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EVAPORATION POND FLORA SURVEY

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SINOSTEEL MIDWEST CORPORATION LTD.

EVAPORATION POND FLORA SURVEY

PRIORITY FLORA SURVEY

中钢澳洲中西矿业公司
SINOSTEEL MIDWEST CORPORATION LIMITED

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ACRONYMS

List all acronyms used in the report here. Format alphabetically as follows:

DEC Department of Environment and Conservation

EPA Environmental Protection Authority

EPBC *Environment Protection and Biodiversity Conservation Act 1950*

EXECUTIVE SUMMARY

Sinosteel Midwest Corporation Ltd (SMC) is currently assessing the viability of the Weld Range Mining Proposal.

The Weld Range is located approximately 70 km south-west of Meekatharra and 80 km north-west of Cue. It is part of a series of greenstone ridges that forms the northerly extent of the Yilgarn Craton.

As part of the project feasibility studies and to facilitate the environmental legal approvals processes, an assessment of the priority flora present in the proposed evaporation pond and service corridor was was undertaken. The purpose of this exercise was to provide information on the distribition and abundance of flora of conservation significance in the survey area. An appraisal of the priority flora recorded in the proposed evaporation pond and service corridor is presented in this report.

A floristic survey targeting Declared Rare and Priority Flora was undertaken from the 12th to 16th July 2010 by two botanists. This study involved walking along transect lines and recording the locations (using a handheld GPS) and relative abundance of any flora of conservation significance. The total area surveyed was approximately 600 ha. Four major vegetation communities associated with five landforms are decribed in this report.

One Priority 1 PEC occurs in the immediate vicinity of the investigation area and part of the service corridor lies within the currently defined boundaries of this PEC.

No flora species protected by the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 were recorded during the survey. No Declared Rare Flora species protected by the Wildlife Conservation Act 1950 were recorded during the survey.

Five priority flora taxa, namely, *Acacia speckii* (Priority 3), *Dodonaea amplisemina* (Priority 3), *Hemigenia tysonii* (Priority 3), *Micromyrtus placoides* (Priority 3) and *Grevillea inconspicua* (Priority 4) were recorded during the current survey.

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

Sinosteel Midwest Corporation LTD (SMC) is proposing to develop a new iron ore mine at Weld Range, in the Western Murchison area of Western Australia.

An evaporation pond is required for dewatering activities as part of the mining process. Sinosteel Midwest Corporation LTD commissioned *ecologia* Environment (*ecologia*) to undertake a survey to locate priority flora within the evaporation pond and service corridor at Weld Range. This survey was undertaken by *ecologia* in July 2010 and consisted in recording priority plants along transect lines.

The purpose of this exercise was to provide information on the presence and relative abundance of priority flora as part of the environmental approval process for the proposed mine.

1.2 LOCATION

The Weld Range is located approximately 70 km south-west of Meekatharra and 80 km north-west of Cue. It is part of a series of greenstone ridges that forms the northerly extent of the Yilgarn Craton. The tenements that form the basis for the mining exploration cover a series of hills that rise approximately 250 m above the surrounding plains. The range is some 3 km wide, extends for up to 60 km in length from southwest to the northeast, and consists of a series of parallel ridges with deep incised valleys. The proposed evaporation pond is located on Madoonga Station to the north of the Hampton Hill Range (Figure 1.1).

The survey area is located in the Interim Biogeographic Regionalisation of Australia's (IBRA) Murchison botanical region (Environment Australia, 2007), and, on the Weld Land System (Curry et al., 1994).

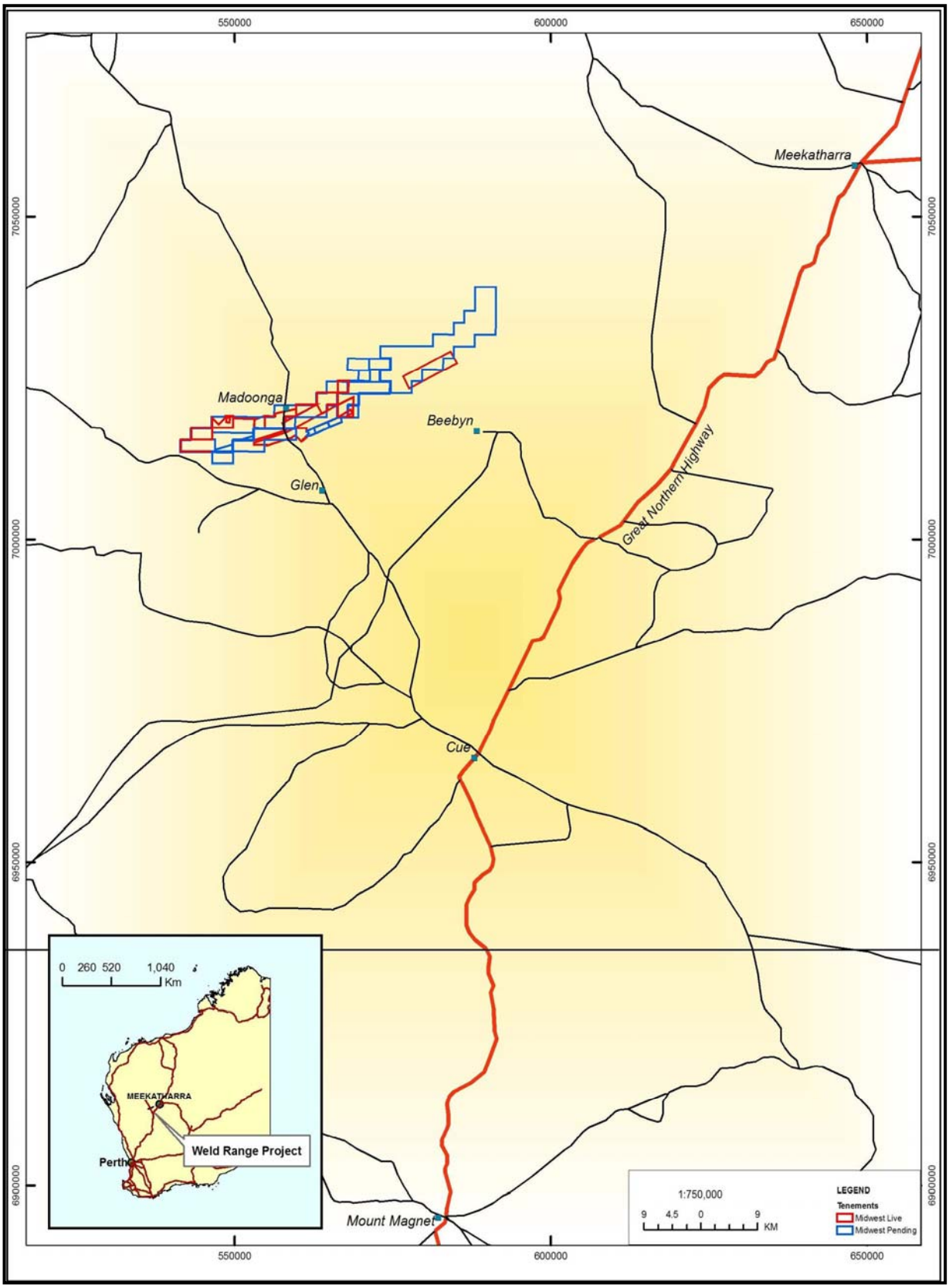
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Figure 1.1 – Location of the SMC Weld Range Iron Ore Project

2 METHODOLOGY

2.1 SURVEY FOR DECLARED RARE AND PRIORITY FLORA

A floristic survey targeting Declared Rare Flora (DRF) and Priority Flora was undertaken on the 12th to 16th July 2010. The survey targeted the evaporation pond and service corridor as specified by SMC (Figure 2.1).

The survey was undertaken by two botanists and it involved searching for declared rare and priority flora along transect lines. The evaporation pond covers an area of 3km X 2km and exploration of the site was conducted over 3km tracks which were spaced along the 2km boundary at intervals of 100m. The service corridor runs along approximately 6km and transect lines were set up along this length at intervals of 25m. A belt of 15m on either side of the line was explored for DRF and Priority Flora. Each transect line was followed using a Global Positioning System (GPS) navigator.

During the survey the following information was obtained:

a) The GPS coordinates and number of individuals were recorded for any flora of conservation significance. Voucher collections were made of each known or suspected conservation significant species.

b) An inventory of priority plant species was generated for the investigation area. Species not readily identifiable in the field were collected and identified using current taxonomic keys and the resources of the Western Australian Herbarium. Details of the relative abundance and height range for each of those species were also noted.

c) The vegetation community and habitat at which each species cluster was located were documented.

2.2 DATABASE SEARCH

A search of the following databases was undertaken in June 2010, to determine species of conservation significance previously recorded in the vicinity of the Project area:

- DEC Threatened (Declared Rare) Flora Database (DEFL);
- DEC Declared Rare and Priority Flora List;
- DEC Western Australian Herbarium Specimen Database (WAHERB);
- DEC Threatened Ecological Community Database; and
- The Department of the Environment and Water Resources Protected Matters Database.

Details of the 2010 search are included in table A.1, Appendix A.

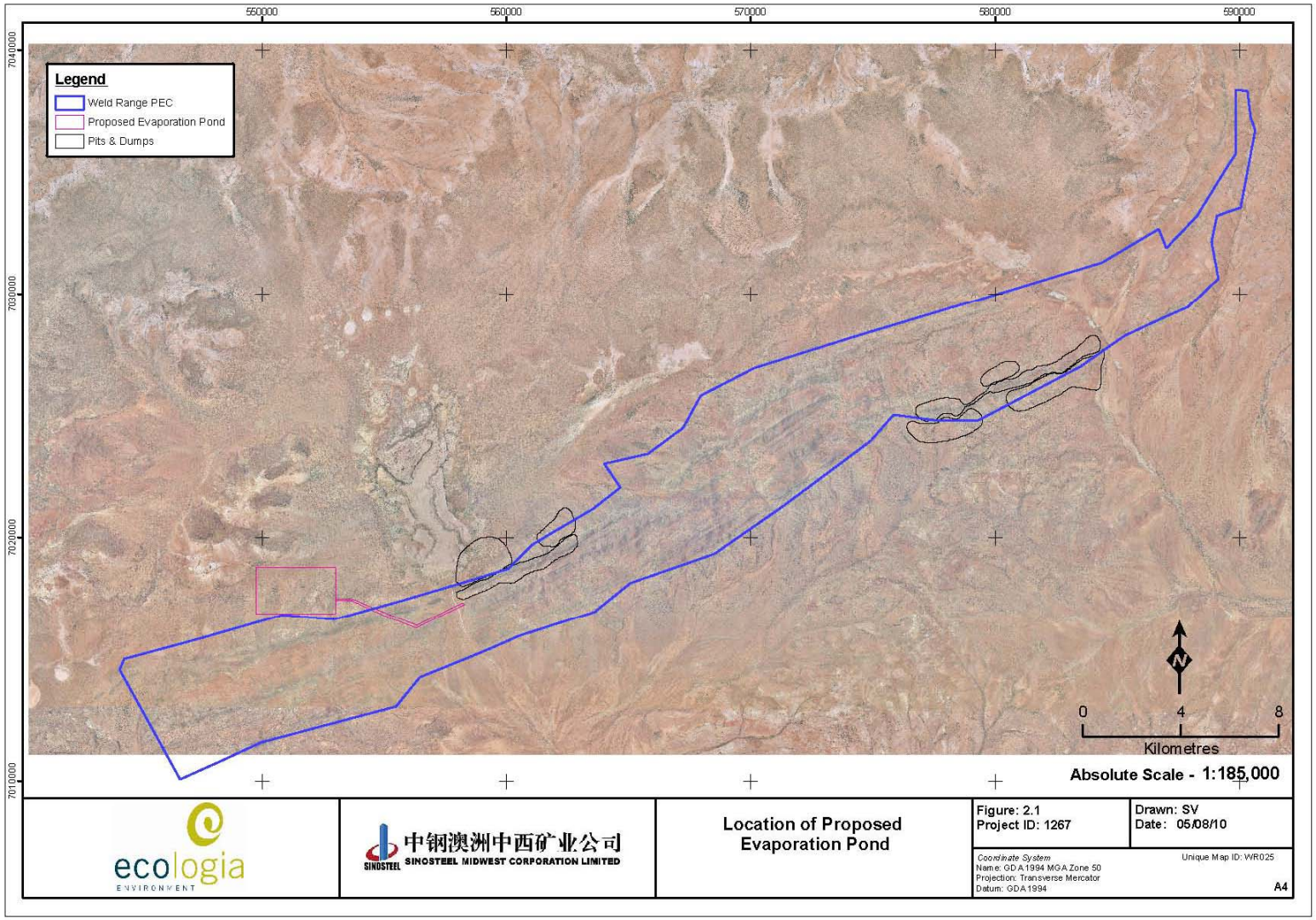

Figure 2.1 – Location of the Proposed Evaporation Pond and Service Corridor

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3 VEGETATION AND THREATENED ECOSYSTEMS

3.1 REGIONAL VEGETATION

The Weld Range project area is situated within the Murchison botanical district of the Eremaean botanical province. The boundaries of this province approximate the geological boundaries of the Yilgarn Block, which forms the nucleus of the West Australian Shield (Beard, 1976). The region is well known for the dominance of mulga (*Acacia aneura*) woodlands, and the extensive flats and plains provide optimum conditions for the occurrence of these woodlands (Beard, 1976). The Murchison botanical district is divided into two subregions, and the Weld Range falls within the boundaries of the upper or Western Murchison subregion (MUR2). Data recorded from flora surveys and opportunistic collections in the region indicate that the Murchison bioregion encompasses a rich flora with at least 2,210 known species (Western Australian Herbarium, 2010).

Mulga shrublands make up the vast majority of vegetation types encountered in the Murchison region. On the more favorable soils (plains and valleys) *Acacia aneura* generally grows in the form of a tree with a single erect trunk and forms low woodlands. On less favorable soils, such as those present on hill slopes and ridges, it takes the form of a shrub producing shrublands/scrublands (Beard, 1976). As a result, the bulk of landscapes are dominated by mixed shrubland/scrubland, with few or no trees or perennial grasses, randomly scattered or loosely aggregated shrubs, with large areas of bare ground with exposed shallow red soils between them (Curry et al., 1994).

3.2 VEGETATION OF THE GENERAL AREA

The Weld Range is located approximately 12 km to the north of the survey area. Beard (1976) describes the vegetation of the Weld Range as dominated by *Acacia aneura* and *Acacia quadrimarginea* with an understorey of *Eremophila latrobei*, *Eremophila oppositifolia*, *Scaevola spinescens*, *Ptilotus obovatus*, *Olearia stuartii* and *Lepidium* species. The lower slopes are dominated by *Acacia aneura* and *Acacia ramulosa* var. *linophylla*, with some *Acacia grasbyi*.

Markey & Dillon (2008) described eight vegetation communities during their survey at the Weld Range, and these communities were dominated by *Acacia* species including: *Acacia aneura*, *Acacia* sp. Weld Range (A. Markey & S. Dillon 2994), *Acacia ramulosa*, *Acacia pruinocarpa*, *Acacia effusifolia* and *Acacia speckii*.

3.3 VEGETATION COMMUNITIES RECORDED DURING PREVIOUS SURVEYS AT WELD RANGE

During previous surveys conducted by *ecologia* In Nov 2006, Apr 2007 and May 2008, seven major vegetation communities associated with seventeen landforms were described:

1a BIF mid to upper slopes and outcropping : *Acacia aneura* low open woodland over A. sp. Weld Range, A. *ramulosa* var. *linophylla* and *Thryptomene decussata* open mid shrubland over mixed *Eremophila* spp. low shrubland.

1b BIF upper slopes and outcropping: *Acacia aneura* low open woodland over *A. cockertoniana* open mid shrubland over mixed mid shrubland over *Ptilotus obovatus* low shrubland.

2a Ridge tops of BIF ranges.: *Acacia aneura* low open woodland over *A. cockertoniana* open mid shrubland over mixed mid shrubland over *Ptilotus obovatus* low shrubland.

2b Mid to upper slopes and broad ridge tops of BIF ranges and ridge tops of breakaways: *Acacia aneura* sparse shrubland over mixed sparse mid shrubland over *Micromyrtus sulphurea* and *Ptilotus obovatus* low open shrubland.

3a Sandy outwash and gravelly plains and footslopes of BIF ranges: +/- *Corymbia lenziana* scattered medium trees over *Acacia ramulosa* var. linophylla and A. *aneura* sparse tall shrubland over mixed *Eremophila* spp. open mid shrubland over scattered low shrubs of *Ptilotus obovatus* over mixed open tussock grassland.

3b Drainage lines and low lying areas on sandy and outwash plains: +/- *Acacia pruinocarpa* scattered trees over *A. aneura* woodland over *A. ramulosa* var. linophylla and *A. aneura* shrubland over mixed *Eremophila* spp. closed shrubland over *Ptilotus obovatus* open low shrubland.

3c Sandy plains: Scattered *Eucalyptus* mallees / trees over *Acacia ramulosa* var. *linophylla* open shrubland over *Rhagodia eremaea*, *Eremophila forrestii* subsp. forrestii shrubland over *Ptilotus obovatus* open low shrubland.

3d Gravelly plains and low hills: *Acacia aneura* and *A. cockertoniana* open moderate shrubland over *Eremophila simulans* subsp. *simulans* and *Aluta aspera* subsp. *hesperia* low open shrubland.

4a Undulating scree plains and mid to low slopes of granite and dolerite: *Acacia* sp. Weld Range and *A. aneura* var. *microcarpa* open tall shrubland over *Eremophila macmillaniana* and mixed *Senna* spp. open mid shrubland over *Ptilotus obovatus* open low shrubland.

4b Minor drainage areas, creek lines and midslope of low dolerite and granite hills: *Acacia* sp. Weld Range and *Acacia speckii* shrubland over mixed Senna spp. sparse shrubland over *Grevillea inconspicua* and *Dodonaea amplisemina* open shrubland over *Cymbopogon ambiguus* sparse tussock grassland.

5a Ridge tops and upper slopes of BIF ridges, low lying semi-saline flats, riparian areas and ironstone scree flat plains: *Acacia craspedocarpa* open tall shrubland over *Solanum ashbyae* / *lasiophyllum* and *Ptilotus obovatus* low shrubland over mixed low tussock grassland.

5b Flat plain adjoining seasonally inundated wetland: +/- *Grevillea* striata low isolated trees over *Acacia craspedocarpa* and *A. aneura* tall open shrubland over *Scaevola spinescens* sparse mid shrubland over *Austrostipa elegantissima* and *Eriachne flaccida* low open tussock grassland.

6a Mainly occurring in and around seasonally inundated areas and salt affected drainage lines: Scattered *Acacia* spp. shrubs over mixed *Senna* spp. open mid shrubland over *Ptilotus obovatus* sparse shrubland over mixed *Maireana* spp. chenopod shrubland.

6b Undulating plains with a surface layer of gypsum and calcrete: Scattered mixed *Acacia* spp. over *Rhagodia eremaea* and *Scaevola spinescens* sparse mid to low shrubland over *Ptilotus obovatus*, *Maireana georgei* and *Sclerolaena diacantha* low chenopod shrubland.

6c Seasonally inundated salt pan: *Eremophila maculata* subsp. *brevifolia* low open shrubland over *Sclerolaena diacantha* low chenopod shrubland over *Enneapogon cylindricus* low tussock grassland.

7a Seasonally inundated claypan: *Melaleuca stereophloia* and *Cratystylis subspinescens* low shrubland over *Tecticornia* spp. low samphire shrubland over *Frankenia laxiflora* low shrubland.

7b Occurring as a band across a seasonally inundated wetland: *Eucalyptus* carnei and *Eucalyptus trivalva* woodland over *Cratystylis subspinescens* and *Muehlenbeckia florulenta* low sparse shrubland over mixed low tussock grasses.

3.4 VEGETATION COMMUNITIES RECORDED DURING THE CURRENT SURVEY

Four major vegetation communities associated with five landforms were recorded during the survey. Those vegetation communities are described in Table 3.1.

Table 3.1 – Vegetation Communities of the Study Area

Location	Habitat	Vegetation Description	Photograph
Evaporation Pond and Service Corridor	3a Sandy outwash and gravelly plains and footslopes of BIF ranges	+/- *Corymbia lenziana* scattered medium trees over *Acacia ramulosa* var. *linophylla* and A. *aneura* sparse tall shrubland over mixed *Eremophila* spp. open mid shrubland over scattered low shrubs of *Ptilotus obovatus* over mixed open tussock grassland	
Evaporation Pond and Service Corridor	3b Drainage lines and low lying areas on sandy and outwash plains	+/- *Acacia pruinocarpa* scattered trees over *A. aneura* woodland over *A. ramulosa* var. *linophylla* and *A. aneura* shrubland over mixed *Eremophila* spp. closed shrubland over *Ptilotus obovatus* open low shrubland	
Evaporation Pond and Service Corridor	5a Ridge tops and upper slopes of BIF ridges, low lying semi-saline flats, riparian areas and ironstone scree flat plains	*Acacia craspedocarpa* open tall shrubland over *Solanum ashbyae* / *lasiophyllum* and *Ptilotus obovatus* low shrubland over mixed low tussock grassland	

Location	Habitat	Vegetation Description	Photograph
Service Corridor	1a BIF mid to upper slopes and outcropping	*Acacia aneura* low open woodland over A. sp. Weld Range, *A. ramulosa* var. *linophylla* and *Thryptomene decussata* open mid shrubland over mixed *Eremophila* spp. low shrubland	
Service Corridor	4a Undulating scree plains and mid to low slopes of granite and dolerite	*Acacia* sp. Weld Range and *A. aneura* var. *microcarpa* open tall shrubland over *Eremophila macmillaniana* and mixed *Senna* spp. open mid shrubland over *Ptilotus obovatus* open low shrubland	

3.5 ECOLOGICAL COMMUNITIES OF CONSERVATION SIGNIFICANCE NEAR THE INVESTIGATION AREA

Ecological communities are naturally occurring biological assemblages found in a particular type of habitat. At a national level, flora and threatened ecological communities (TECs) are protected under the EPBC Act. TECs are listed as Critically Endangered, Endangered or Vulnerable (refer to Table B.1, Appendix B for category definitions). The Department of the Environment and Water Resources does not currently list any TECs as occurring within the Weld Range survey area.

The Western Australian DEC maintains a list of TECs that are Presumed Totally Destroyed, Critically Endangered, Endangered or Vulnerable. No State-listed TECs occur within or near to the project area.

Potential TECs that do not meet survey criteria, or that are not adequately defined, are added to a list of priority ecological communities (PECs). Communities are placed in this category while consideration can be given to their declaration as TECs. PECs are classified into one of five possible priority ranks based on frequency of ecological community occurrence and known threatening processes (refer to Table B.2, Appendix B for category definitions).

One Priority 1 PEC occurs in the vicinity of the investigation Area; “Weld Range vegetation complexes (Banded Ironstone Formation) (BIF)”. A significant portion of the service corridor lies within the currently defined boundaries of this PEC (Figure 2.1). The Priority 1 PEC ranking at Weld Range has been assigned on the basis that it represents a rare vegetation complex that is considered currently under threat of mining (DEC, 2008).

The current PEC boundary is based on information that was available at the time the Weld Range vegetation complexes (BIF) PEC was listed and is approximate, based on geology and vegetation layers available in GIS databases. It is possible the boundary will be reviewed as more data in relation to the vegetation of the BIF Ranges and surrounding plains becomes available.

4 FLORA

4.1 FLORA OF CONSERVATION SIGNIFICANCE

4.1.1 Environmental Protection and Biodiversity Conservation Act 1999

Flora species are protected at a national level under the Commonwealth EPBC Act. This Act protects species that are considered Critically Endangered, Endangered, Vulnerable, Conservation Dependent, Extinct or Extinct in the Wild (refer to Table C.1, Appendix C for category definitions). One species listed under this Act as Endangered, *Conospermum toddii* (Approved Conservation Advice for *Conospermum toddii*, 2008), is known from two collections in the Murchison region.

Conospermum toddii was not recorded during the current survey.

4.1.2 Wildlife Conservation Act 1950

Under the Western Australian Wildlife Conservation (Rare Flora) Notice of the WC Act, the Minister for the Environment may declare species of protected flora to be declared rare flora (DRF) if they are considered to be in danger of extinction, rare or otherwise in need of special protection. These taxa

are legally protected and removal or impact to their surroundings cannot be conducted without ministerial approval obtained specifically on each occasion for each population.

Currently, two DRF taxa are protected by the WC Act and are listed as occurring in the Murchison, *Conospermum toddii* and *Eremophila rostrata* subsp. *rostrata* (Wildlife Conservation (Rare Flora) Notice 2008(2)).

Neither *Eremophila rostrata* subsp*. rostrata* nor *Conospermum toddii* were recorded during the current survey

4.1.3 DRF, Priority and Conservation Significant Flora Taxa

The Department of Environment and Conservation (DEC) maintains a list of priority flora species, which may be rare or threatened but for which there are insufficient records to accurately determine the status, or which are regarded as rare but not currently threatened. These species are assigned to one of four priority categories (Atkins, 2010), as defined in Table C.2, Appendix C. Currently, 150 rare and priority flora taxa are listed as occurring in the Murchison (Western Australian Herbarium, June 2010).

4.1.4 Conservation Significant Flora Taxa Previously Recorded at Weld Range

To date, 27 flora taxa of conservation significance have been recorded during surveys carried out at the Weld Range by the DEC and *ecologia*. Table 4.1 summarises the distribution of these taxa.

Table 4.1 – Taxa of Conservation Significance Previously Recorded at Weld Range

Taxon	Family	Priority Code	Habitat Preference (FloraBase)	Likelihood of Occurrence Within the Current Survey Area
Beyeria lapidicola	Euphorbiaceae	P1	Banded ironstone ridges and slopes	Possible
Eremophila rhegos	Myoporaceae	P1	Skeletal brown stony loams over granite, dolerite	Possible
Euphorbia sarcostemmoides	Euphorbiaceae	P1	Sandstone ridges, quartzite hills	Unlikely
Goodenia lyrata	Goodeniaceae	P1	Mulga woodlands, red sandy loam	Possible
Sauropus sp. *Woolgorong* (M. Officer s.n. 10/8/94)	Euphorbiaceae	P1	Slopes of Banded Ironstone outcrop	Possible
Stenanthemum patens	Rhamnaceae	P1	Rocky hillsides	Possible
Acacia ?burrowsiana	Fabaceae	P3	Red-brown loams, calcrete, laterite, quartz. Flats adj. to drainage, crests of low rises, breakaways.	Possible

Taxon	Family	Priority Code	Habitat Preference (FloraBase)	Likelihood of Occurrence Within the Current Survey Area
Acacia speckii	Fabaceae	P3	Rocky soils over granite, basalt or dolerite. Rocky hills or rises	Confirmed
Calytrix erosipetala	Myrtaceae	P3	Rocky sandstone or granite breakaways	Unlikely
Dodonaea amplisemina	Sapindaceae	P3	Red-brown sandy clay soils over basalt or banded ironstone	Confirmed
Eremophila arachnoides subsp. *arachnoides*	Myoporaceae	P3	Shallow loams over limestone	Possible
Grevillea stenostachya	Proteaceae	P3	Red sand, sandy loam	Possible
Hemigenia tysonii	Lamiaceae	P3	Red sand, sandy clay and lateritic sand on flats, sand dunes and hills	Confirmed
Homalocalyx echinulatus	Myrtaceae	P3	Laterite. Breakaways, sandstone hills	Possible
Indigofera gilesii subsp. *gilesii*	Fabaceae	P3	Pebbly loams and hill slopes amongst boulders & outcrops	Possible
Micromyrtus placoides	Myrtaceae	P3	Brown loam, dolerite, ironstone or granite, outcrops above breakaways and steep slopes	Confirmed
Mirbelia ?stipitata	Fabaceae	P3	Red sandy loam	Possible
Phyllanthus baeckeoides	Euphorbiaceae	P3	Red lateritic & sandy clay soils. Granite outcrops	Unlikely
Prostanthera ferricola	Lamiaceae	P3	Red-brown skeletal sandy loam on BIF, laterite, basalt or quartz.	Possible
Prostanthera petrophila	Lamiaceae	P3	Lateritic soils.	Possible
Ptilotus beardii	Amaranthaceae	P3	Clayey soils. Saline flats, low breakaways	Possible
Ptilotus luteolus	Amaranthaceae	P3	Gravelly slopes down from Banded Ironstone outcrop	Possible
Tecticornia cymbiformis	Chenopodiaceae	P3	Saline areas along floodplains or creeklines	Possible
Verticordia jamiesonii	Myrtaceae	P3	Sandy clay soils. Lateritic breakaways	Possible
Baeckea sp. Melita Station (H. Pringle 2738)	Myrtaceae	P4	Dark red rocky soil over ironstone. Mulga shrubland	Possible
Goodenia berringbinensis	Goodeniaceae	P4	Red sandy loam. Along watercourses	Unlikely
Grevillea inconspicua	Proteaceae	P4	Greenstone loam gravel drainage lines, rocky outcrops, creeklines	Confirmed

4.1.5 Priority Flora Recorded by ecologia at Weld Range

Five priority flora taxa, namely, *Acacia speckii* (Priority 3), *Dodonaea amplisemina* (Priority 3), *Hemigenia tysonii* (Priority 3), *Micromyrtus placoides* (Priority 3) and *Grevillea inconspicua* (Priority 4) were recorded during the current survey. The locations and relative abundance of those species are provided in Table D.1 (Appendix D). Data obtained from current and previous (*ecologia* and DEC) surveys have been used to indicate the distribution of the five priority flora within and outside the evaporation pond in figures 4.1 to 4.11.

A brief description of the five Priority Flora taxa are given below.

***Acacia speckii* (Fabaceae) - Priority 3**

Acacia speckii is a bushy, rounded shrub or gnarled tree, growing from 1.5 m to 3.0 m in height; the bark is grey and fissured on the main branches (Plate 4.1). The phyllodes are light green, rigid and erect, circular in cross-section, and have a hardened, brown tip. The pod is light brown, narrow and compressed between each seed. This species is often found in rocky soils over granite, basalt or dolerite, including the rocky hills or rises observed across the Weld Range.

Acacia speckii known distribution is the Meekatharra – Mt Magnet area and between the Yalgoo, Morawa – Mullewa area. Twenty-seven *Acacia speckii* collection records are currently lodged at the Western Australian Herbarium (2010) from locations at Weld Range, Mount Magnet, Meekatharra and Yalgoo. This Priority 3 species was recorded at 40 locations during the survey with a total of 50 plants.

Plate 4.1 – *Acacia speckii* (P3) growth habit (right), fruit structure (centre) and flower bud/leaf structure (left)

***Dodonaea amplisemina* (Sapindaceae) - Priority 3**

Dodonaea amplisemina is a multi-stemmed open shrub, with the branchlets sometimes becoming spiny (Plate 4.2). The two leaf forms (linear or narrow spear shaped) have blunt tips and are often clumped together. The flowers are inconspicuous, but the mature fruits (produced from late August to October) are pink-brown with four incurving horns. Its preferred habitat is open shrublands with *Acacia*, *Eremophila* and other low shrubs on red-brown sandy clay soils over basalt or banded ironstone. One population has been recorded on quartzite.

Dodonaea amplisemina is currently known to occur in scattered populations from the Robinson Ranges to south of Paynes Find. Twenty-seven *Dodonaea amplisemina* collection records are lodged

at the Western Australian Herbarium (2010) from locations including Mount Magnet, Weld Range, Cue and Buddadoo Range. This Priority 3 species was recorded at 6 locations in the survey area and a total of 15 plants were observed.

Plate 4.2 – *Dodonaea amplisemina* (P3) growth habit (right) and fruit/leaf structure (left)

***Hemigenia tysonii* (Lamiaceae) - Priority 3**

Hemigenia tysonii is a dense, fine-branched, mint bush growing to 0.6 m in height (Plate 4.3). The small leaves are grey-green in colour, stiff, 4-7 mm long and 1-3 mm wide. They are arranged opposite one another or occasionally grouped on the stem. The flowers are purple/light pink, with white spots inside, and flowering occurs from May to December. This shrub tends to grow in red sand, sandy clay and lateritic sand on flats, sand dunes and hills.

Hemigenia tysonii is known to occur between Murchison Roadhouse and Meekatharra. Currently, 13 *Hemigenia tysonii* collection records are lodged at the Western Australian Herbarium (2009) from locations including Mount Hale, Noonie Hills and Muggon Station. This Priority 3 species was recorded at nineteen locations across the survey area with a total of 183 plants.

Plate 4.3 – *Hemigenia tysonii* (P3) growth habit (right; foreground) and leaf structure (left)

***Micromyrtus placoides* (Myrtaceae) - Priority 3**

Micromyrtus placoides is a rounded shrub that grows between 0.5 m and 2.5 m high (Plate 4.4). The leaves are broad obovate to almost circular in outline and are normally concentrated at the tips of branches. White flowers are often reflexed on their stalks, and are produced from July to September. This species occurs on several different substrates including brown loam, dolerite, ironstone and granite, and prefers outcrops above breakaways and steep slopes.

Its distribution is from Cue to Mount Narryer in the west. Seventeen *Micromyrtus placoides* collection records are currently lodged at the Western Australian Herbarium (2010) from locations including Weld Range, Tallering Peak, Mount Narryer and Cue. This Priority 3 species was recorded at seven locations across the Weld Range survey area and 62 plants were noted.

Plate 4.4 – *Micromyrtus placoides* (P3) growth habit (right) and leaf structure (left)

***Grevillea inconspicua* (Proteaceae) - Priority 4**

Grevillea inconspicua is an intricately branched, often 'messy looking', spreading shrub growing between 0.6 m and 2 m in height (Plate 4.5). The leaves are linear, flat, silvery green, with an obvious hardened point, and bend downwards from the stem. White/pink flowers are generally produced from June to August. This species typically occurs along drainage lines, on rocky outcrops and creeklines, and tends to favour loamy soils with a gravel surface.

Grevillea inconspicua occurs in scattered populations between Weld Range and Sandstone. Currently 53 *Grevillea inconspicua* collection records are lodged at the Western Australian Herbarium (2009) from locations including Weld Range, Sandstone, Mount Magnet and Booylgoo Range. This Priority 4 species was recorded at eleven locations across the Weld Range survey area and a total of 14 plants were observed.

Plate 4.5 – *Grevillea inconspicua* (P4) growth habit (right) and fruit/leaf structure (left)

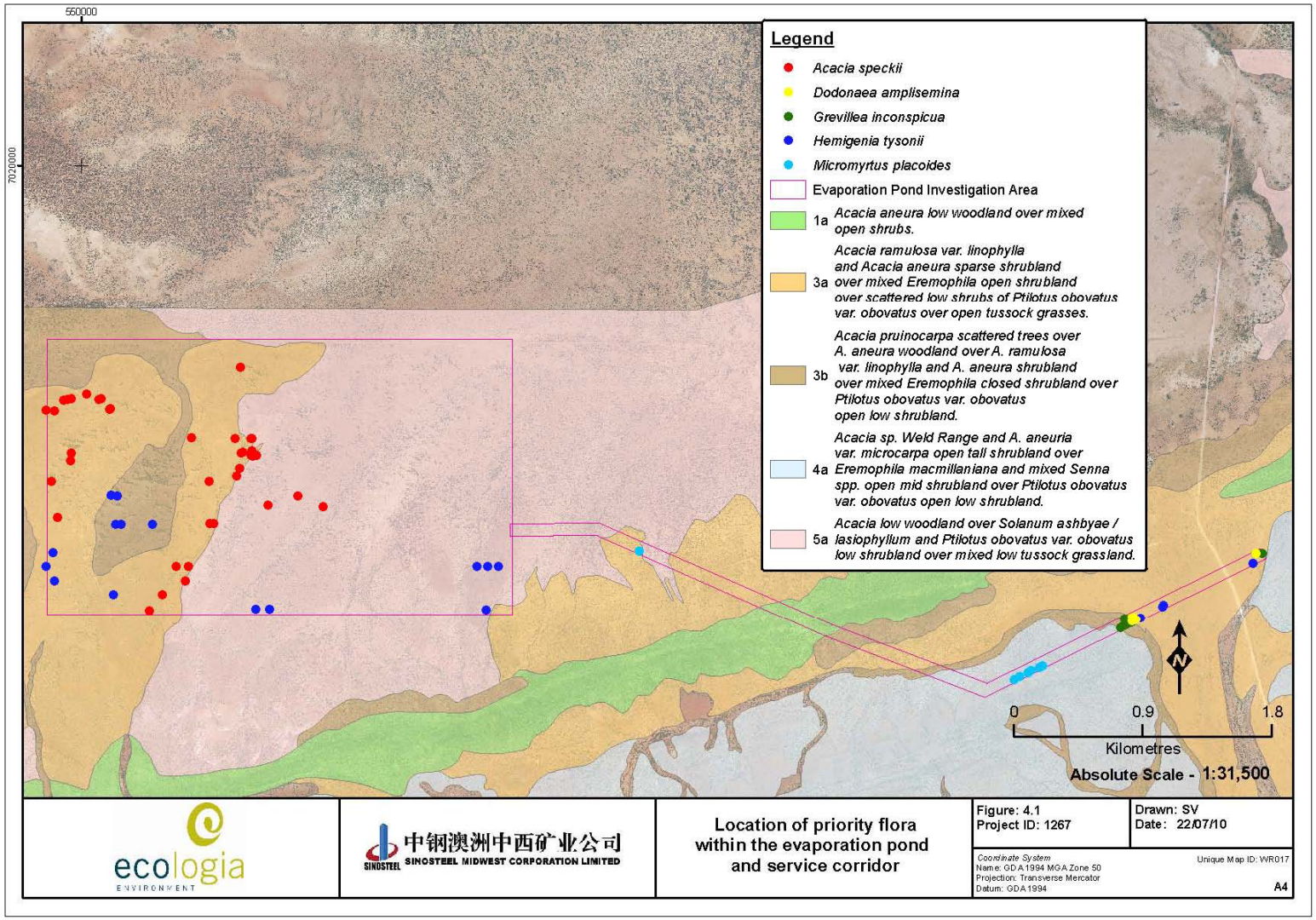

Figure 4.1 – Distribution of priority flora within the evaporation pond

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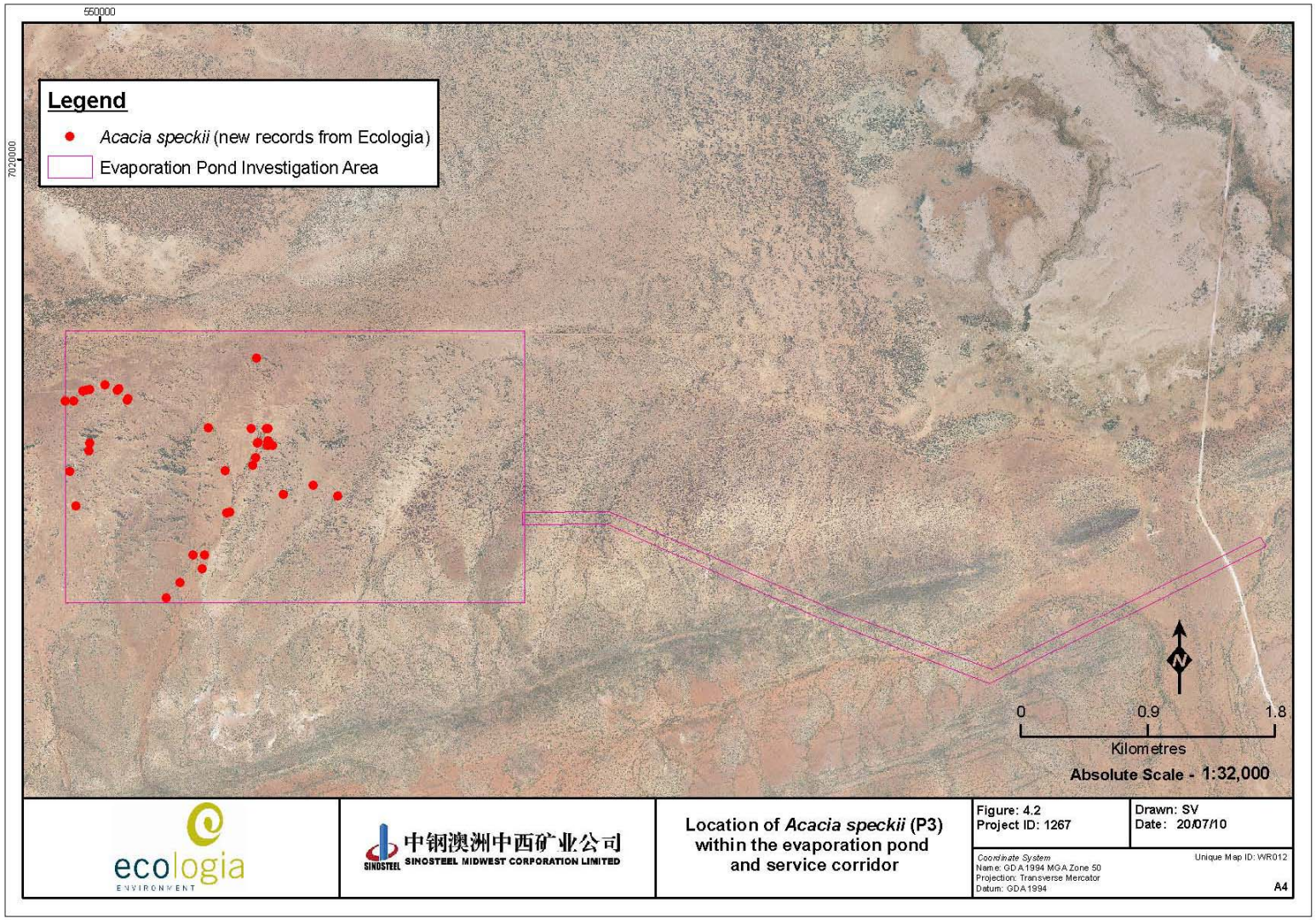

Figure 4.2 – *Acacia speckii* recorded within the study area

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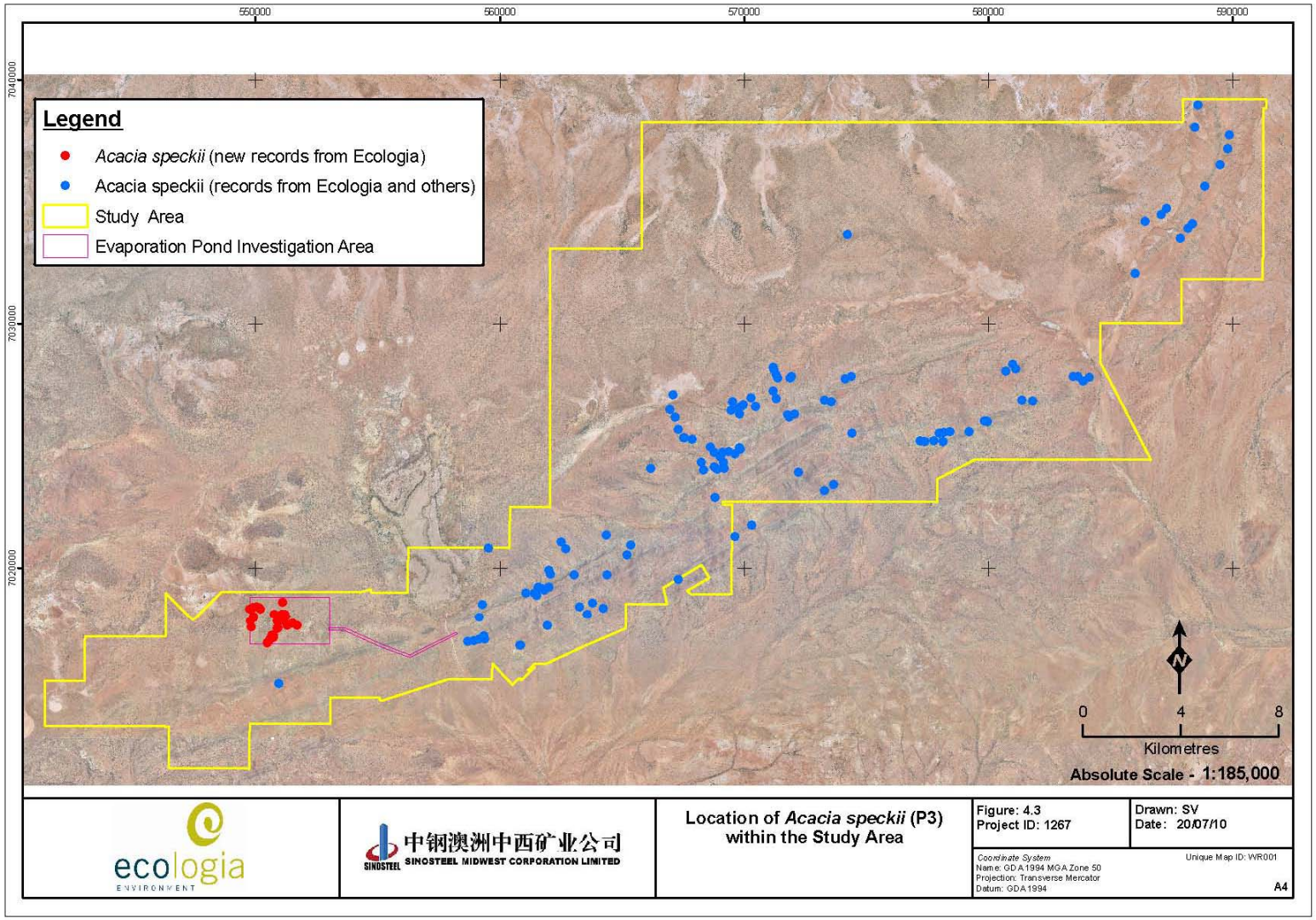

Figure 4.3 – Distribution of *Acacia speckii*

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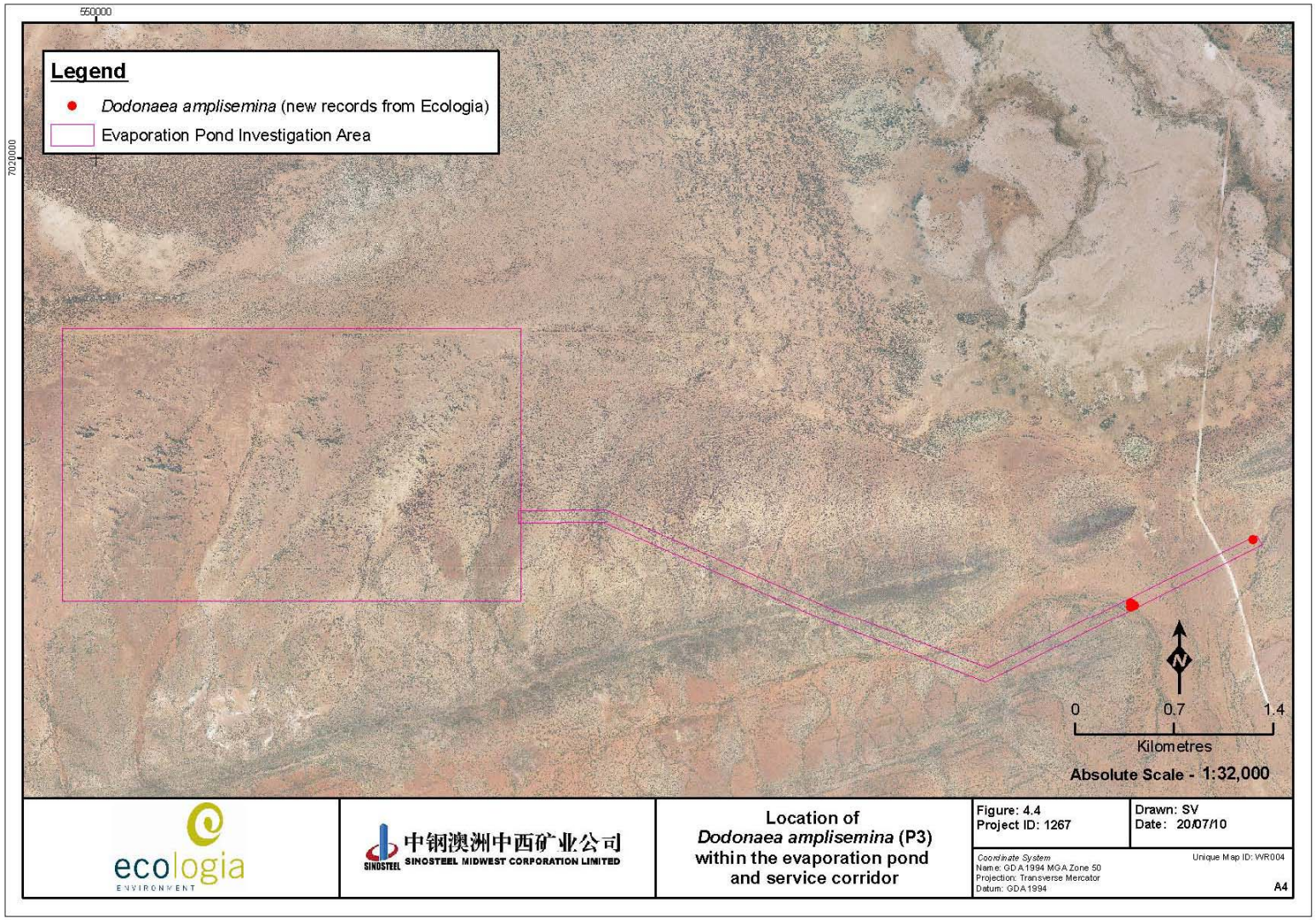

Figure 4.4 – *Dodonaea amplisemina* recorded within the study area

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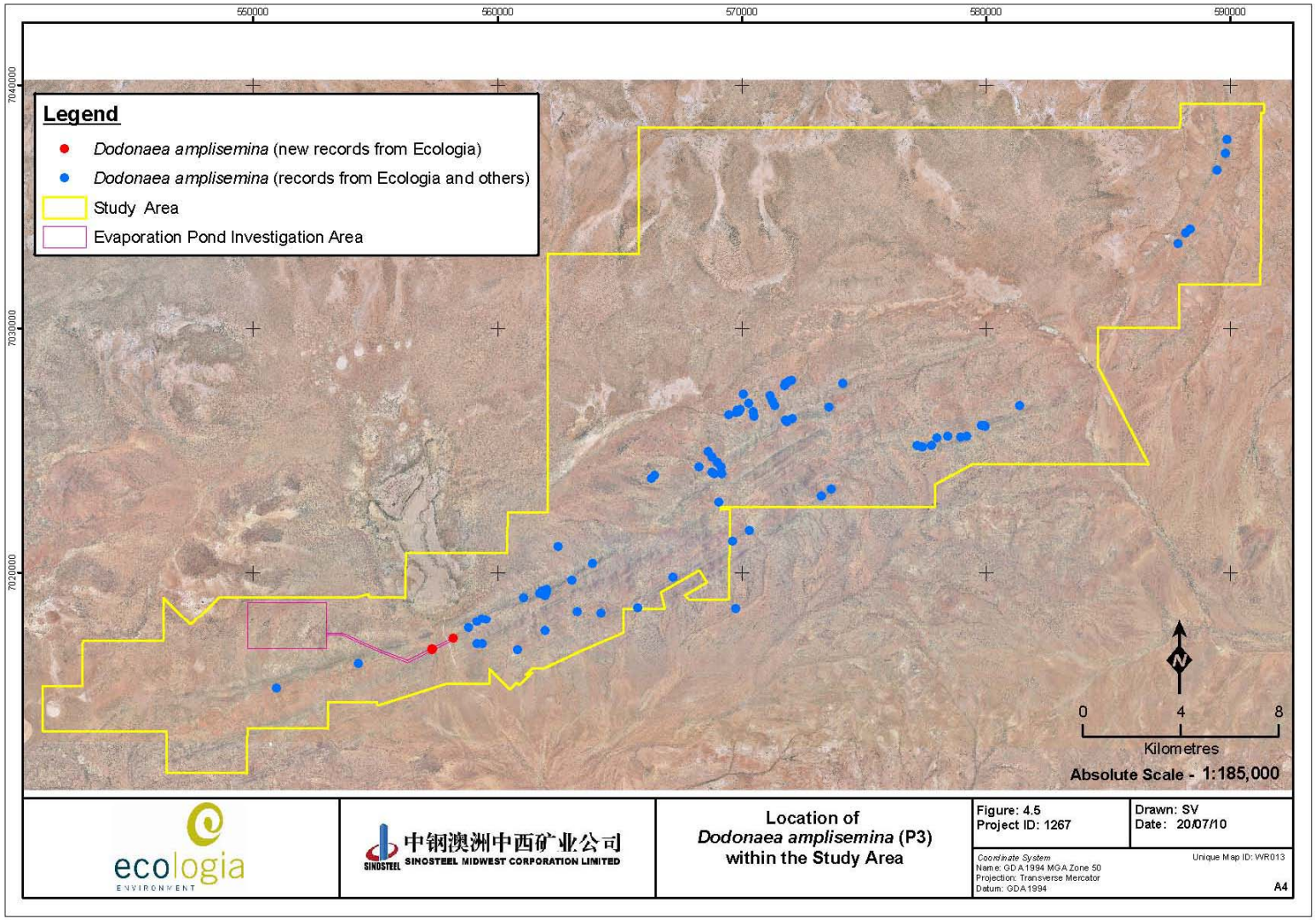

Figure 4.5 – Distribution of *Dodonaea amplisemina*

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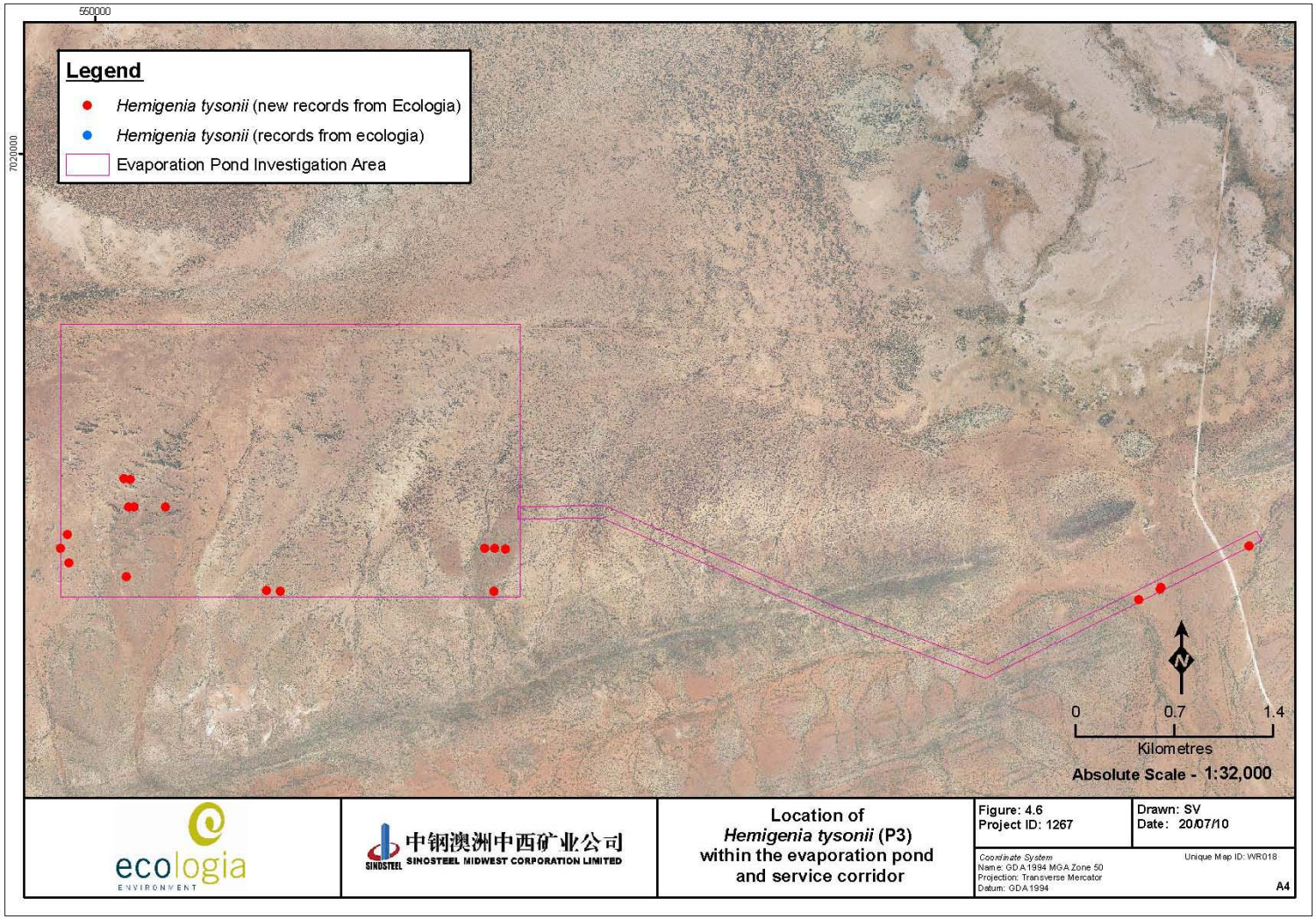

Figure 4.6 – *Hemigenia tysonii* recorded within the study area

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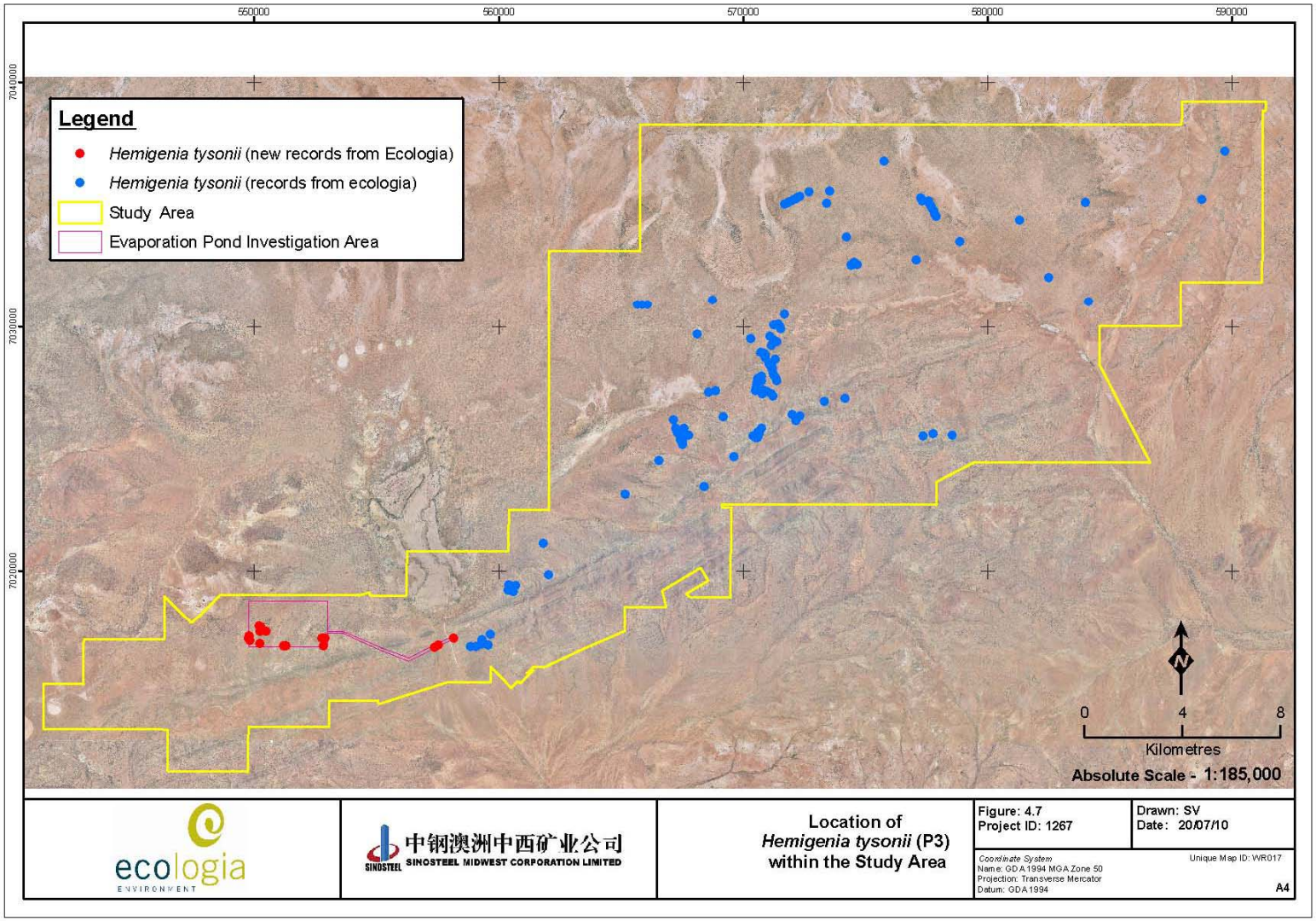

Figure 4.7 – Distribution of *Hemigenia tysonii*

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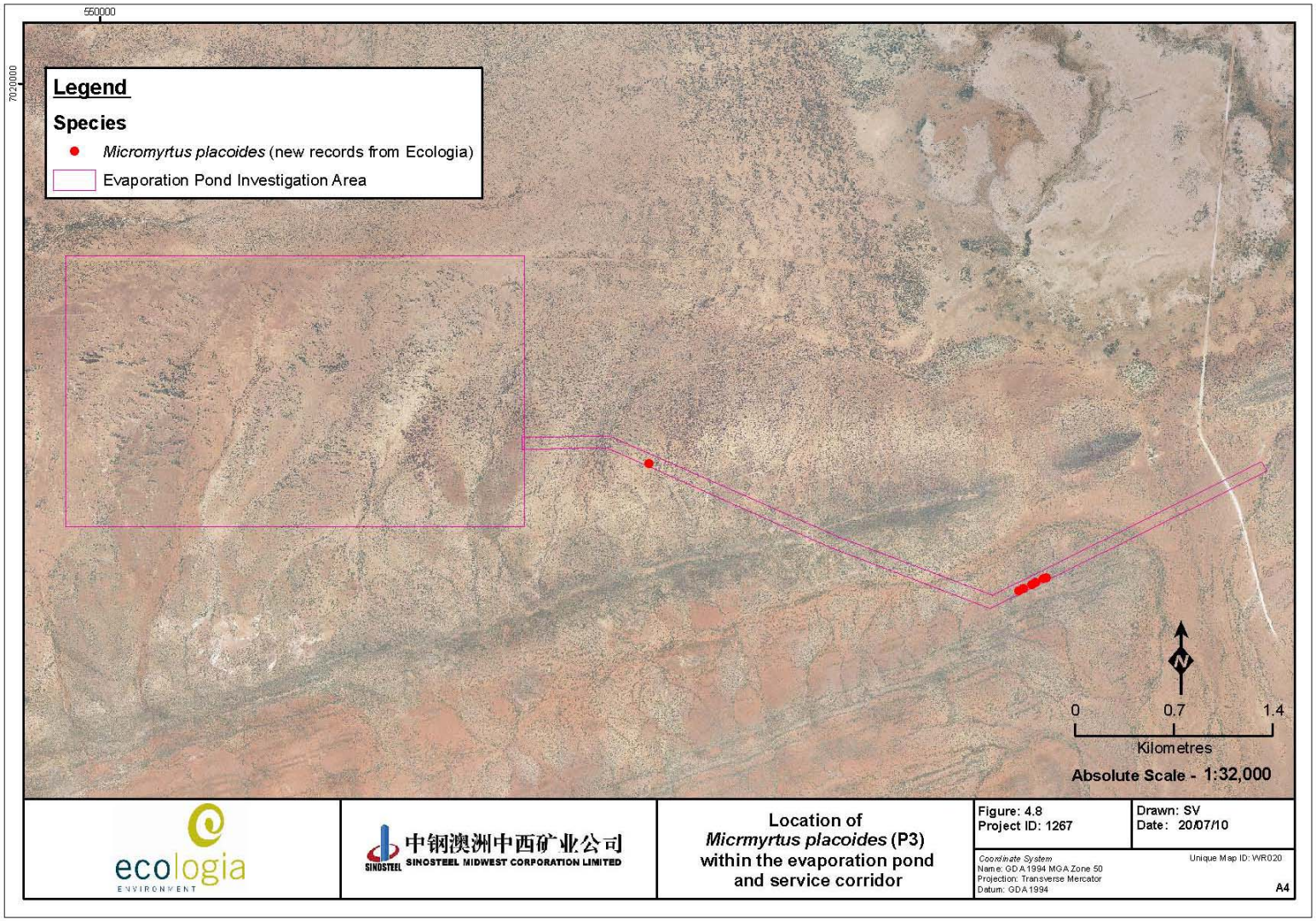

Figure 4.8 – *Micromyrtus placoides* recorded within the study area

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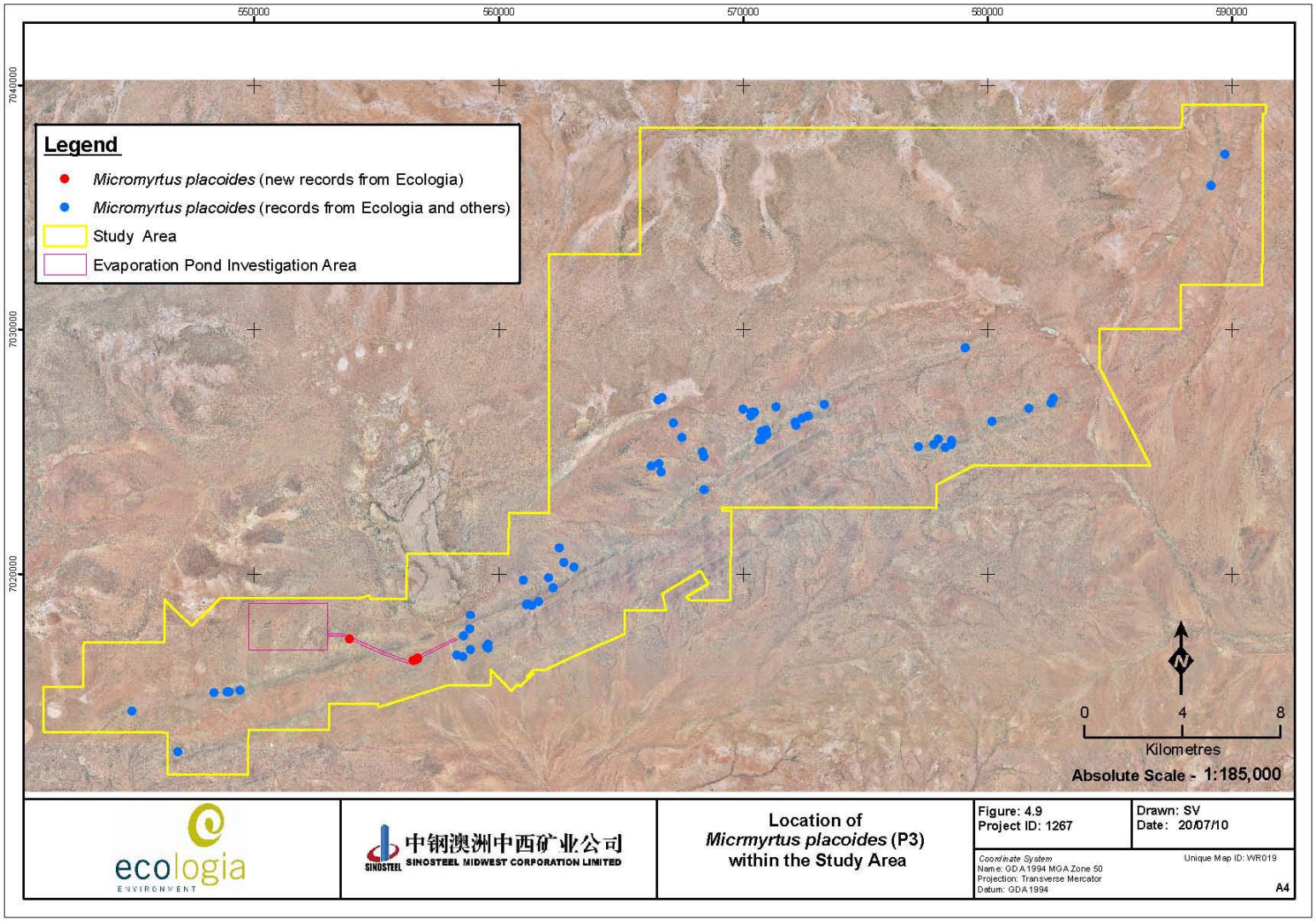

Figure 4.9 – Distribution *of Micromyrtus placoides*

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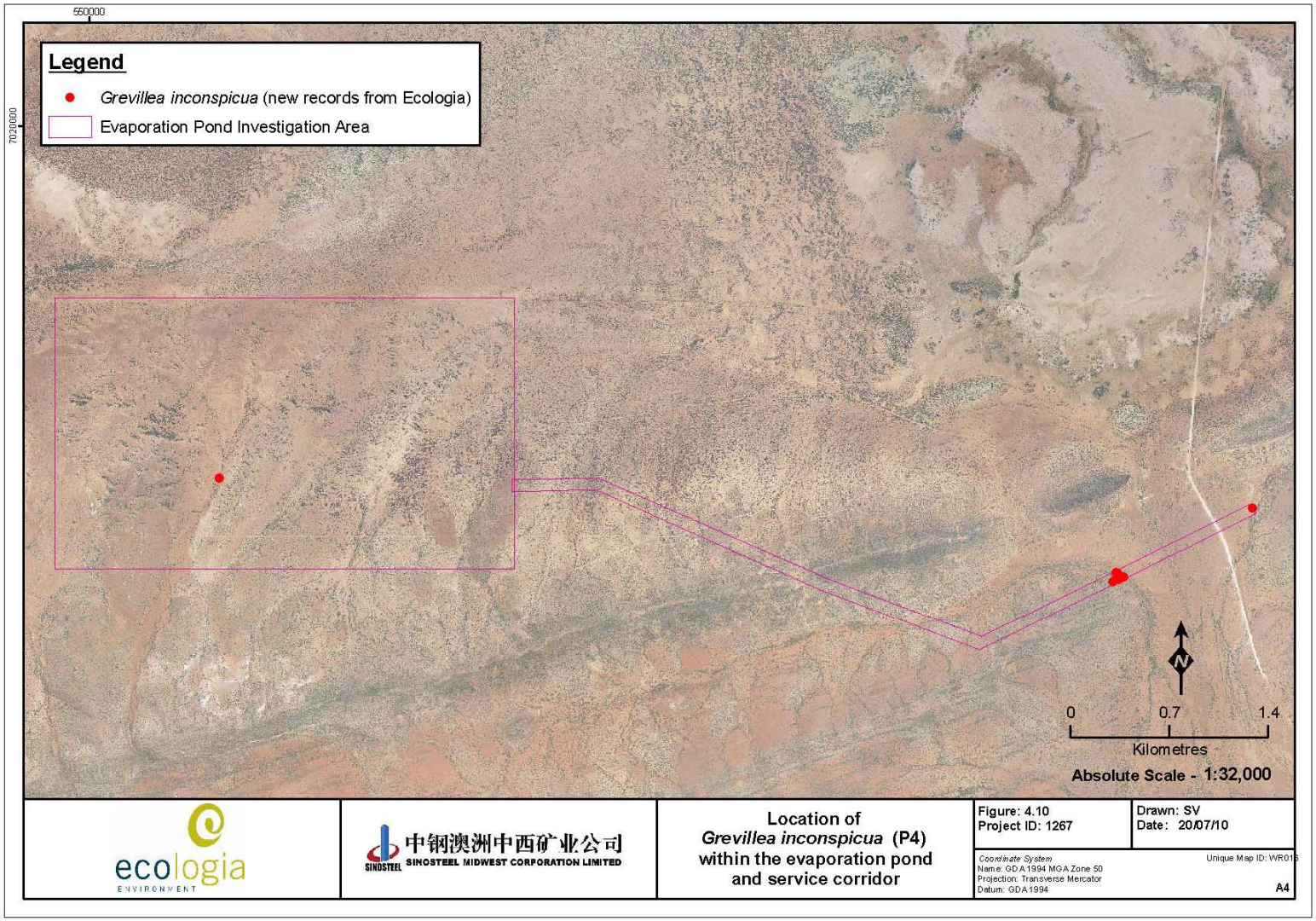

Figure 4.10 – *Grevillea inconspicua* recorded within the study area

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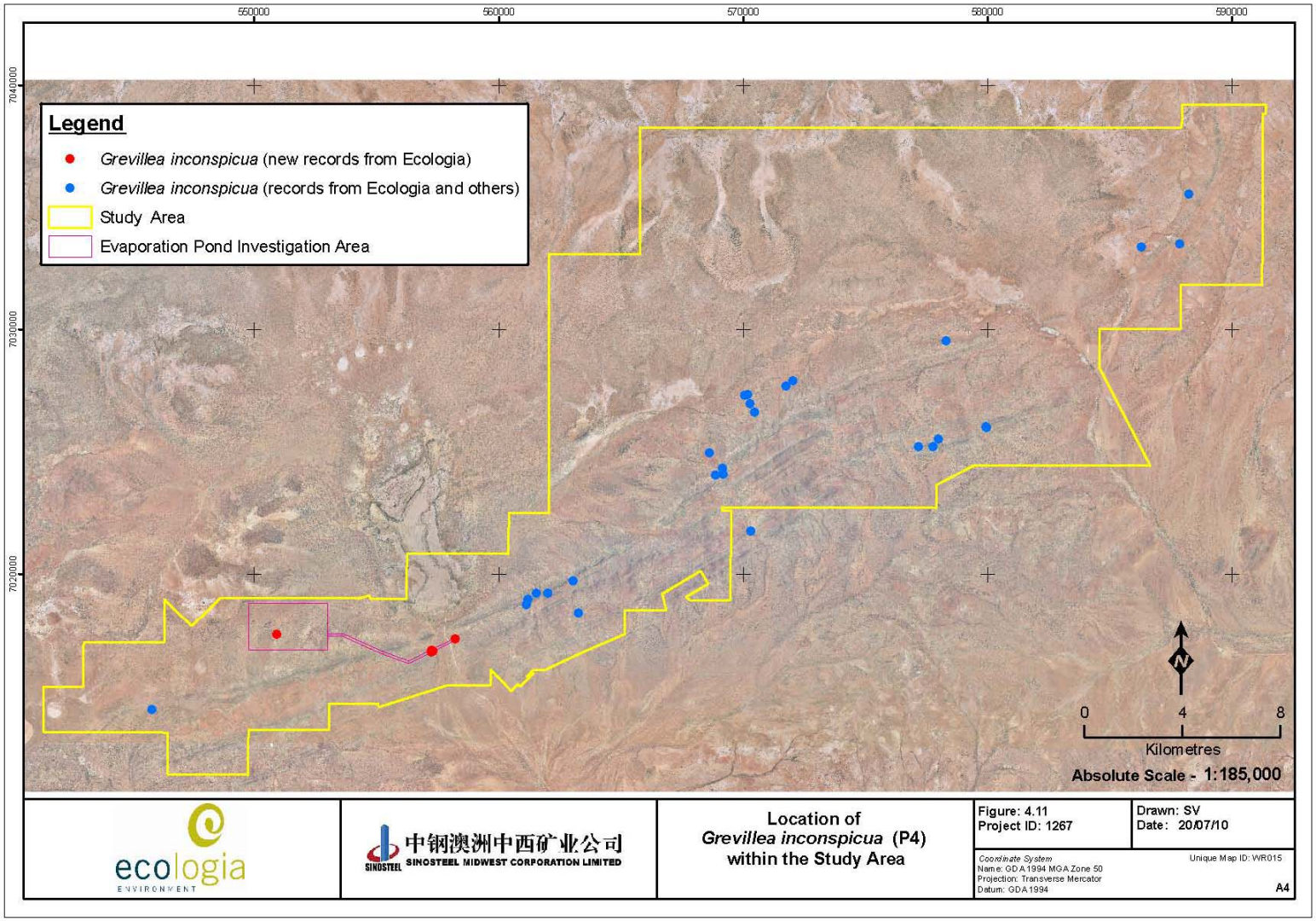

Figure 4.11 – Distribution of *Grevillea inconspicua*

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5 CONSERVATION SIGNIFICANCE

5.1 DECLARED RARE FLORA

No Declared Rare Flora taxa were recorded during this survey.

5.2 PRIORITY FLORA

The regional conservation significance of the five Priority Flora taxa recorded within the survey area is considered below in the context of the survey's records.

Acacia speckii (Priority 3) is known from 27 records at the Western Australian Herbarium (May 2010), including collections from the Meekatharra – Mt Magnet area and between the Yalgoo, Morawa – Mullewa area.

Dodonaea amplisemina (Priority 3) is known from 27 records at the Western Australian Herbarium (May 2010), including collections from Mount Magnet, Weld Range, Cue and Buddadoo Range.

Hemigenia tysonii (Priority 3) is known from 13 records at the Western Australian Herbarium (May 2010), including collections from Mount Hale, Noonie Hills and Muggon Station.

Micromyrtus placoides (Priority 3) is known from 23 records at the Western Australian Herbarium (May 2010), including collections from Weld Range, Tallering Peak, Mount Narryer and Cue.

Grevillea inconspicua (Priority 4) is known from 53 records at the Western Australian Herbarium (May 2010), including collections from Weld Range, Sandstone, Mount Magnet and Booylgoo Range.

Acacia speckii (P3), *Dodonaea amplisemina* (P3), *Hemigenia tysonii* (P3), *Micromyrtus placoides* (P3) and *Grevillea inconspicua* (P4) were recorded previously at Weld Range during an earlier survey carried out by *ecologia* (2010).

5.3 THREATENED AND PRIORITY ECOLOGICAL COMMUNITIES

The Priority 1 State-listed PEC "Weld Range vegetation complexes (Banded Ironstone Formations)" occurs in part of the investigation Area. Although not protected by current State legislation, the vegetation within these boundaries potentially is of State significance. The criteria for a Priority 1 listing is:

"Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range."

The priority flora recorded in part of the investigation area that is located within the PEC includes, *Dodonaea amplisemina* (P3), *Hemigenia tysonii* (P3), *Micromyrtus placoides* (P3) and *Grevillea inconspicua* (P4).

6 CLEARING PRINCIPLES AND THE EPA ACT, 1986

Under regulations gazetted in 2004 as an amendment to Part V of the Environmental Protection Act 1986, vegetation clearing not classified as exempt will require a Clearing Permit. However, Item 25 of Regulation 5 of the Native Vegetation Clearing Regulations allows clearing for prospecting or exploration activities approved under the mining Act. Clearing of native vegetation for mineral and petroleum exploration (items 24 and 25 of Regulation 5 of the Clearing Regulations) outside of Environmentally Sensitive Areas (ESAs) is permanently exempt from the need for a Clearing Permit.

An exemption for other mineral or petroleum activities is defined in Clause 2(2) of Schedule 1, and allows clearing of up to 10 hectares per financial year authorised under the Mining Act 1978 in an authority area.

Schedule 5 of the Act provides the following set of principles on which to evaluate whether clearing should or should not be permitted. While mineral exploration activities outside of ESAs are now exempt from requiring a Clearing Permit, the vegetation surveyed has been assessed within this context (Table 6.1)

Table 6.1 – Clearing Permits and the Investigation Area

Principle	Requirements Native vegetation should not be cleared if:	Assessment based on current survey:
a.	It comprises a high level of biological diversity	The survey area has a moderate botanical diversity. It is similar to that at other areas surveyed by *ecologia* at Weld Range.
b.	It comprises the whole, or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.	Fauna habitats were not assessed; however the botanists generally look for any fauna of interest and potential habitats while carrying out the surveys and none were noted.
c.	It includes, or is necessary for the continued existence of, rare flora.	No DRF taxa were recorded during the survey. The locations of the priority 3 species *Acacia speckii*, *Dodonaea amplisemina*, *Hemigenia tysonii*, *Micromyrtus placoides* and priority 4 species *Grevillea inconspicua* are not the only places where those plants occur in the region or locally. However, SMC will avoid impact to these taxa wherever possible.
d.	It comprises the whole or a part of, or is necessary for the maintenance of, a Threatened Ecological Community (TEC).	No TECs are present in the survey area. However, part of the service corridor is located within the Weld Range vegetation complexes (banded ironstone formation) Priority 1 PEC
e.	It is significant as a remnant of native vegetation in an area that has been extensively cleared.	It is not a significant remnant of native vegetation as the survey area is largely uncleared.
f.	It is growing in, or in association with, an environment associated with a watercourse or wetland.	No major watercourse or wetlands are present in the areas surveyed. Some drainage lines are present in the areas surveyed.
g.	The clearing of the land is likely to cause appreciable land degradation.	The upper soil surface will be eroded due to absence of plants.
h.	The clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	The impact will be relatively low as only part of the service corridor falls within the Weld Range PEC. However, the evaporation pond is less than 100m away from the PEC boundary.

Principle	Requirements Native vegetation should not be cleared if:	Assessment based on current survey:
i.	The clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	Groundwater levels could decrease thus affecting phreatophytic vegetation.
j.	The clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.	While clearing of vegetation could increase run-off, the incidence and intensity of flooding is unlikely to be affected as the area to be cleared is relatively small.

7 ENVIRONMENTAL IMPACTS OF THE PROJECT

Impacts associated with construction may include:

- Clearing of vegetation leading to loss or fragmentation of habitats;
- Increased weed propagation;
- Direct loss of populations of plant taxa of conservation significance resulting in reduced viability of taxa regionally;
- Some impact to the Weld Range PEC;
- Erosion;
- Changes to surface water flows with resultant deleterious effect on vegetation particularly adapted to surface water harvesting such as Mulga;
- Increased potential for fires;
- Alteration to groundwater levels, with resultant damage to phreatophytic vegetation;
- Increased dust levels, with resultant plant deaths;
- Increased salinity of soils if saline water is used for dust suppression.

7.1 DIRECT LOSS OF VEGETATION AND FLORA

The most substantial environmental impacts arising from the proposed work at Weld Range will result from the clearing of native vegetation. Approximately 600 ha of land will be cleared

.

7.1.1 Clearing Impacts to the PEC

Using the DEC's currently defined PEC boundary the overall impact to the vegetation of the PEC from the proposed evaporation pond has been estimated (Table 7.1).

Table 7.1 – Overall Impact to the Vegetation of the PEC

Area of PEC (ha)	Infrastructure	Area of PEC to be Impacted (ha)	Impact to PEC (%)
20,311	Service Corridor of Evaporation Pond	32.4	0.16
	Base Case*	1,660*	8.17*
	Option 1*	1,623*	7.99*
	Option 2*	1,623*	7.99*

* Data obtained from a previous study (*ecologia* 2010)

The impact to the vegetation of the PEC as a whole is relatively very low (0.16%), as most of the proposed evaporation pond area is located outside the PEC boundary.

7.1.2 Impact to Priority Flora from Clearing

The estimated number of Priority taxa and the number of loci (defined to be the number of records of a taxon at least 500 metres distant from all other records) which are located within the clearance footprint for the proposed evaporation pond are detailed in Table 7.2 . Based on the analysis, there is no significant difference between the impact values calculated for the five priority plant species over the whole study area in a previous survey (*ecologia* 2010) and the updated figures provided in this report.

Table 7.2 – Estimated Impacts to Priority Flora within the Study Area

			Evaporation Pond				BFS Base Case				BFS Option 1				BFS Option 2			
Taxon	Total No Locations separated by >500 m	Estimated Total No. Plants	Total No of loci separated by >500m	% total	Estimated no of plants	% total	Total No of loci separated by >500m	% total	Estimated no of plants	% total	Total No of loci separated by >500m	% total	Estimated no of plants	% total	Total No of loci separated by >500m	% total	Estimated no of plants	% total
Acacia speckii (P3)	102	1148	5	0.0	50	4.4	25	24.5	326	28.4	18	17.6	200	17.4	18	17.6	200	17.4
Dodonaea amplisemina	69	805	2	0.0	15	1.9	11	15.9	323	40.1	12	17.4	183	22.7	12	17.4	183	22.7
Hemigenia tysonii (P3)	86	6630	6	0.1	14	0.2	32	37.2	2074	31.3	9	10.5	410	6.2	10	11.6	2783	42.0
Micromyrtus placoides (P3)	47	2343	2	0.0	183	7.8	16	34.0	545	23.3	20	42.6	532	22.7	20	42.6	532	22.7
Grevillea inconspicua (P4)	64	2382	2	0.0	62	2.6	6	9.4	110	4.6	6	9.4	82	3.4	6	9.4	82	3.4

8 STUDY TEAM

The Weld Range vegetation and flora assessment described in this document was planned, coordinated and executed by:

1025 Wellington St

WEST PERTH WA 6005

Project Staff		
Rochelle Haycock	BSc.	Botanist
Shadila Venkatasamy	PhD	Botanist

Licences - "Licence to take flora for scientific purposes"		
The flora and vegetation surveys described in this report were conducted under the authorisation of the following licences issued by the Department of Environment and Conservation:		
Permit Number	Valid Until	Permit Number
Rochelle Haycock	30/04/11	SL008970
Shadila Venkatasamy	11/04/11	SL009012

9 REFERENCES

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APPENDIX A 2010 DEC DATABASE SEARCH

Table A.1 – DEC Database Search Results

Species	Family	Status	Nearest Named Locations	**Habitat** (WA Herbarium, 2009)	Likelihood of Occurrence at Weld Range
Acacia burrowsiana	FABACEAE	P3	Along Beebyn-Karbar Road NW of Cue	Low stony rise with skeletal soils and quartz, ironstone and schistose rubble on surface, adjacent to Sapphire flats.	Recorded
Acacia speckii	FABACEAE	P3	Weld Range, on Madoonga Station and Telstra tower	Moderately inclined midslope of banded ironstone and basalt with red soils	Recorded
Baeckea sp. *Melita Station*	MYRTACEAE	P4	Weld Range, NW of Cue	Mid rocky slopes and ironstone breakaways. Red/brown soils over ironstone.	Recorded
Calytrix erosipetala	MYRTACEAE	P3	East of Hillview Homestead	Breakaway weathered granite	Recorded
Dodonaea amplisemina	SAPINDACEAE	P3	Weld Range, on Madoonga Station.	Moderately inclined hillcrest of basalt and some banded ironstone. Slightly rocky basalt outcrop with red soils.	Recorded
Eremophila arachnoides subsp. Arachnoides	SCROPHULARIACEAE	P3	South of Yarrabubba State	On shallow brown loams over limestone	Recorded
Eremophila rhegos	SCROPHULARIACEAE	P1	Weld Range	High hill. Brown loam and rocks over dolerite, quartz and ironstone.	Recorded
Euphorbia sarcostemmoides	EUPHORBIACEAE	P1	Robinson Range, survey site ROBI28	Gently inclined lower slope of banded ironstone with red brown shallow sandy loam soils	Recorded
Goodenia berringbinensis	GOODENIACEAE	P4	Bed of Berringbine Creek, Belele Station	Red sandy loam.	Recorded
Goodenia lyrata	GOODENIACEAE	P1	West of Laverton	Red sandy loam, near claypan.	Recorded
Grevillea inconspicua	PROTEACEAE	P4	Weld Range, SE of Madoonga Homestead	Red loam/clay soil. Population on greenstone outcrop.	Recorded
Grevillea stenostachya	PROTEACEAE	P3	Belele Station, near Lalgaroo paddock	Red sandy loam.	Recorded
Hemigenia tysonii	LAMIACEAE	P3	Near Government Well on Coodardy Station, Cue	Sand.	Recorded
Homalocalyx echinulatus	MYRTACEAE	P3	Weld Range	Brown loam and rock fragments, ironstone/dolerite.	Recorded

Species	Family	Status	Nearest Named Locations	**Habitat** (WA Herbarium, 2009)	Likelihood of Occurrence at Weld Range
Indigofera gilesii subsp. *gilesii*	FABACEAE	P3	Glengarry Range, SE of Mooloogool Homestead		Recorded
Micromyrtus placoides	MYRTACEAE	P3	Weld Range slopes below Telecom tower	Brown loam over dolerite & ironstone.	Recorded
Mirbelia stipitata	FABACEAE	P3	Along Cue-Sandstone Road	Base of granite rock. Rangeland. Brown dry loam.	Recorded
Phyllanthus baeckeoides	PHYLLANTHACEAE	P3	Weld Range on Glen Station	Gently inclined lower hillslope to flat of banded ironstone. Very slightly rocky banded ironstone outcrop with red brown soils	Recorded
Prostanthera ferricola	LAMIACEAE	P3	Weld Range, on Madoonga Station.	Steep midslope of banded ironstone and basalt. Slightly rocky banded ironstone and basalt outcrop with red soils.	Recorded
Prostanthera petrophila	LAMIACEAE	P3	Weld Range	Brown loam with dolerite quartz and ironstone blocks.	Recorded
Ptilotus beardii	AMARANTHACEAE	P3	Weld Range	Red orange sandy clay.	Recorded
Ptilotus luteolus	AMARANTHACEAE	P3	South of Meekatharra on Gabanantha Road	Hillslope.	Recorded
Sauropus sp. *Woolgorong*	PHYLLANTHACEAE	P1	Weld Range on Glen Station	Moderately inclined upper hillslope of banded ironstone, quartz and chert. Very rocky banded ironstone, quartz and chert outcrop with red brown soils.	Recorded
Stenanthemum patens	RHAMNACEAE	P1	North of Mount Clifford	Rocky hillside.	Recorded
Tecticornia cymbiformis	CHENOPODIACEAE	P3	Lake Anneen	Gently sloping dune before lake floodplain. Red-brown sandy clay.	Recorded
Verticordia jamiesonii	MYRTACEAE	P3	Along Kalli Road	Breakaway, dry red yellow sandy clay over pale red sandstone.	Not recorded

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APPENDIX B TEC AND PEC CONSERVATION CODES

TableB.1 – Explanation of Codes for Threatened Ecological Communities (TEC)

Code	Definition
PD: Presumed Totally Destroyed	An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future. An ecological community will be listed as presumed totally destroyed if there are no recent records of the community being extant and one of two conditions (A or B) apply.
CR: Critically Endangered	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated. An ecological community will be listed as *Critically Endangered* when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future. This is determined on the basis of the best available information and by it meeting one or more of three criteria (not included here).
EN: Endangered	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future. An ecological community will be listed as *Endangered* when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. This is determined on the basis of the best available information and by it meeting one or more of three criteria (not included here).
VU: Vulnerable	An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range. An ecological community will be listed as *Vulnerable* when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium to long-term future. This is determined on the basis of the best available information and by it meeting one or more of three criteria (not included here).

Table B.2 – Explanation of Codes for Priority Ecological Communities (PEC)

Code	Definition
P1: Priority One	Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.
P2: Priority Two	Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.
P3: Priority Three	(i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or: (ii) Communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or; (iii) Communities made up of large, and/or widespread occurrences, that may or not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, and inappropriate fire regimes. Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.
P4: Priority Four	Ecological communities that are adequately known, *Rare* but not threatened or meet criteria for *Near Threatened*, or that have been recently removed from the threatened list. These communities require regular monitoring. (a) *Rare*. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands. (b) *Near Threatened*. Ecological communities that are considered to have been adequately surveyed and that do not qualify for *Conservation Dependent*, but that are close to qualifying for *Vulnerable*. (c) Ecological communities that have been removed from the list of threatened communities during the past five years.
P5: Priority Five	Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

APPENDIX C EPBC ACT, DRF AND PRIORITY FLORA CONSERVATION CODES

Table C.1 – Explanation of Codes for Flora Protected under the Commonwealth EPBC Act

Conservation Category	Definition
Extinct	A species is extinct if there is no reasonable doubt that the last member of the species has died.
Extinct in the wild	A species is categorised as extinct in the wild if it is only known to survive in cultivation, in captivity or as a naturalised population well outside its past range; or if it has not been recorded in its known/expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
Critically Endangered	The species is facing an extremely high risk of extinction in the wild in the immediate future.
Endangered	The species is likely to become extinct unless the circumstances and factors threatening its abundance, survival or evolutionary development cease to operate; or its numbers have been reduced to such a critical level, or its habitats have been so drastically reduced, that it is in immediate danger of extinction.
Vulnerable	Within the next 25 years, the species is likely to become endangered unless the circumstances and factors threatening its abundance, survival or evolutionary development cease to operate.
Conservation Dependent	The species is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of five years.

Table C.2 – Definition of Declared Rare and Priority Flora Categories

Code	Definition
DRF	Declared Rare Flora-Extant Taxa. Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such.
P1: Priority One	Poorly Known Taxa. Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2: Priority Two	Poorly Known Taxa. Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3: Priority Three	Poorly Known Taxa. Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey.
P4: Priority Four	Rare Taxa. Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5-10 years.

Atkins, K.J., Declared Rare and Priority Flora List, Oct. 2010, DEC.

APPENDIX D PRIORITY FLORA LOCATIONS

Table D.1 – Location and abundance of priority flora recorded in the evaporation pond and service corridor

Species	Priority	No of plants	Location	Easting	Northing
Acacia speckii	P3	1	Evaporation Pond	551107.6955	7018587.448
Acacia speckii	P3	1	Evaporation Pond	549875.4309	7018354.337
Acacia speckii	P3	1	Evaporation Pond	549901.1811	7018358.719
Acacia speckii	P3	1	Evaporation Pond	549927.5807	7018365.308
Acacia speckii	P3	1	Evaporation Pond	550035.6064	7018399.377
Acacia speckii	P3	1	Evaporation Pond	550119.4189	7018361.795
Acacia speckii	P3	1	Evaporation Pond	550134.5149	7018369.06
Acacia speckii	P3	1	Evaporation Pond	549920.2435	7017932.757
Acacia speckii	P3	1	Evaporation Pond	549926.6662	7017985.037
Acacia speckii	P3	1	Evaporation Pond	551121.0178	7017993.874
Acacia speckii	P3	1	Evaporation Pond	551115.5142	7017986.664
Acacia speckii	P3	1	Evaporation Pond	551188.9965	7018002.101
Acacia speckii	P3	1	Evaporation Pond	551181.8154	7017971.196
Acacia speckii	P3	3	Evaporation Pond	551191.1477	7017968.633
Acacia speckii	P3	1	Evaporation Pond	551221.0848	7017969.541
Acacia speckii	P3	1	Evaporation Pond	549787.7221	7017787.747
Acacia speckii	P3	1	Evaporation Pond	550886.6804	7017790.132
Acacia speckii	P3	1	Evaporation Pond	551083.1436	7017827.426
Acacia speckii	P3	2	Evaporation Pond	551685.5008	7017613.978
Acacia speckii	P3	1	Evaporation Pond	551300.4849	7017623.571
Acacia speckii	P3	1	Evaporation Pond	549830.674	7017540.491
Acacia speckii	P3	1	Evaporation Pond	549754.3703	7018286.998
Acacia speckii	P3	1	Evaporation Pond	549811.0447	7018283.078
Acacia speckii	P3	1	Evaporation Pond	550194.2309	7018289.359
Acacia speckii	P3	1	Evaporation Pond	550199.5107	7018298.937
Acacia speckii	P3	4	Evaporation Pond	551190.156	7018090.518
Acacia speckii	P3	1	Evaporation Pond	551180.2398	7018088.655
Acacia speckii	P3	1	Evaporation Pond	551068.5686	7018087.077
Acacia speckii	P3	1	Evaporation Pond	550765.5523	7018092.615
Acacia speckii	P3	1	Evaporation Pond	551103.6249	7017882.341
Acacia speckii	P3	1	Evaporation Pond	551508.2411	7017690.465
Acacia speckii	P3	1	Evaporation Pond	550895.4559	7017494.585
Acacia speckii	P3	2	Evaporation Pond	550919.3495	7017498.945
Acacia speckii	P3	2	Evaporation Pond	550742.1177	7017196.474
Acacia speckii	P3	1	Evaporation Pond	550659.292	7017195.871
Acacia speckii	P3	2	Evaporation Pond	550721.38	7017098.1
Acacia speckii	P3	2	Evaporation Pond	550564.5876	7016997.426
Acacia speckii	P3	1	Evaporation Pond	550469.9133	7016890.437
Acacia speckii	P3	1	Evaporation Pond	550895.4559	7017494.585
Acacia speckii	P3	1	Evaporation Pond	550742.1177	7017196.474

Species	Priority	No of plants	Location	Easting	Northing
Dodonaea amplisemina	P3	10	Service Corridor	557349.6122	7016823.135
Dodonaea amplisemina	P3	1	Service Corridor	557328.4048	7016820.706
Dodonaea amplisemina	P3	1	Service Corridor	557321.8041	7016814.395
Dodonaea amplisemina	P3	1	Service Corridor	558186.5719	7017288.5
Dodonaea amplisemina	P3	1	Service Corridor	557320.6606	7016840.851
Dodonaea amplisemina	P3	1	Service Corridor	557328.851	7016841.881
Grevillea inconspicua	P4	3	Service Corridor	557315.9017	7016800.71
Grevillea inconspicua	P4	1	Service Corridor	557299.5133	7016796.978
Grevillea inconspicua	P4	1	Service Corridor	557284.3391	7016791.338
Grevillea inconspicua	P4	1	Service Corridor	557277.6888	7016786.921
Grevillea inconspicua	P4	2	Service Corridor	557257.089	7016777.257
Grevillea inconspicua	P4	1	Service Corridor	557241.4476	7016767.673
Grevillea inconspicua	P4	1	Service Corridor	557265.701	7016830.537
Grevillea inconspicua	P4	1	Service Corridor	557275.3989	7016826.491
Grevillea inconspicua	P4	1	Service Corridor	550919.3495	7017498.945
Grevillea inconspicua	P4	1	Service Corridor	557277.4665	7016816.566
Grevillea inconspicua	P4	1	Service Corridor	558229.0591	7017288.814
Hemigenia tysonii	P3	1	Service Corridor	557540.1977	7016923.236
Hemigenia tysonii	P3	1	Service Corridor	557536.4503	7016913.31
Hemigenia tysonii	P3	35	Service Corridor	557381.0017	7016834.624
Hemigenia tysonii	P3	7	Service Corridor	558164.0205	7017217.136
Hemigenia tysonii	P3	10	Evaporation Pond	550249.036	7017687.979
Hemigenia tysonii	P3	4	Evaporation Pond	550203.1272	7017691.357
Hemigenia tysonii	P3	2	Evaporation Pond	550237.0143	7017490.593
Hemigenia tysonii	P3	2	Evaporation Pond	550272.4443	7017492.382
Hemigenia tysonii	P3	2	Evaporation Pond	550494.8793	7017491.962
Hemigenia tysonii	P3	50	Evaporation Pond	549801.7425	7017296.027
Hemigenia tysonii	P3	30	Evaporation Pond	549754.2276	7017196.19
Hemigenia tysonii	P3	5	Evaporation Pond	552756.7584	7017198.288
Hemigenia tysonii	P3	5	Evaporation Pond	552829.4089	7017196.562
Hemigenia tysonii	P3	1	Evaporation Pond	552904.9672	7017195.881
Hemigenia tysonii	P3	10	Evaporation Pond	549811.3791	7017097.886
Hemigenia tysonii	P3	5	Evaporation Pond	550220.0572	7016997.613
Hemigenia tysonii	P3	5	Evaporation Pond	552822.0403	7016894.888
Hemigenia tysonii	P3	3	Evaporation Pond	551312.083	7016896.034
Hemigenia tysonii	P3	5	Evaporation Pond	551213.6487	7016898.395
Micromyrtus placoides	P3	2	Service Corridor	556696.8556	7016496.21
Micromyrtus placoides	P3	10	Service Corridor	556675.977	7016489.072
Micromyrtus placoides	P3	3	Service Corridor	556617.4777	7016464.417
Micromyrtus placoides	P3	16	Service Corridor	556592.3262	7016450.521
Micromyrtus placoides	P3	25	Service Corridor	556535.1933	7016422.592

Species	Priority	No of plants	Location	Easting	Northing
Micromyrtus placoides	P3	2	Service Corridor	556501.249	7016403.072
Micromyrtus placoides	P3	4	Service Corridor	553889.1285	7017304.65