

Yeelirrie Uranium Project
Response to Submissions

Attachment 9

Flora and Vegetation

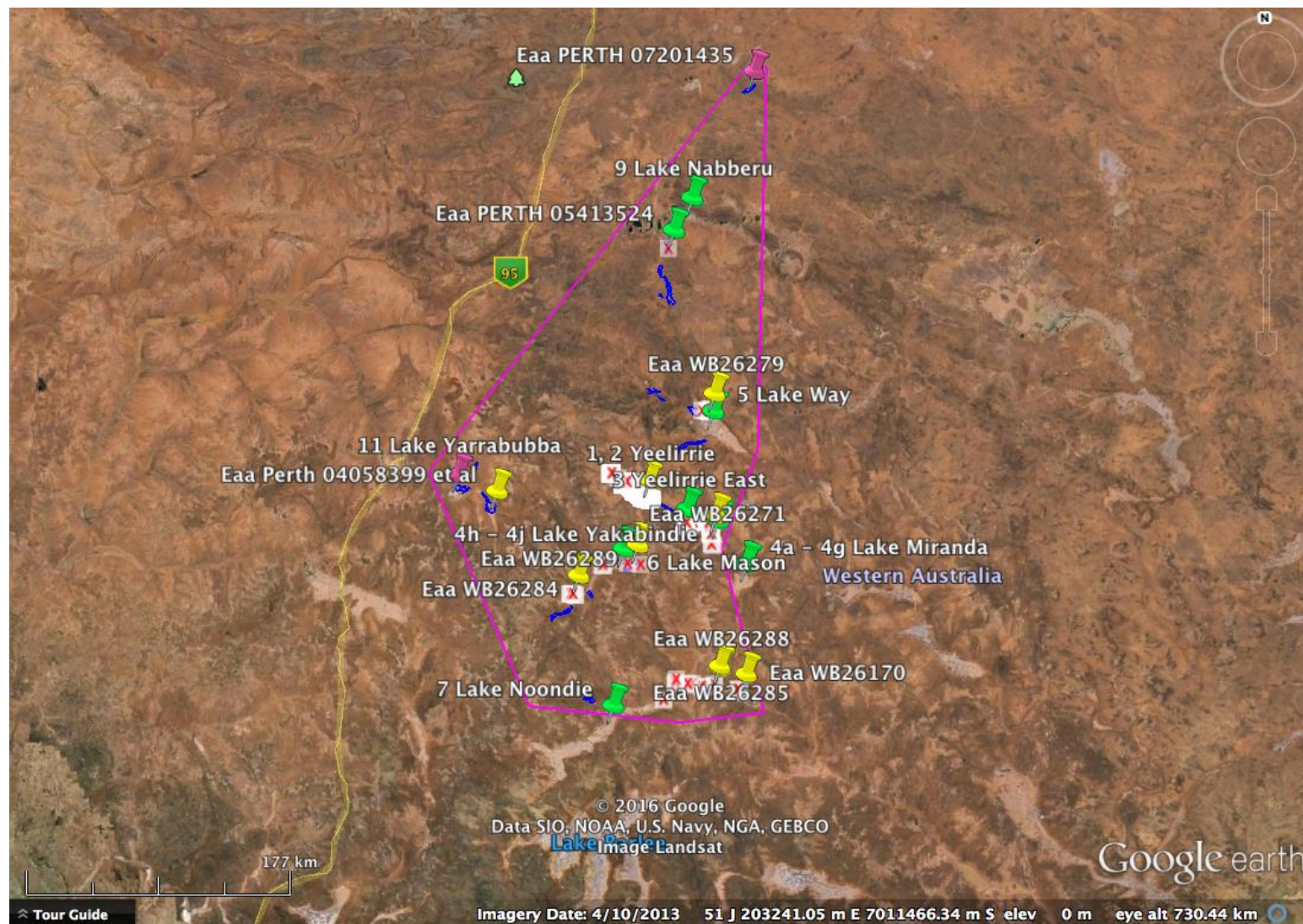


Figure 1. Overview of the known area of occurrence of *Eremophila arachnoides* subsp. *arachnoides* (Eaa).

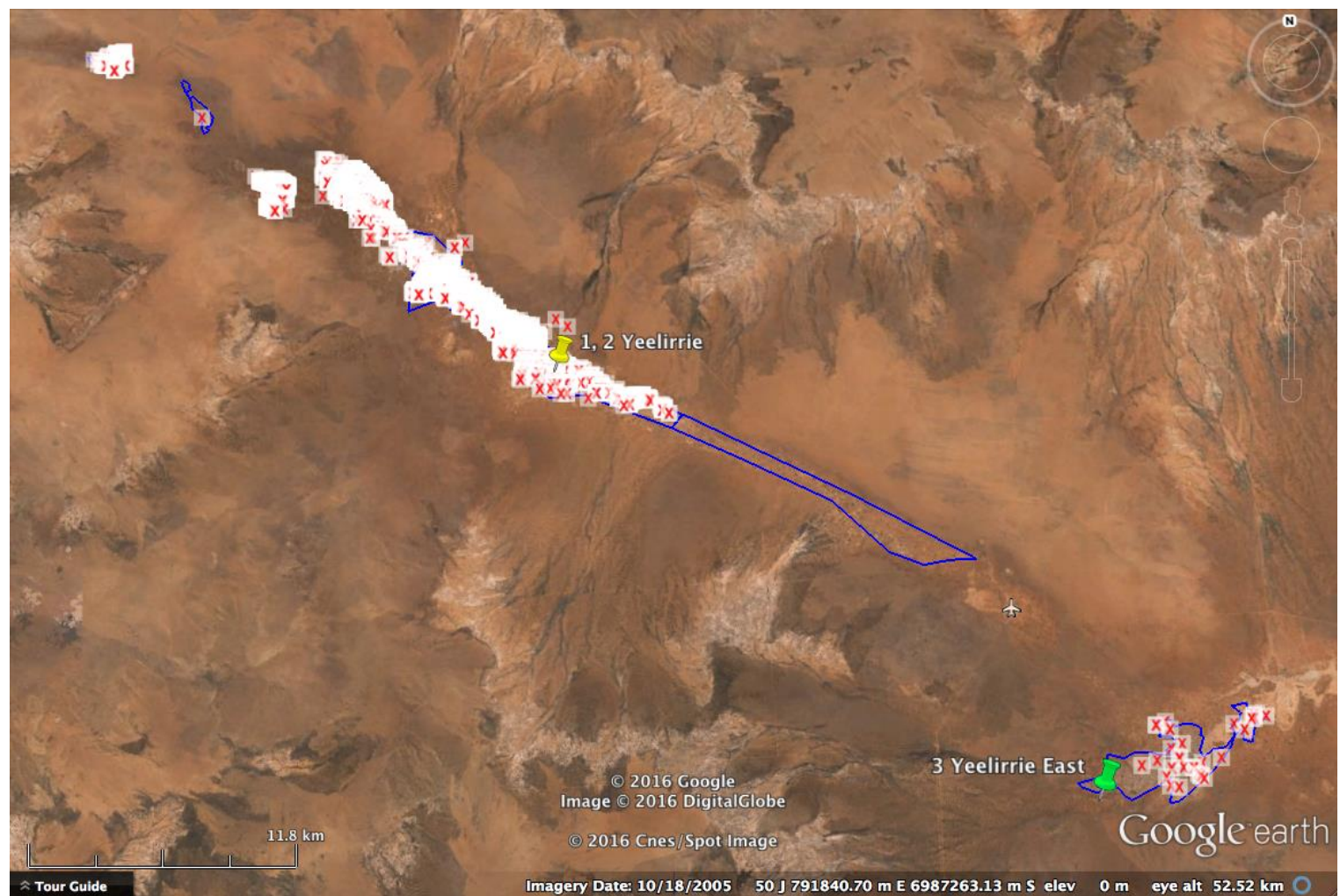


Figure 2. Known occurrence and potential habitat of *Eremophila arachnoides* subsp. *arachnoides* in north-western part of the Yeelirrie Paleochannel.

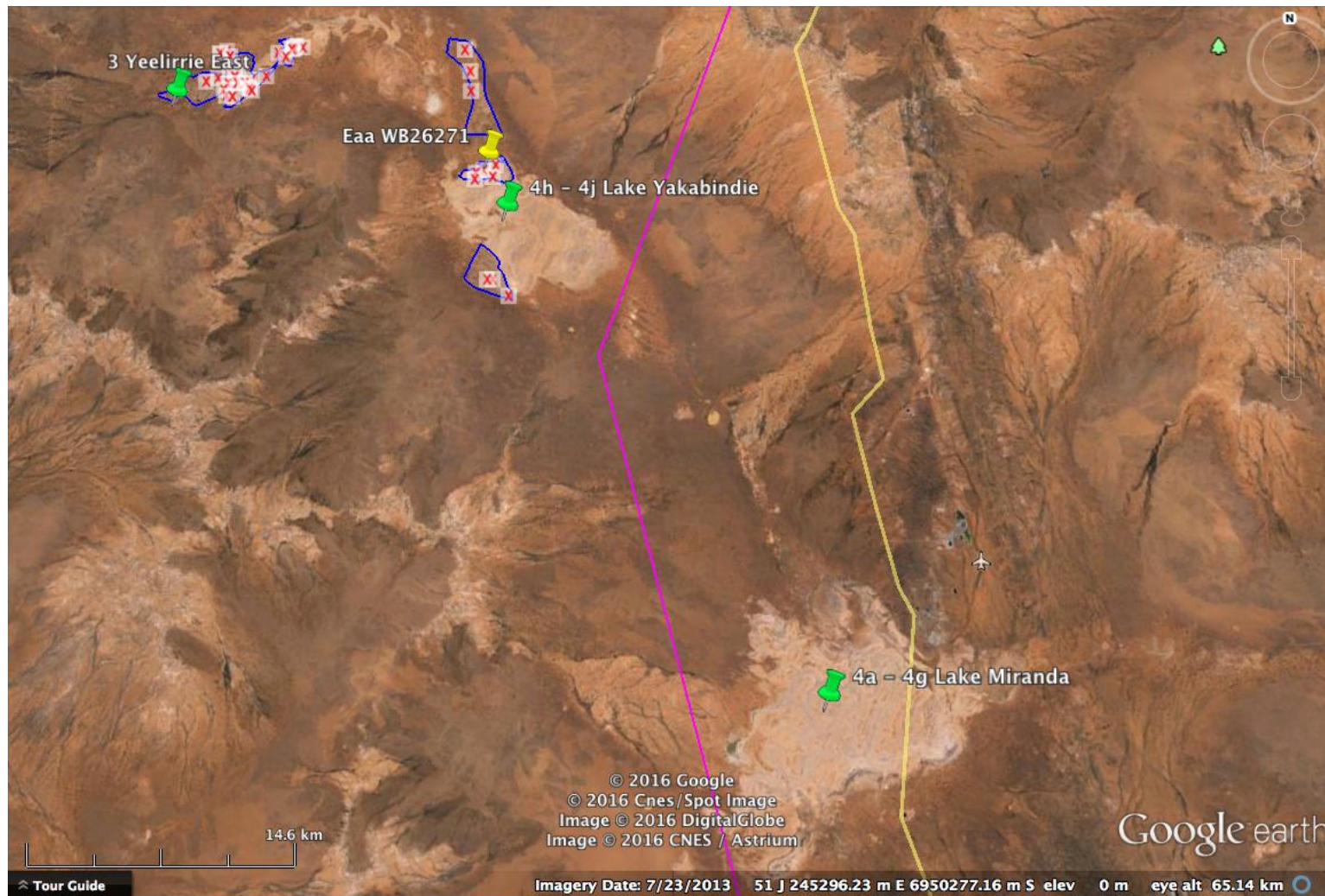


Figure 3. Known occurrence and potential habitat of *Eremophila arachnoides* subsp. *arachnoides* in south-eastern part of the Yeelirrie Paleochannel and absence at Lake Miranda.



Figure 4. Known occurrence and potential habitat of *Eremophila arachnoides subsp. arachnoides* at the Lake Mason Paleochannel.



Figure 5. Known occurrence of *Eremophila* subsp. *arachnoides* in the Lake Noondie potential habitat of *Eremophila arachnoides* paleochannel.

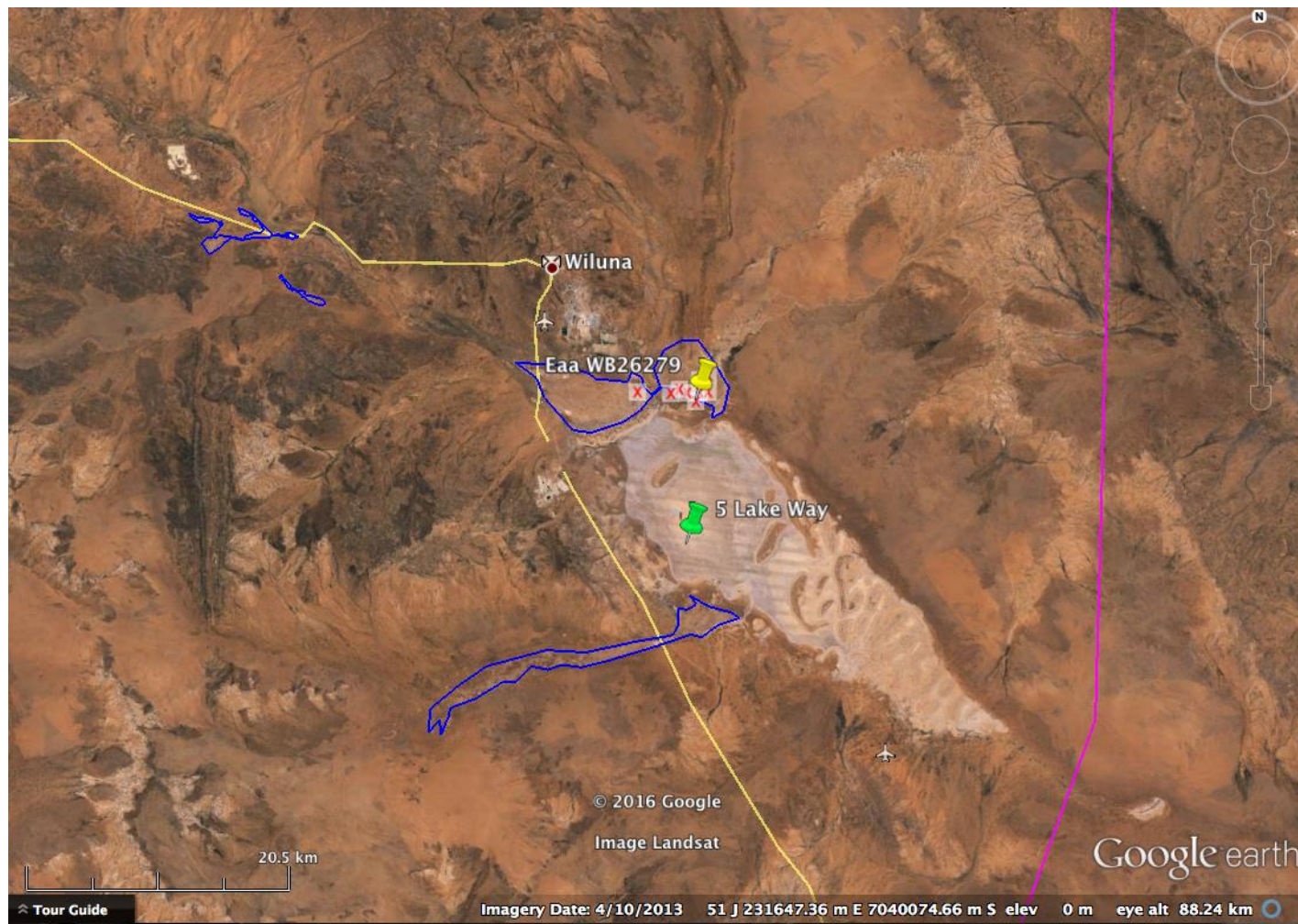


Figure 6. Known occurrence and potential habitat of *Eremophila arachnoides subsp. arachnoides* in the Lake Way Paleochannel.

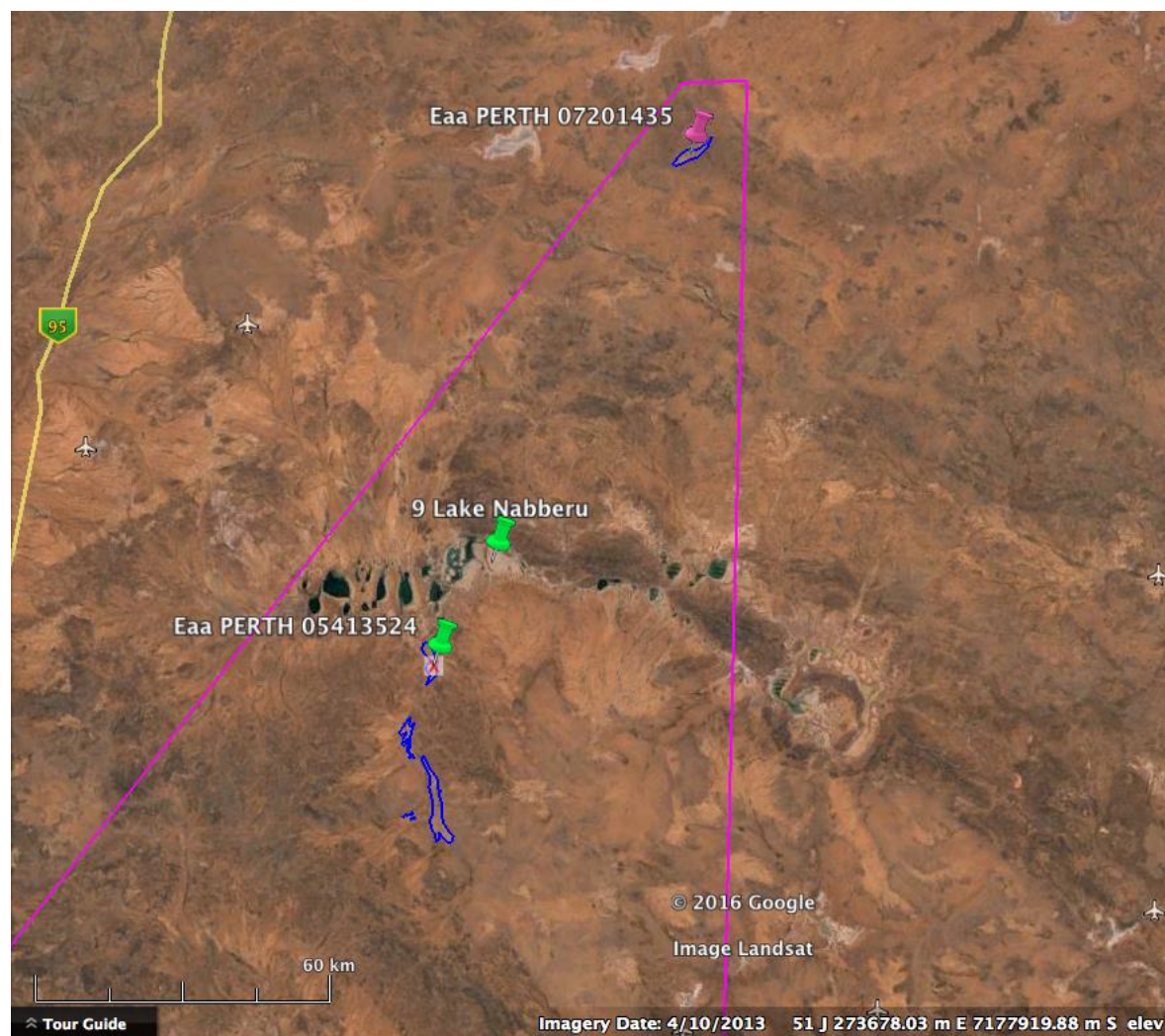


Figure 7. Known occurrence and potential habitat of *Eremophila arachnoides subsp. arachnoides* in the Lake Nabberu (southern) and Little Sandy Desert (northern) regions.



Figure 8. Known occurrence and potential habitat of *Eremophila arachnoides subsp. arachnoides* in the Lake Yarrabubba paleochannel.

Table 1. Analysis of Population Numbers and Areas of Potential Habitat Supporting *Eremophila arachnoides* subsp. *arachnoides*

| Palaeochannel / Study Area | Population Numbers, Number of Records and Sources | Areas of Potential Habitat (% of Total) |
|---|--|---|
| Yeelirrie, Study Areas 1 &2 | 43,255 individuals (Western Botanical) | 3,839 ha (8.35%) |
| Yeelirrie Study Area 3 | 320 individuals (Western Botanical) | 1,470 ha (3.20%) |
| Lake Yakabindie (within the Yeelirrie Paleochannel) | 11 records (Western Botanical) | 1,548 ha (3.37%) |
| Lake Way | 23,440 individuals (Toro Energy), 10 records (Western Botanical) | 8,882 ha (19.33%) |
| Lake Mason | 12 records (Western Botanical) | 6,338 ha (13.79%) |
| Lake Noondie | 13 records (Western Botanical), 3 specimens at WAHERB, noted as supporting the largest populations of this species (Western Botanical 2011). | 9,115 ha (19.83%) |
| Lake Nabberu | Up to 18,000 individuals (Toro Energy), 1 record (Western Botanical), 2 specimens at WAHERB | 5,312 ha (11.56%) |
| Little Sandy Desert | 1 specimen at WAHERB | 1,200 ha (2.61%) |
| Lake Yarrabubba | 1 specimen (WAHERB), 2 specimens (ADHERB) | 5,951 ha (13.95 %) |
| TOTALS | 85,015 individuals estimated, 77 records of occurrence at 7 paleochannel systems, 10 specimens lodged at herbaria. | 45,958 ha (100%) |

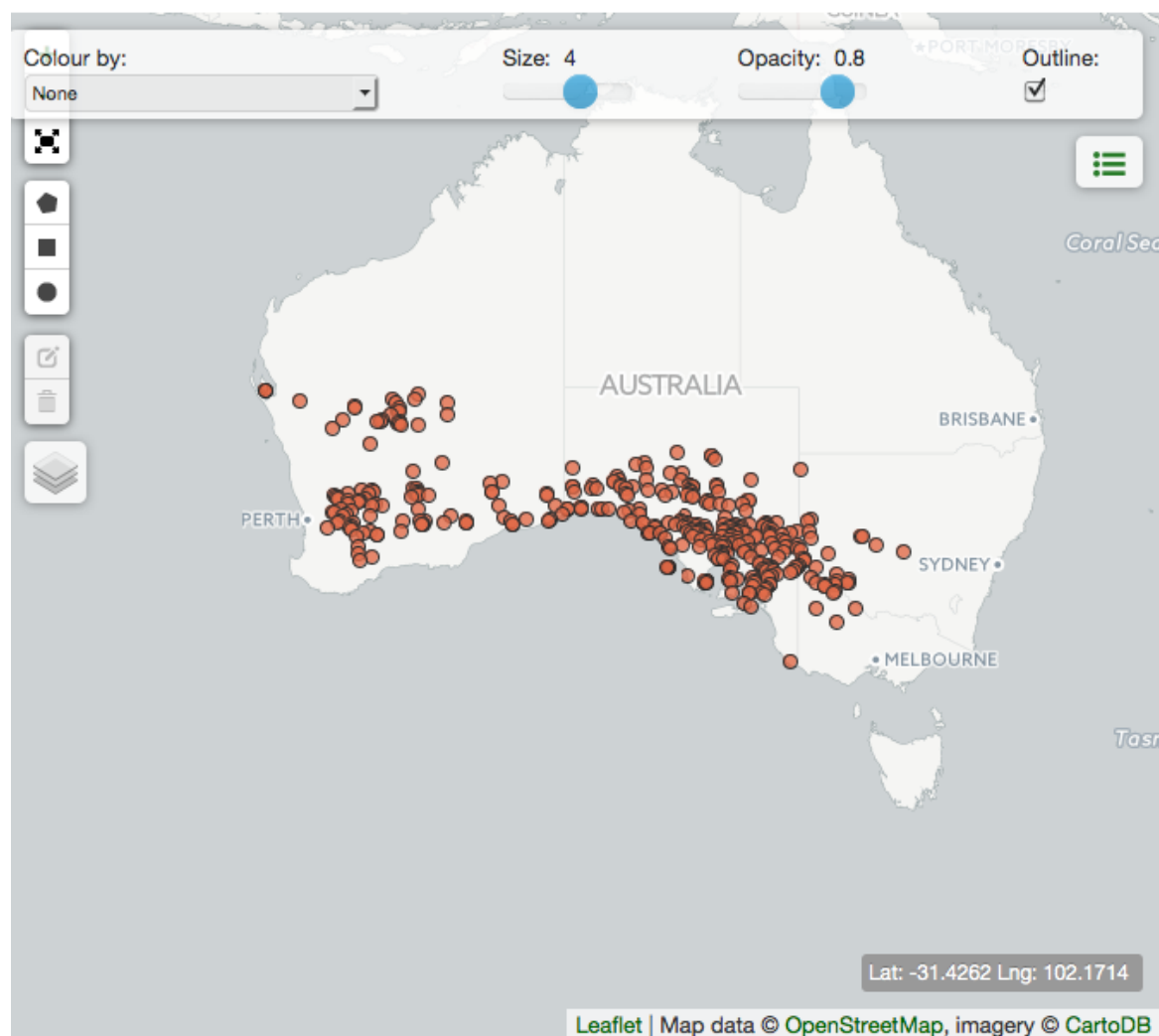


Figure 9. Distribution of *Lycium australe* in Western Australia (AVH)

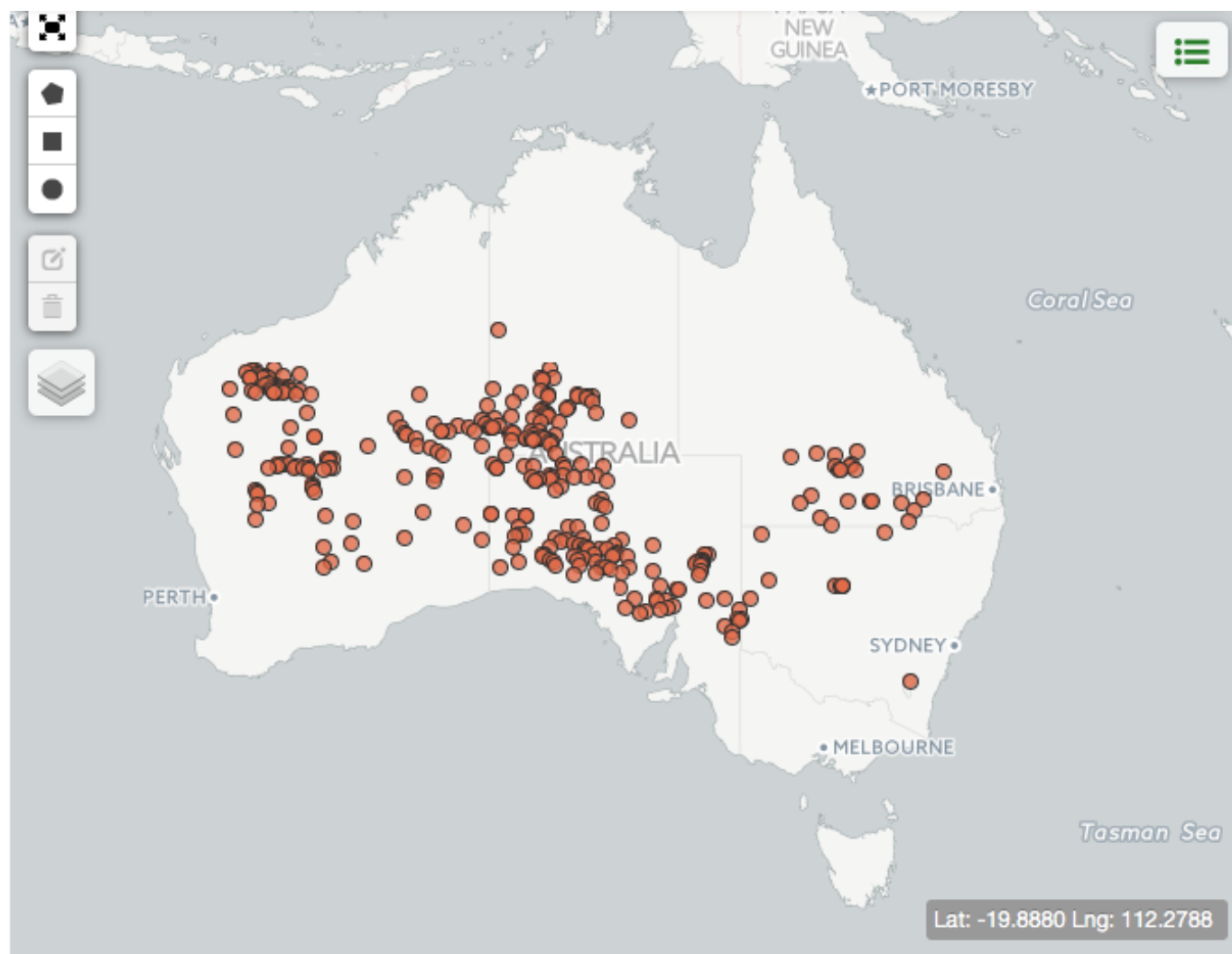


Figure 10. Distribution of *Acacia ayersiana* in Australia (ABH)

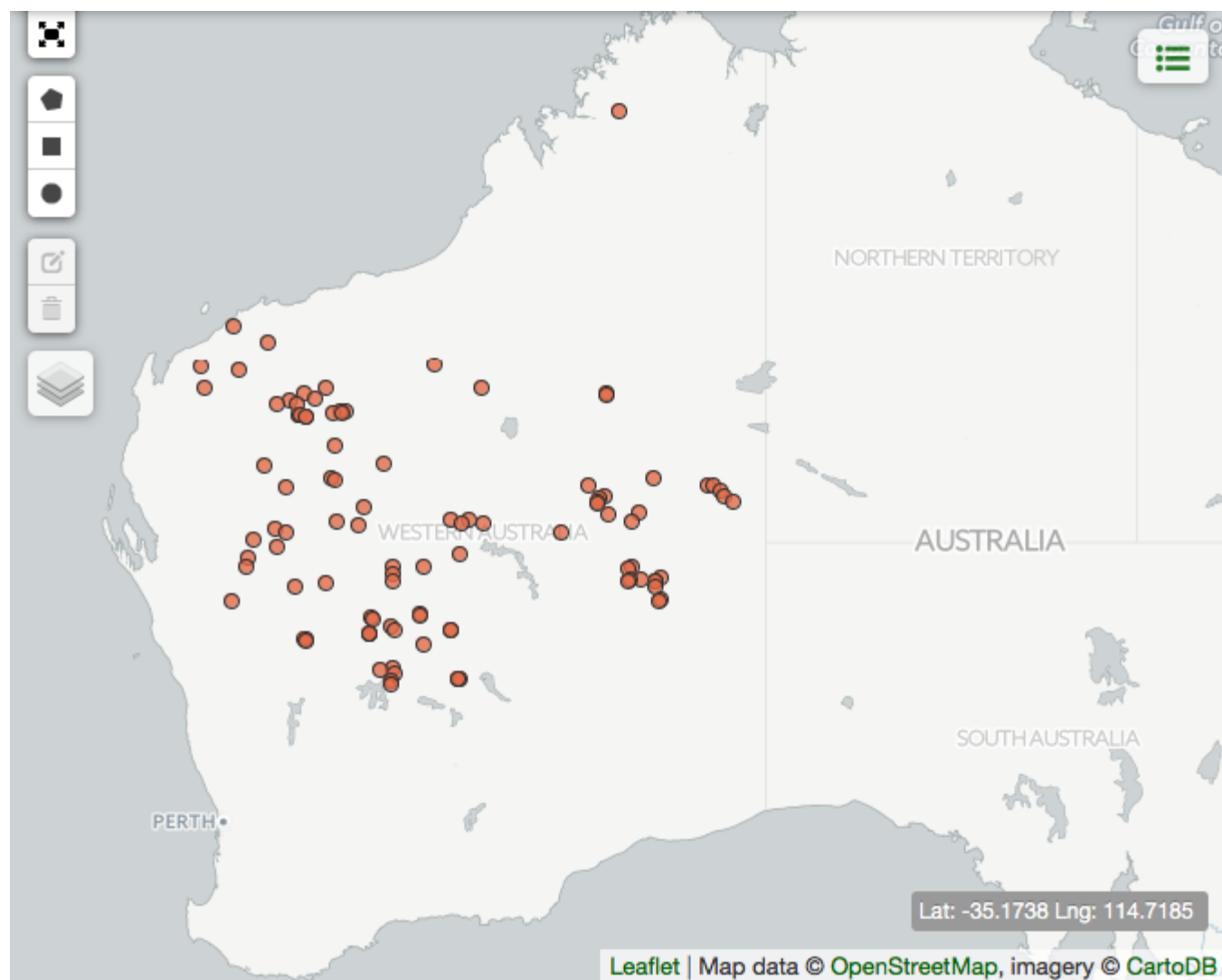


Figure 11. Distribution of *Grevillea berryana* in Australia (AVH)

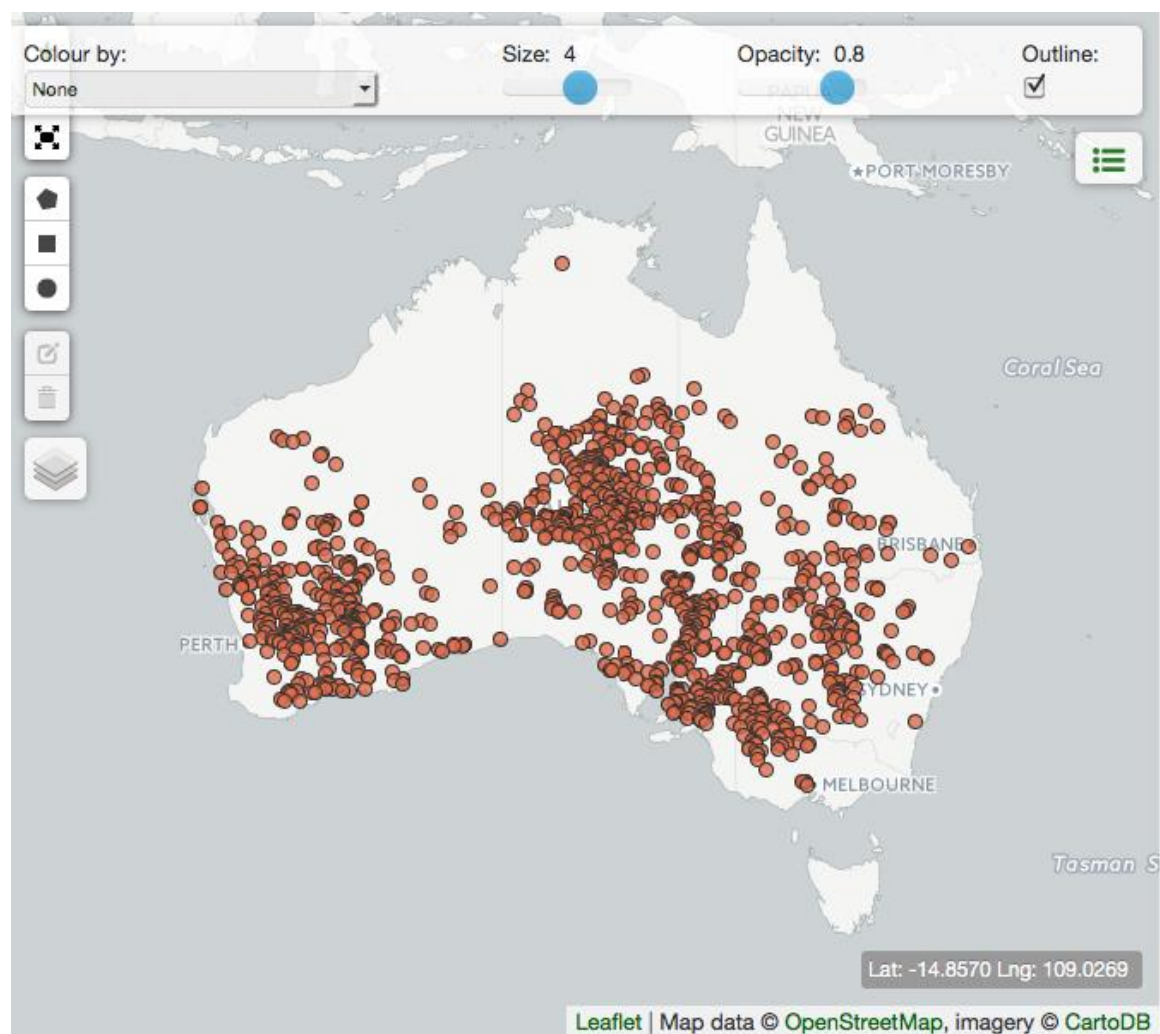


Figure 12. Distribution of *Senna artemisioides* subsp. *filifolia* in Australia (AVH)

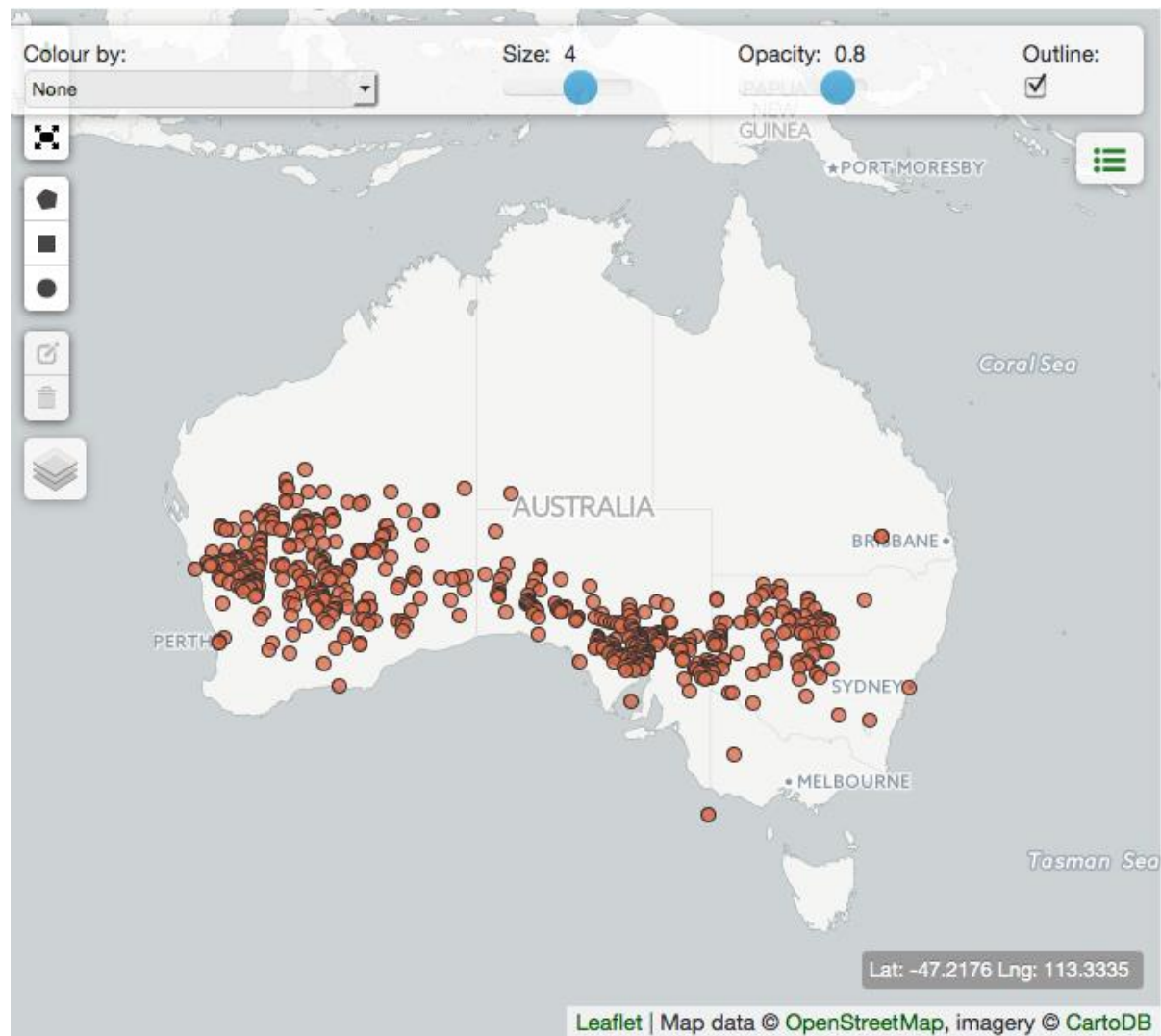


Figure 13. Distribution of *Acacia burkittii* in Australia (AVH).

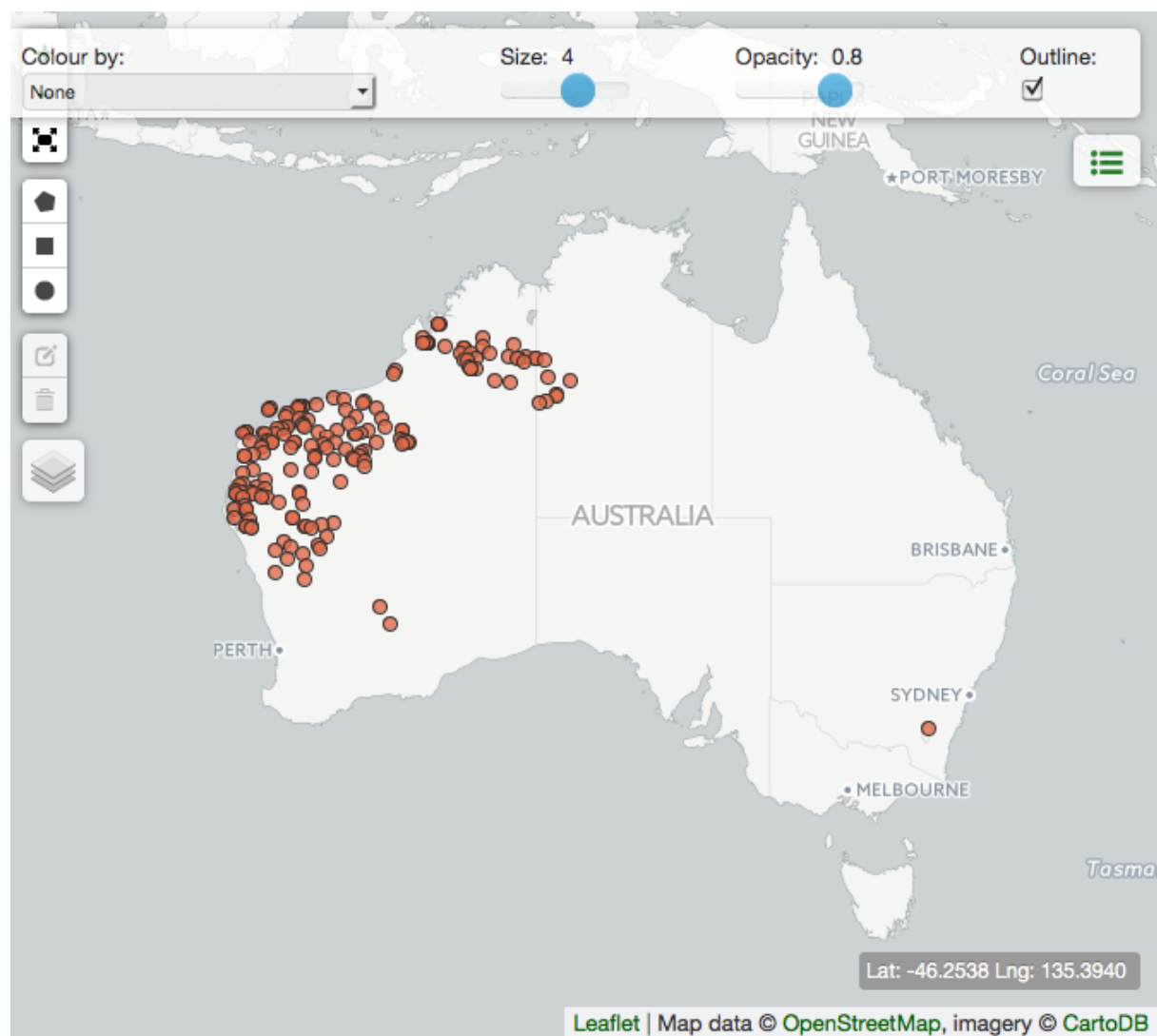


Figure 14. Distribution of *Acacia synchronycia* in Australia (AVH)

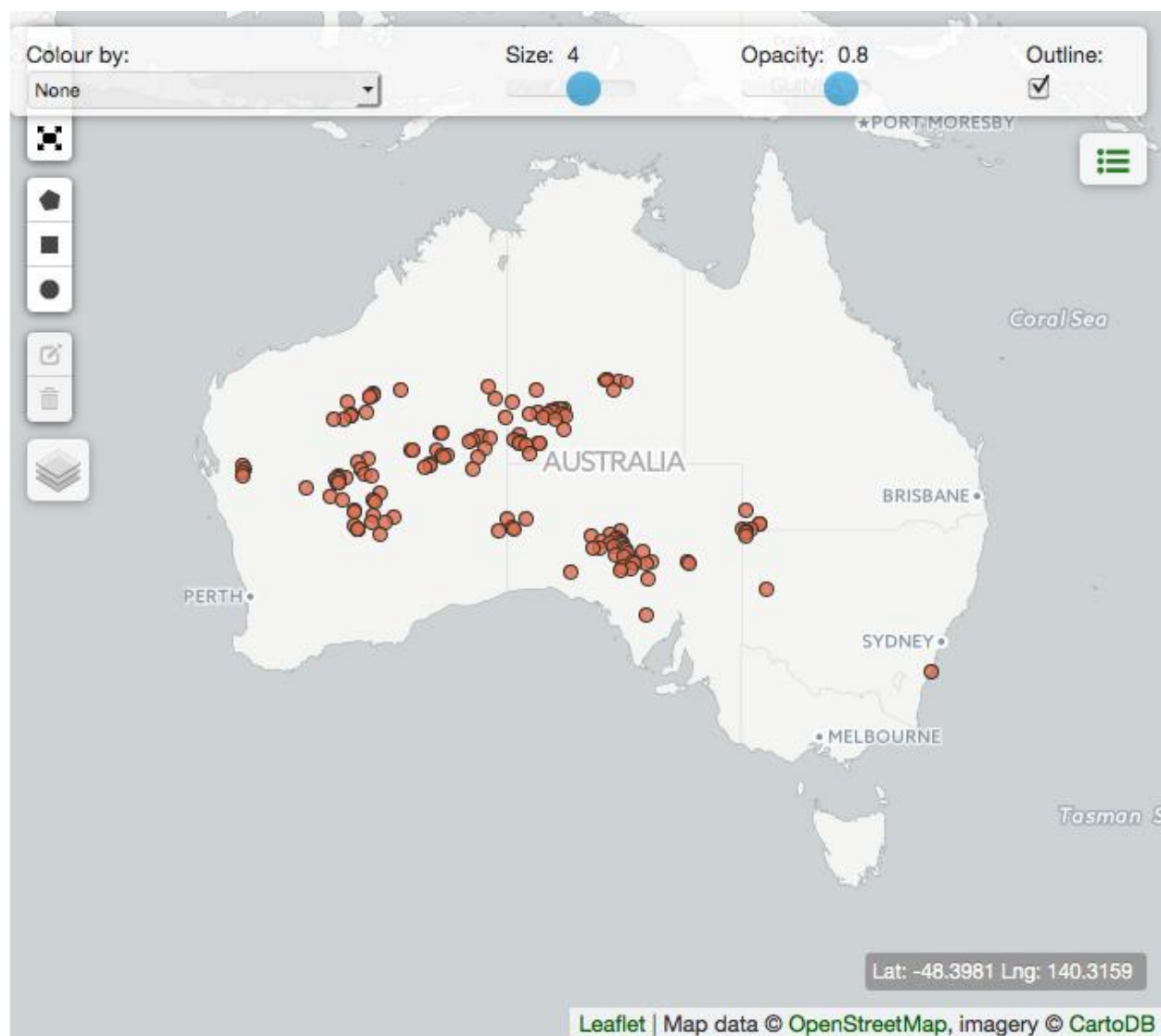


Figure 15. Distribution of *Melaleuca interioris* in Australia (AVH).

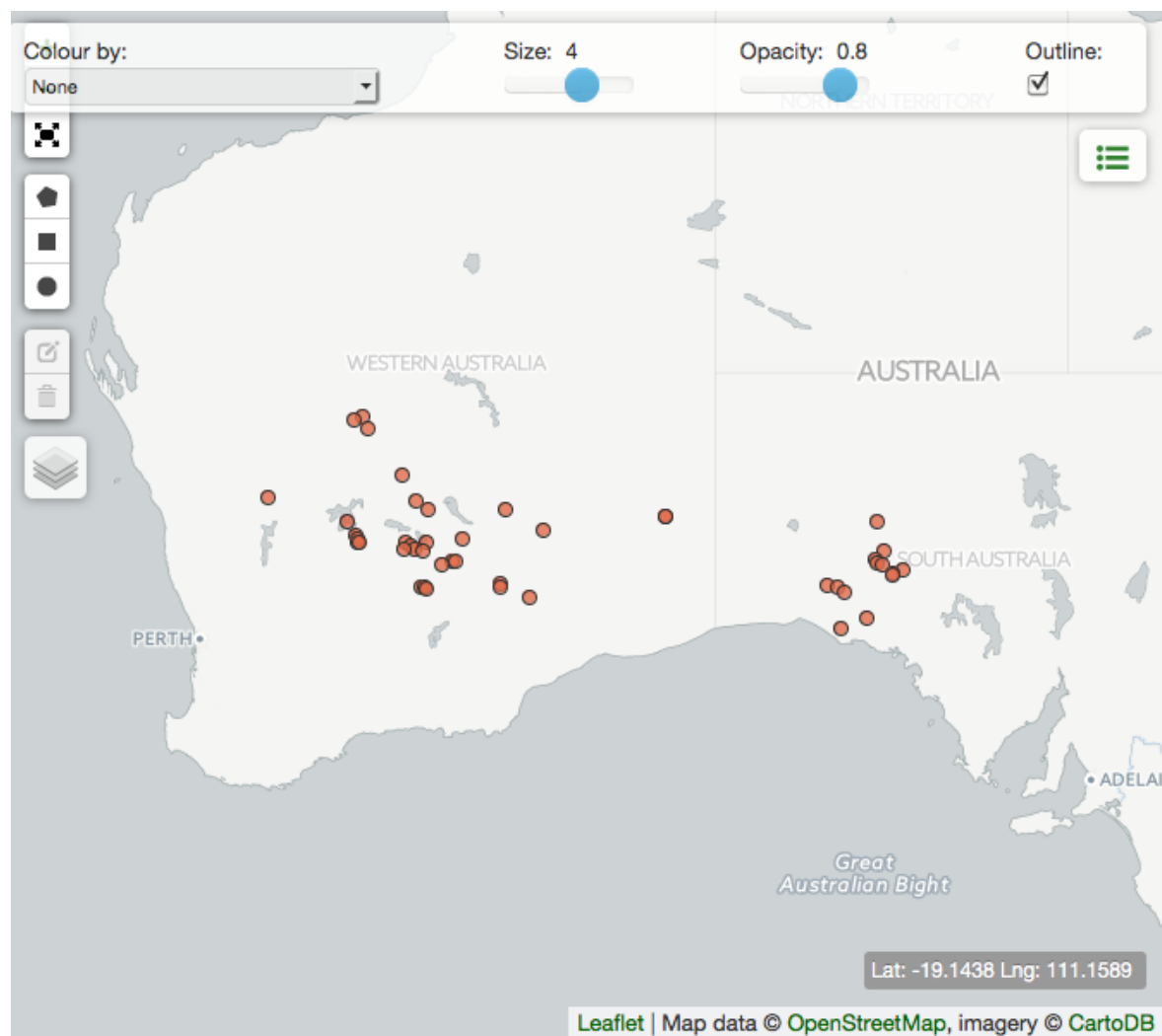


Figure 16. Distribution of *Templetonia incrassata* in Australia (AVH)

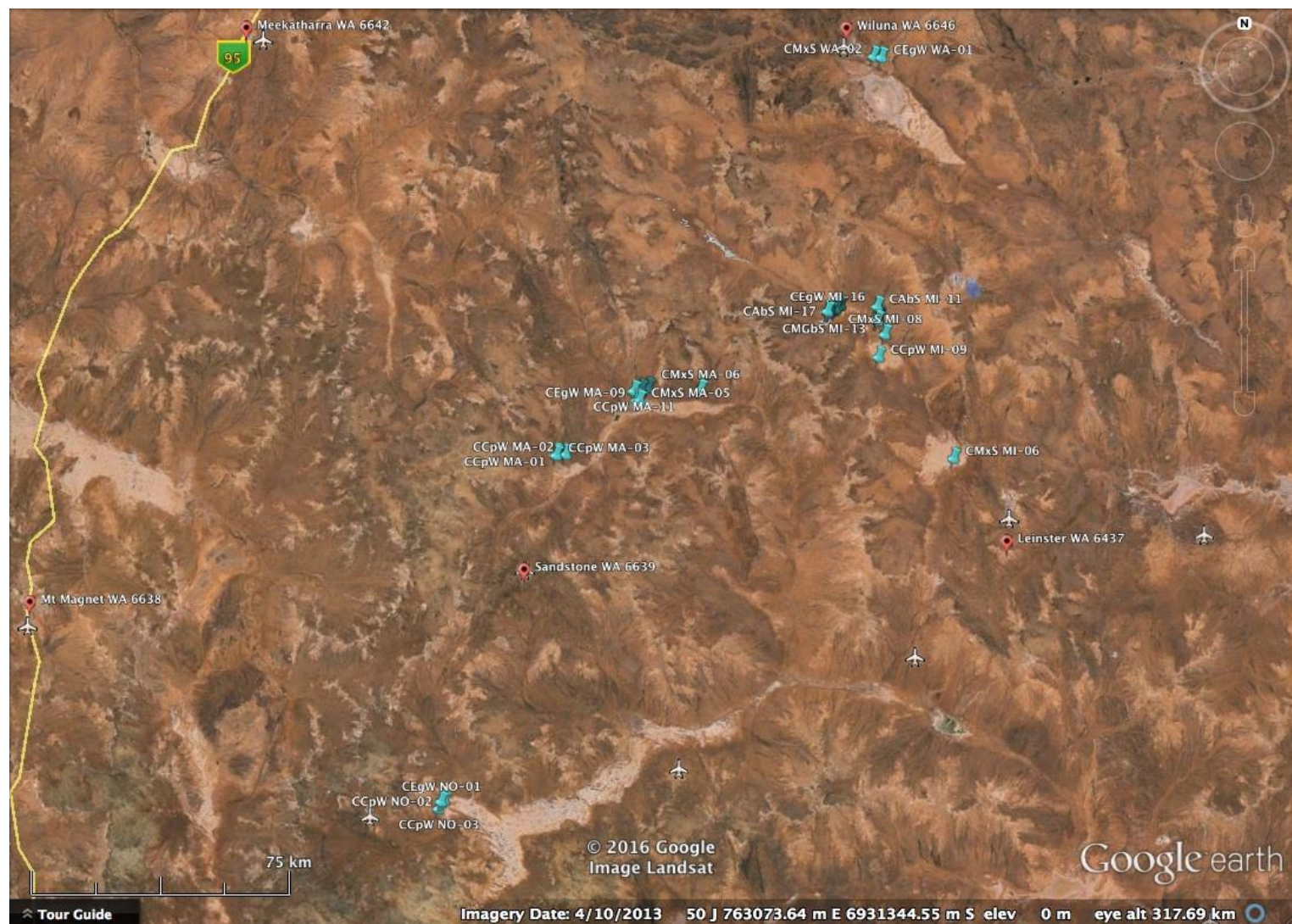


Figure 18. Regional locations of vegetation communities were mapped on calcrete landforms similar to those at Yeelirrie



Figure 19. Potential translocation sites for *Atriplex yeelirrie* assessed to date

Tuesday, 14 June 2016

Mr Simon Williamson
Cameco Australia Ltd
Via email to: Simon Williamson Simon.Williamson@Cameco.com

Re: Results of field investigation into regional occurrence of CMGbS vegetation community at Yeelirrie and Yakabindie Stations.

Dear Simon

Following the recent discussions between Cameco and the EPA on the subject of the Mulga – *Grevillea berryana* Shrubland on Calcrete (CMGbS) community at Yeelirrie, to which I have been party, I am pleased to offer the following additional supporting information to assist the EPA in its decision making process.

Method, Desktop and Field Survey, May 2016

Over the period 22nd (reconnoitre) and 24th to 26th May 2016 (assessment), Western Botanical reviewed the occurrences of the CMGbS Ecotone Vegetation Association on Yeelirrie Station as described within our baseline reports (Western Botanical 2012, 2015). We conducted a targeted review of areas on the proposed development envelope on Yeelirrie Station (1 day) and the eastern portion of Yeelirrie Station and on the western portion of Yakabindie Station (1/2 day reconnoitre and 2 days assessment). The latter was specifically searching for areas in the eastern parts of Yeelirrie Station and the adjacent western margin of Yakabindie Station with a potential to support components of this ecotone community.

Seasonal conditions were dry and minimal annual herbs or grasses were present at the time of the May 2016 survey. Annuals were therefore not specifically recorded unless they could be reliably identified in the field and are considered to be under represented in these results.

This review involved three days on-ground field assessment by Geoff Cockerton (Western Botanical) with assistance from the temporary caretaker at Yeelirrie Station who was familiar with tracks in the area. Tools utilised included Google Earth electronic cached files and Landsat hard copy imagery. From this review, we gathered the information presented in this memo.

During the field assessment, the presence of perennial (and any annual) species was recorded in areas where (i) vegetation communities matched those adjoining the CMGbS community at Yeelirrie or (ii) where a recognisable ecotone was evident in

the areas assessed. A representative photograph was taken and a site description was made at three releve sites on Yakabindie Station.

Mapping of the community boundaries was conducted post field survey by Geoff Cockerton (Western Botanical) and Brian White (CAD Resources Pty Ltd) utilising high resolution (0.5m pixel) Landgate RGB aerial photography.

To generate the image presented in Figure 2, CAD Resources have trained the ER Mapper program to look for specific pixels and then run a supervised classification against this. Then the classes of interest were extracted, buffered by 5m and trimmed back to the area identified in the field as supporting a complex of target vegetation types. This readily identified areas of CAbS and HPMS communities and further investigation of the high resolution aerial photography identified areas of the PLAPoS community in the vicinity.

There is a potential for the overall area to be expanded beyond the limits used, however, this would require additional field investigation and guidance in terms of refining the training sites and the limits of acceptable area.

A nominal 20 m ecotone was applied at the interface between the three different vegetation communities present. This data has been presented in Figure 2. It is likely that the ecotone in some areas will be broader than the 20 m width used in these calculations and that it may be narrower than this value in others however, on balance, this is considered an appropriate width to apply for the purposes of mapping the ecotones present.

Defining the Mulga and *Grevillea berryana* Shrubland on calcrete (CMGbS) ecotone community.

An ecotone is a transitional zone between adjacent vegetation associations. It may contain components of adjacent vegetation types in varying relative proportions and may present as an indistinct and mixed group of component species with affinities to each of the adjoining communities recognised. Ecotones are often narrow where edaphic features are strongly contrasting. For example, contrasts between rocky hills and loamy plains, contrasts between alkaline calcrete rises and acidic Aeolian sandplains or between free draining sandy soils and clay soils on flats which maybe subject to seasonal waterlogging. These strongly contrasting chemical and textural factors and the associated interactions with water, mean that flora and vegetation specificity may be strongly contrasting where the edaphic contrasts are abrupt. However, where the edaphic features change gradually over an extended interface, where topographical changes are gentle and indistinct, the ecotones may be accordingly broad. Thus at Yeelirrie, the CMGbS ecotone was recorded as a broad interchange while at Yakabindie it was observed as a narrow strip, reflecting the change in topography at these locations.

The description and definition of the Mulga – *Grevillea berryana* Shrubland on calcrete (CMGbS) ecotone Vegetation Association presented within the flora and vegetation baseline report (Western Botanical 2012, report WB653) states the following:

1. “This community represents a broad ecotone between Sandplains supporting Mulga and Spinifex (SAMU) and Hardpan Mulga Shrublands (HPMS) which occur adjacent to *Lycium australe* shrubland (CLaS), *Melaleuca xerophila* Shrubland (CMxS). It is variable and has influences from adjacent habitats. The most distinguishing feature of this community is the dominance of *Grevillea berryana*” [which has come about through the lack of other upper storey species].
2. “The Mulga and *Grevillea berryana* Shrubland on calcrete (CMGbS) ecotone community is characterised as a high open shrubland, 2-5 m high, of *Acacia ayersiana* and *Grevillea berryana*, with a PFC of 5-15%, over open shrubland of *Senna artemisioides* subsp. *filifolia* and *Acacia burkittii*, with a PFC of 2-5%, over scattered clumping tussock grasses of *Eragrostis* sp. Yeelirrie Calcrete (S Regan LCH 26770). Other species present include *Acacia aneura* (various forms), *A. victoriae*, *A. tetragonophylla*, *Melaleuca interioris*, *Lycium australe*, *Eremophila arachnoides* subsp. *arachnoides* P3, and *Templetonia incrassata*”.

The western occurrence of CMGbS ecotone community as mapped on Yeelirrie Station occupies 11.5 ha and the eastern occurrence occupies 36.4 ha, a total of 47.9 ha. It varies from 130m to 450m in width. Of this, 46 ha lies either within the planned development footprint or within the projected 0.5m groundwater drawdown area.

The following statements also apply to the CMGbS ecotone Vegetation Association.

1. The CMGbS ecotone community also interfaces with *Acacia burkittii* shrublands on Calcrete and with the Hardpan Mulga Shrublands (HPMS) communities as described in the baseline reports.
2. The CMGbS ecotone community occurs on the outwash zone below calcrete rises within the Calcrete System, which grades into the Playa System. The soil profile shows a layer of windblown fine sandy loam over weathered calcrete.
3. The CMGbS ecotone community has been mapped as a broad ecotone between the following community types on the proposed development footprint on Yeelirrie Station. See Figure 1.
 - a. Western Occurrence (has 3 adjacent vegetation communities and one disturbed polygon):
 - i. CCPW – Calcrete system with *Casuarina pauper* woodlands (156 m interface);

- ii. CAbS – Calcrete system with *Acacia burkittii* Shrublands (277 m interface);
 - iii. CLaS – Calcrete system with *Lycium australe* shrublands (805 m interface); and
 - iv. Disturbed areas (primarily formerly CAbS, CLaS communities) (207 m interface).
- b. Eastern Occurrence (has 5 adjacent vegetation communities):
- i. CLaS – Calcrete system with *Lycium australe* shrublands (1,918 m interface);
 - ii. CAbS – Calcrete system with *Acacia burkittii* Shrublands (686 m interface);
 - iii. SAMU – Sandplain with Mulga and Spinifex (2,039 m interface);
 - iv. CMpS – Calcrete system with *Maireana pyramidata* shrublands (718 m interface); and
 - v. CMxS – Calcrete system with *Melaleuca xerophila* shrublands (248 m interface).

Figure 1 depicts the CMGbS ecotone community and those communities adjacent to it which contribute to the ecotone.

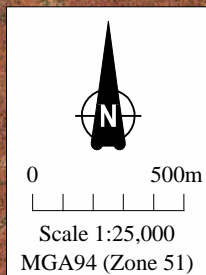


Figure 1. Communities adjacent to the CMGbS ecotone community within the development envelope at Yeelirrie.

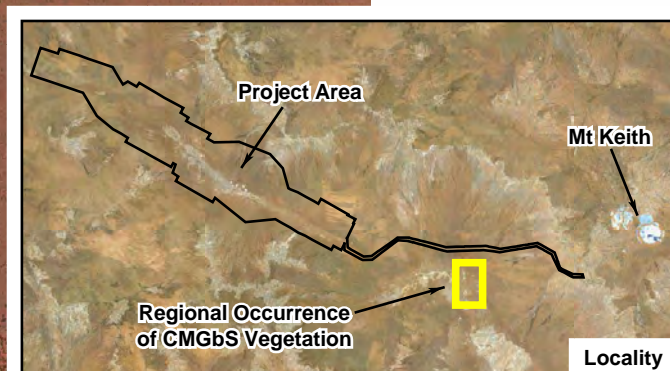
4. The CMGbS ecotone community at Yeelirrie Station is relatively broad due to the relatively flat landscape present on the north side of the paleochannel where the CMGbS ecotone community has been mapped. It is estimated the topography does not vary more than 0.25 m across the mapped community, the greatest difference in relative level (RL) occurs where small calcrete rises are present.

5. In contrast, the ecotones between the relevant adjacent communities elsewhere within the areas assessed on Yeelirrie Station were relatively narrow and were not mapped as separate units in our baseline surveys. These ecotones may have been up to 50 m wide, which are within the stated margin of error in our mapping boundaries at the capture scale of 1:10,000 (aerial photography utilised) within the disturbance envelope and Study Area 1.
6. Three communities that represent neighbouring vegetation communities adjacent to the CMGbS community at Yeelirrie Station were also observed at the Yakabindie site presented in Figure 2. These are:
 - a. HPMS - Hardpan Mulga Shrublands;
 - b. CAbS – Calcrete system *Acacia burkittii* shrublands; and
 - c. PLAPoS – Playa system, *Acacia - Ptilotus obovatus* shrublands.
7. The ecotone between the relevant adjacent communities on Yakabindie Station are generally relatively narrow, due to the topography in that area. Here, the calcrete rises lay an estimated 0.25m to 0.5 m above the surrounding HPMS and PLAPoS communities. A conservative approach has been taken in determining the extent of ecotones on Yakabindie Station with 20m width considered, on balance, to be appropriate.
 - a. Other communities noted adjacent to the CMGbS ecotone community at Yeelirrie were not observed in the area mapped as supporting aspects of the CMGbS community on the western fringe Yakabindie Station.
 - b. However, these community types are present elsewhere in the eastern parts of Yeelirrie Station. These areas have not been included in the calculations of potential occurrence of the CMGbS ecotone community similar to that at Yeelirrie Station at this stage. Ecotones between CLaS (Calcrete system with *Lycium australe* shrublands), CMpS (Calcrete system with *Maireana pyramidata* shrublands) and CMxS (Calcrete system with *Melaleuca xerophila* shrublands) and adjacent Mulga communities (HMPS, SAMU) are present elsewhere on the eastern fringe of Yeelirrie Station, south-west of the area presented in Figure 2.

Figure 2. Complex of CAbS, HPMS and PLAPoS communities observed on Yakabindie Station with a nominal 20 m ecotone defined.



234000mE



236000mE

6974000mN

Waypoint 026 ●

6972000mN

Waypoint 027 ●

Waypoint 028 ●

Waypoint MI-18 ●

Waypoint MI-12 ●

6970000mN

Waypoint MI-13 ●

LEGEND

- CAbS: Calcrete System, *Acacia burkittii* shrubland
- HPMS: Hardpan System, Hardpan Plain Mulga Shrubland
- PLAPoS: Playa System, *Acacia* spp. and *Ptilotus obovatus* Shrubland
- Ecotone similar to CMGbS Community

**Cameco Australia Ltd
Yeelirrie Uranium Project
Regional Occurrence of
CMGbS Vegetation**

Author: G. Cockerton

Date: June 2016

Ecotones noted at Yakabindie Station

Three relevés were described on the western margin of Yakabindie Station where there is an intricate mosaic of Calcrete and Hardpan communities. Descriptions of these are presented below.

Site 17, wpt 27, 51J 233670 mE, 697271 mN, Photo 8625

Acacia burkittii 3 to 4 m, PFC 15% with occasional *i* 4m, PFC 2% over scattered *Eremophila alternifolia* 2m, *Senna artemisioides* subsp. *filifolia* 1.5m, *Eremophila arachnoides* subsp. *arachnoides* 1.8m, PFC 1% over *Ptilotus obovatus* (typical goldfields form) 0.5m, PFC 2%. Soil is pale red medium siliceous sand with abundant calcrete gravel. *Grevillea berryana* trees (2) on margin of a small calcrete rise supporting *Acacia burkittii* (CAbS) community. There is *Acacia ayersiana* in the Mulga community surrounding this site, along with other forms of *Acacia aneura* and *Acacia ramulosa* in a hardpan community with *Ptilotus obovatus* understorey.



Site 18, adjacent to quadrat MI-12, 51J 233805 mE, 6970553 mN, Photo 8642
Junction between HPMS community to the north and CAbS community to the south.

- HPMS: *Acacia aneura* (sens lat), *Acacia ayersiana* 6 to 8 m, PFC 10 to 20% over *Ptilotus obovatus* 0.5m, PFC 20% with occasional *Maireana pyramidata* 0.7m, *Eremophila forrestii* 1.2m, *Solanum lasiophyllum* 0.5m, PFC < 1%. On hardpan silty sand.
- CAbS: *Acacia burkittii* 3 to 4m, PFC 10% with emergent occasional *Grevillea berryana* 4m, over occasional *Eremophila alternifolia* 2m, *Acacia tetragonophylla* 2m, *Senna artemisioides* subsp. *filifolia* 1.2m, *Scaevola spinescens* (terete) 0.6m, occasional emergent *Santalum spicatum* 2m, *Santalum acuminatum* 3m, PFC 2 to 3% over *Ptilotus obovatus* 0.4m, PFC 2%. On calcrete rise.

At the junction of the two communities, members of both communities mix with *Grevillea berryana* 4 to 5m, *Eremophila longifolia* 3.5m, *Acacia macraneura* 2m, PFC 2 to 5%.



Site 19, wpt28, 51J 233689 mE, 6970167 mN, Photo: 8648 (taken nearby)

Acacia ayersiana with occasional *Grevillea berryana*, *Eremophila longifolia* 3m, *Hakea lorea* 6m (in flower and bud), PFC 15 to 20% over *Eremophila forrestii*, *Grevillea sarissa* subsp. *sarissa* 2m, *Triodia basedowii*, PFC 10%. An area of complex interactions in micro changes in topography with HPMS / Gilgai / PlaMi or PLAPoS communities



Mapping of ecotone on Yakabindie Station similar to CMGbS ecotone community

The field investigation on Yeelirrie and Yakabindie Stations conducted 22nd, 24th to 25th May 2016 confirmed additional occurrences of ecotones between (i) the calcrete influenced communities, primarily CAbS, and (ii) the adjacent Hardpan Mulga Shrubland community (HPMS), and the *Acacia* – *Ptilotus obovatus* (PLAPoS) community in the Playa Landscape system.

The area assessed ranged from the upper reaches of the Yeelirrie paleochannel upstream from the proposed Yeelirrie Uranium Project to the eventual outfall at the northern edge of Lake Miranda, a distance of some 102 km.

An area of approximately 357.5 ha occurring on the western margin of Yakabindie Station, within the eastern portion of the Yeelirrie paleochannel contains an intricate mosaic of the Cabs, HPMS, PLAPoS and associated Gilgai communities. The many and varied interactions between these communities leads to narrow to moderate ecotones, estimated at 10 to 30m wide, between these communities where *Grevillea berryana* co-occurs with *Acacia burkittii*, *Acacia tetragonophylla*,

Acacia ayersiana, *Senna artemisioides* subsp. *filifolia*, *Ptilotus obovatus*, *Solanum lasiophyllum* and *Rhagodia drummondii*, all being key indicator species of the CMGbS community. See Figure 2.

Applying a nominal 20m wide ecotone between these communities, the following ecotones are present:

- | | |
|--|----------|
| a. Ecotone between CAbS and HPMS communities | 62.42 ha |
| b. Ecotone between PLAPoS and HPMS communities | 20.07 ha |
| c. Total ecotones mapped | 82.49 ha |

The ecotone is presented as a 20 m wide band interfacing between the three component communities on Yakabindie Station. See Figure 2.

Given the assessment in May 2016 was conducted at a dry time of the year with no significant rainfall incurred in the past 3 months, the species richness within the mosaic communities on Yakabindie Station is considered to be reasonably representative for perennial species but grossly under represented for annual herbs and grass species at this time.

Vegetation Condition

The condition of vegetation at both the Yeelirrie tenements and on Yakabindie Station was considered to be Excellent to Pristine with no evidence of weeds and disturbance limited to formed tracks (on Yakabindie) or old exploration drill lines (on Yeelirrie) and with vegetation presenting in a vegetative state, reflecting the prevailing seasonal conditions.

Analysis of the CMGbS ecotone community.

An analysis of species presence within the 3 relevés used to describe the community during vegetation mapping at Yeelirrie and of 3 quadrats used to verify vegetation mapping (2 assessed in summer period, all three assessed in spring period) found the dominant species (occurring in 50% or more of sites) within the community are:

- 100% of sites contain *Grevillea berryana*, *Ptilotus obovatus*, *Senna artemisioides* subsp. *filifolia*;
- 89% of sites contain *Acacia burkittii*, *Acacia tetragonophylla*;
- 67% of sites contain *Rhagodia drummondii*;
- 56% of sites contain *Acacia ayersiana*, *Enchylaena tomentosa* var. *tomentosa*, *Eremophila longifolia*, *Salsola tragus* subsp. *tragus* and *Solanum lasiophyllum*.

Table 2 presents a complete species vs. sites (presence / absence) analysis of both perennial and annual species (i) known from within quadrats defining the CMGbS

community at Yeelirrie Station and (ii) in three relevés defining similar ecotonal community at Yakabindie Station.

Note that the three relevés conducted on Yakabindie Station are a limited data set and further quadrats or relevés at this site would increase the species presence within that region and allow for a more comprehensive assessment of species presence / absence between the Yeelirrie and Yakabindie sites.

Perennial species within the CMGbS quadrats at Yeelirrie Station and the relevés at Yakabindie Station are dominated by the following: *Grevillea berryana*, *Ptilotus obovatus*, *Senna artemisioides* subsp. *filifolia*, *Acacia burkittii*, *Acacia tetragonophylla*, *Rhagodia drummondii*, *Acacia ayersiana*, *Enchylaena tomentosa* var. *tomentosa*, *Eremophila longifolia*, *Solanum lasiophyllum*, *Eremophila arachnoides* subsp. *arachnoides*.

Annual species are largely omitted from the relevés on Yakabindie Station as the prevailing weather conditions in May 2016 were dry, precluding the recording of annuals.

The statistical analysis reinforces the description of the CMGbS community as an ecotone between adjacent communities.

Impact Assessment on the CMGbS Community

Following the mapping of the ecotone at Yakabindie, Table 1 presents the impact assessment on the CMGbS community.

Table 1. Areas of CMGbS and similar ecotones mapped to date.

| Aspect | Area (ha) | Percentage |
|--|------------------|---------------|
| CMGbS within the proposed disturbance footprint | 41.4 ha | 31.75% |
| CMGbS within the projected 0.5 m groundwater drawdown envelope | 4.6 ha | 3.52% |
| Total CMGbS within footprint & projected drawdown envelope | 46 ha | 35.25% |
| CMGbS outside development footprint & drawdown envelope | 1.9 ha | 1.45% |
| Ecotone similar to CMGbS mapped at Yakabindie Station | 82.49 ha | 63.26% |
| Total ecotone mapped in region to date | 130.39 ha | 100% |
| Proportional impact to CMGbS and similar ecotone | | 35.8% |
| Total ecotone remaining if CMGbS impacted at Yeelirrie | | 63.26% |

The area of the CMGbS ecotone community proposed to be impacted by the development of the Yeelirrie project represents 35.8% of the local regional extent of

the CMGbS community within the Yeelirrie paleochannel, leaving 63.26% unaffected.

It is the authors opinion that other significant areas of ecotone between the hardpan Mulga Shrubland community and the other communities which contribute to the CMGbS community on Yeelirrie Station do occur in the eastern portion of Yeelirrie Station. These communities including CCpW, CMxS and CMpS were observed during the field assessment in May 2016, however, due to time constraints in preparing this Memo, have not been included in the mapping and presentation of supporting data.

Geoff Cockerton
14 June 2016

Table 2. Comparison of species presence within the Yeelirrie CMGbS communities and the mosaic community observed within relevés on Yakabindie Station.

Note: Grey shaded cells on Yakabindie reflect dominance in the vegetation association

| | Yeelirrie | | | | | | | | | | | Yakabindie | | |
|--------------------------------------|-----------|-------|-------|-------|-------|-----------------|-------|-------|-------|------------|------------|---------------------|--------|-----------|
| Community Code | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | | | Wpt 27 ¹ | Wpt 28 | Wpt MI-12 |
| Species | YQ130 | YQ095 | MI-12 | MI-13 | MI-18 | YQS181 (Spring) | R50 | R145 | R180 | # of Sites | % of Sites | | | |
| Perennials | | | | | | | | | | | | | | |
| Grevillea berryana | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 | 100% | 1 | 1 | 1 |
| Ptilotus obovatus | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 | 100% | 1 | 1 | 1 |
| Senna artemisioides subsp. filifolia | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 9 | 100% | 1 | 1 | 1 |
| Acacia burkittii | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 8 | 89% | 1 | 1 | 1 |
| Acacia tetragonophylla | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 8 | 89% | 1 | 1 | |
| Rhagodia drummondii | 1 | 1 | | | 1 | 1 | 1 | | 1 | 6 | 67% | | 1 | 1 |
| Acacia ayersiana | | 1 | | | | 1 | 1 | 1 | 1 | 5 | 56% | 1 | 1 | 1 |
| Enchylaena tomentosa var. tomentosa | | | 1 | 1 | 1 | 1 | | | 1 | 5 | 56% | 1 | 1 | |
| Eremophila longifolia | | 1 | | 1 | | 1 | 1 | | 1 | 5 | 56% | | | |
| Solanum lasiophyllum | 1 | 1 | 1 | 1 | | | | | 1 | 5 | 56% | | | 1 |

¹ Waypoints as shown on Figure 2.

| | Yeelirrie | | | | | | | | | | | Yakabindie | | |
|---|-----------|-------|-------|-------|-------|--------------------|-------|-------|-------|------------|------------|---------------------|--------|-----------|
| Community Code | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | | | Wpt 27 ¹ | Wpt 28 | Wpt MI-12 |
| Species | YQ130 | YQ095 | MI-12 | MI-13 | MI-18 | YQS181 (Spring) | R50 | R145 | R180 | # of Sites | % of Sites | | | |
| Eremophila arachnoides subsp. arachnoides | | 1 | | | 1 | | | 1 | 1 | 4 | 44% | | | 1 |
| Acacia victoriae | | 1 | | | | | | 1 | 1 | 3 | 33% | | | |
| Amyema gibberula var. gibberula | 1 | | | | | 1 | 1 | | | 3 | 33% | | | |
| Eremophila latrobei subsp. latrobei | | | 1 | 1 | 1 | | | | | 3 | 33% | | | |
| Lycium australe | 1 | 1 | | | | 1 | | | | 3 | 33% | | | |
| Maireana georgei | 1 | | 1 | 1 | | | | | | 3 | 33% | | | |
| Maireana pyramidata | 1 | | | 1 | 1 | | | | | 3 | 33% | | | |
| Maireana triptera | | 1 | | | 1 | | 1 | | | 3 | 33% | | | |
| Santalum lanceolatum | | 1 | | 1 | 1 | | | | | 3 | 33% | | | |
| Acacia aneura (indet. var.) | | | 1 | 1 | | | | | | 2 | 22% | | 1 | 1 |
| Acacia macraneura | | | 1 | | 1 | | | | | 2 | 22% | 1 | 1 | |
| Grevillea sarissa subsp. sarissa | | | | | 1 | | 1 | | | 2 | 22% | | | |
| Paspalidium basicladum | 1 | | | | | 1 | | | | 2 | 22% | | | |
| Rhagodia eremaea | | | 1 | 1 | | | | | | 2 | 22% | | | |
| Scaevola spinescens (broad leaf form) | | 1 | | 1 | | | | | | 2 | 22% | | | |

| | Yeelirrie | | | | | | | | | | | Yakabindie | | |
|--|-----------|-------|-------|-------|-------|--------------------|-------|-------|-------|------------|------------|---------------------|--------|-----------|
| Community Code | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | | | Wpt 27 ¹ | Wpt 28 | Wpt MI-12 |
| Species | YQ130 | YQ095 | MI-12 | MI-13 | MI-18 | YQS181 (Spring) | R50 | R145 | R180 | # of Sites | % of Sites | | | |
| Acacia aneura var. grey green, straight flat 30-80 x 2 mm | | | | | | | | 1 | | 1 | 11% | | | |
| Acacia ramulosa var. linophylla | | | | | | | 1 | | | 1 | 11% | | | |
| Amyema hilliana | | | | | | | 1 | | | 1 | 11% | | | |
| Austrostipa elegantissima | | 1 | | | | | | | | 1 | 11% | | | |
| Eremophila alternifolia | | 1 | | | | | | | | 1 | 11% | 1 | | |
| Eremophila decipiens | | | | 1 | | | | | | 1 | 11% | | | |
| Eremophila ericalyx | | | | | | | 1 | | | 1 | 11% | | | |
| Eremophila forrestii subsp. forrestii | | | | | | | 1 | | | 1 | 11% | | | |
| Eremophila oppositifolia subsp. angustifolia | | 1 | | | | | | | | 1 | 11% | | | |
| Marsdenia australis | | | | | | | | | 1 | 1 | 11% | | | |
| Melaleuca interioris | | | | | | | 1 | | | 1 | 11% | | | |
| Psydrax suaveolens | | | | | | | 1 | | | 1 | 11% | | | |
| Rhyncharrhena linearis | | | | | | 1 | | | | 1 | 11% | | | |
| Santalum acuminatum | 1 | | | | | | | | | 1 | 11% | | | |

| | Yeelirrie | | | | | | | | | | | Yakabindie | | |
|--|-----------|-------|-------|-------|-------|--------------------|-------|-------|-------|------------|------------|---------------------|--------|-----------|
| Community Code | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | | | Wpt 27 ¹ | Wpt 28 | Wpt MI-12 |
| Species | YQ130 | YQ095 | MI-12 | MI-13 | MI-18 | YQS181 (Spring) | R50 | R145 | R180 | # of Sites | % of Sites | | | |
| Scaevola spinescens (terete leaf form) | 1 | | | | | | | | | 1 | 11% | | | |
| Spartothamnella teucriflora | | | | | | | 1 | | | 1 | 11% | | | |
| Templetonia incrassata | | | | | | | | | 1 | 1 | 11% | | | |
| Triodia basedowii | | | | | 1 | | | | | 1 | 11% | | | |
| Annuals | | | | | | | | | | | | | | |
| Salsola tragus subsp. tragus | 1 | 1 | | 1 | 1 | 1 | | | | 5 | 56% | 1 | | |
| Dissocarpus paradoxus | | 1 | | | | 1 | | 1 | 1 | 4 | 44% | 1 | 1 | 1 |
| Enneapogon caerulescens | 1 | | 1 | 1 | | 1 | | | | 4 | 44% | | 1 | |
| Ptilotus exaltatus | 1 | | | | | 1 | | | | 2 | 22% | | | |
| Abutilon otocarpum | | | | | | 1 | | | | 1 | 11% | | | |
| Aristida contorta | | | | | | 1 | | | | 1 | 11% | 1 | 1 | 1 |
| Calotis plumulifera | | | | | | 1 | | | | 1 | 11% | | | |
| Cephalipterum drummondii | | | | | | 1 | | | | 1 | 11% | | | |
| Eriachne pulchella subsp. pulchella | | | | | | 1 | | | | 1 | 11% | | | |
| Erodium cygnorum | | | | | | 1 | | | | 1 | 11% | | | |
| Euphorbia drummondii | | | | | | 1 | | | | 1 | 11% | | | |

| | Yeelirrie | | | | | | | | | | | Yakabindie | | |
|---------------------------|-----------|-------|-------|-------|-------|--------------------|-------|-------|-------|------------|------------|---------------------|--------|-----------|
| Community Code | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | CMGbS | | | Wpt 27 ¹ | Wpt 28 | Wpt MI-12 |
| Species | YQ130 | YQ095 | MI-12 | MI-13 | MI-18 | YQS181 (Spring) | R50 | R145 | R180 | # of Sites | % of Sites | | | |
| Goodenia peacockiana | | | | | | 1 | | | | 1 | 11% | | | |
| Haloragis trigonocarpa | | | | | | 1 | | | | 1 | 11% | | | |
| Poaceae sp. YQ095 | | 1 | | | | | | | | 1 | 11% | | | |
| Poaceae sp. YQ130 | 1 | | | | | | | | | 1 | 11% | | | |
| Portulaca oleracea | | | | | | 1 | | | | 1 | 11% | | | |
| Ptilotus aeroides | | | | | | 1 | | | | 1 | 11% | | | |
| Ptilotus helipteroides | | | | | | 1 | | | | 1 | 11% | | | |
| Sclerolaena convexula | 1 | | | | | | | | | 1 | 11% | | | |
| Sclerolaena densiflora | | | | | | 1 | | | | 1 | 11% | | | |
| Sclerolaena diacantha | | | | | | 1 | | | | 1 | 11% | | | |
| Sclerolaena fusiformis | | | | | | | | 1 | | 1 | 11% | | | |
| Swainsona kingii | | | | | | 1 | | | | 1 | 11% | | | |



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