Minara Resources
Murrin Murrin Operations

Irwin Hills Grade Control and 17 Series Inpit TSF - Scoping



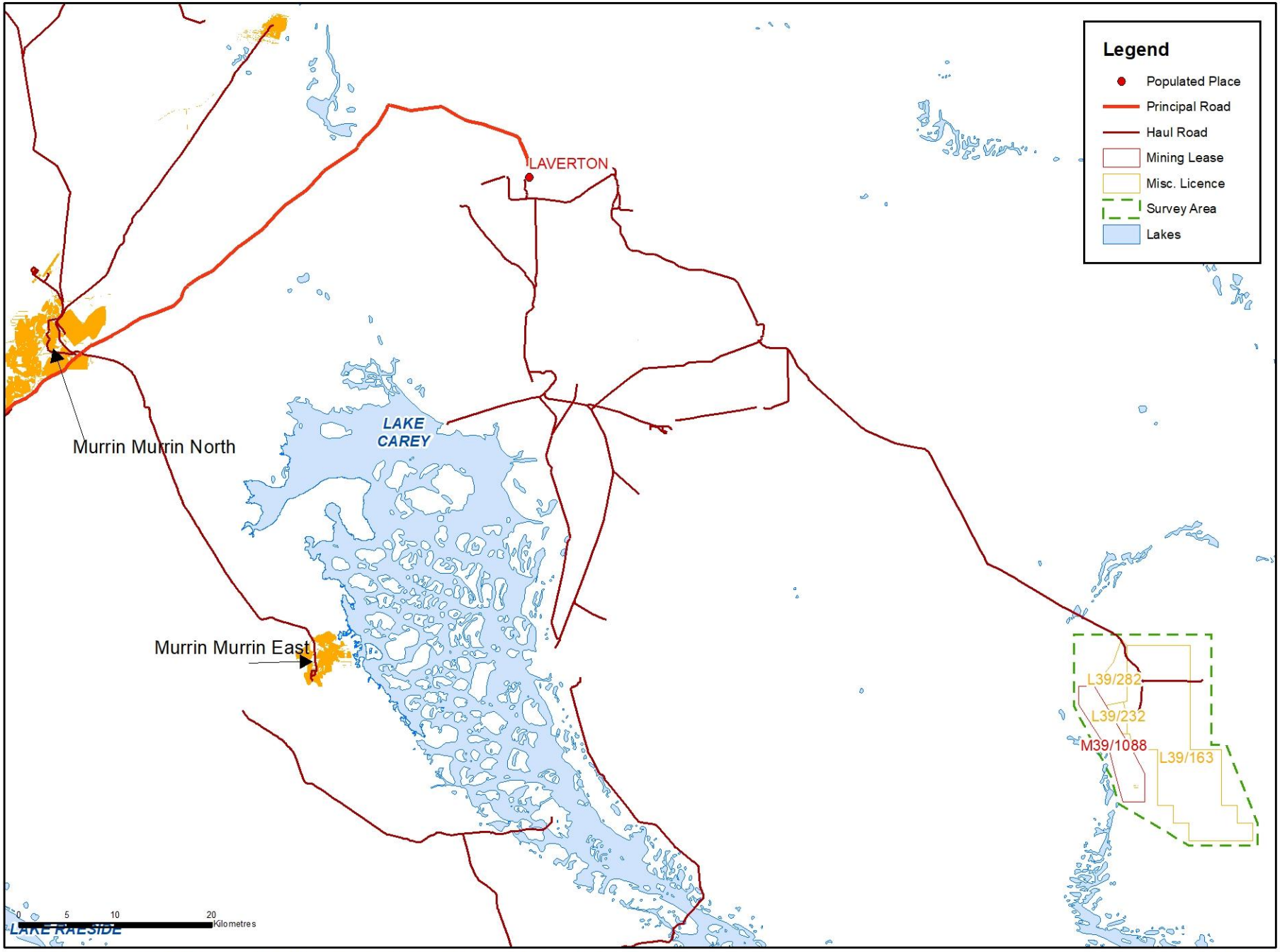


Overview

- Irwin Hills grade control drilling
- 17 Series Inpit TSF
- Calcrete Quarry
- 8 Series Pits – development and waste dumps

Irwin Hills Grade Control

- MMO proposing to develop the Irwin Hills Mining Area, approximately 80 km south east of Laverton
- Resource definition drilling through a POW has been completed (77 ha)
- Initial approval for 160 ha clearing grade control drilling, proposed to commence in Q2 2021 (additional 83 ha to POW)
- Archaeological, ethnographic, flora, vegetation and fauna surveys completed
- Further targeted survey for flora species scheduled to be completed 16-21 September
- No disturbance to heritage sites required for clearing for grade control



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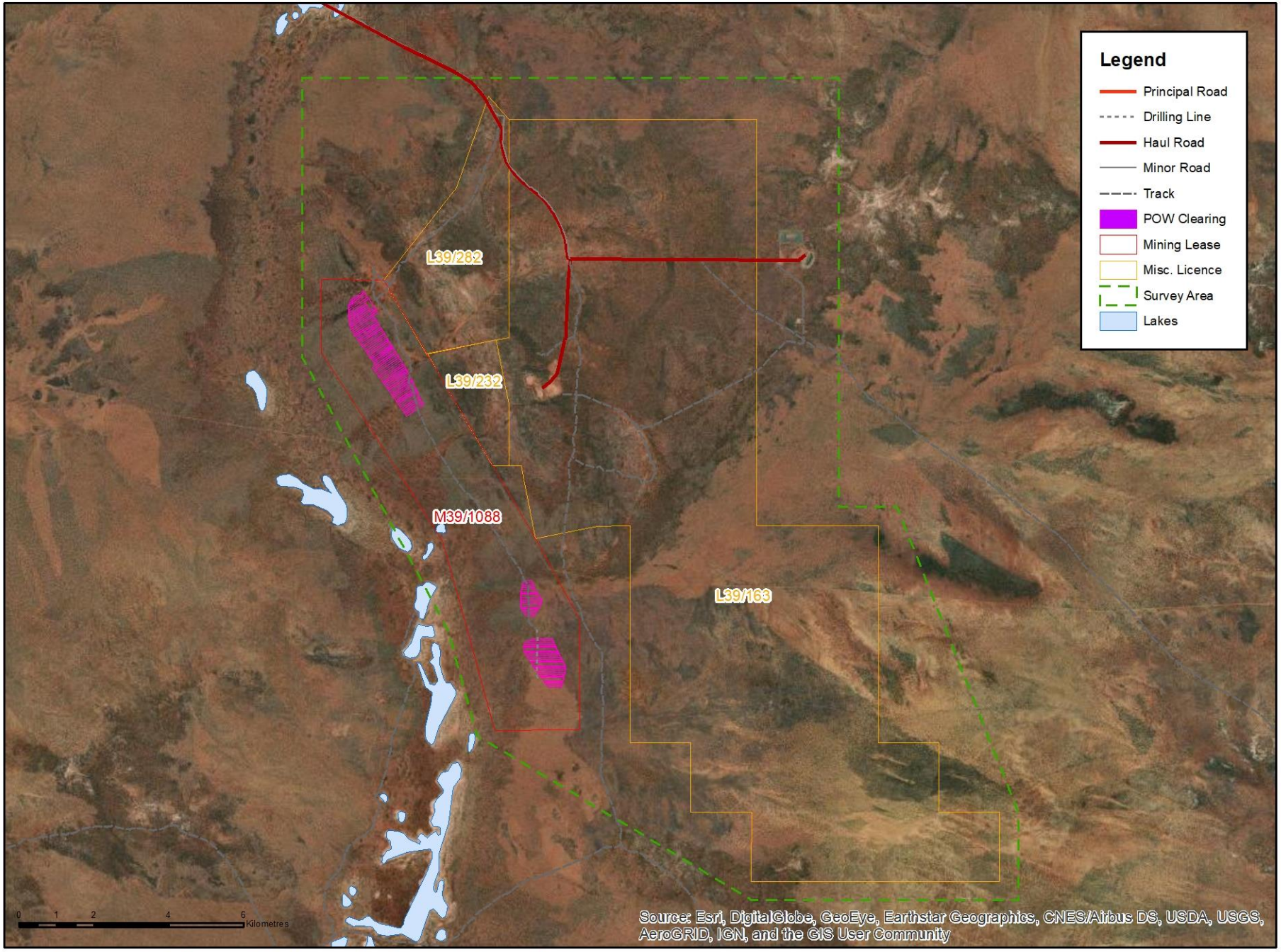

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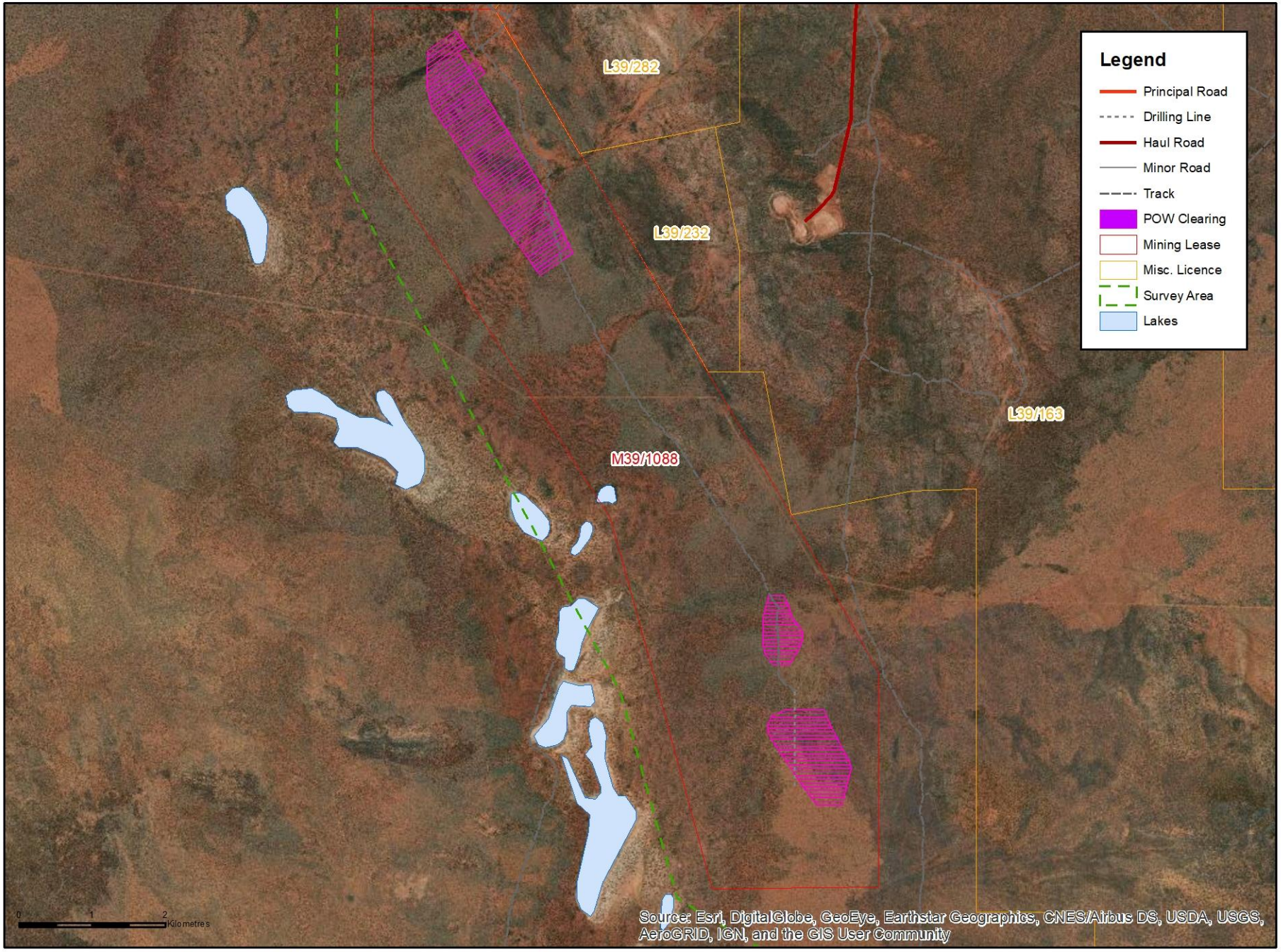

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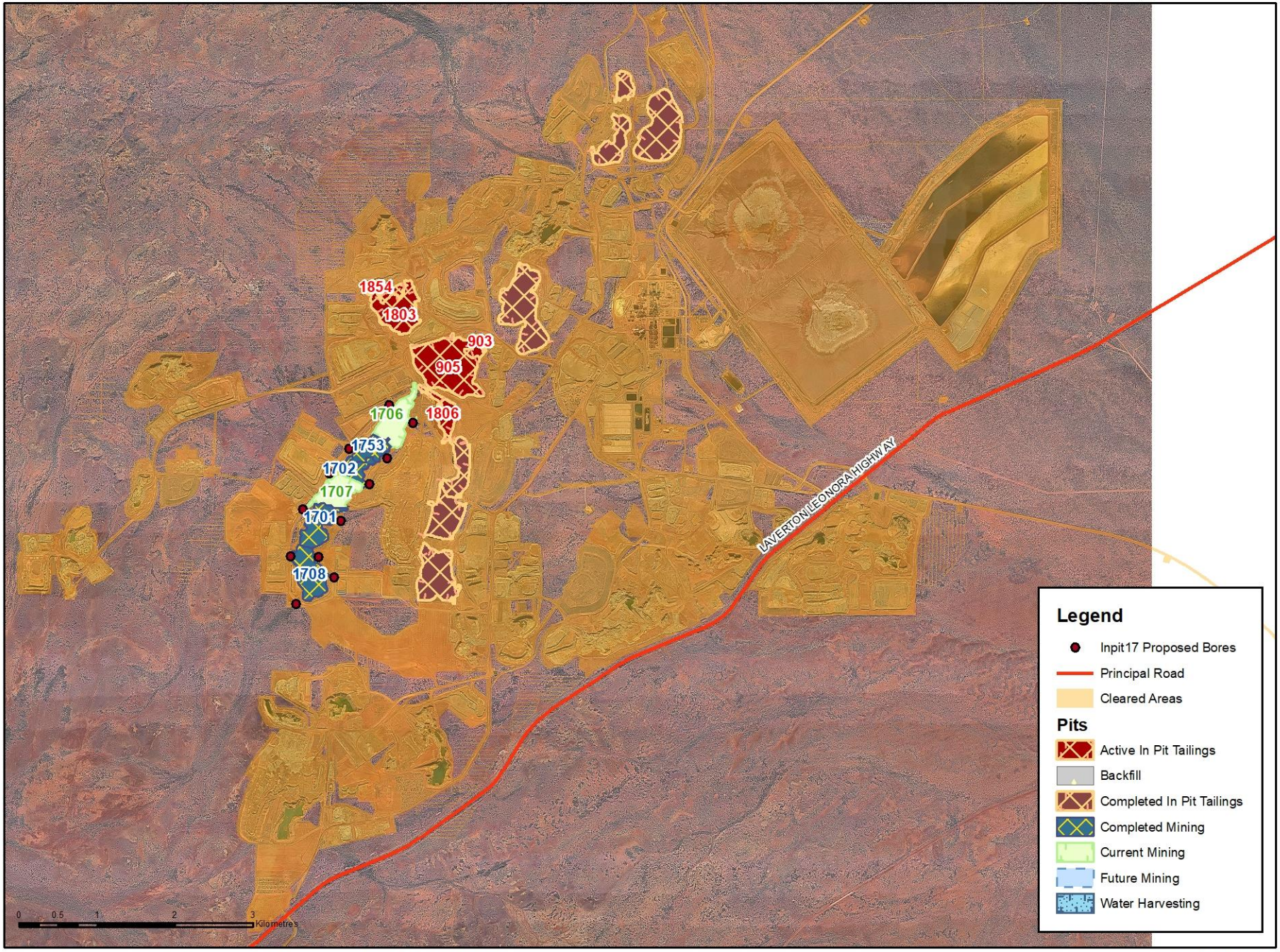
17 Series Inpit TSF

- Produce approximately 4.1 Mt of tailings per year
- Tailings characteristics:
  - pH around 2.5 (partially neutralized with slurried calcrete)
  - TDS ~ 180,000 mg/L
  - ~30% solids
- Discharged on a rotational basis to one of three facilities
  - Pits 18/3, 18/6 or 9/5
- Supernatant water is decanted to one of four evaporation ponds



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17 Series Inpit TSF

- MMO proposing to install infrastructure to discharge tailings to the 17 series pits (one single pit)
  - Will create around 19 M m^3 of tailings storage
  - Provide around 3 years of tailings disposal capacity
- Works will involve:
  - Tailings discharge pipeline and bund construction
  - Decant return pipeline and bund construction
  - Flow meters and telemetry for leak detection
  - Decant pump installation
  - Installation of 12 monitoring bores
- Minimal clearing required, will use existing disturbance

17 Series Inpit TSF

- Studies completed:
  - Geotechnical assessment and inpit TSF design
  - Hydrogeological review and assessment
- Existing environment:
  - TDS around 1000-1300 mg/L
  - pH between 8-9
  - Depth to groundwater around 40 m
  - Located within disturbed mining area

17 Series Inpit TSF

Potential Impacts:

- Rise in groundwater levels and localised impact to groundwater quality.

Mitigation will include:

- Maintain supernatant pond to as low as practicable.
- Rotation of tailings deposition between facilities to promote consolidation.
- Monitoring bores will be installed on structural features intersecting the pit. All bores will be monitored and sampled quarterly.
  - Bores will be capable of being equipped with recovery pumps.
- MMO will commit to maintain groundwater levels 4 m below ground level and pH above 3.5, as per existing EP Act licence conditions

17 Series Inpit TSF

Potential impacts:

- Leaks and spills

  Mitigation
  - All pipelines will be bunded
  - Flow monitoring with telemetry reporting to the control room
  - 12 hourly inspections as per other facilities
  - Maintenance of sufficient freeboard on inpit facility (680 mm).

17 Series Inpit TSF

Rehabilitation and Closure

- Detailed rehabilitation information to be included in Mining Proposal:
  - Cover Design
  - Material Availability / sources
  - Moisture content of tailings (prior to rehabilitation)
  - Surface Water Management
  - Topsoil application and ameliorants
  - Seed mix
  - Completion criteria

Mining Proposal

- Development of the 8 series pits will include:
  - Conversion of grade control clearing to open pit (no additional clearing)
  - Conversion of backfilled pits to waste dumps
  - Additional clearing for ore stockpiles, topsoil stockpiles and waste dumps
- Further development of the Calcrete Quarry will include:
  - Clearing for quarry development (shallow quarrying less than 5 m depth)
  - Clearing for topsoil stockpiles

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