

Application to extend 'no clearing after' and expiry date (Administrative amendments)

The Department of Mines, Industry Regulation and Safety (DMIRS) requires that amendments to clearing permits, including administrative amendments, be reviewed. The purpose of the review is to clarify whether there have been any substantial changes in conservation values and/or impacts within the application area since the original assessment. Such changes may result in supporting surveys no longer being adequate to support the revised assessment and/or change the outcomes when assessed against the 10 Clearing Principles listed under Schedule 5 of the *Environmental Protection Act 1986*.

The purpose of this pro forma is to provide DMIRS with information on:

- > changes in conservation values since the original assessment.
- > the significance of those changes; and
- > the appropriate approval pathway for the area in question.

Where demonstrated through this pro forma, that previous survey information meets current regulator expectations and no substantial changes to known conservation values and/or clearing impacts exist, Rio Tinto Iron Ore (RTIO) would not pursue further survey work to support the administrative amendment.

Where previous supporting surveys are no longer adequate to meet current regulator expectations, or there have been significant changes to the known conservation values since assessment was made, supplementary supporting information will accompany an amendment to the NVCP or new clearing permit application. Rio Tinto will seek confirmation from DMIRS on the appropriate pathway.

Current		Proposed	
CPS#	2552/8	CPS#	2552/9
No clearing after date	31 July 2023	No clearing after date	31 July 2028
Expiry date	31 December 2028	Expiry date	31 December 2033
Clearing approved (ha)	150 hectares (ha)		
Clearing carried out to date (ha)	8.03 ha		
Rehabilitation carried out to date (ha)	7.67 ha		
Justification of extension:	Extensions to the duration and 'no clearing after' dates of CPS 2552 will allow mineral and hydrogeological exploration drilling programs to continue and ongoing operation of / access to the Bungaroo borefield within the approved clearing permit envelope.		
	Future drilling programs are not planned outside of the clearing permit envelope and will not result in the clearing limit of 150 ha being exceeded.		
	Rehabilitation will continue to be undertaken progressively.		

Desktop assessment of existing biological data

Assessor: Bridget Duncan (Botanist)

Date/s of field surveys:

Detailed flora and vegetation survey (Biota Environmental Sciences, 2007):

- March 2005 (phase 1).
- June 2005 (targeted flora searches).
- July 2006 (phase 2– resampling portion of the quadrats).
- August 2006 (phase 2– resampling remaining portion of the quadrats, establishment of additional quadrats, and targeted flora searches).

Subterranean fauna survey (Biota Environmental Sciences, 2013):

• July 2013 (single-phase).

Subterranean fauna survey (Biota Environmental Sciences, 2010):

- December 2003 (phase 1).
- October 2005 (phase 2).
- July 2007 (phase 3).
- June 2008 (phase 4).
- October 2008 (phase 5).
- July 2009 (phase 6).
- November 2009 (phase 7).

Detailed fauna survey (Biota Environmental Sciences, 2007):

- March 2005 (phase 1).
- June 2006 (phase 2).

NVCP-level survey (Rio Tinto, 2014):

- July 2013 (phase 1).
- October 2013 (phase 2).

Detailed flora and vegetation survey (Biota Environmental Sciences, 2012):

- July 2009 (phase 1).
- June 2011 (phase 2).

Detailed fauna survey (Biota Environmental Sciences, 2010):

- August 2009 (phase 1).
- March 2010 (phase 2).

Survey type/s:

Previous surveys inclusive of the NVCP area are detailed in the table below.

Report Name	Author (year)	Type of survey
A Vegetation and Seasonal Flora Survey of the Bungaroo Trail Pit and Transport Corridor to Mesa J, near Pannawonica, and Sampling of the Broader Bungaroo Valley	(Biota Environmental Sciences, 2007)	Multiple-phase detailed flora and vegetation survey
Bungaroo Coastal Waters Project Stygofauna Monitoring Baseline Survey	(Biota Environmental Sciences, 2013)	Single-phase subterranean fauna survey
Bungaroo Creek Subterranean Fauna Summary Phases I – VII	(Biota Environmental Sciences, 2010)	Multiple-phase subterranean fauna survey
Bungaroo Trial Pit and Transport Corridor to Mesa J, near Pannawonica – Fauna Assemblage Seasonal Survey	(Biota Environmental Sciences, 2007)	Multiple-phase detailed fauna survey

	Report Name	Author (year)	Type of survey
	Flora, Vegetation and Fauna Habitat Assessment at Jimmawurrada	(Rio Tinto, 2014)	NVCP-level survey
	Greater Bungaroo Flora and Vegetation Survey	(Biota Environmental Sciences, 2012)	Multiple-phase detailed flora and vegetation survey
	Greater Bungaroo Seasonal Fauna Survey	(Biota Environmental Sciences, 2010)	Multiple-phase detailed fauna survey
	Statement Addressing the 10 Clearing Principles. Geotech Drilling at Bungaroo, Robe Valley	(Eco Logical Australia, 2014)	Desktop assessment

Constraints / limitations:

The surveys were completed prior to updated technical guidance from EPA regarding conducting flora, vegetation, and fauna surveys for environmental impact assessments that were published in 2016 (Environmental Protection Authority, 2016; Environmental Protection Authority, 2020).

Detailed flora and vegetation survey (Biota Environmental Sciences, 2007):

 Annual flora species such as daisies would have been absent from the survey area or immature due to seasonal conditions and survey timing.

Subterranean fauna survey (Biota Environmental Sciences, 2013):

- Single-phase survey.
- Twelve bores could not be accessed, six additional opportunistic bores added as a mitigation measure.

Subterranean fauna survey (Biota Environmental Sciences, 2010):

 High frequency of juvenile specimens that could not be adequately identified.

Detailed fauna survey (Biota Environmental Sciences, 2007):

- Absence of seasonal data for some reference and impact sites.
- The presence of asbestos at two sites reduced the targeted trap effort for Northern Quoll.
- Bats were sampled only through harp traps.
- SRE sampling was targeted at specific groups. Voucher specimens were not provided for all species collected.

NVCP-level survey (Rio Tinto, 2014):

- Survey timing was not optimal. Some annual and ephemeral flora would not have been present or identifiable at the time of the survey.
- Recent fires in the area have altered vegetation composition. Relevés and targeted searches were not undertaken in these areas.

Detailed flora and vegetation survey (Biota Environmental Sciences, 2012):

- A large portion of the survey area was subject to intense recent fires that resulted in indicative vegetation mapping for those areas.
- Access to significant vegetation units was impeded by flooding during phase 1 of the survey.
- The conservation significant flora list is considered indicative as the entire survey area was not systematically surveyed.
- The field team did not traverse the entire survey area due to its size,
 which resulted in mapping relying on aerial photography interpretation.

Detailed fauna survey (Biota Environmental Sciences, 2010):

- The field team did not traverse the entire survey area due to its size, therefore not all sections of the survey area were ground-truthed or sampled for fauna.
- SRE sampling was targeted at specific groups.

Desktop assessment (Eco Logical Australia, 2014):

Most surveys were conducted in 2007, therefore data may not be current.

Have any additional field surveys been undertaken within the Permit area since the original application was submitted?

Yes:

- A multiple-phase detailed flora and vegetation survey was completed by Astron in 2015 by suitably qualified Botanists. The surveys were undertaken 28th April – 12th May 2015 (Phase 1), and 11th – 21st August 2015 (Phase 2) (Astron, 2015).
- A multiple-phase vertebrate fauna and SRE survey was completed by Astron in 2015 by suitably qualified Zoologists. The surveys were undertaken 22nd May – 2nd June (Phase 1), and 3rd – 15th August 2015 (Phase 2) (Astron, 2015).

Presence of Threatened flora/fauna?

No Threatened flora taxa has been recorded within CPS 2552 (Astron, 2015).

A PMST search completed on 2nd March 2023 did not identify any Threatened flora taxa occurring within a 20 km radius of CPS 2552.

The following Threatened fauna taxa have been recorded within CPS 2552 (Astron, 2015):

- Ghost Bat, Macroderma gigas (VU): two scats and an acoustic recording from feeding roost locations within gorge / breakaway habitat. No large caves suitable for maternity roosts have been recorded within CPS 2552. This species was previously recorded approximately 6.0 km of CPS 2552 (Biota Environmental Sciences, 2010).
- Pilbara leaf-nosed bat, Rhinonicteris aurantia (VU): acoustic records of 155 calls were recorded at three locations within CPS 2552. This species was previously recorded within 2.0 km of CPS 2552 (Biota Environmental Sciences, 2010).

The following Threatened fauna taxa were recorded in the vicinity of CPS 2552 (Astron, 2015):

- Northern Quoll, Dasyurus hallucatus, (EN) was recorded within one kilometre of CPS 2552, within gorge / breakaway habitat surrounding the valley. It appears to be widespread over the ranges on either side of the Bungaroo Creek valley (north and south of CPS 2552). This species was previously recorded within the greater Bungaroo area (Biota Environmental Sciences, 2007), however no records were present within 10 km of CPS 2552.
- Pilbara Olive Python, Liasis olivaceus barroni, (VU) was recorded within one kilometre of CPS 2552, in the form of a scat from a minor drainage in close association with a breakaway. This species was previously recorded in 2013 approximately 1.1 km northwest of CPS 2552.

None of the invertebrate species recorded in CPS 2552 are listed as conservation significant (Astron, 2015).

The following Priority flora taxa were recorded within CPS 2552: Presence of Priority flora/fauna? Indigofera rivularis (P3), previously known as Indigofera sp. Bungaroo Creek (S. van Leeuwen 4301). This taxon was not previously recorded by Biota Environmental Sciences in 2007, however it was considered likely to occur as part of the 2015 review by Rio Tinto and Eco Logical. Its presence was confirmed during the 2015 survey by Rhynchosia bungarensis (P4) was recorded during the surveys by Biota Environmental Sciences (2007) and by Astron (2015). Triodia pisoliticola (P3), previously known as Triodia sp. Robe River (M.E. Trudgen et al. MET 12367). This taxon was recorded during the surveys by Biota Environmental Sciences (2007) and by Astron (Astron, 2015). The following Priority flora taxa were recorded in the vicinity of CPS 2552: Dicladanthera glabra (P2) was recorded approximately 4 km southeast by Astron (2015). Sida sp. Barlee Range (S. van Leeuwen 1642) (P4) was recorded approximately 1 km southeast by Astron (2015). Stylidium weeliwolli (P3) was recorded approximately 3 km northwest by Biota Environmental Sciences (2007). The following Priority fauna taxa were recorded within CPS 2552: Lined Soil-crevice Skink, Notoscincus butleri, (P4). One individual was captured within a major drainage line by Astron (2015). This species was previously recorded within the broader area by Biota Environmental Sciences (2007). Western Pebble-mound Mouse, Pseudomys chapmani, (P4). A total of 13 records by Astron (2015) consisting of two captured individuals, and 11 inactive mounds. Two inactive mounds of this species were previously recorded within CPS 2552 by Biota Environmental Sciences (2007). The following Priority fauna taxa were recorded in the vicinity of CPS 2552 by Astron (2015): Gane's Blind Snake, Anilios ganei, (P1) was recorded within one kilometre of CPS 2552, in the form of one individual captured from rocky hills / breakaway habitat. This species was considered likely to be present within other suitable habitats of CPS 2552 such as low hills and slopes. Rainbow Bee-eater, Merops ornatus, was recorded and was listed as Migratory at the time of the survey, however this taxon is not listed currently. None of the invertebrate species recorded in CPS 2552 are listed as conservation significant (Astron, 2015). No vegetation types corresponding to Threatened Ecological Communities as Presence of Threatened **Ecological** per the review by Rio Tinto and Eco Logical (2015), and detailed flora and Communities? vegetation survey by Astron (2015) are present within the CPS 2552 area. Presence of Priority CPS 2552 is mapped over the Stygofaunal Community of the Bungaroo **Ecological** Aquifer PEC (P1), which is described as a unique assemblage of aquatic

subterranean fauna including eels, snails and other stygofauna (Department of

Biodiversity, Conservation and Attractions, 2022).

Communities?

The PEC is considered unlikely to be affected by the Proposal as it is understood minimal disturbance to groundwater will result from the proposed activities of mineral exploration and geotechnical investigation activities (Rio Tinto and Eco Logical Australia, 2015).

Have there been any changes to the conservation rank of species or communities identified in previous surveys?

Yes:

- Abutilon trudgenii (previously P3), now known as Abutilon sp. Pilbara (W.R. Barker 2025), is not currently listed as conservation significant.
- Rhynchosia bungarensis has been downgraded from P3 to P4.
- Sida sp. Wittenoom (W.R. Barker 1962) (previously P3), now known as Sida arsiniata, is not currently listed as conservation significant.
- Stylidium weeliwolli has been downgraded from P2 to P3.
- Cynanchum sp. Hamersley (M. Trudgen 2302) (previously P3), now known as Vincetoxicum flexuosum, is not currently listed as conservation significant.
- Australian Bustard, Ardeotis australis, has been downgraded from P4 to not currently listed as conservation significant.
- Bush Stone-curlew, Burhinus grallarius, has been downgraded from P4 to not currently listed as conservation significant.
- Ghost Bat, Macroderma gigas, has changed conservation listing from P4 to VU.
- Star Finch, *Neochmia ruficauda subclarescens*, has been downgraded from P4 to not currently listed as conservation significant.

Have any new species, communities or habitats of elevated environmental value been identified within the boundary of the clearing permit?

Yes, *Indigofera rivularis* (P3), previously known as *Indigofera* sp. Bungaroo Creek (S. van Leeuwen 4301) was recorded within CPS 2552 by Astron (2015). However, this species was considered likely to occur as part of the review to support a previous amendment to CPS 2552 (Rio Tinto and Eco Logical Australia, 2015). The species is known from a large number of individuals across the region, and therefore the proposal is considered unlikely to impact on the conservation status of the species.

The following vegetation types of CPS 2552 are considered locally significant due to their association with Priority flora species (Astron, 2015):

- EICfAprEm supports five Priority flora taxa.
- ChAiTe supports four Priority flora taxa.
- ChAtuAmoSsGOrTe supports four Priority flora taxa.
- ElAiTwTspR supports four Priority flora taxa.
- EITw supports four Priority flora taxa.

These vegetation types are typical of what is expected on similar landforms in the broader Hamersley ranges subregion. Due to the nature of the proposal, only a small proportion of vegetation is expected to be cleared, therefore the proposal is not considered to change the assessment to Clearing Principle (a) (not at variance with this Principle).

Yes, acoustic recordings of both Ghost Bat, *Macroderma gigas* (VU) and Pilbara leaf-nosed bat, *Rhinonicteris aurantia* (VU) were recorded within CPS 2552 by Astron (2015). However, both of these species were identified as likely to be present as part of the review to support a previous amendment to CPS 2552 (Rio Tinto and Eco Logical Australia, 2015). Similar habitats for these species exist extensively near but outside of the CPS 2552 area, and more broadly throughout the Pilbara. The proposal is not expected to impact on the conservation status of these species.

A total of eight fauna habitats were mapped within CPS 2552 (Astron, 2015):

- Breakaways: moderate value habitat for foraging Pilbara Leaf-nosed Bat and Pilbara Olive Python due to water pools (and caves present outside of CPS 2552). No significant caves are present within CPS 2552. High value habitat for Northern Quoll as it contains crevices and overhangs.
- Loamy and stony plains: low value to MNES species as this habitat does not provide significant refugia or shelter.
- Low hills and slopes: low value to MNES species as this habitat does not provide significant refugia or shelter.
- Major drainage lines: moderate value for the Pilbara Leaf-nosed Bat foraging in this habitat. This habitat is considered of low value for other MNES species, such as the Northern Quoll and Pilbara Olive Python, due to lack of vegetation cover through majority of this habitat type.
- Minor drainage lines: moderate value to MNES species, as generally they do not provide semi-permanent water. When this habitat is in association with breakaway habitat, semi-permanent pools may be available.
- Non-cracking clay plain: low value to MNES species as this habitat does not provide significant refugia or shelter. However, this habitat is likely to support a unique faunal assemblage.
- Rocky hills (hill crests and slopes): moderate value for MNES species traversing and foraging in this habitat.
- Disturbed: little value as fauna habitat.

Two semi-permanent pools have been identified as significant fauna habitat as these provide high value foraging habitat for the Pilbara Leaf-nosed Bat. Water pools were also considered highly suitable habitat for the Pilbara Olive Python (Astron, 2015).

The primary high value habitat for MNES species is the Gorge habitat, which is present outside of CPS 2552. This habitat provides significant refugia / shelter sites and a greater diversity of prey species (Astron, 2015).

None of the fauna habitats are unique to CPS 2552, and these are not restricted at the local, sub-regional or regional scale.

Due to the presence of higher value habitat to MNES species outside of CPS 2552, the proposal is not considered to be at variance with Clearing Principle (b).

No confirmed SRE species were collected, however eight potential SRE species were recorded by Astron (2015). Of these, only two are within CPS 2552:

- Buddelundia '61': this slater is currently known only from the Bungaroo Creek valley area and is therefore a potential SRE species. However, it is fairly widespread locally and has been sampled from several microhabitats, including gorges/drainage lines and rocky breakaway.
- Buddelundiinae sp. indet. A single female specimen was collected for Creekline / Major Drainage Line habitat. It belongs to a currently underscribed genus that is taxonomically poorly resolved and rarely collected in the Pilbara. The species is considered a potential SRE species in accordance with the precautionary principle.

	This species is unlikely to be threatened by the current proposal because populations occur outside CPS2552, and all records are from Drainage Line habitat, which is generally well connected and widespread outside the survey area. Two fauna habitat types of CPS 2552 have been identified as suitable to
	support SRE: Major Drainage Lines, and Minor Drainage Lines. These are not restricted at the local, sub-regional or regional scale.
Other changes relevant to conservation of significant biological values in the context of the impact assessment (e.g., changes in known species distributions, new threats etc.)?	All changes to conservation rank to relevant species since the previous amendment to CPS 2552 have been downgrades except one, Ghost Bat (<i>Macroderma gigas</i>). The Ghost Bat, <i>Macroderma gigas</i> , has changed conservation listing from P4 to VU. No large caves suitable for maternity roosts have been recorded within CPS 2552. The wider locality and region contain suitable habitat for this species and the species is not considered restricted to the Bungaroo Valley locality. As such the assessment included in the previous amendment against Clearing Principle (b): Potential impact to significant habitat for indigenous fauna is still considered relevant, and the proposal is not considered to be at variance with this principle. No other changes to conservation significant biological values are considered relevant in the context of this impact assessment. No other changes to
	species distribution have been identified in this desktop assessment. No new threats have been identified in this desktop assessment.
Is a field survey required to validate desktop assessment? Why / why not?	The desktop assessment has been based on multiple-phase flora, vegetation, vertebrate fauna and SRE surveys for which no major limitations have been identified. Seasonality was appropriate to identify all species (rainfall for annual flora species, suitable temperatures for vertebrate fauna, suitable moisture for SRE).
	The desktop assessment indicates that based on the results above, no additional field survey is not required.
Is a new survey required? Why / why not?	No, a new survey is not required.
	The 2015 surveys and the desktop assessment provide sufficient information to support this administrative amendment request.
Based on the above informa	ation the risk of significant impacts to ecological values (flora, fauna, and

Based on the above information the risk of significant impacts to ecological values (flora, fauna, and ecological communities) due to extending the 'no clearing' and expiry date, is low.

RTIO proposes an administrative amendment to extend the 'no clearing after' date and the expiry date. DMIRS Native Vegetation Branch to advise if this approach is considered appropriate.

	DMIRS Native Vegetation Branch approves an administrative amendment pathway
	DMIRS Native Vegetation Branch does not approve an administrative amendment pathway and will advise RTIO of the preferred approval pathway
Name:	
Date:	

References

- Astron. (2015). Bungaroo Iron Ore Mine and Infrastructure Project Level 2 Fauna Assessment. Prepared for Rio Tinto.
- Astron. (2015). Bungaroo Iron Ore Mine and Infrastructure Project Level 2 Vegetation and Flora Assessment. Prepared for Rio Tinto.
- Biota Environmental Sciences. (2007). A Vegetation and Seasonal Flora Survey of the Bungarro Trial Pit and Transport Corridor to Mesa J, near Pannawonica, and Sampling of the Broader Bungaroo Valley.

 Prepared for Robe River Iron Associates.
- Biota Environmental Sciences. (2007). Bungaroo Trial Pit and Transport Corridor to Mesa J, near Pannawonica Fauna Assemblage Seasonal Survey. Prepared for Pilbara Iron Company.
- Biota Environmental Sciences. (2010). Bungaroo Creek Subterranean Fauna Summary Phases I VII.
- Biota Environmental Sciences. (2010). Greater Bungaroo Seasonal Fauna Survey.
- Biota Environmental Sciences. (2012). *Greater Bungaroo Flora and Vegetation Survey.* Prepared for Rio Tinto.
- Biota Environmental Sciences. (2013). Bungaroo Coastal Waters Project Stygofauna Monitoring Baseline Survey.
- Department of Biodiversity, Conservation and Attractions. (2022). *Priority Ecological Communities for Western Australia Version* 33. Species and Communities Program.
- Eco Logical Australia. (2014). Statement Addressing the 10 Clearing Principles. Geotech Drilling at Bungaroo, Robe Valley.
- Environmental Protection Authority. (2016, December). *Technical Guidance Flora and Vegetation Surveys for Environmental Impact Assessment*. Perth, Western Australia: The Government of Western Australia.
- Environmental Protection Authority. (2020, July). *Technical Guidance Terrestrial vertebrate fauna surveys for environmental impact assessment.* Perth, Western Australia.
- Rio Tinto. (2014). Flora, Vegetation and Fauna Habitat Assessment at Jimmawurrada NVCP Supporting Report.
- Rio Tinto and Eco Logical Australia. (2015). *Desktop Flora, Vegetation and Fauna Habitat Assessment at Bungaroo, Robe Valley.* Prepared for Robe River Ltd.