



Ms Bronwyn Bell
Manager Environment
Rio Tinto Iron Ore
152-158 St Georges Terrace
PERTH WA 6000

Your Ref: RTIO-HSE-0228290
Our Ref: 2014-0000899934
Enquiries: Tania Liaghati, 6145 0843
Email: tania.liaghati@epa.wa.gov.au

Dear Ms Bell

**WEST ANGELAS IRON ORE PROJECT – MINISTERIAL STATEMENT 970 –
WEST ANGELAS CLOSURE PLAN – AMENDMENTS REQUIRED**

Thank you for submitting the West Angelas Closure Plan, Rio Tinto Iron Ore, July 2014 (the Closure Plan) to the Office of the Environmental Protection Authority (OEPA) for review, in accordance with condition 9 of Ministerial Statement 970.

The OEPA has reviewed the Closure Plan against the requirements of condition 9, and has sought technical advice from the Department of Mines and Petroleum.

The OEPA considers the Closure Plan requires amendments before it can be approved for implementation. Please address the comments in the attached Document Review Sheet, and submit the amended plan to the OEPA by 14 December 2015 as previously discussed.

If you have any queries regarding this correspondence please contact Tania Liaghati on 6145 0843 or tania.liaghati@epa.wa.gov.au.

Please quote the above “Our ref” on any further correspondence.

Yours sincerely

Sally Bowman
A/Director
Assessment and Compliance Division

²⁷ November 2014

Encl. OEPA's Document Review Comments Sheet for West Angelas Closure Plan



Document Review Comments Sheet

Document Title:	West Angelas Closure Plan
Revision Number:	July 2014
Statement/Condition:	Statement 970/ Condition 9
Review Date:	17 November 2014

The Office of the Environmental Protection Authority (OEPA) has reviewed the West Angelas Closure Plan, Rio Tinto Iron Ore Group, July 2014 against the requirements of condition 9 of Ministerial Statement 970, and has sought technical advice from the Department of Mines and Petroleum (DMP).

The OEPA considers the West Angelas Closure Plan, Rio Tinto Iron Ore Group, July 2014 requires amendments before it can be approved for implementation. Please address the comments in the following table and amend the West Angelas Closure Plan, Rio Tinto Iron Ore Group, July 2014 accordingly.

Item No.	EMP Section No.	OEPA General Comments
1.		<ul style="list-style-type: none">It is unclear how potential post mining impacts have been determined and it is therefore difficult to determine whether all potential post mining impacts have been identified and addressed. The proponent is required to identify potential post mining impacts through a risk analysis process as outlined in Appendix J of the Guidelines for Mine Closure Plans (DMP/ EPA 2011).
2.		<ul style="list-style-type: none">The management and mitigation measures presented in this Closure Plan are from other Rio Tinto Management Plans and do not address how this particular site will be closed out. If mitigation measures used on other Rio Tinto mine sites are used in this Closure Plan, the Plan should include details on how those measures will be implemented at this site.
OEPA Specific Comments		
3.	Table 14	<ul style="list-style-type: none">It is stated in the Closure Plan that the Deposit B long term low grade stockpile is currently not in life of mine schedule for processing and there is no plan for rehabilitation of this dump. As this stockpile is not in the life of mine processing schedule, it should be assumed the low grade stockpile will be present at closure and the proponent should develop a rehabilitation plan accordingly.

Item No.	EMP Section No.	OEPA General Comments
4.	Section 20.1, Table 17	<ul style="list-style-type: none"> DMP has been identified as a stakeholder in the Closure Plan (Table 17); however, DMP records and Table 19 of the plan indicate that no consultation has been undertaken with DMP regarding closure of the site. The proponent needs to liaise with the DMP prior to preparation of the next revision of the Plan.
5.	Section 21.2	<ul style="list-style-type: none"> While this section identifies Pastoralism as a potential post mining land use, it indicates that closure is currently targeted to return the land to a native ecosystem. As this proposal is located on Vacant Crown Land and is in close proximity to Karijini National Park, the return of a native ecosystem is supported by DMP and the OEPA. A decision to proceed with Pastoralism as the post mining land use would need to be reached through consultation with relevant stakeholders.
6.	Section 22.2, Table 21	<ul style="list-style-type: none"> The closure objectives outlined in section 22.2 and Table 21 do not encompass all aspects of the site. The closure objectives should be revised in consultation with Appendix G of the Guidelines for Preparing Mine Closure Plans to ensure closure objectives link to closure criteria.
7.	Section 23	<ul style="list-style-type: none"> This section states that pits at deposits A, A west and E will be highly erodible and unstable post closure; however, figures 11 and 13 show waste dumps being in very close proximity to the edge of the pits, particularly at deposit A. No information has been provided regarding the zone of instability for these pits. If this information is unknown, investigations should be conducted as soon as practicable and all waste dumps should be located outside of the zone of instability at all pits.
8.	Section 23.2	<ul style="list-style-type: none"> This section states that a new hydrological regime will be established post closure. According to the consultation register provided in Table 19, the Department of Water (DoW) has not been consulted regarding closure of the West Angelas site. The proponent should consult the DoW prior to the next revision of this Closure Plan to ensure the proposed surface and groundwater management strategies are feasible and adequate.
9.	Table 24	<ul style="list-style-type: none"> The completion criteria and associated performance indicators presented in Table 24 are generic and unclear. While detailed completion criteria are not expected at this stage of mine life, it is expected that the completion criteria provided will include all aspects of the site and are specific towards final landforms that will be present at the site. Appendix K of the Guideline for Preparing Mine Closure Plans outlines the detail that is expected of indicative completion criteria.



A member of the Rio Tinto Group

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OEPA Ref: CMS14319:Alfresco File AC01-2014-0183
Our Ref: RTIO-HSE-0236390

16 January 2015

Attention: Peter Tapsell

Dear Ms Bowman

**WEST ANGELAS DEPOSIT A WEST AND DEPOSIT F REVISED PROPOSAL
ROBE RIVER MINING CO. PTY LTD**

RESPONSE TO OEPA NOTICE REQUIRING FURTHER INFORMATION

Thank you for your letter dated 22 December 2014 requiring additional information in relation to referral of the above mentioned Proposal.

Further information has been prepared by Robe River Mining Co. Pty. Ltd. (the **Proponent**) and is provided for your reference in the attached Proponent Response to OEPA Notice Requiring Further Information to enable the EPA to consider an Assessment on Proponent Information (API) Category A level of assessment for the following:

- Mining of iron ore from above and below the water table in Deposit A west and Deposit F (the **Proposal**).
- A revision to Ministerial Statement 970 to include the Proposal.

This additional information has been incorporated into an amended version of the Environmental Review document prepared for the above mentioned Proposal, enclosed. The document has been amended to address the following:

- additional evidence of consultation with relevant decision making authorities in relation to the environmental factors for this Proposal ;
- further clarification of the location of potential Short Range Endemic species to provide justification as to why Terrestrial Fauna are not a key factor for the Proposal; and
- clarification of the flora and vegetation information presented.

All relevant Decision Making Authorities (DMA's) have been consulted with regards the referral. We acknowledge that consultation with some of the relevant DMA's was limited due to agency availability, and additional consultation was limited during the Christmas period upon receipt this request for additional information and a specified date for response. We have endeavoured to meet the OEPA's requirements, and in the timeframe specified, via telephone discussions and also by providing DMA's with a copy of the Environmental Review document. DMA's have indicated that they will provide their

feedback directly to the OEPA. For future proposals we will aim to complete the consultation and incorporate the responses into the Environmental Review document, prior to submission of the proposals.

We are keen to ensure that this referral meets OEPA requirements and will continue to work with the OEPA to address any further queries. If you require any further information in relation to the Proposal please do not hesitate to contact Carly Nixon on 6213 1297 in the first instance.

Yours sincerely



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Hermione Scott
Manager, Government and Environmental Approvals

Table 1: Proponent response to OEPA Notice Requiring Further Information

Details of further information required by EPA	Proponent response	Relevant section of amendment in Environmental Review document
<p>For the EPA to consider an Assessment on Proponent Information (API) Category A level of assessment, it is essential that you demonstrate that you have conducted appropriate and effective stakeholder consultation. The OEPA's review of consultation with relevant decision making authorities indicates that further information is needed to demonstrate that you meet the requirements for API level of assessment. It is recommended that you consult with the Department of Water, Department of Parks and Wildlife and the Department of Environmental Regulation, providing more detailed information regarding the proposal relevant to their regulatory processes. Any feedback from these agencies should be included in the ER document.</p>	<p>The Proponent consulted with relevant decision making authorities (DMAs) prior to submission of the Environmental Review Document and will continue to consult with relevant DMAs throughout the environmental approvals process.</p> <p>Section 3 (Table 3-1: Stakeholder Consultation Relevant to this Proposal) of the Environmental Review document has been updated to reflect the following additional consultation in relation to the Revised Proposal:</p> <ul style="list-style-type: none"> • Office of the EPA • Department of Environment and Regulation • Department of Mines and Petroleum <p>The Proponent has also provided a copy of the Environmental Review Document to the relevant DMAs: Department of Parks and Wildlife, Department of Environmental Regulation, Department of Water and Department of Mines and Petroleum in order to provide the DMAs with detailed information regarding the Proposal. The proponent offered to meet with each agency following their receipt and review of the Environmental Review document. The Proponent will provide a copy of any concerns raised by the DMAs and responses to the OEPA.</p>	<p>Section 6 (Table 3-1: Stakeholder Consultation Relevant to this Proposal) has been updated to reflect additional consultation undertaken (page 14-21).</p>
<p>Pgs 49 and 51 – The Environmental Review document states that five potential short range endemic (SRE) species were recorded, however, there was uncertainty regarding their status as SRE requiring further research. In the ER document you state that it was considered unlikely that the additional clearing would impact the conservation status of any species, should it be SRE, given the broad availability of continuous habitat. The ER document should clarify this statement by providing a figure that shows the locations of SREs and their habitat to demonstrate it is not restricted to the development envelope.</p>	<p>All of the potential Short Range Endemic (SRE) species identified during surveys were recorded from footslope and plain habitat types. Figure 6-2 has been created to show the locations of potential SRE fauna that have been recorded and the habitat types that they occur in.</p> <p>The Proponent maintains that additional clearing is considered unlikely to impact the conservation status of any species, should it be SRE, given the broad availability of continuous habitat:</p> <ul style="list-style-type: none"> • Habitat types which represent potential SRE habitat are well-represented in the region. The proposed area of each habitat type affected by mining is negligible in comparison to the overall area of these habitat types present in the wider region. • Moreover, there is habitat continuity through areas where the species was not recorded. It may be reasonably expected that SRE species would be well represented in these habitat types across the entire area. 	<p>Section 6 (Terrestrial Fauna) of the Environmental Review document has been updated to include Figure 6-2: Potential Short Range Endemic (SRE) fauna (page 55) to address queries relating to SRE species.</p>

<p>Pg 73 – Hydrological Processes states that there will be an increase in excess water will be discharged to the environment and no additional impacts are expected. It is not stated what volume excess water will be discharged or where it would be discharged. Could you please revise the ER document to address these issues and confirm if DER considers that the water quality of this additional discharge can be managed under the existing Part V license.</p>	<p>West Angelas is considered to be a water neutral (to small deficit) site in terms of water balance; operational water demand is roughly equivalent to dewatering requirements. Specific to the Proposal; only approximately 6% of the Deposit A west resource and 1% of the Deposit F resource is below the water table. Dewatering at Deposit A west is likely to meet operational demand with a small surplus available for operational use elsewhere while a water deficit is predicted for Deposit F; additional water sources are likely to be required to meet operational demand.</p> <p>It is anticipated that discharge will decrease as production from existing mostly below water table deposits declines and new, mostly above water table ore sources are developed.</p> <p>Should surplus water, exceeding the operational demand, be required to be discharged to the environment, such as following rainfall events, discharge will be through the existing licensed discharge point, in accordance with existing license limits and conditions.</p>	<p>Section 2.1.4 (Dewatering, Water Use and Disposal of Surplus Water) and Section 9 (Table 9-1: Hydrological Processes and Inland Waters Environmental Quality (Groundwater)) of the Environmental Review document have been updated to address queries relating to excess water discharge (page 9 and 79 respectively).</p>
<p>Figure 5-1 Vegetation mapping is difficult to read due to the colours in the mapping legend not correlating to what is displayed on the map. It is unclear what vegetation unit represents the P1 West Angelas Cracking Clay Priority Ecological Community (PEC). It is recommended that the figure be amended to better correlate the colours and clearly show the location of the PEC.</p>	<p>The Proponent notes that the vegetation mapping and legend are accurate. However, in order to support the assessment of the Revised Proposal, Figure 5-1 and the corresponding legend have been updated with colours that more clearly distinguish vegetation units, as per this request.</p> <p>The Proponent notes that the document states the following; ‘The vegetation unit PnnAp (<i>Aristida</i> and <i>Astrebla</i> grassland) has been determined to be equivalent to the Cracking Clay PEC...’ (page 33). However, in order to provide further clarification, Figure 5-1 has been updated to clearly show the location of the PEC.</p>	<p>Figure 5-1: Vegetation Mapping has been amended to more clearly distinguish vegetation units (page 37).</p>
<p>Figure 5-2 Flora of Conservation Significance is difficult to read as there are many species displayed on the map. It is recommended that the figure be amended so that there is one figure for different priority listings i.e. Figure 5-2 Rare and P1 species, Figure 5-3 P2 species etc.</p>	<p>Figure 5-2: Flora of Conservation Significance has been amended to more clearly represent information relating to Priority Flora, as per this request. The flora map is now A3 in size to assist with clarity and ease of use. This figure also incorporates inserts (Figure 5-2a: Deposit A west and Figure 5-2b: Deposit F) that more clearly show the Priority Flora species relevant to the Proposal.</p>	<p>Figure 5-2: Flora of Conservation Significance has been amended to more clearly represent information relating to Priority Flora (page 39).</p> <p>Figure 5-2a and Figure 5-2b have also been created more clearly show the Priority Flora species relevant to the Proposal (page 40 and 41).</p>

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Mr Murray Baker
Manager, Environmental Management Branch
Department of Parks and Wildlife
Locked Bag 104,
Bentley Delivery Centre WA 6983

Our Ref: RTIO-HSE-0236390

6 February 2015

Dear Mr Baker

**WEST ANGELAS DEPOSIT A WEST AND DEPOSIT F REVISED PROPOSAL
ROBE RIVER MINING CO. PTY LTD**

RESPONSE TO DEPARTMENT OF PARKS AND WILDLIFE REQUEST FOR FURTHER INFORMATION

Thank you for your email dated 29 January 2015 requesting additional information in relation to the above mentioned Proposal.

Further information has been prepared by Robe River Mining Co. Pty. Ltd. (the **Proponent**) and is provided in the attached response to assist Department of Parks and Wildlife (**Parks and Wildlife**) in understanding the proposed impacts of the above mentioned Proposal.

This further information addresses the following:

- Cumulative impacts to Priority flora; and
- Cumulative impacts and management measures for the West Angelas Cracking Clay Priority Ecological Community (**PEC**) (including a map that shows the PEC in relation to the current and proposed footprint).

If you require any further information in relation to the Proposal please do not hesitate to contact Carly Nixon on 6213 1297 in the first instance.

Yours sincerely



Hermione Scott
Manager, Government and Environmental Approvals

Table 1: Response to the Department of Parks and Wildlife Request for Further Information

Further information requested by Parks and Wildlife	Proponent response
Impact tables (cumulative) for flora (Priority and Threatened).	<p>Section 5-3: Conservation Significant Flora</p> <p>No flora gazetted as Declared Rare Flora (Threatened) under the Western Australian <i>Wildlife Conservation Act 1950</i> were recorded or are expected to occur within the Proposal area.</p> <p>Clearing for the Proposal intersects nine recorded Priority Flora species, as follows:</p> <ul style="list-style-type: none"> • <i>Aristida jerichoensis</i> var. <i>subspinulifera</i> (P1); • <i>Brachyscome</i> sp. Wanna Munna Flats (S. van Leeuwen 4662) (P1); • <i>Brunonia</i> sp. long hairs (D.E. Symon 2440) (P1); • <i>Aristida lazaridis</i> (P2); • <i>Indigofera gilesii</i> subsp. <i>gilesii</i> (P3) ; • <i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431) (P3); • <i>Triodia</i> sp. Mt Ella (M.E. Trudgen 12739) (P3); • <i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794) (P3); and • <i>Goodenia nuda</i> (P4). <p>The Proposal will preferentially avoid known locations of Priority Flora as far as practicable however; some occurrences of Priority Flora are expected to be disturbed by the proposed clearing.</p> <p><i>Aristida jerichoensis</i> var. <i>subspinulifera</i> (P1)</p> <p>The Priority 1 species, <i>Aristida jerichoensis</i> var. <i>subspinulifera</i> has a range of approximately 335 km within the Pilbara region on NatureMap (Parks and Wildlife 2014) and 280 km from the Rio Tinto Priority Flora database.</p> <p>This species has a total population count of 2,725 plants, from 70 records, within the Rio Tinto Priority Flora database. This species has previously been recorded from West Angelas, Juna Downs, Giles, Rhodes Ridge, Hope Downs, Brockman 2 and Mt Farquhar within the Rio Tinto Priority Flora database and on NatureMap from Newman, Jimblebar, West Angelas, Hope Downs, Juna Downs and Neds Creek Station.</p> <p>42 individuals of this species (representing up to 1.54% of the population recorded in the Rio Tinto Priority Flora database) will potentially be cleared for the Proposal. The Revised Proposal is therefore, not expected to adversely affect the representation of this species.</p> <p><i>Brachyscome</i> sp. Wanna Munna Flats (S. van Leeuwen 4662) (P1)</p> <p>The Priority 1 species, <i>Brachyscome</i> sp. Wanna Munna Flats (S. van Leeuwen 4662) has a range of approximately 340 km within the Pilbara region on NatureMap (Parks and Wildlife 2014) and 75 km from the Rio Tinto Priority Flora database.</p>

This species has a total population count of 17,852 plants, from 183 records, within the Rio Tinto Priority Flora database. This species has previously been recorded from Juna Downs and West Angelas within the Rio Tinto Priority Flora database and on NatureMap from Nammuldi, Marandoo, Hope Downs 4, Newman and Jigalong (Parks and Wildlife, 2014).

Two individuals of this species (representing 0.01% of the population recorded in the Rio Tinto Priority Flora database) will potentially be cleared for the Proposal. The Revised Proposal is therefore, not expected to adversely affect the representation of this species.

***Brunonia* sp. long hairs (D.E. Symon 2440) (P1)**

The Priority 1 species, *Brunonia* sp. Long hairs (D.E. Symon 2440) is an erect herb to 7 cm that occurs on Mulga plains and along creeklines (WAH, 2015). *Brunonia* sp. Long hairs (D.E. Symon 2440) has a range of 90 km across the Pilbara region on NatureMap and is also known from the Central Ranges for a total range of 1061 km (Parks and Wildlife 2014) and 75 km from the Rio Tinto Priority Flora database.

This species has a total population count of 2,192 plants, from 144 records, within the Rio Tinto Priority Flora database. This species has previously been recorded from Juna Downs, West Angelas and Angelo River within the Rio Tinto Priority Flora database and on NatureMap from Juna Downs, West Angelas, Newman and a disjunct location from the Central Ranges.

Four individuals of this species (representing 0.18% of the population recorded in the Rio Tinto Priority Flora database) will potentially be cleared for the Proposal. Whilst this species is still listed on Florabase as Priority 1 taxa, a recent review into the *Brunonia* genera by Leigh Sage (taxonomic expert in Goodeniaceae) has earmarked this species to be merged back into the common *Brunonia australis* taxa. As a result of this pending change, this species is not regarded as being of conservation significance.

***Aristida lazaridis* (P2)**

The Priority 2 species, *Aristida lazaridis* has a range of 100 km across the Hamersley Ranges on NatureMap (Parks and Wildlife) and 25 km from the Rio Tinto Priority Flora database.

This species has a total population count of 242 plants, from 43 records, within the Rio Tinto Priority Flora database. This species has previously been recorded from the West Angelas locality from the Rio Tinto Priority Flora database, and on NatureMap from West Angelas, Karijini National Park, Lambs Creek and Rhodes Ridge.

Seven individuals of this species (representing 2.89% of the population recorded in the Rio Tinto Priority Flora database) will potentially be cleared for the Proposal. Given that this species has been recorded from Karijini National Park, the Proposal is not expected to adversely affect the representation of this species.

***Indigofera gilesii* subsp. *gilesii* (M.E. Trudgen 15869) (P3)**

The Priority 3 species, *Indigofera gilesii* subsp. *gilesii* (M.E. Trudgen 15869) has a range of 136 km across the Pilbara region on NatureMap and is also known from the Central Ranges and Gascoyne regions for a total range of 1,235 km (Parks and Wildlife 2014) and 221 km from the Rio Tinto Priority Flora database.

This species has a total population count of 806 plants from 155 records, within the Rio Tinto Priority Flora database. This species has previously been recorded from the West Angelas, Juna Downs, Brockman 2 and Rhodes Ridge localities from the Rio Tinto Priority Flora database, and on NatureMap from West Angelas, Ophthalmia Range, Juna Downs, Central Ranges and Tanami Desert.

59 individuals of this species (representing 7.32% of the population recorded in the Rio Tinto Priority Flora database) will potentially be cleared for the Proposal. Given that large populations of this species exist nearby that do not intersect with proposed clearing, the Revised Proposal is not expected to adversely affect the representation of this species.

***Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3)**

The Priority 3 species, *Rhagodia* sp. Hamersley (M. Trudgen 17794) has a range of 260 km across the Pilbara region on NatureMap (Parks and Wildlife 2014) and 325 km from the Rio Tinto Priority Flora database.

This species has a total population count of 2,484 plants from 1,148 records, within the Rio Tinto Priority Flora database. This species has previously been recorded from West Angelas, Brockman, Marandoo, Juna Downs, Angelo River, Rhodes Ridge, Ophthalmia Range, Hope Downs, Shovelanna and Caramulla from the Rio Tinto Priority Flora database, and on NatureMap from West Angelas, Juna Downs, Angelo River, Hope Downs, Marandoo, Karijini National Park, Ophthalmia Range and Roy Hill Station.

44 individuals of this species (representing 1.77% of the population recorded in the Rio Tinto Priority Flora database) will potentially be cleared for the Proposal. The Proposal is therefore, not expected to adversely affect the representation of this species.

***Themeda* sp. Hamersley Station (M.E. Trudgen 11431) (P3)**

The Priority 3 species, *Themeda* sp. Hamersley Station (M.E. Trudgen 11431) has a range of 390 km across the Pilbara region on NatureMap (Parks and Wildlife 2014) and 320 km from the Rio Tinto Priority Flora database.

This species has a total population count of 96,434 plants from 1,388 records, within the Rio Tinto Priority Flora database. This species has previously been recorded in large numbers on Hamersley Station from the Themeda Grasslands TEC, West Angelas, Marandoo, Juna Downs and Brockman localities from the Rio Tinto Priority Flora database, and on NatureMap from the Hamersley Station Themeda Grasslands TEC, Karratha, West Angelas, Juna Downs, Hope Downs, Millstream Chichester National Park, Fortescue Marsh and Nullagine.

Six individuals of this species (representing less than 0.01% of the population recorded in the Rio Tinto Priority Flora database) will potentially be cleared for the Proposal. The Proposal is therefore, not expected to adversely affect the representation of this species.

***Triodia* sp. Mt Ella (M.E. Trudgen 12739) (P3)**

The Priority 3 species, *Triodia* sp. Mt Ella (M.E. Trudgen 12739) has a range of 78 km across the Pilbara region on NatureMap (Parks and Wildlife 2014) and 183 km from the Rio Tinto Priority Flora database.

This species has a total population count of 10,459 plants from 428 records, within the Rio Tinto Priority Flora database. This species has previously been recorded from West Angelas, Juna Downs, Capricorn Range, Angelo River, Hope Downs and Shovelanna from the Rio Tinto Priority Flora database, and on NatureMap from West Angelas, Mount Ella, Mount Robinson, Fork South and Jinidi.

61 individuals of this species (representing up to 0.58% of the population recorded in the Rio Tinto Priority Flora database) will potentially be cleared for the Proposal. The Proposal is therefore, not expected to adversely affect the representation of this species.

Goodenia nuda (P4).

The Priority 4 species, *Goodenia nuda* has a range of 530 km across the Pilbara region on NatureMap and is also known from the Gascoyne region for a total range of 725 km (Parks and Wildlife 2014) and 523 km from the Rio Tinto Priority Flora database.

This species has a total population count of 5,687 plants from 534 records, within the Rio Tinto Priority Flora database. This species has previously been recorded from West Angelas, Juna Downs, Caramulla, Yandicoogina, Angelo River, Marandoo, Brockman, Western Turner Syncline, Koodaideri, Pannawonica and Mount Farquhar from the Rio Tinto Priority Flora database, and on NatureMap from West Angelas, Juna Downs, Hope Downs, Marandoo, Karijini National Park, Shovelanna, Pannawonica, Emu Creek Station, Nanutarra, Tom Price, Robe Headwaters and Christmas Creek.

Two individuals of this species will potentially be cleared for the Proposal. Given that this species is widely distributed across the Pilbara region, the Proposal is not expected to adversely affect the representation of this species.

The below table summarises the potential impact to Priority Flora species.

Summary of potential impact to Priority Flora species

Species	Total Population (individuals)*	Potential Impact (individuals)	Percentage (%) Impact on Total Population*
<i>Aristida jerichoensis</i> var. <i>subspinulifera</i> (P1)	2,725	42	1.54%
<i>Brachyscome</i> sp. Wanna Munna Flats (S. van Leeuwen 4662) (P1)	17,852	2	0.01%
<i>Brunonia</i> sp. long hairs (D.E. Symon 2440) (P1)	2,192	4	0.18%
<i>Aristida lazaridis</i> (P2)	242	7	2.89%
<i>Indigofera gilesii</i> subsp. <i>Gilesii</i> (P3)	806	59	7.32%
<i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794) (P3)	2,484	44	1.77%
<i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431) (P3)	96,434	6	<0.01%

Species	Total Population (individuals)*	Potential Impact (individuals)	Percentage (%) Impact on Total Population*
<i>Triodia</i> sp. Mt Ella (M.E. Trudgen 12739) (P3)	10,459	61	0.58%
<i>Goodenia nuda</i> (P4)	5,687	2	0.04%

*Note data is limited to records from the Rio Tinto Priority Flora Database only and is therefore not entirely representative of the regional area that is unsurveyed.

Figures have been created to represent the regional distribution of Priority Flora species relevant to the Proposal (attached).

Table 5-3: Flora and Vegetation: Description of Factor, Impact Assessment and Management states the following with respect to management:

The following key management measures from the Environmental Management Program have been, and will continue to be, implemented to manage potential impacts on flora:

- *Clearing has, and will continue to, avoid areas of elevated conservation significance as far as practicable. Conservation significant areas include the following:*
 - *areas supporting Rare and / or Priority Flora.*

Impact tables (cumulative) and management measures for the West Angelas Cracking Clay Priority Ecological Community (PEC) (including a map that shows the PEC in relation to the current and proposed footprint).

Section 5-2: Conservation Significant Vegetation

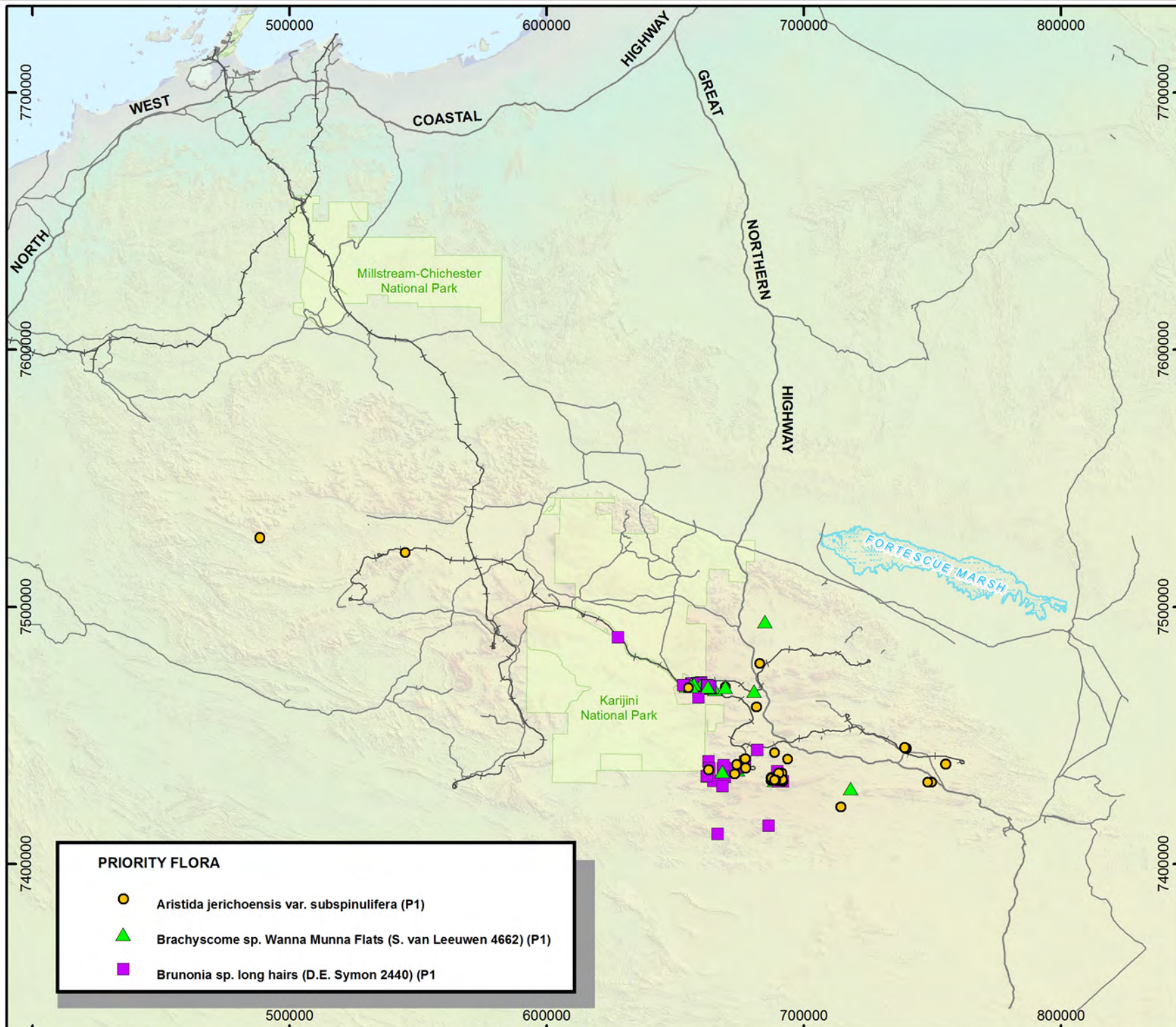
The West Angelas Cracking Clay PEC is not proposed to be detrimentally impacted by the Proposal. Deposit A west has been designed to avoid intersecting the PEC. Some reduction of catchment to the Cracking Clay PEC is expected; however, modelling indicates that the PEC is not dependant on this catchment. See Section 5-2: Conservation Significant Vegetation and Section 7-5: Key Environmental Receptors of the Environmental Review document.

Table 5-3: Flora and Vegetation: Description of Factor, Impact Assessment and Management states the following with respect to management:

The following key management measures from the Environmental Management Program have been, and will continue to be, implemented to manage potential impacts on the West Angelas Cracking Clay PEC:

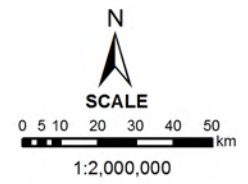
- *Clearing has, and will continue to, avoid areas of elevated conservation significance as far as practicable. Conservation significant areas include the following:*
 - *West Angelas Cracking Clay Priority Ecological Community (PEC).*

In order to provide further clarification, Figure 5-1 has been amended to more clearly show the location of the West Angelas Cracking Clay PEC (attached).



- PRIORITY FLORA**
- *Aristida jerichoensis* var. *subspinulifera* (P1)
 - ▲ *Brachyscome* sp. Wanna Munna Flats (S. van Leeuwen 4662) (P1)
 - *Brunonia* sp. long hairs (D.E. Symon 2440) (P1)

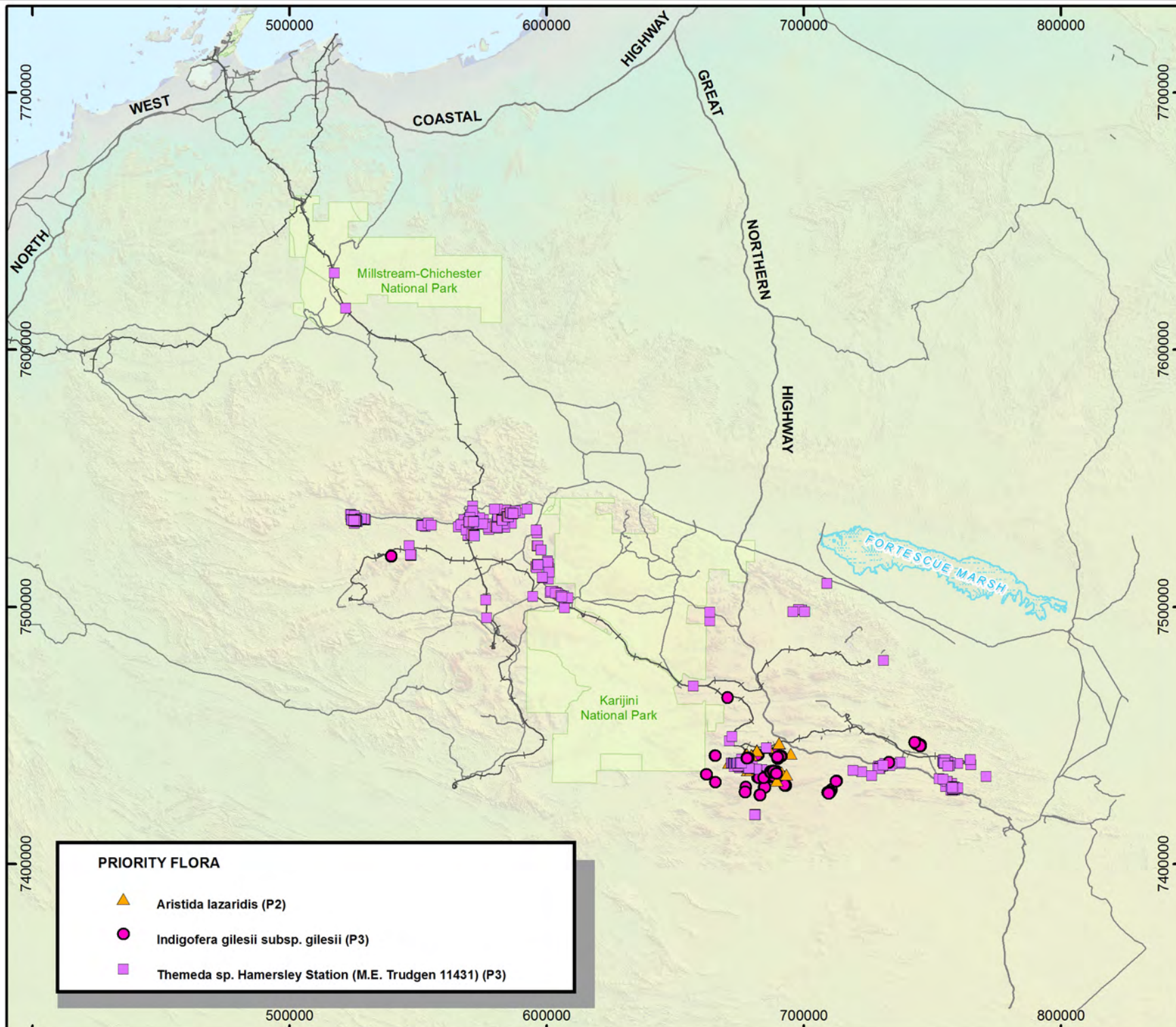
- LEGEND**
- Railway
 - Highway
 - Major Road
 - Minor Road
 - National Park



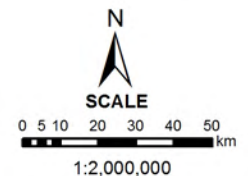
Rio Tinto

Iron Ore (WA)

RTIO Regional Records for *Aristida jerichoensis* var. *subspinulifera*, *Brachyscome* sp. Wanna Munna Flats (S. van Leeuwen 4662) and *Brunonia* sp. long hairs (D.E. Symon 2440)



- LEGEND**
- Railway
 - Highway
 - Major Road
 - Minor Road
 - National Park



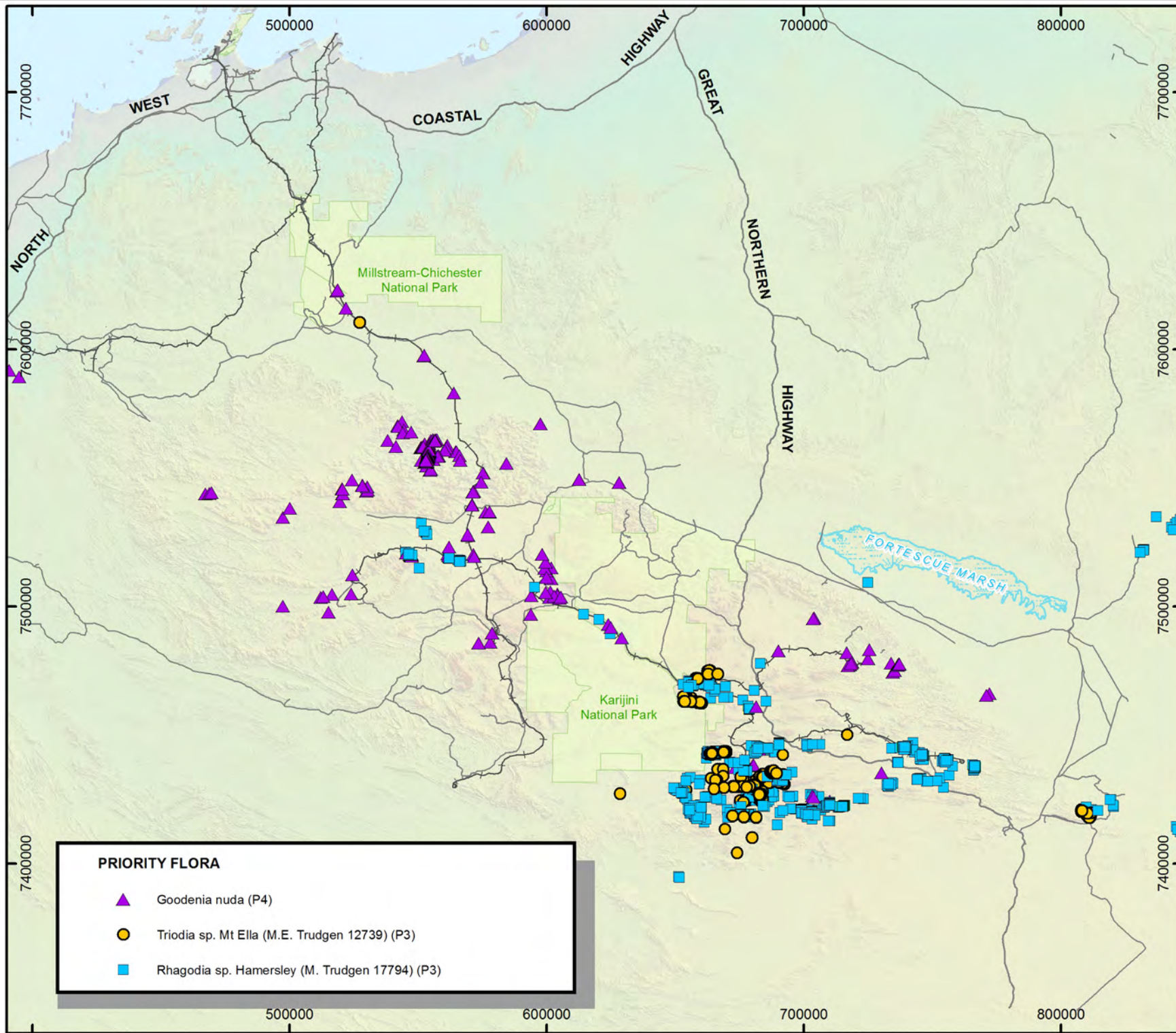
- PRIORITY FLORA**
- Aristida lazaridis* (P2)
 - Indigofera gilesii* subsp. *gilesii* (P3)
 - Themeda* sp. Hamersley Station (M.E. Trudgen 11431) (P3)

Rio Tinto

Iron Ore (WA)

RTIO Regional Records for *Aristida lazaridis*, *Indigofera gilesii* subsp. *gilesii* and *Themeda* sp. Hamersley Station (M.E. Trudgen 11431)

Date: February, 2015 Plan No: PDE0129264V1



PRIORITY FLORA

- ▲ Goodenia nuda (P4)
- Triodia sp. Mt Ella (M.E. Trudgen 12739) (P3)
- Rhagodia sp. Hamersley (M. Trudgen 17794) (P3)

LEGEND

- Railway
- Highway
- Major Road
- Minor Road
- National Park



N

SCALE

0 5 10 20 30 40 50 km

1:2,000,000

RioTinto










Iron Ore (WA)

RTIO Regional Records for *Triodia* sp. Mt Ella (M.E. Trudgen 12739), *Rhagodia* sp. Hamersley (M. Trudgen 17794) and *Goodenia nuda*

Date: February, 2015 Plan No: PDE0129264V1

670,000 mE 675,000 mE 680,000 mE 685,000 mE 690,000 mE


LEGEND

 Indicative Pit	 Development Envelope Extension	 Railway
 Indicative Waste Dump	 Trudgen Vegetation Mapping, 1998	 Highway
 Development Envelope for Mining Activities	 Cracking Clay	 Mine Access Road

SCALE

0 1 2km

1:65,000 @ A3

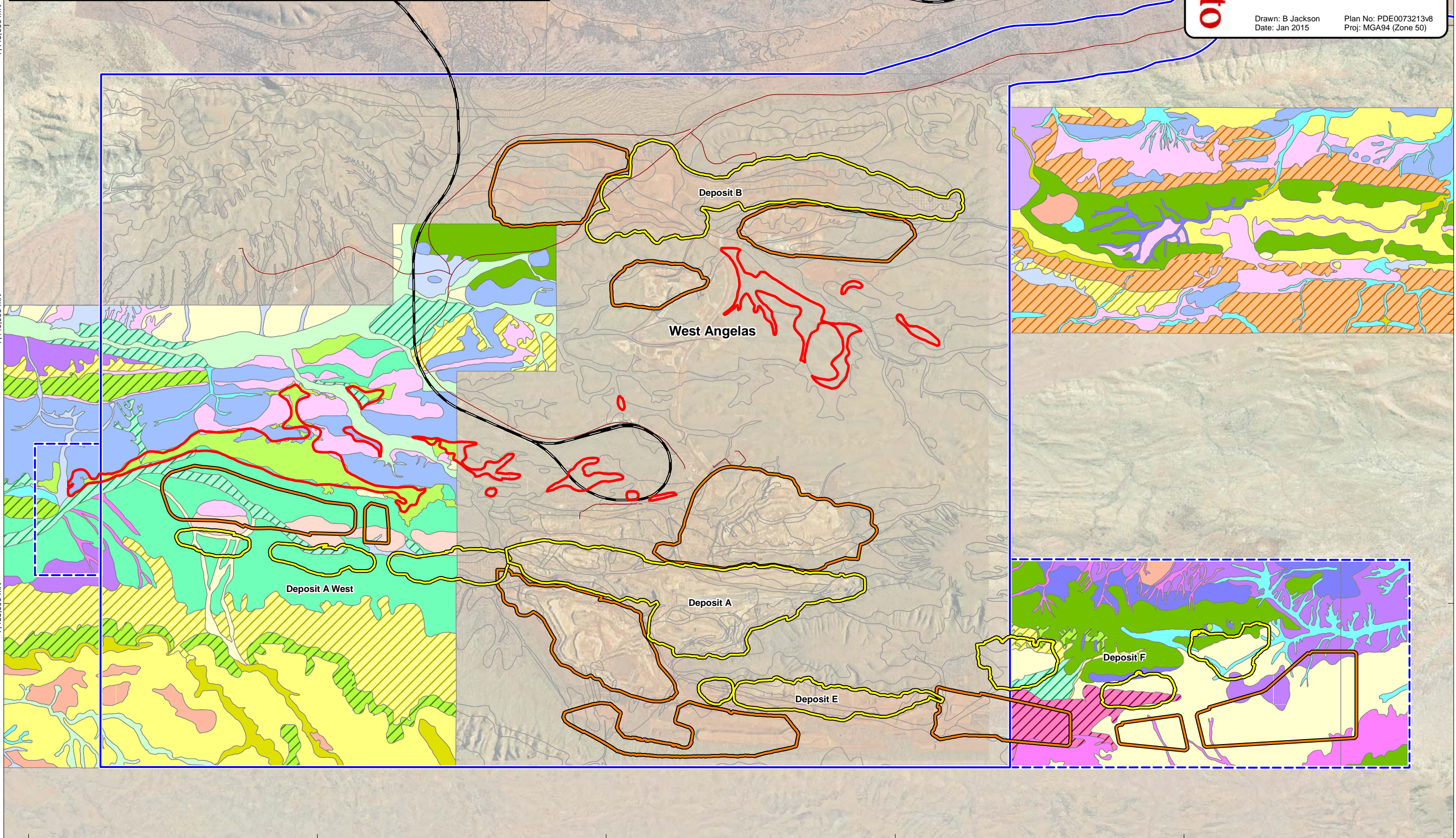


RioTinto

Iron Ore (WA)

**Figure 5-1
Vegetation Mapping**

Drawn: B Jackson Plan No: PDE0073213v8
Date: Jan 2015 Proj: MGA94 (Zone 50)



670,000 mE 675,000 mE 680,000 mE 685,000 mE 690,000 mE

7,445,000 mN

7,440,000 mN

7,435,000 mN

7,445,000 mN

7,440,000 mN

7,435,000 mN

Vegetation Mapping Legend

- 
 AaEffTp - Acacia aptaneura open woodland over Eremophila fraseri subsp. fraseri sparse shrubland over Triodia pungens sparse hummock grassland
- 
 AaPoEp - Acacia aptaneura open woodland over Ptilotus obovatus sparse shrubland over Enneapogon polyphyllus isolated tussock grasses
- 
 AaSaoTp - Acacia aptaneura open woodland over Senna artemisioides subsp. oligophylla sparse shrubland over Triodia pungens open hummock grassland
- 
 AaSggEp - Acacia aptaneura open woodland over Senna glutinosa subsp. glutinosa isolated shrubs over Enneapogon polyphyllus isolated tussock grasses
- 
 AaSItp - Acacia aptaneura open woodland over Solanum lasiophyllum isolated shrubs over Triodia pungens open hummock grassland
- 
 AaAoAc - Acacia aptaneura sparse woodland over Abutilon otocarpum isolates shrubs over Aristida contorta sparse tussock grassland
- 
 AaEm - Acacia aptaneura sparse woodland over Eriachne mronata sparse tussock grassland
- 
 AbPrla - Acacia bivenosa isolated trees over Ptilotus rotundifolius isolated shrubs over Ischaemum albobillosum isolated tussock grasses
- 
 AiSggTw - Acacia inaequilatera isolated trees over Senna glutinosa subsp. glutinosa open shrubland over Triodia wiseana or Triodia pungens open hummock grassland
- 
 AmTw - Acacia maitlandii and/or Acacia bivenosa sparse woodland over Triodia wiseana hummock grassland
- 
 AmGtTssp - Acacia maitlandii open woodland over Goodenia triodiophilla isolated herbs and Triodia wiseana and/or T. basedowii and/or T. pungens open hummock grassland
- 
 ApTb - Acacia prionocarpa sparse woodland over Triodia basedowii and/or T. pungens open hummock grassland
- 
 ApSgg - Acacia pruinocarpa and/or A. maitlandii sparse woodland over Senna glutinosa subsp. glutinosa isolated shrubs
- 
 ApEcTp - Acacia pruinocarpa sparse woodland over Eremophila caespitosa sparse shrubland over Triodia pungens open hummock grassland
- 
 ChDIITt - Corymbia hamersleyana sparse woodland over Dodonaea lanceolata var. lanceolata isolated shrubs over Themeda triandra open tussock grassland
- 
 EgKvPm - Eucalyptus gamophylla sparse woodland over Keraudrenia velutina isolated shrubs over Paraneurachne muellerii isolated tussock grasses
- 
 EIIEITp - Eucalyptus leucophloia subsp. leucophloia sparse woodland over Eremophila latrobei subsp. latrobei isolated shrubs over Triodia pungens open hummock grassland
- 
 ExPnnTt - Eucalyptus xerothermica sparse woodland over Ptilotus nobilis subsp. nobilis sparse shrubland over Themeda triandra open tussock grassland
- 
 PsAjs - Pterocaulon sphacelatum sparse hermland and Aristida jerichoensis var. subspinulifera isolated tussock grasses
- 
 PnnAp - Ptilotus nobilis subsp. nobilis isolated shrubs over Astrebla pectinata open tussock grassland
- 
 SgglrTw - Senna glutinosa subsp. glutinosa open woodland over Indigofera rugosa sparse shrubland over Triodia wiseana hummock grassland
- 
 SggGrTp - Senna glutinosa subsp. glutinosa sparse woodland over Gossypium robinsonii sparse shrubland over Triodia pungens hummock grassland



A member of the Rio Tinto Group

ROBE RIVER MINING CO PTY LTD

MANAGER FOR ROBE RIVER IRON ASSOCIATES

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Mr Anthony Sutton
Director, Assessment and Compliance Division
Office of the Environmental Protection Authority
The Atrium, 168 St Georges Terrace
Locked Bag 10,
East Perth WA 6892

OEPA Ref: CMS14319:Alfresco File AC01-2014-0183

Our Ref: RTIO-HSE-0236390

27 February 2015

Attention: Maree Heath

Dear Mr Sutton

**WEST ANGELAS DEPOSIT A WEST AND DEPOSIT F REVISED PROPOSAL
ROBE RIVER MINING CO. PTY LTD**

RESPONSE TO OEPA NOTICE REQUIRING FURTHER INFORMATION

Thank you for your letter dated 3 February and email correspondence of 6 February, 10 February and 19 February 2015 requiring additional information in relation to referral of the above mentioned Revised Proposal.

Further information has been prepared by Robe River Mining Co. Pty. Ltd. (the **Proponent**) and is provided for your reference in the attached Proponent Response to OEPA Notice Requiring Further Information to enable the EPA to consider an Assessment on Proponent Information (API) Category A level of assessment for the following:

- Mining of iron ore from above and below the water table in Deposit A west and Deposit F (the **Proposal**).
- A revision to Ministerial Statement 970 to include the Proposal.

This additional information has been incorporated into an amended version of the Environmental Review document prepared for the above mentioned Revised Proposal, enclosed. The document has been amended to address the following:

- further evidence of consultation with key decision-making authorities and outcomes of discussions in relation to the environmental factors for this proposal;
- clarification of the volume of water to be discharged and the location of the discharge, along with a summary of the potential impacts;
- a revised Offsets section; and
- editorial changes.

Following submission of the Draft Environmental Review document in October 2014; subsequent revisions in November 2014 and December 2014; and submission of additional versions in January and February 2015 (enclosed), the Proponent considers this version of the Environmental Review document to be the final version and therefore requests that the OEPA assess the Revised Proposal on the basis of the information provided.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Grant O'Donoghue', with a stylized flourish at the end.

Grant O'Donoghue
Acting Manager, Government and Environmental Approvals

Table 2: Proponent response to OEPA Notice Requiring Further Information

Details of further information required by EPA	Proponent response	Relevant section of amendment in Environmental Review document
<p>Consultation</p> <p>For the EPA to consider an Assessment on Proponent Information (API) Category A level of assessment, it is essential that you demonstrate that you have conducted appropriate and effective stakeholder consultation. The Office of the EPA's review of consultation with relevant decision making authorities indicates that further information is needed to demonstrate that you meet the requirements for API level of assessment.</p> <p>The OEPA recommends that you continue consultation with the Department of Water, Department of Parks and Wildlife and the Department of Environment Regulation (DER), providing more detailed information regarding the proposal relevant to their regulatory processes. Any feedback from these agencies should be included in the Environmental Review (ER) document.</p> <p>Information on consultation required for the API level of assessment is detailed in the EPA's recently released Preparation of an API - Category A Environmental Review Document (EAG 14) available on the EPA's website.</p>	<p><i>The Proponent notes that this was previously addressed in the Proponents Response to OEPA Notice Requiring Further Information, dated 16 January 2015:</i></p> <p>The Proponent consulted with relevant decision making authorities (DMAs) prior to submission of the Environmental Review Document and will continue to consult with relevant DMAs throughout the environmental approvals process.</p> <p>Section 3 (Table 3-1: Stakeholder Consultation Relevant to this Proposal) of the Environmental Review document has been updated to reflect the following additional consultation in relation to the Revised Proposal:</p> <ul style="list-style-type: none"> • Office of the EPA; • Department of Environment and Regulation; and • Department of Mines and Petroleum. <p>The Proponent also provided a copy of the Environmental Review Document to the relevant DMAs: Department of Parks and Wildlife, Department of Environmental Regulation, Department of Water and Department of Mines and Petroleum in order to provide the DMAs with detailed information regarding the Proposal.</p>	<p>Section 3 (Table 3-1: Stakeholder Consultation Relevant to this Proposal) of the Environmental Review document has been updated to reflect additional consultation undertaken (page 14-25).</p>
	<p>The Proponent continued to consult with relevant DMAs.</p> <p>The following additional consultation was undertaken in relation to the Revised Proposal:</p> <ul style="list-style-type: none"> • Office of the EPA; • Department of Parks and Wildlife; • Department of Environment and Regulation; • Department of Water; and • Department of Mines and Petroleum. <p>Section 3 (Table 3-1: Stakeholder Consultation Relevant to this Proposal) of the Environmental Review document has been updated to reflect the additional consultation undertaken.</p> <p>The Proponent has also provided records of consultation with DMAs and Proponent responses to the OEPA.</p>	<p>Section 3 (Table 3-1: Stakeholder Consultation Relevant to this Proposal) of the Environmental Review document has been updated to reflect additional consultation undertaken (page 14-25).</p> <p>Records of consultation are also included as Appendix 4 in the updated Environmental Review document.</p>

<p>Hydrological processes and inland waters environmental quality</p> <p>Page 79 – Hydrological Processes states that the Abstraction of groundwater at West Angelas has been approved under Groundwater licence GWL98740, under the RIWI Act. Groundwater abstraction will continue to be managed under the existing RIWI Act Licence and associated Groundwater Operating Strategy, and any amendments as required. Please revise the ER document and confirm that the DER considers that the water quality of the additional discharge can be managed under the existing Part V licence. Also, please confirm the volume of water that will be discharged and the location of the discharge, together with a summary of the potential environmental impacts.</p>	<p><i>The Proponent notes that this was previously addressed in the Proponents response to OEPA Notice Requiring Further Information, dated 16 January 2015.</i></p> <p>West Angelas is considered to be a water neutral (to small deficit) site in terms of water balance; operational water demand is roughly equivalent to dewatering requirements. Specific to the Proposal; only approximately 6% of the Deposit A west resource and 1% of the Deposit F resource is below the water table. Dewatering at Deposit A west is likely to meet operational demand with a small surplus available for operational use elsewhere while a water deficit is predicted for Deposit F; additional water sources are likely to be required to meet operational demand.</p> <p>It is anticipated that discharge will decrease as production from existing mostly below water table deposits declines and new, mostly above water table ore sources are developed.</p> <p>Should surplus water, exceeding the operational demand, be required to be discharged to the environment, such as following rainfall events, discharge will be through the existing licensed discharge point, in accordance with existing license limits and conditions.</p> <p>The effect of discharge of surplus water, exceeding the operational demand through the existing licensed discharge point, in accordance with existing license limits and conditions is not considered significantly different or additional to that of the approved West Angelas Project.</p>	<p>Section 2.1.4 (Dewatering, Water Use and Disposal of Surplus Water) and Section 9 (Table 9-1: Hydrological Processes and Inland Waters Environmental Quality (Groundwater)) of the Environmental Review document have been updated to to address queries relating to excess water discharge (page 9 and 88 respectively).</p>
<p>Offsets</p> <p>Page 88 - Offset Requirements for the Proposal should be revised to refer to current EPA Guidance on Offsets including:</p> <ul style="list-style-type: none"> • EPA Environmental Protection Bulletin No. 1 Environmental Offsets, August 2014 as well as completion of the WA Offsets Template (formerly known as the Offsets Reporting Form); • Government of Western Australia WA Environmental Offsets Guidelines, August 2014; and • Government of Western Australia WA Environmental Offsets Policy, September 2011. 	<p><i>The Proponent notes that the document was drafted prior to the release of the WA Offsets Template and as such, included the former Offsets Reporting Form.</i></p> <p>Section 11: Residual Impacts: Impact Assessment and Management (including Table 11-1: Environmental Offsets Reporting Form) has been amended to refer to current EPA Guidance on Offsets.</p>	<p>Section 11: Residual Impacts: Impact Assessment and Management (including Table 11-1: Environmental Offsets Reporting Form) of the Environmental Review document has been amended to refer to current EPA Guidance on Offsets (pages 96-99).</p>

<p>Editorial</p> <p>Page 81 - Noise and Vibration impacts on the Ghost Bat should be addressed under the factor of Terrestrial Fauna and not under the factor of Air Quality.</p>	<p>Table 6-2: Terrestrial Fauna: Description of Factor, Impact Assessment and Management of the Environmental Review document has been amended to address the potential impacts of vibration on the potential Ghost Bat maternity cave (AA1), previously included under the factor of Air Quality (page 60).</p>	<p>Table 6-2: Terrestrial Fauna: Description of Factor, Impact Assessment and Management of the Environmental Review document has been amended to address the potential impacts of vibration on the potential Ghost Bat maternity cave (AA1), previously included under the factor of Air Quality (page 64).</p> <p>Vibration has been removed from Section 9 (Table 9-1: Air Quality) of the Environmental Review document (page 90).</p>
<p>EAG 8 <i>Environmental principles, factors and objectives</i> has been updated.</p> <p>Please include the relevant changes in the document.</p>	<p><i>The Proponent notes that the document was finalised prior to the release of EAG 8 Environmental principles, factors and objectives (Revised January 2015).</i></p>	<p>The Environmental Review document has been amended to reflect EAG 8 Environmental principles, factors and objectives (Revised January 2015).</p>
<p>Provide copies of the Groundwater Operating Strategy and 5C Licence to Take and include these documents as appendices to the updated Environmental Review document.</p>	<p><i>The Proponent notes that groundwater is not a key environmental factor for the Proposal.</i> In accordance with EAG 8 Environmental principles, factors and objectives (Revised January 2015), this factor is not discussed in detail in the Environmental Review document.</p> <p>The abstraction of groundwater associated with the Proposal will not result in any significant change in addition to, or different from, that originally assessed and approved and will continue to be managed by Ministerial Condition 6 'to ensure minimal adverse impacts on the availability and quality of groundwater resources and the dependent ecology.'</p> <p>Groundwater abstraction will also continue to be managed under the existing <i>Rights in Water and Irrigation Act 1914</i> Licences and associated Groundwater Operating Strategy, and any amendments as required. The Department of Water is responsible for groundwater licences and the associated Groundwater Operating Strategy under the <i>Rights in Water and Irrigation Act 1914</i>.</p> <p>Given that groundwater is not a key environmental factor for the Proposal, that groundwater abstraction is managed under existing Ministerial Conditions and that the assessment and approval of groundwater abstraction is regulated by other processes, this factor does not require further consideration by the OEPA.</p>	<p>An appropriate level of detail on groundwater is provided in Section 9 (Table 9-1: Hydrological Processes and Inland Waters Environmental Quality (Groundwater)) of the Environmental Review document (page 88).</p>

<p>The subterranean fauna appendix has been reviewed by this office.</p> <p>We are requesting the following information regarding the proposal:</p> <ul style="list-style-type: none"> • Improved maps provided indicating survey locations, monitoring locations and species distribution; • A description of sub fauna habitat if available; • Greater detail regarding survey timing/dates and specimen information; and • Copies of all previous survey reports. 	<p><i>The Proponent notes that subterranean fauna is not a key environmental factor for the Proposal.</i> In accordance with EAG 8 Environmental principles, factors and objectives (Revised January 2015), this factor is not discussed in detail in the Environmental Review document.</p> <p>Furthermore, the Proponent considers that the relevant requested information is available in Appendix 10: Subterranean Fauna Assessment which was prepared to address OEPA queries of 21 October 2014.</p> <p>However, in order to support the assessment of the Revised Proposal, Figure 9-1 has been created to show the locations of potentially troglobitic specimens collected, as per this request.</p> <p>Appendix 10: Subterranean Fauna Assessment has also been revised to include additional information, as per this request. Specifically:</p> <ul style="list-style-type: none"> • Figures in Appendix 10 are now A4 in size to assist with clarity and ease of use. • Figure 2 in Appendix 10 has been included to show sample sites; and • Section 2.6 in Appendix 10 has been updated to include survey timing. <p>Given that subterranean fauna is not a key environmental factor for the Proposal, this factor does not require further consideration by the OEPA.</p>	<p>An appropriate level of detail on subterranean fauna is provided in Section 9 (Table 9-1: Subterranean Fauna) (pages 80-83) and Appendix 10 of the Environmental Review document.</p> <p>Figure 9-1 has been created to address queries relating to potentially troglobitic species collected (page 83).</p> <p>Additional information is provided in Appendix 10: Subterranean Fauna Assessment, Revised February 2015.</p>
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Nixon, Carly (RTIO)

From: Thomas, Sandra <Sandra.Thomas@DPaW.wa.gov.au>
Sent: Thursday, 2 April 2015 4:23 PM
To: Scott, Hermione (RTIO)
Cc: Baker, Murray; Nixon, Carly (RTIO)
Subject: Robe River Mining Co - West Angelas Deposit A West and Deposit F Revised Proposal - 6 February 2015
Attachments: A864483.pdf

Dear Hermione

Thank you for providing Parks and Wildlife with the opportunity to review and provide comment on Robe River's Deposit A West and Deposit F revised proposal for the West Angelas iron ore project and for providing further follow-up information to our email dated 29 January 2015 (please see attached). The additional information on Priority flora and the Priority 1 West Angelas cracking clay priority ecological community (PEC) has greatly assisted the Department's review of the revised proposal. Parks and Wildlife would welcome a similar approach and level of information provision for future requests for advice.

Parks and Wildlife provides the following comments regarding matters relevant to the Department's *Wildlife Conservation Act 1950* related responsibilities. No comment is provided on Parks and Wildlife's *Conservation and Land Management Act 1984* responsibilities as the proposal is not located on existing or proposed Parks and Wildlife-managed lands.

Based on the information provided, it appears that Robe River has provided adequate information about potential impacts on conservation significant flora, vegetation and fauna values for this proposal. While it appears that the revised proposal will impact directly and/or indirectly on conservation significant values, including known Priority flora and the West Angelas cracking clay PEC, these impacts are unlikely to be significant and should be able to be avoided or minimised through appropriate management measures.

The impacts on conservation significant flora, vegetation and fauna values are potentially manageable under Ministerial Statement 970 subject to review of the applicable management plans. However, the Office of the EPA should be consulted in regard to whether the wider impacts of the revised proposal require any amendments to conditions and or other requirements.

If you have any queries feel free to contact Murray Baker or I.

Kind regards
Sandra

Sandra Thomas

Acting Area Manager North and Goldfields
Science and Conservation
Department of Parks and Wildlife
Locked Bag 104 Bentley Delivery Centre WA 6983

Phone: 08 9334 0246

Email: sandra.thomas@dpaw.wa.gov.au



Memorandum

From	Garry Davies, Specialist Closure Planning
To	Barry Jilbert, Manager Water Effectiveness and Closure
Date	11 February 2015
Number of pages	5

West Angelas Closure Plan

Record of Consultation

Department of Mines and Petroleum (DMP): 11 February 2014

Personnel

- Garry Davies RTIO Closure Planning Specialist
- Danielle Risbey DMP Environment Branch Manager (North West)
- Matt Boardman DMP Environment Branch

Context

The West Angelas Closure Plan was submitted to the Office of the Environmental Protection Authority (OEPA) Assessment and Compliance Branch in July 2014. The OEPA forwarded the closure plan to the DMP for comment and subsequently rejected the closure plan. Robe is required to address nine concerns and resubmit the closure plan by December 2015.

The OEPA's response to this particular closure plan is not consistent with responses to other closure plans that have been submitted for compliance purposes.

The purpose of this meeting with the DMP, as the primary regulator for closure in Western Australia, was to determine:

- which of the nine concerns raised by the OEPA had originated from the DMP;
- whether the OEPA's response accurately reflected the DMP's view of the closure plan; and
- whether the response was indicative of dissatisfaction with the closure plans for Rio Tinto mine sites more broadly.

General comment

The DMP indicated that it had raised some concerns about the closure plan with the OEPA, but in the context of issues to be addressed in the next closure plan update. It had not recommended that the closure plan be rejected, and indicated that it would have been approved if it had been submitted under the *Mining Act 1978*.

The remainder of the meeting was structured as a discussion on each of the OEPA's concerns, as presented in Table 1.

Outcomes

The DMP indicated that whilst there are some improvements that need to be made to the closure plan, it considers the document to be generally acceptable. Clarification was provided on DMP expectations in relation to the closure plan improvements to be implemented in 2015.

Memorandum

Table 1: Specific items of discussion

OEPA Concern	Robe comments and questions for discussion with DMP	DMP Response
<p>1. It is unclear how potential post mining impacts have been determined and it is therefore difficult to determine whether all potential post mining impacts have been identified and addressed. The proponent is required to identify potential post mining impacts through a risk analysis process as outlined in Appendix J of the Guidelines for Mine Closure Plans.</p>	<p>OK.</p>	<p>OK</p>
<p>2. The management and mitigation measures presented in this Closure Plan are from other Rio Tinto Management Plans and do not address how this particular site will be closed out. If mitigation measures used on other Rio Tinto mine sites are used in this Closure Plan, the Plan should include details on how those measures will be implemented at this site.</p>	<p>Does this concern originate from the DMP?</p>	<p>Partly, although the OEPA appears to have paraphrased the DMP advice.</p>
	<p>Table 25 discusses implementation strategies for each domain. Is the concern that the table isn't detailed enough?</p>	<p>The concern was raised specifically in relation to waste dumps.</p>
	<p>Waste dumps are specified as being rehabilitated in accordance with Landform Design Guidelines – do these need to be appended to the plan, or do we need to provide precise specifications for each dump?</p>	<p>There was some discussion about the merits of appending the Landform Design Guidelines, but it was ultimately agreed that this was not necessary. However, it was agreed dump rehabilitation specifications would be placed in the implementation section of the closure plan.</p>

OEPA Concern	Robe comments and questions for discussion with DMP	DMP Response
<p>3. It is stated in the Closure Plan that the Deposit B long term low grade stockpile is currently not in life of mine schedule for processing and there is no plan for rehabilitation of this dump. As this stockpile is not in the life of mine processing schedule it should be assumed the low grade stockpile will be present at closure and the proponent should develop a rehabilitation plan accordingly.</p>	<p>OK</p>	<p>OK</p>
<p>4. DMP has been identified as a stakeholder in the Closure Plan; however, DMP records and Table 19 of the plan indicate that no consultation has been undertaken with DMP regarding closure of the site. The proponent needs to liaise with the DMP prior to preparation of the next version of the Plan.</p>	<p>Consultation was undertaken in 2014 (subsequent to completion of the closure plan – is this, combined with the current discussion, sufficient?</p>	<p>In general terms, yes. DMP is generally satisfied with the level of consultation that Rio Tinto undertakes with respect to closure plans.</p>
<p>5. While this section identifies Pastoralism as a potential post mining land use, it indicates that closure is currently targeted to return the land to a native ecosystem. As this proposal is located on Vacant Crown Land and is in close proximity to Karijini National Park, the return of a native ecosystem is supported by the DMP and the OEPA. A decision to proceed with Pastoralism as the post mining land use would need to be reached through consultation with relevant stakeholders.</p>	<p>OK</p>	<p>OK</p>

OEPA Concern	Robe comments and questions for discussion with DMP	DMP Response
<p>6. The closure objectives do not encompass all aspects of the site. The closure objectives should be revised in consultation with Appendix G of the Guidelines for Preparing Mine Closure Plans to ensure closure objectives link to closure criteria.</p>	<p>Does this concern originate from the DMP?</p>	<p>Yes, although the OEPA appears to have paraphrased the DMP advice.</p>
	<p>Rio Tinto (including Robe) has adopted an approach whereby objectives and criteria are aligned with those aspects to which lease relinquishment will be measured, rather than addressing every risk, issue or aspect. Do we need to change this approach?</p>	<p>No. The concern was specifically in relation to ensuring that the objectives capture DMP's minimum expectations of achieving safe, stable and non-polluting landforms.</p>
<p>7. Section 23 states that pits at deposits A, A West and E will be highly erodible and unstable post-closure; however, Figures 11 and 13 show waste dumps being in very close proximity to the edge of the pits, particularly at deposit A. No information has been provided regarding the zone of instability for these pits. If this information is unknown, investigations should be conducted as soon as practicable and all waste dumps should be located outside of the zone of instability at all pits.</p>	<p>The provision of polygons showing the zone of instability around pits has been an omission in closure plans prepared by Rio Tinto (including Robe) that will be rectified in the future.</p>	<p>OK</p>
	<p>Pits are designed with geotechnical factors of safety in mind. Polygons have now been drawn for all West Angelas pits (based on the conservative 25 degree angle approach identified in the DMP's Abandonment Bund Guidance) and waste dumps are generally not located within these areas. Those areas where there is a small intersection (e.g. Deposit A) will not be problematic because waste material will need to be removed from the dumps to backfill pits.</p>	<p>OK</p>
	<p>Is it DMP's policy that waste dumps need to be located outside the zone of instability at all pits? Can waste dumps be utilized as part of an abandonment bund?</p>	<p>These questions could not be answered by DMP Environment personnel (the questions relate to safety risk mitigation) but there was an indication that alternative outcomes could be considered on a site specific basis. The DMP indicated that flyover presentations might be useful to support a case that alternative outcomes are appropriate for a particular pit/site.</p>

OEPA Concern	Robe comments and questions for discussion with DMP	DMP Response
<p>8. This section states that a new hydrological regime will be established post closure. According to the consultation register, the DoW has not been consulted regarding closure of the West Angelas site. The proponent should consult with the DoW prior to the next revision of the Closure Plan to ensure that the proposed surface and groundwater management strategies are feasible and adequate.</p>	OK	OK
<p>9. The completion criteria and associated performance indicators are generic and unclear. While detailed completion criteria are not expected at this stage of mine life, it is expected that the completion criteria provided will include all aspects of the site and are specific towards final landforms that will be present at the site. Appendix K of the Guidelines outlines the detail that is expected of indicative completion criteria.</p>	Does this concern originate from the DMP?	Yes
	We agree that the completion criteria can be improved on this closure plan	OK
	Is this a general concern about the completion criteria that are being seen in closure plans prepared by Rio Tinto?	Difficult to answer on the spot as only this plan was reviewed in preparation for the meeting. The feeling was the completion criteria are generally OK.