West Angelas NVCP 2

Ten Clearing Principles Assessment

Rio Tinto Iron Ore

152-158 St Georges Tce
Perth, WA 6000

Prepared by:

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Basis of Report

This report has been prepared by SLR Consulting Australia (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Rio Tinto Iron Ore (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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1.0 Assessment against the Ten Clearing Principles

The proposed clearing has been assessed against the Ten Clearing Principles as defined in Department of Water and Environment Regulation (DWER)'s (then Department of Environment and Regulation (DER)) Guide to Assessment: of Applications to Clear Native vegetation under the EP Act (Environmental Protection Act, 1986), considering the current extent and condition of the native vegetation on the Site. The assessment is presented in **Table 1**.

Table 1: Assessment against the 10 Clearing Permits.

Principle	Assessment
Principle (a) – Native vegetation should not be cleared if it comprises a high level of biological diversity.	**Assessed Outcome: The proposed clearing of native vegetation is <u>unlikely</u> to be at variance with this principle.** The Survey Area occurs on the Hamersley (PIL03) subregion. It is a mountainous area of Proterozoic sedimentary ranges and plateaux, dissected by gorges (basalt, shale, and dolerite). The subregion is dominated by Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges. Drainage occurs into either the Fortescue to the north, the Ashburton to the south, or the Robe to the west (Kendrick, 2001). **Vegetation** A total of 37 vegetation types were identified and described for the Survey Area, across four broad landforms. A total of seven vegetation types were described from drainages, four from gorges and gullies, 12 from hills and 14 from plains. Vegetation condition within the Survey Area ranged from Excellent to Degraded condition, with the majority of vegetation (31.01%) being in Very Good condition. Cleared/Completely Degraded areas comprised 34.48% of the Survey Area. No State or Commonwealth listed TECs were identified within the Survey Area by the database searches. One State listed PEC, West Angelas Cracking-Clays (Priority 1), was found to intersect the Survey Area (DBCA, 2024). This PEC occurs throughout the West Angelas area and is described as: Open tussock grasslands of *Astrebla pectinata*, *A. elymoides, Aristida latifolia*, in combination with low scattered shrubs of *Sida fibulifera*, on basalt (Jerrinah formation) derived cracking-clay loam depressions and flowlines. Occurs throughout the central and eastern Hamersley Range from near Tom Price east to Newman. Threats include clearing for mining, infrastructure and solar farms, possible weed invasion, habitat fragmentation and altered fire regimes. The P15 vegetation type identified by Biologic (2021) is considered to be representative of West Angelas Cracking-Clays (Priority 1) PEC. A total of 423.77 ha was recorded within the Survey Area. All Department of Biodiversity, Conservation and Attractions (DBCA) mapped occurrences of this PEC are protected through Rio Tinto Exclusion avoidance layers in the Approvals Request Coordination System (ARCS)Disturbance cannot occur within these areas without internal approval.

Principle	Assessment
	No new exploration or associated works will be conducted within the potentially conservation significant vegetation type P15 as identified by Biologic (2021) and reported in SLR (CISS, 2024; SLR Consulting Australia Pty Ltd, 2024). An additional 50 m buffer will be applied to this vegetation type in the ARCS to further reduce the risk of potential indirect and inadvertent impacts to this vegetation type with affinities to the PEC. However, areas of existing disturbance, such as existing racks and service corridors, will continue to be accessed and maintained where necessary. Unless significant indirect impacts are occurring, the environmental impact of maintaining an existing track through a significant vegetation unit is usually lower than the impact of clearing a new track through intact vegetation around a significant vegetation type. **Flora** The field survey recorded a total of 300 taxa from 119 genera across 45 families. The most abundant genus was *Acacia* (34 taxa). The most diverse families were Fabaceae (67 taxa), Poaceae (51 taxa), and Malvaceae (32 taxa). Database and literature searches identified 56 significant flora species occurring within 50 km of the Survey Area comprising: • Two Federally listed species, one of which is also listed as Threatened by DBCA • Four Priority 1 species • 13 Priority 2 species • 32 Priority 3 species, and • Five Priority 4 species The pre-survey likelihood of occurrence assessment identified that of the 56 significant flora species identified by the desktop assessment: • 30 taxa had previously been recorded within the Survey Area • 13 were considered to have a high likelihood of occurrence • Six were considered to have a medium likelihood of occurrence, and • Seven were considered to have a low likelihood of occurrence. The post-survey likelihood of occurrence assessment identified that: • 13 priority flora were recorded during the survey, all of which have been previously recorded • No taxa were considered to have a high likelihood of occurrence • Six taxa were considered to have a medium likelihood of occurrence due to the proximity of existing records to the Survey Area and suitable habitat available, and • The remaining 19 taxa were considered to have a low likelihood of occurrence.

Principle	Assessment
	No Threatened flora taxa pursuant to the EPBC Act and/or gazetted as Threatened pursuant to the BC Act were recorded within the Survey Area. Thirteen Priority flora taxa were recorded during the field survey within the Survey Area, comprising: Three Priority 2 flora: • *Eremophila pusilliflora* • *Eremophila* sp. West Angelas (S. van Leeuwen 4068) • *Hibiscus* sp. Gurinbiddy Range (M.E. Trudgen MET 15708) Eight Priority 3 flora: • *Aristida lazaridis* • *Eremophila naaykensii* • *Grevillea saxicola* • *Indigofera gilesii* • *Olearia mucronata* • *Rhagodia* sp. Hamersley (M. Trudgen 17794) • *Solanum kentrocaule* • *Triodia* sp. Mt Ella (M.E. Trudgen 12739) Two Priority 4 flora • *Acacia bromilowiana* • *Sida* sp. Barlee Range (S. van Leeuwen 1642) These taxa were previously recorded within the Survey Area and were expected to occur. All known populations of Priority 2 listed flora taxa within the Survey Area will be avoided. A 30 m buffer will be applied to Priority two flora taxa in the ARCS to further reduce the risk of potential indirect and inadvertent impacts from new exploration works on these taxa. Priority flora is often recorded alongside roads or tracks due to increased visibility in these areas. Altering existing tracks to provide buffers in such cases would result in additional clearing and higher environmental impacts. Areas of existing disturbance within the buffers, such as existing tracks and service corridors, will continue to be accessed and maintained where necessary.

Table 2. Priority Flora recorded within NVCP 2 application area and RTIO regional database.

Taxa	Number within Application Area	Number in RTIO regional database (% within Application Area)
Priority 2		
Eremophila pusilliflora	98	11,980 (0.82)
Hibiscus sp. Gurinbiddy Range (M.E. Trudgen MET 15708)	20	23,807 (0.08)
Tetratheca fordiana	No records within Application Area	27,148 (0)
Priority 3		
Acacia subtiliformis	250	606,523 (0.04)
Aristida jerichoensis var. *subspinulifera*	256	14,510 (1.76)
Aristida lazaridis	129	18,936 (0.68)
Dampiera metallorum	No RTIO records within Application Area, one old DBCA record	3,558 (0)
Dolichocarpa sp. Hamersley Station (A.A. Mitchell PRP 1479)	2	14,366 (0.01)
Eremophila naaykensii	1.312[#]	35,238 (3.72)
Eremophila sp. West Angelas (S. van Leeuwen 4068)	65	3,127 (2.08)
*Euphorbia clementii**	No records within Application Area*	0
Euphorbia inappendiculata var. inappendiculata	12	1,249 (0.96)
Euphorbia stevenii	1 (Record was found by Trudgen in 1997. Surveys have since occurred over the area and have not re-recorded this species)	53 (1.89)

Principle	Assessment		
	Grevillea saxicola	10[#]	5,314 (0.19)
	Indigofera gilesii	187	9,349 (2)
	Isotropis parviflora	2,535	6,692 (37.88)
	Neptunia longipila	2 (Record was found by Trudgen in 1997. Surveys have since occurred over the area and have not re-recorded this species)	21 (9.5)
	Olearia mucronata	16	942 (1.70)
	Oxalis sp. Pilbara	2 (Record was found by Trudgen in 1997. Surveys have since occurred over the area and have not re-recorded this species)	2,519 (0.08)
	Pilbara trudgenii	No records within Application Area	4,353 (0)
	Rhagodia sp. Hamersley (M. Trudgen 17794)	71	116,577 (0.06)
	Solanum kentrocaule	11	4,593 (0.24)
	Swainsona thompsoniana	8	5,367 (0.15)
	Themeda sp. Hamersley Station (M.E. Trudgen 11431)	4,632[#]	176,750 (2.62)
	Triodia sp. Mt Ella (M.E. Trudgen 12739)	7,967[#]	298,686 (2.67)
	Vittadinia sp. Coondewanna Flats (S. van Leeuwen 4684)	No records within Application Area*	13,360 (0)
	Priority 4		
	Acacia bromilowiana	70	9,624 (0.73)
	Sida sp. Barlee Range (S. van Leeuwen 1642)	232	15,350 (1.51)

Principle	Assessment
	** Previously recorded in the Application Area but has since been lawfully cleared.* *# Not a definitive number as percentage cover has been recorded in quadrats, therefore this number is expected to be higher. ^Old record within DBCA search however location and species habitat do not align – potential error in location.* Two species, *Euphorbia clementii* and *Vittadinia* sp. Coondewanna Flats (S. van Leeuwen 4684) had previously been recorded within the Application Area, however, have since been lawfully cleared under existing mechanisms. There are no other records of *Euphorbia clementii* on the Rio Tinto Iron Ore (RTIO) database and this species has not been recorded again in the area. The previous record was recorded from alluvial flats; however this species is generally known from the northern Pilbara on gravelly hillsides and stony grounds. Although records of *Vittadinia* sp. Coondewanna Flats (S. van Leeuwen 4684) no longer exist within the Application Area, records are still present within 50 km of the Application Area and currently the RTIO database has records of 13,360 individuals of *Vittadinia* sp. Coondewanna Flats (S. van Leeuwen 4684) respectively. The majority of the Priority 3 and 4 flora taxa recorded within the Survey Area have broad local, regional and/or National distributions. The proportion of known individuals that occur within the Survey Area relative to the regional population is low in most cases. The Survey Area is considered to have a typical level of floristic diversity, based on comparisons of floristic diversity captured in other flora and vegetation surveys conducted in the locality. **Fauna** Six fauna habitats (excluding disturbed areas) extending across the Survey Area were identified from the desktop assessment – Clay Plain, Minor Drainage, Low Hills and Slopes, Gorge/Gully, Rocky Hill and Stony Plain. These habitat types extend beyond the Survey Area and are common throughout the Pilbara region and are therefore unlikely to support a greater localised level of faunal diversity than that of the surrounding areas. A total of 71 fauna taxa from 44 families were recorded, comprising one species of amphibian, 40 species of birds, 19 species of mammals, and 11 species of reptiles. Two significant taxa were recorded, via secondary signs (scats, mounds) during the fauna survey, Northern Quoll (*Dasyurus hallucatus*) – Endangered under the BC Act and EPBC Act, and Western Pebble-mound Mouse (*Pseudomys chapmani*) – listed as Priority 4 by DBCA. Six significant fauna taxa have been recorded within the Survey Area during previous surveys but were not recorded during the current survey: • Ghost Bat (*Macroderma gigas*), listed as Vulnerable under the BC Act and EPBC Act. Rio Tinto currently undertakes monitoring of four maternity caves, two night roosts, one day roosts, two potential day roosts, and two other roost sites within the Survey Area (RTIO Critical Fauna Habitat Exclusion Areas). • Grey Falcon (*Falco hypoleucos*), listed as Vulnerable under the BC Act and EPBC Act. • Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia* Pilbara form), listed as Vulnerable under the BC Act and EPBC Act. • Pacific Swift (*Apus pacificus*), listed as Migratory under the BC Act and Migratory and Marine under the EPBC Act. • Pilbara Barking Gecko (*Underwoodisaurus seorsus*), listed as Priority 2 by DBCA.

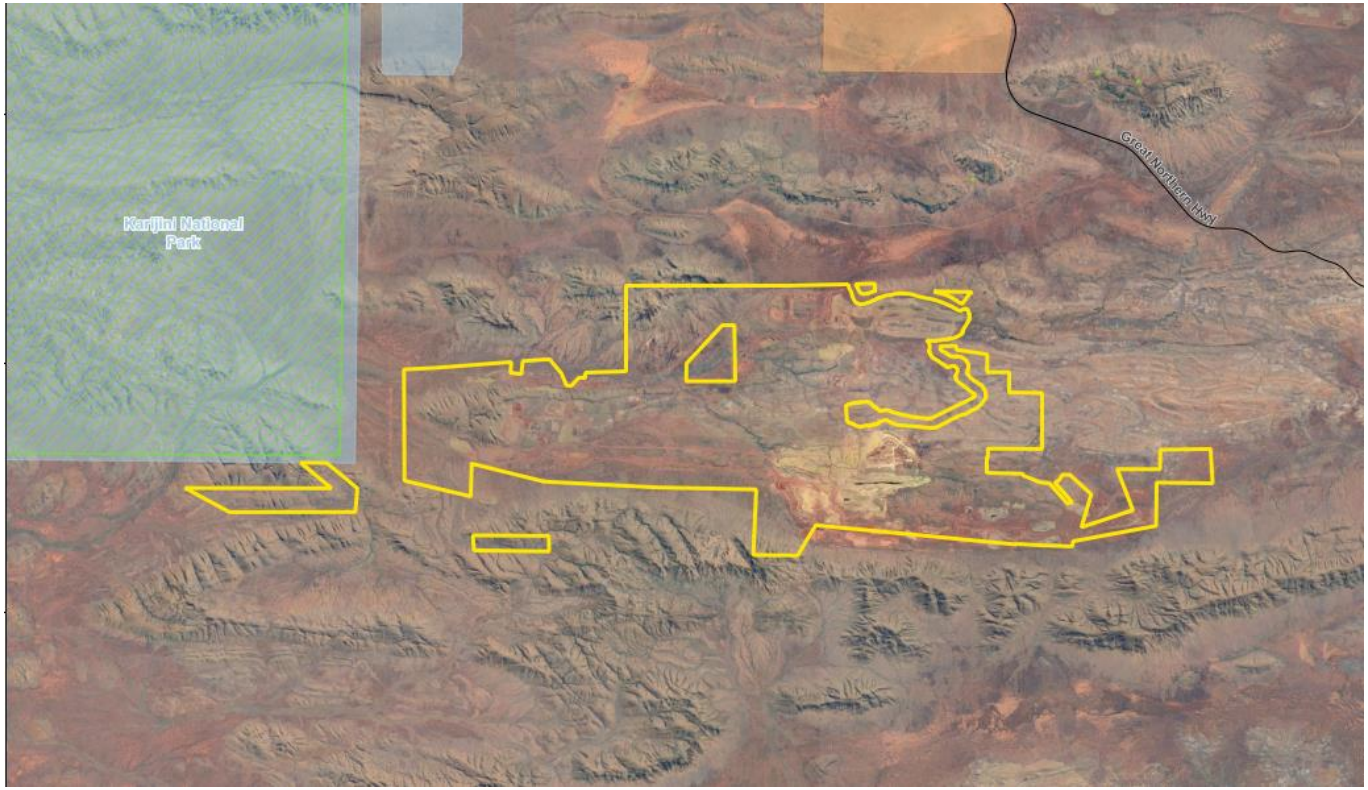
Principle	Assessment
	• Short-tailed Mouse (*Leggadina lakedownensis*), listed as Priority 4 by DBCA. One significant fauna taxon was assessed as having a high likelihood of occurring within the Survey Area: • Pilbara Grasswren (*Amytornis whitei whitei*), listed as Priority 4 by DBCA. Four significant fauna taxa were assessed as having a medium likelihood of occurring within the Survey Area: • Peregrine Falcon (*Falco peregrinus*), listed as Other Specially Protected under the BC Act. • Pilbara Olive Python (*Liasis olivaceus barroni*), listed as Vulnerable under the BC Act and EPBC Act. • Gane's Blind Snake (*Anilios ganei*), listed as Priority 1 by DBCA. • *Lerista macropisthopus remota,* listed as Priority 2 by DBCA. Twelve sites were selected, and 58 motion sensing cameras were deployed in core (Gorge/Gully) and supporting (Rocky Hill and Minor Drainage) habitats within the Survey Area in order to detect the presence of Northern Quoll. Each camera was deployed for four nights (242 nights in total), which is the minimum length recommended by the referral guideline (DoE, 2016). Northern Quoll was not detected on camera. However, Northern Quoll scats were recorded within Gorge/Gully and Rocky Hill habitats during the field survey, indicating this taxon is likely to use the Survey Area for dispersal and denning during more favourable conditions. If present, this population fits the criteria of a Low Density Population according to the referral guideline (DoE, 2016). The Gorge/Gully habitat constitutes core habitat for the Northern Quoll because of its value for denning and foraging. The Minor Drainage and Rocky Hill habitats constitutes supporting habitat as the Northern Quoll may use this habitat for foraging and dispersal. Under the drier conditions at the time of survey the Northern Quoll is likely to be transient within the Survey Area. Western Pebble-mound Mouse mounds were recorded within Low Hills and Slopes and Rocky Hill habitats during the field survey. Low Hills and Slopes and Rocky Hill habitats constitute core habitat for the Western Pebble-mound Mouse because of their value for burrowing, breeding, and foraging. The Western Pebble-mound Mouse is likely to be resident within the Survey Area. The Ghost Bat has previously been recorded within the Survey Area and is likely to use the Survey Area for breeding, roosting and foraging. Rio Tinto currently undertakes monitoring of four maternity caves, two night roosts, one day roost, two potential day roosts, and two other roost sites within the Survey Area. The Gorge/Gully habitat constitutes core habitat for the Ghost Bat because of its value for breeding, and roosting. All other habitats constitute supporting habitat as the Ghost Bat may use these habitats for foraging and dispersal. The taxon is likely to be resident within the Survey Area, however, drought conditions may impact the occupancy of some maternity and roost caves. The Pilbara Leaf-nosed Bat has previously been recorded within the Survey Area, but no established roosting site has been discovered. The Gorge/Gully habitat within the Survey Area constitutes core habitat for the Pilbara Leaf-nosed Bat because of its value for roosting. All other habitats constitute supporting habitat as the Pilbara Leaf-nosed Bat may use these habitats for foraging and dispersal. The Pilbara Leaf-nosed Bat is likely to be transient within the Survey Area.

Principle	Assessment
	The Pacific Swift has previously been recorded within the Survey Area and is likely to use the Survey Area for nesting and foraging. It may occupy the airspace over all habitats within the Survey Area for foraging and dispersal. The taxon is likely to be transient within the Survey Area. The Pilbara Barking Gecko has previously been recorded within the Survey Area and may occupy the Low Hills and Slopes and Stony Plain habitats within the Survey Area. The Pilbara Barking Gecko is likely to be resident within the Survey Area. The Short-tailed Mouse has previously been recorded within the Survey Area. The Short-tailed Mouse may occupy the Low Hills and Slopes, Rocky Hill, and Stony Plain habitats within the Survey Area. Two DBCA database records from 1997 place the Short-tailed Mouse within the Survey Area, no other records were returned from the desktop assessment and thus the Short-tailed Mouse may no longer be present within the Survey Area.
Principle (b) – Native vegetation should not be cleared if it comprises the whole or part of or is necessary for the maintenance of a significant habitat for fauna indigenous to Western Australia.	**Assessed Outcome: The proposed clearing <u>may</u> be at variance with this principle.** Six broad habitats extending across the Survey Area were identified from the desktop assessment – Clay Plain, Minor Drainage, Low Hills and Slopes, Gorge/Gully, Rocky Hill and Stony Plain. Two fauna habitats were found to contain microhabitats that were of importance to significant fauna species – Gorge/Gully and Minor Drainage. The caves and water pools in Gorge/Gully habitat are critical for the survival of Northern Quoll Ghost Bat, Pilbara Leaf-nosed Bat and Pilbara Olive Python. Minor Drainage provides water source for all fauna during the wet season, and the Gane's Blind Snake is documented to exclusively inhabit gorges and gullies. Gorges and gullies are rugged, steep-sided valleys incised into the surrounding landscape. Gorges tend to be deeply incised, with vertical cliff faces, while gullies are more open (but not as open as Drainage Area or Valleys). The desktop assessment identified the 'Gorge/Gully' habitats contain cave systems which are deep and humid enough to support Ghost Bats and potentially Pilbara Leaf-nosed Bat, as well as suitable cave habitat for Northern Quoll dens and Pilbara Olive Python hunting areas. The Gorge/Gully habitats also have areas which would be suitable for Gane's Blind Snake, and the airspace will also be utilised by birds of prey (e.g. Peregrine Falcon) while hunting. These birds of prey will typically nest on cliff faces and rock ledges which may also be found in the Gorge/Gully habitats. Minor Drainage habitat comprises densely vegetated plains occurring on low-lying deeply alluvial plains, with a moderate-high amount of leaf litter and woody debris. Vegetation often consists of *Eucalyptus victrix* woodland over *Acacia citrinoviridis* shrublands and various sedges and grasses fringing the channel. This habitat becomes seasonally inundated with water after heavy rain events, which flows through the channels from higher altitude areas into nearby rivers, streams, and occasional ephemeral pools. The desktop assessment also found that the 'Minor Drainage' habitats contain suitable creek systems and wetland areas to support Pilbara Olive Pythons, and are suitable hunting areas for Northern Quolls, Ghost Bats, and Pilbara Leaf-nosed Bats. Stony Plain habitat comprises areas where vegetation is a dense mix of Acacia, with a mixture of mulga (*Acacia aneura*), *A. maitlandii* and *A. pruninocarpa* over a mixture of sparse small shrubs and grasses, such as *Triodia* spp. and *Senna* spp. This habitat may be suitable for Short-tailed Mouse, Bilby, Pilbara Barking Gecko, and woodland birds such as the Pilbara Grasswren.

Principle	Assessment
	These fauna species are not considered to have a critical reliance on this habitat, rather using it for foraging. This habitat is widely distributed both locally and throughout the Hamersley sub-region. Rocky Hill habitat comprises hills and undulating stony plains of higher elevation, often supporting hard-type Triodia spp. with a mantle of gravel and larger rocks. Scattered areas of minor outcropping and breakaway, particularly atop hillcrests. The Western Pebble-mound Mouse has previously been recorded within this habitat. This habitat may also support foraging for Brush-tailed Mulgara, Short-tailed Mouse, Western Pebble-mound Mouse, and Pilbara Olive Python. This habitat is widely distributed both locally and throughout the Hamersley sub-region and clearing within this habitat is unlikely to cause a detrimental impact to any of the listed species potentially occurring within it. Clay Plain habitat is characterised by open and sparse low vegetation with approximately half of its area being bare ground. Isolated shrubs of *Salsola australis*, *Boerhavia paludosa* and *Ptilotus exaltatus* occur over open tussock grass. This habitat is of little value to most significant fauna, but the tussocks may be utilised when animals are moving through the area to different landscapes. This area may also be seasonally inundated with water which will be utilised by all fauna species. Low hills and Slopes habitat comprises low-lying open plains and the rolling hills below upland areas. Vegetation consists of isolated trees (*Corymbia hamersleyana, Eucalyptus leucophloia* subsp. *leucophloia*, and *C. deserticola*) and moderate to densely vegetated plains of spinifex grassland. The Western Pebble-mound Mouse has previously been recorded within this habitat. This habitat may also support foraging for Brush-tailed Mulgara, Short-tailed Mouse, Western Pebble-mound Mouse, Pilbara Olive Python, Pilbara Barking Gecko, and many grassland bird species such as the Pilbara Grasswren. This habitat is widely distributed both locally and throughout the Hamersley sub-region and clearing within this habitat is unlikely to cause a detrimental impact to any of the listed species potentially occurring within it. RTIO has provided exclusion areas that protect portions of the Gorge/Gully and Minor Drainage habitats within the Survey Area from clearing. The proposed clearing may be at variance due to the presence of critical habitat for significant species currently not protected under RTIO exclusion areas. If disturbance of the Gorge/Gully and Minor Drainage habitats is limited, this would reduce the risk of being at variance with this principle.
Principle (c) – Native vegetation should not be cleared if it includes or is necessary for the continued existence of rare flora.	**Assessed Outcome: The proposed clearing is <u>not</u> at variance with this principle.** No Threatened flora taxa pursuant to the EPBC Act and/or gazetted as Threatened pursuant to the BC Act were recorded within the Survey Area.
Principle (d) – Native vegetation should not be cleared if it comprises the whole or a part of or	**Assessed Outcome: The proposed clearing is <u>not</u> at variance with this principle.** No TECs pursuant to the Commonwealth EPBC Act or TECs listed under the BC Act were recorded within the Survey Area and none are likely to occur.

Principle	Assessment
is necessary for the maintenance of a Threatened Ecological Community (TEC).	
Principle (e) – Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.	**Assessed Outcome: The proposed clearing is <u>not</u> at variance with the principle.** The majority of the Pilbara region has not been extensively cleared. However grazing, inappropriate fire regimes and weed invasion have greatly altered the vegetation in some areas. The national target and objective for biodiversity conservation of ecological communities is to retain at least 30% of their pre-European extent (DEH, 2001). The Survey Area is mapped over four broad vegetation associations: • Hamersley 18 which is characterised as: low woodland, open low woodland, or sparse woodland: Mulga (*Acacia aneura*) and associated species • Hamersley 29 which is characterised as: low woodland, open low woodland, or sparse woodland: Mulga (*Acacia aneura*) and associated species • Hamersley 82 which is characterised as: low tree-steppe: Hummock grassland with scattered bloodwoods and snappy gum. *Triodia* spp., *Corymbia* spp., *Eucalyptus leucophloia*. • Hamersley 169 which is characterised as: Scrub, open scrub or sparse scrub. Wattle, teatree and other species. *Acacia* spp. *Melaleuca* spp. The Hamersley 18 vegetation type has 99.3% of its pre-European representation across the Pilbara Bioregion and 99.75% across Western Australia. The Hamersley 29 vegetation type has 99.87% of its pre-European representation across the Pilbara Bioregion and 99.94% across Western Australia. The Hamersley 82 vegetation type has 99.43% of its pre-European representation across the Pilbara Bioregion and 99.51% across Western Australia. The Hamersley 169 vegetation type has 100% of its pre-European representation across the Pilbara Bioregion and 100% across Western Australia. The proposed clearing will not significantly alter the extents of the three broad vegetation associations. All four are well above the 30% threshold. The proposed clearing would not be at variance with this principle.
Principle (f) – Native vegetation should not be cleared if it is growing in, or in association with, an	**Assessed Outcome: The proposed clearing is <u>not</u> to be at variance with this principle**. There were no wetlands or permanent sources of water identified within the Survey Area. However, the Survey Area intersects with the minor watercourse Turee Creek, which is mapped by State Government GIS databases (DWER, 2018). This minor river

Principle	Assessment
environment associated with a watercourse or wetland.	intersects the following vegetation types: D2, D3, D5, D14, H4, M1 and P5. A significant stream branch of the Fortescue River flows nearby the Survey Area but does not intersect it. One riparian vegetation type occurring within the Survey Area (D2), was identified and assessed through the *Greater West Angelas Baseline Groundwater Dependent Ecosystem Assessment* (SLR Consulting, 2022) as having a 'low to moderate' likelihood of groundwater dependence, and a subsequent biological significance rating of 'low', and therefore is not considered to represent a Groundwater Dependant Ecosystem (GDE). Potential impacts to natural water flow and vegetation growing in association with non-perennial watercourses will be minimised through implementation of the EMP that requires avoidance of surface drainage and a requirement to maintain surface drainage patterns.
Principle (g) – Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	**Assessed Outcome: The proposed clearing is <u>not</u> at variance with this principle.** Twelve weed species: **Bidens bipinnata, *Cenchrus ciliaris, *Cenchrus setiger,*Datura leichhardtii* subsp. *leichhardtii,*Malvastrum americanum,*Portulaca oleracea, *Setaria verticillata,*Solanum nigrum, *Erigeron bonariensis,*Sonchus oleraceus, *Symphyotrichum squamatum*, and **Vachellia farnesiana* var. *farnesiana* were identified within the Survey Area, none of which represent Declared Pests under the BAM Act (DPIRD, 2024), or listed as Weeds of National Environmental Significance (CISS, 2024). The Survey Area contains the following eight land systems, as mapped and described by Van Vreeswyk (2004). The land system and susceptibility to erosion are listed below: • Boolgeeda System: Vegetation is generally not prone to degradation and the system is not susceptible to erosion. • Egerton System: Not susceptible to erosion. • Elimunna System: Some drainage floors are slightly susceptible to erosion, but most of the system is inherently resistant to erosion. • Jamindie System: Drainage tracts are moderately susceptible to erosion; some hardpan plains are slightly susceptible, and other parts are inherently resistant to erosion. • Newman System: Some erosional surfaces, however, 99% of this land system has nil erosion. • Platform System: Not susceptible to erosion. • Rocklea System: Very low erosion hazard. • Spearhole System: Not susceptible to erosion. • Wannamunna System: Generally, the system has low susceptibility to erosion. Disturbances to overland flow processes by inappropriate positioning or construction of infrastructure such as roads can have adverse effects on vegetation (Van Vreeswyk A.M.E, 2004).

Principle	Assessment
	Of the nine mapped land systems, the majority (five) were not susceptible to erosion, four were identified as having a low potential of erosion. All nine systems were generally non-saline, with either a moderate risk of inundation in low lying areas or nil risk of inundation or flooding (Van Vreeswyk A.M. E, 2004).Therefore clearing of vegetation within the Survey Area would not be at variance with this principle.
Principle (h) – Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	**Assessed Outcome: The proposed clearing is <u>not</u> at variance with this principle.** No Environmentally Sensitive Areas (ESAs) or Conservation Areas intersect the Survey Area, however Karijini National Park is located approximately 300 m north of Polygon A and 2.5 km west of Polygon C displayed in **Figure 1** (SLR Consulting, 2025). A 50 m buffer exclusion zone is applied around the perimeter of the national park, therefore clearing of the ESA will be avoided. 

Principle	Assessment
	Figure 1: Environmentally Sensitive and Conservation Areas
Principle (i) –Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water	**Assessed Outcome: The proposal is <u>not</u> to be at variance with this principle.** There are no wetlands, permanent sources of surface water, or areas of public drinking water identified within the Survey Area. A minor watercourse (Turee Creek) flows through the Survey Area and represents a significant area of surface drainage (DWER, 2018). Major Minor Drainages within the Application Area are identified as Rio Tinto exclusion avoidance areas in which clearing is prohibited and given the small scale of Proposal, there is no reason to expect that the Proposal would affect groundwater or surface water quality in the region.
Principle (j) – Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding	**Assessed Outcome: The proposal is <u>unlikely</u> to be at variance with this principle.** Local flooding occurs seasonally in the Pilbara region as a result of cyclonic activity and sporadic thunderstorm activity. The minor watercourse intersecting the Survey Area, would naturally be subject to seasonal flooding. When considering broad land systems mapped for the area, all nine land systems had either a moderate risk of inundation in low lying areas or nil risk of inundation or flooding (Van Vreeswyk A.M.E, 2004). It is therefore not anticipated that clearing within the Survey Area would influence this process, under the provision that surface drainage flow is maintained.

1.1 Summary

An assessment against the ten clearing principles found the proposed clearing of a maximum of 230 ha may have some impact. However, vegetation within the Survey Area has already been impacted by disturbances from mining (i.e., historical clearing, infrastructure, road networks, drill pads).

Proposed clearing **may** be at variance with one principle:

- Principle (b) - Given the presence of significant fauna species and moderate coverage of suitable habitat for endemic species, the Survey Area is likely to provide significant habitat for fauna indigenous to Western Australia.

Proposed clearing in **unlikely** to be at variance with two principles:

- Principle (a) - The proposed clearing is unlikely to be variance with this principal, as the level of diversity was within the expected range for the Pilbara, and the significant flora and fauna identified within the Survey Area are typical for the region.
- Principle (j) - The proposed clearing is unlikely to be at variance with this principle as all broad land systems mapped within the Survey Area had either a moderate or low risk of inundation or flooding in low lying areas (SLR Consulting, 2022). No areas with a high risk of flooding were identified.

Proposed clearing is **not** at variance with seven principles:

- Principle (c) - The proposed clearing is not at variance with this principle due to the low likelihood of Threatened flora occurring within the Survey Area.
- Principle (d) - The proposed clearing is not at variance with this principle as no TECs pursuant to the Commonwealth EPBC Act or listed for the State were recorded within the Survey Area.
- Principles (e) – The proposed clearing is not at variance with this principle as it represents a small fraction of the Hamersley 18, Hamersley 29, Hamersley 82 and Hamersley 169 broad vegetation types mapped by (Beard, 1975).
- Principle (f) - The proposed clearing is not at variance with this principle as the majority of Turee Creek that intersects the Survey Area is protected by an exclusion zone.
- Principle (g) - The proposed clearing of native vegetation is not at variance with this principle as no appreciable land degradation would occur.
- Principle (h) - The proposed clearing is not variance with this principle as the Survey Area does not intersect any ESAs or Conservation Areas.
- Principle (i) - The proposed clearing is not at variance with this principal as no negative impact to surface or groundwater is predicted (these areas are generally protected by the exclusion zone).

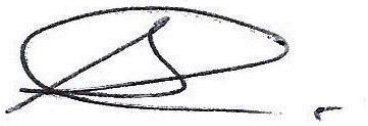
2.0 Closing

We trust this meets your requirements currently. Should you have any questions or require further action please do not hesitate to contact Scott Walker on (+61) 0419 997 140. We look forward to hearing from you.

Sincerely,

SLR Consulting Australia





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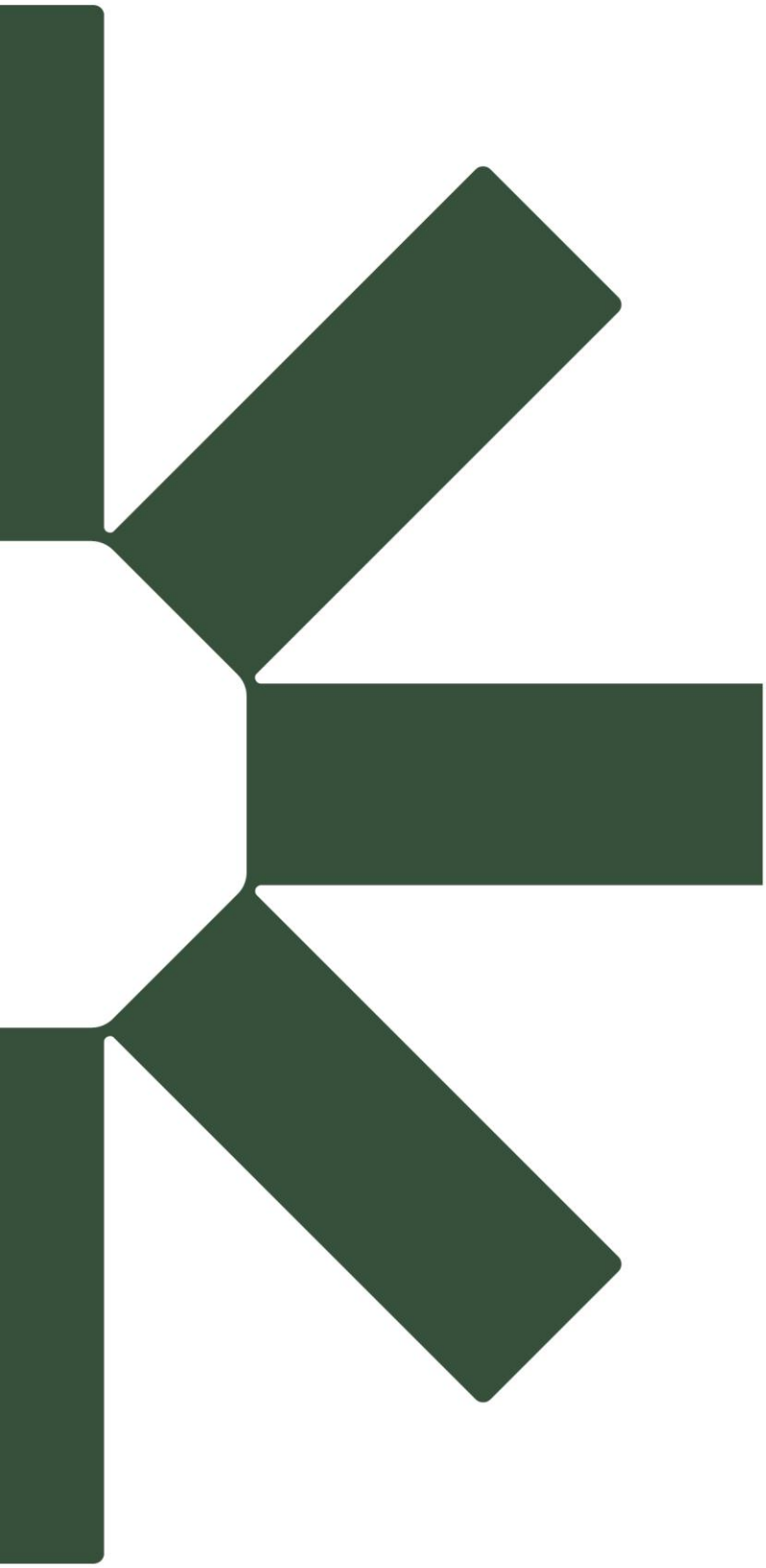
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4.0 Feedback

At SLR, we are committed to delivering professional quality service to our clients. We are constantly looking for ways to improve the quality of our deliverables and our service to our clients. Client feedback is a valuable tool in helping us prioritise services and resources according to our client needs.

To achieve this, your feedback on the team's performance, deliverables and service are valuable and SLR welcome all feedback via https://www.slrconsulting.com/en/feedback. We recognise the value of your time and we will make a $10 donation to our 2023 Charity Partner - Lifeline, for every completed form.



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