For personal use only

VIRIDIS MINING & MINERALS

ASX: VMM MARKET ANNOUNCEMENT

Colossus Delivers Outstanding 200.6Mt Maiden Ore Reserve

All-Probable Reserve Underpins +40 years of life of mine with an exceptional 740ppm MREO Feed Grade, Reaffirming Colossus as a Tier-One Ionic Clay Rare Earth Project

ASX Release: 20 August 2025

Highlights

200.6Mt	40 Year	61%
All-Probable Reserve	Life of Mine	Resource-to-Reserve Conversion
2,640ppm	**740ppm**	**0.45:1**
TREO Average Grade	MREO Average Grade	Strip Ratio

- **Viridis delivers Maiden JORC Reserve of 201Mt at 2,640ppm total rare earth oxide ('TREO'[A]) and an exceptional 740ppm magnetic rare earth oxide ('MREO'[B]), firmly establishing the Colossus Project as a leading global Ionic Adsorption Clay ('IAC') Rare Earth Element ('REE') Project.**
- **The maiden Reserve summary incorporates data from the Northern Concession, Southern Complex, and Capão da Onça deposits, converting 61% of the current Measured & Indicated Resource[1].**
- **Yet, the area contributing to this maiden reserve represents only a small fraction (12%) of the broader Colossus landholding, signalling significant untapped potential. High-grade zones such as the Tamoyo Prospect (with the highest MREO content to date at 770ppm[1]) remain outside this initial reserve, providing clear upside for future growth.**
- **The Reserve is derived exclusively from the Measured & Indicated Mineral Resource only; no Inferred material has been used in the estimate (where intersected by the mine plan, this is treated as waste).**
- **Reported Reserve grades include a 5% dilution adjustment: without dilution, head grades would be 2,775 ppm TREO and 778 ppm MREO (diluted equivalents ≈ 2,640 ppm TREO and 740 ppm MREO).**

Deposit	Category	Reserve (Mt)	TREO (ppm)	Pr_6O_{11} (ppm)	Nd_2O_3 (ppm)	Tb_4O_7 (ppm)	Dy_2O_3 (ppm)	MREO (ppm)	MREO/TREO
Northern Concessions (NC)	Proved								
	Probable	97.4	2,405	156	484	5	27	698	29%
Southern Complex - Central (SC_C)	Proved								
	Probable	82.1	2,879	182	543	6	33	794	28%
Southern Complex - South (SC_S)	Proved								
	Probable	16.0	2,740	158	441	4	25	652	24%
Southern Complex - North (SC_N)	Proved								
	Probable	4.3	2,928	210	656	8	38	949	32%
Capão da Onça (CO)	Proved								
	Probable	0.8	3,154	219	596	5	28	875	28%
Total		**200.6**	**2,640**	**168**	**509**	**6**	**29**	**740**	**28%**

Table 1. *Colossus Maiden Ore Reserve (dry basis) and diluted grades by area. Reserve is 100% Probable; Inferred material excluded and treated as waste. Reported grades include 5% dilution. Mining recovery: 95%; representative marginal cut-off ~1,000 ppm TREO.*

[A] Total Rare Earth Oxides: La2O3 + CeO2 + Pr6O11 + Nd2O3 + Sm2O3 + Eu2O3 + Gd2O3 + Tb4O7 + Dy2O3 + Ho2O3 + Er2O3 + Tm2O3 + Yb2O3 + Lu2O3 + Y2O3

[B] Magnetic Rare Earth Oxides ('REO'): Dy2O3 + Nd2O3 +Pr6O11 + Tb4O7

Viridis Mining and Minerals Limited | ACN: 121 969 819

Level 50, 108 St Georges Terrace, Perth, WA 6000

Telephone: + 61 3 9071 1847 Email: info@viridismining.com.au

www.viridismining.com.au.com.au

- **The mine pits supporting the Reserve align with the ultra-high-grade feed that formed the backbone of the Pre-Feasibility Study ('PFS'), validating the Colossus Project as the most economically robust rare earth project globally[2].**
- **With the current PFS underpinned by 98.5Mt at an industry-leading grade of 936ppm MREO and supporting a 20-year Life of Mine (LOM), the newly defined 201Mt Reserve at 740ppm MREO dramatically extends the growth profile of Colossus. This Reserve highlights the potential for a high-grade mine plan stretching up to 40 years, and importantly, this does not yet include several of Colossus' highest-grade zones. The scale and grade combination underscores Colossus' ability to sustain long-term, high-value production well beyond the already world-class economics of the PFS.**

Managing Director, Rafael Moreno commented:

"The declaration of our maiden JORC Reserve marks another important milestone for Viridis. To deliver 201Mt at an outstanding 740ppm MREO underscores both the scale and exceptional quality of Colossus.

Importantly, this Reserve covers only a fraction of our landholding, with high-grade zones like Tamoyo yet to be included, underscoring Colossus' immense growth potential and strategic significance as a globally critical source of magnet rare earths.

Our robust reserve base now underpins a potential mine life of up to 40 years, doubling the scale of our recent PFS, and provides the platform to establish Viridis as a long-term, tier-one supplier of the magnet rare earths critical to global decarbonisation and electrification.

With a strengthened balance sheet and a catalyst-rich period ahead, Viridis is firmly focused on advancing Colossus towards Final Investment Decision and into execution. Supported by an exceptional resource base, industry-leading economics, and strategic partnerships with ORE Investments Ltda., Régia Capital Ltda., and BNDES (Brazilian National Bank for Economic and Social Development) and FINEP (Federal Agency for Studies and Projects), we are positioned to deliver substantial growth and establish Viridis as the next Western rare earth producer. This foundation places us in an ideal position to capture the surging demand for critical magnet rare earths that are essential to the global energy transition."

Colossus Maiden Ore Reserve – Overview

Viridis Mining and Minerals Limited ('Viridis' or 'the Company') is pleased to announce its Maiden JORC Reserve of 201Mt at 2,640ppm TREO and an exceptional 740ppm MREO, firmly establishing the Colossus Project as a leading global IACREE Project. The Reserve is reported 100% as Probable under the JORC Code (2012) and underpins a 40-year shallow open-pit operation targeting an average 5.0 Mtpa ore feed with a low 0.45:1 strip ratio.

The Reserve is derived from the Measured & Indicated Mineral Resource only; no Inferred material has been used in the estimate (where intersected by the mine plan, it is treated as waste), and contained TREO in Reserve totals 529kt, supporting long-duration production of Mixed Rare Earth Carbonate ('MREC').

The mine plan prioritises magnet rare earth oxides (Nd, Pr, Dy, Tb) to maximise basket value. It aligns with the unchanged PFS assumptions, including process flowsheet, recoveries, product specification, payability and logistics. Australian Nuclear Science and Technology Organisation ('ANSTO') testwork provides the recovery basis applied to the production schedule (site-specific composites for Northern Concessions and Southern Complex). Mining is free-dig in clay-hosted regolith/saprolite; beneficiation hubs near the pits feed a central plant by slurry pipeline, with high water recycle. A core design feature is progressive in-pit backfilling of waste and filtered residues, no conventional tailings storage facilities ('TSF'), enabling concurrent rehabilitation and a compact surface footprint.

Reserve tonnage is contributed principally by the Northern Concessions and Southern Complex (Central, South, North), with a small late-life contribution from Capão da Onça. For transparency, the Company notes that the Mineral Resource remains unchanged from the last public update and serves as the basis for this Reserve conversion. This overview should be read together with the accompanying JORC Table 1 (Section 4) and the "Consistency with PFS" section, which confirms that all material assumptions continue to apply.

For personal use only

Strategic Site and Development Context

With the declaration of its Maiden Ore Reserve, Viridis is advancing Colossus from exploration into project execution. The centrally located production facility is designed to process ore from multiple pits across the Company's tenements in the Poços de Caldas Alkaline Complex, Brazil, optimising logistics and lowering operating costs by minimising haul distances.

The Poços de Caldas region, home to the largest alkaline complex in the Southern Hemisphere, hosts significant rare earth mineralisation and long-standing mining and chemical operations. Since the initial project acquisition in August 2023, Viridis has expanded its land position to 20,966 hectares (~210 km²), consolidating control over a geologically prospective and mining-friendly district.

Critical infrastructure is already in place, with paved road access and a renewable grid power network. As important is the experienced local mining workforce and services ecosystem, developed over decades of bauxite, alumina and clay production. The presence of tier-one operators such as Alcoa and Companhia Brasileira de Aluminio ('CBA') further validates Poços de Caldas as a world-class mining hub and supports execution readiness for Colossus.

Figure 1 presents the final operational pit shells defined for this Maiden Ore Reserve across the Northern Concessions and the Southern Complex (North, Central, South), together with Capão da Onça, illustrating the multi-source feed strategy into the centrally located processing facility. The figure highlights the spatial integration of pits and hubs that underpins shorter haul distances, coordinated scheduling, and a streamlined logistics pathway to the plant.

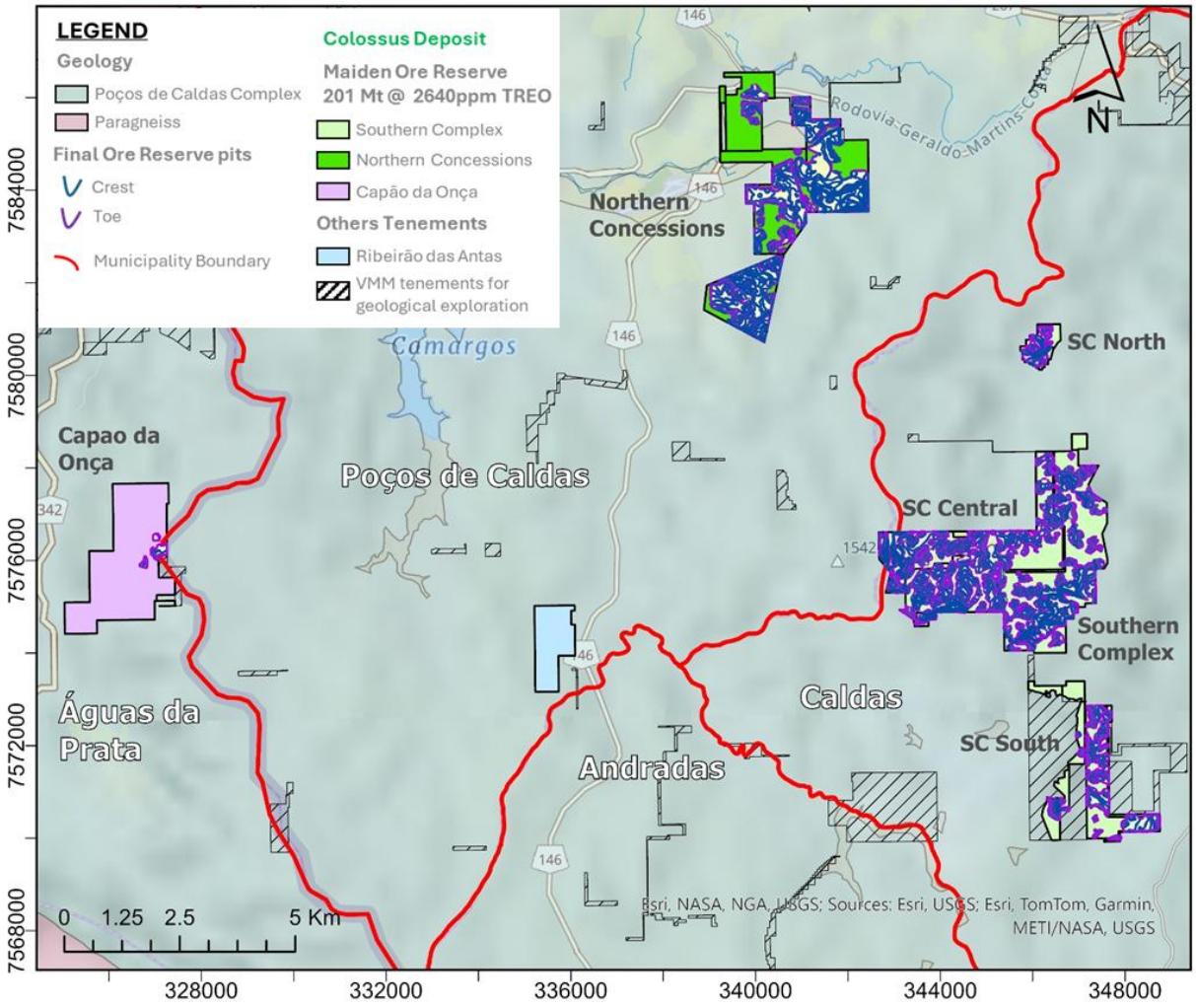

Figure 1: *Final operational pit defined for this Maiden Ore Reserve across the Northern Concessions and the Southern Complex (North, Central, South), together with Capão da Onça.*

For personal use only

For personal use only

Geology

Colossus is situated within the ~800km² Poços de Caldas Alkaline Complex, where lateritic weathering over alkaline lithologies has produced a shallow regolith–saprolite profile that hosts IAC mineralisation. REEs, particularly Neodymium ('Nd'), Praseodymium ('Pr'), Dysprosium ('Dy') and Terbium ('Tb'), are mobilised from primary phases and adsorbed onto kaolinite/halloysite clays, forming laterally continuous, near-surface blankets amenable to shallow, free-dig open-pit mining. The IAC style, active at near-neutral pH, underpins low-molar concentration of ammonium-sulfate desorption at ambient conditions, consistent with low-impact processing and progressive backfilling and avoiding the need for traditional tailings storage facilities. Notably, the mineralisation exhibits low natural Uranium ('U') and Thorium ('Th'); this has been confirmed by CNEN (Brazil's nuclear regulator), which exempted the Colossus Project from needing any radiological licensing, supporting a fast-track permitting pathway.

Sustainability

Colossus has been designed as a low-impact, community-integrated rare earth project. The environmental basis underpinning this Maiden Ore Reserve is unchanged from the PFS: an Environmental Impact Assessment ('EIA') / Environmental Impact Report ('RIMA') has been submitted to FEAM (Minas Gerais environmental authority) as part of the Preliminary License ('PL') process, and Viridis holds the Municipal Certificate of Regular Land Use and Occupation for Poços de Caldas.

The operating philosophy eliminates a conventional tailings dam. Filtered residue and waste are progressively returned to mined-out pits, enabling concurrent rehabilitation and a compact surface footprint. The flowsheet uses a low molar concentration of ammonium-sulphate leach with two stages of ammonium bicarbonate precipitation, delivering low impurity MREC and negligible U/Th, with CNEN confirming exemption from radiological licensing.

The project is engineered for water and energy efficiency: ~75% of process water is recycled with no routine discharge to natural waterways, and power (approx. 23 MW installed, 16.7 MW operating) is sourced from Minas Gerais' renewables-heavy grid in coordination with Poços de Caldas Municipal Department of Electricity ('DME'). Conceptual and 3D numerical groundwater models support gravity drainage to sumps and a monitoring network of piezometers and surface-water points.

Socially, Colossus prioritises local employment (no fly-in, fly-out camp), with ongoing partnerships with UNIFAL, IFMG, and SENAI to build skills and supply chains in the region. Together, these ESG pillars provide a clear, de-risked pathway through licensing and into responsible development and operations.

Mineral Resource

The Colossus Project's JORC-compliant Mineral Resource remains unchanged for this Ore Reserve announcement. As last reported on 22 January 2025, the global Resource totals 493Mt @ 2,508 ppm TREO, including 601 ppm MREO, across five areas: Northern Concessions, Southern Complex (including Cupim South and Centro Sul), Tamoyos, Ribeirão, and Capão da Onça.

For this Reserve conversion, the Company draws only on the Northern Concessions, Southern Complex and Capao da Onça. Within these zones, the Measured & Indicated base is 329Mt @ 2,680 ppm TREO (659 ppm MREO). No new Mineral Resource estimate has been undertaken or reported in connection with this Ore Reserve; there is no change to tonnages, grades or classification.

Viridis confirms it is not aware of any new information or data that materially affects the previously reported Mineral Resource, and that all material assumptions and technical parameters underpinning that estimate continue to apply and have not materially changed.

Colossus Project Updated Resource Estimate at 1,000pm Cut-Off

Category	License	Million Tonnes (Mt)	TREO (ppm)	Pr6O11 (ppm)	Nd2O3 (ppm)	Tb4O7 (ppm)	Dy2O3 (ppm)	MREO (ppm)	MREO/TREO
Measured	Northern Concessions (NC)	1	2,605	133	437	5	28	603	23%
	Measured Sub-Total	**1**	**2,605**	**133**	**437**	**5**	**28**	**603**	**23%**
Indicated	Northern Concessions (NC)	169	2,434	143	441	5	26	614	25%
	Southern Complex (SC)	157	2,947	169	502	6	30	708	24%
	Capao Da Onca (CDO)	2	2,481	152	414	4	22	592	24%
	Indicated Sub-Total	**329**	**2,680**	**156**	**470**	**5**	**28**	**659**	**25%**
Inferred	Northern Concessions (NC)	45	1,753	92	290	4	20	405	23%
	Southern Complex (SC)	77	2,122	104	295	4	21	424	20%
	Tamoyos (TM)	18	2,896	156	577	6	30	770	27%
	Ribeirao (RA)	19	2,544	159	455	4	24	642	25%
	Capao Da Onca (CDO)	5	2,393	132	358	4	22	517	22%
	Inferred Sub-Total	**163**	**2,162**	**114**	**345**	**4**	**22**	**485**	**22%**
	GLOBAL COLOSSUS TOTAL RESOURCE	**493**	**2,508**	**142**	**429**	**5**	**26**	**601**	**24%**

Table 2: *Mineral Resource Estimate for Colossus REE Project on 22 January 2025, using 1,000ppm TREO Cut-Off Grade. The resource model excludes leached/soil clays, transitional horizon under 330ppm MAG_REO*, and regolith material under 300ppm MAG_REO*. The Measured and Indicated resources consist solely of regolith, while the Inferred resource includes both transitional and regolith.*

PFS Alignment

The Maiden Ore Reserve is underpinned by the cost and pricing assumptions set out in the Company's PFS announced to the ASX on 9 July 2025. The Reserve adopts the same base-case parameters: 5.0 Mtpa production rate; oxide price deck; MREC payability; logistics cost. The PFS economic outcomes (post-tax NPV_8 US$899M; post-tax IRR 34%; C1 US$6.20/kg TREO) remain unchanged, and no new financial case is presented with this Reserve declaration. Viridis confirms all material assumptions underpinning the PFS and the 22 January 2025 Mineral Resource continue to apply.

Key Parameters used to Determine the Colossus Ore Reserve

BNA Mining Solutions ('BNA') generated the optimal ultimate pit using the Lerchs–Grossmann algorithm (Micromine 2024). A series of Revenue Adjustment Factors (RAF') was applied to the price deck to produce multiple candidate shells, the optimal shell was selected from this set. Optimisation and scheduling were run per target to maximise value from each domain: Northern Concessions, Southern Complex and Capão da Onça. Conservatively, only regolith was considered mineable and Inferred Resource was treated as waste. Block-by-block revenue was calculated from oxide-specific prices and deposit-specific mass-recovery factors.

Economic and technical inputs (optimisation base case)

- **Mining costs:** US$3.14/t run of mine ('ROM') (ore); US$3.14/t moved (waste)
- **Processing cost:** US$8.34/t ROM; Sustaining CAPEX: US$1.31/t ROM
- **Royalties/levies:** CFEM 2%; surface royalty 1%; vendor royalty 4.75%
- **Payability (MREC):** 70%;
- **Logistics:** US$230/t MREC transport
- **Mining factors:** 95% mining recovery; 5% dilution; general slope angle 28.54°
- **Throughput and economics:** 5.0 Mtpa ore feed; 10% p.a. discount rate

Price deck (per oxide, US$/kg; applied in block revenues)

The price deck used in the revenue function is identical to the PFS Base Case (US$90/kg NdPr) scenario. Metallurgy was applied via a mass-recovery matrix by deposit and by oxide. Illustratively, value drivers recover at 77% for Pr and 76–79% for Nd in Northern Concessions and Southern Complex. At the same time, Capão da Onça shows lower recoveries for these oxides but a comparatively higher Y_2O_3 recovery; the exact BNA matrix percentages were applied directly in the model.

For personal use only

For personal use only

Metallurgical recovery

Deposit-specific metallurgical mass recoveries were applied by oxide. Illustratively:

- **Northern Concensions:** Pr_6O_{11} 77%, Nd_2O_3 76%, Tb_4O_7 71%, Dy_2O_3 67%
- **Southern Complex:** Pr_6O_{11} 77%, Nd_2O_3 79%, Tb_4O_7 69%, Dy_2O_3 65%
- **Capão da Onça:** Pr_6O_{11} 58.2%, Nd_2O_3 60.6%, Tb_4O_7 60.2%, Dy_2O_3 57.5%

Economic cut-offs were derived from the above parameters (price deck, recoveries, costs, payability). Only regolith materials meeting economic criteria entered the Reserve; Inferred was excluded from conversion and treated as waste.

Spatial constraints (applied to pit limits and scheduling)

Spatial constraints supplied by Viridis were enforced in pit limits and scheduling. For the Northern Concessions, these included mining rights, property boundaries, Permanent Protection Zones ('ZPP')/legal buffers, transmission-line easements, the urban perimeter, existing water bodies, local constraints (e.g., Hotel Fazenda, Hípica, Mãe Rainha road), and the processing-plant footprint. For Southern Complex, constraints covered mining rights, ZPP/legal buffers, main roads and transmission easements. For Capão da Onça, the buffer of the Águas da Prata State Park was applied.

Together, these inputs constitute the main modifying factors adopted by BNA for pit optimisation, mine design and scheduling, and form the technical–economic basis for the Maiden Ore Reserve reported under JORC (2012).

Geotechnical Studies

VinQ Geotecnia completed a preliminary geotechnical program for the Colossus Project to support the Maiden Ore Reserve. The scope covered pit and residue/waste placement areas and called upon geological mapping, drilling records, environmental surveys, and simplified numerical modelling to establish initial design parameters for slopes, benches and piles.

Open pits: Stability simulations were run for shallow pits (≈30–40 m average depth) with 5 m benches (bench height and berm width) and slope angles up to 50°. Initial results indicate adequate factors of safety under the Wesseloo & Read (2009) criterion. For design purposes, Viridis has adopted minimum static factors of safety of 1.30 (overall slope) and 1.20 (inter-ramp), compatible with the Project's plan to backfill pits with filtered residues. Assessments also considered foundation conditions plus hydrologic and hydrogeologic controls that are critical to safe mine planning.

Waste and filtered-residue piles: Where temporary external piles are required, the conceptual arrangement uses 10 m benches, 8 m berms and 2H:1V inter-berm face slopes (~26.6°), yielding an overall slope of ~19.8°. Conceptual stability analyses meet the safety criteria of ABNT NBR 13.029 (2024). Operationally, Colossus prioritises progressive in-pit backfilling of waste and filtered residues, eliminating conventional TSF and minimising reliance on external piles.

This preliminary work confirms the technical feasibility of shallow, free-dig open-pit mining in the clay-hosted horizons and supports the geotechnical parameters applied in this Reserve estimate. As studies advance towards the definitive feasibility study ('DFS'), Viridis will expand the geotechnical database, complete pit-specific slope designs, implement instrumentation and monitoring, and update stability analyses as new field data become available.

Hydrogeological Studies

To support the Maiden Ore Reserve, Viridis completed a two-track hydrogeology program: (i) a conceptual model and monitoring network proposal by CLAM Consultoria ('CLAM'), and (ii) a 3D numerical groundwater-flow model (Visual MODFLOW) by Mdgeo Serviços de Hidrogeologia Ltda. ('MDGEO'), calibrated in steady state to assess pit dewatering needs, groundwater flow and potential surface-water interactions.

Data and monitoring: The work integrated a springs inventory, 1980–2024 rainfall records, 137 drillholes with water-level observations, 16 groundwater monitoring points, stream-discharge measurements, SIAGAS well data and slug-test permeability results. The phreatic surface averages ~8.8 m below ground, and measured hydraulic conductivities are predominantly 10^{-8}–10^{-9} m/s, indicating low-to-moderate permeability.

Conceptual model: Two principal hydrogeological units were defined: a Porous/Granular Aquifer (weathered mantle; primary porosity, heterogeneous sandy/clayey horizons) and a Fissured Aquifer (fractured alkaline

igneous rocks; secondary porosity). Hydrostratigraphic units, recharge/discharge zones and dominant flow directions were mapped to inform the numerical model.

Numerical model and calibration: The active domain covers 138 km² (horizontal cell size 60 m) with boundary conditions representing recharge, streams and basin limits (Dirichlet/Neumann/Cauchy). Steady-state calibration achieved $R^2 > 0.94$, normalised mean error < 10% and mass-balance error < 1%, indicating strong conceptual and numerical fit.

Dewatering and operations: Predictive scenarios estimate a total dewatering demand of 293 m³/h to enable mining in planned pits. The recommended approach is gravity drainage to sumps with pumping, with deep horizontal drains (DHPs) in locally more permeable zones (e.g., sandstone lenses). No significant impacts were identified for thermal springs or the urban area of Poços de Caldas; some stream reaches may experience reduced flows, which will be managed under the monitoring plan.

As field data expand (installation of piezometers and continued gauging), the model will be updated to transient conditions and recalibrated by phase to support water management, permitting and safe mine execution throughout the Reserve schedule.

Mining operation

The Maiden Ore Reserve supports a 40-year mine plan supplied by multiple shallow open pits across the Northern Concessions and Southern Complex (Central, South, North), with a minor contribution from Capão da Onça in later years. Scheduling prioritises MREO quality (not just TREO), targets 5.0 Mtpa ore feed and maintains a low 0.45:1 strip ratio.

A core design feature is progressive backfilling: waste and filtered process residues are returned to depleted pits, enabling concurrent rehabilitation, eliminating a conventional TSF, and reducing surface footprint. Mining and backfill operate as an integrated cycle, improving fleet utilisation and lowering capital and operating costs.

Mining Method and Logistics

A Company-operated truck-and-excavator fleet executes conventional, shallow open-pit mining. The clay-hosted orebody is free-dig (no drilling/blasting), reducing noise, vibration, equipment wear, and complexity. Beneficiation hubs near the pits pre-process ore; upgraded slurry is transferred by pipeline to the central plant with high water recycle and short-haul logistics. Residues and backfill use the same haul fleet on private haul roads for efficient material movement.

Sustainable mining in practice

- Topsoil management: stripped, stockpiled and used for progressive rehabilitation.
- Free-dig clay mining: low-impact truck-and-excavator operation.
- Efficient ore transport: short hauls to hubs; slurry pipeline to central plant.
- Residue backfill: dewatered clay returned for dry stacking and compaction in mined-out pits.
- Land rehabilitation: restored landforms using stockpiled topsoil to enable natural regrowth.

Processing and Metallurgy

The Colossus production facility will be in the southern half of the Northern Concessions, adjacent to three high MREO grade pits that make Phase I of the production profile. The production facility will treat 5Mtpa (dry) ROM feed and produce a MREC product. The design and subsequent cost estimate reflect a production facility with a plant operating factor of 90% (7,884 operating hours per year)[2].

Process Overview: Simple, Scalable Processing Flowsheet Delivering High-Value REE Output

The proposed flowsheet in Figure 2 has been designed for the efficient and low-impact extraction of magnet rare earth elements (Nd, Pr, Dy, Tb) from ionic adsorption clay using proven, scalable technology. The process maximises metallurgical recoveries while minimising reagent use, water consumption, and waste generation, supporting both strong economics and ESG performance. Key processing includes:

- Mineral Beneficiation: ROM is transported to centralised beneficiation hubs, where it is scrubbed and screened. Oversized material is stockpiled, while undersized material is pumped as a slurry to the central processing plant.

For personal use only

- Leaching: The slurry undergoes ambient-temperature leaching using low molar concentration ammonium sulfate in stirred tanks. This low-energy, low-reagent method capitalises on the ore's natural reactivity.
- Solids Management: The leached slurry is washed and filtered via a counter-current decantation ('CCD') circuit and pressure filters. Washed residue is temporarily stored before being returned to mined-out pits as part of the progressive backfill strategy.
- Purification and Precipitation:
  - The rare earths-rich solution is purified by increasing the pH to 5.5 using ammonium bicarbonate, selectively removing impurities such as aluminium.
  - Further pH adjustment to 7.1 leads to the precipitation of high-purity rare earth carbonates. The resulting MREC filter cake is washed, filtered, and bagged for sales.
- Reagent and Water Recycling: Spent process solution is treated using ultrafiltration ('UF') and reverse osmosis ('RO') to recover clean water and recycle ammonium sulfate.

Ore-to-MREC Recoveries: Anchored by ANSTO Testwork

Recoveries applied in the Ore Reserve are the same as the testwork-based inputs used in the PFS. They are derived from extensive ANSTO flowsheet programs that simulated Colossus plant conditions and generated site-specific recovery profiles for two representative bulk composites from the Northern Concessions and Southern Complex. These site-specific recoveries were applied in the mine schedule and Reserve estimate, avoiding a single blanket factor across the deposits.

To confirm representativeness, Viridis conducted a statistical validation program: randomised, non-targeted sampling over a range of depths and grades in both areas, diagnostic leach tests to capture variability, and benchmarking of results against ANSTO performance. The analysis confirms the recoveries are technically achievable and statistically valid across the planned feed.

These validated recovery inputs carry over unchanged from the PFS and underpin the modifying factors used in the Ore Reserve, thereby de-risking metallurgical assumptions and supporting confidence in the Project's production and economic outcomes.

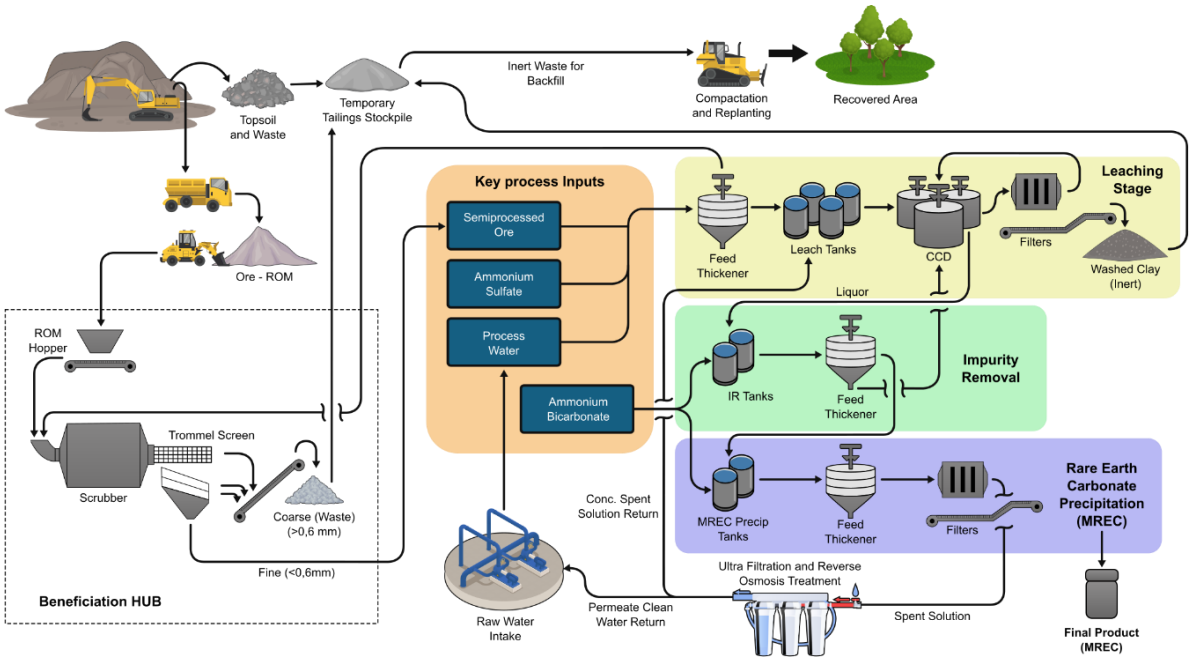

Figure 2: *Colossus Project Process Flow showing the sustainable process for producing MREC, including selective resource extraction, ammonium-based reagent flowsheet, water recirculation via reverse osmosis, and backfilling of non-hazardous residue into mined-out pits to promote environmental restoration.*

Northern Concessions: Ore-to-MREC Recoveries (ANSTO)

REO's recoveries from ore to saleable MREC for the Northern Concessions were established by ANSTO using flowsheet tests under simulated plant conditions. The resulting bulk-composite shows an overall impurity level of ~1.04%, with negligible U and Th. These recoveries and product specifications were applied in the PFS for the

For personal use only

Northern Concessions mine pits and are carried forward unchanged into the Maiden Ore Reserve schedule to convert planned ore feed into payable MREC tonnages and revenue.

Northern Concessions	MREC Recovery (%) Resource to final MREC precipitation	MREC TREO Composition
La_2O_3	75%	44.5%
CeO_2	9%	2.4%
Pr_6O_{11}	**77%**	**8.3%**
Nd_2O_3	**76%**	**29.1%**
Sm_2O_3	73%	3.2%
Eu_2O_3	77%	0.8%
Gd_2O_3	74%	2.1%
Tb_4O_7	**71%**	**0.3%**
Dy_2O_3	**67%**	**1.2%**
Ho_2O_3	67%	0.2%
Er_2O_3	63%	0.5%
Tm_2O_3	55%	0.1%
Yb_2O_3	51%	0.3%
Lu_2O_3	51%	0.0%
Y_2O_3	65%	6.9%
TREO	64%	100%
MREO	76%	39%

Table 3: *ANSTO net Ore to MREC recoveries for Northern Concessions using 0.3M AMSUL pH4.5 leaching and sodium bicarbonate for impurity removal and precipitation. Note that the MREC TREO composition depends on the grade composition of the Ore fed.*

Southern Complex: Ore-to-MREC Recoveries (ANSTO)

ANSTO established REO's recoveries from ore to saleable MREC for the Southern Complex under simulated plant conditions. The Southern Complex bulk composite reports ~0.7% total impurities, with negligible U and Th, meeting typical offtake specifications. These recoveries and product specifications were applied in the PFS for the Southern Complex mine pits and are carried forward unchanged into the Maiden Ore Reserve schedule to convert planned ore feed into payable MREC tonnages and revenue.

Southern Complex	MREC Recovery (%) Resource to final MREC precipitation	MREC TREO Composition
La_2O_3	**78%**	48.2%
CeO_2	**3%**	0.6%
Pr_6O_{11}	**77%**	8.7%
Nd_2O_3	**79%**	27.9%
Sm_2O_3	**77%**	3.1%
Eu_2O_3	**75%**	0.7%
Gd_2O_3	**78%**	1.9%
Tb_4O_7	**69%**	0.2%
Dy_2O_3	**65%**	1.1%
Ho_2O_3	**65%**	0.2%
Er_2O_3	**61%**	0.4%
Tm_2O_3	**54%**	0.1%
Yb_2O_3	**50%**	0.3%
Lu_2O_3	**49%**	0.0%
Y_2O_3	**66%**	6.7%
TREO	66%	100%
MREO	78%	38%

Table 4: *ANSTO net recoveries for Southern Complex Ore to final saleable MREC using 0.3M AMSUL pH4.5 leaching and Ammonium bicarbonate for impurity removal and precipitation. Note that the MREC TREO composition depends on the grade composition.*

For personal use only

For personal use only

Mine Planning

Optimal Pit Shells ("Mathematical Pits")

BNA generated the ultimate pit shells in Micromine (2023 build) using the Lerchs–Grossmann algorithm. To explore value/leverage and define the optimal envelope for each deposit, a suite of RAF were applied to the price deck, from 0.20 to 1.20 in 0.05 increments, each RAF producing a distinct mathematical pit. Given the spatial separation within the south, the Southern Complex was evaluated as South, Central, and North; the Northern Concessions and Capão da Onça were assessed as individual targets. Based on the RAF–NPV response, RAF 0.60 was selected for the final pit envelope at all targets, maximising mineral utilisation without compromising economic robustness.

For revenue attribution, blocks were classified and valued using deposit-specific metallurgical recoveries and oxide prices. Waste was further organised as: (i) Inferred regolith/saprolite, (ii) Low-grade waste (blocks with REE but negative benefit function), (iii) Barren rock with grade (not regolith/saprolite), and (iv) Barren waste.

Operational Pit Designs

The optimal pits were then operationalised following standard open-pit design practice, laying out toes and crests, catch berms, and access ramps, to ensure safe, efficient execution in line with geotechnical guidance. The principal parameters adopted for Reserve design are:

- **Bench height:** 5 m
- **Inter-ramp/face angle:** up to 50°
- **Overall slope angle:** ~28.54°
- **Minimum berm width:** 5 m
- **Ramp width:** 12 m (two-way haulage for the selected fleet class)
- **Ramp gradient:** 10%

The aggregate of the operational pit designs yields 200.59Mt of ore at an average 2,640 ppm TREO, with 90.97Mt of waste, for an overall strip ratio of 0.45:1 (waste:ore). These designs form the physical basis for subsequent mine scheduling, backfilling logistics, and material handling to the beneficiation hubs and production plant.

Appendix B presents the Operational Pit Maps for Northern Concessions, Southern Complex (South, Central, North) and Capão da Onça, showing final pit limits, internal ramp geometry, and integration with nearby beneficiation hubs.

Mine Schedule

The mine sequence for the Colossus Maiden Ore Reserve was developed in Micromine 2024, establishing annual production programs, the extraction order for ore and waste blocks, and the staged evolution of pit geometries and residue/waste placement (including in-pit backfill). Two external piles (one for waste, one for filtered residue) are permitted only for the start-up phase; once these reach capacity, all waste and filtered residue are returned to mined-out pits (no separation required).

<u>Key assumptions and constraints</u>

- **Throughput:** 5.0 Mtpa dry ore feed; no ramp-up applied.
- **Permitting envelopes:** mining must remain within the directly affected area ('ADA') during the first 3 years; due to environmental/licensing constraints, only the Northern Concessions are mined in Years 1–5.
- **Area integration:** from Year 5 onward, production blends ~50% Northern Concessions / ~50% Southern Complex as the southern hub is commissioned.
- **Stockpiling:** no early-year stockpiling of lower-grade ore, given space limitations under Phase-1 licensing.
- **Backfill strategy:** external piles are transitional; thereafter, progressive in-pit backfilling minimises surface footprint and supports concurrent rehabilitation.

The sequence prioritises rapid access to pit bottoms to create early backfill voids and streamline material movement. Feed control targets ≥ ~900 ppm MREO through the first 20 years, with blending optimised for MREO/TREO (rather than TREO alone) to preserve MREC basket value and product specifications.

Production profile

The Colossus Project mine plan defines a 40-year LOM, with ore feed sourced from the Northern Concessions, the Southern Complex (Central, South, and North sectors), and Capão da Onça. The operation targets an average annual mining rate of 5.0 Mtpa, with a low overall strip ratio averaging 0.45:1.

- **Years 1–5:** Ore sourced exclusively from the Northern Concessions
- **Years 6–30:** Sustained feed from the Northern Concessions and Southern Complex (Central)
- **Years 31–40:** Final mining stage with diversified feed from all deposits; Northern Concessions, Southern Complex (North, Central, South), and Capão da Onça

Total production over the 40-year LOM is estimated at 305.8kt of REO, equivalent to approximately 431kt of MREC.

Waste and Residue Handling

Colossus adopts progressive in-pit backfilling, commencing from Year 2 in the Northern Concessions. Two small external starter piles (one waste, one filtered residue) are used only during start-up; once complete, all waste and filtered residues are returned to mined-out pits, and there is no conventional TSF. Design volumes already incorporate 20% bulking and 15% compaction. Final landforms will be reinstated to near-original topography.

Because void availability inside the Phase-1 permitting envelope is the primary constraint in Years 1–3, early pit selection focuses on reaching pit bottoms quickly to create backfill capacity and shorten hauls. From mid-life onward, material previously placed in external piles is reclaimed and backfilled in-pit to complete landform shaping and enable concurrent rehabilitation while minimising surface footprint.

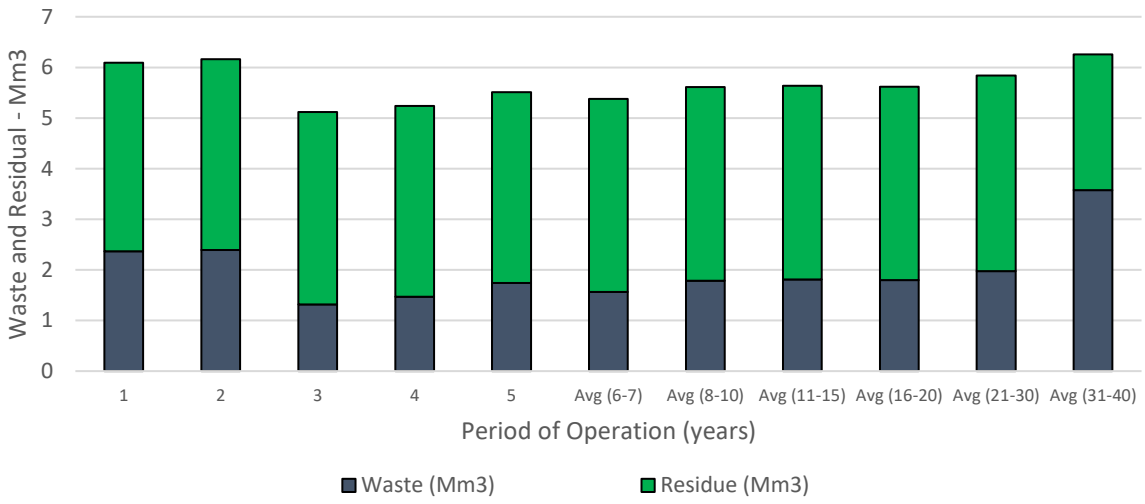

Figure 3: *Total mine waste and process residue moved by period (Mm³), Colossus Maiden Ore Reserve. Bars show aggregate volumes per period across the entire operation (not split by area). Waste = mined overburden/low-grade material; Residue = filtered, washed clay returned for in-pit backfill. Volumes reflect planning factors (20% swell and 15% compaction) and correspond to the 40-year LOM schedule.*

Appendix C shows maps of areas rehabilitated following the return of filtered residues and waste to mined-out pits across all operating fronts: Northern Concessions, Southern Complex (Central, North and South), and Capão da Onça. The maps illustrate the temporal progression of in-pit backfilling and rehabilitation over the LOM, highlighting pit boundaries, zones already restored, and linkages to nearby beneficiation hubs, evidence of the in-pit disposal strategy (no conventional TSF) and the Project's steadily shrinking surface footprint.

For personal use only

Maiden Ore Reserve

Viridis, together with BNA, has completed pit optimisation, detailed pit designs and LOM scheduling, and declares the Project's Maiden Ore Reserve. Table 5 presents the Reserve by area, JORC (2012) classification, tonnage and grades.

Deposit	Category	Reserve (Mt)	TREO (ppm)	Pr_6O_{11} (ppm)	Nd_2O_3 (ppm)	Tb_4O_7 (ppm)	Dy_2O_3 (ppm)	MREO (ppm)	MREO/TREO
Northern Concessions (NC)	Proved								
	Probable	97.4	2,405	156	484	5	27	698	29%
Southern Complex - Central (SC_C)	Proved								
	Probable	82.1	2,879	182	543	6	33	794	28%
Southern Complex - South (SC_S)	Proved								
	Probable	16.0	2,740	158	441	4	25	652	24%
Southern Complex - North (SC_N)	Proved								
	Probable	4.3	2,928	210	656	8	38	949	32%
Capão da Onça (CO)	Proved								
	Probable	0.8	3,154	219	596	5	28	875	28%
Total		**200.6**	**2,640**	**168**	**509**	**6**	**29**	**740**	**28%**

Table 5. *Colossus Maiden Ore Reserve (dry basis) and diluted grades by area. Reserve is 100% Probable; Inferred material excluded and treated as waste. Reported grades include 5% dilution. Mining recovery: 95%; representative marginal cut-off ~1,000 ppm TREO.*

The Reserve is reported entirely as Probable. Only Measured and Indicated Mineral Resources were considered, with Inferred material excluded and treated as waste in the evaluation. Reporting reflects an economic marginal cut-off of ~1,000 ppm TREO (dry) and includes 5% dilution and 95% mining recovery. Metallurgical recoveries were applied by oxide and by deposit area. At the same time, revenue assumptions follow the PFS base case, including 70% payability for MREC, product transport and applicable royalties (CFEM 2%, surface 1%, vendor royalty 4.75%). Totals may vary slightly due to rounding. Viridis confirms it is not aware of any new information that materially affects the 22 January 2025 Mineral Resource or the material PFS assumptions used for this conversion.

Summary: 200.6Mt at 2,640ppm TREO (incl. 740ppm MREO), Probable 100%, strip ratio 0.45:1, underpinning 5.0 Mtpa feed over an estimated 40-year life of mine.

Future Work

Viridis is progressing several key initiatives to advance the Colossus Project:

- Environmental Permitting: Regulatory advancement remains the Company's highest near-term priority
- MREC Demonstration Plant
- DFS and Metallurgical Optimisation
- Project Financing for the Execution Phase
- Offtake Negotiations

Approved for release by the Board of Viridis Mining and Minerals Ltd.

Contacts

For more information, please visit our website, www.viridismining.com.au or contact:

Carly Terzanidis
Company Secretary
Tel: + 61 3 9071 1847
Email: cosec@viridismining.com.au

Rafael Moreno
Managing Director
Tel: + 61 3 9071 1847
Email: rafael.moreno@viridismining.com.au

For personal use only

For personal use only

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, with an Ore Reserve Estimate for Rare Earth Elements following completion of a Pre-Feasibility Study;
- The South Kitikmeot Project, where the Company intends to continue gold exploration;
- 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 kaolin-halloysite.

Competent Person's Statement – Ore Reserves (Colossus Project)

The information in this announcement that relates to Ore Reserves is based on, and fairly represents, information and supporting documentation prepared by Mr Beck Nader, FAIG (#4472), who is a Competent Person as defined in the JORC Code (2012 Edition). Mr Nader is a Fellow of the Australian Institute of Geoscientists ('AIG'), a Recognised Professional Organisation ('RPO'). He has sufficient experience relevant to the style of mineralisation, type of deposit and the activities undertaken to qualify as a Competent Person.

Mr Nader is a Senior Technical Advisor of BNA Mining Solutions and an independent consultant to Viridis Mining and Minerals Ltd. Neither BNA nor the authors of the underlying technical report hold any interest in the Colossus Project or the securities of Viridis; remuneration is on regular professional terms and is not contingent on the conclusions of this Ore Reserve statement.

The Ore Reserve work draws on data and reports supplied by Viridis and by other specialist consultants (including geology, Mineral Resource estimation, geotechnical and hydrogeology). Mr Nader has reviewed the data provided by Viridis for the Project, verified it where possible, and considers it to be sufficiently detailed, reliable, field-verifiable and accurate for Ore Reserve estimation and reporting.

The underlying technical work was prepared in accordance with the JORC Code (2012) and with Brazil's ANM Resolution No. 94/2022. Calculations in the supporting report may include rounding of subtotals/totals and weighted averages; rounding may cause minor summation differences that are not considered material.

Mr Nader consents to the inclusion in this announcement of the information that relates to the Ore Reserves for the Colossus Project in the form and context in which it appears.

Competent Person's Statement – General

The Company confirms that it is unaware of any new information or data that materially affects the information included in the market announcements referred to in this release and in the case of estimates of Mineral Resources, Production Targets and forecast financial information that all material assumptions and technical parameters underpinning the estimates of Mineral Resources, Production Targets and forecast financial information in the relevant referenced market announcements continue to apply and have not materially changed. To the extent disclosed above, the Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

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

Forward-Looking Statements

This announcement includes production targets and forecast financial information derived from those targets. Viridis confirms that the production target and the forecast financial information in this announcement are solely underpinned by Ore Reserves (100% Probable); no Inferred Mineral Resources or Exploration Targets are included (ASX Listing Rules 5.16/5.17). Accordingly, the proximate cautionary statements contemplated by LR 5.16.5 and 5.16.6 are not required. All material assumptions underpinning the production target and the forecast financial information continue to apply and have not materially changed since the PFS. Forward-looking statements are subject to some risks and uncertainties (including permitting, funding, market prices, operating performance and other factors), and actual results may differ materially. Development of the Project will require

funding; the timing and amounts are expected to align with the PFS plan, and there is no certainty that such financing will be available on the terms contemplated or at all.

References

1. *VMM ASX announcement dated 22 January 2025, 'Colossus Hits Largest M&I and Highest-Grade MREO Resource'*
2. *VMM ASX announcement dated 9 July 2025, 'Colossus PFS Unlocks World-Class Project Economics'*

For personal use only

APPENDIX A: JORC Table 1

Section 4 Estimation and Reporting of Ore Reserves

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	The Ore Reserve has been derived from the JORC (2012) Mineral Resource last reported by Viridis on 22 January 2025 (493 Mt @ 2,508 ppm TREO, incl. 601 ppm MREO). For this Reserve, only the Measured and Indicated components were considered; Inferred material was excluded and treated as waste wherever intersected by the mine plan. Within the areas scheduled for mining (Northern Concessions ('NC') and Southern Complex ('SC') – Central/South/North, with a minor late-life contribution from Capao da Onça ('CO')), the Measured and Indicated base totals 329 Mt @ 2,680 ppm TREO (659 ppm MREO). Conversion to Ore Reserves was completed using PFS-level modifying factors (geotechnical, hydrogeological, mining, metallurgical, cost and revenue assumptions) and a cut-off grade consistent with the optimisation inputs (≈1,000 ppm TREO). The resulting Ore Reserve is 200.6 Mt @ ~2,640 ppm TREO (~740 ppm MREO), classified 100% as Probable; there are no Proved Ore Reserves at this stage. The Probable classification reflects the current level of technical definition and the application of PFS assumptions; additional infill, testwork and DFS-level engineering may support future upgrade of portions of the Reserve. Viridis confirms that it is not aware of any new information or data that materially affects the previously reported Mineral Resource and that all material assumptions and technical parameters underpinning that estimate continue to apply and have not materially changed for this Reserve conversion.
Site visits	• A site visit to the Colossus Project was conducted by Volodymyr Myadzel (BNA Mining Solutions) on 25 October 2024. The visit included an overview of the operations area, access and infrastructure, inspection of the core/storage facilities, review of geological records and sampling/QA documentation, and a general geological walk-through of the Northern Concessions. No material inconsistencies were observed relative to the datasets used in the estimation. • For the Reserve work, the Competent Person (Mr Beck Nader) has reviewed the BNA site-visit findings, photographs, maps/GIS layers (including physical constraint buffers), and the results of the geotechnical and hydrogeological programs undertaken for the PFS/Reserve. Based on this evidence, he considers the information adequate for PFS-level modifying factors and for reporting a Probable Ore Reserve. • Additional Competent Person site visits are planned during DFS to support pit-specific geotechnical programs, groundwater monitoring, and environmental/permitting interfaces. Viridis confirms there have been no material site changes since the October 2024 visit that would affect the Ore Reserve outcomes.
Study status	• The Ore Reserve has been prepared to a PFS level, satisfying the JORC (2012) requirement for Reserve reporting. The work draws on the independent PFS led by Hatch (process & project definition) and on specialist inputs completed for the Reserve by BNA (pit optimisation/design & scheduling), ANSTO (metallurgical testwork & recoveries), VinQ Geotecnia (geotechnical), and CLAM/MDGEO (hydrogeology and groundwater model). • The modifying factors applied are consistent with the PFS base-case: mining/processing costs, payability (70% for MREC), logistics (US$230/t MREC), royalties/levies, recoveries (domain composites for NC and SC), geotechnical slope parameters and hydrogeological controls. Inferred Resources were excluded and treated as waste wherever intersected by the mine plan.

For personal use only

For personal use only

Criteria	Commentary
	• On this basis, Viridis reports a Probable Ore Reserve of 200.6 Mt @ ~2,640 ppm TREO (~740 ppm MREO), supporting a life-of-mine schedule at ~5.0 Mtpa with a ~0.45:1 strip ratio. The Probable classification reflects the current level of engineering definition and dataset confidence at PFS level; no Proved Reserves are declared at this stage. • The price deck and other economic assumptions used in optimisation are identical to the PFS base case; the internal NPV metrics used for shell selection (e.g., Constant-Lag method) are selection tools only and are not the project's financial NPV. • Next steps (DFS): pit-specific geotechnical drilling and slope design, transient groundwater modelling and additional monitoring, metallurgical variability/pilot work, detailed engineering (plant, residue handling and backfill), and permitting/land access workstreams. These will be used to validate and, where appropriate, refine the modifying factors to support potential upgrades within the Reserve classification. • Viridis is not aware of any new information or data that materially affects the Mineral Resource underpinning this Reserve, and all material assumptions from the PFS remain applicable for Reserve conversion.
Cut-off parameters	• Reserve cut-offs were derived economically, not by a single fixed grade. Block values were calculated in Micromine using oxide-specific prices (PFS base-case), deposit-specific metallurgical mass recoveries, 70% MREC payability, logistics cost, mining/processing costs, royalties/levies, 95% mining recovery and 5% dilution. These block net values informed Lerchs–Grossmann ('LG') optimisation and scheduling. • For Reserve reporting and reconciliation, a representative marginal cut-off of ~1,000 ppm TREO (ROM, dry basis) has been adopted, consistent with the PFS base-case inputs and the pit optimisation used for shell selection. • Only regolith were considered potentially mineable; leached clays and fresh rock were excluded from Reserve conversion. • Inferred material was excluded from cut-off and Reserve determination (treated as waste wherever intersected). • While the economic cut-off is variable at block/domain level (reflecting costs, recoveries and haul), mine scheduling targets MREO quality (MREO/TREO) for product value; this is a blending objective, not a reporting cut-off.
Mining factors or assumptions	• **Mining method & layout.** Shallow open-pit, truck-and-excavator, free-dig mining of clay-hosted regolith/saprolite; no drilling or blasting required. Multiple pits across NC and SC (Central, North, South) with a minor late-life pit at CO. Steady-state plant feed ~5.0 Mtpa. • **Geotechnical basis (design parameters).** Preliminary geotechnical work (VinQ) supports average pit depths ~30–40 m. Design uses 5 m benches, face/inter-ramp angles up to ~50°, and overall slope ~28.54°. Ramp width 12 m and gradient 10%. Factors of safety adopted for Reserve design: FS ≥1.30 (overall) and FS ≥1.20 (inter-ramp) under static conditions. • **Pit optimisation & operational pits.** Ultimate shells derived via Lerchs–Grossmann in Micromine; Revenue Adjustment Factors ('RAF') were tested and RAF 0.60 selected for final shells. Operational designs translate shells into benches, berms and ramps consistent with geotechnical guidance. • **Recovery, dilution & ore loss (mining).** Mining recovery 95% and dilution 5% applied for Reserve estimation. Minimum mining widths are not limiting due to laterally extensive clay horizons and the chosen access widths.

For personal use only

Criteria	Commentary
	• **Sequencing focus.** Mine scheduling prioritises rapid access to pit bottoms (to open voids for backfill) and MREO-focused feed quality (optimising MREO/TREO rather than TREO alone). No ramp-up was assumed in the schedule. • **Strip ratio.** Life-of-mine strip ~0.45:1 (waste:ore) for the Reserve pits. • **Material movement & backfill.** ESG-led design with progressive in-pit backfilling of waste and filtered process residues; only small starter external piles are used early and then reclaimed to pits. Final landforms are reinstated (tolerances: +3 m NC, +5 m SC/CO). No conventional TSF. • **Haulage & hubs.** Ore hauled on private short-haul roads to near-pit beneficiation hubs; upgraded slurry is pipelined to the central plant. Residues are conveyed back to hubs and backhauled to mined-out voids. • **Hydrogeology & dewatering (operational assumption).** Dewatering is achieved primarily by gravity drainage to sumps with pumping; deep horizontal drains may be used locally in more permeable zones. No material hydrogeological constraints identified for Reserve reporting. • **Use of Inferred.** Inferred Mineral Resources are excluded from planning and treated as waste wherever intersected. • **Economic consistency.** Mining assumptions and costs are aligned to the PFS base case and were used in optimisation and Reserve conversion. Further pit-specific geotech/hydro work and grade-control drilling are planned for DFS to refine these assumptions.

Metallurgical factors or assumptions	• **Process route & suitability.** Clay-hosted, ion-adsorption mineralisation treated by ammonium-sulfate (AMSUL) leaching at ~pH 5 under ambient temperature/pressure, followed by impurity removal with ammonium bicarbonate (≈pH 5.4) and MREC precipitation (additional ammonium bicarbonate to ≈pH 7.1). Route is conventional for IAC deposits and avoids flotation/roasting and aggressive acid leach.
	• **Testwork basis & domaining.** Metallurgical factors are unchanged from the PFS and anchored by ANSTO flowsheet programs that simulated Colossus plant conditions. Recovery inputs are domain-specific (bulk composites for NC and SC) and are applied in the block model and schedule via a mass-recovery matrix by oxide and by deposit. A statistical validation (randomised diagnostic leaches across depth/grade) confirms domain recoveries are representative at mine scale.
	• **Recoveries used for Reserve conversion.**
	  ○ TREO recovery: ~57% (flowsheet basis)
	  ○ MREO recovery: ~76% (flowsheet basis)
	• **Illustrative oxide recoveries:** NC/SC ~77% Pr_6O_{11}, ~76–79% Nd_2O_3; CO lower at ~58.2% Pr_6O_{11} and ~60.6% Nd_2O_3 (applied where relevant in late-life feed). Exact BNA matrix percentages were used in optimisation and scheduling.
	• **Product specification & payability.** Final product is MREC meeting offtake-typical specs. Impurities: ~1.04% (NC bulk composite) and ~0.7% (SC bulk composite), with negligible U/Th; payability assumed at 70% and transport at US$230/t MREC (per PFS). Low natural U/Th has been confirmed by the regulator (CNEN), which granted exemption from radiological licensing up to operations, supporting product marketability and permitting.
	• **Deleterious elements & penalties.** No deleterious elements have been identified at levels expected to materially impact recoveries, product quality, or payability under the assumed terms.
	• **Process integration & residue management.** Flowsheet includes high water recycle; filtered residues are dry-stacked via in-pit backfilling (no conventional TSF), consistent with the Reserve mine plan and ESG objectives.
	• **Scale-up and future work.** Pilot-scale work and additional variability/pilot campaigns are planned for DFS to further refine reagent consumptions, kinetics

Criteria	Commentary
	and scale-up parameters; however, the current PFS-level testwork and domain recoveries are considered adequate for reporting a Probable Ore Reserve.
Environmental	• **Studies & approvals.** An EIA/RIMA covering the Northern Concessions has been submitted to the Minas Gerais environmental authority (FEAM) as part of the Preliminary Licence (PL) application. A Municipal Certificate of Regular Land Use and Occupation has been granted, satisfying a key legal prerequisite under State Decree 47,383/2018. Field programs (≈8 months) included flora/fauna, hydrology, air quality, noise and socio-economic surveys. No material environmental impediments have been identified that would preclude reporting a Probable Ore Reserve. • **Residue & waste management.** Consistent with the PFS, Colossus adopts progressive in-pit backfilling of filtered residue and waste (dry-stacked and compacted), eliminating a conventional tailings storage facility. Spent residue is washed to remove excess sulfate prior to backfilling. Topsoil is stripped, stockpiled and used for staged rehabilitation; final landforms are restored to near-original topography (as per design tolerances). • **Process water & emissions.** The central processing facility is designed for high water recycle (ultrafiltration/RO) with no discharge to natural waterways under normal operating conditions; dust emissions are mitigated via wet suppression (recycled process water). Power supply is planned from the renewable grid mix available in Minas Gerais, supporting a lower carbon footprint relative to hard-rock REE operations. • **Hydrogeology & water management.** Independent consultants (CLAM/MDGEO) completed a conceptual and 3D numerical groundwater model to support baseline characterisation and pit dewatering design. The preferred approach is gravity drainage to sumps with pumping, with deep horizontal drains applied locally where higher permeability is encountered. A monitoring network (piezometers, surface-water points and water-quality stations) is proposed to track performance and support permitting. • **Geochemical risk.** The ionic-adsorption clay mineralisation and kaolinitic wastes are acid-generally inert and not expected to generate acid mine drainage or problematic heavy-metal leachate under the planned operating conditions (per PFS characterisation). • **Radiological compliance.** Low natural U/Th in the Mineral Resource has been confirmed by CNEN, which has granted exemption from radiological licensing up to the operations phase—supporting environmental and product compliance. • **Permitting pathway & status.** The PL application is under review; subsequent licences—Installation (IL) and Operation (OL)—will follow the standard state sequence. The Reserve assumes the PFS base-case permitting pathway and timing (IL targeted to align with construction/commissioning schedule). • **Consistency statement.** The environmental assumptions used for Reserve conversion are unchanged from the PFS base case and are considered appropriate for PFS-level modifying factors. Ongoing DFS work (additional monitoring, transient hydrogeological modelling, pilot/process validation and detailed rehabilitation plans) will be used to validate further and refine these assumptions.
Infrastructure	• **Regional setting & access.** Colossus is located in Poços de Caldas (MG), an established mining–industrial hub with sealed highway access, existing chemical/mineral processing, and an experienced workforce. Paved roads and private haul roads link mine areas to near-pit beneficiation hubs and the centrally located processing facility.

For personal use only

Criteria	Commentary
	• **Power.** Connection to the Minas Gerais grid with proximity to high-voltage transmission. Power supply assumptions remain renewables-weighted (hydro/solar/wind) consistent with the PFS base case. • **Water & residue handling.** The plant is designed for high water recycle (UF/RO) with no routine discharge to natural waterways. Process residues are filtered and dry-stacked via in-pit backfilling, aligned with the mine plan and permitting strategy. • **Ore transport & logistics.** Ore is upgraded at beneficiation hubs near the pits and transferred as slurry by pipeline to the central plant, reducing dust, truck traffic and haul costs. Finished MREC is dispatched by road to export corridors, leveraging Brazil's established port infrastructure (e.g., Santos, Vitória). • **Workforce & accommodation.** The project draws on a local, skilled labor pool; no FIFO camp is required. Services and accommodations are available within Poços de Caldas. • **Consistency with PFS & next steps.** Infrastructure assumptions are unchanged from the PFS base case and are considered appropriate for PFS-level modifying factors used in this Reserve. DFS work will refine tie-ins (power/water), confirm southern beneficiation hub commissioning sequence, and optimise slurry/haul logistics and backfill infrastructure.
Costs	• **Basis & level of accuracy.** Cost inputs used for pit optimisation, scheduling and Reserve conversion are unchanged from the PFS base case and appropriate to PFS/AACE Class 4 (±30%) accuracy. Internal selection NPVs used for shell choice exclude CAPEX and are not the project financial NPV. • **Capital costs (PFS base case, USD).** Pre-production CAPEX US$286 M (ex-contingency); with 25% contingency, total US$358 M. Breakdown: US$185 M direct (mining fleet, plant, infrastructure), US$61 M indirect (EPCM/owners), US$40 M taxes, US$72 M contingency. DFS will refine with vendor quotes and detailed engineering. • **Unit costs used in optimisation (USD, dry basis).** • Mining (ore): US$3.14/t ROM | Mining (waste): US$3.14/t moved • Processing: US$8.34/t ROM | Sustaining CAPEX proxy: US$1.31/t ROM • Logistics (product): US$230/t MREC (assumption applied in Reserve; consistent with PFS). • Payability: 70% for MREC. • Royalties/levies: CFEM 2%, surface 1%, vendor royalty 4.75%. • Mining factors: 5% dilution, 95% mining recovery. • **Operating cost framework (PFS economic case).** C1 OPEX ≈ US$6.20/kg TREO; AISC ≈ US$9.30/kg TREO (includes sustaining, royalties, rehabilitation) for the original PFS case study. Key annual OPEX components indicative of the PFS case: mining & residue handling ~US$15.5 M, processing & transport ~US$39.6 M, G&A ~US$3.6 M; sustaining CAPEX ~US$6.5 M/yr (~3.5% of direct CAPEX). The Reserve does not restate these economic references; the Reserve simply adopts the same cost assumptions for conversion and optimisation. • **Transport & logistics.** ROM is upgraded at near-pit hubs; slurry transfer to the central plant is included in OPEX. Product transport to port benchmarked at ~US$54/t MREC under the PFS case; export/port fees per Brazilian norms. • **Deleterious elements/penalties.** Not expected to be material: MREC impurities verified at ~1.04% (NC) and ~0.7% (SC) with negligible U/Th, so no penalty allowances were modelled. • **Currency & escalation.** Modelled in USD; BRL costs converted per PFS methodology. No explicit inflation applied at this stage; contingencies and PFS allowances provide headroom for cost drift pending DFS updates. • **Consistency statement.** For Reserve reporting, all cost assumptions (unit costs, payability, logistics, royalties and sustaining provisions) are consistent with the

For personal use only

Criteria	Commentary
	PFS base case and constitute the modifying factors applied to determine the Probable Ore Reserve. Further refinement will occur during DFS.
Revenue factors	• **Product & pricing basis.** Revenue is based on sale of MREC. For Reserve optimisation and reporting, the oxide price deck is equivalent to the PFS base case and applied by oxide in USD/kg: Pr_6O_{11} US$96/kg; Nd_2O_3 US$91/kg; Dy_2O_3 US$269/kg; Tb_4O_7 US$888/kg, with the balance of REOs priced per the PFS deck (La, Ce, Sm, Eu, Gd, Ho, Er, Tm, Yb, Lu, Y). • **NSR / block value calculation.** Block revenues were derived from grade × deposit/oxide-specific mass-recovery × oxide price, then adjusted for MREC payability (70%) and product transport cost (US$230/t MREC). Government and private royalties (CFEM 2%, surface royalty 1%, vendor royalty 4.75%) are applied in the economic evaluation consistent with the PFS. These inputs fed the Lerchs–Grossmann optimisation and mine scheduling used for Reserve conversion. • **Head grades & scheduling.** Revenue outcomes reflect the Reserve-grade schedule (not a single head-grade proxy). Mine planning emphasises MREO contribution and MREO:TREO ratio to align with basket value, within the same pricing framework as the PFS. • **Exchange & model currency.** All pricing and revenue calculations are USD-denominated; BRL costs were converted per the PFS methodology. No explicit inflation escalation is applied at this Reserve stage. • **Payability / penalties.** The assumed 70% payability for MREC is unchanged from the PFS. No penalties are expected under the assumed specification; metallurgical testwork indicates low impurities (NC ~1.04%, SC ~0.7%) and negligible U/Th, supporting marketability. • **Consistency & sensitivities.** For Reserve reporting, no changes have been made to the PFS revenue assumptions. Spot/long-term price sensitivities remain as per the PFS and do not affect the classification or quantum of the Maiden Probable Ore Reserve. Revenue factors will be reviewed at DFS in line with offtake engagement and updated market forecasts.
Market assessment	• **Product & end-use.** Colossus will produce MREC with revenue driven by Nd, Pr, Dy, Tb for permanent-magnet applications (EVs, wind, electronics/defence). The Reserve mine plan and blending strategy emphasise MREO contribution to support a competitive basket value. • **Pricing basis (unchanged from PFS).** Reserve conversion uses the PFS base-case price deck by oxide and 70% payability for MREC. These inputs were applied in NSR/block value calculations for pit optimisation and do not depend on any new market forecasts for the Reserve classification. • **Product quality & acceptance.** ANSTO testwork supports marketable MREC with low impurities (~1.04% NC, ~0.7% SC) and negligible U/Th. Brazil's CNEN has confirmed exemption from radiological licensing up to operations, which, together with low impurities, is favourable for downstream qualification and payability. • **Customers & offtake.** The target customer base comprises REE separation plants and magnet-supply-chain participants in North America, Europe, Japan and South Korea. Engagement and market sounding will continue through DFS toward non-binding then binding offtake. No Ore Reserve outcomes are contingent on binding offtake agreements at this stage. • **Competitive positioning.** Colossus is an IAC-style deposit outside China with shallow, free-dig mining, progressive in-pit backfill (no TSF), high water recycle and short-haul logistics to hubs and slurry pipeline, supporting a low-cost, ESG-forward profile relative to hard-rock REE operations.

For personal use only

Criteria	Commentary
	• **Logistics to market.** Product is trucked to export corridors leveraging Brazil's established ports (e.g., Santos/Vitória) and existing highway infrastructure from Poços de Caldas. • The market assessment for this Reserve relies on PFS-level price and payability assumptions and does not require secured offtake. Market conditions and customer qualification will be further addressed in DFS, with any updated pricing or terms to be reflected in future disclosures.

Economic	• **Basis of evaluation.** Reserve conversion relies on the PFS financial model and assumptions; no new economic case has been prepared specifically for the Reserve. Inputs are in real 2025 USD, and the discount rate is 8% real, post-tax (NPV_8)—consistent with industry practice.
	• **PFS economic outcomes (unchanged).**
	  ○ Base case pricing: NdPr US$90/kg.
	  ○ NPV / IRR: Pre-tax NPV_8 ~US$1.41B, post-tax NPV_8 ~US$899M; pre-tax IRR ~43%, post-tax IRR ~34%.
	  ○ Payback: ~2.0 years.
	  ○ **Cost framework:** C1 ~US$6.20/kg TREO; AISC ~US$9.30/kg TREO over the (original) 20-yr case.
	• **Sensitivities (PFS reference).** Price/downside testing shows robust economics; at NdPr US$63/kg (≈-30% case) the pre-tax NPV_8 ~US$773M, pre-tax IRR ~30%, payback ~3.0 years. Break-even analysis indicates viability at ~US$50/kg NdPr.
	• **What was used for Reserve optimisation.** The same price deck, payability (70% for MREC), logistics cost, unit costs, royalties, recoveries, dilution (5%) and mining recovery (95%) were applied to derive block values and select shells (Lerchs–Grossmann with Constant-Lag selection). Internal selection NPVs exclude CAPEX and are not the project's financial NPV.
	• **Currency & inflation.** Model denominated in USD; BRL conversions per PFS methodology. No explicit inflation escalation at this stage (real-terms analysis).
	The DFS will refresh the economic case with vendor quotes, updated market forecasts/offtake terms, detailed engineering, permitting updates and potential incentives; any changes will be reported in future disclosures.

Social	• **Stakeholder engagement & social licence.** Viridis maintains active engagement with municipal/state authorities and local communities in Poços de Caldas (MG), aligned with regional development and sustainability plans. The Certificate of Regularity for Land Use and Occupation from the Municipality remains in force and supports advancement of the Project. • **Community programs & local development.** Ongoing partnerships with UNIFAL and IFMG provide training/professional education; sponsorship of SENAI's "Trilha da Mineração I" prioritises local workforce development. Social initiatives include "Dia da Gentileza" (volunteer work), blood-donation campaigns, and digital-inclusion support via computer donations to Projeto Bem Viver. • **Baseline & area of influence.** The EIA/RIMA social baseline covers 28 rural properties and 17 urban neighbourhoods within the area of influence. Engagement focuses on employment, supplier development and coordinated community investments (e.g., road maintenance/improvements) that benefit both the Project and surrounding communities. • **Integration with mine plan.** The Reserve mine plan's progressive in-pit backfilling (no conventional TSF) and use of existing infrastructure minimise land disturbance, truck traffic and camp requirements—supporting social acceptance and reducing nuisance impacts relative to conventional operations. • **Approach to impacts & next steps.** Social impact identification/mitigation follows the EIA/RIMA framework and Brazilian regulations; specific land-access and compensation processes will continue through DFS and licensing phases

For personal use only

Criteria	Commentary
	with ongoing consultation. No material social impediments have been identified that would affect reporting of a Probable Ore Reserve. • **Consistency statement.** Social assumptions used for Reserve conversion are unchanged from the PFS base case and are considered appropriate at PFS (JORC 2012) level; further refinement will occur during DFS with continued stakeholder engagement.
Other	• **Naturally occurring risks (geological, seismic, environmental).** No material geotechnical, seismic or environmental hazards have been identified that would preclude Reserve reporting. Hydrogeological work (CLAM/MDGEO) indicates manageable dewatering via gravity drainage to sumps with local DHPs as needed; no material risks of groundwater contamination or flooding have been identified for the planned operations. • **Radiological context.** The mineralisation exhibits low, immaterial U/Th. Brazil's CNEN has granted exemption from radiological licensing up to the operations phase, supporting product marketability and permitting. Routine compliance monitoring will continue per Brazilian regulation and good industry practice. • **Legal agreements & marketing arrangements.** Viridis holds two MoUs: (i) with the State Government of Minas Gerais (Invest Minas) to streamline regulatory/environmental interfaces; and (ii) with the Municipality of Poços de Caldas for infrastructure support (power/water/sewage) and licensing assistance. The Municipality has issued a Certificate of Regularity for Land Use and Occupation. • **Government approvals & statutory compliance.** Mineral tenements are in good standing (ANM processes 009.031/1966, 830.113/2006, 007.737/1959, 830.927/2016). The Preliminary Licence (LP/PL) application was submitted to FEAM on 23 January 2025; Installation (LI) and Operation (LO) licences will follow the standard state sequence. Viridis is working with Alger Consultoria to secure remaining approvals in line with the project timeline. • **Physical constraints incorporated in designs.** Pit layouts and schedules honour mapped physical restrictions (e.g., ZPP/legal buffers, property boundaries, transmission-line servitudes, urban perimeter, water bodies, designated local constraints, plant footprint), as supplied by Viridis and used by BNA in optimisation and design. • **Third-party dependencies.** There are no unresolved third-party issues materially affecting Reserve reporting. Surface access for exploration has been secured; additional land-access/ROW arrangements customary for construction and operations will proceed through the licensing/DFS stages. No new information has arisen that materially changes the risk profile disclosed at PFS. Assumptions relevant to this section remain consistent with the PFS base case and are considered appropriate for reporting a Probable Ore Reserve under JORC (2012).
Classification	• **Reserve statement.** The Maiden Ore Reserve for Colossus is 200.6 Mt @ ~2,640 ppm TREO (~740 ppm MREO), classified 100% as Probable under JORC (2012). No Proved Reserves are declared at this stage. • **Basis of conversion.** The Reserve is derived solely from Measured + Indicated Mineral Resources within the scheduled areas (NC, SC–Central/North/South, and minor late-life CO). Inferred Resources were excluded from the evaluation and treated as waste wherever intersected. • **Rationale for classification.** Although portions of the Mineral Resource are Measured, the current confidence in the modifying factors is at PFS level (geotechnical, hydrogeological, mining, metallurgical, cost/revenue, environmental and permitting). Following JORC (2012), this supports classification as Probable rather than Proved at this time.

For personal use only

Criteria	Commentary
	• **Modifying factors applied.** Reserve estimation used LG optimisation and operational pit designs with 5% dilution, 95% mining recovery, ~1,000 ppm TREO marginal cut-off (economic), deposit/oxide-specific recoveries (ANSTO basis), 70% MREC payability, product logistics US$230/t MREC, royalties and the other PFS base-case inputs. • **Competent Person view.** The Competent Person (Mr Beck Nader) is satisfied that the data quality, technical studies and modifying factors are adequate to demonstrate economic extraction at PFS confidence and that the Probable classification appropriately reflects the current level of certainty. Further DFS work (pit-specific geotech, transient hydro, pilot/variability testwork and detailed engineering) may support future conversion of portions to Proved.
Audits or reviews	• **Scope of review.** The Maiden Ore Reserve has been prepared by BNA using the January 2025 JORC (2012) Mineral Resource and PFS-level modifying factors. The estimate, inputs and results (LG optimisations, operational pit designs, schedules and reconciliations) underwent internal technical review by BNA and Competent Person review by Mr Beck Nader. • **External audit status.** No independent external audit of the Ore Reserve has been completed before this announcement. An independent audit/review is planned for the DFS phase, alongside additional geotechnical, hydrogeological and metallurgical workstreams. • **Resource review context**. The underpinning Mineral Resource (reported 22 January 2025) was prepared and internally peer-reviewed in accordance with JORC (2012). Viridis is not aware of any new information or data that materially affects that Resource, and the assumptions used for the Reserve conversion remain consistent with the PFS base case. • **Records & transparency.** All key estimation files (resource models, parameters, price deck and recoveries, LG runs, pit designs, scheduling outputs) are retained and available for regulatory or third-party audit as part of the DFS due-diligence process.

Discussion of relative accuracy/ confidence	• **Overall confidence & classification.** The Ore Reserve is reported as Probable (100%) under JORC (2012). This reflects PFS-level confidence in the modifying factors (geotechnical, hydrogeological, mining, metallurgical, cost/revenue and environmental/permitting). Portions of the Mineral Resource classified as Measured are not elevated to Proved at this time because several modifying factors remain at PFS maturity.
	• **Nature of accuracy stated.** Estimates are considered reliable at the global/LOM scale used for optimisation and scheduling. Local (short-range) accuracy will improve with DFS activities (pit-specific geotech, transient hydro modelling, grade-control drilling and additional metallurgical variability/pilot work). Cost accuracy is consistent with AACE Class 4 (±30%), appropriate for PFS.
	• **Key inputs underpinning confidence.**
	  ○ Geology/resource: JORC (2012) Mineral Resource (22 January 2025). Inferred material was excluded and treated as waste.
	  ○ Metallurgy: ANSTO flowsheet recoveries applied by oxide and deposit domain via a mass-recovery matrix; impurity levels are low and U/Th negligible.
	  ○ Mining parameters: LG-derived shells, operational pit designs with 5 m benches, overall slope ~28.5°, 5% dilution and 95% mining recovery; LOM strip ~0.45:1.
	  ○ Hydrogeology/geotech: Preliminary programs indicate shallow, free-dig pits with dewatering primarily by gravity to sumps; design factors of safety ≥1.30 (overall) and ≥1.20 (inter-ramp) adopted.

For personal use only

Criteria	Commentary
	○ Economics: PFS base-case price deck, 70% payability, US$230/t MREC transport, royalties/levies and unit costs applied consistently in block-value/NSR calculations. • **Primary uncertainty drivers (and planned mitigations).** ○ Local grade/tonnage variability in clays: To be reduced by grade-control drilling, tighter domaining on MREO/TREO and short-interval sampling at ROM/plant. ○ Metallurgical variability: Addressed through expanded variability and pilot testwork (DFS) to refine recoveries, reagent consumption and kinetics. ○ Slope/hydro assumptions: Pit-specific geotech programs and transient groundwater modelling to confirm overall angles, depressurisation and drainage designs. ○ Residue/backfill execution: Detailed engineering of in-pit backfill logistics and void scheduling to validate capacities and cycle times. ○ Economic inputs: Vendor quotations and market engagement (offtake) at DFS to narrow cost/price confidence ranges. • **Reconciliation expectations.** At start-up, operational reconciliation may show higher variance at monthly/bench scale typical of IAC deposits; this is expected to converge at quarterly/annual scale as grade-control and blending (MREO-focused) are implemented. • **Competent Person view.** The Competent Person considers the information and assumptions adequate to demonstrate reasonable prospects of economic extraction at PFS confidence, supporting a Probable Ore Reserve. The accuracy/confidence is not sufficient for Proved at this stage; targeted DFS work is expected to reduce residual uncertainties.

For personal use only

Appendix B: Final operational pits

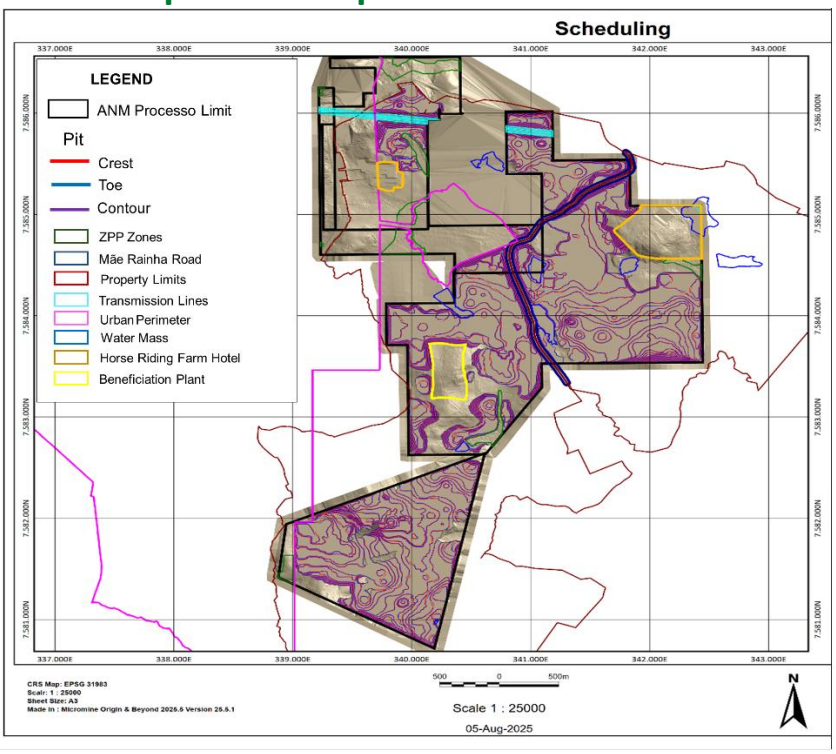

Figure B-1: *Northern Concessions (NC). Final operational pit showing toes/crests, benches/berms and ramps; internal haul roads; and mapped restriction areas identified for the project.*

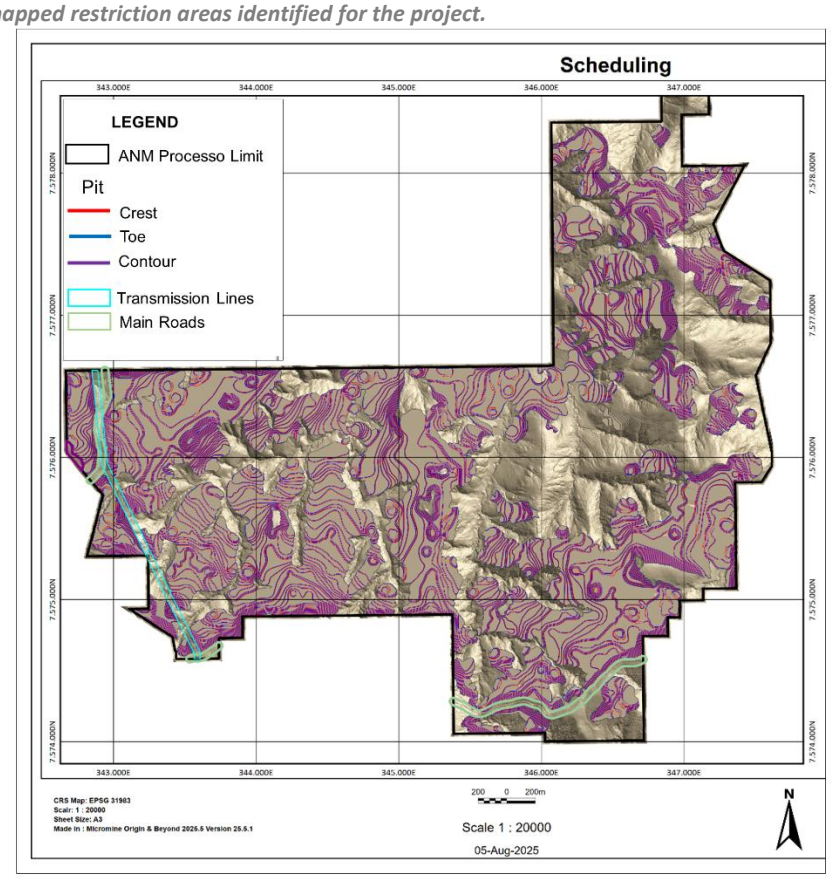

Figure B-2: *Southern Complex – Central (SC-C). Final operational pit, ramp/berm geometry, internal haul roads, and mapped restriction areas.*

For personal use only

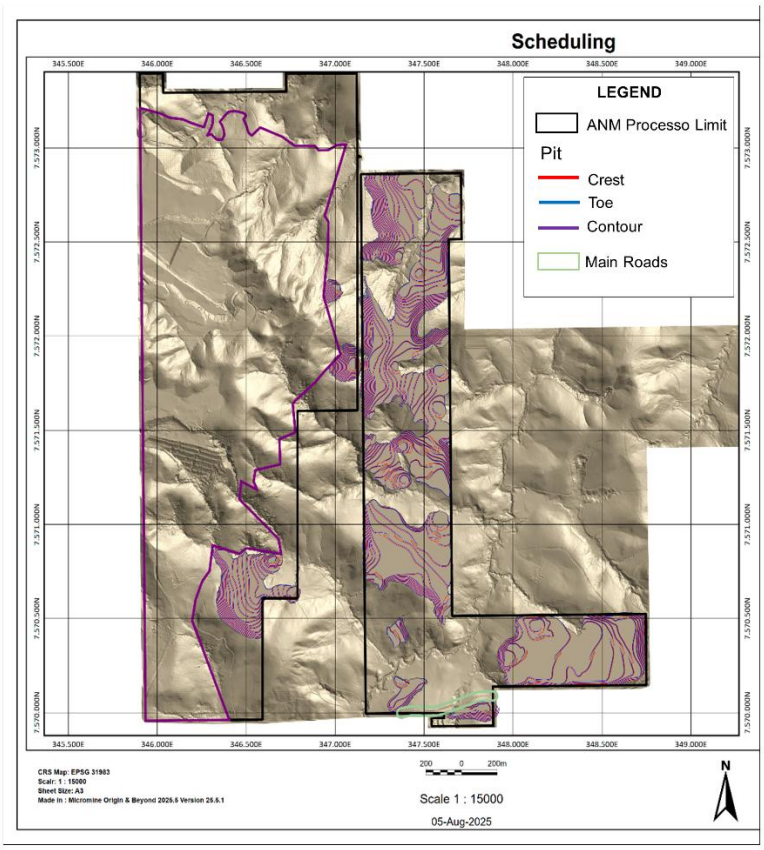

Figure B-3: *Southern Complex – South (SC-S). Final operational pit, ramp/berm geometry, internal haul roads, and mapped restriction areas.*

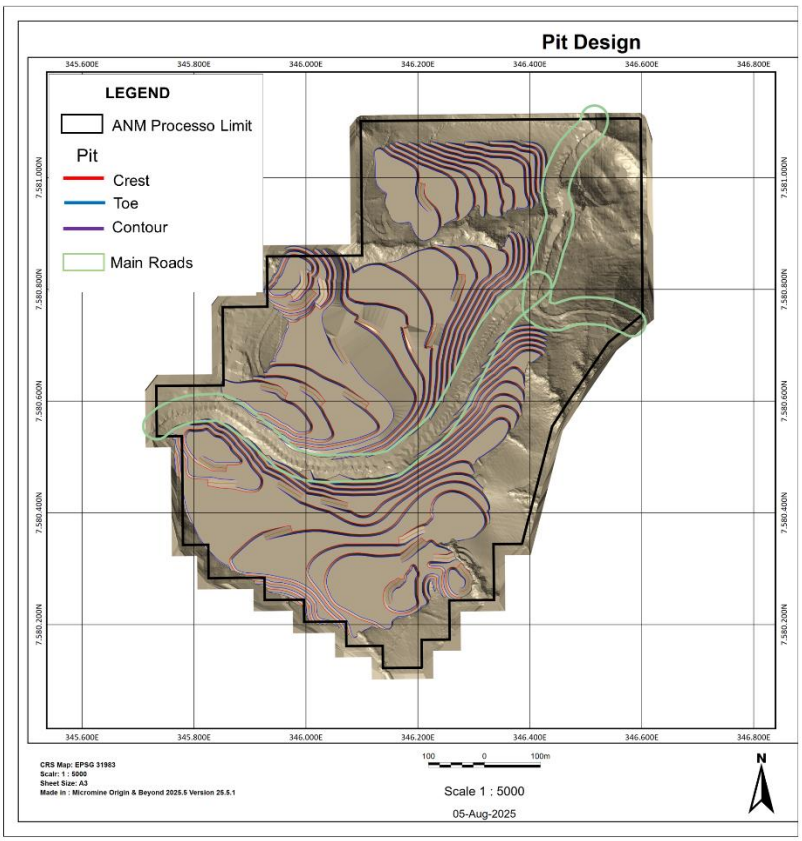

Figure B-4: *Southern Complex – South (SC-N). Final operational pit, ramp/berm geometry, internal haul roads, and mapped restriction areas.*

For personal use only

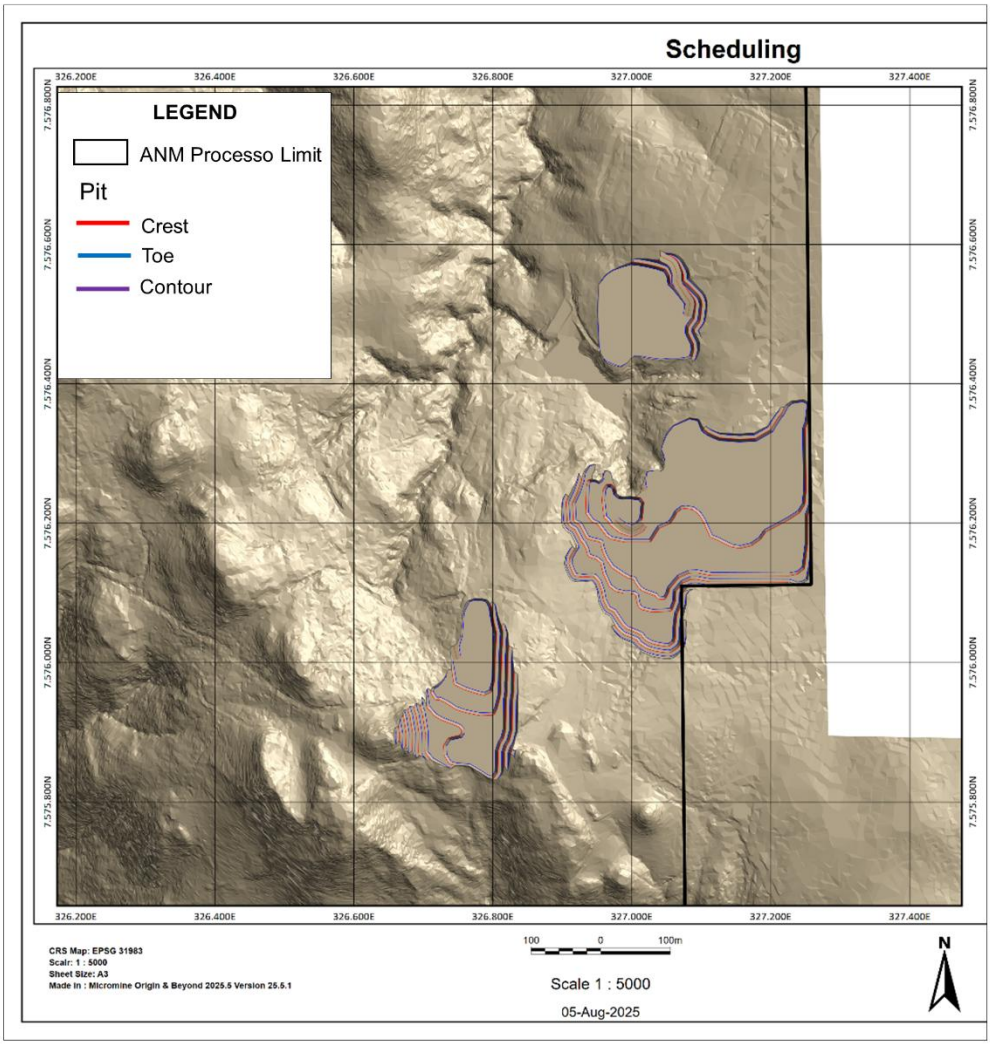

Figure B-5: *Capão da Onça (CO). Final operational pit, ramp/berm geometry, internal haul roads, and mapped restriction areas.*

For personal use only

Appendix C: Rehabilitated areas (maps)

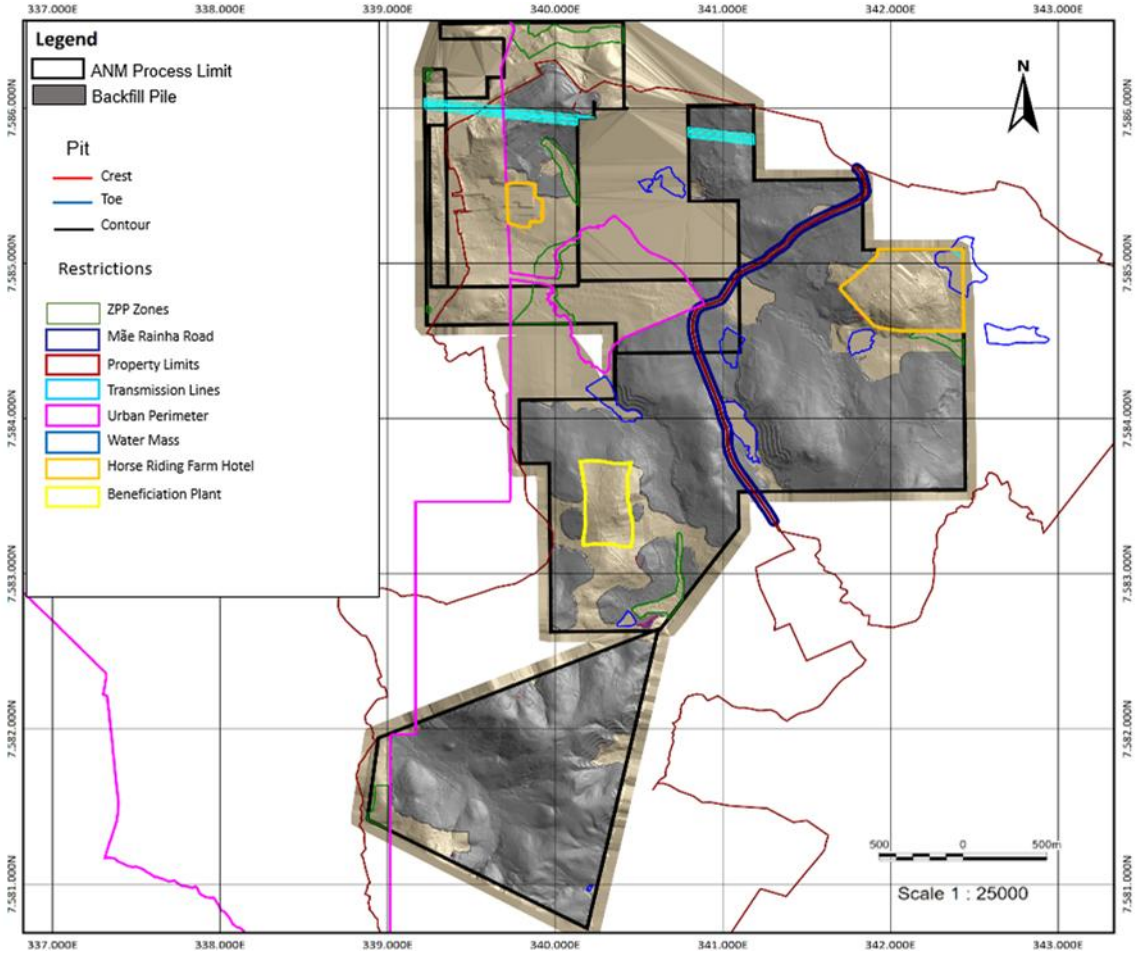

Figure C-1: *Northern Concessions (NC): Rehabilitated areas following in-pit backfilling of filtered residues and waste, shown cumulatively by period (Years 2–5, 6–20, 21–30, 31–40).*

For personal use only

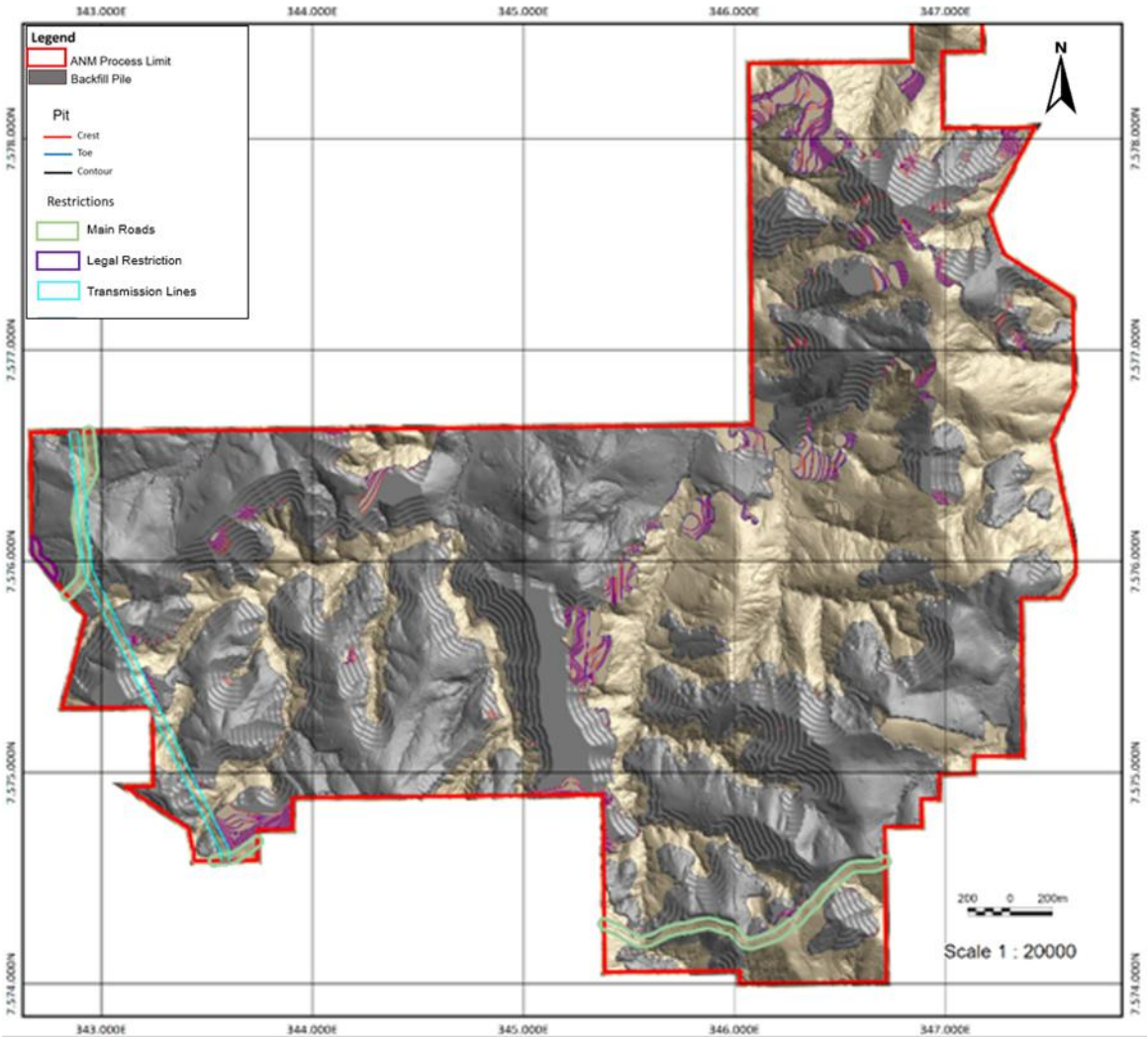

Figure C-2: *Southern Complex — Central (SC-Central): Cumulative rehabilitation of mined-out pits fed via the Southern beneficiation hub and central process plant, with in-pit placement of filtered residues and waste.*

For personal use only

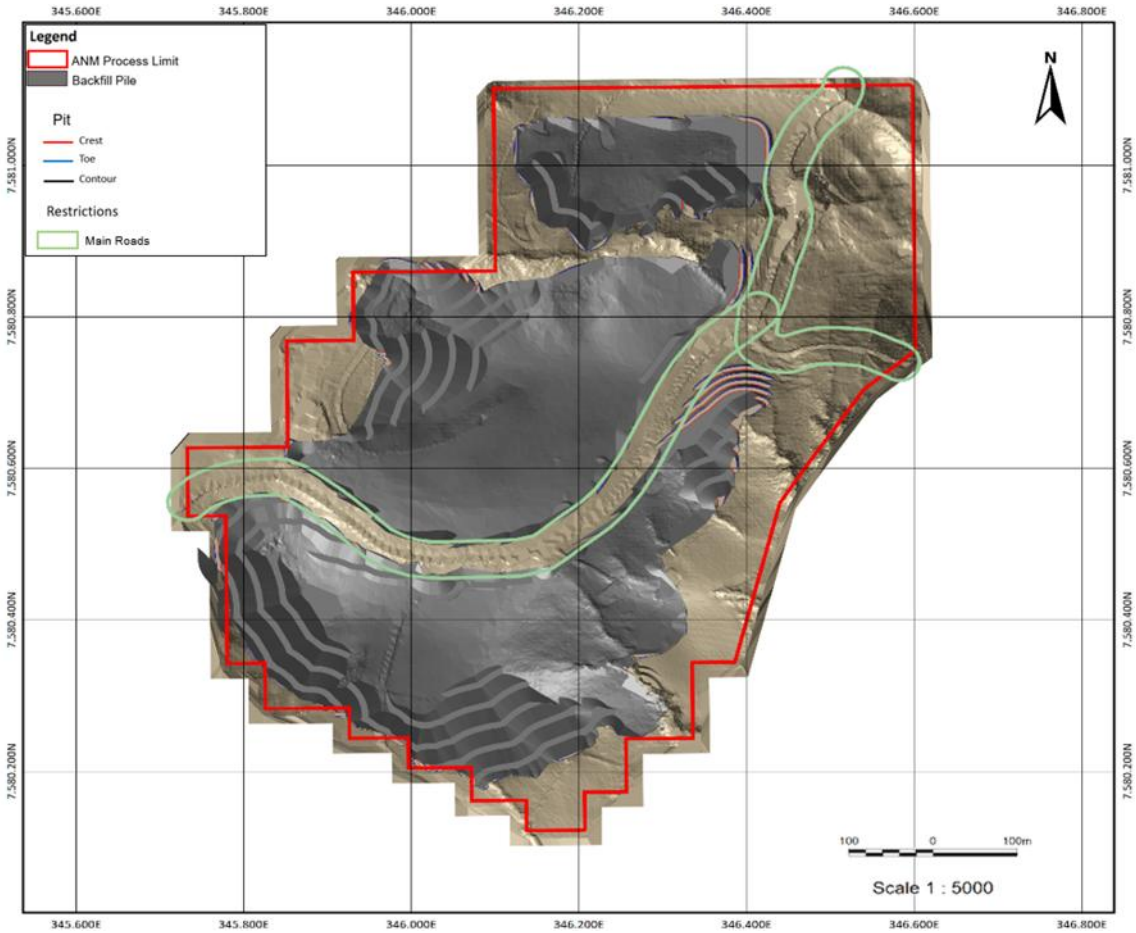

Figure C-3: *Southern Complex — North (SC-North): Rehabilitation footprints for later-life pits, showing progressive backfill and surface re-contouring as voids become available. Includes final pit shells and haul-road connections to the Southern hub.*

For personal use only

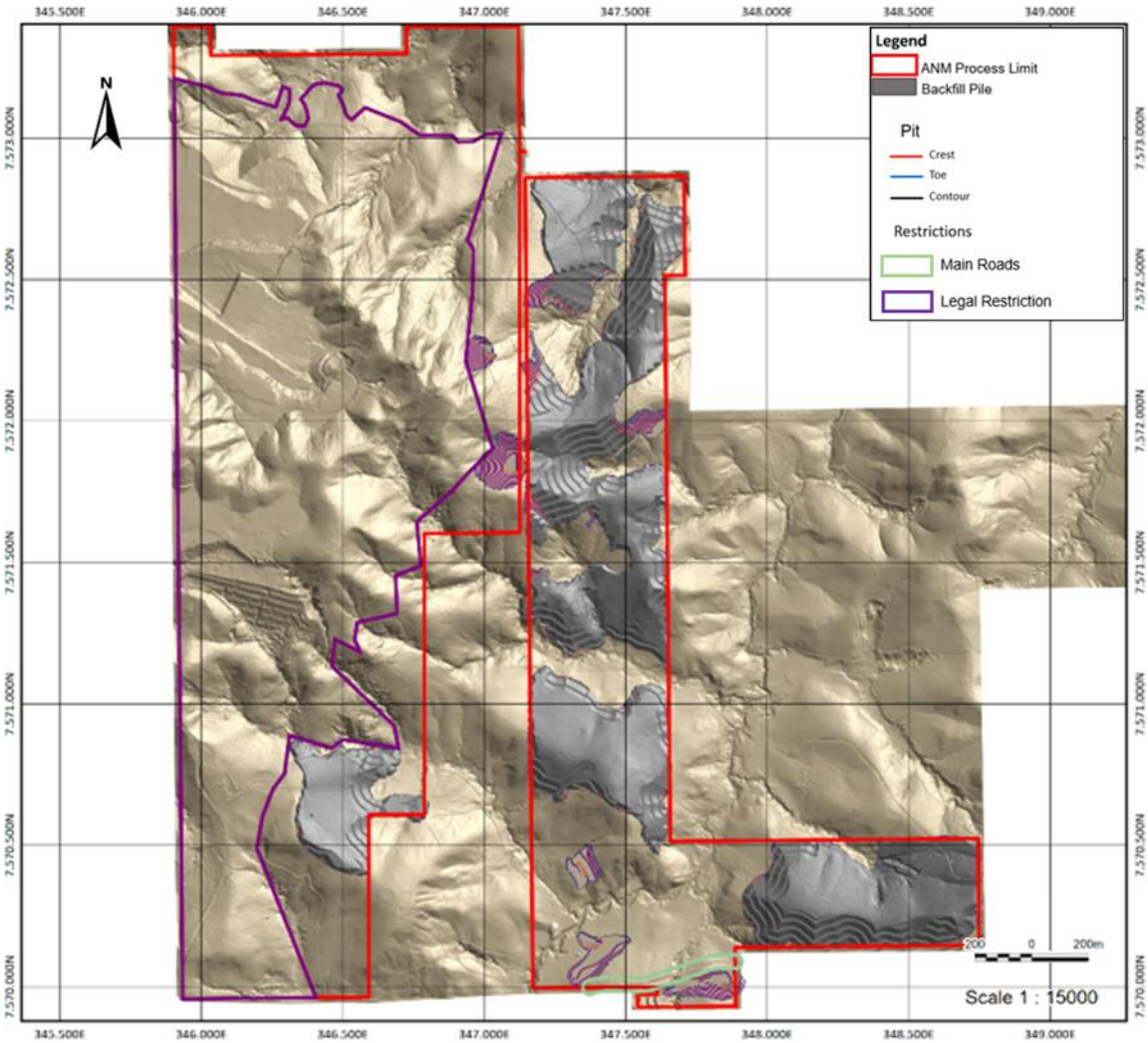

Figure C-4: *Southern Complex — South (SC-South): Progressive in-pit disposal and rehabilitation from mid-LOM onward, with elevated backfill volumes in Years 21–30.*

For personal use only

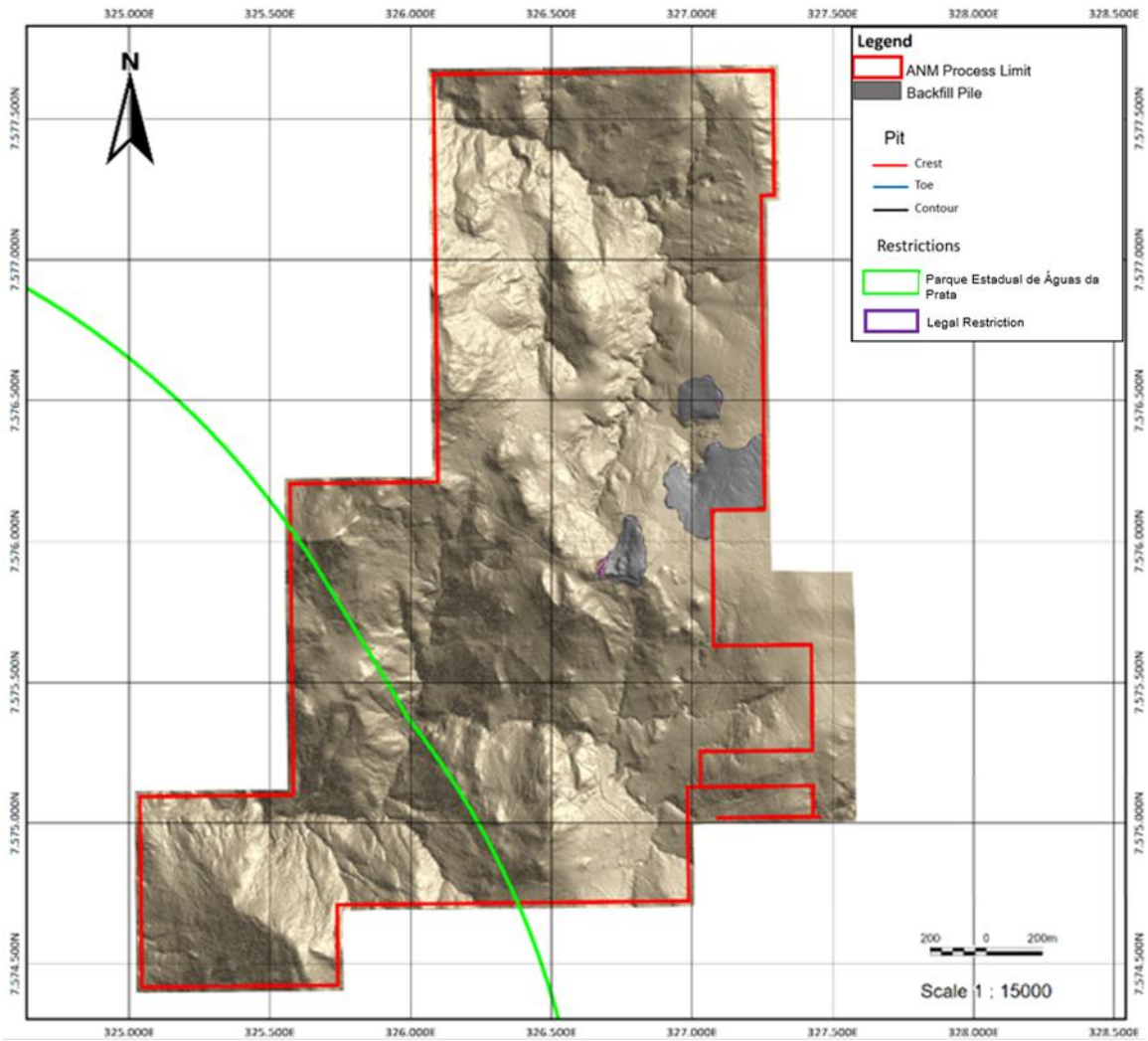

Figure C-5: *Capão da Onça (CO) - Late-stage contribution with targeted in-pit backfilling and rehabilitation schedule. Map shows the restored areas.*

For personal use only