Rio Tinto

Rio Tinto Exploration - Proposed Exploration Drilling

Assessment Application Report – Carrier Project – Police Creek (EPM27951) & Riversleigh (EPM27935)

23 December 2025

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Abbreviations

AOI Area of interest

EA Environmental Authority

EVNT Endangered, Vulnerable and Near Threatened species

IBRA Interim Biogeographic Regionalisation for Australia

MSES Matters of State Environmental Significance

MNES Matters of National Environmental Significance

RE Regional Ecosystem

RIDA Regional Interests Development Approval

RTX Rio Tinto Exploration

SEA Strategic Environmental Area

1. Introduction

Rio Tinto Exploration Pty Limited (RTX) proposes to undertake exploration activities, including drilling for copper and lead-zinc on EPM27951 and EPM27935 as part of the Carrier Project. RTX holds existing Environmental Authority P-EA-100759487 which encompasses EPM27951 and EPM27935 (**the tenements**). In addition, RTX is seeking a Regional Interests Development Approval (**RIDA**) for mineral exploration to be undertaken within the Gulf River Strategic Environmental Area (**SEA**), (Figure 1).

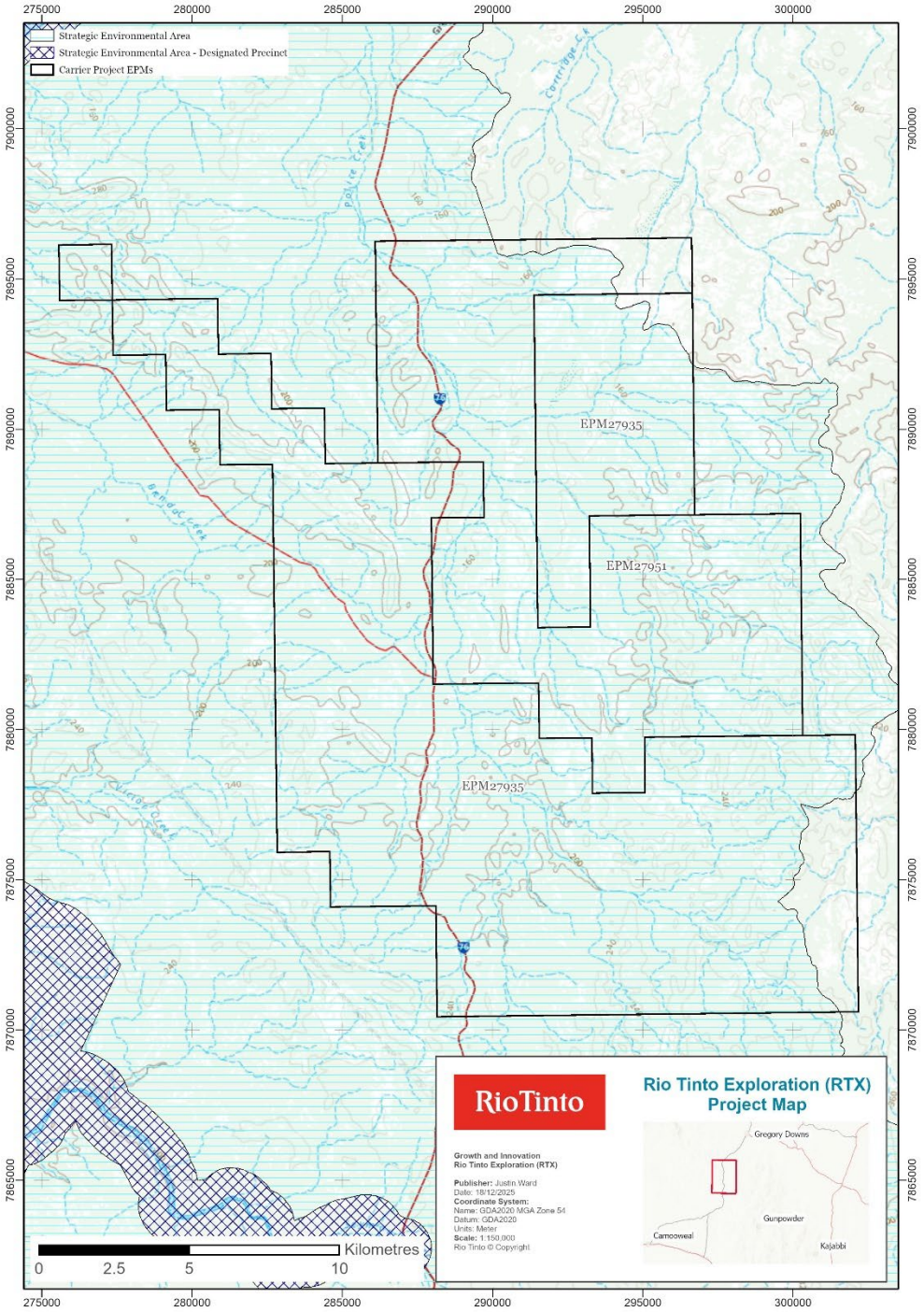


Figure 1: EPM27951, EPM27935 and the Gulf River Strategic Environmental Area

This assessment report accompanies RTX's application for a Regional Interests Development Approval and has been prepared in accordance with the *Regional Interest Planning Act 2014* **(RPI Act**) (DSDMPIP, 2019). RTX has assessed the environmental attributes of the SEA against the proposed activities and propose mitigating controls to ensure protection of these attributes from irreversible impacts. It is considered that the proposed activities will not result in the widespread or irreversible impact on any environmental attribute of the SEA.

Environmental attributes associated with the SEA are outlined in the *Regional Planning Interest Regulations 2014* under Regulation 9 and an assessment has been conducted against them (Queensland Government 2014).

1.1 Project Overview

The Carrier Project is located on both Riversleigh Station and Thorntonia Station. The majority of the tenements overlap with Lawn Hill Riversleigh Station which is owned by the Native Title Group the Waanyi People. Lawn Hill Riversleigh Station is located approximately 225 kilometres northwest of the City of Mount Isa. The Carrier Project was acquired by RTX from Revolution Mining Pty Ltd. Sedimentary units, and the inferred structural setting indicate favourable conditions for copper and/or lead-zinc mineralisation in the Project Area. The proposed exploration activities are temporary, small scale and comparatively low environmental impact.

1.2 The Applicant

The applicant is Rio Tinto Exploration Pty Limited (**RTX**) which is a subsidiary company of Rio Tinto Limited.

1.3 Landholder and Tenure Details

Exploration Permit EPM27935 Riversleigh was granted on 17th April 2022 to Revolution Mining PTY Ltd (Table 1).

Exploration Permit EPM27951 Police Creek was granted on 4th July 2022 to Revolution Mining PTY Ltd (Table 1).

RTX applied to the Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development **(DNRMMRRD**) for the whole transfer of the tenements from Revolution Mining Pty Ltd on 27 February 2024. The tenements were transferred to RTX on 07 May 2024. RTX applied for a site-specific environmental authority P-EA-100759487 over the tenements which was granted on 09 May 2025.

Tenement	Application	Grant	Term	Expiry	Sub-blocks
EPM27935	17/06/2021	7/04/2022	5 years	6/04/2027	86
EPM27951	01/07/2021	04/07/2022	5 Years	03/07/2027	41

Table 1. Resource Authority Information

The Native Title holder is the Wannyi People as shown in Figure 2 below. The dominant land use is pastoralism.

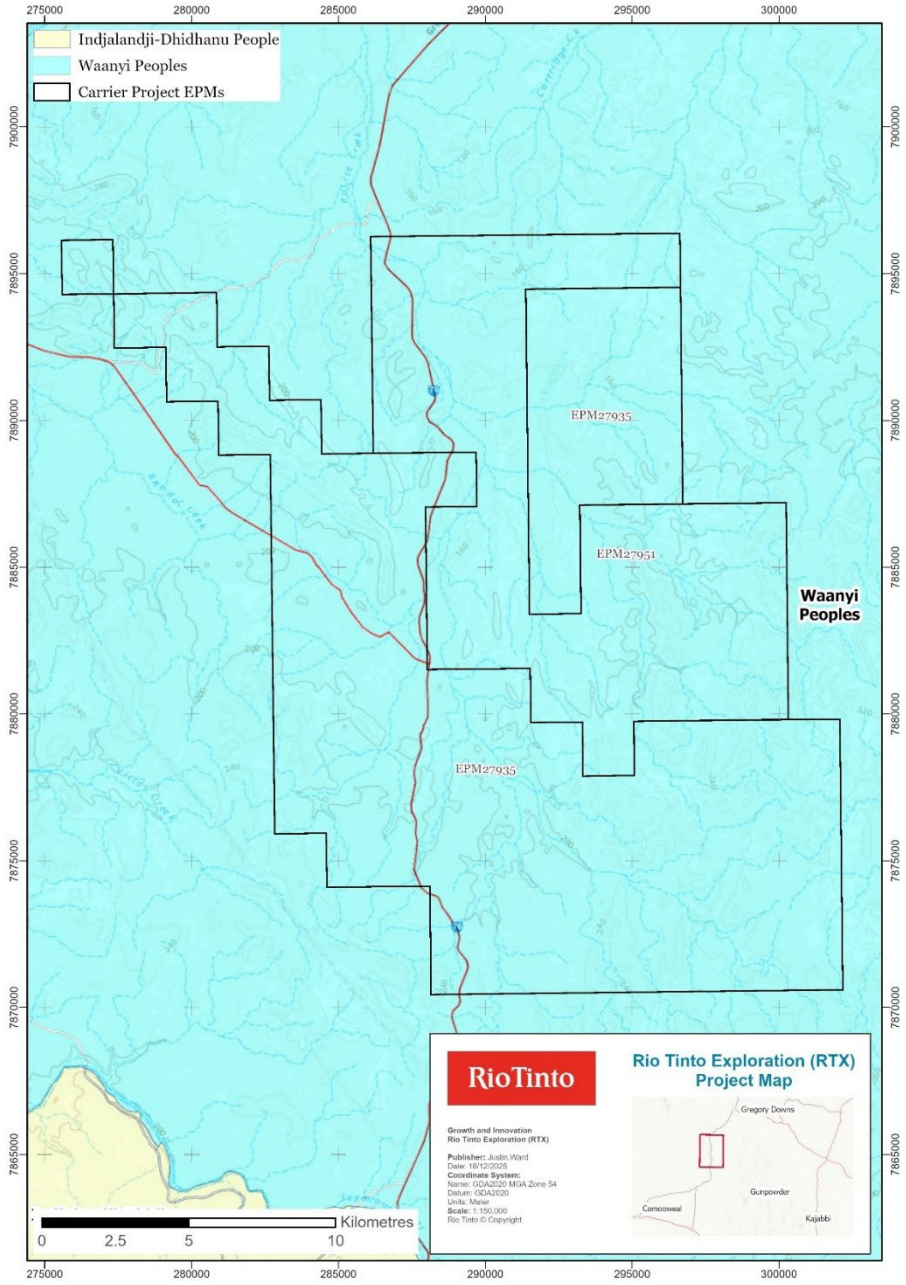


Figure 2: Native Title Area surrounding EPM27935 and EPM27951

2. Proposed Exploration Activities

RTX will undertake staged exploration across seven zones within the tenements, starting with low-impact methods such as surface sampling, mapping and

geophysical surveys. Drilling will occur once internal RTX milestones are met. The proposed work areas have been defined as broad polygons rather than defined locations, this provides flexibility to determine the best routes and pad locations that reduce ground disturbance and associated environmental impacts such as soil erosion, vegetation loss and habitat disruption. This ensures the proposed exploration activities can have as little impact on the environmental attributes as possible. All work will minimise disruption to sensitive areas, prioritise rehabilitation of any temporary disturbance, and adhere to notification and reporting obligations. Environmental safeguards, including groundwater protection, fire prevention and measures to protect flora and fauna, will be implemented throughout the program.

Activity	**Priority**	**length (km)**	**Width (m)**	**Area of impact (ha)**
Existing Tracks		74	4.5	33.3
Proposed Tracks	1	35	4.5	15.75
Proposed Tracks	2 &3	65.3	4.5	29.39
Activity		**Spacing (m)**	**Number**	**Area of impact per site (ha)**
Temporary Exploration Camp		70m x 70m	1	0.49
Drill Site (30m X 30m)	**1**		23	2.07
Drill Site (30m X 30m)	2 & 3		81	7.29
Downhole Geophysics		N/A	N/A	0
Activity		**length (km)**	**Width (m)**	**Area of impact (ha)**
Mapping and sampling		N/A	N/A	0
Ground Geophysics		N/A	N/A	0

Table 2: Summary of proposed exploration activities and surface disturbance

2.1 Drilling Program

Exploration drilling will be undertaken using conventional reverse circulation or/and diamond drilling methods.

RTX is planning to systematically drill test several conceptual targets within the tenements, plan is to complete all priority one drill holes for the conceptual target before opening the next priority, maximum of 100 drill pads are planned (**Figure 3**). Planned drill depths for diamond drilling are up to 800m but could potentially reach 1000m, whilst reverse circulation will consist of 250m but could potentially reach 400m. These depths depend upon units intersected, metal values and geological interpretation during drilling. Whilst 100 drill pads are planned, subject to operational needs, not all drill pads will be cleared and ground disturbance for clearance of drill pads will be on an as needed basis. Multiple drill holes may be drilled on the same drill pad, in different orientations or for QAQC purposes. Multiple sumps per drill site will be excavated as needed for drilling. Table 1 summarises expected surface disturbance, based on 30m-by-30m drill sites.

Drill site locations will be in the designated polygon area which will allow for adjustments following a field reconnaissance visit and following cultural heritage surveys in order to minimise vegetation disturbance and avoid cultural heritage impacts. Access routes to each of the drill sites will be determined following a field reconnaissance and subsequent cultural heritage survey. To minimise the amount of ground disturbance required, access routes will use existing or historic tracks, where possible.

Minor cut and fill for drill pads may be required based on topography. Where cut and fill is required, it will be the minimum necessary for the safe establishment of the drill pad. The sub-soil and topsoil will be stockpiled separately in stockpiles no greater than 3m in height to avoid soil compaction. For rehabilitation, the sub-soil and topsoil will be returned in order, and the original contours of the land will be reestablished to avoid long-term erosion/hazards.

Following the completion of each hole, there is potential that open hole geophysics will be conducted prior to the holes being rehabilitated.

Drilling will be completed using truck mounted drilling rigs, capable of completing either reverse circulation or diamond drilling depending on its model. Other equipment includes drill rig support vehicles and light vehicles for geologists, fieldhands and other project support personnel e.g., environment surveyors, traditional owners.

Drill sites will be rehabilitated once no further work is required on the site. Where reasonably achievable, rehabilitation will occur prior to the onset of the next wet season, subject to seasonal constraints and equipment availability. Where drill sites are still required for ongoing work such as downhole geophysics, each drill site will be temporarily plugged/capped to prevent surface water runoff entering the hole and contaminating ground water and to prevent entrapment of any fauna.

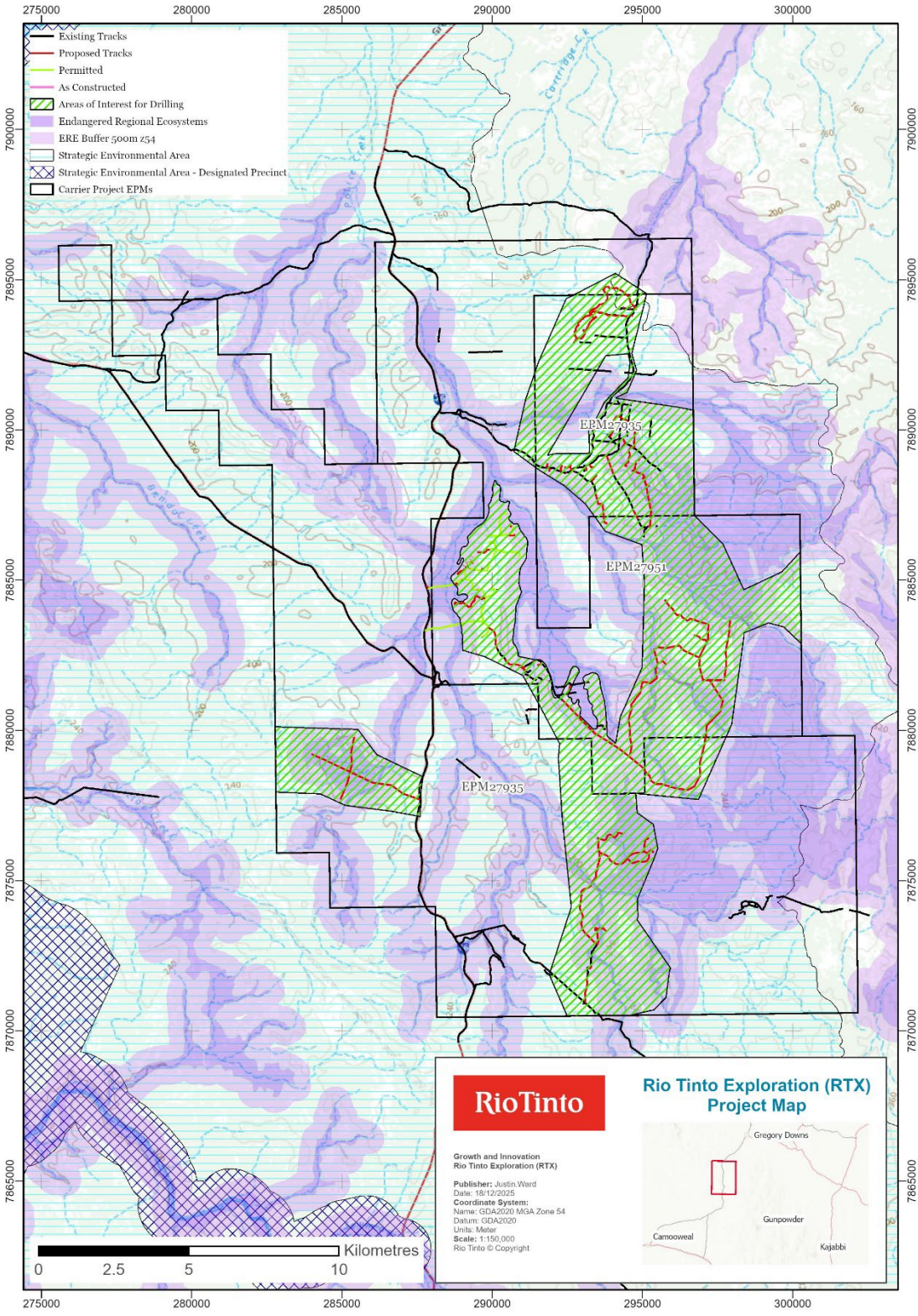


Figure 3: Carrier Drilling Activity & access track Polygon

2.2 Access Roads and Tracks

Existing tracks will be used wherever possible and re-established as required. New exploration tracks will need to be constructed for exploration drilling. New exploration tracks are proposed to be cleared with a bulldozer (e.g., Caterpillar D6 or front loader) or similar equipment, up to approximately 4.5m wide excluding windrows. The bulldozer will clear ground with a minimum disturbance approach, which is with the blade-up to preserve root stocks. Large mature trees with a chest diameter height of 20cm will be avoided where possible. Where the blade-up approach is not possible, blade down clearance will be used to clear vegetation and any outcropping rock. A rock breaker may be utilised if ground is hard or to re-open historic tracks that have degraded over time; this will be kept to a minimum. To support the camp and drilling, up to 35km of new tracks will be cleared for priority one drill holes as outlined in Table 1. The proposed tracks displayed in Figure 3 have been digitized based on available remote sensing data to avoid slopes and vegetation as much as possible. These tracks will be adjusted where necessary in the field as required to avoid steep terrain, unnecessary vegetation clearance and cultural heritage sensitivities. Tracks constructed for the purpose of exploration will be rehabilitated once no further access is required along the track with the landform returned to its original form and topsoil where present returned. Where reasonably achievable, rehabilitation will occur prior to the onset of the next wet season, subject to seasonal constraints and equipment availability.

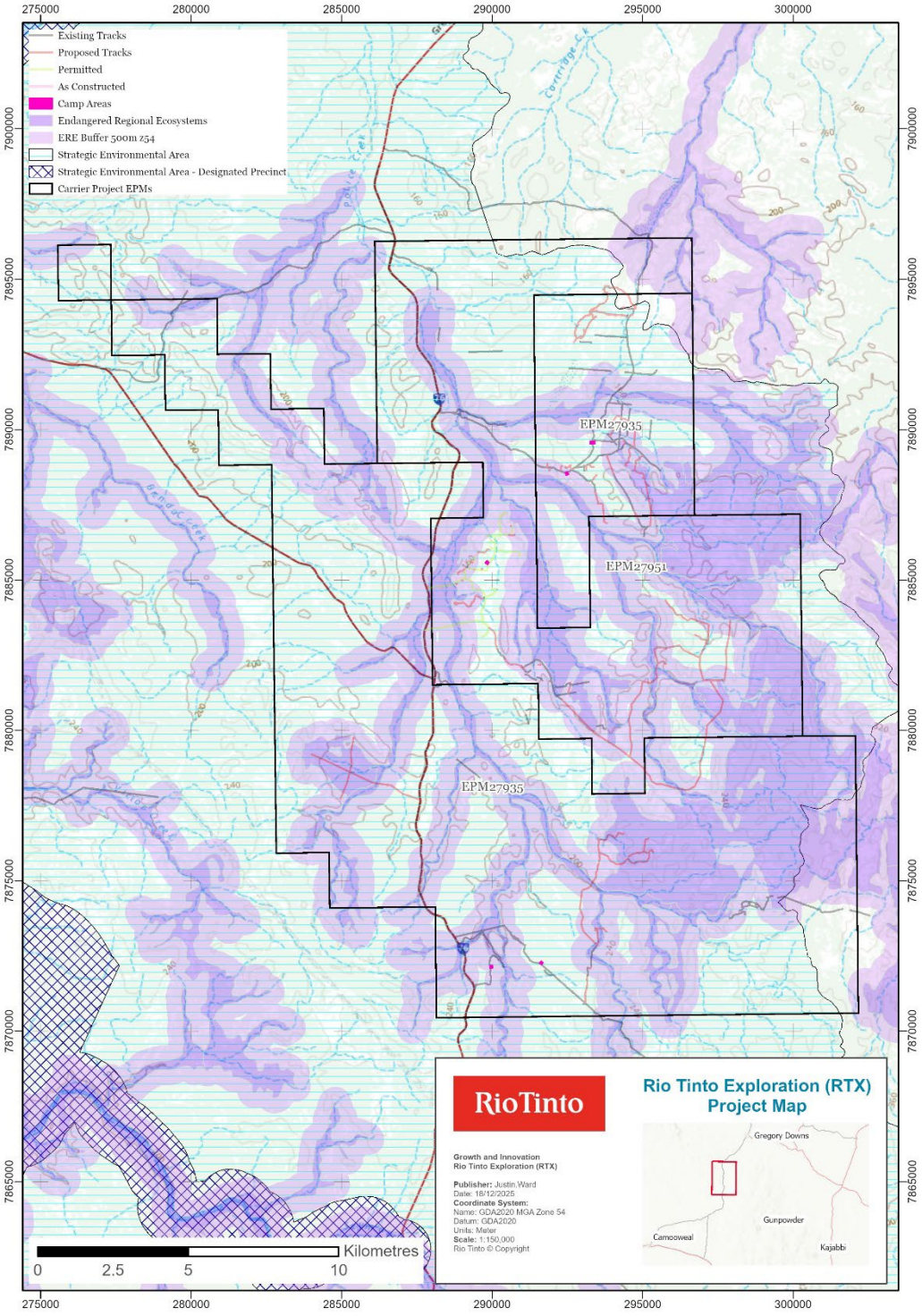


Figure 4: Carrier Project proposed Access Roads, Tracks, and Camp Location.

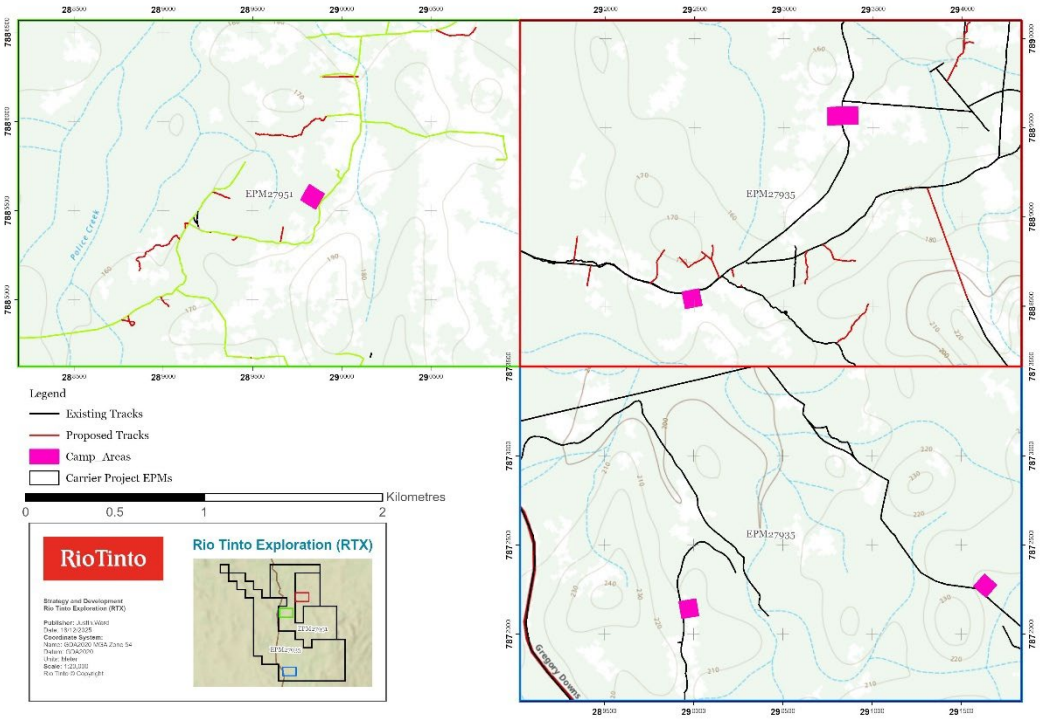


Figure 5: Enhanced view of camp areas from Figure 4, green lines are proposed tracks for 2026 but were approved in 2025 SSEA.

2.3 Low-impact Operations

Prior to drilling, RTX will undertake low-impact exploration methods within the defined work area polygons to refine geological targets and minimise environmental disturbance. Activities include geological mapping, surface and rock chip sampling, Airborne geophysical and ground geophysical surveys (e.g., electromagnetic, magnetic and gravity). Ground based activities will use existing tracks and involve walking or UTVs & 4WD for safety and efficiency, with soil/gravel samples limited to 2–3 kg each. Geophysical surveys will employ portable or vehicle-mounted equipment, requiring no vegetation clearing. Small pits may be dug for the equipment during electrical survey methods if they are conducted. All low impact operations will not have an adverse impact on an environmental attribute of the SEA. Low-impact operations are non-invasive and generally non-

ground disturbance and leave no evidence of a lasting impact to the receiving environment.

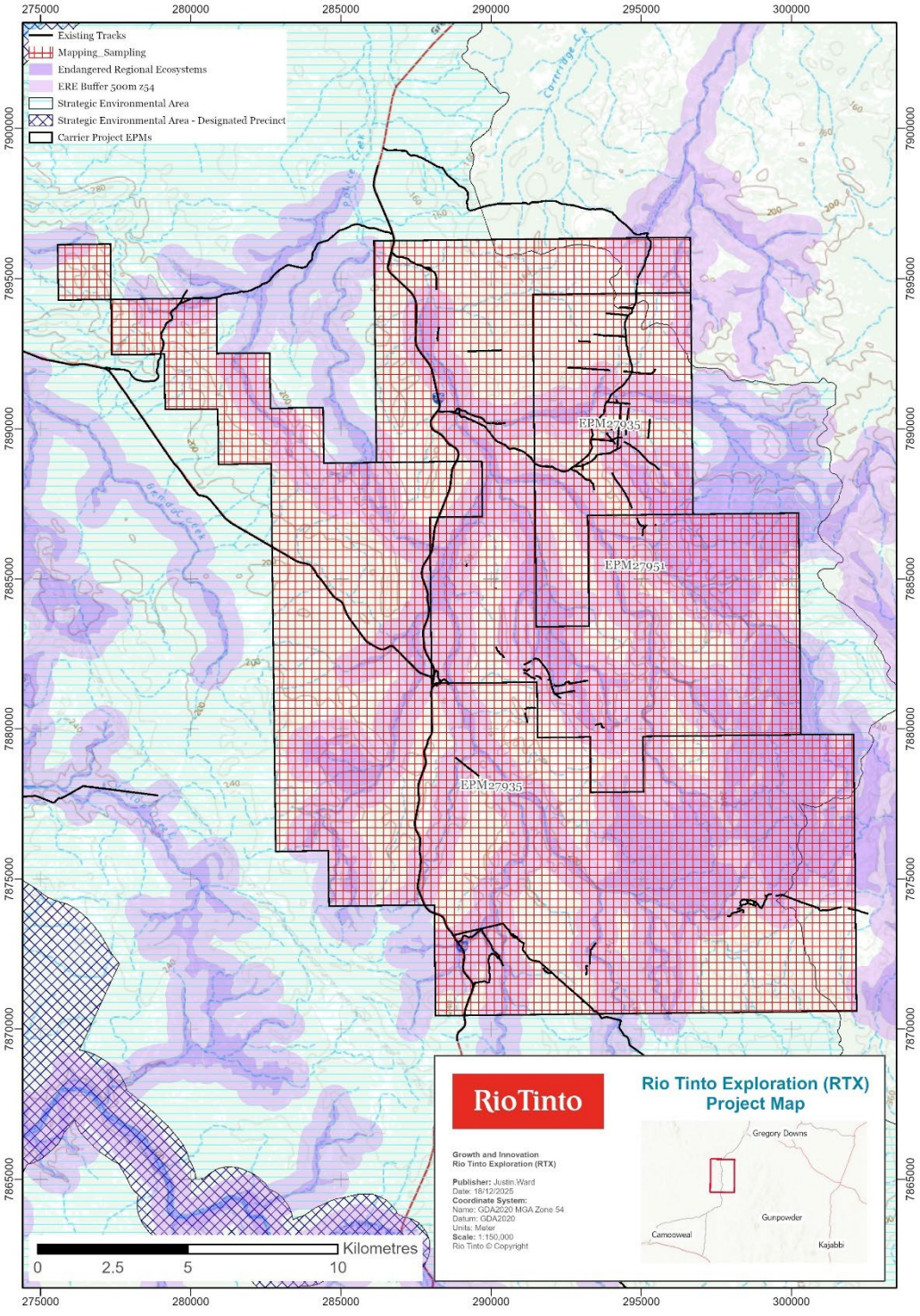


Figure 6: Proposed Mapping and sampling area.

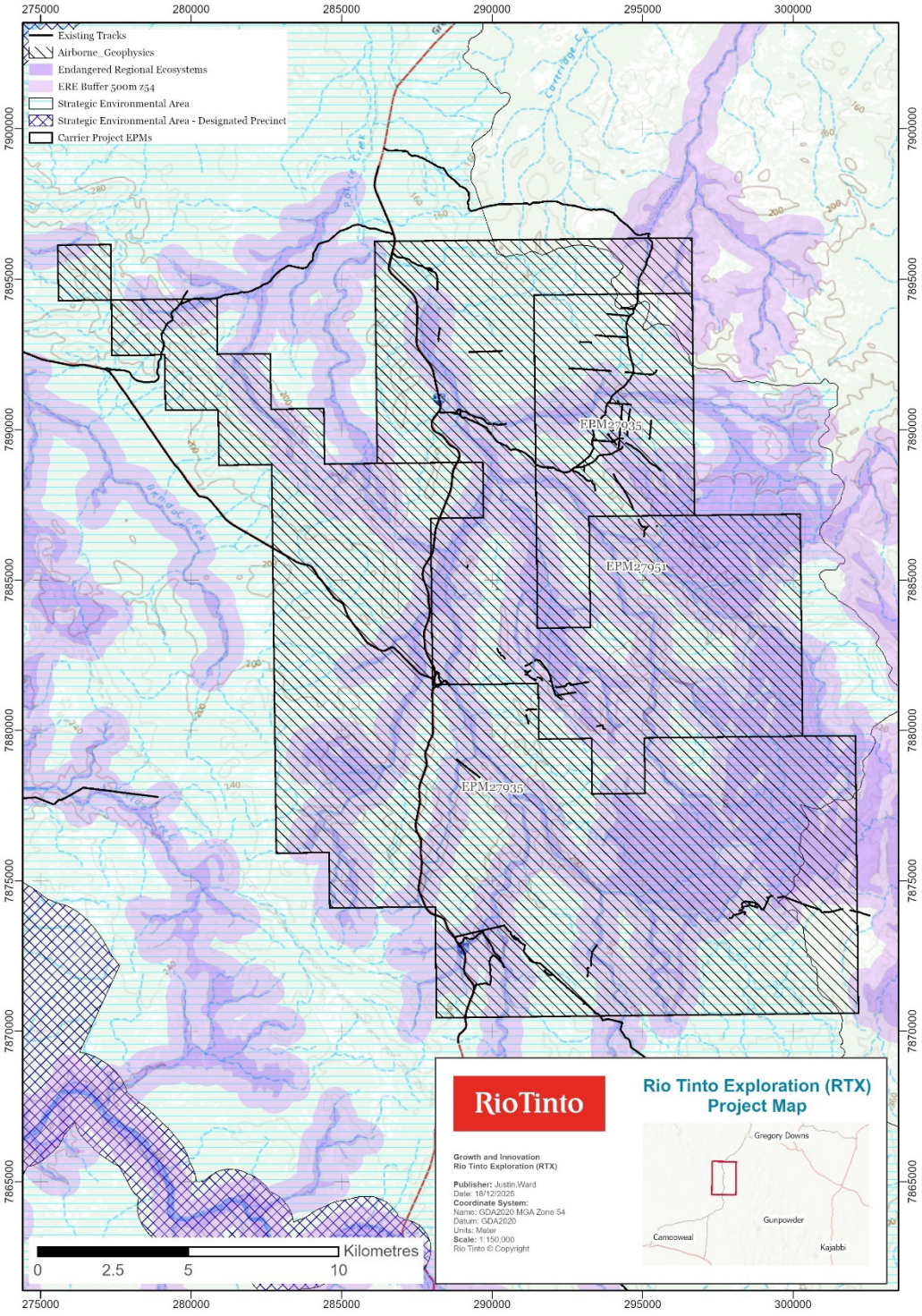


Figure 7: Proposed Airborne Geophysics area.

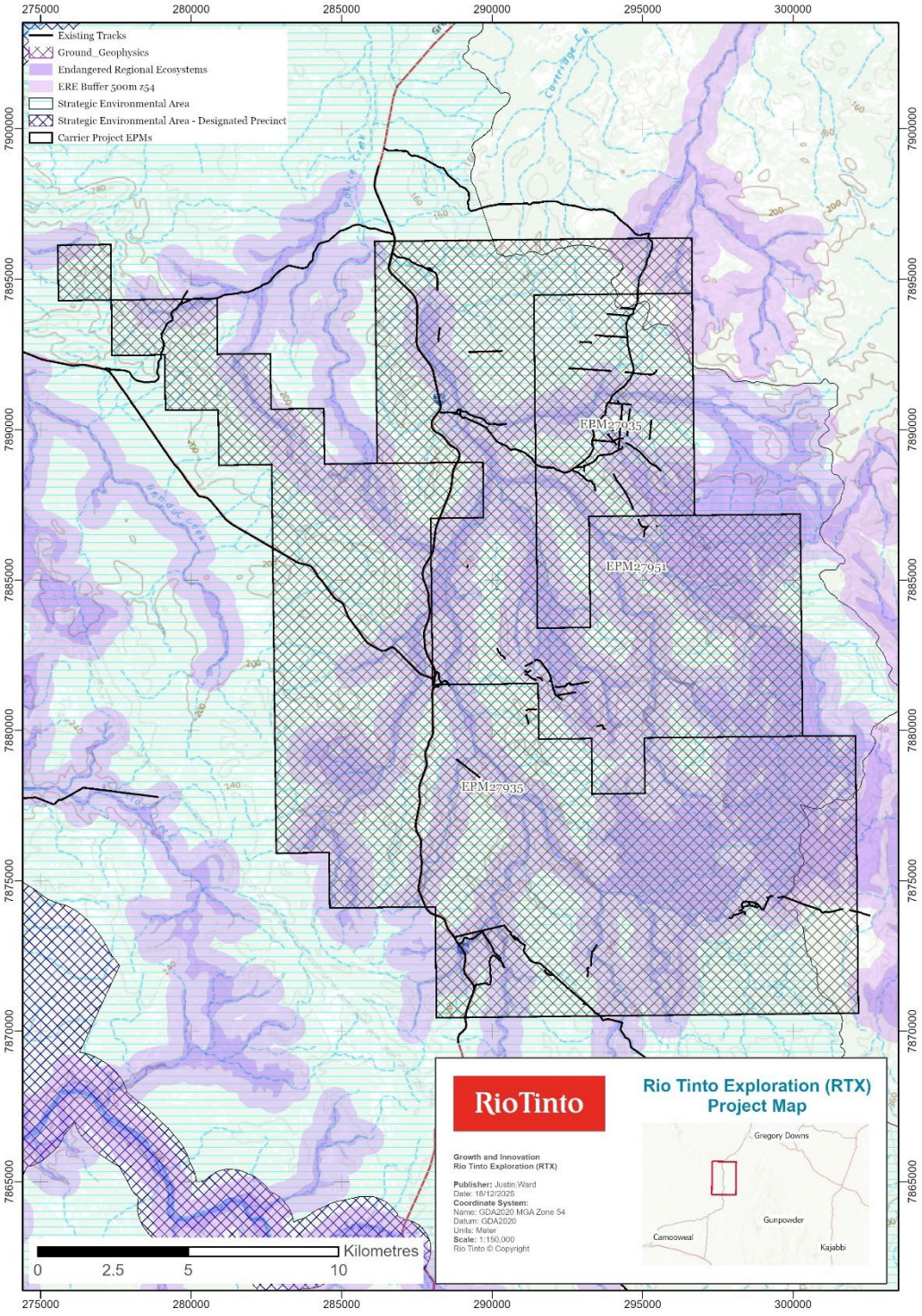


Figure 8: The broad polygon area proposed for ground geophysics surveys. These surveys will be carried out in a postage stamp style across the areas identified as prospective to host a mineralisation.

2.4 Campsite and other facilities

RTX have located several campsites to support the proposed activities, however, only one location will be used. This is dependent on the needs of the pastoralist and any cultural heritage sensitivities. The exploration camp will be established to support the drilling and field operations. The camp will be located on a camp pad approximately 70m x 70m (0.49ha) and will include temporary caravan-style

accommodation units, ablution facilities, a designated laydown and storage area for equipment and consumables, and associated support infrastructure. A greywater sump will be constructed within the camp footprint to manage greywater generated by camp activities.

The camp layout has been designed to consolidate accommodation, storage, and operational activities within a single footprint, minimising the need for multiple cleared areas. The camp pad will be levelled as required to provide a stable and safe working environment. The camp will be temporary in nature and occupied only for the duration of the exploration program. Disturbance will be limited to the minimum area necessary to accommodate the camp infrastructure and vehicle access and all activities will remain within the approved footprint. Topsoil, where present, will be stripped and stockpiled separately for reuse during rehabilitation. Greywater generated by the camp will be contained within a purpose-built sump located within the camp footprint. The sump will be sized to manged expected greywater volumes and prevent off-site discharge, ponding, or infiltration beyond the camp area.

Upon completion of the exploration program the exploration camp and associated infrastructure will be decommissioned and removed from site. The greywater sump will be managed through dewatering where required and/or by allowing natural evaporation to occur. The sump will then be backfilled and rehabilitated to match the surrounding landform. The camp pad will be ripped or scarified as necessary to relieve compaction, reshaped to reinstate natural surface contours and drainage patterns and covered with stockpiled subsoil and topsoil. Rehabilitation will aim to return the area to a stable, safe condition consistent with the surrounding land use, with no ongoing contamination or erosion risk.

All rubbish generated will be removed from the Project Area and disposed of at a licenced facility.

2.5 Water Supply

No water will be extracted from surface waterways within the tenement. Water for drilling will be sourced from established bores following approval from the owner. If this is not possible, water for drilling will be brought into the Project Area for use. Drinking water will be purchased in nearby townships and taken to the Project Area.

2.6 Timing

Exploration will be undertaken during the dry season only from April to the end of November. Drilling may be conducted over two shifts per day (day shift and night

shift). The duration of ground geophysics, mapping and sampling will be as required.

3. Environmental Attributes

The environmental attributes associated with the Gulf River Strategic Environmental Area are outlined in the Regional Planning Interest Regulations 2014 under Regulation 9 and described as follows: (Queensland Government 2014).

(a) the natural hydraulic processes of the area characterised by-

  (i) natural, unrestricted flows in and along watercourses and estuaries; and

  (ii) overflow from watercourses onto flood plains of the area, or the other way: and

  (iii) natural flow paths of water across flood plains connecting waterholes, lakes and wetlands in the area; and

  (iv) natural flow in and from groundwater and springs;

(b) the natural geomorphic processes of the area characterised by-

  (i) natural erosion; and

  (ii) the transport and deposit of sediment by water throughout the catchments and along watercourse systems and estuaries;

(c) the functioning riparian processes of the area characterised by native riparian vegetation associated with watercourses, estuaries, lakes, floodplains and wetlands.

(d) the functioning wildlife corridors of the area characterised by-

  (i) natural habitat in the watercourse systems; and

  (ii) permanent waterholes and springs;

(e) The natural water quality in the watercourse channels and aquifers and on flood plains in the area characterised by physical, chemical and biological attributes that support and maintain natural aquatic and terrestrial ecosystems.

3.1 Climate

The exploration area is located approximately 225 km to the northwest of the City of Mt Isa and has a hot, dry climate with a distinct wet and dry season. The nearest weather station is Camooweal (station number 037010) which has a mean maximum annual temperature of 33.0°C and a mean minimum annual temperature of 17.7°C. The mean annual rainfall is 410.0 mm with most occurring from November through to March (Table 2). Very little rainfall is typically reported from June to September (BOM, 2025).

Month	Mean maximum temperature (°C)	Mean minimum temperature (°C)	Mean Rainfall (mm)
January	37.4	24.4	99.3
February	36.3	23.7	93.2
March	35.4	21.9	60.8
April	33.1	18.1	13.8
May	29.0	13.5	10.3
June	26.0	9.9	9.6
July	25.9	8.8	5.9
August	28.5	10.9	3.2
September	32.5	15.3	6.7
October	36.0	19.6	14.4
November	37.6	22.4	30.4
December	38.2	23.9	63.2
Annual	33.0	17.7	410.0

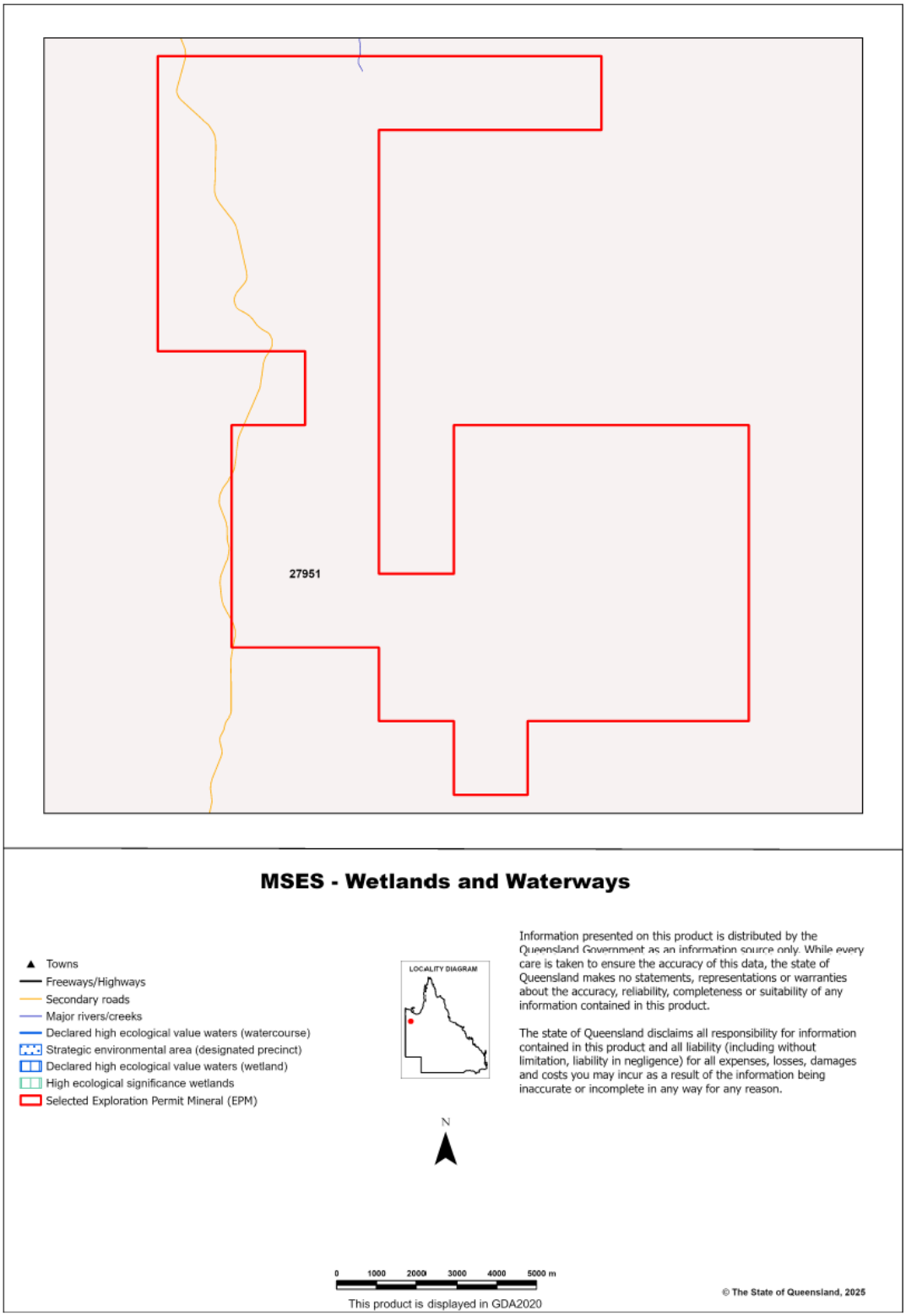
Table 3: Climate Data for EPM27935 and EPM 27951 adapted from the Bureau of Meteorology 2025

3.2 Hydrology

EPM27935 and EPM27951 are located in the Gregory Wild River Area and forms part of the Leichhardt and Nicholson catchment.

No parts of EPM27935 or EPM27951 intersect with Wetlands of Ecological significance as shown in Figure 6.

Map 2 - MSES - Wetlands and Waterways



Map 2 - MSES - Wetlands and Waterways

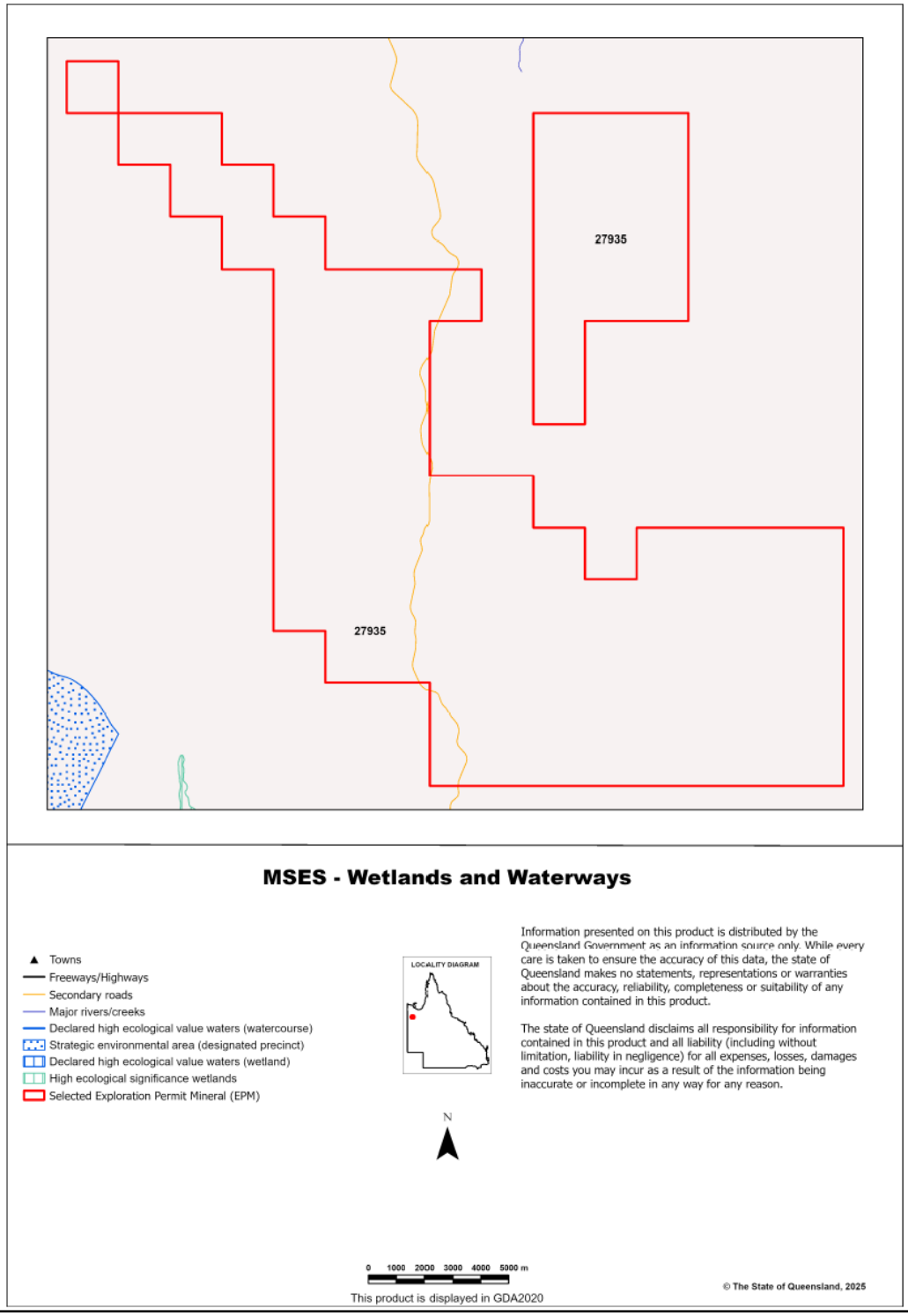


Figure 9. Carrier Project and Wetlands of Ecological Significance

3.3 Geomorphology

EPM27935 and EPM27951 are located within the Northwest Highlands Bioregion and the subregion of Mount Isa Inlier (DES, 2025a). EPM27935 and EPM27951 lie within the Nicholson and Leichhardt catchment (DES, 2025a).

3.4 Vegetation Communities

The environmental Regional Ecosystem (RE) reports generated for EPM27935 and EPM27951 (DES, 2025a) indicate that eight vegetation communities are present within the licenses as shown in Table 4.

BVG (1 Million)	Description	Area (Ha)	% of AOI
16a	Open forest and woodlands dominated by Eucalyptus camaldulensis (river red gum) (or E. tereticornis (blue gum)) and/or E. coolabah (coolabah) (or E. microtheca (coolabah)) fringing drainage lines. Associated species may include Melaleuca spp., Blakella tessellaris (carbeen), Angophora spp., Casuarina cunninghamiana (riveroak). Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	404.84	3.05
19a	Low open woodlands dominated by Eucalyptus leucophloia (snappy gum) with Triodia spp. dominated ground layer, mainly on hills and ranges.	9,007.44	67.90
19b	Low open woodlands dominated by Eucalyptus leucophylla (Cloncurry box) or less extensively Corymbia terminalis (desert bloodwood) low open woodlands and related associations, mainly lower slopes and valleys.	2,749.62	20.73
19c	Low open woodlands dominated by Eucalyptus pruinosa low open woodlands on sandplains, outwash areas and lateritised surfaces.	759.76	5.73
24a	Low woodlands to tall shrublands dominated by Acacia spp. on residuals. Species include A. shirleyi (lancewood), A. catenulata (bendee), A. microsperma (bowyakka), A. clivicola, A. sibirica, A. rhodoxylon (rosewood) and A. leptostachya (Townsville wattle).	119.47	0.90
27c	Low open woodlands dominated by a variety of species including Grevillea striata (beefwood), Acacia spp., Terminalia spp. or Cochlospermum spp.	26.34	0.20
30a	Tussock grasslands dominated by Astrebla spp. (mitchell grass) or Dichanthium spp. (bluegrass) often with Eulalia aurea (silky browntop) on alluvia.	115.74	0.87
33b	Hummock grasslands dominated by Triodia pungens or T. longiceps (giant grey spinifex) or T. mitchellii (buck spinifex) sandplains.	82.82	0.62

BVG (1 Million)	Description	Area (Ha)	% of AOI
16a	Open forest and woodlands dominated by Eucalyptus camaldulensis (river red gum) (or E. tereticornis (blue gum)) and/or E. coolabah (coolabah) (or E. microtheca (coolabah)) fringing drainage lines. Associated species may include Melaleuca spp., Blakella tessellaris (carbeen), Angophora spp., Casuarina cunninghamiana (riveroak). Does not include alluvial areas dominated by herb and grasslands or alluvial plains that are not flooded.	626.11	2.25
19a	Low open woodlands dominated by Eucalyptus leucophloia (snappy gum) with Triodia spp. dominated ground layer, mainly on hills and ranges.	20,365.50	73.21
19b	Low open woodlands dominated by Eucalyptus leucophylla (Cloncurry box) or less extensively Corymbia terminalis (desert bloodwood) low open woodlands and related associations, mainly lower slopes and valleys.	3,602.89	12.95
19c	Low open woodlands dominated by Eucalyptus pruinosa low open woodlands on sandplains, outwash areas and lateritised surfaces.	2,210.20	7.95
24a	Low woodlands to tall shrublands dominated by Acacia spp. on residuals. Species include A. shirleyi (lancewood), A. catenulata (bendee), A. microsperma (bowyakka), A. clivicola, A. sibirica, A. rhodoxylon (rosewood) and A. leptostachya (Townsville wattle).	701.48	2.52
27c	Low open woodlands dominated by a variety of species including Grevillea striata (beefwood), Acacia spp., Terminalia spp. or Cochlospermum spp.	174.47	0.63
30a	Tussock grasslands dominated by Astrebla spp. (mitchell grass) or Dichanthium spp. (bluegrass) often with Eulalia aurea (silky browntop) on alluvia.	67.00	0.24

33b	Hummock grasslands dominated by Triodia pungens or T. longiceps (giant grey spinifex) or T. mitchellii (buck spinifex) sandplains.	69.60	0.25

Table 4: Vegetation Communities within EPM27935 and EPM27951

The vast majority of the vegetation types have a biodiversity status of “No concern at present” (97.51% in EPM27935 and 96.07% in EPM27951. An area of 2.25% of the EPM 27935 and 3.05% of EPM 27951 contains an endangered Regional Ecosystem as shown in Table 5.

EPM 27935

Biodiversity Status	Area (Ha)	% of AOI
Endangered	626.11	2.25
Of concern	67.00	0.24
No concern at present	27,124.14	97.51
Total remnant vegetation	27,817.25	100.00

EPM 27951

Biodiversity Status	Area (Ha)	% of AOI
Endangered	404.84	3.05
Of concern	115.74	0.87
No concern at present	12,745.45	96.08
Total remnant vegetation	13,266.04	100.00

Table 5: Biodiversity Status of Vegetation within EPM27935 and EPM27951

Table 6 below identifies the remnant regional ecosystems and vegetation communities mapped within EPM27935 and EPM27951, and provides their short descriptions, Biodiversity Status, and remnant extent within EPM27935 and 27951 (DES, 2025a).

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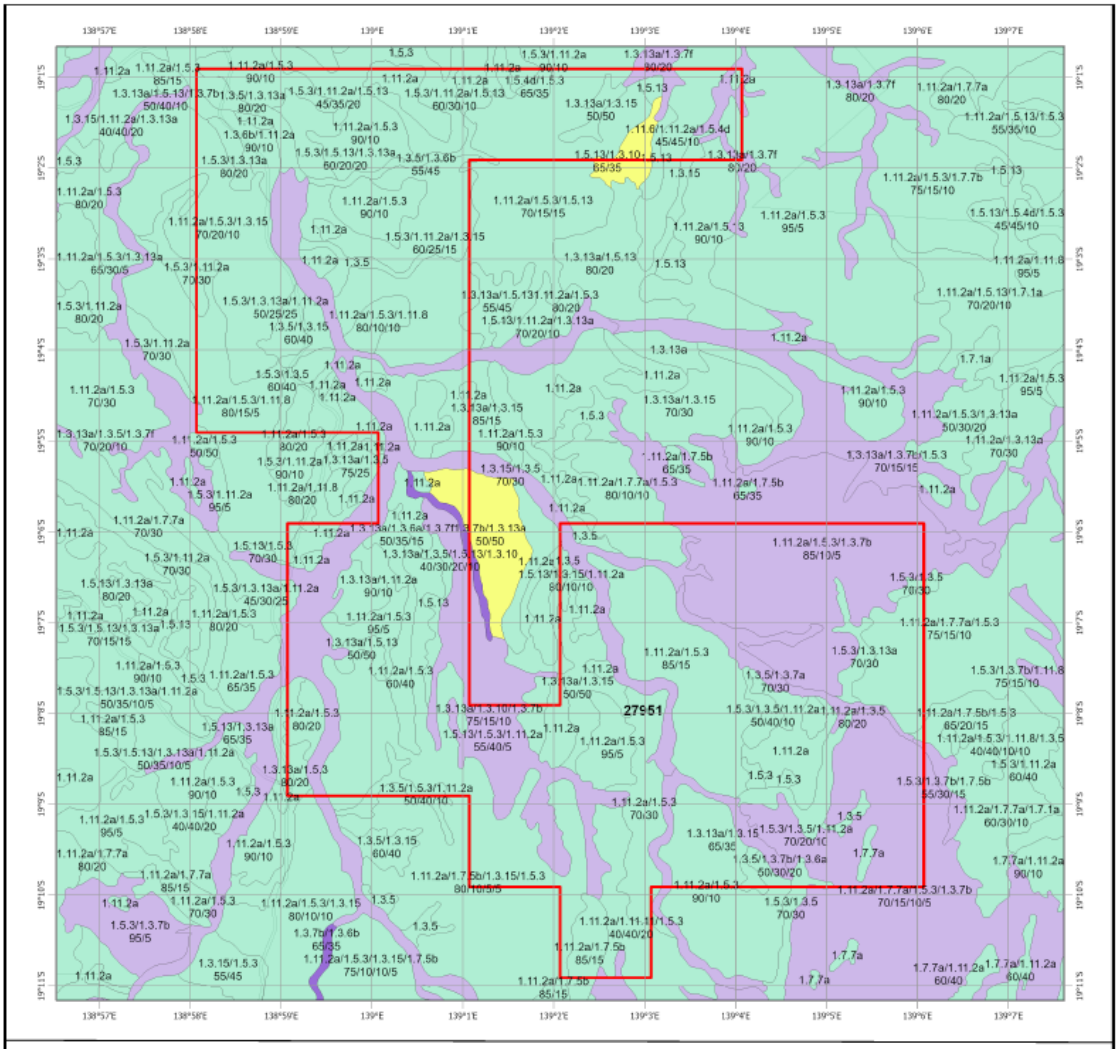
EPM 27935

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
1.11.11	Triodia spp. hummock grassland on metamorphic hills (south)	No concern at present	69.60	0.25
1.11.2a	Eucalyptus leucophloia low open woodland	No concern at present	15,126.64	54.38
1.11.6	Corymbia terminalis and Lysiphyllum cunninghamii low open woodland on folded limestones	No concern at present	42.83	0.15
1.11.8	Terminalia aridicola and/or Corymbia aspera low open woodland to low woodland, usually with vine-scrub species, on rock outcrops	No concern at present	174.47	0.63
1.3.10	Mixed tussock grassland on shallow alluvium	Of concern	67.00	0.24
1.3.13a	Eucalyptus leucophylla woodland on levees and minor drainage lines	No concern at present	2,225.83	8.00
1.3.15	Eucalyptus pruinosa low woodland on recent alluvium	No concern at present	898.77	3.23
1.3.5	Corymbia polycarpa, Blakella bella, Blakella grandifolia and Eucalyptus chlorophylla in mixed woodlands on sandy levees in the north	No concern at present	702.13	2.52
1.3.6a	Blakella aparrerinja, Corymbia terminalis woodland on sandy levees	No concern at present	302.40	1.09
1.3.6b	Blakella aparrerinja, Corymbia terminalis woodland on sandy levees	No concern at present	320.19	1.15
1.3.7b	Eucalyptus camaldulensis woodland on channels and levees	Endangered	484.05	1.74
1.3.7f	Eucalyptus camaldulensis woodland on channels and levees	Endangered	142.06	0.51
1.5.13	Eucalyptus pruinosa low open woodland on older alluvial and residual soils	No concern at present	1,311.43	4.71
1.5.3	Eucalyptus leucophloia low open woodland to woodland on sandy and gravelly red soils	No concern at present	3,817.18	13.72
1.5.4d	Eucalyptus leucophylla and/or Corymbia terminalis low open woodland on red earths	No concern at present	9.52	0.03
1.7.1a	Eucalyptus leucophloia low open woodland on silcrete and lateritic surfaces	No concern at present	36.89	0.13
1.7.5a	Acacia shirleyi low woodland on lateritic scarps and hills	No concern at present	18.16	0.07
1.7.5b	Acacia shirleyi low woodland on lateritic scarps and hills	No concern at present	683.31	2.46
1.7.7a	Corymbia capricornia +/- Eucalyptus leucophloia or E. miniata low open woodland on silcrete	No concern at present	1,381.92	4.97
1.7.7b	Corymbia capricornia +/- Eucalyptus leucophloia or E. miniata low open woodland on silcrete	No concern at present	2.88	0.01

Regional Ecosystem	Short Description	BD Status	Area (Ha)	% of AOI
1.11.11	Triodia spp. hummock grassland on metamorphic hills (south)	No concern at present	82.82	0.62
1.11.2a	Eucalyptus leucophloia low open woodland	No concern at present	7,038.71	53.06
1.11.6	Corymbia terminalis and Lysiphyllum cunninghamii low open woodland on folded limestones	No concern at present	57.13	0.43
1.11.8	Terminalia aridicola and/or Corymbia aspera low open woodland to low woodland, usually with vine-scrub species, on rock outcrops	No concern at present	26.34	0.20
1.3.10	Mixed tussock grassland on shallow alluvium	Of concern	115.74	0.87
1.3.13a	Eucalyptus leucophylla woodland on levees and minor drainage lines	No concern at present	1,630.02	12.29
1.3.15	Eucalyptus pruinosa low woodland on recent alluvium	No concern at present	349.57	2.64
1.3.5	Corymbia polycarpa, Blakella bella, Blakella grandifolia and Eucalyptus chlorophylla in mixed woodlands on sandy levees in the north	No concern at present	564.69	4.26
1.3.6a	Blakella aparrerinja, Corymbia terminalis woodland on sandy levees	No concern at present	348.84	2.63
1.3.6b	Blakella aparrerinja, Corymbia terminalis woodland on sandy levees	No concern at present	119.37	0.90
1.3.7a	Eucalyptus camaldulensis woodland on channels and levees	Endangered	47.05	0.35
1.3.7b	Eucalyptus camaldulensis woodland on channels and levees	Endangered	199.90	1.51
1.3.7f	Eucalyptus camaldulensis woodland on channels and levees	Endangered	157.89	1.19
1.5.13	Eucalyptus pruinosa low open woodland on older alluvial and residual soils	No concern at present	410.18	3.09
1.5.3	Eucalyptus leucophloia low open woodland to woodland on sandy and gravelly red soils	No concern at present	1,792.19	13.51
1.5.4d	Eucalyptus leucophylla and/or Corymbia terminalis low open woodland on red earths	No concern at present	29.58	0.22
1.7.5b	Acacia shirleyi low woodland on lateritic scarps and hills	No concern at present	119.47	0.90
1.7.7a	Corymbia capricornia +/- Eucalyptus leucophloia or E. miniata low open woodland on silcrete	No concern at present	176.55	1.33

Table 6: Remnant Regional Ecosystem, Descriptions and Status within EPM27935 and EPM27951



Remnant 2021 Regional Ecosystems

Biodiversity Status

- Endangered - Dominant vegetation
- Endangered - Sub-dominant
- Of Concern - Dominant
- Of Concern - Sub-dominant
- No concern at present
- Non-remnant vegetation, cultivated or built environment
- Plantation
- Water
- Cadastral Boundaries
- Selected Exploration Permit Mineral (EPM)

LOCALITY DIAGRAM

N

0 1.2 2.4 3.6 4.8 km

This product is projected into GDA2020

Regional ecosystem mapping over the majority of Queensland is produced at a scale of 1:100,000. At this scale, the minimum remnant polygon area is 5 hectares or minimum remnant width of 75 metres. Regional ecosystem linework reproduced at a scale greater than 1:100,000, except in designated areas, should be used as a guide only. The precision of polygon boundaries or positional accuracy of linework is 100 metres.
Regional ecosystems are defined as vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. The polygons are labelled by regional ecosystem (RE); where more than one RE occurs, the percentage of each is labelled. The label consists of 3 components: bioregion, land zone, and vegetation community – the dominant canopy species. e.g.: RE 12.3.3. Descriptions of REs are found online. Use the search term "Regional Ecosystem Framework".
Regional ecosystem mapping at 1:100,000 map scale is derived from the following sources: 1:80,000 B&W 1960's aerial photography, Landsat TM imagery, geology, soils, land systems data, field survey and historical records.

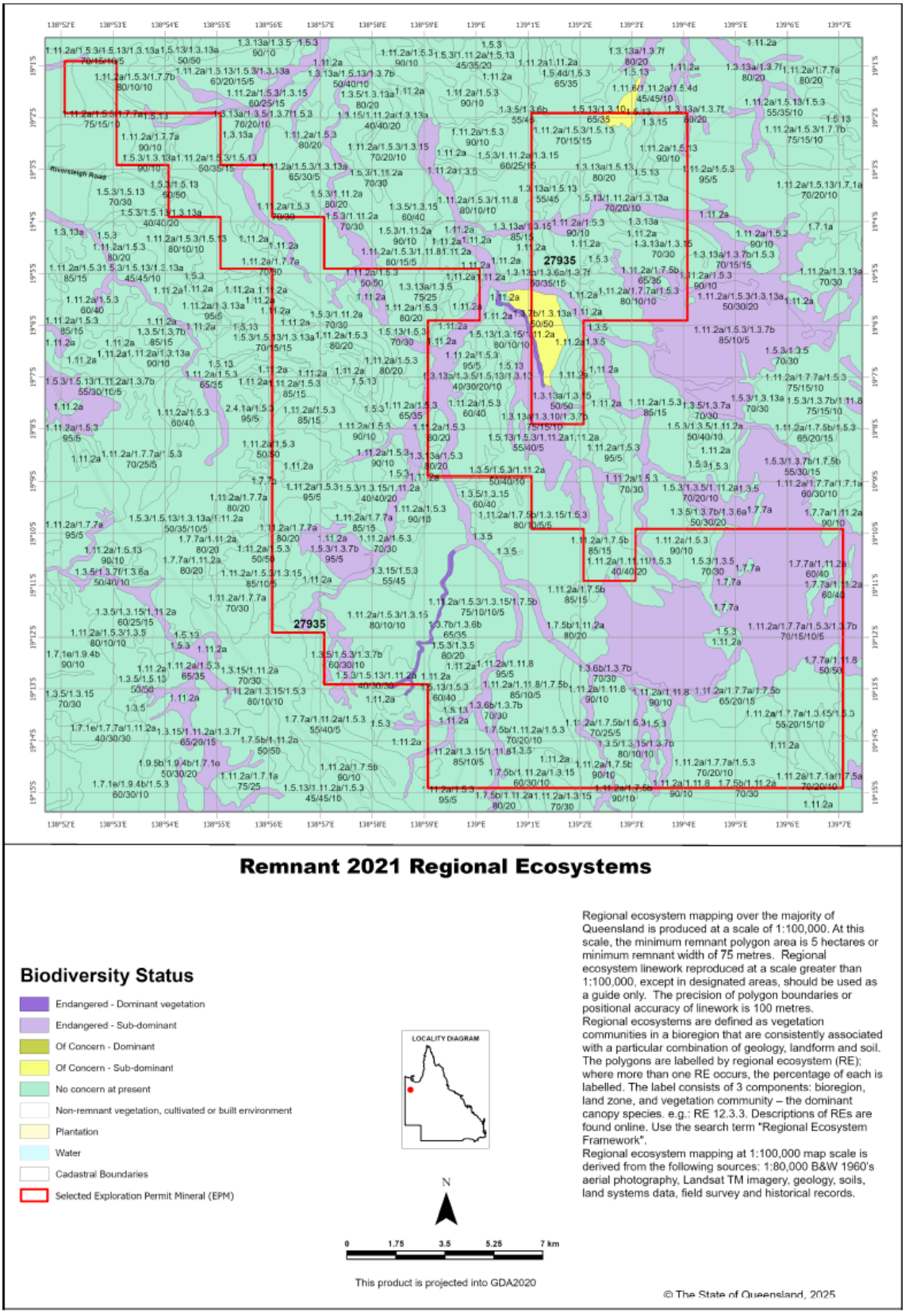


Figure 10. Proposed exploration area on EPM27935 and EPM27951 in relation to Regional Ecosystems

Table 7 identifies Matters of State Environmental Significance within EPM27935 and 27951

Rio Tinto

EPM 27935

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	1927.87 ha	6.9%
7b Special least concern animals	0 ha	0.0%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	466.56 ha	1.7%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	0 ha	0.0%
8d Regulated Vegetation - Essential habitat	1927.87 ha	6.9%
8e Regulated Vegetation - intersecting a watercourse	481.9 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0 ha	0.0%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

1a Protected Areas- estates	0 ha	0.0%
1b Protected Areas- nature refuges	0 ha	0.0%
1c Protected Areas- special wildlife reserves	0 ha	0.0%
2 State Marine Parks- highly protected zones	0 ha	0.0%
3 Fish habitat areas (A and B areas)	0 ha	0.0%
4 Strategic Environmental Areas (SEA)	0 ha	0.0%
5 High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values	0 ha	0.0%
6a High Ecological Value (HEV) wetlands	0 ha	
6b High Ecological Value (HEV) waterways	0 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	0 ha	0.0%
7b Special least concern animals	0 ha	0.0%
7c i Koala habitat area - core (SEQ)	0 ha	0.0%
7c ii Koala habitat area - locally refined (SEQ)	0 ha	0.0%
7d Sea turtle nesting areas	0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	725.31 ha	5.5%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	0 ha	0.0%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	0 ha	0.0%
8d Regulated Vegetation - Essential habitat	0 ha	0.0%
8e Regulated Vegetation - intersecting a watercourse	248.1 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0 ha	0.0%
9a Legally secured offset areas- offset register areas	0 ha	0.0%
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0 ha	0.0%

Table 7: Summary of MSES present within EPM27935 and EPM27951 respectively

4. Potential Impacts on Environment Attributes

4.1 Hydrologic processes

The exploration program will be conducted during the dry season in northern Australia. Conducting works in the dry season will avoid periods of high rainfall and subsequently high flow of water across the landscape. As a result, it is expected that most seasonally inundated creeks within the tenements will be dry and there will be limited flow of water into the surrounding waterways.

Drilling activities will avoid rivers and riparian zones as far as practicable, providing protection to rivers and riparian zones and reducing potential changes to waterflow within the area.

Existing tracks will be used where possible; however, some new exploration tracks will need to be established for exploration drilling. New exploration tracks are proposed to be cleared with a small dozer (e.g., Caterpillar D6 or front loader) or similar equipment, up to approximately 4.5m wide excluding windrows. The dozer will clear ground with a minimum disturbance approach, which is with the blade-up to preserve root stocks and going around larger trees wherever possible. Where this is not possible, blades down clearance will be used to clear vegetation and any outcropping rock. A rock breaker may be utilised if ground is hard or to re-open historic tracks that have degraded over time; this will be kept to a minimum.

All drill holes will be plugged on completion of drilling, and the drill site rehabilitated once no more work is required on the site, where possible within the same dry season. These measures will ensure that the natural surface water flow patterns, stream flow and connectivity in the area will not be substantially affected during the works. The minimal disturbance intent of the exploration process is to ensure that connectivity of the stream flow within any watercourse and laterally across the landscape will be maintained following the activity.

4.2 Geomorphic processes

Disturbance in rivers and riparian zones will be avoided where possible. Access tracks may need to cross minor rivers on occasion. The disturbance to land will be rehabilitated in the same dry season, where possible. Given the proposed minimal disturbance approach, it is not expected that there would be significant, widespread, or irreversible impacts on natural geomorphic processes within the

area of proposed activity or wider tenement area as a result of the exploration activities.

Movement of water across the landscape during the wet season can be substantial with localised intense rainfall events. Adverse erosion and sedimentation can result from the waterflow when tracks and drill lines are cleared of trees, saplings and ground cover and the ground surface is disturbed. Given the proposed exploratory activity is a low impact, small scale and a temporary process undertaken during the dry season, it is not anticipated these issues will occur. Nor is the activity expected to cause long term disruption to soil profiles through earthworks or excavation. The proposed exploration activity is not anticipated to compromise the preservation of the natural erosion, transportation, and deposition of sediments by water throughout the catchment.

The preferred approach for track creation is for minimal width exploration tracks to be pushed with the dozer blade raised above the surface to reduce damage to ground cover and topsoil. Where this is not possible, the dozer blade will be used to engage the ground to create the track. This “blade down” technique will be used only where necessary. Rootstock from saplings, shrubs and trees will be retained and native, mature trees will be avoided using the minimal disturbance approach. Minimal disturbance and retention of the ground layer (particularly grasses) will help facilitate a reduction in erosion potential of tracks during the following wet season. Additional management practices such as strategic flow dissipation and drainage works along the new exploration tracks will also be applied where necessary to assist in dispersing water across the landscape rather than concentrating flows that may lead to erosion and sedimentation issues along tracks.

4.3 Riparian processes

Drilling activity in riparian areas will be minimised. Consequently, it is not expected that the proposed exploration activities would have widespread or irreversible impacts on riparian function in the area of activity or the wider tenement area.

All vehicles entering EPM27935 and EPM27951 will be subject to weed and seed control inspections to minimise the control of invasive weed species. Rehabilitation of exploration activity is anticipated to occur shortly after drilling is completed allowing for timely stabilisation of the disturbed area.

4.4 Water quality

Exploration activities will only be undertaken during the dry season. No water will be extracted from surface waterways within the tenement. Water for drilling will be sourced from established bores. If this is not possible, water for drilling will be brought into the Project Area. The chemicals utilised within drilling muds are biodegradable and therefore contamination to groundwater is unlikely. In this respect it is anticipated the physical, chemical, and biological water quality immediately downstream of the exploration activity will be consistent with water quality immediately upstream of exploration activity. The exploration methodology of minimal disturbance during the dry season will reduce the likelihood of adversely affecting riverine and non-riverine wetlands and streams water quality during wet season overland flow. There is no anticipated significant water flow across the landscape during exploration works that could lead to altered water quality in the area. Similarly, the activity will not inhibit the overflow or flow of surface water in or out of wetlands or watercourse post construction.

The proposed minimisation of exploration in close proximity to rivers and riparian zones will facilitate their protection. There are no water storage dams within the proposed area of activity.

4.5 Wildlife Corridors

The exploration activity is not anticipated to impact the preservation of the wildlife corridor function of the riparian vegetation given the activity:

- Maintains the connection between native terrestrial vegetation along and across the watercourse system to a level sufficient to provide for migration, shelter and habitat.
- Does not impede passage for aquatic/marine fauna along the water course system.

Large trees will also be preserved as much as possible during the disturbance process to ensure potential breeding places are protected.

4.6 Beneficial Flooding

The exploration activity will not compromise beneficial flooding as the proposed exploration activity does not alter the natural flow paths and the natural extent of flooding across floodplains. Establishment of drill access tracks for exploration activities will result in minimal disturbance to the ground, with negligible change to

the natural contours of the proposed area of activity. There is anticipated to be limited to no surface waterflow across the landscape during the exploration program as the exploration activities will be conducted during the dry season. Wet season overland flows are unlikely to be significantly modified or altered due to exploration activities.

4.7 Groundwater Dependent Ecosystems (GDEs)

A small, low potential Groundwater Dependent Ecosystem (GDE) has been identified at the edge of one of the project areas. Previous exploration drilling in the vicinity experienced substantial water loss without groundwater interception, suggesting that groundwater is either absent, occurs at depth, or is not hydraulically connected to this feature. Therefore, the GDE is assessed as having low groundwater reliance, and project activities are not expected to result in impacts to GDE values.

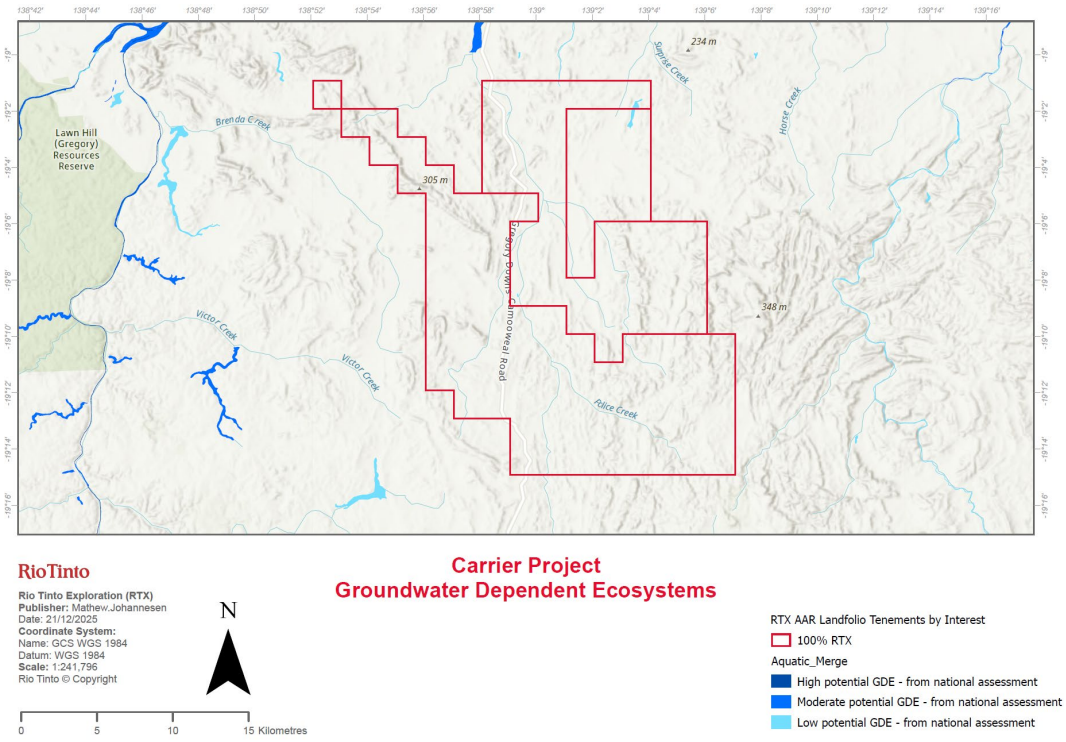


Figure 11: Groundwater Dependent Ecosystems in relation to Carrier Project

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