1.0 Proposal Content Document

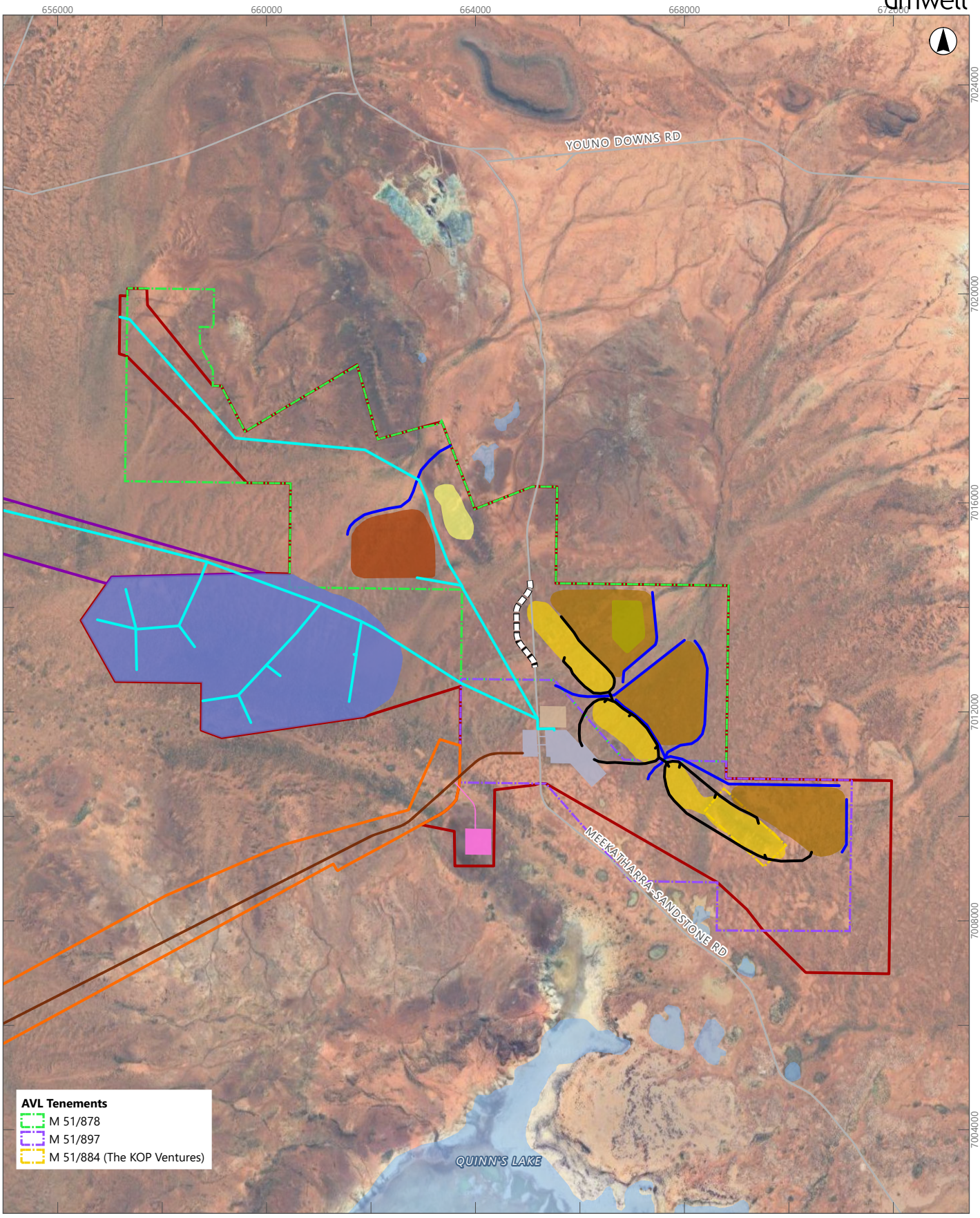
Table 1.1 General Proposal Description

Item	Details
Proposal title	Australian Vanadium Project – Mining and Beneficiation Operations
Proponent name	Australian Vanadium Limited
Short description	The proposal is for above and below water table mining and beneficiation of vanadium ore to produce an enriched vanadium-iron concentrate. The proposal is located 40 km south-southeast of Meekatharra and includes the development of open mine pits and associated infrastructure including but not limited to access roads, accommodation camp, a crushing, milling, flotation, and magnetic separation (beneficiation) plant, waste rock and tailings storage, and support infrastructure (including power station, water supply pipeline and reverse osmosis plant). The proposal will include open pit dewatering and management of excess dewater.

Table 1.2 Proposal Elements with the Potential to have a Significant Effect on the Environment

Element	Location	Maximum Extent or Range
Physical Elements		
Mine, Beneficiation and Associated Infrastructure	**Figure 1.1**	Clearing of no more than 1,842 ha of native vegetation within the 6,993 ha Mine Development Envelope.
Access Road and Infrastructure Corridor	**Figure 1.2**	Clearing of no more than 230 ha of native vegetation within the 2,676 ha Infrastructure Corridor Development Envelope.
Pipeline Corridor	**Figure 1.3**	Clearing of no more than 47 ha of native vegetation within the 2,419 ha Pipeline Corridor Development Envelope.
Operational Elements		
Open Pits	**Figure 1.1**	The open pits cover a combined maximum surface area of 340 ha. The maximum depth of the open pits is 250 mAHD (approximately 220 m below ground level).
Groundwater Drawdown during Operations	**Figure 1.4**	Groundwater drawdown as monitored during proposal operations (compared to baseline groundwater level prior to commencing groundwater abstraction) is not more than: • 10 m outside of the defined >10 m groundwater drawdown zone. • 5 m outside of the defined 5–10 m groundwater drawdown zone.
Reinjection to Groundwater	**Figure 1.1**	Reinjection of up to 4.4 GL/a water to the deep aquifer within the boundary of the reinjection borefield. Reinjection water salinity may range from brackish to hypersaline.
Discharge of excess water to Lake Annean	**Figure 1.3**	Discharge of up to 2.6 GL/a of water to Lake Annean via pipeline. Discharge water salinity may range from brackish to hypersaline.
Waste landforms	**Figure 1.1**	Maximum height of waste rock landforms and tailings storage cells is 35 m above ground level.
Beneficiation Waste	**Figure 1.1**	Disposal of no more than 990,000 tpa of tailings solids into the Tailings Storage Facility cells.

Element	Location	Maximum Extent or Range
Greenhouse Gas Emissions		
Construction		
Scope 1	Diesel use on site and for bus transfers from Meekatharra. Land clearing (change in carbon stock during construction period).	Total 25,000 t CO_2-e over 2 years.
Scope 2	Not applicable	
Scope 3	Construction off-site diesel use and concrete scope 3.	Total 5,000 t CO_2-e over 2 years.
Operations and Decommissioning		
Scope 1	Mining and beneficiation facility operations, land clearing (change in carbon stock over time) and transport of concentrate to processing facility	Total 2,500,000 t CO_2-e over 30 years. Peak annual 92,000 t CO_2-e per annum.
Scope 2	Not applicable	
Scope 3	Secondary processing facility, transport of inputs and products within WA, downstream use (steel or vanadium flow batteries)	Total -260,000,000 to -507,000,000 t CO_2-e per annum over 30 years (net reduction). Peak annual 21,000 t CO_2-e per annum (non-operational and decommissioning periods). Peak annual -45,000 to -16,900,000 t CO_2-e per annum (net reduction) (operations).
Construction and Commissioning		
Construction and commissioning will not exceed the physical and operational elements detailed above.		
Rehabilitation and Decommissioning		
Rehabilitation and decommissioning will be undertaken in accordance with the Mine Closure Plan, which will be approved and administered by the Department of Mines, Petroleum and Exploration.		
Other elements which affect extent of effects on the environment		
Beneficiation Plant Feed Rate	Target beneficiation plant feed rate during operations of 1.0–2.2 million dry tonnes per annum.	Should the beneficiation plant feed rate be significantly different than the target, the duration of proposal operations will vary accordingly.
Proposal time	Maximum project life (construction to decommissioning)	32 years, plus any periods of temporary cessation of operations, or any increase in proposal duration due to periods of low beneficiation plant feed rate.
	Construction phase	2 years.
	Commissioning and Operations phase	28 operational years for mining and beneficiation at target beneficiation plant feed rate. The number of operational years may increase if beneficiation plant feed rate per year is less than design. Operations phase excludes any unplanned periods of care and maintenance or other temporary cessation of operations.
	Decommissioning phase	Estimated 2 years, with subsequent 10 years post-closure monitoring.



Scale: 1:100,000 at A4, GDA2020 MGA Zone 50

Legend

- Mine Development Envelope
- Infrastructure Corridor Development Envelope
- Pipeline Corridor Development Envelope
- Open Pits Disturbance Footprint
- Local Road

Indicative Site Layout

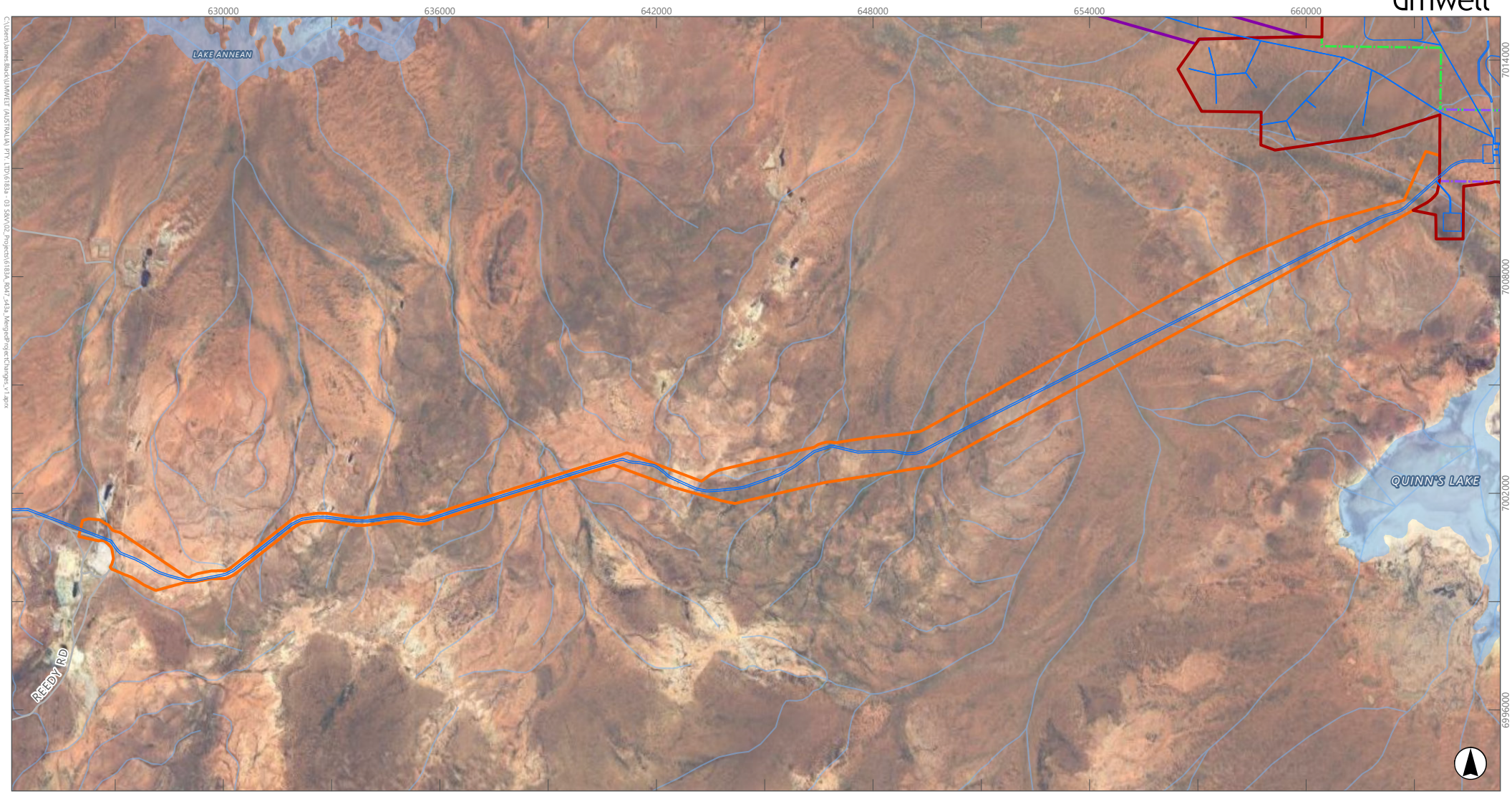
- Mine Camp and Access Road
- Haul Road
- Northern Borrow Pit
- Plant, ROM and Mining Infrastructure
- Solar Farm
- TSF Allowance
- Alternate TSF Location
- Waste Rock Landforms
- Reinjection Borefield
- Road Diversion
- Mining Roads
- Water Pipelines
- Water Diversion Drains

FIGURE 1.1

Mine Development Envelope

0 2 4 km

Image Source: ESRI BaseMap (2023) **Data source:** Australian Vanadium (2024), DMIRS (2024), GA (2020), Landgate (2024)



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Legend

- Mine Development Envelope
- Infrastructure Corridor Development Envelope
- Pipeline Corridor Development Envelope
- Local Road
- Watercourses

AVL Tenements

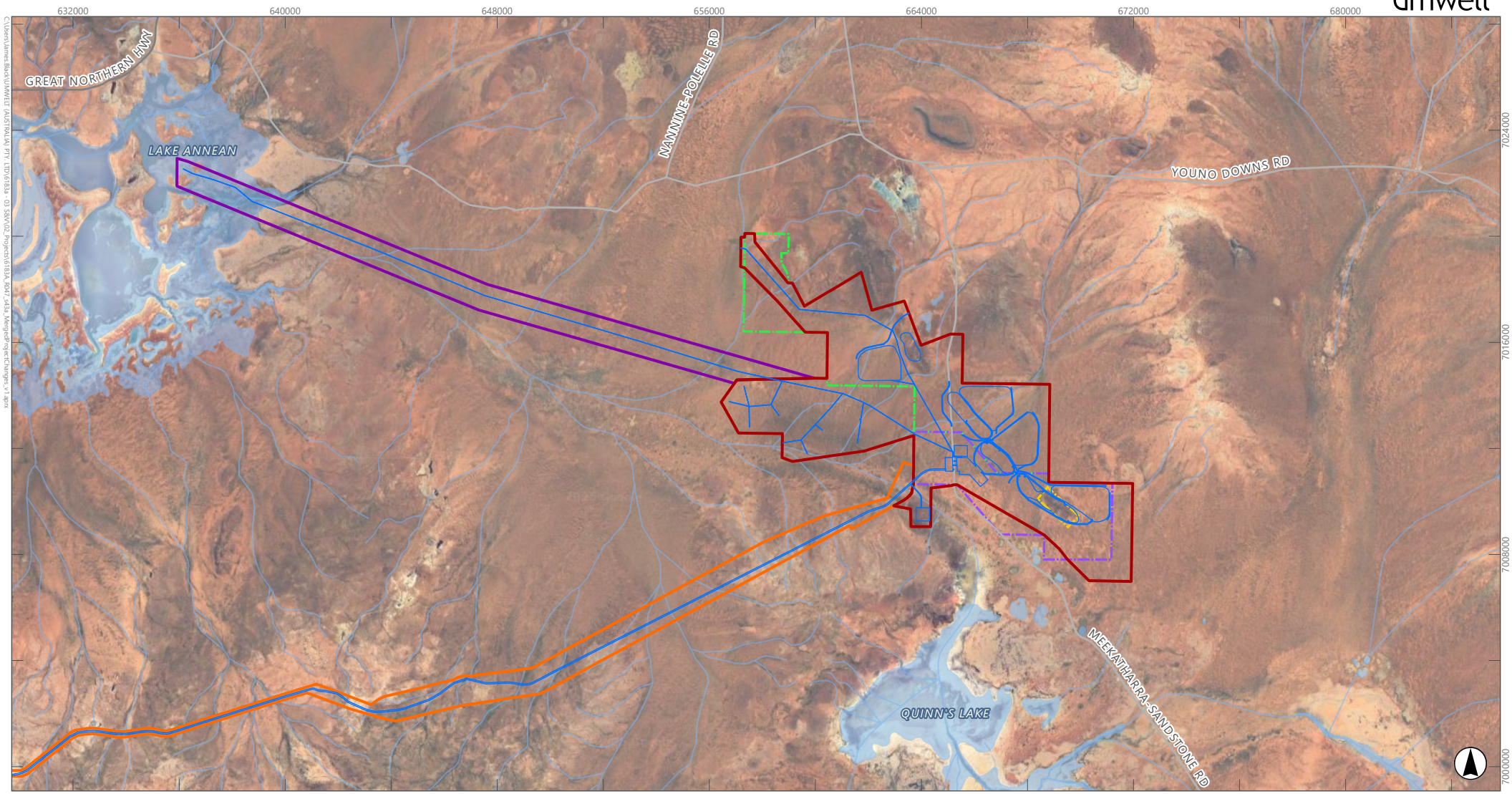
- M 51/878
- M 51/897

FIGURE 1.2

Infrastructure Corridor Development Envelope

0 3 6 km

Image Source: ESRI Basemap (2023) | **Data Source:** Landgate (2024), Australian Vanadium (2024), GA (2020), DMIRS (2024), PSM (2024)



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Legend

- Mine Development Envelope
- Infrastructure Corridor Development Envelope
- Pipeline Corridor Development Envelope
- Indicative Site Layout
- Highway
- Local Road
- Watercourses

AVL Tenements

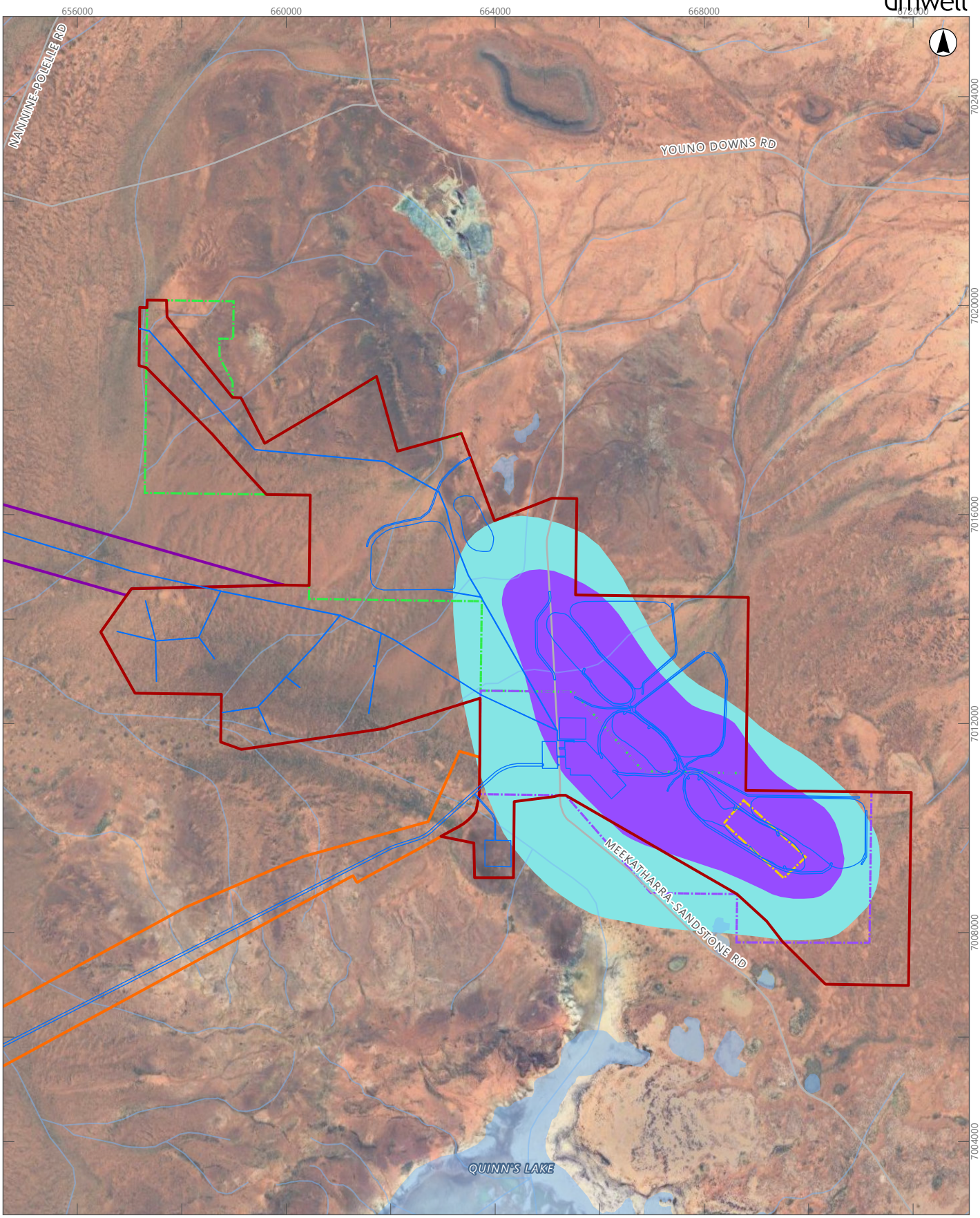
- M 51/878
- M 51/897
- M 51/884 (The KOP Ventures)

FIGURE 1.3

Pipeline Corridor Development Envelope

0 4 8 km

Image Source: ESRI Basemap (2023) | **Data Source:** Landgate (2024), Australian Vanadium (2024), GA (2020), DMIRS (2024)



Scale: 1:100,000 at A4, GDA2020 MGA Zone 50

Legend

- Mine Development Envelope
- Infrastructure Corridor Development Envelope
- Pipeline Corridor Development Envelope
- Indicative Site Layout
- Local Road
- Watercourses

Standalone GWDD Zones

- 5 – 10m drawdown
- > 10m drawdown

AVL Tenements

- M 51/878
- M 51/897
- M 51/884 (The KOP Ventures)

FIGURE 1.4

Limit of Groundwater Drawdown During Proposal Operations

0 2 4 km

Image Source: ESRI BaseMap (2023) **Data source:** Australian Vanadium (2024), DMIRS (2024), GA (2020), Landgate (2024), Umwelt (2024)