Preliminary Ecological Assessment, R3 Quarry, Roma

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1. Background

1.1 Project Description

Santos Ltd (Santos) have commissioned Aurecon Australia Pty Ltd (Aurecon) to undertake ecological investigations of proposed areas of development for the Roma gas fields.

The Roma gas fields are located near the township of Roma and are characterised by undulating terrain with small elevated areas including the Thomby and Grafton Range. The dominant vegetation types within the Roma gas fields include Eucalypt and/or Brigalow woodlands, Blue grass or Mitchell grass downs, and smaller areas of White Cypress Pine and Mulga (Eddie 2007). The Roma gas fields are located within the Balonne River catchment.

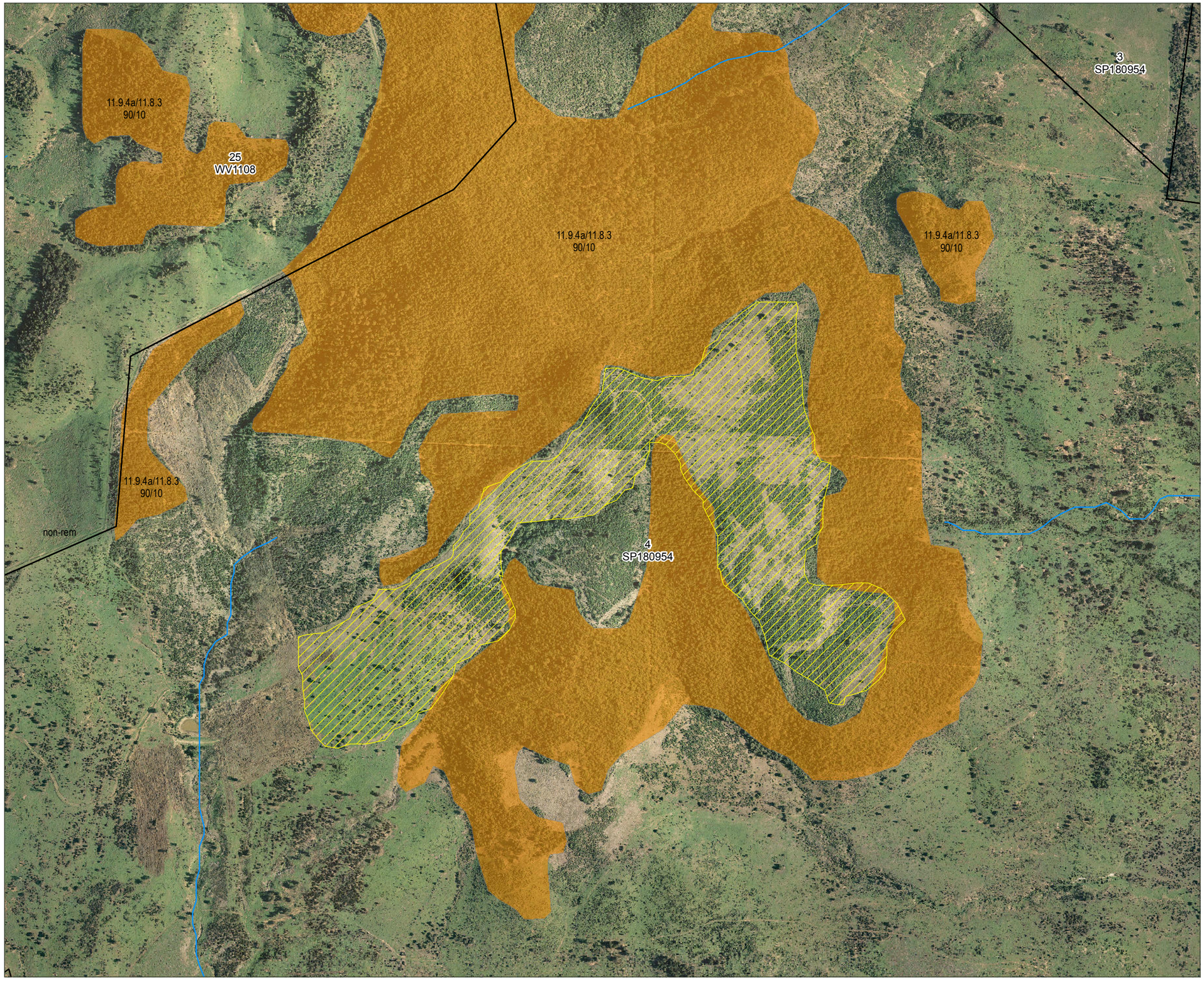
Much of this area has been subject to cattle grazing and other agricultural practices, as well as previous development associated with the gas fields.

This report discusses the proposed R3 Quarry located on Lot 4 SP180954.

1.2 Purpose of Report

The aim of this report is to provide a preliminary ecological assessment of the proposed development area on Lot 4 SP180954 (see **Figure 1-1**) and to identify areas and species of notable ecological or conservation value. This report does not make any recommendations regarding the development in relation to any Santos environmental authorities or other approvals.

It is important to note that this report is only a preliminary investigation only and a more thorough investigation will be necessary to ensure all notable ecological issues are identified.



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Legend

- Proposed Quarry
- Drainage (100K)

Regional Ecosystem Mapping

- Non-remnant / regrowth
- Endangered - Sub-dominant
- Endangered - Dominant
- Of Concern - Sub-dominant
- Of Concern - Dominant
- Not Of Concern
- Plantation forest
- Water

Notes:

Date: 18/07/2011 Version: 1

Map by: Moore NK P:\CW\215648 Santos\Mapping\R3_Quarry_Overview.mxd 18/07/2011 12:11

A3 scale: 1:10,000

0 100 200 m

Job No: 221708

Coordinate system: GDA 1994 MGA Zone 55

Santos R3 Quarry

Figure 1-1: Overview Map

2. Methodology

2.1 Desktop methodology

Proposed development areas have been projected on a range of maps provided by Santos. These maps include Regional Ecosystem (RE) Mapping (version 6.0; Department of Environment and Resource Management [DERM]), Environmentally Sensitive Areas (ESA) mapping, drainage mapping and aerial photography. Where available ahead of time, these resources were reviewed to determine target areas for the field inspection. It is important to note that the RE classifications used in this report are based on the 'biodiversity status' of the vegetation and not the '*Vegetation Management Act 1999* (VM Act) status' of the vegetation.

2.2 Field methodology

The proposed development area was visited by two ecologists (Vanessa Boettcher and Gilbert Whyte) on 7 July 2011. This preliminary assessment was to determine which ecological constraints may be present in the area. Due to time restrictions, a full detailed assessment of the area was not able to be carried out at this time and the entire development footprint was not inspected. A further inspection is recommended to be completed to assess the full extent of the proposed development area and undertake more detailed vegetation and habitat investigations.

GIS environmental constraints layers (eg RE Mapping, ESA mapping etc) and high resolution aerial photography were uploaded onto a toughbook (C5 mobile clinical assistant CFT-001 – Motion computing), with an integrated GPS. Handheld Garmin GPS units (GPS map 76) were also used during the field investigations.

The proposed development area was not available in the GIS layers at the time of the inspection and consequently exact boundaries of the proposed disturbance footprint were not able to be identified in the field.

3. Preliminary Ecological Assessment

3.1 General

The area proposed to be developed as the 'R3 Quarry' is situated on an elevated area within Lot 4 SP180954. This lot is a freehold property of approximately 1736ha.

The proposed disturbance footprint is situated slightly in remnant vegetation on the regional ecosystem (RE) mapping and mainly in the non-remnant vegetation immediately adjacent. The remnant vegetation on the RE mapping is mapped as a heterogeneous polygon containing 11.9.4/11.8.3 in the percentage of 90/10.

RE 11.9.4 is listed as having a biodiversity status of 'endangered' and RE 11.8.3 is listed as 'of concern'.

'Endangered' regional ecosystems are classified as Category B Environmentally Sensitive Areas (ESA) and Of Concern RE's are Category C ESA.

Two watercourses occur in close proximity to the development. Both are stream order 1 watercourses and are located approximately180 metres and 230 metres from the current proposed disturbance footprint.

3.2 Floristics

The area of the proposed development is located within an agricultural property which has been extensively cleared for grazing domestic livestock. Areas mapped as non-remnant vegetation were observed in the field inspection to be correctly mapped.

The non-remnant vegetation areas observed during the inspection were dominated by regrowth *Acacia harpophylla* (Brigalow) and scattered mature *Brachychiton rupestris* (Narrow Leaved Bottle Trees). The ground layer was predominantly dense *Pennisetum ciliare* (Buffel Grass) and *Carissa ovata* (Currant bush).

All species of the genus Brachychiton are Type A restricted plants under the provisions of the *Nature Conservation Act 1992*. The locations of each plant were not recorded during the inspection due to only part of the development footprint being inspected.

The extent of the areas mapped as remnant vegetation were observed during the inspection to be mostly correct however the exact boundaries of remnant extents were not undertaken due to time constraints. A review of the aerial photography does identify some minor areas where the remnant vegetation boundary is not accurate.

The mapped remnant RE's are 11.9.4 and 11.8.3 which are described as:

11.9.4 – Semi evergreen vine thicket or *Acacia harpophylla* with a semi evergreen vine thicket understory on fine grained sedimentary rocks.

11.8.3 – Semi evergreen vine thicket on Cainozoic igneous rocks.

The vegetation observed in the section of the development footprint investigated during the field inspection was confirmed to be a semi evergreen vine thicket (SEVT) vegetation community due to the structure of the vegetation and typical SEVT species such as *Brachychiton rupestris, Geijera parviflora Flindersia collina, Erythroxylum australe, Bursaria spinosa, Pandorana pandorea* and *Apophyllum*

anomalum. A more detailed field inspection will be required to determine the appropriate RE including a review of the geology present in the area.

3.3 Habitat value

The area of remnant vegetation contained a very high habitat value due to the density, structure and diversity of flora species present. A variety of bird calls were heard during the inspection although no fauna were observed.

The adjacent non-remnant vegetation was of moderate habitat value due to the density of ground cover, prevalence of rocky areas and shrubby regrowth. Macropod scats were observed in the vicinity although no fauna were observed other than domestic livestock.

No fauna species identified as endangered, vulnerable, rare or near threatened under the NC Act or the *Environmental Protection and Biodiversity Conservation Act 1999* were observed in the areas of the footprint inspected.

4. References

Eddie, C (2007) Field Guide to Trees and Shrubs of Eastern Queensland Oil and Gas Fields, First Edition, Santos Ltd, Adelaide.

Regional Ecosystem Mapping, Version 6.0, Queensland Government Department of Environment and Resource Management (DERM).