origin

AUSTRALIA PACIFIC LNG

REPORT

Ecology Assessment Report - 24BUL3439

Q-4560-15-RP-0062

Australia Pacific LNG Upstream

This report provides an overview of the environmental and ecological values for the Site contained within Lot 24 Plan BUL3439, within PL267, associated with DT1421.

Revision	Date	Description	Originator	Checked	QA/Eng	Approved
0	19/05/14	Issued for Use	S Baker	C Dyason	R Pappalardo	A Schimpf

Uncontrolled when printed unless issued and stamped Controlled Copy.

Release Notice

This document is available through the Australia Pacific LNG Project controlled document system TeamBinder™. The responsibility for ensuring that printed copies remain valid rests with the user. Once printed, this is an uncontrolled document unless issued and stamped Controlled Copy.

Third-party issue can be requested via the Australia Pacific LNG Project Document Control Group.

Document Conventions

The following terms in this document apply:

- **Will**, **shall** or **must** indicate a mandatory course of action
- **Should** indicates a recommended course of action
- **May** or **can** indicate a possible course of action.

Document Custodian

The custodian of this document is the Australia Pacific LNG Project – Environmental Approvals Manager. The custodian is responsible for maintaining and controlling changes (additions and modifications) to this document and ensuring the stakeholders validate any changes made to this document.

Deviations from Document

Any deviation from this document must be approved by the Australia Pacific LNG Project – Environmental Approvals Manager.

Table of Contents

1. Introduction 5
1.1. Scope of Works 5
1.2. Definitions & Abbreviations 5
1.2.1. Definitions 5
1.2.2. Abbreviations 5
1.2.3. Document Revision Table 6
1.2.4. Document References 6
2. Site Context 8
3. Methodology 9
3.1. Desktop and Literature Review 9
3.2. Field Survey 10
3.2.1. Vegetation Community Survey 10
3.2.2. Habitat Surveys 10
3.2.3. Threat-listed Flora and Fauna Survey 10
3.2.4. Exotic Flora and Fauna Survey 11
3.2.5. Disturbance Survey 11
3.2.6. Survey Limitations 11
4. Results and Discussions 12
4.1. Desktop and Literature Review 12
4.2. Field Survey 12
4.2.1. Commonwealth Environmental Matters 12
4.2.2. Queensland Environmental Matters 13
4.2.3. Disturbance 15
5. Conclusions 16
Appendix A: Site Location and Survey Points 17
Appendix B: Results of EPBC Protected Matters Search Tool 18
Appendix C: Wildlife Online Database Search Results 19
Appendix D: DNRM Mapped Regional Ecosystems 20
Appendix E: EHP Mapping of ESAs and Other Environmental Values on Site 21
Appendix F: List of Flora and Fauna Species Identified on Site 22
Appendix G: Ground Truthed Threatened Ecological Communities 24
Appendix H: Ground Truthed Regional Ecosystems and Regrowth 25
Appendix I: Ground Truthed NC Act Threat Listed Species Present on Site 26
Appendix J: Ground Truthed Weeds and Pest Fauna Present on Site 27

List of Tables

Table 1: Definitions 5
Table 2: Abbreviations 5
Table 3: Revision History 6
Table 4: Associated Document References 6
Table 5: Site Context 8
Table 6: Desktop and Literature Review Sources 9
Table 7: Commonwealth Environmental Matters – Field Survey Results 12
Table 8: State Environmental Matters – Field Survey Results 13
Table 9: Ground Truthed Regional Ecosystems 14
Table 10: Ground Truthed Mature Regrowth 14
Table 11: Pest Flora Recorded During the Ecological Field Survey on Site 15

1. Introduction

This report provides a description of the ecological values found within Lot 24 Plan BUL3439 herein referred to as 'the Site'. The results are based on an initial desktop assessment followed by a field survey to confirm the vegetation communities, flora and fauna species, habitat values and areas of disturbance.

This report has been compiled by Scott Baker, Field Environmental Advisor for Origin Energy. The field surveys were conducted by a team of ecologists led by Scott Baker.

Scott Baker, Environmental Field Advisor, Grant Phillips, Environmental Field Advisor are approved to undertake to provide advice on Matters of National Significance (MNES) by Commonwealth Department of Environment (formerly the Department of Sustainability, Environment, Water, Population and Communities) in writing on 13 September 2012.

1.1. Scope of Works

An ecological assessment survey was required to be carried out within the Site, located with PL267. The survey was confined to a buffer of 150m from the edge of proposed Essential Petroleum Activities and a buffer of 200m from the edge of Petroleum Activities associated with Coal Seam Gas (CSG) infrastructure only. This infrastructure consists of Right of Way (RoW) disturbances and two CSG lease disturbances abutting the eastern and southern portion of the property. Therefore, the survey assessment does not provide an accurate representation of the whole property.

1.2. Definitions & Abbreviations

1.2.1. Definitions

Table 1: Definitions

Term	Definition
Project	Australia Pacific LNG Project
Ramsar	Convention on Wetlands of International Importance (the Ramsar Convention) was signed in Ramsar, Iran on 2 February 1971. The Ramsar Convention aims to halt the worldwide loss of wetlands and to conserve, through wise use and management, those that remain. The Convention encourages member countries to nominate sites containing representative, rare or unique wetlands, or that are important for conserving biological diversity, to the List of Wetlands of International Importance (Ramsar sites).
Trimble	Trimble integrates positioning technologies such as GPS, laser and optical with application software, wireless communications and services to provide innovative positioning solutions for applications such as surveying, construction and engineering.

1.2.2. Abbreviations

Table 2: Abbreviations

Abbreviation	Description
BoM	Bureau of Meteorology
C	Least Concern
CSG	Coal Seam Gas
DoE	Department of the Environment (C'th)
DNRM	Department of Natural Resources and Mines
EHP	Department of Environment and Heritage Protection (Qld) (formally DERM and EPA)
EPBC	Environmental Protection Biodiversity and Conservation Act 1999 (C'th)
ESA	Environmentally Sensitive Area

Abbreviation	Description
GPS	Global Positioning System
GTR	Ground Truthed Regrowth
GTRE	Ground Truthed Regional Ecosystems
LC	Least Concern
LNG	Liquefied Natural Gas
LP Act	Land Protection (Pest and Stock Route Management) Act 2002 (Qld).
m	metres
MNES	Matters of National Environmental Significance
NC Act	Nature Conservation Act 1992 (Qld)
PFC	Prejective Foliage Cover
RE	Regional Ecosystem
RoW	Right of Way
TEC	Threatened Ecological Communities
WoNS	Weed of National Significance

1.2.3. Document Revision Table

Table 3: Revision History

Revision	Date	Description

1.2.4. Document References

Table 4: Associated Document References

Document Number	Title
	Australian Weeds Committee (2012) *Weeds of National Significance*, Australian Weeds Committee. http://www.weeds.org.au/WoNS/
	BoM (2014) Bureau of Meteorology - *Climate statistics for Australian Locations*. Australian Government, Canberra. http://www.bom.gov.au/climate/averages/tables/cw_042023.shtml
	DNRM (2014a) *Regional Ecosystem and Remnant Map—version 8.0 for the purpose of the Vegetation Management Act 1999*. The Department of Natural Resources and Mines, Brisbane. http://www.dnrm.qld.gov.au/land/vegetation-management/vegetation-maps/vegetation-map-request
	DoE (2013a) *Protected Matters Search Tool*. Department of the Environment. Canberra. http://www.environment.gov.au/epbc/pmst/index.html
	DoE (2013b) *Environmental Protection and Biodiversity Conservation Act 1999*, Department of Sustainability, Environment, Water, Population and Communities. http://www.environment.gov.au/epbc/about/index.html
	DoE (2009a) *Species Profile and Threats Database* (EPBC Act List of Threatened Ecological Communities). Department of the Environment, Water, Heritage and the Arts, Canberra. http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl

Document Number	Title
	EHP (2012). *Regional Ecosystem Land Zone definitions*, Department of Environment and Heritage Protection, Brisbane. http://www.ehp.qld.gov.au/ecosystems/biodiversity/regional-ecosystems/land_zone_definitions.html
	EHP (2014) *Wildlife Online*. Department of Environment and Heritage Protection, Brisbane. http://www.ehp.qld.gov.au/wildlife/wildlife-online/
	EHP (2014b) *Map of Referable Wetlands*. Department of Environment and Heritage Protection, Brisbane. http://www.ehp.qld.gov.au/ecosystems/wetlands/referable-wetlands-maps.html
	Neldner, V.J., Wilson, B. A., Thompson, E.J. and Dillewaard, H.A. (2012). *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland*. Version 3.2.Updated August 2012. Queensland Herbarium, Environmental Protection Agency, Brisbane.124 pp.
	Queensland Parliamentary Counsel (2002) *Land Protection (Pest and Stock Route Management) Act*, Queensland Government, Brisbane. http://www.legislation.qld.gov.au/legisltn/current/l/landprpsrma02.pdf
	Queensland Parliamentary Counsel, (2006) *Nature Conservation (Wildlife) Regulation*, Queensland Government, Brisbane. http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/N/NatureConWiR06.pdf
	Sattler, P.S., and Williams, R.D (eds.) (1999). *The Conservation Status of Queensland's Bioregional Ecosystems*. Environmental Protection Authority, Brisbane.
Q-LNG01-15-MP-0109	Australian Pacific LNG (2011) Environmental Constraints Planning and Field Development Protocol.

2. Site Context

Table 5: Site Context

Bioregion	The Site is located in the Barakula Province (11.27) within the Brigalow Belt south bioregion. The Barakula Province comprises dissected low Jurassic sandstone and laterised sandstone hills, plateau remnants and scarps, interspersed with and surrounded by undulating plains. In low hilly country, the predominant vegetation is an open forest/woodland of narrow-leaved ironbark (*Eucalyptus crebra*), spotted gum (*Corymbia citriodora*), white cypress pine (*Callitris glaucophylla*), and bulloak (*Allocasuarina luehmannii*) with dusky-leaved iron bark (*Eucalyptus fibrosa* subsp. *nubila*) narrow-leaved white mahogany (*Eucalyptus tenuipes*), budgeroo (*Lysicarpus angustifolius*) and thready-barked she-oak (*Casuarina inophloia*) characteristic of crests and scarps. Several communities are associated with different soils and local landforms on the undulating plains; brigalow (*Acacia harpophylla*) – belah (*Casuarina cristata*) open-forest was most extensive on grey cracking clay soils with poplar box (*Eucalyptus populnea*) and river red gum (*Eucalyptus camaldulensis*) woodland on alluvial plains, narrow-leaved ironbark (*Eucalyptus crebra*), smooth-barked apple (*Angophora leiocarpa*), bulloak (*Allocasuarina luehmannii*), yellow jacket (*Eucalyptus bloxsomei*), on sandy textured solodic soils and gum-topped box (*Eucalyptus microcarpa*) or *Eucalyptus populnea* or *Eucalyptus crebra*, *Allocasuarina luehmannii* on heavier solodics (Sattler and Williams 1999).
Current land use	The Site consists predominantly of remnant vegetation and is dissected by internal land owner tracks. Selective logging is evident at a minor scale. No pastoral or agricultural activities were observed within the site.
Soils and geology	Queensland Geological Mapping (Chinchilla map sheet SG56-093) depicts the majority of the Site within Quaternary aged alluvium comprising sand, silt and mud gravel. The north-eastern portion of the site has been mapped as Jurassic to lower Cretacious Kumbarilla Beds geological unit overlain by Quaternary aged sands. Sediments typically comprise clayey liable to quartzose sandstone, siltstone, mudstone and polymictic conglomerate overlain by sands and some sandy soil. These geology units are typically associated with landzone 3 and land zone 7 respectively (EHP 2012). The Site inspection confirmed the site comprises intrusions of recent quaternary alluvial systems characterised by alluvial rivers and creek flats (land zone 3) and Cainozoic duricrusts formed on a variety of rock types, usually forming scarps (land zone 7). The Site predominantly slopes from the eastern boundary to the west.
Climate	The nearest weather station to the Site is at Miles Post Office (Bureau of Meteorology (BoM) station ID 042023) located approximately 5.5km south of the Site has a mean annual rainfall of 652 mm, with most rain falling between December and February, with August being the driest month. Approximately 7mm of rain fell at Miles in the week preceding the survey (BoM, 2014). The average annual maximum temperature at Miles is 27.1°C (BoM, 2014).

3. Methodology

The methodology employed in compilation of this Ecological Assessment Report consisted of:

- A desktop and literature review of ecological databases and literature sources as direct references for the survey undertaken
- A field survey of the Site

An explanation of these activities is outlined in this section.

3.1. Desktop and Literature Review

Sources utilised in the desktop and literature review are listed in Table 6 below.

Table 6: Desktop and Literature Review Sources

Database	Co-ordinates or search area	Date of search	Appendix
Environmental Protection Biodiversity and Conservation Act 1999 (*EPBC Act*) Protected Matters Search Tool	Lat -26.596713 Long 150.187944	24/04/2014	Appendix B: Results of EPBC Protected Matters Search Tool
Nature Conservation Act 1992 (*NC Act)* Protected Species Lists Wildlife Online Database	Lat -26.596713 Long 150.187944	24/04/2014	Appendix C: Wildlife Online Database Search Results
Department of Environment and Heritage Protection (EHP) Regional Ecosystem and Remnant Map—version 8.0	Lot 24 Plan BUL3439	24/04/2014	Appendix D: DNRM Mapped Regional Ecosystems
EHP Map of Environmentally Sensitive Areas	Lat -26.596713 Long 150.187944	24/04/2014	Appendix E: EHP Mapping of ESAs and Other Environmental Values on Site
EHP Map of Referable Wetlands and Wetland Protection Areas	Lot 24 Plan BUL3439	24/04/2014	Appendix E: EHP Mapping of ESAs and Other Environmental Values on Site
Queensland Geological Mapping, Chinchilla Map SHEET SG56-093, 1:250,000 Geological series (1971).			N/A
GISWR_19859_IFI_CD_Rev_A Disturbance Tracker Map Suite for DT1421			N/A

Data searches utilising a co-ordinate were conducted using a 10 km buffer around Latitude -26.596713 Longitude 150.187944 which corresponds to the approximate centre point of the property.

3.2. Field Survey

Ecological surveys were conducted in accordance with:

- The *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland* (*Neldner et al. 2012*)
- In line with the methodology described in the *Environmental Constraints Planning and Field Development Protocol* (*Q-LNG01-15-MP-0109, Australia Pacific LNG 2011*).

Field surveys were undertaken between 18/04/2014 and 19/04/2014.

3.2.1. Vegetation Community Survey

Baseline botanical surveys were undertaken to describe dominant flora and vegetation community structure throughout the survey site. Botanical surveys were consistent with the quaternary level of data collection as described in *Neldner et al. (2012)*.

The vegetation community surveys were undertaken within each unique ecosystem encountered within the Site. Vegetation community data was entered into the data fields provided by the Trimble data capture system. A total of three formal vegetation community surveys were undertaken within the Site. Ground-truthing of the Department of Natural Resources and Mines (DNRM) Regional Ecosystem (RE) designation (DNRM 2014) at and surrounding the Site was undertaken via quaternary level and random meanders transect assessments, as defined by *Neldner et al. (2012)*.

The locations of the vegetation community survey sites are presented in Appendix A: Site Location and Survey Points.

Relative abundance data was collected for each stratum within the community as per the methodology described in the *Environmental Constraints Planning and Field Development Protocols (Q-LNG01-15-MP-0109 Australia Pacific LNG (2012))*, as presented by the vegetation structure point data sheet of the Trimble unit.

Vegetation community polygons were confirmed, mapped and identified in accordance with Queensland regional ecosystem (biodiversity status) (DNRM 2014a) and EPBC threatened ecological community (TEC) criteria (DoE 2009a).

3.2.2. Habitat Surveys

Habitat surveys were undertaken in conjunction with vegetation community survey within the 50m x 10m quadrant. A total of 2 formal habitat surveys were undertaken across the Site (Appendix A: Site Location and Survey Points).

Within each habitat survey, a range of habitat features were recorded on the relevant Trimble data sheet. Where deemed appropriate, representative photo(s) were taken of the given habitat patch via the Trimble unit.

3.2.3. Threat-listed Flora and Fauna Survey

Threat-listed species are those listed under the *EPBC Act 1999* and the *Nature Conservation (Wildlife) Regulation 2006*.

Targeted threat-listed flora searches were undertaken for species highlighted by the database and literature review. Searches were undertaken based on incidental field observations of high quality habitat, the identification of distinct ecological features through the preliminary desktop and literature review, or within the vicinity of a vegetation community survey/habitat feature plots where field ecologists deemed the given area to be of sufficient potential value to a threatened species to warrant such a search.

Fauna species were recorded opportunistically throughout the survey area.

Any observations of threat-listed species (whether within search areas or opportunistically) were recorded using the Trimble data capture system. Where practicable, photo(s) were taken of the subject threatened species. Any flora specimens deemed as potential threatened species and not conclusively identified by the ecologists were forwarded to the Queensland Herbarium for verification.

3.2.4. Exotic Flora and Fauna Survey

Presence and abundance of declared flora and fauna as defined by the *Land Protection (Pest and Stock Route Management) Act 2002 (LP Act)*, were recorded at the time of the survey both within survey plots and opportunistically while traversing the Site. Exotic flora and fauna species were entered into the Trimble data capture system when encountered.

3.2.5. Disturbance Survey

Evidence of disturbance at survey sites was recorded for type, severity and estimated time of most recent occurrence. The recording of disturbance was also conducted at opportunistic levels where appropriate.

3.2.6. Survey Limitations

A number of factors are considered likely to influence survey results for particular species or species groups. These factors are:

- Timing (seasons) and duration of the survey period
- Weather conditions in the preceding seasons and immediately prior to the survey
- Restricted spatial area of the habitats within the Site.

Due to the above-listed items, the surveys undertaken may not provide a true indication of seasonal habitat utilisation by fauna species within the Site. Some cryptic flora species may only be detected during particular flowering periods. The field investigations undertaken were limited to passive techniques (e.g. no live trapping) and were limited to the middle of autumn. Additional survey effort would be required to provide a more comprehensive inventory of species, both threatened and common.

4. Results and Discussions

This section includes the results of the database and literature review. Some information is contained in the appendices and is referenced below.

4.1. Desktop and Literature Review

Results of the desktop and literature review can be found in Appendices B-F, as listed in Table 6.

4.2. Field Survey

Results of field surveys are detailed in the following sections. A comprehensive list of flora and fauna species identified during the field survey is included in Appendix F: List of Flora and Fauna Species Identified on Site.

4.2.1. Commonwealth Environmental Matters

Field survey results for Commonwealth environmental matters (MNES, TECs, threat-listed species) are outlined in **Error! Not a valid bookmark self-reference.**.

Table 7: Commonwealth Environmental Matters – Field Survey Results

Commonwealth environmental matters	Present (Y/N)	Location	Description*	Status	Condition	Comments
TECs	N	-	N/A	-	-	-
EPBC threat-listed flora	N	-	N/A	-	-	-
EPBC threat-listed fauna	N	-	N/A	-	-	-
Migratory species	N	-	N/A	-	-	-
Marine species	Y	Southern boundary of the site.	*Grallina cyanoleuca* (Australian magpie-lark)	Listed marine species under the *EPBC Act*.	N/A	Seen and heard during bird point survey.

*Status taken from DoE 2014

4.2.2. Queensland Environmental Matters

4.2.2.1. Field survey results

Field survey results for State environmental matters including Endangered, Vulnerable or Near Threatened flora and fauna, are outlined in Table 8.

Table 8: State Environmental Matters – Field Survey Results

State environmental matters	Present (Y/N)	Location	Description*	Status*	Comments
Endangered regional ecosystems	N	-	N/A	-	-
Of concern regional ecosystems	N	-	N/A	-	-
NC Act listed flora (EVNT)	N	-	N/A	-	-
NC Act listed fauna (EVNT)	N	-	N/A	-	-
Type A restricted plants	Y	Refer to Appendix I: Ground Truthed NC Act Threat Listed Species Present on Site for the locations within the site.	*Brachychiton populneus* (kurrajong)	Type A restricted plant	*Brachychiton populneus* identified in multiple locations throughout the site. Refer to Appendix I: Ground Truthed NC Act Threat Listed Species Present on Site for the locations within the site.

*Status and description taken from EHP 2014

4.2.2.2. Ground Truthed Regional Ecosystems

DNRM mapping identified a heterogeneous polygon containing No Concern at Present (biodiversity status) RE 11.7.4/11.7.7/11.7.5/11.7.2 within the site. Ground truthing has determined DNRM mapping to be partially accurate in this instance. Results of ground truthed Regional Ecosystems (GTRE) observed within the site are presented in Table 9.

Table 9: Ground Truthed Regional Ecosystems

RE ID	Status (biodiversity)*	Short description	Condition
11.7.7	No concern at present	*Eucalyptus fibrosa* subsp. *nubila* +/- *Corymbia* spp. +/- *Eucalyptus* spp. woodland on Cainozoic lateritic duricrust.	GTRE - *Eucalyptus crebra* (narrow-leaved red ironbark) dominant with *Eucalyptus fibrosa subs. nubila* (dusky ironbark) associated woodland (16-24m) on gently undulating lateritic rises overlain by quaternary aged sands was observed throughout the eastern portion of the site. This vegetation has been selectively thinned. A mid-dense (30-70% Projective Foliage Cover (PFC)) shrub stratum, dominated by *Acacia ixiophylla* (umbrella wattle), was present.

*Status taken from EHP 2012

All GTREs are represented schematically in Appendix H: Ground Truthed Regional Ecosystems and Regrowth.

4.2.2.2.1. Regrowth

DNRM mapping identified a heterogeneous polygon of regrowth containing No Concern at Present (biodiversity status) RE 11.7.4/11.7.7/11.7.5/11.7.2 within site. This was ground truthed as partially correct and results are presented in Table 10.

Table 10: Ground Truthed Mature Regrowth

Regrowth	Description*	Condition
11.7.7	*Eucalyptus fibrosa* subsp. *nubila* +/- *Corymbia* spp. +/- *Eucalyptus* spp. woodland on Cainozoic lateritic duricrust.	GTR - *Eucalyptus crebra* (narrow-leaved red ironbark) dominant with *Eucalyptus fibrosa subs. nubila* (dusky ironbark) associated woodland (3-14m) on gently undulating lateritic rises overlain by quaternary aged sands was observed abutting the western boundary of the GTRE 11.7.7 vegetation. Canopy vegetation within this polygon has been largely cleared with a mid-dense (30-70% PFC) shrub stratum, dominated by *Acacia ixiophylla* (umbrella wattle), was observed.

*Description taken from EHP 2014

All areas of ground truthed regrowth (GTR) are represented thematically in Appendix H: Ground Truthed Regional Ecosystems and Regrowth.

4.2.2.3. Other Significant Species

One Type A restricted plant species, *Brachychiton populneus* (kurrajong), was observed during the investigation. This species was observed at a number of locations throughout the site. Refer to Appendix I: Ground Truthed NC Act Threat Listed Species Present on Site for the location of each record.

4.2.2.4. Other Environmental Values

The eastern portion of the site contains contiguous vegetation of varying maturity. A variety of habitat features were observed within this vegetation, including mature hollow bearing trees/stags, hollow logs, fallen and windrowed timber stockpiles. In addition, a number of active grey-crowned babbler (*Pomatostomus temporalis*) nests were recorded.

The proposed infrastructure traverses a dam located on the central portion of the southern boundary. This feature is likely to afford foraging resources for locally common avifauna and herpetofauna.

A small fragment of regrowth RE 11.4.3 (Endangered biodiversity status) was observed in an area surrounded by pre-cleared paddock, to the west of the centre of the property. This vegetation qualifies as a MNES TEC. The vegetation was dominated by *Acacia harpophylla* (brigalow). The sparse canopy stratum comprised dominant *Acacia harpophylla* with an association of *Eucalyptus woollsiana* (narrow-leaved gum-topped box) from 16-20m. The mid-dense sub-canopy was also dominated by *Acacia harpophylla* from 10-14m. The sparse understorey was relatively free (<50%) of introduced/non-native flora. The overall size of the fragment is 0.6ha.

4.2.2.5. Weeds and Pests

Distribution of Weeds of National Significance (WoNS), Class 1, 2 and 3 species declared under the *LP Act* and pest fauna on site has been mapped based on field survey results. Appendix J: Ground Truthed Weeds and Pest Fauna Present on Site is a schematic of the field surveyed weeds and pests.

Pest flora encountered during the field survey are listed in Table 11. No pest fauna were observed during the survey.

Table 11: Pest Flora Recorded During the Ecological Field Survey on Site

Scientific Name	Common Name	Status*	Area of Occurrence
**Opuntia tomentosa*	velvety tree pear	WoNS and *LP Act* declared Class 2 pest	Occur as occasional immature individuals throughout the Site.
**Opuntia stricta*	prickly pear	WoNS and *LP Act* declared Class 2 pest	Occur as occasional immature individuals throughout the Site.

*Status taken from DEHP 2014/Australian Weeds Committee 2012

4.2.3. Disturbance

Evidence of mechanical clearing was observed at certain locations within the site. A small fragment of cultivated land was observed within the western most portion of the site. A number of fire breaks, cleared to 10m wide, have been cleared along the property boundaries and internal track dissecting part of the GTRE 11.7.7 and GTR 11.7.7 vegetation. An excavated dam was observed within the central portion of the southern boundary of the site. These disturbance features are able to be observed on maps containing recent aerial photography within the appendices of this report.

5. Conclusions

An ecological assessment was undertaken within the Ecology Survey Buffer area within the Site on 18 April 2014 and 19 April 2014. The site was characterised by retained RE 11.7.7 vegetation of varying maturity. Habitat features observed within site afford habitat to locally common fauna and may provide habitat critical to the long-term survivability of any MNES or EVNT fauna. However, the intensity of this survey is not sufficient to eliminate the presence of MNES and EVNT fauna. A number of *Brachychiton populneus* (kurrajong), a Type A restricted plant, were observed within the Site.

It should be noted that an area of brigalow TEC (GTRE 11.4.3) was observed in an area surrounded by pre-cleared paddock, to the west of the centre of the property. However, the proposed disturbance footprint (as at the date this report was compiled) is unlikely to impact this community. Avoidance of this vegetation must occur in the event the proposed disturbance requires relocation.

It is recommended that the findings in this report are considered during detailed development planning such that disturbance to the ecological values of the Site and locality may be avoided wherever practical. Where disturbance is unavoidable, impact mitigation measures are to be implemented in accordance with the approved site environmental management plan and regulatory approval conditions.

Appendix A: Site Location and Survey Points

Legend

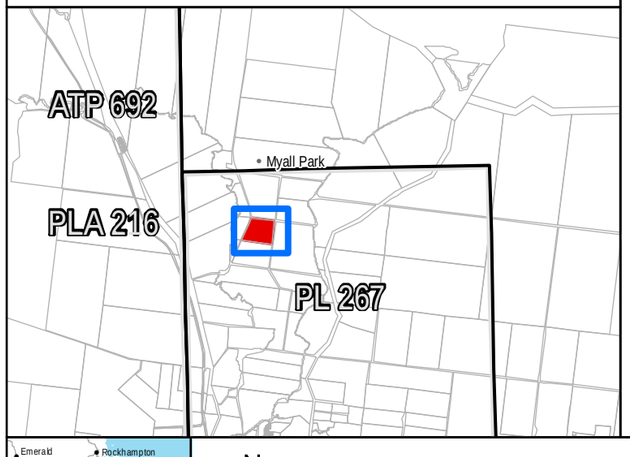
Survey Point
- Vegetation
- Fauna

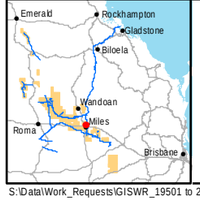
Queensland Waterways Zoning

Risk of Impact
- 1 - Low
- 2 - Moderate
- 3 - High
- 4 - Major

Boundary
- Survey Area
- Site Location
- Surveyed Cadastral

Source Information:
© State of Queensland (Department of Natural Resources and Mines) 2014
© State of Queensland (Department of Agriculture, Fisheries and Forestry) 2014
Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data the State of Queensland make no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product. The State of Queensland disclaims all responsibility for information contained in this product and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete on any way for any reason.





N

Scale 1:5,000 (at A3)

0 125 250 500

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	SAH	CD	12/05/2014
A	Issued For Review	ALM	TC	SAH		24/04/2014

Appendix A:
Site Location and Survey Points
Date: 12 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4560-15-RP-0062	0
	Map ID GISWR_19859_A_Rev0	

S:\Data\Work_Requests\GISWR_19501 to 20000\GISWR_19859\Rev0\GISWR_19859_A_Rev0.mxd

Origin Energy Ltd gives no warranty in relation to the data (including accuracy, reliability, completeness or suitability) and accepts no liability for any loss, damage or costs (including consequential damage) relating to any use of the data in this map. © Origin Energy 2014

Appendix B: Results of EPBC Protected Matters Search Tool

The search of the EBPC protected matters database was carried out on 24/04/2014.

Australian Government

Department of the Environment

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 18/04/14 16:02:56

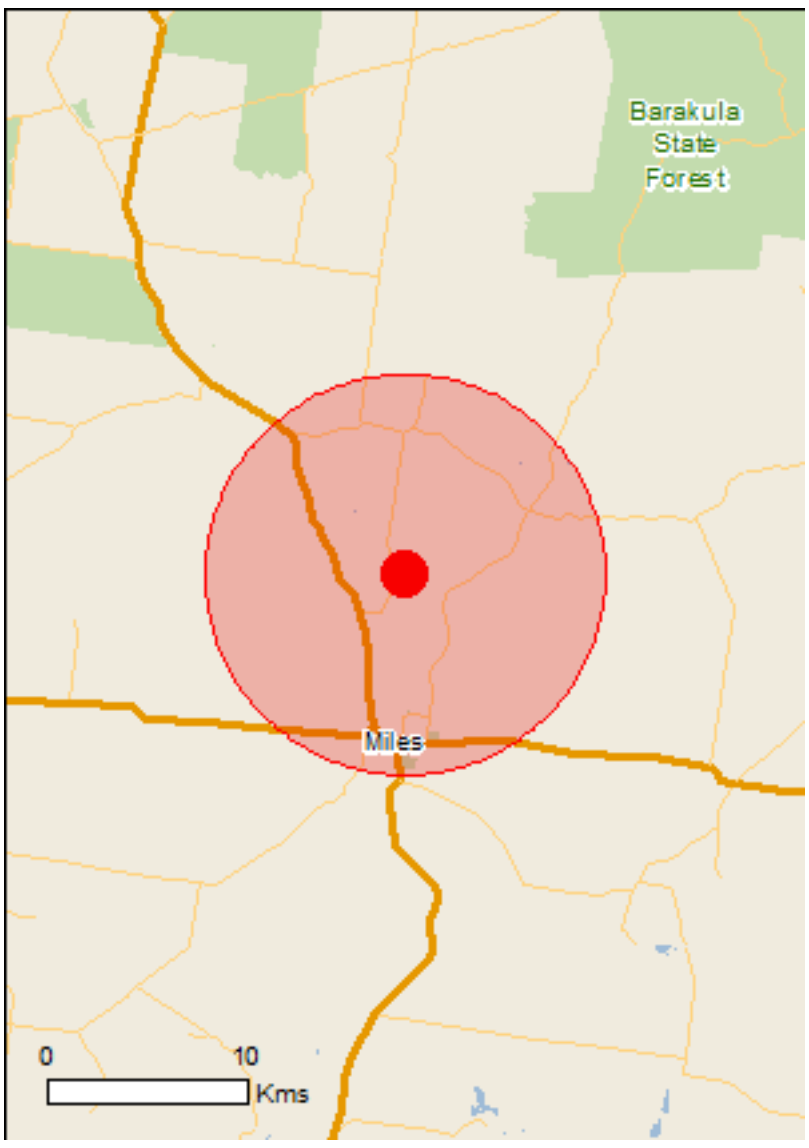
Summary

Details

- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat

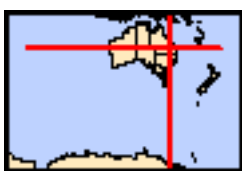
Acknowledgements



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates

Buffer: 10.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	19
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate.

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	12
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

Place on the RNE:	None
State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	22
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (RAMSAR) [Resource Information]

Name	Proximity
Narran lake nature reserve	Upstream from Ramsar

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Brigalow (Acacia harpophylla dominant and co-dominant)	Endangered	Community known to occur within area
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community likely to occur within area
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community may occur within area
Weeping Myall Woodlands	Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat likely to occur within area
Geophaps scripta scripta Squatter Pigeon (southern) [64440]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Neochmia ruficauda ruficauda Star Finch (eastern), Star Finch (southern) [26027]	Endangered	Species or species habitat likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Fish		
Maccullochella peelii		
Murray Cod [66633]	Vulnerable	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri		
Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area
Nyctophilus corbeni		
South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)		
Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat may occur within area
Plants		
Cadellia pentastylis		
Ooline [9828]	Vulnerable	Species or species habitat likely to occur within area
Calytrix gurulmundensis		
[24241]	Vulnerable	Species or species habitat likely to occur within area
Homopholis belsonii		
Belson's Panic [2406]	Vulnerable	Species or species habitat may occur within area
Homoranthus decumbens		
a shrub [55186]	Endangered	Species or species habitat may occur within area
Westringia parvifolia		
[4822]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Anomalopus mackayi		
Five-clawed Worm-skink, Long-legged Worm-skink [25934]	Vulnerable	Species or species habitat may occur within area
Delma torquata		
Collared Delma [1656]	Vulnerable	Species or species habitat may occur within area
Denisonia maculata		
Ornamental Snake [1193]	Vulnerable	Species or species habitat may occur within area
Egernia rugosa		
Yakka Skink [1420]	Vulnerable	Species or species habitat likely to occur within area
Furina dunmalli		
Dunmall's Snake [59254]	Vulnerable	Species or species habitat known to occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Haliaeetus leucogaster		
White-bellied Sea-Eagle [943]		Species or species

Name	Threatened	Type of Presence
		habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species	[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.	

Name	Threatened	Type of Presence
Birds		
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species

Name	Threatened	Type of Presence
		habitat may occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

Invasive Species	[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Frogs		
Bufo marinus Cane Toad [1772]		Species or species habitat likely to occur within area
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Hymenachne amplexicaulis Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Parthenium hysterophorus Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area

Coordinates

-26.59179 150.19003

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Department of Environment, Climate Change and Water, New South Wales
-Department of Sustainability and Environment, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment and Natural Resources, South Australia
-Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts
-Environmental and Resource Management, Queensland
-Department of Environment and Conservation, Western Australia
-Department of the Environment, Climate Change, Energy and Water
-Birds Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-SA Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Atherton and Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
-State Forests of NSW
-Geoscience Australia
-CSIRO
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

© Commonwealth of Australia
Department of the Environment
GPO Box 787
Canberra ACT 2601 Australia
+61 2 6274 1111

Appendix C: Wildlife Online Database Search Results

The search of the Wildlife Online database was carried out on 24/04/2014.

Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: All
Type: All
Status: All
Records: All
Date: All
Latitude: 26.5918
Longitude: 150.19
Distance: 10
Email: grant.phillips@originenergy.com.au
Date submitted: Friday 18 Apr 2014 16:08:01
Date extracted: Friday 18 Apr 2014 16:10:02

The number of records retrieved = 284

Disclaimer

As the DSITIA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	amphibians	Bufonidae	*Rhinella marina*	cane toad	Y			2
animals	amphibians	Hylidae	*Litoria peronii*	emerald spotted treefrog		C		1
animals	amphibians	Hylidae	*Litoria latopalmata*	broad palmed rocketfrog		C		5
animals	amphibians	Hylidae	*Litoria fallax*	eastern sedgefrog		C		1
animals	amphibians	Hylidae	*Litoria rubella*	ruddy treefrog		C		1
animals	birds	Acanthizidae	*Acanthiza nana*	yellow thornbill		C		5
animals	birds	Acanthizidae	*Gerygone fusca*	western gerygone		C		2
animals	birds	Acanthizidae	*Acanthiza pusilla*	brown thornbill		C		3
animals	birds	Acanthizidae	*Acanthiza apicalis*	inland thornbill		C		4
animals	birds	Acanthizidae	*Smicrornis brevirostris*	weebill		C		10
animals	birds	Acanthizidae	*Gerygone albogularis*	white-throated gerygone		C		5
animals	birds	Acanthizidae	*Acanthiza chrysorrhoa*	yellow-rumped thornbill		C		2
animals	birds	Acanthizidae	*Acanthiza uropygialis*	chestnut-rumped thornbill		C		1
animals	birds	Acanthizidae	*Chthonicola sagittata*	speckled warbler		C		3
animals	birds	Acanthizidae	*Acanthiza reguloides*	buff-rumped thornbill		C		4
animals	birds	Accipitridae	*Aquila audax*	wedge-tailed eagle		C		2
animals	birds	Accipitridae	*Accipiter cirrocephalus*	collared sparrowhawk		C		1
animals	birds	Accipitridae	*Haliastur sphenurus*	whistling kite		C		1
animals	birds	Accipitridae	*Aviceda subcristata*	Pacific baza		C		2
animals	birds	Accipitridae	*Elanus axillaris*	black-shouldered kite		C		1
animals	birds	Accipitridae	*Milvus migrans*	black kite		C		1
animals	birds	Acrocephalidae	*Acrocephalus australis*	Australian reed-warbler		C		1
animals	birds	Anatidae	*Chenonetta jubata*	Australian wood duck		C		5
animals	birds	Anatidae	*Anas superciliosa*	Pacific black duck		C		3
animals	birds	Anatidae	*Anas gracilis*	grey teal		C		2
animals	birds	Anhingidae	*Anhinga novaehollandiae*	Australasian darter		C		3
animals	birds	Apodidae	*Hirundapus caudacutus*	white-throated needletail		C		1
animals	birds	Ardeidae	*Egretta novaehollandiae*	white-faced heron		C		1
animals	birds	Ardeidae	*Ardea modesta*	eastern great egret		C		3
animals	birds	Ardeidae	*Ardea pacifica*	white-necked heron		C		4
animals	birds	Ardeidae	*Egretta garzetta*	little egret		C		1
animals	birds	Artamidae	*Cracticus tibicen*	Australian magpie		C		14
animals	birds	Artamidae	*Strepera graculina*	pied currawong		C		16
animals	birds	Artamidae	*Cracticus nigrogularis*	pied butcherbird		C		6
animals	birds	Artamidae	*Artamus leucorynchus*	white-breasted woodswallow		C		1
animals	birds	Artamidae	*Cracticus torquatus*	grey butcherbird		C		11
animals	birds	Cacatuidae	*Cacatua sanguinea*	little corella		C		2
animals	birds	Cacatuidae	*Cacatua galerita*	sulphur-crested cockatoo		C		18
animals	birds	Cacatuidae	*Calyptorhynchus lathami*	glossy black-cockatoo		V		1
animals	birds	Cacatuidae	*Eolophus roseicapillus*	galah		C		18
animals	birds	Cacatuidae	*Nymphicus hollandicus*	cockatiel		C		6
animals	birds	Cacatuidae	*Calyptorhynchus funereus*	yellow-tailed black-cockatoo		C		1
animals	birds	Campephagidae	*Coracina tenuirostris*	cicadabird		C		2
animals	birds	Campephagidae	*Coracina novaehollandiae*	black-faced cuckoo-shrike		C		7
animals	birds	Campephagidae	*Coracina papuensis*	white-bellied cuckoo-shrike		C		1/1
animals	birds	Charadriidae	*Vanellus miles*	masked lapwing		C		4

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Charadriidae	*Elseyornis melanops*	black-fronted dotterel		C		1
animals	birds	Charadriidae	*Vanellus miles novaehollandiae*	masked lapwing (southern subspecies)		C		2
animals	birds	Columbidae	*Geopelia cuneata*	diamond dove		C		1
animals	birds	Columbidae	*Columba livia*	rock dove	Y			4
animals	birds	Columbidae	*Geopelia striata*	peaceful dove		C		6
animals	birds	Columbidae	*Geopelia humeralis*	bar-shouldered dove		C		1
animals	birds	Columbidae	*Phaps chalcoptera*	common bronzewing		C		1
animals	birds	Columbidae	*Ocyphaps lophotes*	crested pigeon		C		10
animals	birds	Coraciidae	*Eurystomus orientalis*	dollarbird		C		2
animals	birds	Corcoracidae	*Corcorax melanorhamphos*	white-winged chough		C		10
animals	birds	Corcoracidae	*Struthidea cinerea*	apostlebird		C		12
animals	birds	Corvidae	*Corvus coronoides*	Australian raven		C		5
animals	birds	Corvidae	*Corvus orru*	Torresian crow		C		22
animals	birds	Corvidae	*Corvus sp.*					1
animals	birds	Corvidae	*Corvus bennetti*	little crow		C		2
animals	birds	Cuculidae	*Centropus phasianinus*	pheasant coucal		C		2
animals	birds	Cuculidae	*Chalcites lucidus*	shining bronze-cuckoo		C		1
animals	birds	Cuculidae	*Scythrops novaehollandiae*	channel-billed cuckoo		C		1
animals	birds	Cuculidae	*Eudynamys orientalis*	eastern koel		C		2
animals	birds	Cuculidae	*Cacomantis pallidus*	pallid cuckoo		C		1
animals	birds	Estrildidae	*Neochmia modesta*	plum-headed finch		C		1
animals	birds	Estrildidae	*Taeniopygia bichenovii*	double-barred finch		C		3
animals	birds	Estrildidae	*Lonchura punctulata*	nutmeg mannikin	Y			1
animals	birds	Falconidae	*Falco cenchroides*	Nankeen kestrel		C		2
animals	birds	Halcyonidae	*Todiramphus sanctus*	sacred kingfisher		C		4
animals	birds	Halcyonidae	*Dacelo novaeguineae*	laughing kookaburra		C		11
animals	birds	Hirundinidae	*Petrochelidon ariel*	fairy martin		C		3
animals	birds	Hirundinidae	*Petrochelidon nigricans*	tree martin		C		1
animals	birds	Hirundinidae	*Hirundo neoxena*	welcome swallow		C		8
animals	birds	Maluridae	*Malurus cyaneus*	superb fairy-wren		C		6/1
animals	birds	Maluridae	*Malurus lamberti*	variegated fairy-wren		C		2
animals	birds	Meliphagidae	*Philemon corniculatus*	noisy friarbird		C		11
animals	birds	Meliphagidae	*Melithreptus brevirostris*	brown-headed honeyeater		C		2/1
animals	birds	Meliphagidae	*Plectorhyncha lanceolata*	striped honeyeater		C		8
animals	birds	Meliphagidae	*Acanthagenys rufogularis*	spiny-cheeked honeyeater		C		4
animals	birds	Meliphagidae	*Caligavis chrysops*	yellow-faced honeyeater		C		2
animals	birds	Meliphagidae	*Entomyzon cyanotis*	blue-faced honeyeater		C		15
animals	birds	Meliphagidae	*Manorina flavigula*	yellow-throated miner		C		2
animals	birds	Meliphagidae	*Gavicalis virescens*	singing honeyeater		C		1
animals	birds	Meliphagidae	*Lichmera indistincta*	brown honeyeater		C		5
animals	birds	Meliphagidae	*Nesoptilotis leucotis*	white-eared honeyeater		C		8/1
animals	birds	Meliphagidae	*Manorina melanocephala*	noisy miner		C		23
animals	birds	Meliphagidae	*Myzomela sanguinolenta*	scarlet honeyeater		C		3
animals	birds	Meliphagidae	*Philemon citreogularis*	little friarbird		C		10
animals	birds	Meliphagidae	*Ptilotula penicillatus*	white-plumed honeyeater		C		3
animals	birds	Meropidae	*Merops ornatus*	rainbow bee-eater		C		5

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	birds	Monarchidae	*Myiagra rubecula*	leaden flycatcher		C		2
animals	birds	Monarchidae	*Grallina cyanoleuca*	magpie-lark		C		21
animals	birds	Motacillidae	*Anthus novaeseelandiae*	Australasian pipit		C		1
animals	birds	Nectariniidae	*Dicaeum hirundinaceum*	mistletoebird		C		5
animals	birds	Neosittidae	*Daphoenositta chrysoptera*	varied sittella		C		2
animals	birds	Oriolidae	*Oriolus sagittatus*	olive-backed oriole		C		1
animals	birds	Oriolidae	*Sphecotheres vieilloti*	Australasian figbird		C		1
animals	birds	Otididae	*Ardeotis australis*	Australian bustard		C		2
animals	birds	Pachycephalidae	*Pachycephala rufiventris*	rufous whistler		C		7
animals	birds	Pachycephalidae	*Colluricincla harmonica*	grey shrike-thrush		C		7
animals	birds	Pardalotidae	*Pardalotus striatus*	striated pardalote		C		21/1
animals	birds	Pardalotidae	*Pardalotus punctatus*	spotted pardalote		C		1
animals	birds	Passeridae	*Passer domesticus*	house sparrow	Y			3
animals	birds	Pelecanidae	*Pelecanus conspicillatus*	Australian pelican		C		1
animals	birds	Petroicidae	*Petroica goodenovii*	red-capped robin		C		1
animals	birds	Petroicidae	*Microeca fascinans*	jacky winter		C		1
animals	birds	Petroicidae	*Eopsaltria australis*	eastern yellow robin		C		4
animals	birds	Phalacrocoracidae	*Phalacrocorax carbo*	great cormorant		C		2
animals	birds	Phasianidae	*Coturnix pectoralis*	stubble quail		C		1
animals	birds	Podargidae	*Podargus strigoides*	tawny frogmouth		C		1
animals	birds	Pomatostomidae	*Pomatostomus temporalis*	grey-crowned babbler		C		7
animals	birds	Psittacidae	*Melopsittacus undulatus*	budgerigar		C		1
animals	birds	Psittacidae	*Alisterus scapularis*	Australian king-parrot		C		2
animals	birds	Psittacidae	*Psephotus varius*	mulga parrot		C		2
animals	birds	Psittacidae	*Trichoglossus haematodus moluccanus*	rainbow lorikeet		C		6
animals	birds	Psittacidae	*Trichoglossus chlorolepidotus*	scaly-breasted lorikeet		C		11
animals	birds	Psittacidae	*Aprosmictus erythropterus*	red-winged parrot		C		9
animals	birds	Psittacidae	*Platycercus adscitus*	pale-headed rosella		C		8
animals	birds	Psittacidae	*Psephotus haematonotus*	red-rumped parrot		C		1
animals	birds	Psittacidae	*Glossopsitta concinna*	musk lorikeet		C		1
animals	birds	Rallidae	*Gallinula tenebrosa*	dusky moorhen		C		1
animals	birds	Rhipiduridae	*Rhipidura leucophrys*	willie wagtail		C		16
animals	birds	Rhipiduridae	*Rhipidura albiscapa*	grey fantail		C		8
animals	birds	Threskiornithidae	*Threskiornis molucca*	Australian white ibis		C		2
animals	birds	Threskiornithidae	*Platalea flavipes*	yellow-billed spoonbill		C		1
animals	birds	Threskiornithidae	*Platalea regia*	royal spoonbill		C		3
animals	birds	Timaliidae	*Zosterops lateralis*	silvereye		C		1
animals	birds	Turnicidae	*Turnix velox*	little button-quail		C		1
animals	mammals	Canidae	*Canis lupus dingo*	dingo				1
animals	mammals	Macropodidae	*Macropus rufogriseus*	red-necked wallaby		C		1
animals	mammals	Macropodidae	*Macropus giganteus*	eastern grey kangaroo		C		1
animals	mammals	Phascolarctidae	*Phascolarctos cinereus*	koala		C	V	2
animals	mammals	Potoroidae	*Aepyprymnus rufescens*	rufous bettong		C		2
animals	mammals	Tachyglossidae	*Tachyglossus aculeatus*	short-beaked echidna		C		3
animals	reptiles	Agamidae	*Pogona barbata*	bearded dragon		C		2
animals	reptiles	Diplodactylidae	*Strophurus taenicauda*	golden-tailed gecko		NT		2/2

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
animals	reptiles	Diplodactylidae	*Lucasium steindachneri*	Steindachner's gecko		C		1
animals	reptiles	Gekkonidae	*Heteronotia binoei*	Bynoe's gecko		C		2
animals	reptiles	Pygopodidae	*Lialis burtonis*	Burton's legless lizard		C		1/1
animals	reptiles	Scincidae	*Egernia rugosa*	yakka skink		V	V	1
animals	reptiles	Scincidae	*Lerista fragilis*			C		1
animals	reptiles	Scincidae	*Lygisaurus foliorum*			C		1
animals	reptiles	Scincidae	*Carlia pectoralis sensu lato*			C		1
animals	reptiles	Scincidae	*Ctenotus robustus*			C		1
animals	reptiles	Scincidae	*Cryptoblepharus pulcher pulcher*	elegant snake-eyed skink		C		1
animals	reptiles	Varanidae	*Varanus varius*	lace monitor		C		2
fungi	sac fungi	Parmeliaceae	*Parmotrema parahypotropum*			C		1/1
fungi	sac fungi	Parmeliaceae	*Punctelia subflava*			C		1/1
fungi	sac fungi	Physciaceae	*Physcia nubila*			C		1/1
fungi	sac fungi	Physciaceae	*Pyxine rugulosa*			C		1/1
fungi	sac fungi	Physciaceae	*Pyxine subcinerea*			C		2/2
fungi	sac fungi	Physciaceae	*Heterodermia speciosa*			C		1/1
fungi	sac fungi	Physciaceae	*Phaeophyscia orbicularis*			C		1/1
fungi	sac fungi	Teloschistaceae	*Caloplaca*			C		1/1
plants	ferns	Ophioglossaceae	*Ophioglossum reticulatum*			C		1/1
plants	higher dicots	Anacardiaceae	*Schinus molle var. areira*	pepper tree	Y			1/1
plants	higher dicots	Apiaceae	*Actinotus gibbonsii*	dwarf flannel flower		C		1/1
plants	higher dicots	Araliaceae	*Trachymene ochracea*	white parsnip		C		1/1
plants	higher dicots	Asteraceae	*Olearia ramulosa*			C		1/1
plants	higher dicots	Asteraceae	*Sigesbeckia fugax*			C		1/1
plants	higher dicots	Asteraceae	*Sonchus oleraceus*	common sowthistle	Y			1/1
plants	higher dicots	Asteraceae	*Flaveria trinervia*		Y			1/1
plants	higher dicots	Asteraceae	*Leptorhynchos baileyi*			C		1/1
plants	higher dicots	Asteraceae	*Rutidosis murchisonii*			C		3/3
plants	higher dicots	Asteraceae	*Solenogyne bellioides*			C		1/1
plants	higher dicots	Asteraceae	*Ozothamnus diotophyllus*			C		3/3
plants	higher dicots	Asteraceae	*Coronidium oxylepis subsp. lanatum*			C		1/1
plants	higher dicots	Asteraceae	*Brachyscome multifida var. dilatata*			C		2/2
plants	higher dicots	Asteraceae	*Senecio pinnatifolius var. pinnatifolius*			C		1/1
plants	higher dicots	Asteraceae	*Cassinia laevis*			C		1/1
plants	higher dicots	Byttneriaceae	*Commersonia pedleyi*			C		2/2
plants	higher dicots	Caesalpiniaceae	*Petalostylis labicheoides*			C		1/1
plants	higher dicots	Capparaceae	*Capparis lasiantha*	nipan		C		1/1
plants	higher dicots	Casuarinaceae	*Allocasuarina luehmannii*	bull oak		C		1/1
plants	higher dicots	Chenopodiaceae	*Sclerolaena muricata*			C		1/1
plants	higher dicots	Chenopodiaceae	*Dysphania rhadinostachya subsp. inflata*			C		1/1
plants	higher dicots	Crassulaceae	*Bryophyllum delagoense*		Y			1/1
plants	higher dicots	Ericaceae	*Leucopogon biflorus*			C		1/1
plants	higher dicots	Euphorbiaceae	*Monotaxis macrophylla*			C		2/2
plants	higher dicots	Euphorbiaceae	*Euphorbia hirta*		Y			1/1
plants	higher dicots	Fabaceae	*Cullen patens*	bullamon lucerne		C		1/1
plants	higher dicots	Fabaceae	*Hardenbergia violacea*			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	higher dicots	Fabaceae	*Chorizema parviflorum*	eastern flame pea		C		1/1
plants	higher dicots	Fabaceae	*Zornia*			C		1/1
plants	higher dicots	Geraniaceae	*Geranium solanderi var. solanderi*	native geranium		C		1/1
plants	higher dicots	Goodeniaceae	*Brunonia australis*	blue pincushion		C		1/1
plants	higher dicots	Goodeniaceae	*Goodenia delicata*			C		1/1
plants	higher dicots	Goodeniaceae	*Goodenia*			C		1/1
plants	higher dicots	Haloragaceae	*Gonocarpus urceolatus*			C		2/2
plants	higher dicots	Lamiaceae	*Prostanthera sp. (Baking Board V.Hando 135)*			C		3/3
plants	higher dicots	Lamiaceae	*Spartothamnella puberula*			C		1/1
plants	higher dicots	Lamiaceae	*Prostanthera cryptandroides subsp. euphrasioides*			C		1/1
plants	higher dicots	Lamiaceae	*Prostanthera ringens*			C		1/1
plants	higher dicots	Lamiaceae	*Westringia cheelii*			C		3/3
plants	higher dicots	Loranthaceae	*Lysiana exocarpi subsp. tenuis*			C		1/1
plants	higher dicots	Malvaceae	*Hibiscus sturtii*			C		1/1
plants	higher dicots	Malvaceae	*Sida sp. (Musselbrook M.B.Thomas+ MRS437)*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia macradenia*	zig-zag wattle		C		2/2
plants	higher dicots	Mimosaceae	*Acacia ixiophylla*			C		7/7
plants	higher dicots	Mimosaceae	*Acacia triptera*			C		3/3
plants	higher dicots	Mimosaceae	*Acacia shirleyi*	lancewood		C		1/1
plants	higher dicots	Mimosaceae	*Acacia conferta*			C		2/2
plants	higher dicots	Mimosaceae	*Acacia falcata*	sickle wattle		C		1/1
plants	higher dicots	Mimosaceae	*Acacia neriifolia*	pechey wattle		C		2/2
plants	higher dicots	Mimosaceae	*Acacia semilunata*	crescent-leaved wattle		C		4/4
plants	higher dicots	Mimosaceae	*Acacia sparsiflora*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia spectabilis*	pilliga wattle		C		2/2
plants	higher dicots	Mimosaceae	*Acacia blakei subsp. blakei*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia aprepta*	Miles mulga		C		3/3
plants	higher dicots	Mimosaceae	*Acacia deanei subsp. deanei*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia crassa subsp. longicoma*			C		1/1
plants	higher dicots	Mimosaceae	*Acacia leiocalyx subsp. leiocalyx*			C		2/2
plants	higher dicots	Mimosaceae	*Acacia crassa subsp. crassa*			C		1/1
plants	higher dicots	Myrsinaceae	*Lysimachia arvensis*		Y			1/1
plants	higher dicots	Myrtaceae	*Eucalyptus fibrosa subsp. fibrosa*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus tereticornis subsp. tereticornis*			C		1/1
plants	higher dicots	Myrtaceae	*Leptospermum polygalifolium*	tantoon		C		1/1
plants	higher dicots	Myrtaceae	*Lysicarpus angustifolius*	budgeroo		C		1/1
plants	higher dicots	Myrtaceae	*Melaleuca squamophloia*			C		1/1
plants	higher dicots	Myrtaceae	*Melaleuca densispicata*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus chloroclada*	Baradine red gum		C		3/3
plants	higher dicots	Myrtaceae	*Micromyrtus sessilis*			C		1/1
plants	higher dicots	Myrtaceae	*Micromyrtus carinata*	Gurulmundi heath-myrtle		E		1/1
plants	higher dicots	Myrtaceae	*Melaleuca pallescens*			C		1/1
plants	higher dicots	Myrtaceae	*Angophora floribunda*	rough-barked apple		C		1/1
plants	higher dicots	Myrtaceae	*Angophora leiocarpa*	rusty gum		C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus exserta*	Queensland peppermint		C		2/2
plants	higher dicots	Myrtaceae	*Eucalyptus elegans*			C		4/4

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	higher dicots	Myrtaceae	*Eucalyptus crebra*	narrow-leaved red ironbark		C		1/1
plants	higher dicots	Myrtaceae	*Melaleuca nodosa*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus fibrosa subsp. nubila*			C		1/1
plants	higher dicots	Myrtaceae	*Kardomia jucunda*			C		1/1
plants	higher dicots	Myrtaceae	*Eucalyptus panda*			C		2/2
plants	higher dicots	Onagraceae	*Oenothera lindheimeri*		Y			1/1
plants	higher dicots	Oxalidaceae	*Oxalis radicosa*			C		1/1
plants	higher dicots	Plantaginaceae	*Misopates orontium*	lesser snapdragon	Y			1/1
plants	higher dicots	Plantaginaceae	*Linaria maroccana*		Y			1/1
plants	higher dicots	Polygalaceae	*Polygala linariifolia*			C		1/1
plants	higher dicots	Portulacaceae	*Portulaca bicolor*			C		1/1
plants	higher dicots	Portulacaceae	*Grahamia australiana*			C		1/1
plants	higher dicots	Portulacaceae	*Portulaca*			C		1/1
plants	higher dicots	Portulacaceae	*Calandrinia*			C		1/1
plants	higher dicots	Proteaceae	*Hakea purpurea*			C		1/1
plants	higher dicots	Rhamnaceae	*Cryptandra propinqua*			C		1/1
plants	higher dicots	Rhamnaceae	*Cryptandra armata*			C		1/1
plants	higher dicots	Rutaceae	*Boronia bipinnata*	rock boronia		C		1/1
plants	higher dicots	Rutaceae	*Phebalium nottii*	pink phebalium		C		2/2
plants	higher dicots	Rutaceae	*Philotheca difformis subsp. difformis*			C		1/1
plants	higher dicots	Rutaceae	*Boronia occidentalis*			C		3/3
plants	higher dicots	Rutaceae	*Zieria aspalathoides subsp. aspalathoides*			C		1/1
plants	higher dicots	Sapindaceae	*Dodonaea peduncularis*			C		2/2
plants	higher dicots	Sapindaceae	*Dodonaea macrossanii*			C		3/3
plants	higher dicots	Sapindaceae	*Dodonaea biloba*			C		7/7
plants	higher dicots	Sapindaceae	*Dodonaea vestita*			C		1/1
plants	higher dicots	Solanaceae	*Solanum parvifolium subsp. parvifolium*			C		1/1
plants	higher dicots	Solanaceae	*Solanum nemophilum*			C		1/1
plants	higher dicots	Solanaceae	*Solanum ferocissimum*			C		1/1
plants	higher dicots	Verbenaceae	*Glandularia aristigera*		Y			1/1
plants	higher dicots	Viscaceae	*Viscum whitei subsp. whitei*			C		1/1
plants	monocots	Juncaceae	*Juncus psammophilus*			C		2/2
plants	monocots	Juncaceae	*Juncus usitatus*			C		1/1
plants	monocots	Poaceae	*Cleistochloa subjuncea*			C		1/1
plants	monocots	Poaceae	*Eragrostis trichophora*		Y			1/1
plants	monocots	Poaceae	*Thyridolepis xerophila*			C		1/1
plants	monocots	Poaceae	*Urochloa mosambicensis*	sabi grass	Y			1/1
plants	monocots	Poaceae	*Digitaria eriantha cv. Pangola*		Y			1/1
plants	monocots	Poaceae	*Aristida calycina var. praealta*			C		1/1
plants	monocots	Poaceae	*Calyptochloa gracillima subsp. gracillima*			C		1/1
plants	monocots	Poaceae	*Setaria*			C		1/1
plants	monocots	Poaceae	*Melinis repens*	red natal grass	Y			1/1
plants	monocots	Poaceae	*Aristida echinata*			C		1/1
plants	monocots	Poaceae	*Cenchrus ciliaris*		Y			1/1
plants	monocots	Poaceae	*Cenchrus spinifex*		Y			1/1
plants	monocots	Poaceae	*Paspalum urvillei*	vasey grass	Y			1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	monocots	Poaceae	*Sporobolus creber*			C		3/3
plants	monocots	Poaceae	*Chrysopogon fallax*			C		1/1
plants	monocots	Poaceae	*Eragrostis brownii*	Brown's lovegrass		C		1/1
plants	monocots	Poaceae	*Setaria parviflora*	slender pigeon grass	Y			1/1
plants	monocots	Poaceae	*Paspalidium distans*	shotgrass		C		1/1
plants	monocots	Poaceae	*Aristida caput-medusae*			C		1/1
plants	monocots	Potamogetonaceae	*Potamogeton tricarinatus*	floating pondweed		C		2/2
plants		Phrymaceae	*Glossostigma diandrum*			C		1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992.* The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ( ).

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999.* The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).
This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.
This number is output as 999 if it equals or exceeds this value.

Appendix D: DNRM Mapped Regional Ecosystems

This Appendix provides an overview of EHP mapped regional ecosystems.

Legend

DNRM Stream Order

Vegetation Management Act RE v6.1 (2011) DNRM

Remnant Vegetation (Biodiversity Status)

- Of Concern Dominant
- No Concern at Present

Vegetation Management Act HVR v2.1 (2011) DNRM

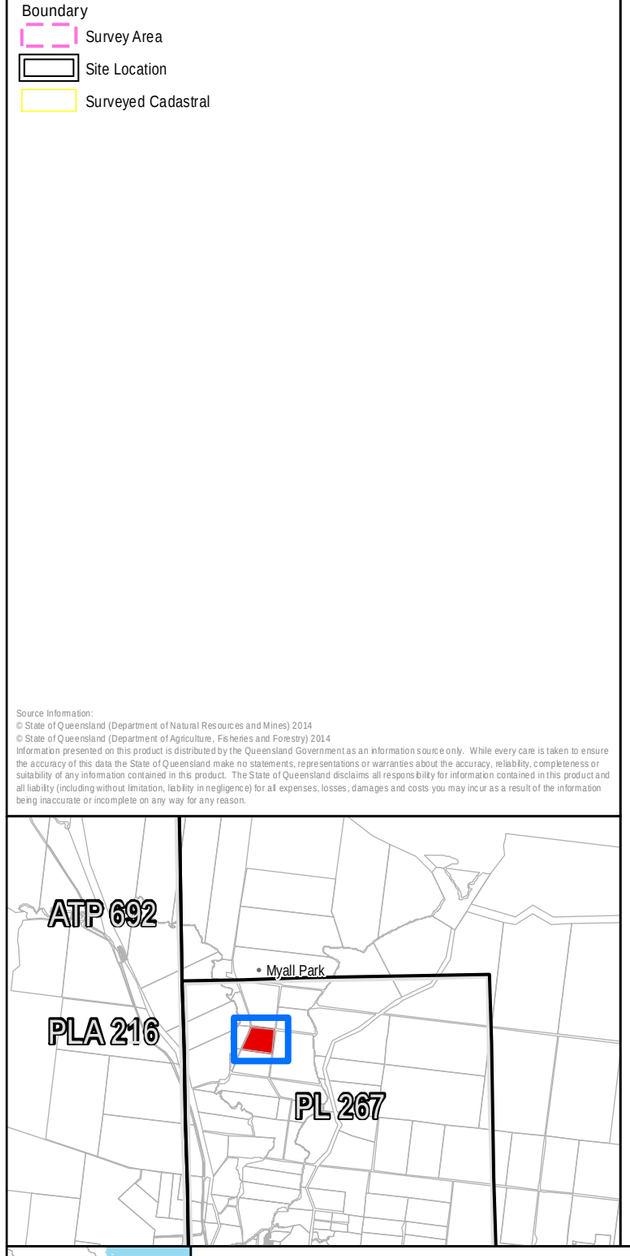
High Value Regrowth

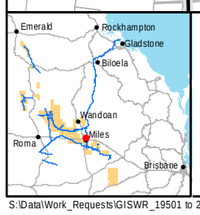
- Is a Least Concern Regional Ecosystem

Boundary

- Survey Area
- Site Location
- Surveyed Cadastral

Source Information:
© State of Queensland (Department of Natural Resources and Mines) 2014
© State of Queensland (Department of Agriculture, Fisheries and Forestry) 2014
Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data the State of Queensland make no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product. The State of Queensland disclaims all responsibility for information contained in this product and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete on any way for any reason.





N

Scale 1:5,000 (at A3)

0 125 250 500

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	SAH	CD	12/05/2014
A	Issued For Review	ALM	TC	SAH		24/04/2014

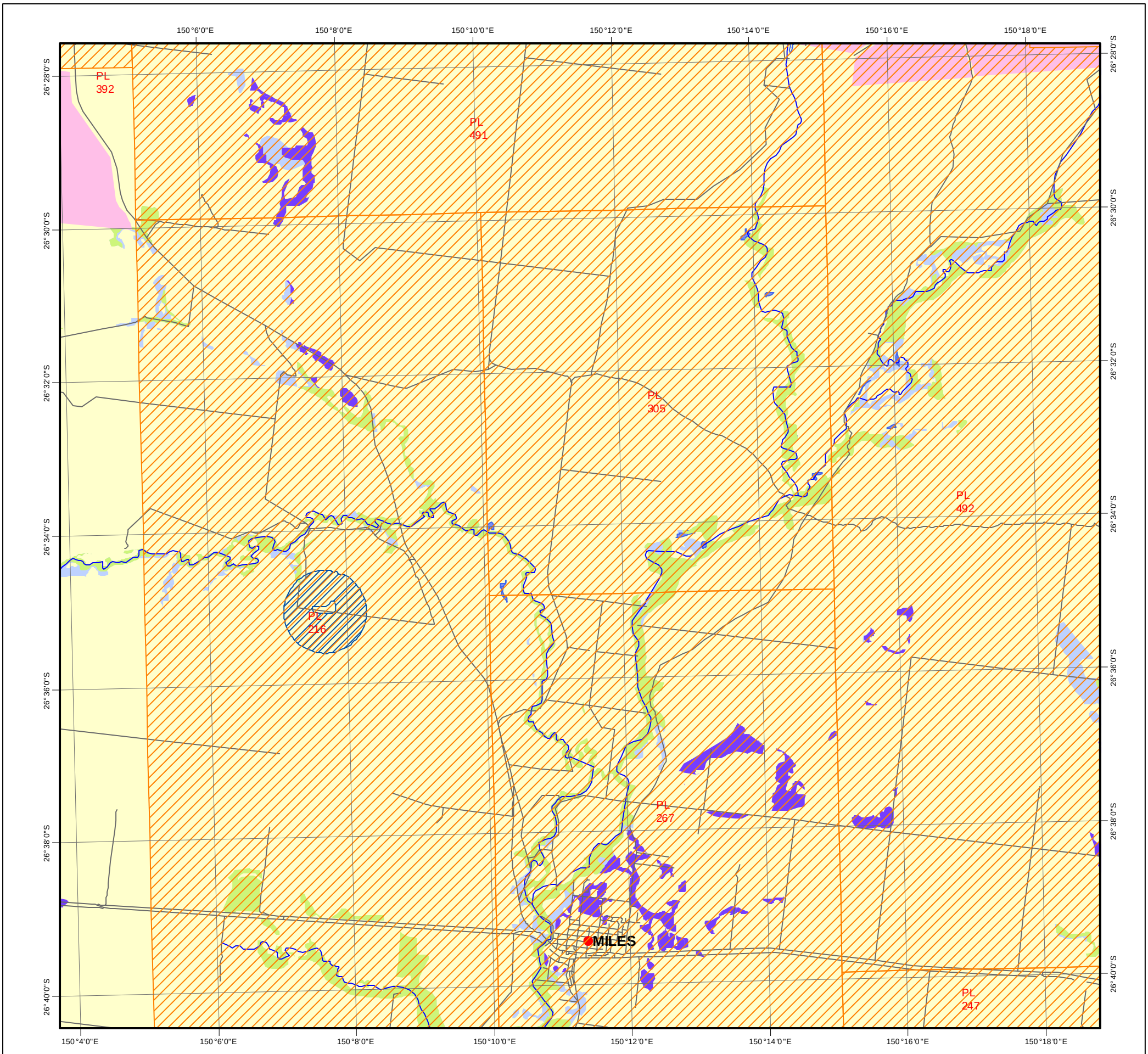
Appendix D:
DNRM Mapped Regional Ecosystems
Date: 12 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4560-15-RP-0062	0
	Map ID GISWR_19859_D_Rev0	

S:\Data\Work_Requests\GISWR_19501 to 20000\GISWR_19859\Rev0\GISWR_19859_D_Rev0.mxd

Origin Energy Ltd gives no warranty in relation to the data (including accuracy, reliability, completeness or suitability) and accepts no liability for any loss, damage or costs (including consequential damage) relating to any use of the data in this map. © Origin Energy 2014

Appendix E: EHP Mapping of ESAs and Other Environmental Values on Site



ENVIRONMENTALLY SENSITIVE AREAS - non-mining resource activities (EP Act)

Requested By: GRANT.PHILLIPS@ORIGINENERGY.COM.AU
Date: 18 Apr 14 Time: 16.10.13

Centred on point position:
Latitude: -26.5691 Longitude: 150.19
(decimal degrees)

- Petroleum Leases

CATEGORY A
- National Parks
- Conservation Parks
- Forest Reserves
- Wet Tropics World Heritage Area
- Great Barrier Reef Marine Park Area
- Marine Parks other than General Use Zones

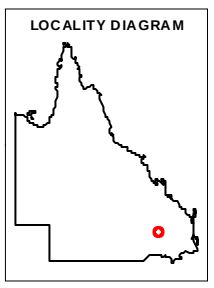
CATEGORY B
- World Heritage Areas
- Queensland Heritage Register Places
- Ramsar Sites
- Cultural Heritage Registered Areas and DLA's other than Stanbroke
- Special Forestry Areas
- Fish Habitat Areas
- Koala Plan
- Coordinated Conservation Areas
- Endangered Regional Ecosystems (remnant and mature regrowth (biodiversity status))
- Marine Parks other than General Use Zones
- Marine Plants

CATEGORY C
- Essential Habitat
- Nature Refuges
- Resources Reserves
- State Forests
- Timber Reserves
- Of Concern Regional Ecosystems (remnant biodiversity status)

OTHERS
- Towns
- Roads
- © Pitney Bowes Software Pty Ltd 2014
- Rivers
- Springs
- Referable Wetlands
- Dominant Wetlands (51-100%)
- Subdominant Wetlands (0-50%)
- Queensland

Queensland Government

LOCALITY DIAGRAM



N

0 1300 2600 3900 5200 6500 m

This product is projected into GDA 1994 MGA Zone 56

Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data, Pitney Bowes Software and the State of Queensland makes no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product.

The State of Queensland disclaims all responsibility for information contained in this product and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or ncomplete in any way for any reason.

External contributors (non-government parties) of the data for this product are: Great Barrier Reef Marine Park Authority and Pitney Bowes Software

Regional ecosystem mapping (remnant biodiversity status) may incorporate amendments, resulting from property level assessments, to the release version of the mapping available on QGIS.

NOTE TO USER: Themes presented in this map are indicative only. Field survey may be required to verify the 'true' spatial extent and value. Not all environmentally sensitive areas are presented in this map. A user should refer to the particular circumstances relevant to their situation to assess the 'completeness' of themes provided.

The user should note that some boundaries and indicated values are ambient or subject to change over time (e.g. regional ecosystem boundaries and conservation status, watercourse mapping etc).

The user should be aware that due to multiple overlapping themes present, some themes/layers may be obscured by others. Ordering in the Legend does not accurately reflect the order by which themes are displayed.

Mature Regrowth vegetation, depicting endangered regional ecosystems, was incorporated as of 24/07/2012.

© The State of Queensland, 2014

Appendix F: List of Flora and Fauna Species Identified on Site

This Appendix provides a full list of all flora and fauna species recorded during the field surveys.

Family	Scientific name	Common name	State status*	Commonwealth status*
Asteraceae	*Ozothamnus diosmifolius*	sago flower	C	-
Cactaceae	*Opuntia stricta**	common prickly pear	Class 2	WoNS
Cactaceae	*Opuntia tomentosa**	velvety tree pear	Class 2	WoNS
Casuarinaceae	*Allocasuarina luehmannii*	bull oak	C	-
Celastraceae	*Maytenus cunninghamii*	yellow berry bush	C	-
Chenopodaceae	*Enchylaena tomentosa*	ruby saltbush	C	-
Chenopodaceae	*Maireana microphylla*	small-leaf bluebush	C	-
Commelinaceae	*Commelina diffusa*	scurvy weed	C	-
Cupressaceae	*Callitris glaucophylla*	white cypress pine	C	-
Cyperaceae	*Gahnia aspera*	saw sedge	C	-
Dilleniaceae	*Hibbertia cistoidea*	guinea flower	C	-
Euphorbiaceae	*Phyllanthus fuernrohrii*	hairy phyllanthus	C	-
Fabaceae	*Daviesia ulicifolia*	gorse bitter pea	C	-
Goodeniaceae	*Dampiera adpressa*	purple beauty-bush	C	-
Goodeniaceae	*Goodenia disperma*	-	C	-
Goodeniaceae	*Goodenia glabra*	smooth goodenia	C	-
Goodeniaceae	*Goodenia gracilis*	slender goodenia	C	-
Iridaceae	*Patersonia sericea var. Sericea*	bush iris	C	-
Lamiaceae	*Spartothamnella puberula*	red-berried stick-plant	C	-
Lomandraceae	*Lomandra longifolia*	spiny-headed mat-rush	C	-
Lomandraceae	*Lomandra multiflora*	many-flowered mat-rush	C	-
Malvaceae	*Sida cordifolia**	flannel weed	*	-
Mimosaceae	*Acacia harpophylla*	brigalow	C	-
Mimosaceae	*Acacia ixiophylla*	umbrella wattle	C	-
Mimosaceae	*Acacia semilunata*	half-moon wattle	C	-
Myoporaceae	*Eremophila debilis*	winter apple	C	-
Myoporaceae	*Eremophila deserti*	Ellangowan poison bush	C	-
Myoporaceae	*Eremophila longifolia*	long-leaved emu bush	C	-
Myoporaceae	*Myoporum acuminatum*	water bush	C	-
Myrtaceae	*Eucalyptus crebra*	narrow-leaved ironbark	C	-
Myrtaceae	*Eucalyptus crebra*	narrow-leaved ironbark	C	-
Myrtaceae	*Eucalyptus crebra x E.populnea*	narrow-leaved ironbark	C	-
Myrtaceae	*Eucalyptus populnea*	poplar box	C	-
Myrtaceae	*Eucalyptus woollsiana*	narrow-leaved gum-topped box	C	-
Myrtaceae	*Kardomia jucunda*	-	C	-

Family	Scientific name	Common name	State status*	Commonwealth status*
Myrtaceae	*Melaleuca decora*	white feather honey myrtle	C	-
Myrtaceae	*Melaleuca uncinata*	broom honey myrtle	C	-
Phormiaceae	*Dianella revoluta*	spreading flax lily	C	-
Poaceae	*Aristida caput-medusae*	many-headed wire grass	C	-
Poaceae	*Aristida leptopoda*	white spear grass	C	-
Poaceae	*Austrostipa verticillata*	bamboo spear-grass	C	-
Poaceae	*Cenchrus ciliaris**	buffel grass	*	-
Poaceae	*Chloris ventricosa*	plump windmill grass	C	-
Poaceae	*Chrysocephalum apiculatum*	yellow buttons	C	-
Poaceae	*Chrysopogon fallax*	golden beard grass	C	-
Poaceae	*Enteropogon acicularis*	curly windmill grass	C	-
Poaceae	*Eragrostis lacunaria*	purple love grass	C	-
Poaceae	*Eragrostis sororia*	woodland love grass	C	-
Poaceae	*Eulalia aurea*	silky browntop	C	-
Poaceae	*Laxmannia gracilis*	slender wire lily	C	-
Poaceae	*Melinis repens**	red Natal grass	*	-
Poaceae	*Panicum effusum*	hairy panic	C	-
Poaceae	*Paspalidium jubiflorum*	Warrego summer grass	C	-
Poaceae	*Thyridolepis mitchelliana*	mulga Mitchell grass	C	-
Poaceae	*Thyridolepis xerophila*	small mulga Mitchell grass	C	-
Proteaceae	*Grevillea striata*	beefwood	C	-
Rubiaceae	*Psydrax odorata*	shiny-leafed canthium	C	-
Rubiaceae	*Psydrax oleifolia*	myrtle tree	C	-
Rutaceae	*Boronia occidentalis*	rock boronia	C	-
Sapindaceae	*Dodonaea biloba*	hopbush	C	-
Sapindaceae	*Dodonaea macrossanii*	hop bush	C	-
Sapindaceae	*Dodonaea viscosa*	sticky hopbush	C	-
Solanaceae	*Solanum esuriale*	potato weed	C	-
Sterculiaceae	*Brachychiton populneus*	kurrajong	C	-
Sterculiaceae	*Brachychiton populneus subsp. trilobus*	tri-lobed kurrajong	C	-
Verbenaceae	*Glandularia aristigera**	Mayne's pest	*	-

*Status taken from EHP (2014) and DoE 2014

Appendix G: Ground Truthed Threatened Ecological Communities

This Appendix provides mapping of all field validated EPBC TECs surveyed on site

Legend

DNRM Stream Order

Ground Truthed Threatened Ecological Communities

Regrowth - Endangered

Brigalow

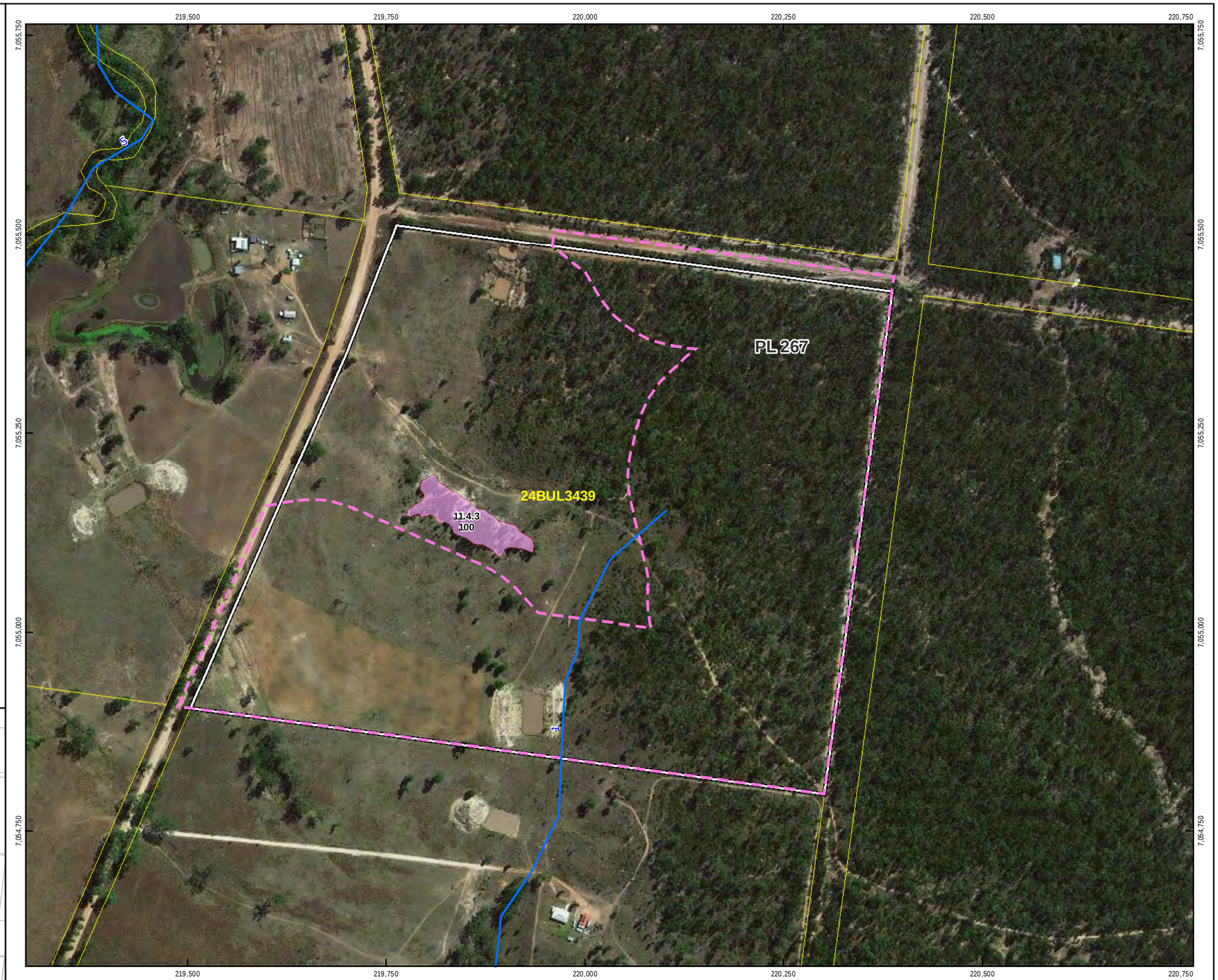
Boundary

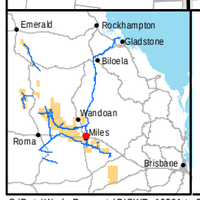
Survey Area

Site Location

Surveyed Cadastral

Source Information:
© State of Queensland (Department of Natural Resources and Mines) 2014
© State of Queensland (Department of Agriculture, Fisheries and Forestry) 2014
Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data the State of Queensland make no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product. The State of Queensland disclaims all responsibility for information contained in this product and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete on any way for any reason.





N

Scale 1:5,000 (at A3)

0 125 250 500

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	SAH	CD	12/05/2014
A	Issued For Review	ALM	TC	SAH		24/04/2014

origin

Appendix G:
Ground Truthed Threatened Ecological Communities
Date: 12 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4560-15-RP-0062	0
	Map ID GISWR_19859_G_Rev0	

S:\Data\Work_Requests\GISWR_19501 to 20000\GISWR_19859\Rev0\GISWR_19859_G_Rev0.mxd

Origin Energy Ltd gives no warranty in relation to the data (including accuracy, reliability, completeness or suitability) and accepts no liability for any loss, damage or costs (including consequential damage) relating to any use of the data in this map. © Origin Energy 2014

Appendix H: Ground Truthed Regional Ecosystems and Regrowth

This Appendix provides mapping of all field validated GTRE and regrowth surveyed on site.

Legend

DNRM Stream Order

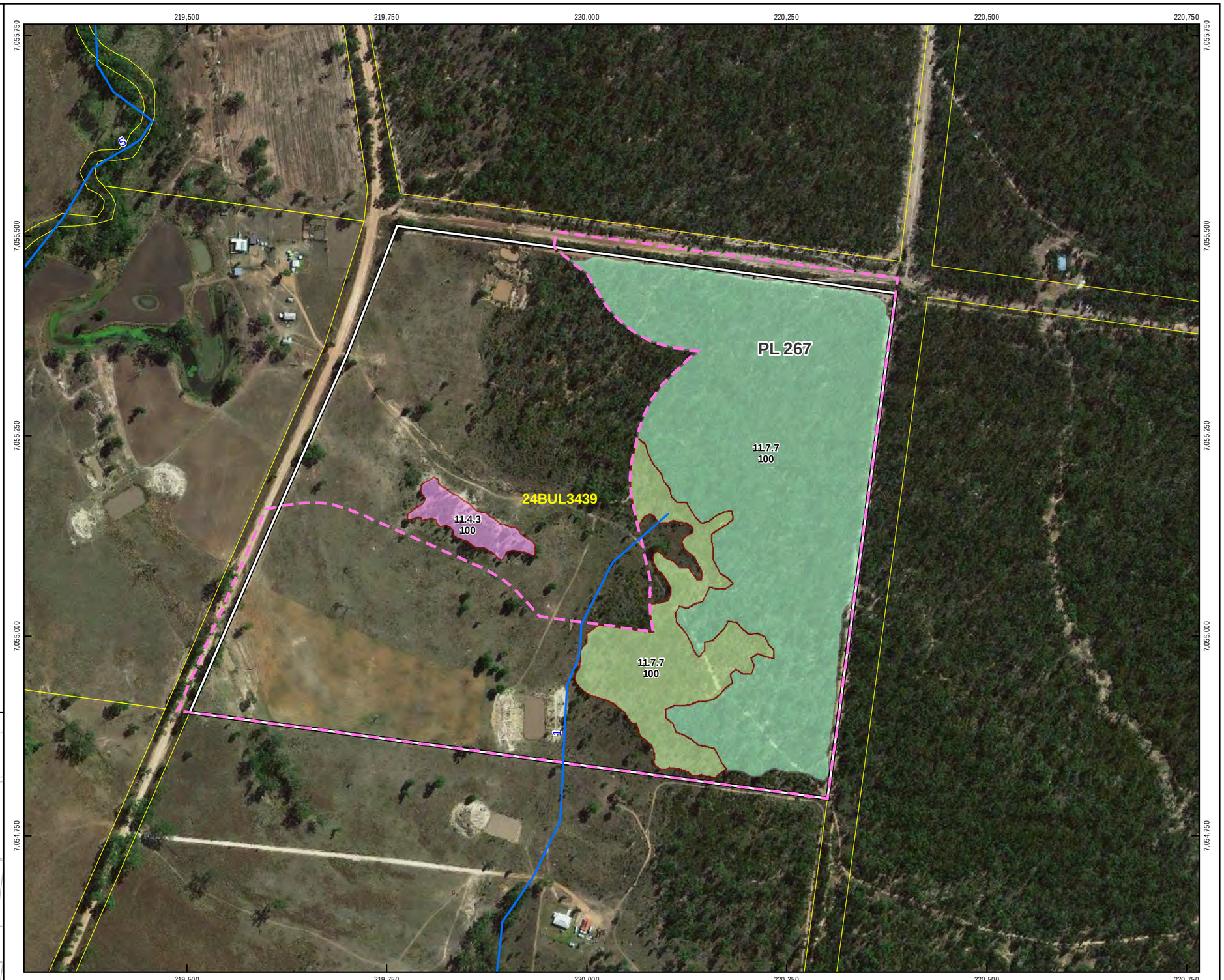
Ground Truthed Regional Ecosystems

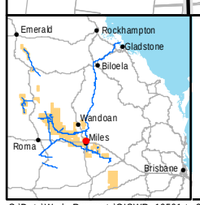
- Remnant - No Concern at Present
- Regrowth - Endangered
- Regrowth - Least Concern

Boundary

- Survey Area
- Site Location
- Surveyed Cadastral

Source Information:
© State of Queensland (Department of Natural Resources and Mines) 2014
© State of Queensland (Department of Agriculture, Fisheries and Forestry) 2014
Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data the State of Queensland make no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product. The State of Queensland disclaims all responsibility for information contained in this product and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete on any way for any reason.





N

Scale 1:5,000 (at A3)

0 125 250 500

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	SAH	CD	12/05/2014
A	Issued For Review	ALM	TC	SAH		24/04/2014

origin

Appendix H:

Ground Truthed Regional Ecosystems and Regrowth

Date: 12 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4560-15-RP-0062	0
	Map ID GISWR_19859_H_Rev0	

S:\Data\Work_Requests\GISWR_19501 to 20000\GISWR_19859\Rev0\GISWR_19859_H_Rev0.mxd

Origin Energy Ltd gives no warranty in relation to the data (including accuracy, reliability, completeness or suitability) and accepts no liability for any loss, damage or costs (including consequential damage) relating to any use of the data in this map. © Origin Energy 2014

Appendix I: Ground Truthed NC Act Threat Listed Species Present on Site

This Appendix provides mapping of all field validated *NC Act* threat listed species recorded on site.

Legend

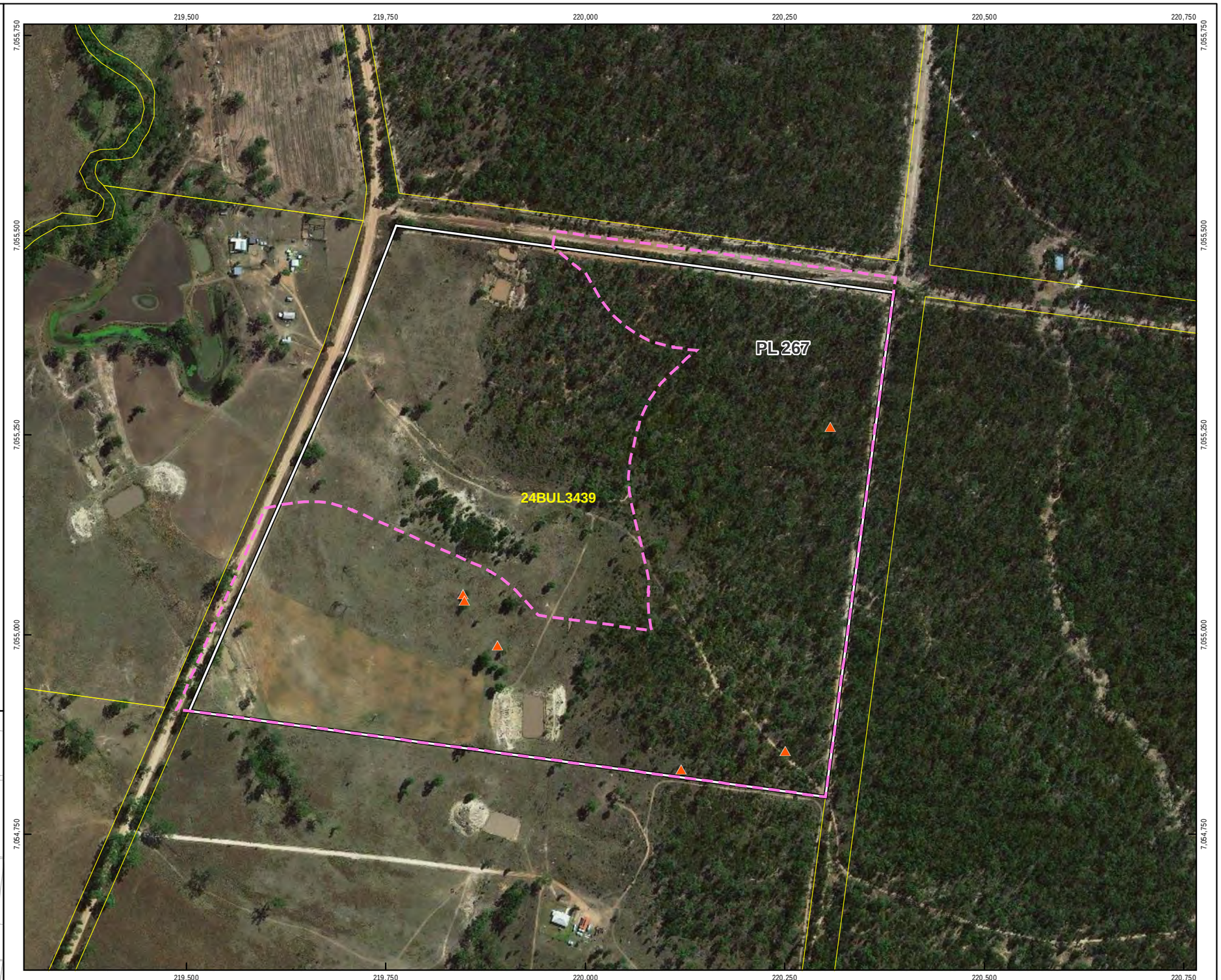
Type A Flora

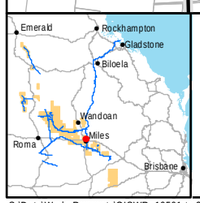
▲ *Brachychiton populneus*

Boundary

- Survey Area
- Site Location
- Surveyed Cadastral

Source Information:
© State of Queensland (Department of Natural Resources and Mines) 2014
© State of Queensland (Department of Agriculture, Fisheries and Forestry) 2014
Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data the State of Queensland make no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product. The State of Queensland disclaims all responsibility for information contained in this product and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete on any way for any reason.





N

Scale 1:5,000 (at A3)

0 125 250 500

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	SAH	CD	12/05/2014
A	Issued For Review	ALM	TC	SAH		28/04/2014

Appendix J:

Ground Truthed NC Act Threat Listed and Other Significant Species Present on Site

Date: 12 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4560-15-RP-0062	0
	Map ID GISWR_19859_I_Rev0	

S:\Data\Work_Requests\GISWR_19501 to 20000\GISWR_19859\Rev0\GISWR_19859_I_Rev0.mxd

Origin Energy Ltd gives no warranty in relation to the data (including accuracy, reliability, completeness or suitability) and accepts no liability for any loss, damage or costs (including consequential damage) relating to any use of the data in this map. © Origin Energy 2014

Appendix J: Ground Truthed Weeds and Pest Fauna Present on Site

This Appendix provides mapping of all ground truthed weeds and pest fauna surveyed on site.

Legend

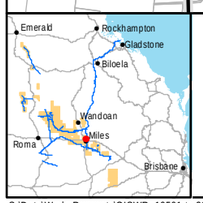
Pest Flora

- *Opuntia stricta*
- *Opuntia tomentosa*

Boundary

- Survey Area
- Site Location
- Surveyed Cadastral

Source Information:
© State of Queensland (Department of Natural Resources and Mines) 2014
© State of Queensland (Department of Agriculture, Fisheries and Forestry) 2014
Information presented on this product is distributed by the Queensland Government as an information source only. While every care is taken to ensure the accuracy of this data the State of Queensland make no statements, representations or warranties about the accuracy, reliability, completeness or suitability of any information contained in this product. The State of Queensland disclaims all responsibility for information contained in this product and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete on any way for any reason.



N

Scale 1:5,000 (at A3)

0 125 250 500

Metres

Coordinate System: GDA 1994 MGA Zone 56

Rev	Description	Drawn	Check	QA	Approved	Date
0	Issued For Use	ALM	TC	SAH	CD	12/05/2014
A	Issued For Review	ALM	TC	SAH		28/04/2014

Appendix J:
Ground Truthed Weeds Present on Site
Date: 12 May 2014

Map Number	Doc No	Rev
1 of 1	Q-4560-15-RP-0062	0
	Map ID GISWR_19859_J_Rev0	

S:\Data\Work_Requests\GISWR_19501 to 20000\GISWR_19859\Rev0\GISWR_19859_J_Rev0.mxd

Origin Energy Ltd gives no warranty in relation to the data (including accuracy, reliability, completeness or suitability) and accepts no liability for any loss, damage or costs (including consequential damage) relating to any use of the data in this map. © Origin Energy 2014