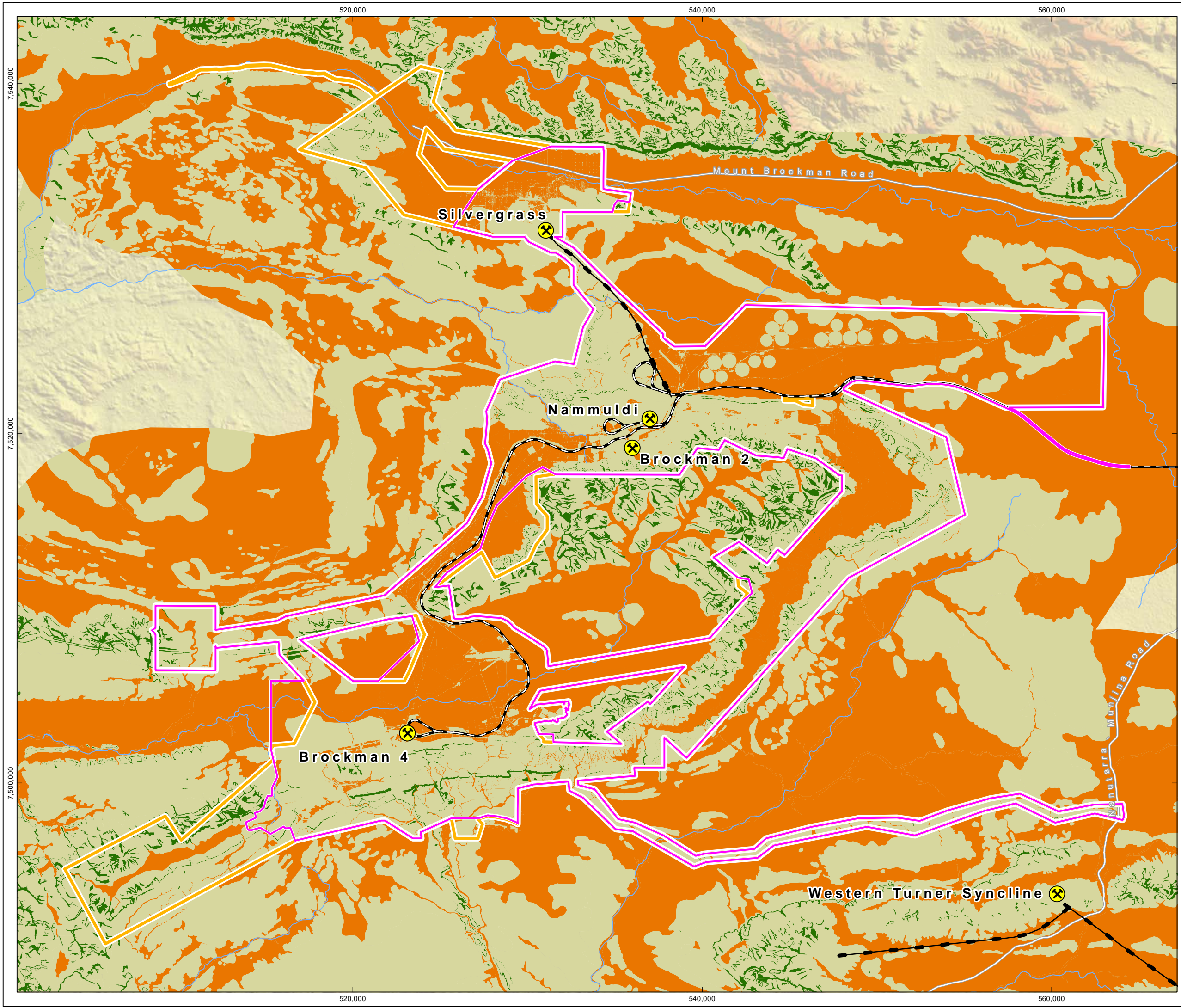


Figure 8-10
Potential Pilbara Leaf-nosed Bat
Habitat Within and Surrounding the
Proposal
Overview

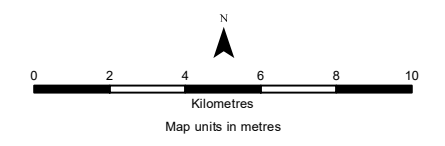
Drawn: L. Fuentes
Plan: PDE0189727v2
Date: May 2023

Proj: GDA 1994 MGA Zone 50
Scale: 1:200,000 @A3
GIS.Team@riotinto.com



Legend

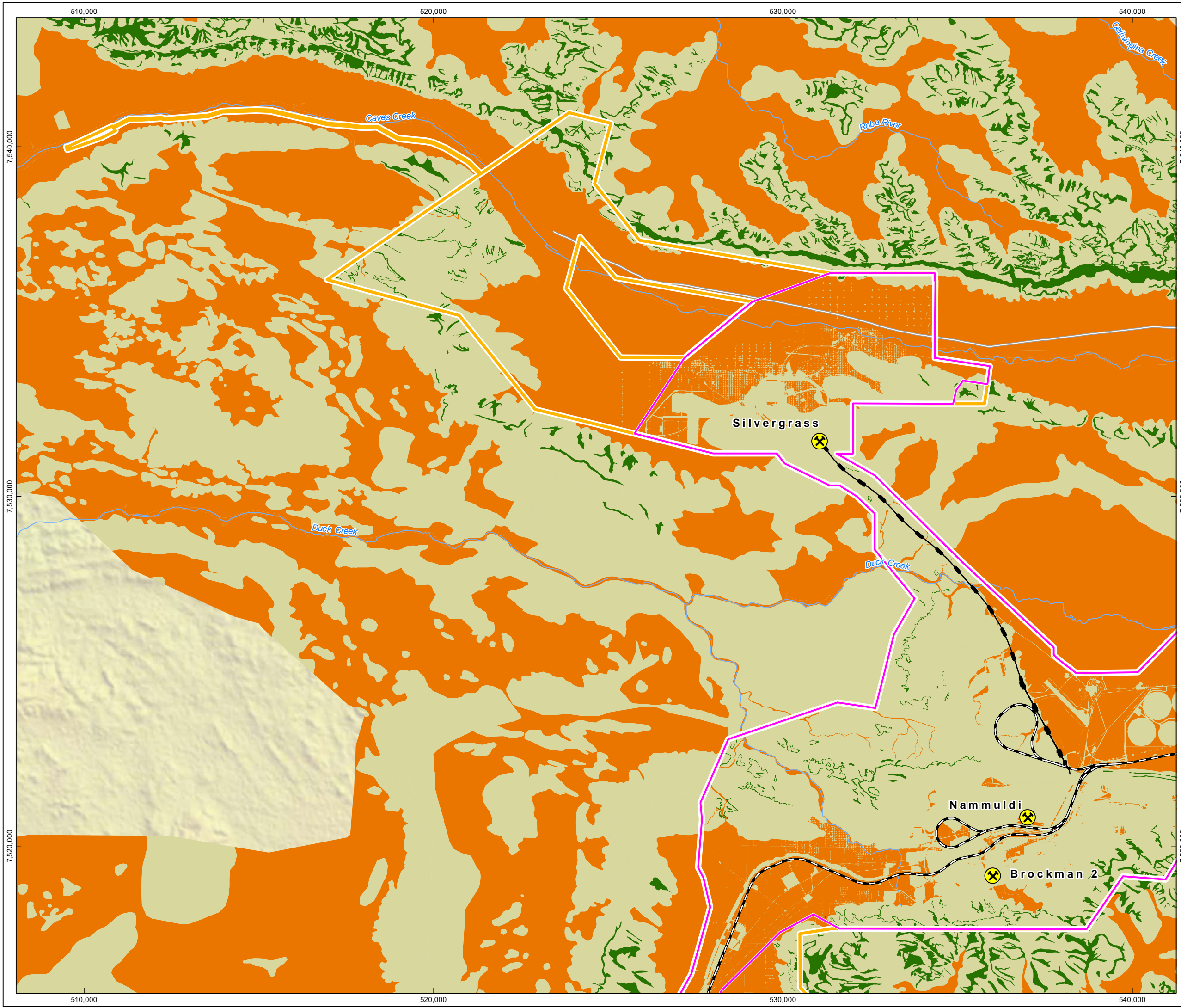
- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality*
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Major Road
- Minor Road
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

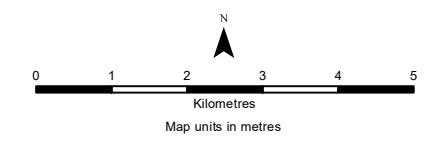
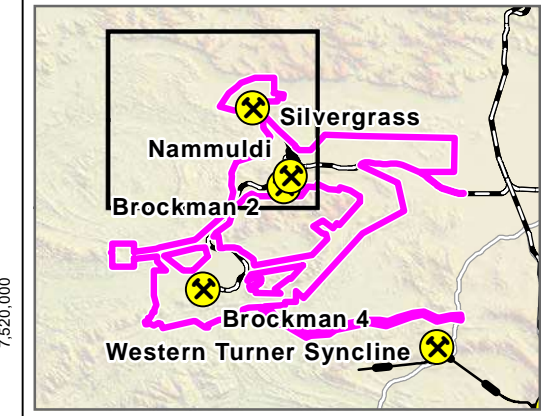
Figure 8-10
Potential Pilbara Leaf-nosed
Bat Habitat Within and Surrounding
the Proposal
Map A

Drawn: L.Fuentes
Plan: PDE0189727v2
Date: May 2023
Proj: GDA 1994 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com



Legend

- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality**
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Minor Road
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

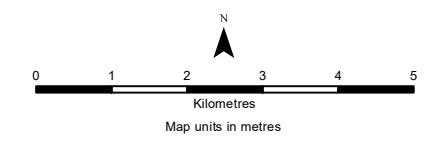
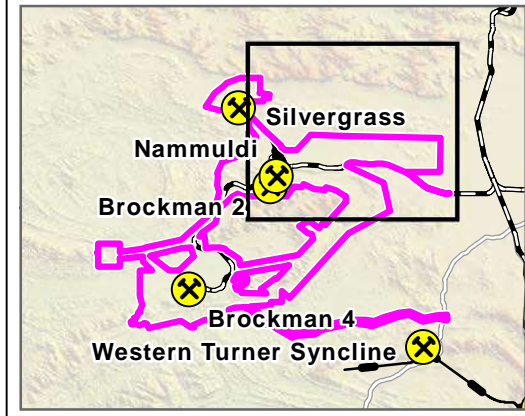
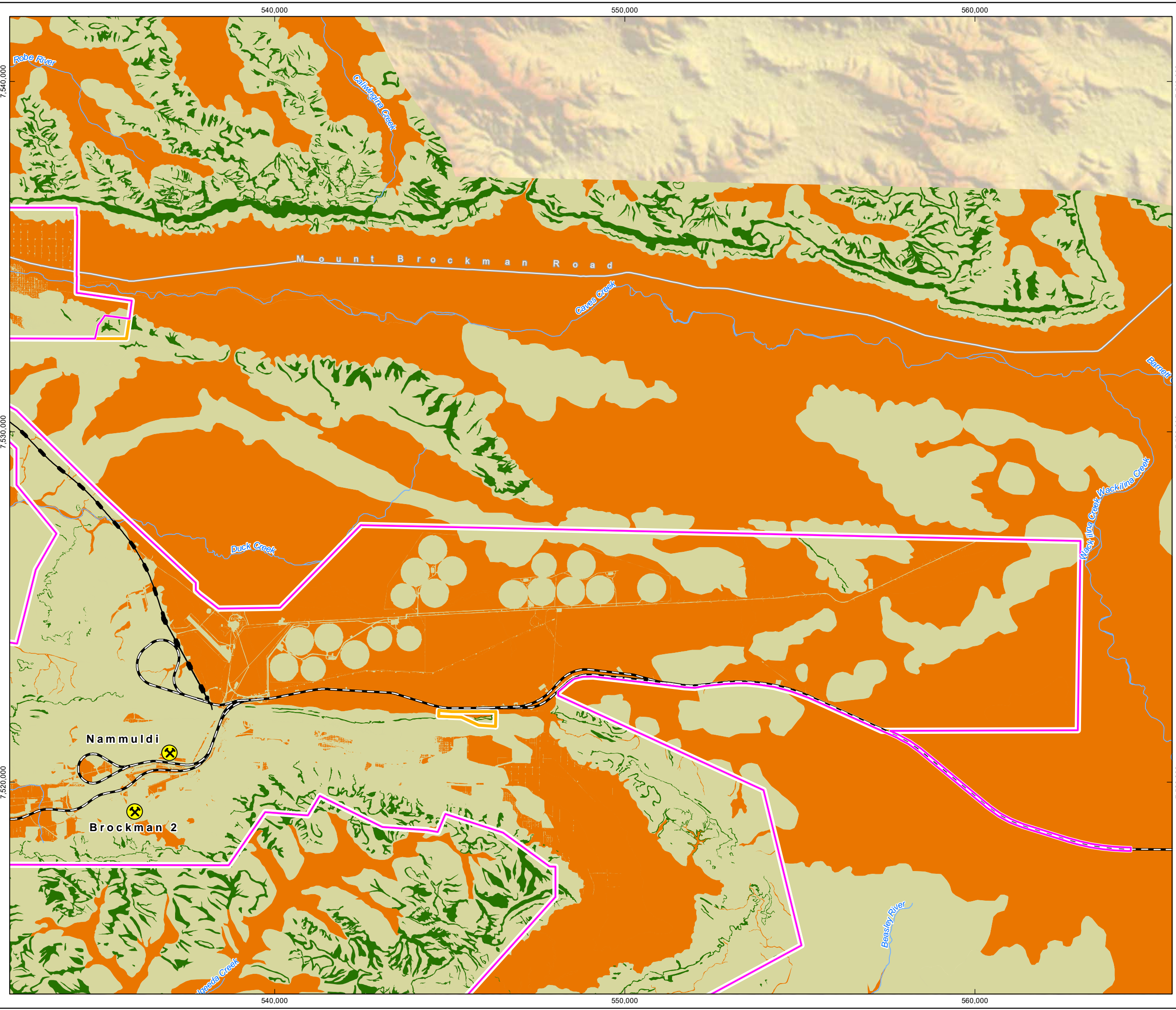
Figure 8-10
Potential Pilbara Leaf-nosed
Bat Habitat Within and Surrounding
the Proposal
Map B

Drawn: L. Fuentes
Plan: PDE0189727v2
Date: May 2023

Proj: GDA 1994 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com

Legend

- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality**
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Minor Road
- Major Creek



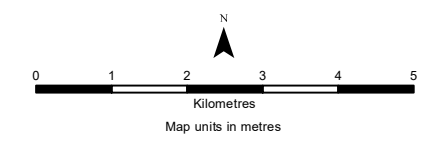
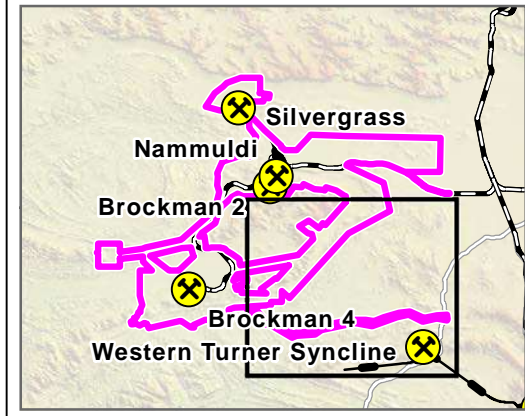
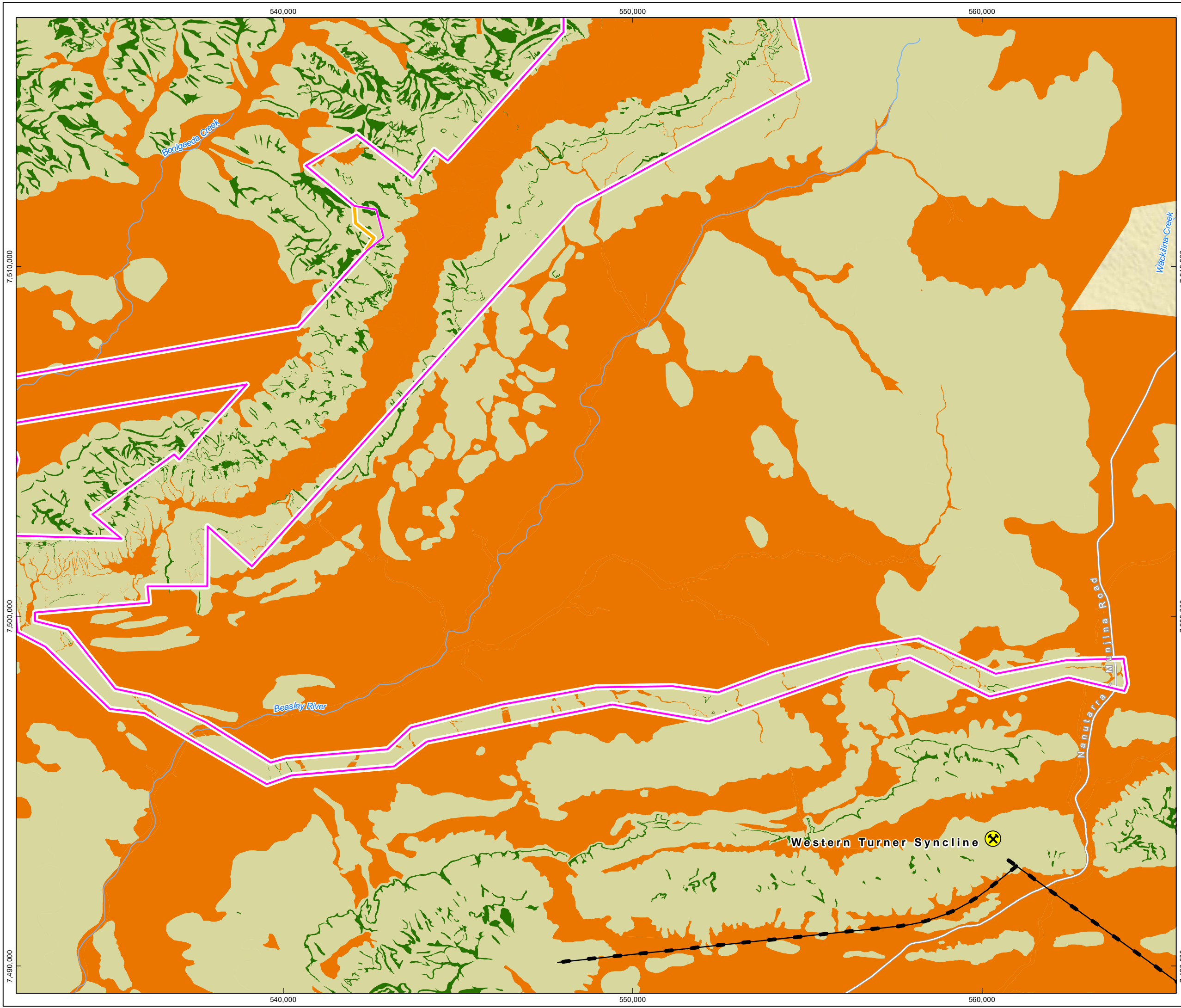
Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

Figure 8-10
Potential Pilbara Leaf-nosed
Bat Habitat Within and Surrounding
the Proposal
Map C

Drawn: L.Fuentes
Plan: PDE0189727v2
Date: May 2023
Proj: GDA 1984 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com

Legend

- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality**
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Conveyor
- Major Road
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

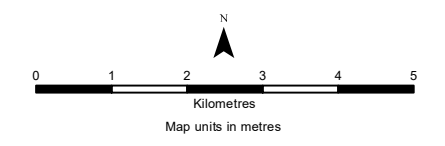
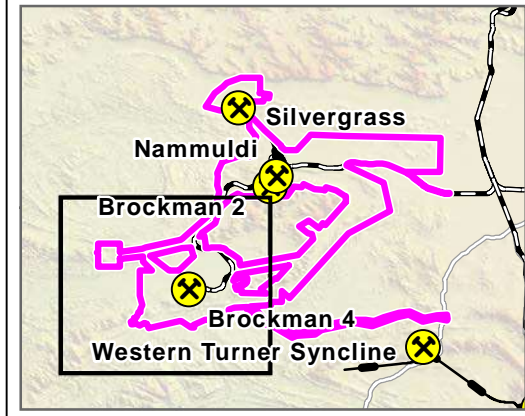
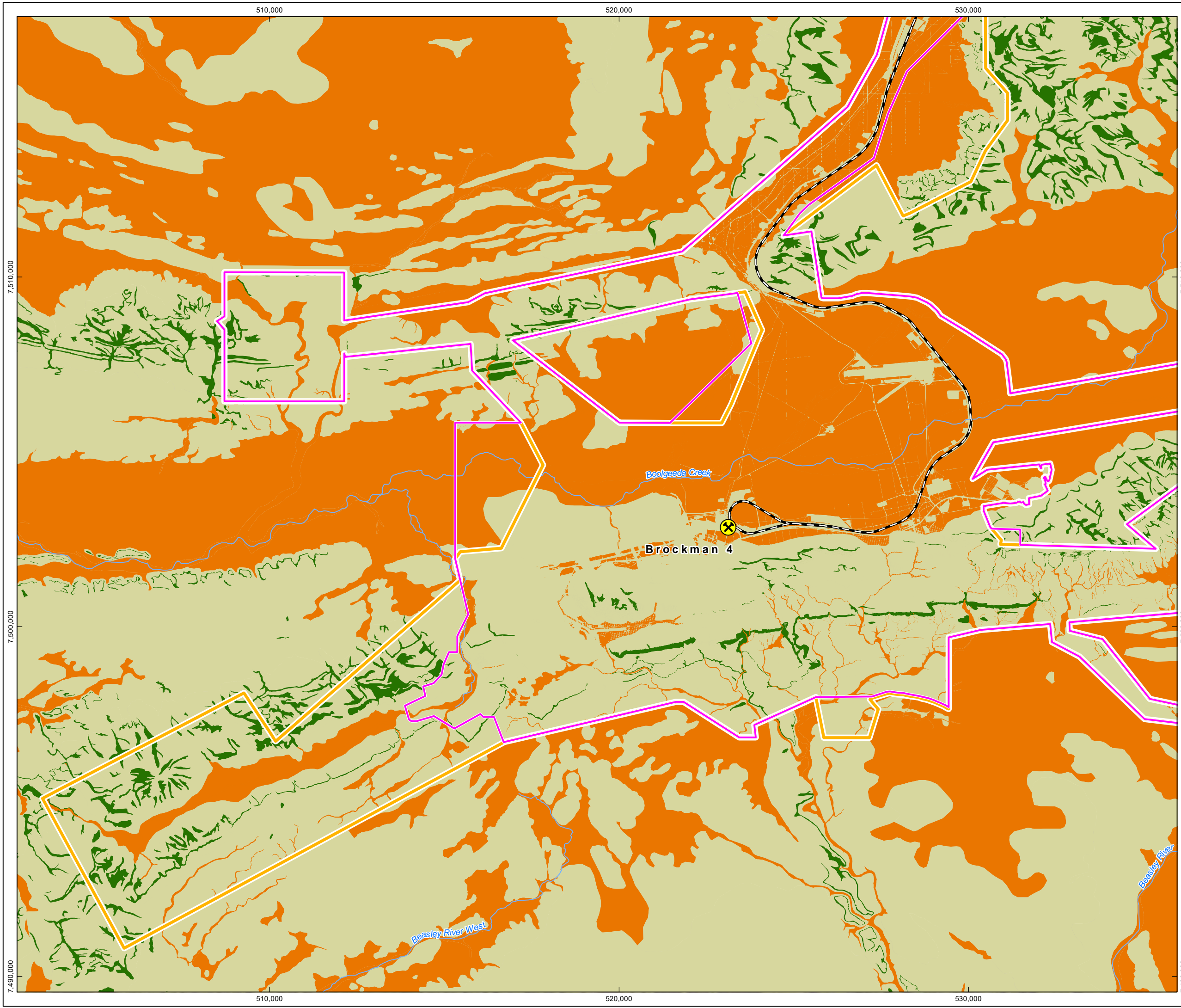
Figure 8-10
Potential Pilbara Leaf-nosed
Bat Habitat Within and
Surrounding the Proposal
Map D

Drawn: L. Fuentes
Plan: PDE0189727v2
Date: May 2023

Proj: GDA 1994 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com

Legend

- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality*
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

Ghost Bat (*Macroderma gigas*)

The Ghost Bat (Plate 8-3) is listed as Vulnerable under the BC Act and EPBC Act. Historically, the Ghost Bat occurred across much of mainland Australia; but its range is now restricted to disjunct populations across parts of northern Australia. In Western Australia, Ghost Bats occur in two separate regions, the Pilbara and the Kimberley (TSSC 2016b).



Source: Perth Zoo, 2022

Plate 8-3: Ghost Bat

The Pilbara population has recently been estimated to comprise between 1,300 and 2,000 individuals (TSSC 2016b). While the Ghost Bat has been recorded in all four biogeographic subregions within the Pilbara, it is mainly known from the Hamersley and Chichester subregions, where colonies utilise natural caves and disused underground mines. (TSSC 2016b).

A total of 173 records of Ghost Bat have been observed within the survey area through several methods, including ultrasonic recordings (35), trapping using white sheets (9), scats (117) and direct observations (comprising both alive (11) and deceased individuals (1)) (Biologic 2022a). Seven records of the Ghost Bat from scats are within the extrapolated area (Biologic 2022a) (Figure 8-11). Additionally, Biologic (2022a) tagged nine individuals and recorded the species from 5,910 detections within the survey area and 29 detections within the extrapolated area by VHF tracking towers in tracking programs relevant to this Proposal.

Genetic analysis of scats identified 75 unique individuals within the survey area, although Biologic (2022a) considers this to be an underestimation of the number of individuals. Out of the individuals

identified, there was an even sex ratio, with 29 females and 29 males and 17 unidentified (Biologic 2022c).

Fauna survey reports (Biota 2016b, Biologic 2020d and Stantec 2020a) describe roost types using the previous classifications maternity, day and night roosts. Robert Bullen, a renowned Chiropterologist (from Bat Call WA), has assessed each cave in the Development Envelope and assigned each roost a category based on the following updated classifications (Bat Call WA 2021a in Appendix E.5):

- Category 1 – Maternity/diurnal roost with large and permanent occupancy
- Category 2 – Maternity/diurnal roost with regular occupancy
- Category 3 – Diurnal roost with occasional occupancy
- Category 4 – Nocturnal roost with opportunistic occupancy.

Caves within the ERD have been classified according to Bat Call (2021a, Appendix E.5).

There are no category 1 caves within the survey area. Bat Call WA (2021a) assessed all category 2 caves as critical habitat. Groupings of category 3 and 4 caves immediately surrounding higher category caves are also considered critical habitat and described as “apartment blocks” that support the viability of the category 2 caves (Bat Call WA 2021a). Bat Call WA (2021a) did not consider isolated category 3 and category 4 caves as critical habitat as these isolated caves are used opportunistically according to the methodology described in Appendix E.5. Examples of each roost category are provided in Plate 8-4, Plate 8-5 and Plate 8-6.

Of the 208 caves known from within the survey area, three are maternity (category 2) roosts, 16 are potential maternity roosts (category 2), seven represent diurnal (category 3) roosts, 86 represent potential diurnal (category 3) roosts, 42 represent night (category 4) roosts, 35 represent potential night (category 4) roosts, and 19 are unknown (however following the precautionary principal these have been classified as potential diurnal (category 3) roosts).

The presence of three category 2 and 16 potential category 2 caves within the survey area suggests that the species resides permanently within the survey area and Development Envelope. The population of Ghost Bats within the survey area forms part of a key source population for breeding and dispersal and is, therefore, an ‘important population’ as defined by DoE (2013) (Biologic 2022a).

Additional caves may be found throughout the survey area; however, it is very unlikely any further caves would provide critical habitat (i.e., category 2 caves) due to the extensive searching and ultrasonic recording results, which identify Ghost Bat activity.

Of the 208 caves known from the survey area, 131 occur within the Development Envelope consisting of one maternity roost (category 2 roost), seven potential maternity roosts (category 2 roost), six diurnal roosts (category 3 roosts), 54 potential diurnal roosts (category 3 roosts), 32-night roosts (category 4 roosts), 13 potential night roosts (category 4 roost) and 18 are unknown (precautionary classification as category 3 roosts) (Table 8-9).

Overall, 12 apartment block roost complexes (comprising a category 2 roost with several other caves, shelters and overhangs within a few hundred meters (totalling 47 roosts)) and four isolated category 2 (without a roost complex) roosts were identified within the survey area (Bat Call WA 2021 a). Of these, six apartment block roost complexes (comprising a total of 20 roosts) and two isolated category 2 roost occur within the Development Envelope (Table 8-9 and Figure 8-12).

Apartment Blocks and isolated category 2 caves are displayed on Figure 8-13. Isolated category 3 and category 4 caves are presented on Figure 8-14.

Because the majority of these roosts are located within Gorge/Gully and Debris Slope/Rocky Outcrop habitats, these habitat types are considered to provide critical breeding and roosting habitat for the species. Records and tracking data obtained from Ghost Bats within the survey area support the limited amount of published literature on the species' movements and habitat preferences. Specifically, the

species commonly forages upon plains, generally within proximity to category 2 and category 3 roosting sites and most commonly moves small distances (approximately 6 km) between roosting sites (Biologic 2022c). For this reason, supporting foraging and dispersal habitat is represented by Alluvial Plain, Colluvial Plain, Hardpan Plain, Major Creekline and Minor Creekline habitats within 5 km of a category 2 or category 3 roost within an apartment block (Figure 8-14).



Plate 8-4: Example of Category 2 Ghost Bat Roost



Plate 8-5: Example of Category 3 Ghost Bat Roost



Plate 8-6: Example of Category 4 Ghost Bat Roost

Table 8-9: Cave Classifications for the Ghost and Pilbara Leaf-nosed Bats within and Surrounding the Proposal

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|------------------------------------|-------------------------|------------|------------|-------------------------------------|--------------------------------------|------------|----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| Inside Development Envelope | | | | | | | |
| B2BAT06 | | X | | No | | X | |
| B4jul16-26-27 | | | X | No | | | X |
| B4jun16-09 | | | | No | | | X |
| B4jun16-36 | | X | | No | | X | |
| B4June16-26 | | | X | No | | | X |
| BS4MM-Aug16-03 | | | X | No | | | X |
| BS4MM-Aug16-04 | | X | | No | | | X |
| BS4MM-Aug16-13 | | X | | No | | | X |
| BS4MM-Aug16-15 | | X | | No | | X | |
| BS4MM-Aug16-18 | | X | | No | | | X |
| BS4MM-Aug16-19 | | X | | No | | | X |
| BS4MMJul16-11 | | X | | No | | | X |
| BS4MMJul16-13 | | X | | No | | | X |
| BS4MMJul16-14 | | X | | No | | | X |
| BS4MMJul16-15 | | X | | No | | | X |
| BS4MMJul16-17 | | X | | No | | | X |
| BS4MMJul16-30 | | X | | No | | X | |
| C1 | | | X | No | | X | |

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-----------|-------------------------|------------|------------|--|--------------------------------------|------------|----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| C2 | | | X | No | | X | |
| C8 | | X | | No | | X | |
| CBRK-000 | | X | | No | | X | |
| CBRK-006 | | | X | No | | X | |
| CBRK-045 | | X | | No | | X | |
| CBRK-052 | | X | | No | | X | |
| CBRK-053 | | X | | No | | X | |
| CBRK-055 | | | X | No | | X | |
| CBRK-057 | | | X | No | | X | |
| CBRK-059 | | X | | No | | X | |
| CBRK-061 | | X | | AB-BS-7 | | X | |
| CBRK-063 | | X | | AB-BS-7 | | X | |
| CBRK-065 | | X | | AB-BS-7 | | X | |
| CBRK-067 | X | | | AB-BS-7 | | X | |
| CBRK-069 | X | | | AB-BS-8 | | X | |
| CBRK-071 | | | X | AB-BS-8 | | X | |
| CBRK-073 | | X | | No | | X | |
| CBRK-074 | | X | | No | | X | |
| CBRK-075 | | | X | No | | X | |
| CBRK-076 | X | | | AB-BS-9 | | X | |

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-----------|-------------------------|------------|------------|--|--------------------------------------|------------|----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| CBRK-077 | | | X | No | | X | |
| CBRK-078 | X | | | AB-SGE-2 | | X | |
| CBRK-079 | | X | | AB-BS-9 | | X | |
| CBRK-080 | | | X | AB-SGE-2 | | X | |
| CBRK-081 | | | X | AB-BS-9 | | X | |
| CBRK-082 | X | | | No | | X | |
| CBRK-083 | | X | | AB-BS-9 | | X | |
| CBRK-084 | | X | | No | | X | |
| CBRK-085 | X | | | AB-BS-9 | | X | |
| CBRK-086 | | X | | No | | X | |
| CBRK-087 | | | X | No | | X | |
| CBRK-089 | | X | | No | | X | |
| CBRK-090 | | | X | No | | X | |
| CBRK-091 | | | X | No | | X | |
| CBRK-092 | | | X | No | | X | |
| CBRK-093 | X | | | AB-BS-10 | | X | |
| CBRK-094 | | | X | No | | X | |
| CBRK-095 | | | X | No | | X | |
| CBRK-096 | | | X | No | | X | |
| CBRK-097 | | | X | No | | X | |

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-----------|-------------------------|------------|------------|--|--------------------------------------|------------|----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| CBRK-098 | | | X | No | | X | |
| CBRK-099 | | X | | No | | X | |
| CBRK-100 | | X | | No | | X | |
| CBRK-101 | | | X | No | | X | |
| CBRK-102 | | | X | No | | X | |
| CBRK-103 | | X | | No | | X | |
| CBRK-104 | | X | | No | | X | |
| CBRK-105 | | | X | No | | X | |
| CBRK-106 | | X | | No | | X | |
| CBRK-107 | | | X | No | | X | |
| CBRK-108 | | X | | No | | X | |
| CBRK-109 | | X | | No | | X | |
| CBRK-110 | | X | | No | | X | |
| CBRK-111 | | X | | No | | X | |
| CBRK-113 | | | X | No | | X | |
| CBRK-116 | | X | | No | | X | |
| CBRK-119 | | X | | No | | X | |
| CBRK-120 | | | X | No | | X | |
| CBRK-121 | | X | | No | | X | |
| CBRK-122 | | | X | No | | X | |

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-----------|-------------------------|------------|------------|--|--------------------------------------|------------|----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| CBRK-123 | | | X | No | | X | |
| CBRK-124 | | | X | No | | X | |
| CBRK-125 | | X | | No | | X | |
| CBRK-126 | | | X | No | | X | |
| CBRK-136 | | | X | No | | X | |
| CBRK-137 | | X | | No | | X | |
| CBRK-138 | | | X | No | | X | |
| CBRK-139 | | X | | No | | X | |
| CBRK-140 | | X | | No | | X | |
| CBRK-141 | | X | | No | | X | |
| CBRK-142 | | | X | No | | X | |
| CBRK-143 | | | X | No | | X | |
| CBRK-144 | | X | | No | | X | |
| CBRK-145 | | | X | No | | X | |
| CBRK-147 | | | X | No | | X | |
| CBRK-148 | | | X | No | | X | |
| CBRK-149 | | | X | No | | X | |
| CBRK-150 | | X | | No | | X | |
| CBRK-151 | | X | | No | | X | |
| CBRK-152 | | | X | No | | X | |

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-----------|-------------------------|------------|------------|--|--------------------------------------|------------|----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| CBRK-153 | | X | | No | | X | |
| CBRK-154 | | X | | No | | X | |
| CBRK-173 | | X | | No | | X | |
| CBRK-174 | | X | | No | | | X |
| CBRK-199 | | | X | No | | X | |
| GBS_CA_03 | | X | | No | | X | |
| GBS_CA_04 | | | X | No | | X | |
| GBS_CA_05 | | X | | No | | X | |
| GBS_CA_06 | | X | | No | | | X |
| GBS_CA_08 | | X | | AB-BS-11 | | | X |
| GBS_CA_09 | | X | | AB-BS-11 | | | X |
| GBS_CA_10 | | X | | AB-BS-11 | | | X |
| GBS_CA_11 | | X | | AB-BS-11 | | | X |
| GBS_CA_12 | | X | | AB-BS-11 | | | X |
| GBS_CA_14 | | X | | AB-BS-11 | | | X |
| GBS_CA_15 | | X | | No | | | X |
| GBS_CA_16 | | | X | No | | | X |
| GBS_CA_17 | X | | | No | | | X |
| GBS_CA_18 | | X | | No | | | X |
| GBS_CA_20 | | X | | No | | | X |

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-------------------------------------|-------------------------|------------|------------|--|--------------------------------------|------------|-----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| GBS_CA_21 | | X | | No | | | X |
| GBS_CA_22 | | X | | No | | | X |
| MAMBAT81-01 | | X | | No | | X | |
| MAMBAT93-01 | | X | | No | | X | |
| MAMCAM11-01 | | X | | No | | X | |
| MMBAT01 | | X | | No | | X | |
| MMBAT02 | | X | | No | | X | |
| MMBAT03 | | X | | No | | X | |
| MMBAT04 | | X | | No | | X | |
| MME05 | | X | | No | | X | |
| MME06 | | X | | No | | | X |
| NWTBAT01 | | X | | No | | X | |
| NWTBAT02 | | X | | No | | X | |
| Subtotal | 8 | 78 | 45 | N/A | 0 | 102 | 29 |
| Outside Development Envelope | | | | | | | |
| C3 | X | | | AB-SGE-1 | | X | |
| C4 | X | | | AB-SGE-1 | | X | |
| C5 | | X | | AB-SGE-1 | | X | |
| C6 | | | X | AB-SGE-1 | | X | |

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-----------|-------------------------|------------|------------|--|--------------------------------------|------------|----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| C7 | | | X | AB-SGE-1 | | | X |
| CBKT-04 | | | X | No | | X | |
| CBRK-001 | | | X | No | | X | |
| CBRK-002 | | | X | No | | X | |
| CBRK-003 | | | X | No | | X | |
| CBRK-004 | | | X | No | | X | |
| CBRK-005 | X | | | AB-BS-2 | | X | |
| CBRK-007 | X | | | AB-BS-2 | | X | |
| CBRK-008 | | X | | AB-BS-3 | | X | |
| CBRK-009 | | | X | AB-BS-4 | | X | |
| CBRK-010 | | X | | AB-BS-3 | | X | |
| CBRK-011 | | | X | AB-BS-2 | X | | |
| CBRK-012 | | X | | No | | X | |
| CBRK-013 | | | X | No | | X | |
| CBRK-014 | X | | | AB-BS-5 | | X | |
| CBRK-015 | X | | | No | | X | |
| CBRK-016 | | X | | AB-BS-5 | | X | |
| CBRK-017 | | X | | No | | X | |
| CBRK-018 | | X | | No | | X | |

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-----------|-------------------------|------------|------------|--|--------------------------------------|------------|----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| CBRK-020 | | | X | No | | X | |
| CBRK-021 | X | | | AB-BS-4 | | X | |
| CBRK-022 | | X | | No | | X | |
| CBRK-023 | | | X | AB-BS-4 | | X | |
| CBRK-024 | | | X | No | | X | |
| CBRK-025 | | | X | AB-BS-4 | | X | |
| CBRK-026 | | X | | No | | X | |
| CBRK-028 | | X | | No | | X | |
| CBRK-030 | | | X | No | | X | |
| CBRK-031 | | X | | No | | X | |
| CBRK-032 | | | X | No | | X | |
| CBRK-033 | | X | | Ab-BS-4 | | X | |
| CBRK-034 | | X | | No | | X | |
| CBRK-035 | | X | | AB-BS-4 | | X | |
| CBRK-036 | | X | | No | | X | |
| CBRK-037 | | | X | AB-BS-4 | | X | |
| CBRK-038 | X | | | No | | X | |
| CBRK-039 | | | X | AB-BS-4 | | X | |
| CBRK-040 | | | X | No | | X | |

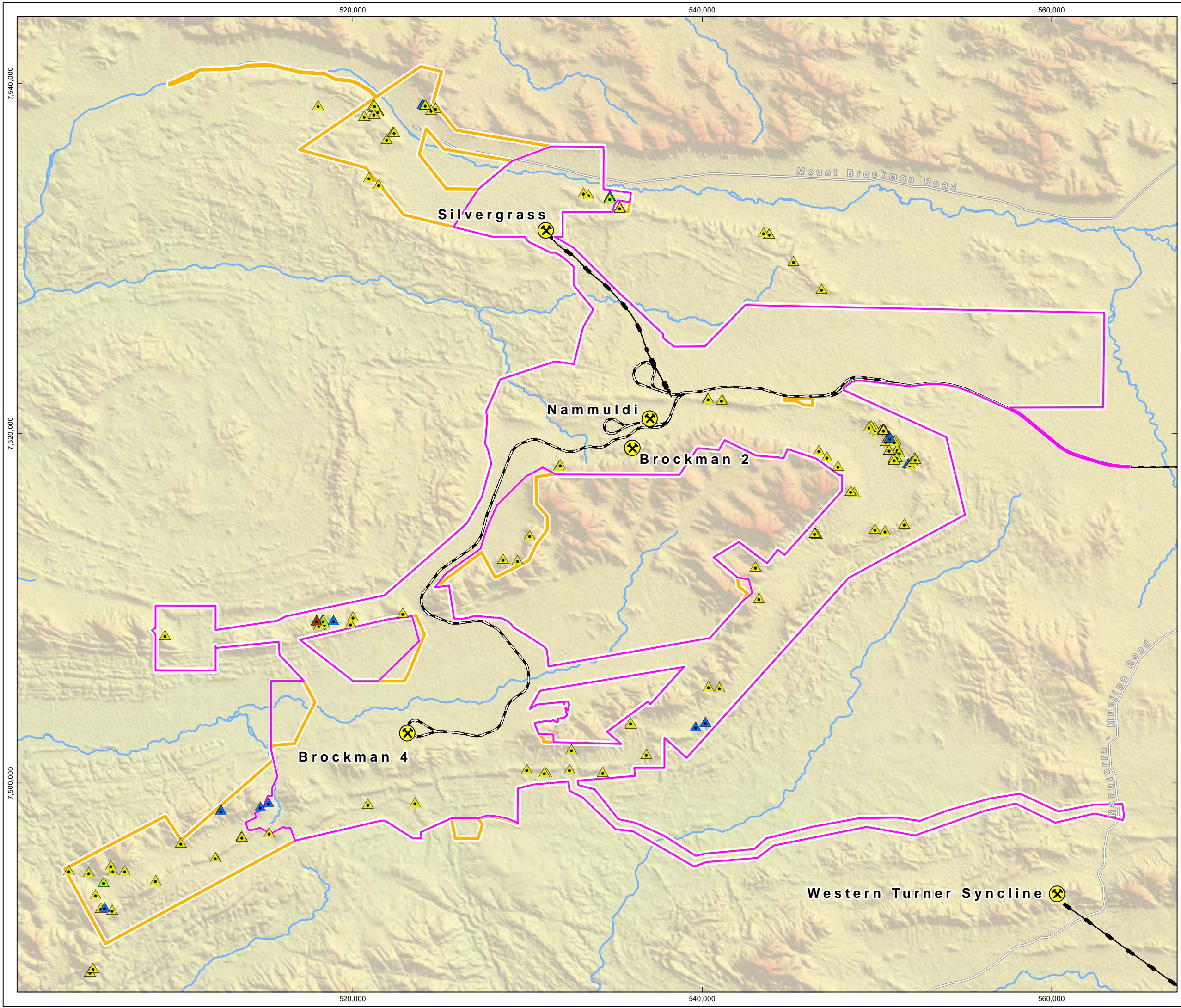
| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-----------|-------------------------|------------|------------|--|--------------------------------------|------------|----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| CBRK-041 | | | X | No | | X | |
| CBRK-042 | | X | | AB-BS-5 | | X | |
| CBRK-043 | | X | | No | | X | |
| CBRK-044 | | X | | No | | X | |
| CBRK-046 | X | | | No | | X | |
| CBRK-047 | | X | | No | | X | |
| CBRK-048 | | | X | No | | X | |
| CBRK-049 | | | X | No | | X | |
| CBRK-050 | | | X | No | | X | |
| CBRK-051 | | X | | No | | X | |
| CBRK-054 | | | X | No | | X | |
| CBRK-056 | | X | | No | | X | |
| CBRK-058 | | X | | AB-BS-6 | | X | |
| CBRK-060 | X | | | AB-BS-6 | | X | |
| CBRK-062 | | | X | No | | X | |
| CBRK-064 | | | X | No | | X | |
| CBRK-066 | | X | | No | | X | |
| CBRK-068 | | | X | No | | X | |
| CBRK-070 | | | X | No | | X | |

| Cave Name | Ghost Bat Cave Category | | | Ghost Bat within an Apartment Block | Pilbara Leaf-nosed Bat Cave Category | | |
|-----------------|-------------------------|------------|------------|--|--------------------------------------|------------|-----------|
| | Category 2 | Category 3 | Category 4 | | Category 3 | Category 4 | No Usage |
| CBRK-072 | | | X | No | | X | |
| CBRK-088 | | X | | No | | X | |
| CBRK-112 | | X | | No | | | X |
| CBRK-114 | | X | | No | | X | |
| CBRK-115 | | | X | No | | X | |
| CBRK-146 | | X | | No | | X | |
| CBRK-175 | | X | | No | | X | |
| CBRK-176 | | X | | No | | X | |
| CBRK-177 | | X | | No | | | X |
| CBRK-178 | X | | | No | | X | |
| GBS_CA_01 | | | X | No | | X | |
| GBS_CA_02 | | X | | No | | X | |
| GBS_CA_07 | | X | | No | | | X |
| GBS_CA_13 | | X | | No | | | X |
| GBS_CA_19 | | | X | No | | | X |
| SIV15EH | | X | | No | | X | |
| Subtotal | 11 | 34 | 32 | N/A | 1 | 70 | 6 |
| Total | 19 | 112 | 77 | | 1 | 172 | 35 |

Figure 8-11
Ghost Bat Records within and Surrounding the Proposal

Drawn: L.Fuentes
Plan: PDE0189728v1
Date: July 2022

Proj: GDA 1994 MGA Zone 50
Scale: 1:200,000 @A3
GIS.Team@riotinto.com



Legend

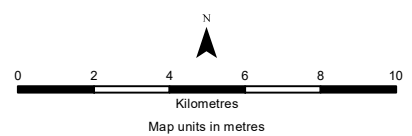
- Development Envelope
- Survey Area

Macroderma gigas (VU) (Ghost)

Sampling Method

- Audio recording
- Echolocation Recording
- Opportunistic
- Secondary Observation
- Targeted Searches
- Trapping

- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Major Road
- Minor Road
- Major Creek

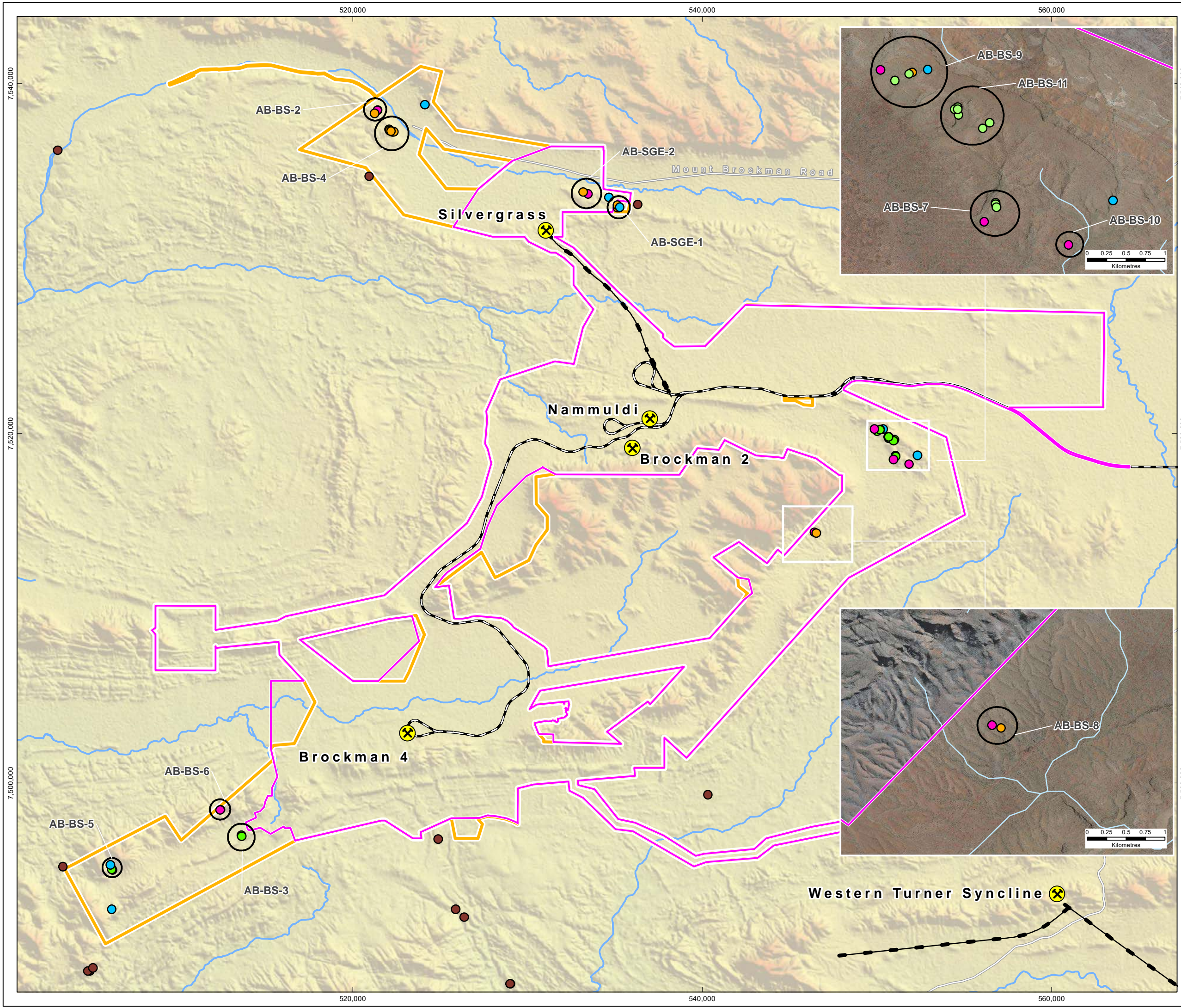


Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

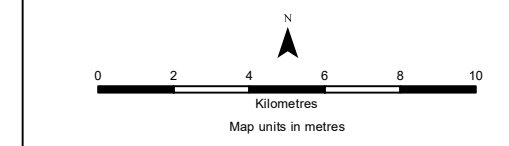
Figure 8-12
Apartment Block and Isolated
Category 2 Ghost Bat Roosts
within and Surrounding the Proposal

Drawn: L. Fuentes
 Plan: PDE0189729v2
 Date: May 2023

Proj: GDA 1984 MGA Zone 50
 Scale: 1:200,000 @A3
 GIS.Team@riotinto.com



- Legend**
- Development Envelope
 - Survey Area
 - Apartment Block
- Ghost Bat Roosts**
- Isolated Category 2
 - Apartment Block Category 2
 - Apartment Block Category 3
 - Apartment Block Category 4
 - Unclassified
- ⊗ Rio Tinto Mine
 - Rio Tinto Railway
 - Conveyor
 - Major Road
 - Minor Road
 - Major Creek
 - Minor Creek

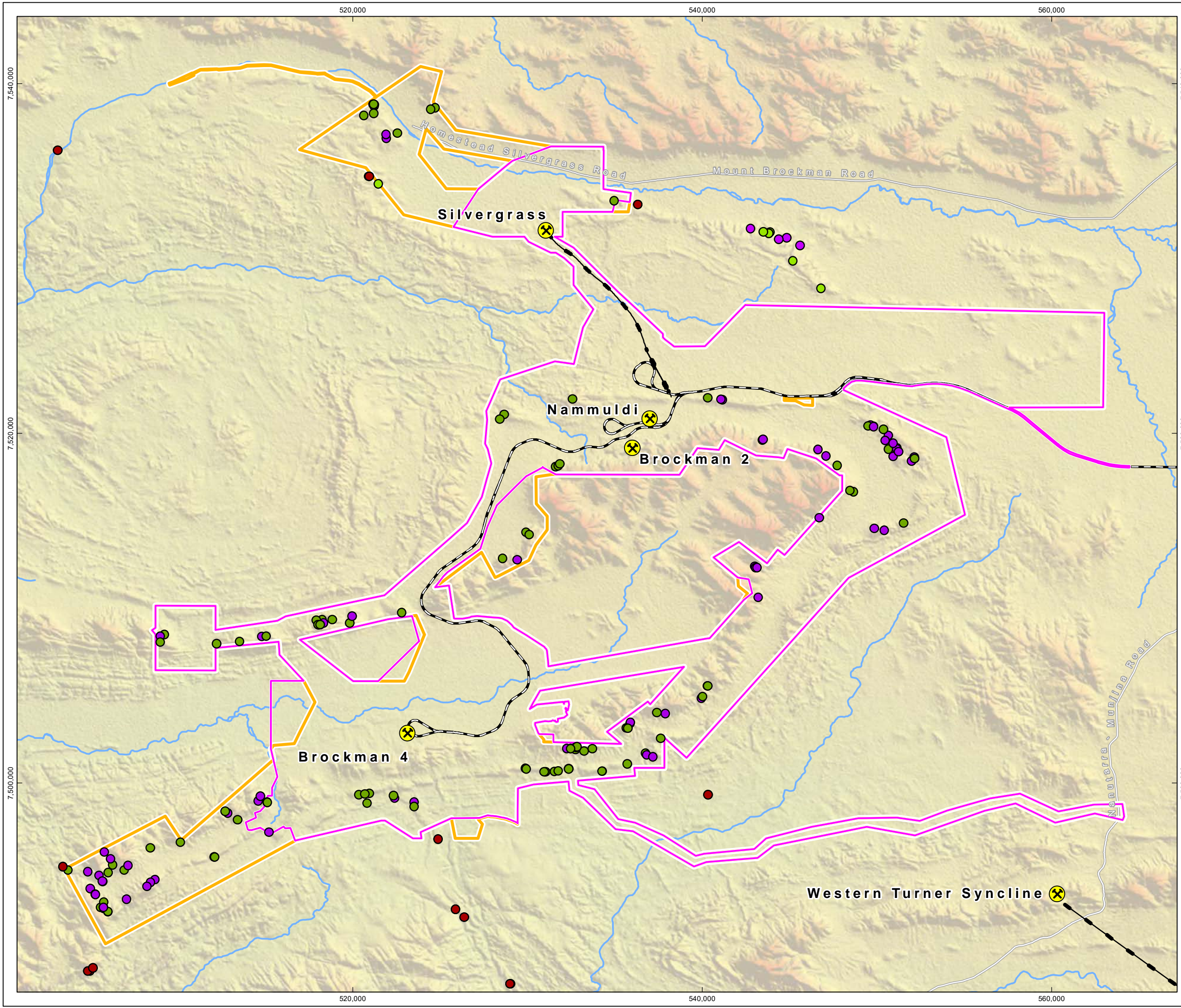


Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

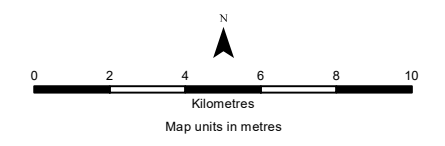
Figure 8-13
Category 3 and 4 Ghost Bat Roosts
within and Surrounding the Proposal

Drawn: L.Fuentes
Plan: PDE0189730v1
Date: August 2022

Proj: GDA 1994 MGA Zone 50
Scale: 1:200,000 @A3
GIS.Team@riotinto.com



- Legend**
- Development
 - Survey Area
 - Ghost Bat Roosts**
 - Category 3
 - Category 4
 - Unclassified
 - Rio Tinto Mine
 - Rio Tinto Railway
 - Conveyor
 - Major Road
 - Minor Road
 - Major Creek

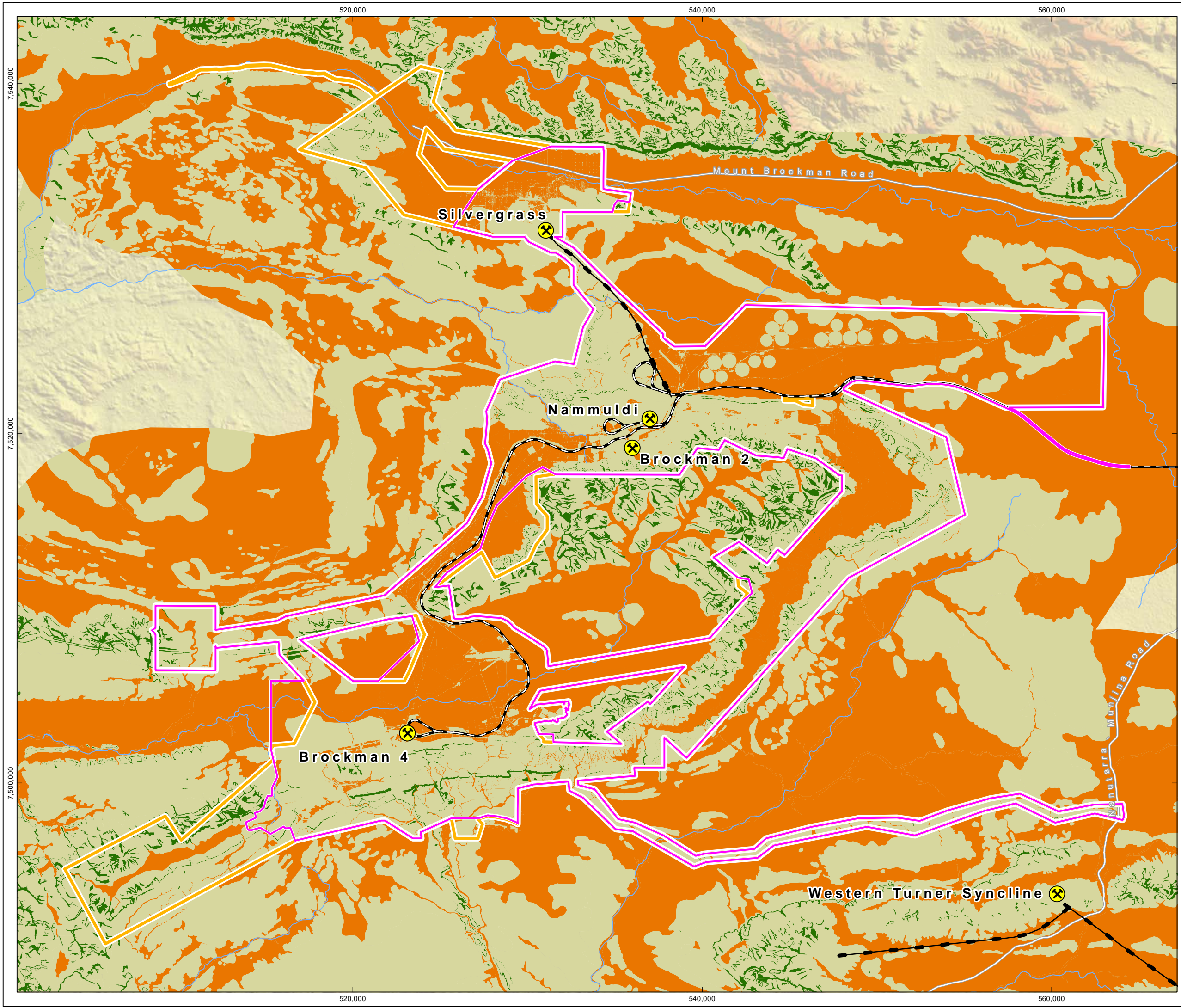


Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

Figure 8-14
Potential Ghost Bat Habitat within
and Surrounding the Proposal
Overview

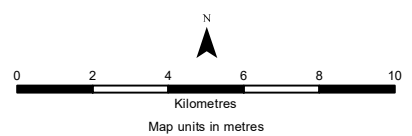
Drawn: L. Fuentes
Plan: PDE0189727v2
Date: May 2023

Proj: GDA 1994 MGA Zone 50
Scale: 1:200,000 @A3
GIS.Team@riotinto.com



Legend

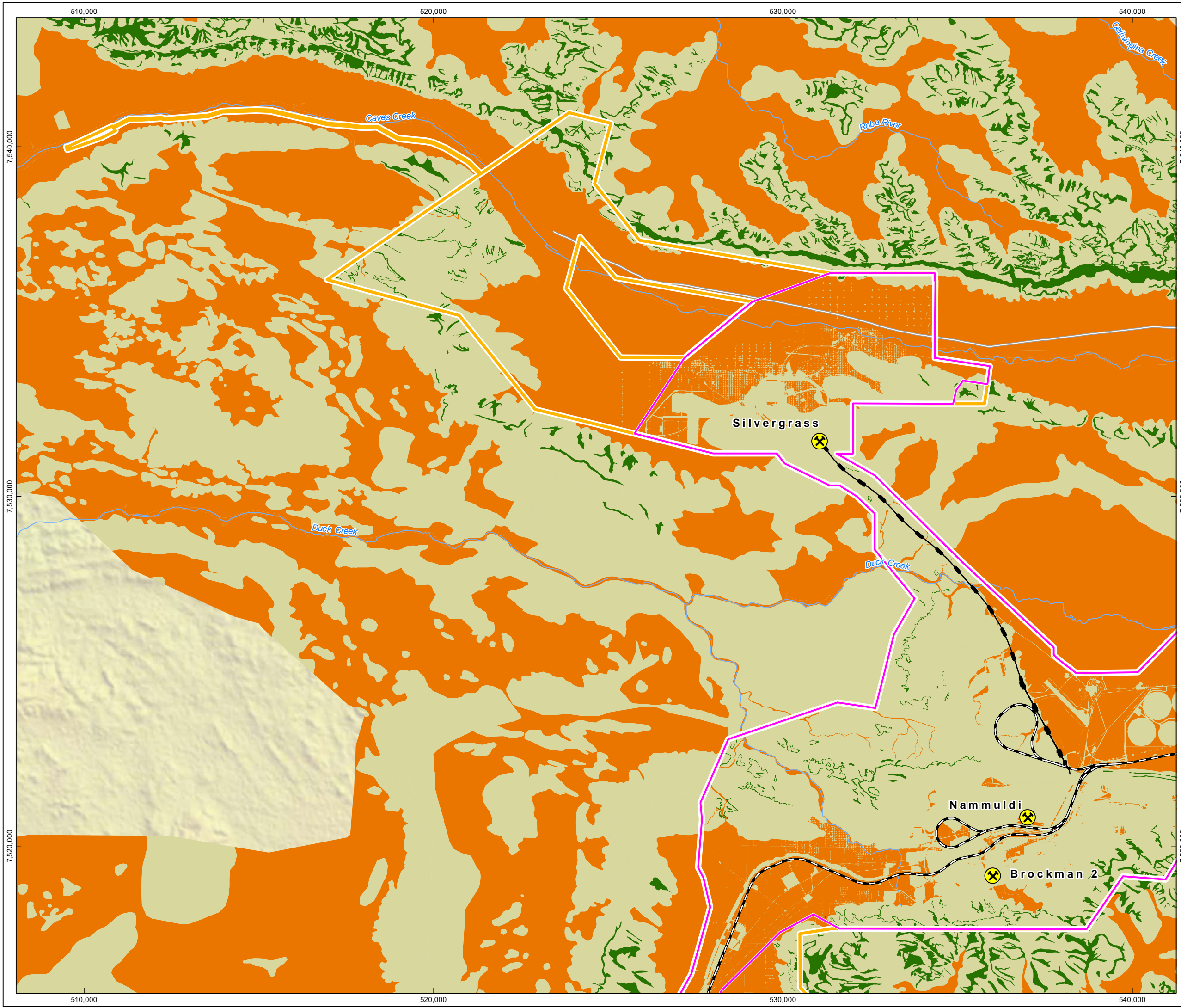
- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality*
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Major Road
- Minor Road
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

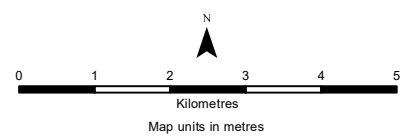
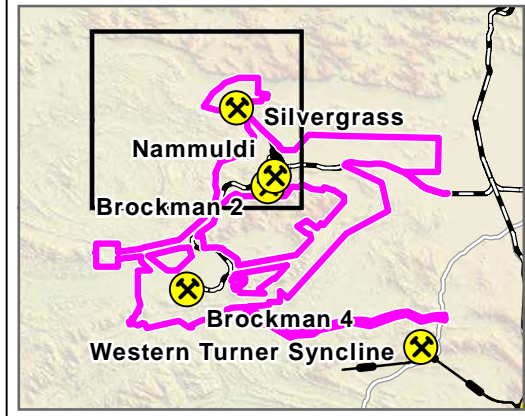
Figure 8-14
Potential Ghost Bat Habitat within
and
Surrounding the Proposal
Map A

Drawn: L.Fuentes
Plan: PDE0189727v2
Date: May 2023
Proj: GDA 1994 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com



Legend

- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality**
- Critical Habitat
- Supporting Habitat
- Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Minor Road
- Major Creek



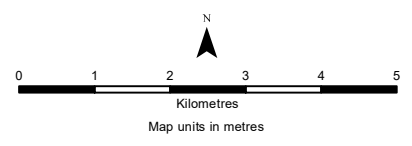
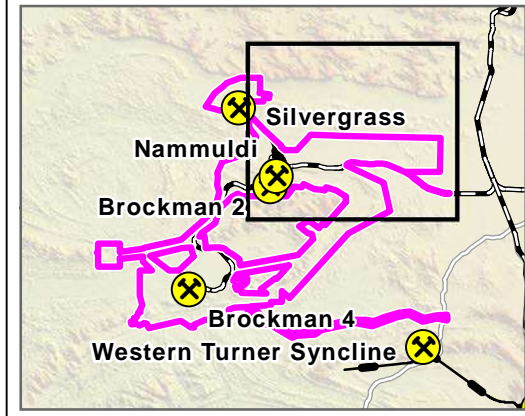
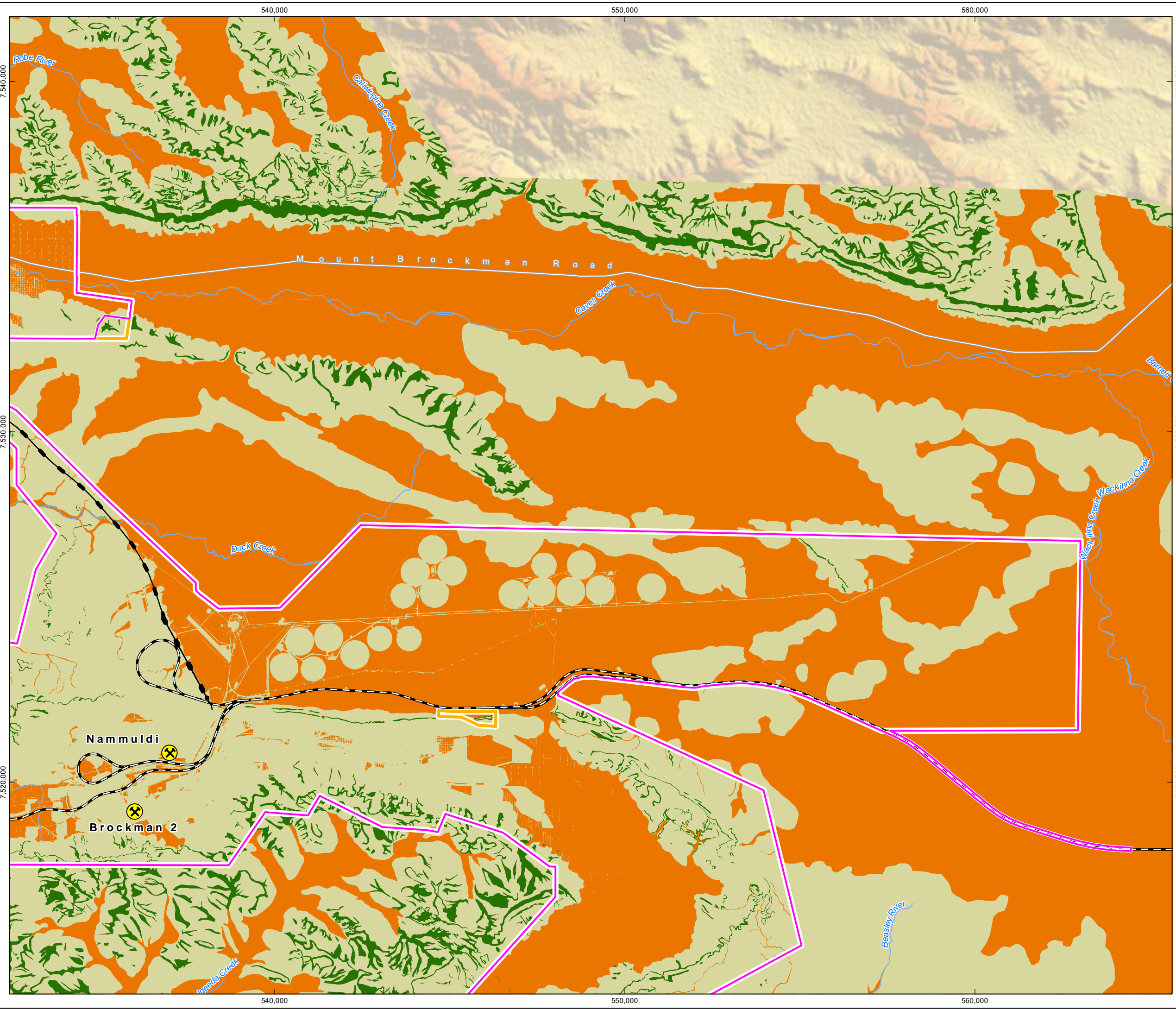
Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

Figure 8-14
Potential Ghost Bat Habitat within
and
Surrounding the Proposal Map B

Drawn: L.Fuentes
Plan: PDE0189727v2
Date: May 2023
Proj: GDA 1994 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com

Legend

- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality*
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Minor Road
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

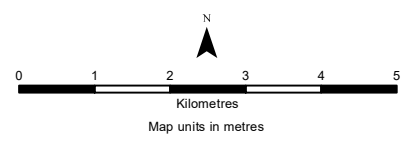
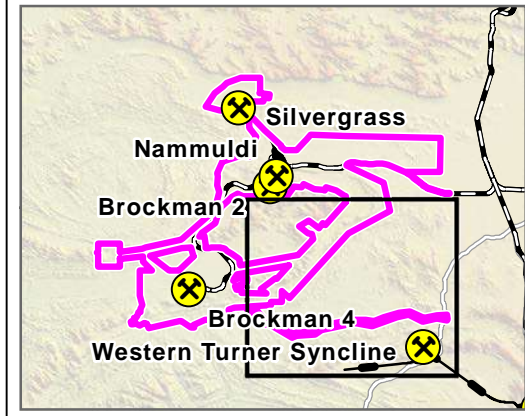
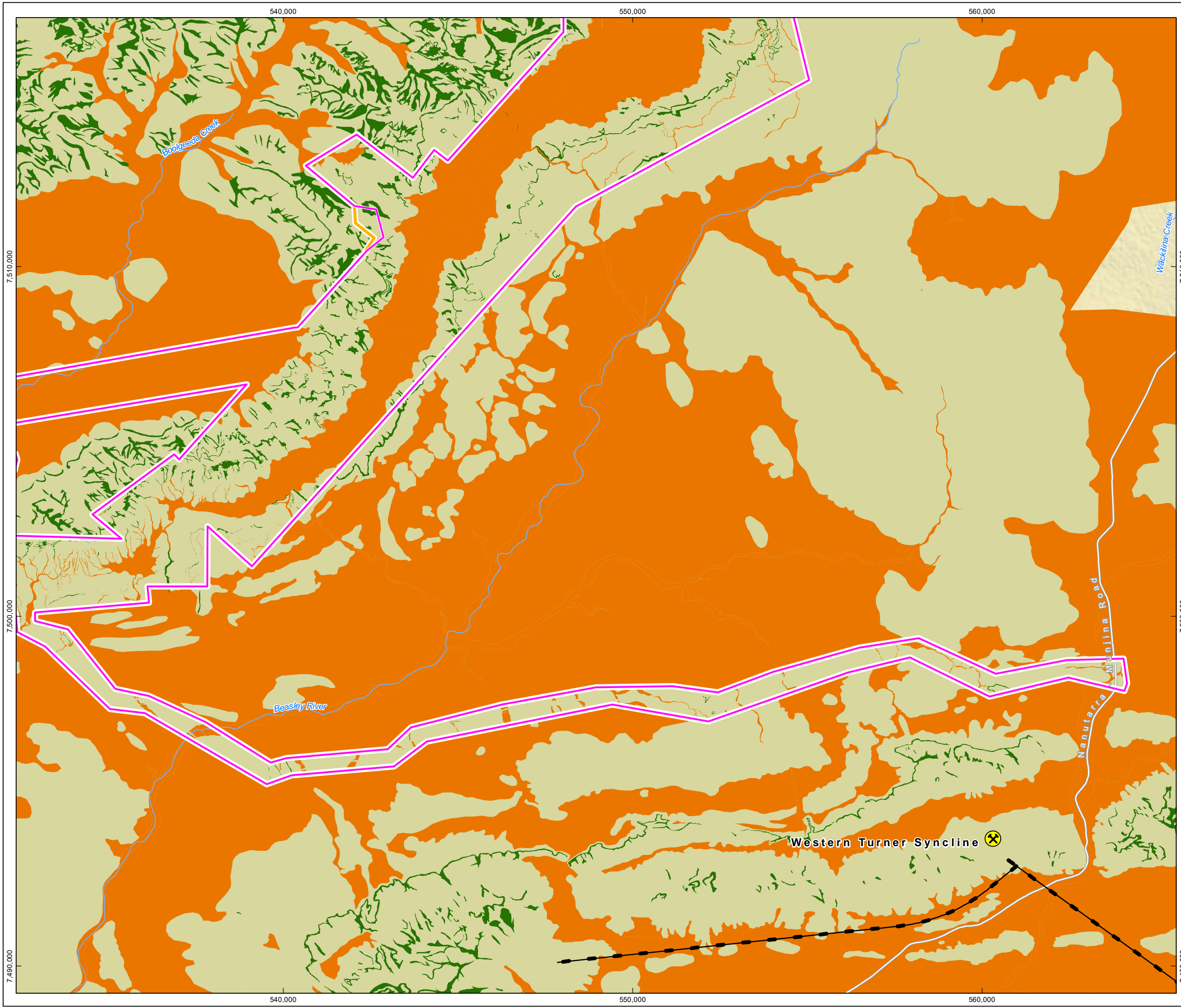
Figure 8-14
Potential Ghost Bat Habitat within
and
Surrounding the Proposal Map C

Drawn: L. Fuentes
Plan: PDE0189727v2
Date: May 2023

Proj: GDA 1994 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com

Legend

- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality*
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Conveyor
- Major Road
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

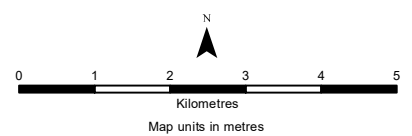
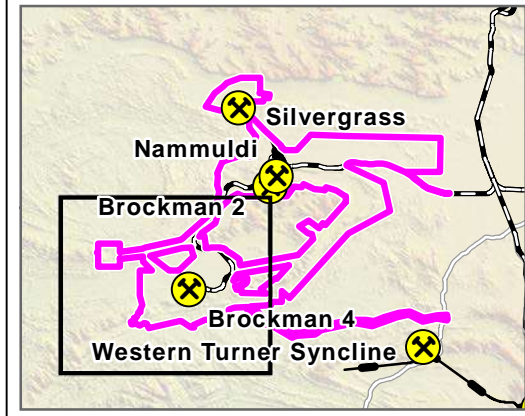
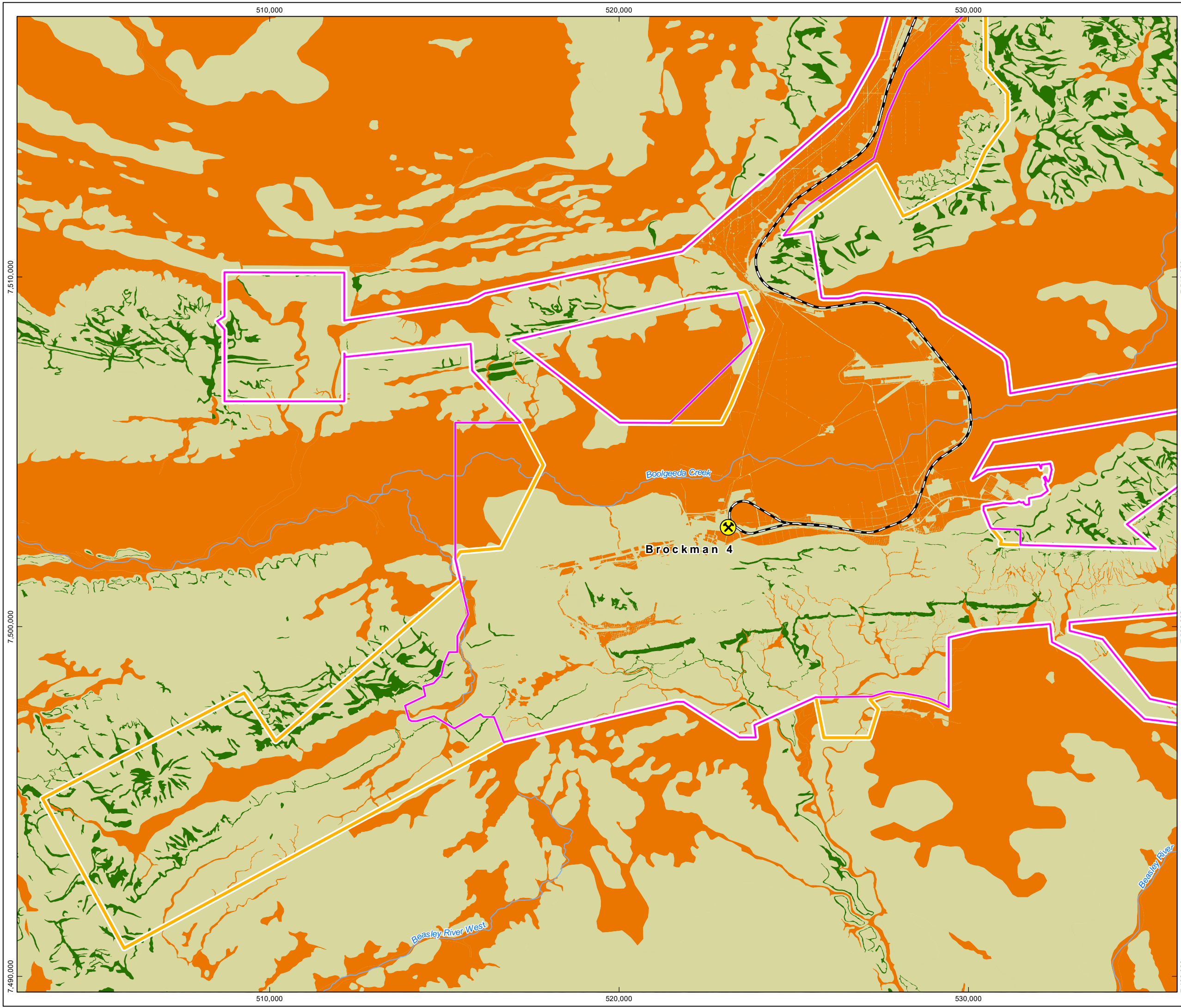
Figure 8-14
Potential Ghost Bat Habitat within
and
Surrounding the Proposal Map D

Drawn: L. Fuentes
Plan: PDE0189727v2
Date: May 2023

Proj: GDA 1994 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com

Legend

- Development Envelope
- Survey Area
- Pilbara Leaf-nosed Bat Habitat Quality*
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

Pilbara Olive Python (*Liasis olivaceus barroni*)

The Pilbara Olive Python (Plate 8-7) is listed as Vulnerable under the BC Act and EPBC Act. The species is Western Australia's largest snake, averaging 2.5 m, with records up to 4.5 m (Bush & Maryan, 2011; Cogger, 2014). It is endemic to the Pilbara and northern parts of the Gascoyne bioregions, distributed from Burrup Peninsula, Ord Ranges and Meentheena south to Nanutarra and Newman in the Pilbara, with an isolated population occurring at Mt Augustus in the Gascoyne region (Bush & Maryan 2011; Storr et al. 2002).



Source: Rio Tinto

Plate 8-7: Pilbara Olive Python

Pilbara Olive Pythons have been recorded on 12 occasions within the survey area from 2009 to 2021. Of the 12 records of this species, seven were direct observations (comprising six live individuals and one dead individual), and five were records of secondary evidence, comprising sloughs (3) and scats (2). Five of the live individuals were recorded at Plunge Pool. One additional scat was found 300 m northwest of the survey area. Of the live individuals recorded, one was a juvenile, and one was an adult, while the other four individuals' age was not specified (Biologic 2022a) (Figure 8-15).

Despite the low number of records, it is expected that the species will occur throughout the survey area. The survey area supports a healthy breeding population, as evident by the demographic recorded. For this reason, the Pilbara Olive Python population within the survey area is likely to represent a key source population for breeding and dispersal. Therefore, it could be regarded as an 'important population' as defined by DoE (2013) (Biologic 2022a).

Pilbara Olive Pythons can be found in a variety of habitats but are found more often in moist habitats such as gorges, rivers, pools, and surrounding hills (Burbidge 2004; DSEWPaC 2011b). In the Hamersley region, this species is often noted near permanent waterholes in rocky ranges or among riverine vegetation (DSEWPaC 2011b; Pearson 1993). The species is most active in the summer

months soon after dark, emerging from daytime shelters and foraging until the early morning hours (DSEWPaC 2011b). Individuals spend the cooler winter months within caves and rock crevices away from water sources. Individuals occupy distinct home ranges (87 to 449 ha), and males can travel distances of up to 4 km during the breeding season (June to August) to locate females (DotEE 2019).

The Gorge/Gully and Debris Slope/Rocky Outcrop habitats provide critical breeding and shelter habitats. Additionally, Major Creekline and Minor Creekline habitats provide supporting foraging and dispersal habitat for the species, particularly in areas adjacent to or providing connectivity between Gorge/Gully and Debris Slope/Rocky Outcrop habitats (Figure 8-16). For this assessment, supporting habitat is defined as foraging and dispersal habitat within 1 km of known Pilbara Olive Python records.

Key surface water features (Figure 8-16) associated with gullies and gorges within the survey area include:

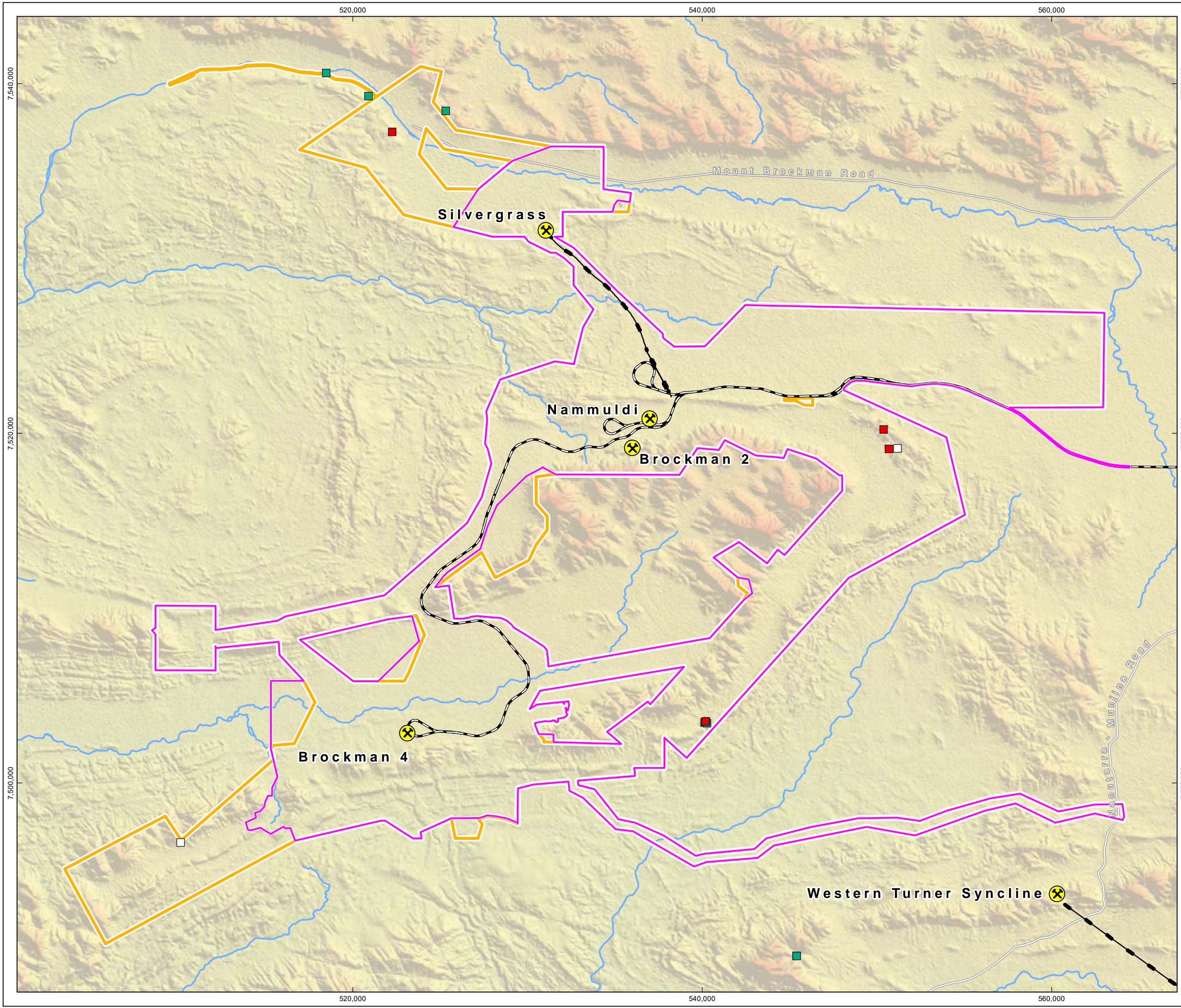
- Plunge Pool is a permanent water feature in BS4 assessment area
- Ridge Pool is a surface water driven pool (outside the Development Envelope) with reduced evaporation from shading from a nearby overhanging rock shelf.

All remaining water features are still likely to provide important habitat for the species, though this will be limited to periods when inundated with water, primarily following large rainfall events. These smaller, ephemeral pools are only present after rainfall when water is widely available and therefore not considered critical habitat.

Figure 8-15
Pilbara Olive Python Records within
and Surrounding the Proposal

Drawn: L.Fuentes
Plan: PDE0189732v1
Date: July 2022

Proj: GDA 1994 MGA Zone 50
Scale: 1:200,000 @A3
GIS.Team@riotinto.com



Legend

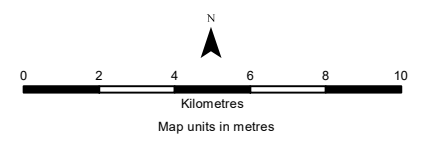
- Development Envelope
- Survey Area

Liasis olivaceus barroni (VU) (Pilbara Olive Python)

Sampling Method

- Secondary observation
- Opportunistic
- Systematic
- Targeted

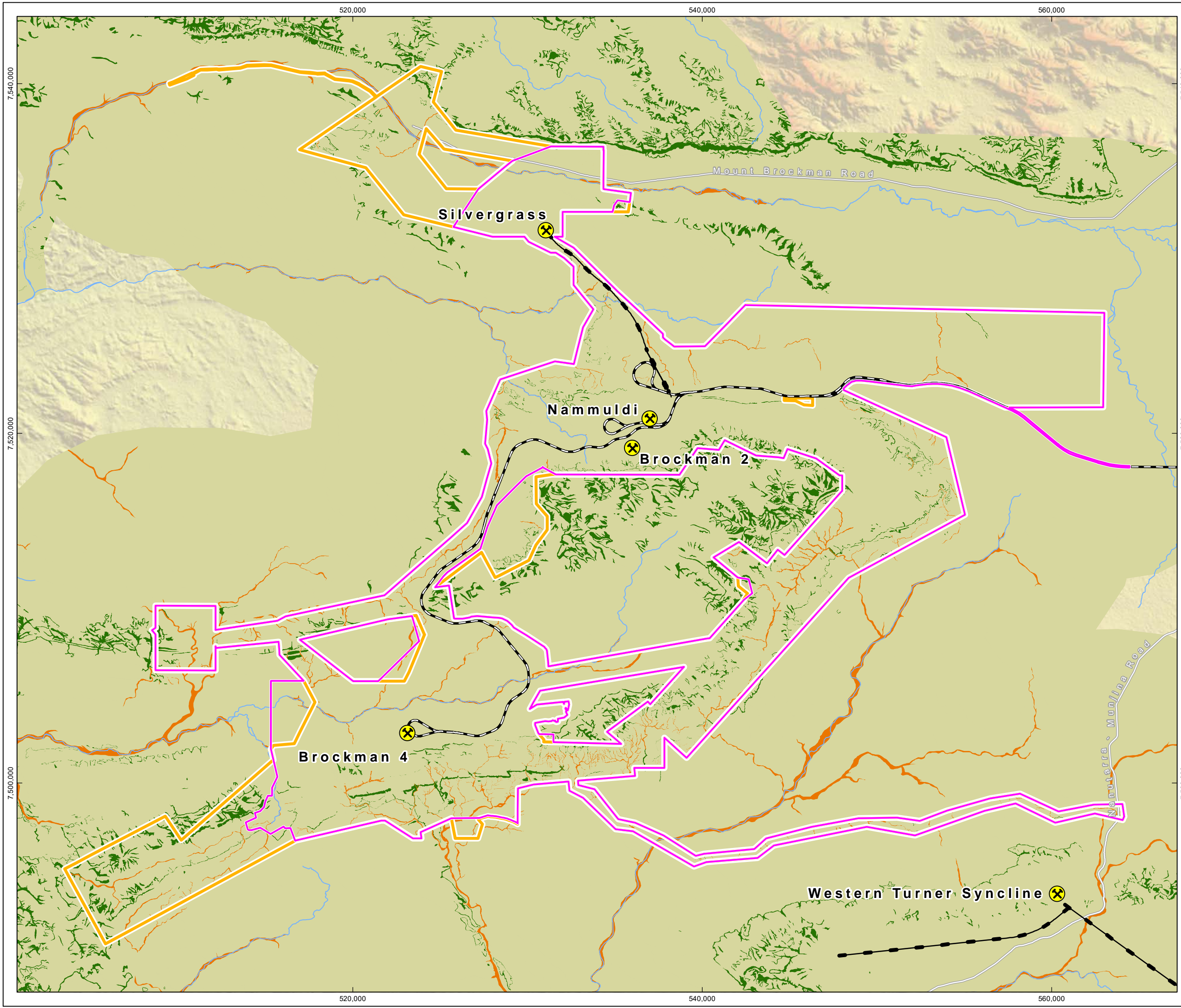
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Major Road
- Minor Road
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

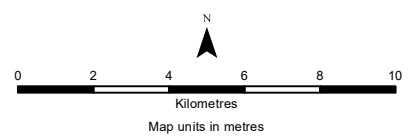
Figure 8-16
Potential Pilbara Olive Python
Habitat within the Survey Area and
Surroundings
Overview

Drawn: L.Fuentes
Plan: PDE0189733v2
Date: May 2023
Proj: GDA 1994 MGA Zone 50
Scale: 1:200,000 @A3
GIS.Team@riotinto.com



Legend

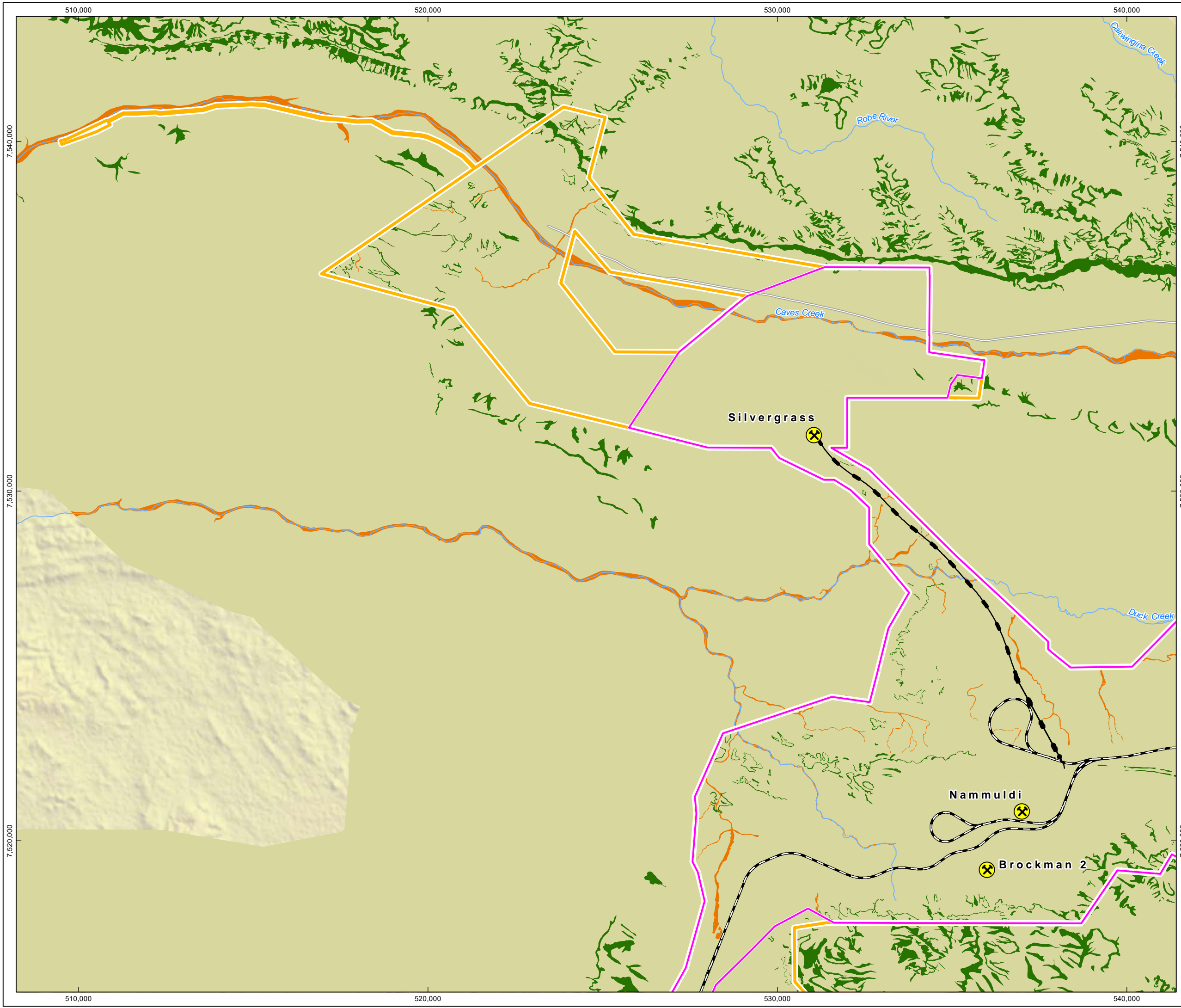
- Development Envelope
- Survey Area
- Pilbara Olive Python Habitat Quality
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Major Road
- Minor Road
- Major Creek



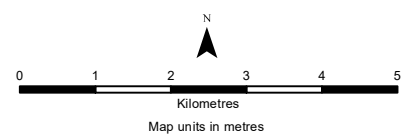
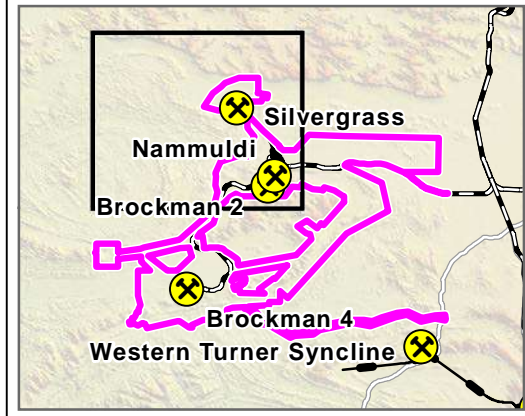
Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

Figure 8-16
Potential Pilbara Olive Python
Habitat within the Survey Area and
Surroundings
Map A

Drawn: L.Fuentes
Plan: PDE0189733v2
Date: May 2023
Proj: GDA 1984 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com



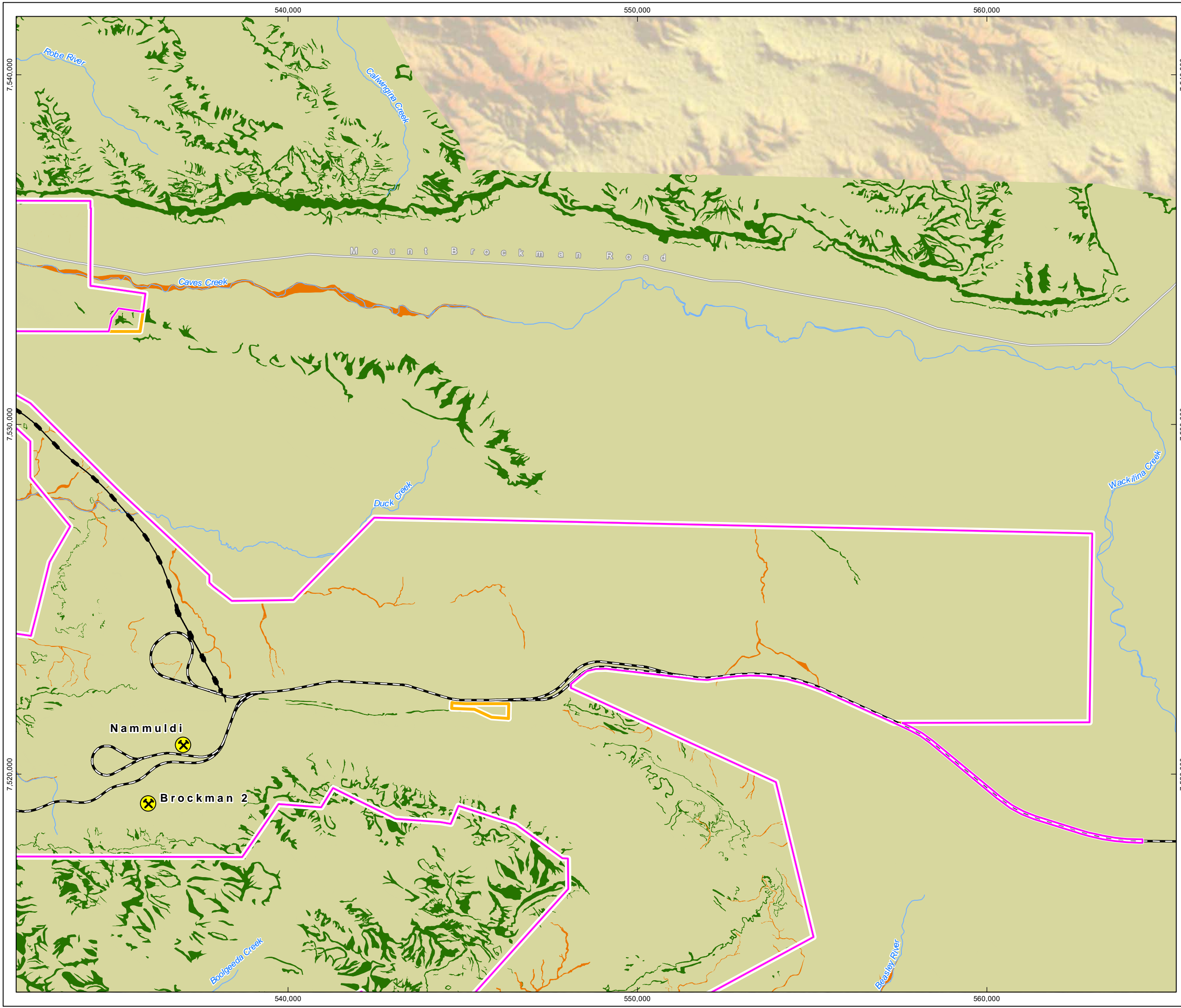
- Legend**
- Development Envelope
 - Survey Area
 - Pilbara Olive Python Habitat Quality
 - Critical Habitat
 - Supporting Habitat
 - Habitat
 - Rio Tinto Mine
 - Rio Tinto Railway
 - Conveyor
 - Minor Road
 - Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

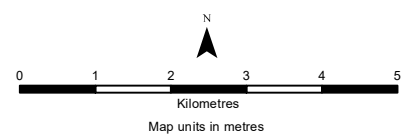
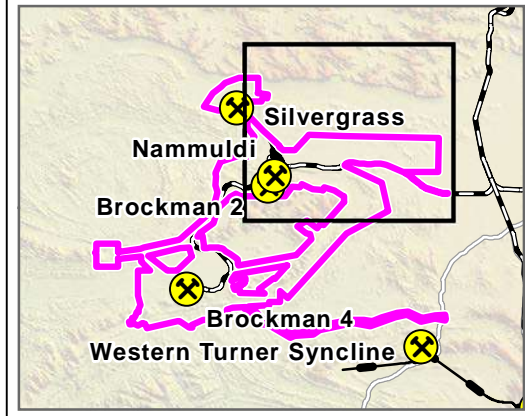
Figure 8-16
Potential Pilbara Olive Python
Habitat within the Survey Area and
Surroundings
Map B

Drawn: L.Fuentes
Plan: PDE0189733v2
Date: May 2023
Proj: GDA 1994 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com



Legend

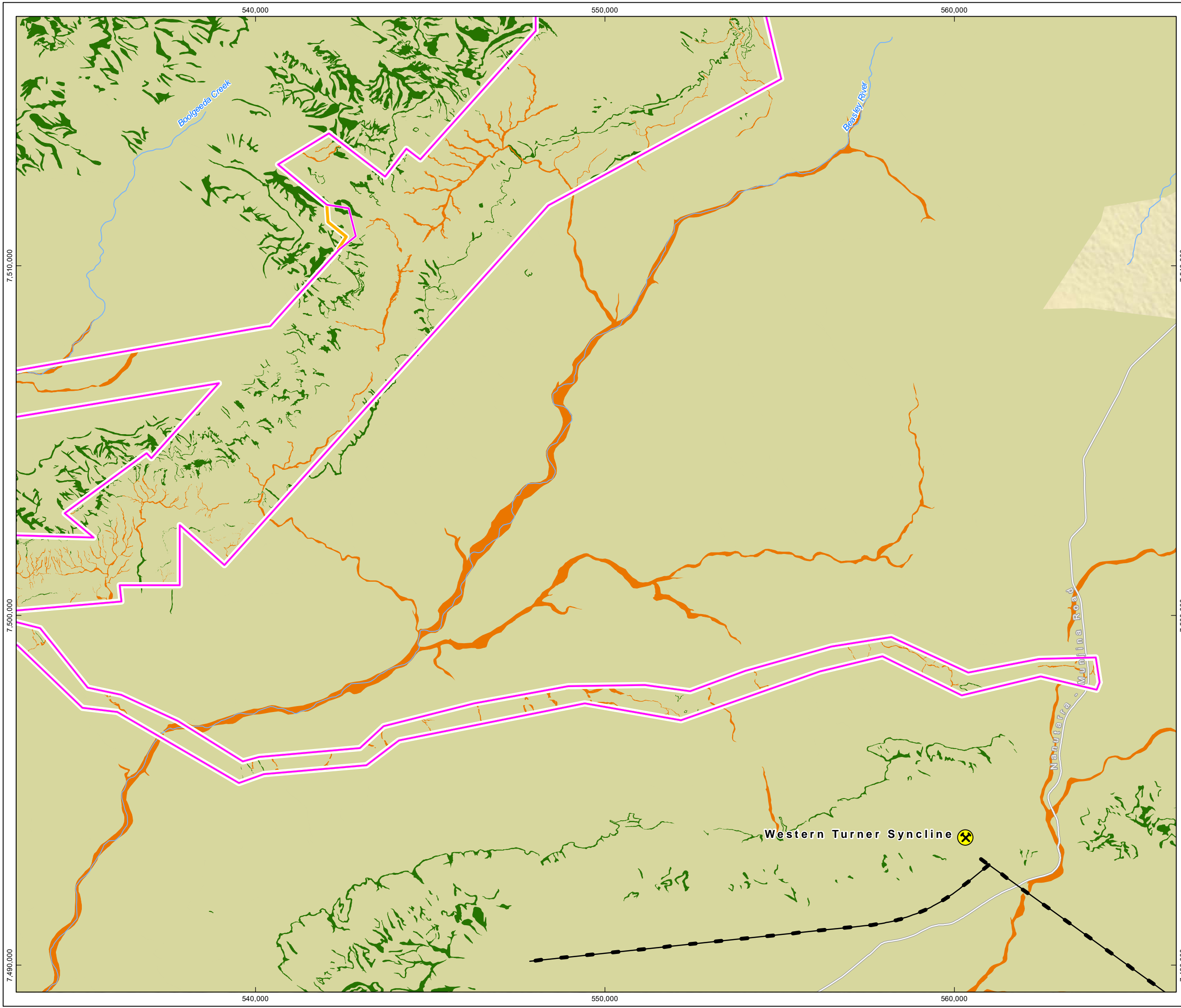
- Development Envelope
- Survey Area
- Pilbara Olive Python Habitat Quality**
 - Critical Habitat
 - Supporting Habitat
 - Habitat
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Minor Road
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.

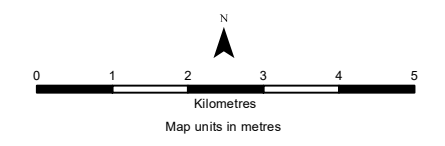
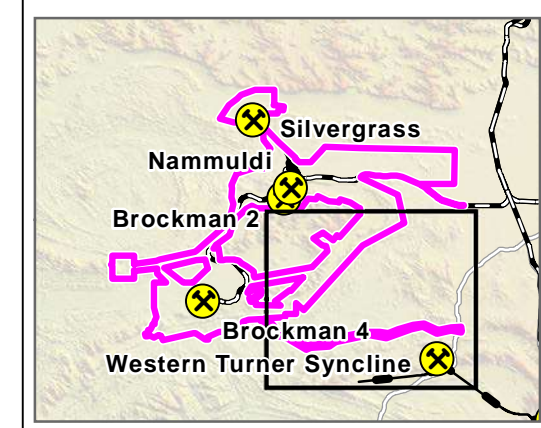
Figure 8-16
Potential Pilbara Olive Python
Habitat within the Survey Area and
Surroundings
Map C

Drawn: L.Fuentes
Plan: PDE0189733v2
Date: May 2023
Proj: GDA 1994 MGA Zone 50
Scale: 1:100,000 @A3
GIS.Team@riotinto.com



Legend

- Development Envelope
- Survey Area
- Pilbara Olive Python Habitat Quality**
- Critical Habitat
- Supporting Habitat
- Habitat
- Rio Tinto Mine
- Conveyor
- Major Road
- Major Creek



Disclaimer: This document has been prepared to the highest level of accuracy possible, for the purposes of Rio Tinto's iron ore business. Reproduction of this document in whole or in part by any means is strictly prohibited without the express approval of Rio Tinto. Further, this document may not be referred to, quoted or relied upon for any purpose whatsoever without the written approval of Rio Tinto. Rio Tinto will not be liable to a third party for any loss, damage, liability or claim arising out of or incidental to a third party using or relying on the content contained in this document. Rio Tinto disclaims all risk and the third party assumes all risk and releases and indemnifies and agrees to keep indemnified Rio Tinto from any loss, damage, claim or liability arising directly or indirectly from the use or reliance on this document.