cases where there might be a discrepancy between downhole lengths and true widths, it should be noted that "down hole length, true width not known".
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 drill hole collar locations and appropriate sectional views.	 Included in the announcement are detailed diagrams elucidating the data: Figure 1: This illustration showcases both Auger and Diamond core samples stored at the Viridis warehouse in Poços De Caldas. Figure 2: This depicts the location of the CS-DDH-003 drill hole in the Cupim South Prospect. It notably intercepted 87 metres of saprolitic clay. Figure 3: Here, the FZ-DDH-001 drill hole's position is highlighted within the southern portion of the Fazenda Prospect Mining License. This hole intercepted 47 metres of Saprolitic Clay. The image further elucidates its proximity to other historic hand-held Auger Holes limited to the "leached layer" with a max depth of 3 metres. Figure 4: Offers a real-time visual of the drilling process of the FZ-DDH-001 diamond hole situated within the Colossus Project. Figure 5: This map provides an all-encompassing view of every sample location on the Colossus concessions. It also points out areas historically drilled by 3-metre Auger holes that all ended in mineralisation. Figure 6: The diagram models the deposition of the Malaysian lonic Clay Project and how the depths of Auger Drills from the



Criteria	JORC Code explanation	Commentary
		Colossus Project overlay with it. • Figure 7: This figure lays out the General IAC Deposition Model as defined by Li & Zhou in 2020. It places the Colossus Project samples within this model, highlighting their visual and chemical characteristics.
		All of these diagrams have been presented to give an in-depth understanding of the locations, drill holes, depths, and characteristics of the samples and projects. Proper scales have been used to ensure that viewers can accurately interpret distances, depths, and other spatial characteristics of the data being presented. The provided figures are comprehensive and offer a full overview of the drilling and sample findings.
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.	The data presented in this report strives to provide a transparent and holistic view of the exploration activities and findings. All the information, ranging from sampling techniques, geological context, prior exploration work, and assay results, has been reported comprehensively. Cross-references to previous announcements have been provided where relevant to ensure continuity and clarity. Including diagrams, such as geological maps and tables, supports a more in-depth understanding of the data. It's noteworthy to mention that while positive results have been highlighted, the nature of the samples, particularly their origin from either saprolitic clays or bauxite, has been distinctly reported to ensure a balanced view. In essence, this report is a faithful representation of the exploration activities and findings without any undue bias or omission.
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.	There is no additional substantive exploration data to report currently.
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). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	Future works include conducting an auger, diamond and RC campaign in 2023, geological mapping, geochemical and metallurgical tests, and mineralogical characterisation.

