

aurecon

Project: Fairview Ecological
Assessment Report – Geotech Sites
6399-RM-45, 6399-RM-49, 6399-TP-
97 and TP-F230

Project No. 221708-001
Prepared for: Santos Ltd

11 August 2011

Santos Document No: 0020-GLNG-4-1.3-0075 - Rev 0

Document Control Record

Document prepared by:

Aurecon Australia Pty Ltd
 ABN 54 005 139 873
 Level 14, 32 Turbot Street
 Brisbane QLD 4000
 Locked Bag 331
 Brisbane QLD 4001
 Australia

T +61 7 3173 8000
F +61 7 3173 8001
E brisbane@aurecongroup.com
W aurecongroup.com

A person using Aurecon documents or data accepts the risk of:

- Using the documents of data in electronic form without requesting and checking them for accuracy against the original hard copy version.
- Using the documents or data for any purpose not agreed to in writing by Aurecon.

This document is solely for the purposes of an ecological assessment and does not provide any legal advice regarding development locations and/or activities.

Document control				aurecon		
Report Title		Fairview Ecological Assessment Report – Geotech Sites 6399-RM-45, 6399-RM-49, 6399-TP-97 and TP-F230				
Document ID		Fairview Ecological Assessment – Geotech Sites in Road Reserve	Project Number	221708-001		
File Path		P:\CH\Projects\Santos\Project delivery\Fairview Ecological Assessment - Geotech in Road Reserve Final.docx				
Client		Santos Ltd	Client Contact			
Rev	Date	Revision Details/Status	Prepared by	Author	Verifier	Approver
0	5 July 2011	Draft for Internal Review	CS	CS	GAP	
1	7 July 2011	Final for Internal Review	CS	CS	GAP	
2	11 August 2011	Final for Issue	KH	CS	GAP	VJB
Current Revision		Revision 2				

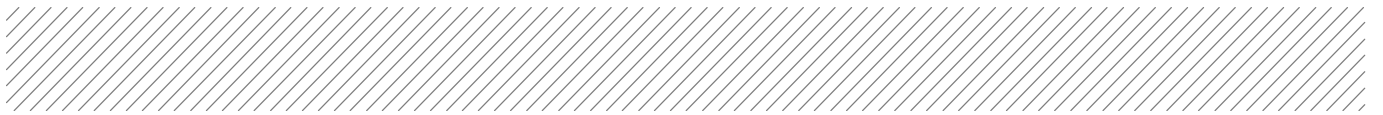
Approval			
Author Signature		Approver Signature	
Name		Name	
Title		Title	

Fairview Ecological Assessment Report – Geotech Sites 6399-RM-45, 6399-RM-49, 6399-TP-97 and TP-F230

Date | 11 August 2011
Reference | Reference
Revision | Revision 2

Aurecon Australia Pty Ltd
ABN 54 005 139 873
Level 14, 32 Turbot Street
Brisbane QLD 4000
Locked Bag 331
Brisbane QLD 4001
Australia

T +61 7 3173 8000
F +61 7 3173 8001
E brisbane@aurecongroup.com
W aurecongroup.com



Contents

1	Background	1
1.1	Project description	1
1.2	Purpose of report	1
2	Methodology	6
2.1	Desktop methodology	6
2.2	Field methodology	6
3	Ecological assessment	7
3.1	6399-RM-45	7
3.2	6399-RM-49	8
3.3	6399-TP-97	9
3.4	TP-F230	10
3.5	Conclusion	11
4	Conclusion	12
5	References	13

Appendices

Appendix A Flora Species List from the Vicinity of each Geotech Site



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 expansion of the Fairview Gas Fields.

The Fairview gas fields are situated approximately 40km from Injune in southern Queensland. This area is characterised by elevated sandstone ranges including the Carnarvon and Expedition Ranges and part of the Mount Hutton and Kongabula Ranges. The Dawson River and other smaller watercourses drain this area and the vegetation is dominated by Eucalyptus and White Cypress Pine woodland, Brigalow and Semi-evergreen Vine Thicket (Eddie, 2007).

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

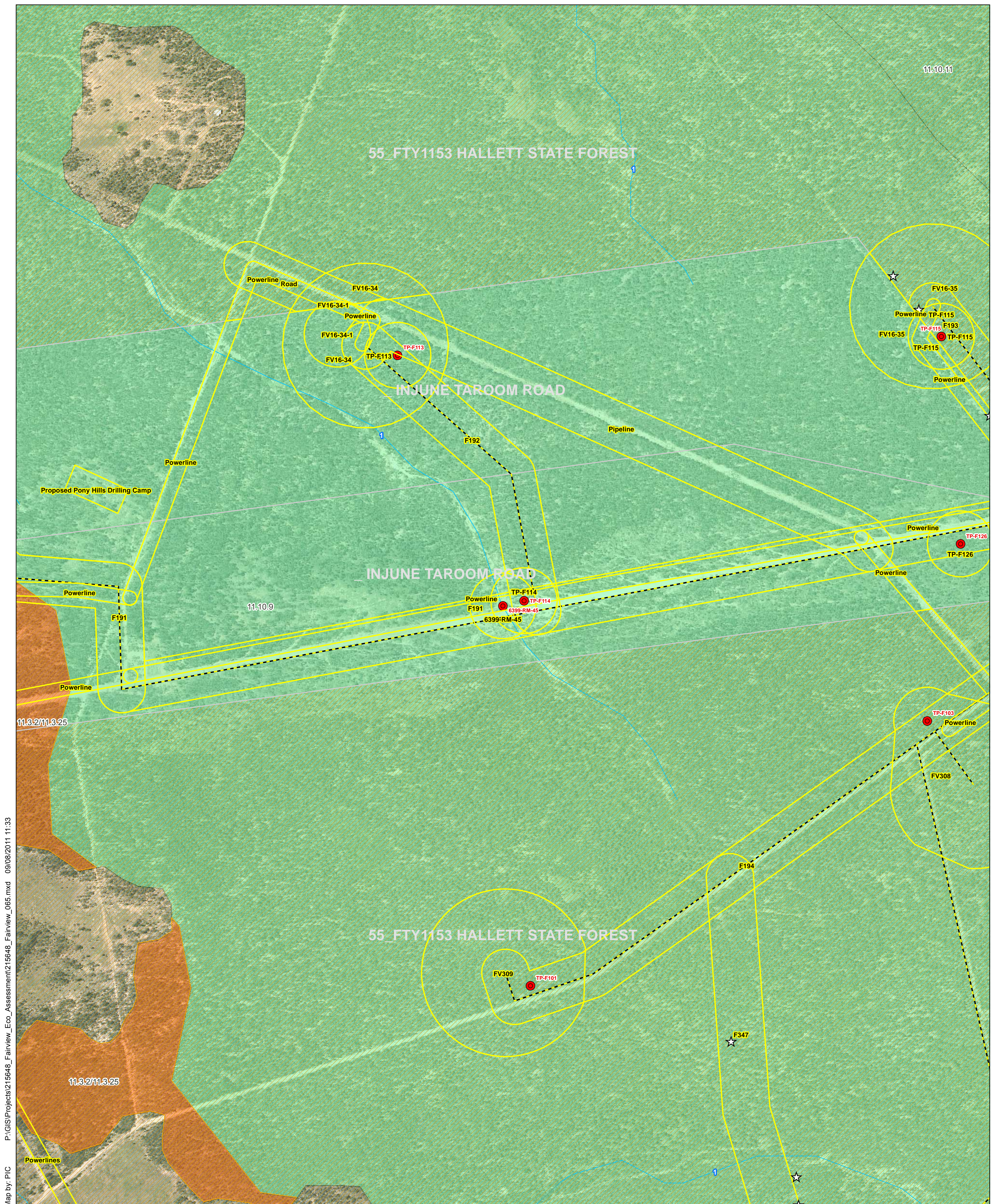
This report is specific to the proposed geotech investigation areas identified as:

- 6399-RM-45
- 6399-RM-49
- 6399-TP-97
- TP-F230

These areas are collectively referred to as the 'proposed development area', and are identified in Figure 1.1 to Figures 1.4. All of these proposed geotech areas are located within the road reserve.

1.2 Purpose of report

The aim of this report is to provide an ecological assessment of the proposed development areas located within Road reserved within the Fairview Gasfield (Figures 1.1 to Figures 1.4), 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. This report is limited to the Geotech sites identified in Section 1.1. A detailed account of the structural composition of each of these geotech sites is provided in the *Fairview Ecological Assessment Report – Road Corridor Report*.

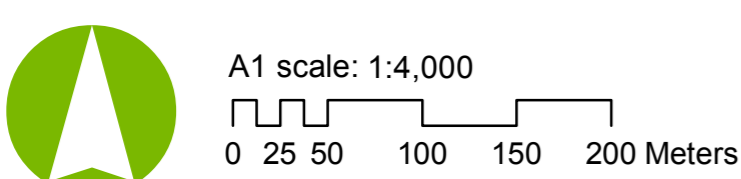


P:\GIS\Projects\215648_Fairview_Eco_Assessment\215648_Fairview_065.mxd 09/08/2011 11:33
 Map by: PIC

Legend

- | | | |
|---------------------------|---------------------------------------------|-------------------------------------------|
| ☆ EVNT and Type A Species | ESA Mapping (Including Buffer Areas) | Regional Ecosystem (VM Act Status) |
| Corridors - Ground Truth | Category A | Endangered - Dominant |
| Geotech Borehole | Category B | Endangered - Sub-dominant |
| Cadastral | Category C | Of Concern - Dominant |
| Watercourse | | Of Concern - Sub-dominant |
| | | Least Concern |

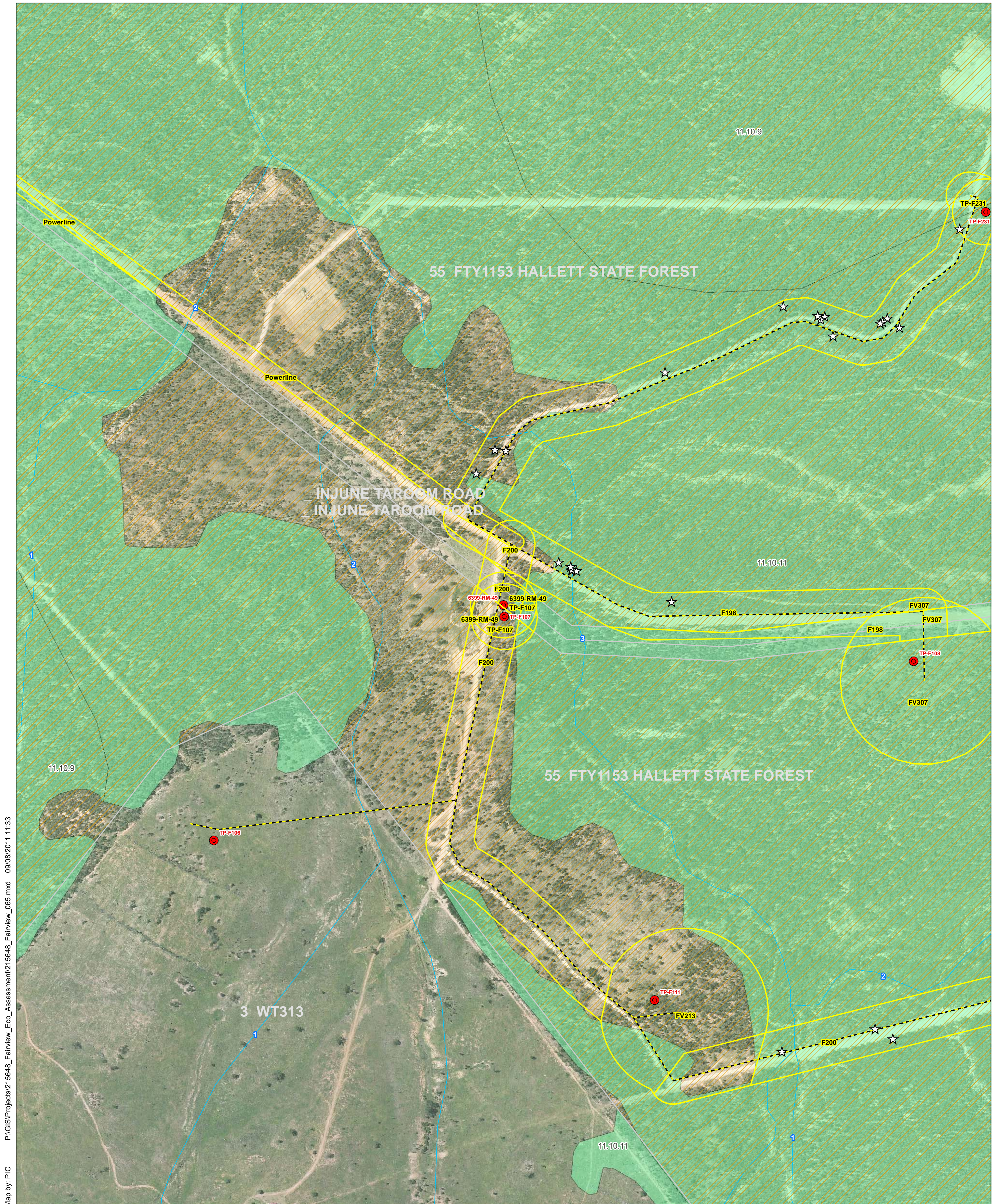
Source:
 Cadastre: DERM, 2011.
 Regional Ecosystems: Version 6, The State of Queensland
 (Department of Environment and Resource Management),
 Nov 2009.



Date: 09/08/2011 Version: 1 Job No: 215648
 Coordinate system: GDA_1994_MGA_Zone_55

Santos Upstream Ecological Assessment

Figure 1-1: Location of Proposed Pipeline Corridors Investigated



Map by: PIC P:\GIS\Projects\215648_Fairview_Eco_Assessment\215648_Fairview_065.mxd 09/08/2011 11:33

Legend

- | | | |
|---------------------------|---------------------------------------------|-------------------------------------------|
| ☆ EVNT and Type A Species | ESA Mapping (Including Buffer Areas) | Regional Ecosystem (VM Act Status) |
| Corridors - Ground Truth | Category A | Endangered - Dominant |
| Geotech Borehole | Category B | Endangered - Sub-dominant |
| Cadastral | Category C | Of Concern - Dominant |
| Watercourse | | Of Concern - Sub-dominant |
| | | Least Concern |

Source:
Cadastral: DERM, 2011.
Regional Ecosystems: Version 6, The State of Queensland
(Department of Environment and Resource Management),
Nov 2009.

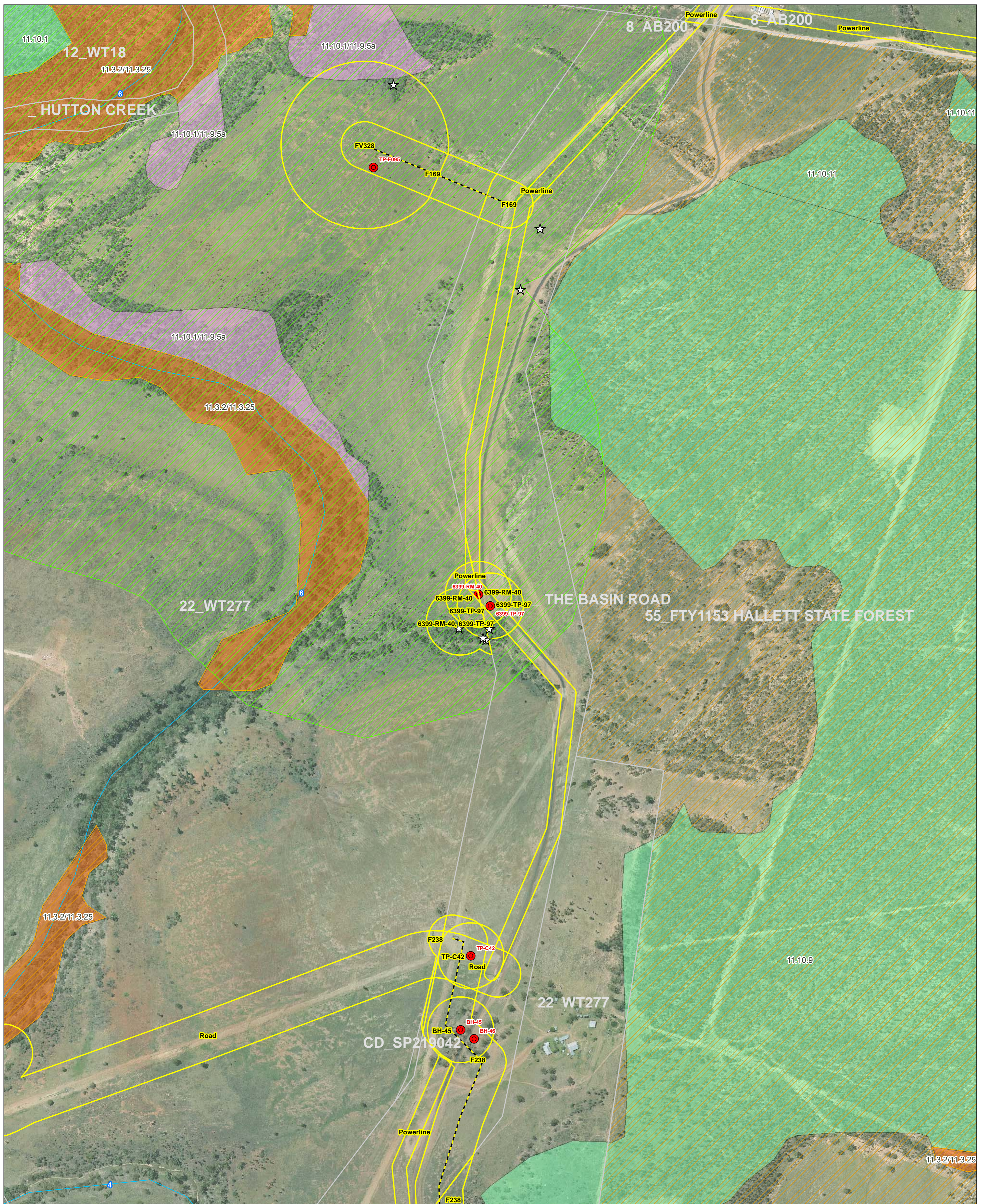


A1 scale: 1:4,000
0 25 50 100 150 200 Meters

Date: 09/08/2011 Version: 1 Job No: 215648
Coordinate system: GDA_1994_MGA_Zone_55

Santos Upstream Ecological Assessment

Figure 1-2: Location of Proposed Pipeline Corridors Investigated



P:\GIS\Projects\215648_Fairview_Eco_Assessment\215648_Fairview_065.mxd 09/08/2011 11:33
 Map by: PIC

Legend

- | | | |
|---------------------------|---------------------------------------------|-------------------------------------------|
| ☆ EVNT and Type A Species | ESA Mapping (Including Buffer Areas) | Regional Ecosystem (VM Act Status) |
| Corridors - Ground Truth | Category A | Endangered - Dominant |
| Geotech Borehole | Category B | Endangered - Sub-dominant |
| Cadastral | Category C | Of Concern - Dominant |
| Watercourse | | Of Concern - Sub-dominant |
| | | Least Concern |

Source:
 Cadastre: DERM, 2011.
 Regional Ecosystems: Version 6, The State of Queensland
 (Department of Environment and Resource Management),
 Nov 2009.

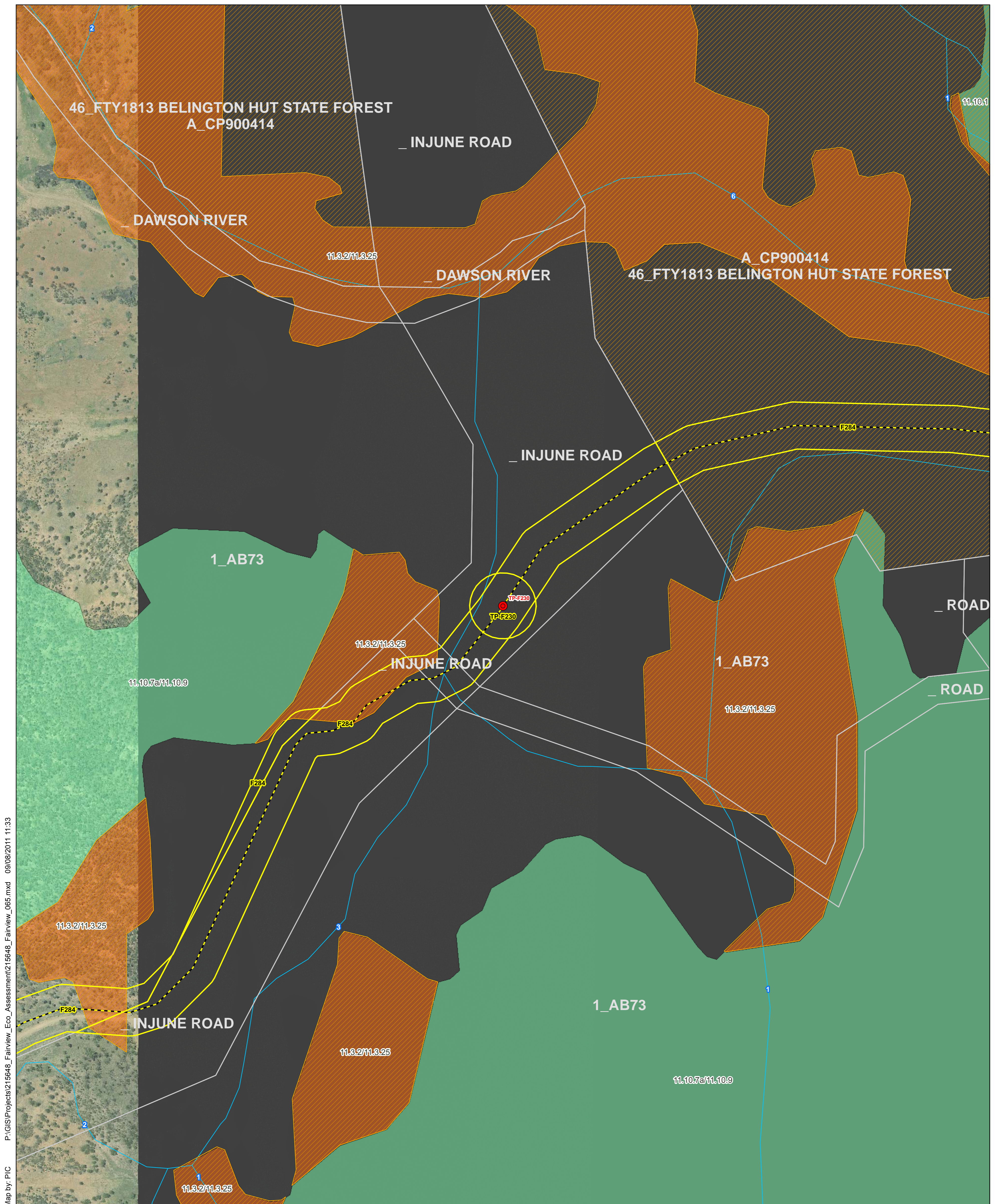


A1 scale: 1:4,000
 0 25 50 100 150 200 Meters

Date: 09/08/2011 Version: 1 Job No: 215648
 Coordinate system: GDA_1994_MGA_Zone_55

Santos Upstream Ecological Assessment

Figure 1-3: Location of Proposed Pipeline Corridors Investigated

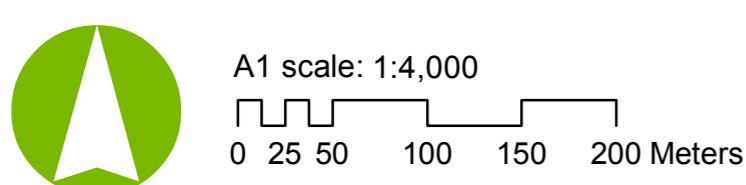


Map by: PIC P:\GIS\Projects\215648_Fairview_Eco_Assessment\215648_Fairview_D05.mxd 09/08/2011 11:33

Legend

- | | | |
|----------------------------|---------------------------------------------|-------------------------------------------|
| ☆ EVNT and Type A Species | ESA Mapping (Including Buffer Areas) | Regional Ecosystem (VM Act Status) |
| ▬ Corridors - Ground Truth | ▨ Category A | ■ Endangered - Dominant |
| ● Geotech Borehole | ▨ Category B | ■ Endangered - Sub-dominant |
| ▬ Cadastre | ▨ Category C | ■ Of Concern - Dominant |
| ▬ Watercourse | | ■ Of Concern - Sub-dominant |
| | | ■ Least Concern |

Source:
Cadastre: DERM, 2011.
Regional Ecosystems: Version 6, The State of Queensland
(Department of Environment and Resource Management),
Nov 2009.



Date: 09/08/2011 Version: 1 Job No: 215648
Coordinate system: GDA_1994_MGA_Zone_55

Santos Upstream Ecological Assessment

Figure 1-4: Location of Proposed Pipeline Corridors Investigated



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 areas were assessed by five (5) ecologists (Vanessa Boettcher, Sarah Glauert, Leesa Leathbridge, Hayley Poole, and Bree Wilson) between the 8 to the 30 June 2011. These assessments were to determine the existing vegetation communities and habitat value of the proposed clearing within the development areas.

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 used to locate surveys areas. Handheld Garmin GPS units (GPS map 76) were also used during the field investigations. It should be noted that while efforts were made to ensure the GPS co-ordinates provided in this report are accurate, a margin of error approximately +/- 15 m is expected due to the limitations of the devices used and the recording environment.

Geotechnical survey locations were assessed and a 50 m buffer zone around each survey location was investigated.

The ground-truthing of the proposed development areas included undertaking detailed flora species surveys including sampling of unknown flora, and recording all incidental fauna observations. All species known to be of conservation significance (such as endangered, vulnerable, near threatened or Type A species under the *Nature Conservation Act 1992* [NC Act] or endangered, vulnerable or rare species under the *Environment Protection and Biodiversity Conservation Act 1999* [EPBC Act]) were recorded using the toughbook.

A list of flora species observed within the vicinity of each of the proposed geotech investigation areas has been included in **Appendix A**.

3 Ecological assessment

3.1 6399-RM-45

Geotech Site 6399-RM-45 is located adjacent to Lot 55 on FYT1153 and is located within the Injune Taroom Road Reserve (Figure 1.1).

This site and associated development areas are located entirely within mapped remnant vegetation that is mapped as RE 11.10.9. This regional ecosystem has a biodiversity management status of 'no concern at present'. Recent field investigation found the RE mapping in this area to be correct.

No mapped Environmentally Sensitive Areas (ESAs) are mapped as occurring within the proposed impact zone. A single drainage line (Stream order 1) traverses this geotech site.

No species of conservation significance under the NC Act or EPBC Act were observed. No Type A flora species as defined by the provisions of the NC Act were observed at this location.

A list of flora species observed for this Geotech Site is provided in **Appendix A**.

Figure 3.1 below illustrates the location of Geotech Site 6399-RM-45 and its associated buffer.

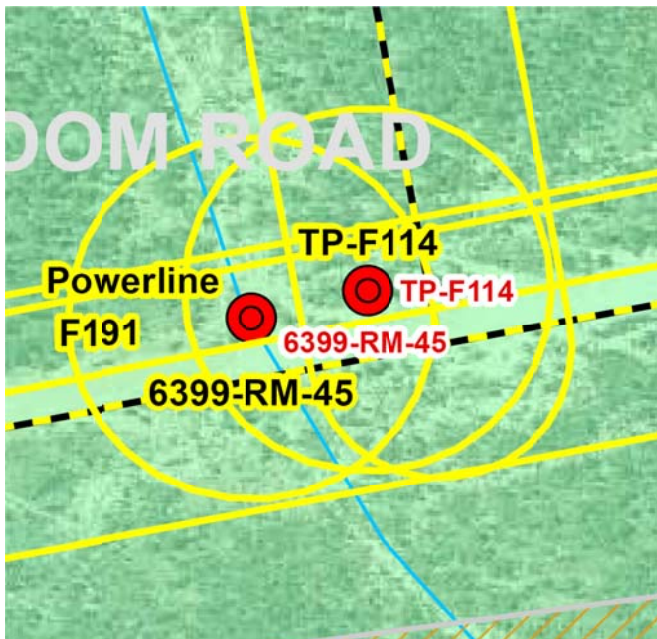


Figure 3.1 Aerial photograph of 6399-RM-45

Habitat Values

The habitat value of 6399-RM-45 was identified as medium due to the presence of remnant vegetation. The vegetation consisted of mature trees with a good degree of structural complexity.

Mature trees and stags and tree hollows in the vicinity of this geotech site were identified as potential habitat for arboreal mammals and foraging/nesting birds. Fallen timber and woody debris was identified as potential habitat for reptiles and other terrestrial species. The habitat value of the Corridor is enhanced by the presence of a creek (stream order 1) that passes through the area of proposed disturbance.

Common local fauna species such as Apostle Birds (*Struthidea cinerea*) were observed within the vicinity of this site and numerous, ubiquitous bird species listed as *Least Concern* under the provisions of the NC Act were heard.

3.2 6399-RM-49

General

Geotech Site 6399-RM-49 is located adjacent to Lot 55 on FYT1153 and is located within the Injune Taroom Road Reserve (Figure 1.2).

This site and associated development areas is located entirely within an ESA Category C (State forest). In addition, the eastern portion of the site has been identified as containing remnant vegetation that is mapped as RE 11.10.11. This regional ecosystem has a biodiversity management status of 'no concern at present'. Recent field investigation found the RE mapping in this area to be correct.

No species of conservation significance under the NC Act or EPBC Act were observed. No Type A flora species as defined by the provisions of the NC Act were observed at this location.

A list of flora species observed within the vicinity of this Geotech Site is provided in **Appendix A**.

Figure 3.2 below illustrates the location of Geotech Site 6399-RM-49 and its associated buffer.

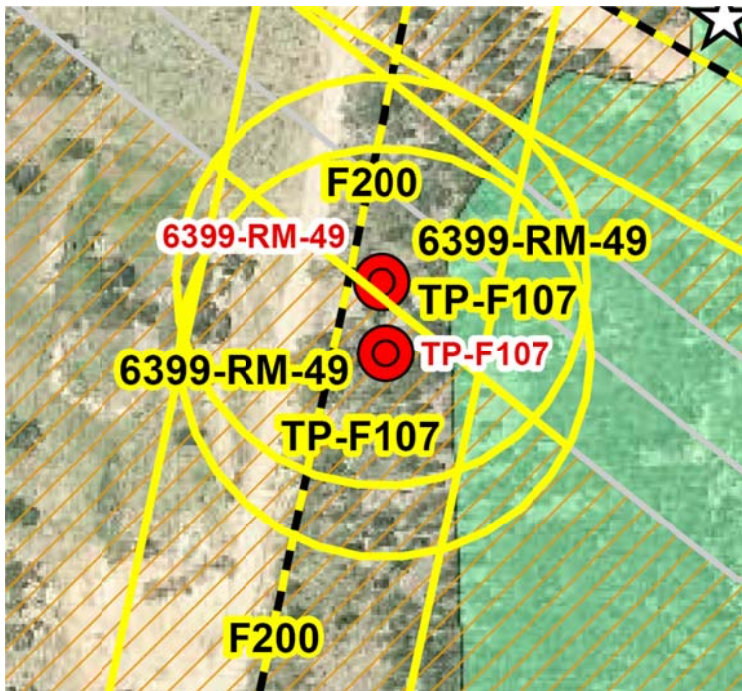


Figure 3.2 Aerial photograph of 6399-RM-49

Habitat Values

The habitat value of 6399-RM-49 was identified as medium-low due to the presence of remnant vegetation but high levels of disturbance. The vegetation consisted of mature trees with a good degree of structural complexity although there were high levels of weed intrusion within the understory.

Mature trees, stags and tree hollows within the vicinity of this geotech site were identified as potential habitat for arboreal mammals and foraging/nesting birds. Fallen timber and woody debris was identified as potential habitat for reptiles and other terrestrial species.

Common local fauna species such as Apostle Birds (*Struthidea cinerea*) were observed within the vicinity of this site and numerous, ubiquitous bird species listed as *Least Concern* under the provisions of the NC Act were heard.

3.3 6399-TP-97

General

Geotech Site 6399-TP-97 is located between Lot 22 on WT277 and Lot 55 on FTY1153 and is contained completely within the Basin Road Reserve (Figure 1.3).

This site and associated development areas is located entirely within non-remnant vegetation. Recent field investigation found the RE mapping in this area to be correct.

This site is entirely contained within an ESA Category B buffer associated with remnant endangered vegetation located approximately 250 m to the west of the proposed disturbance area.

No species of conservation significance under the NC Act or EPBC Act were observed.

Four (4) Type A plants as defined by the provisions of the NC Act were observed at this location. Details of these plants are provided in Table 3.1.

Table 3.1 Type A Species observed within area of 6399-TP-97

Species name	Easting (GDA 94, Zone 55J)	Northing (GDA 94, Zone 55J)
<i>Brachychiton populneus</i>	692591.83	7147218.20
<i>Brachychiton populneus</i>	692584.26	7147194.38
<i>Brachychiton populneus</i>	692527.64	7147219.13
<i>Brachychiton rupestris</i>	692578.40	7147198.67

A list of flora species observed within the vicinity of this Geotech Site is provided in **Appendix A**.

Figure 3.3 below illustrates the location of Geotech Site 6399-TP-97 and its associated buffer.

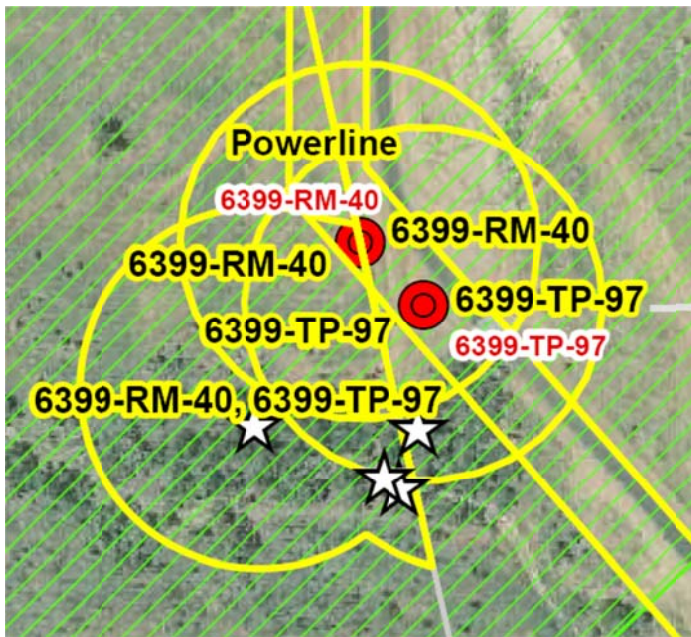


Figure 3.3 Aerial photograph of 6399-TP-97.

Habitat Values

The habitat value of 6399-TP-97 was identified as low due to the absence of mature canopy species and the high level of disturbance and weed intrusion. Weed abundance was high adjacent to roadsides (especially *Chloris* species) but native grasses persisted despite invasion by exotic species.

No fauna species were recorded during assessment of this location.

3.4 TP-F230

General

Geotech Site TP-F230 is located between Lot 1 on AB73 and Lot 46 on FYT1813 and is contained completely within the Injune Road Reserve (Figure 1.4).

This site and associated development areas is located entirely within non-remnant vegetation. Recent field investigation found the RE mapping in this area to be correct.

A trainage line (Stream Order 3) is located within the western portion of this site. No ESAs are present within the proposed disturbance area, however a category C ESA is located approximately 125 m from the proposed geotech location.

No species of conservation significance under the NC Act or EPBC Act were observed. No Type A flora species as defined by the provisions of the NC Act were observed at this location.

A list of flora species observed within the vicinity of this Geotech Site is provided in **Appendix A**.

Figure 3.1 below illustrates the location of Geotech Site TP-F230 and its associated buffer.

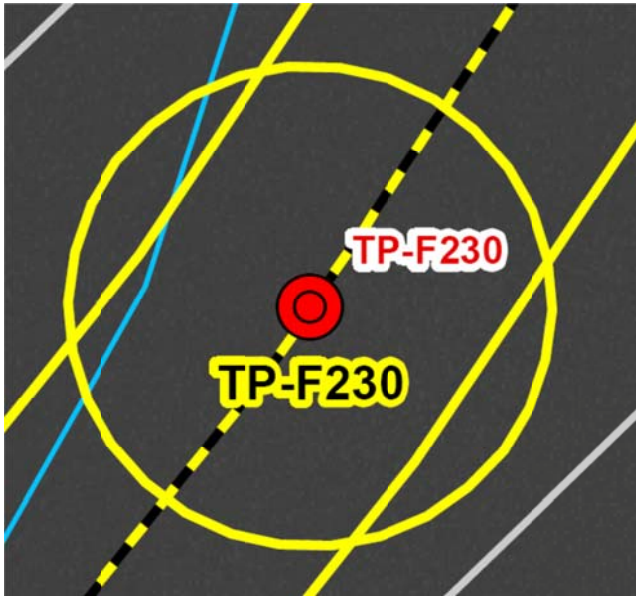


Figure 3.4 Map of TP-F230

Habitat Values

The habitat value of TP-F230 was identified as low due to the absence of mature canopy species and the high level of disturbance and weed intrusion. Weed abundance was high adjacent to roadsides (especially *Chloris* species) but native grasses persisted despite invasion by exotic species. Shrubby regrowth was present which may provide habitat for small insectivorous bird species.

No fauna species were recorded during assessment of this location.

3.5 Conclusion

The proposed development areas occur across a variety of landscape and vegetation types although all areas have been subject to relatively high levels of disturbance.

Multiple watercourses occur within, or in close proximity to, development areas (ie. 6399-RM-45 and TP-F230). The watercourses within the proposed development areas have stream orders ranging from 1 to 3.

No species (flora or fauna) of conservation significance under the NC Act or EPBC Act were observed. Four (4) Type A flora species as defined by the provisions of the NC Act were observed in the vicinity of Geotech Site 6399-TP-97.

Two (2) ESA areas were identified within the development area (ie Category C for 6399-RM-49 and Category B for 6399-TP-97)



4 Conclusion

The proposed development areas occur across a variety of landscape and vegetation types although all areas have been subject to relatively high levels of disturbance.

Multiple watercourses occur within, or in close proximity to, development areas (ie 6399-RM-45 and TP-F230). The watercourses within the proposed development areas have stream orders ranging from 1 to 3.

No species (flora or fauna) of conservation significance under the NC Act or EPBC Act were observed. Four (4) Type A flora species as defined by the provisions of the NC Act were observed in the vicinity of Geotech Site 6399-TP-97.

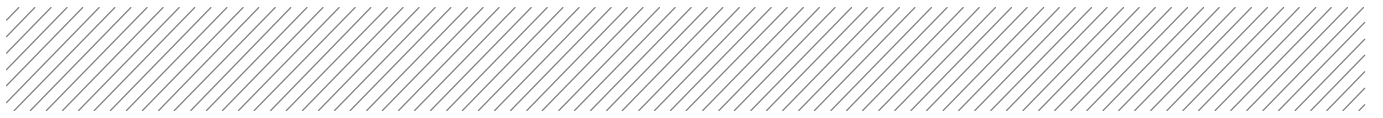
Two (2) ESA areas were identified within the development area (ie Category C for 6399-RM-49 and Category B for 6399-TP-97)



5 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).



Appendix A

Flora Species List from the Vicinity of each Geotech Site

Scientific Name	Common Name	6339- RM-49	6399- RM-45	6399- TP-97	TP- F230
<i>Abutilon leucopetalum</i>	Chinese Lantern	x			
<i>Abutilon malvifolium</i>	Chinese Lantern	x			x
<i>Acacia bidwillii</i>	Corkwood Wattle				x
<i>Acacia excelsa</i>	Iron wood	x			
<i>Acacia harpophylla</i>	Brigalow	x			x
<i>Acacia leiocalyx</i>	Black Wattle		x	x	
<i>Achyranthes aspera</i>	two spine burr	x			
<i>Acroptilon maculosa</i>	Knap Weed	x			
<i>Adiantum aethiopicum</i>	Common Maidenhair				x
<i>Alectryon diversifolius</i>	Scrub Boonaree	x			
<i>Allocasuarina luehmannii</i>	Bull Oak		x	x	x
<i>Alphitonia excelsa</i>	Red Ash	x			
<i>Alstonia constricta</i>	Bitter Bark				x
<i>Alternanthera nodiflora</i>	Common Joy Weed	x			
<i>Alternanthera pungens</i>	Kaki Burr	x			
<i>Angophora floribunda</i>	Rough-barked Apple		x	x	
<i>Aristida calycina</i>	Dark wiregrass		x	x	
<i>Aristida caput medusae</i>	Curly Head Wire Grass		x	x	
<i>Aristida leptopoda</i>	Wire Grass	x			
<i>Aristida muricata</i>	Wire Grass	x			
<i>Aristida personata</i>	Spear Grass	x			
<i>Aristida queenslandica var. dissimilis</i>	Wire Grass	x			
<i>Backhousia angustifolia</i>	Grey Myrtle	x			
<i>Bidens pilosa</i>	Cobblers Pegs	x	x	x	x
<i>Bothriochloa bladhii</i>	Forest Blue Grass	x	x	x	x
<i>Bulbine bulbosa</i>	Buttercup	x			
<i>Callitris glaucophylla</i>	White Cypress Pine	x	x	x	x
<i>Calocephalus platycephalus</i>	Billy Buttons	x			
<i>Calotis cuneifolia</i>	Purple Burr Daisy	x	x	x	
<i>Calotis lappulacea</i>	Yellow Burr Daisy	x			
<i>Capparis loranthifolia</i>	Nipan, Wait a while	x			x
<i>Carex inversa</i>	Nut Sedge	x			
<i>Carissa ovata</i>	Currant Bush				x
<i>Cassinia laevis</i>	Cough Bush	x			
<i>Cheilanthes aspera</i>	Bristly cloak fern				x
<i>Cheilanthes sieberi</i>	Mulga Fern	x	x	x	
<i>Chenopodium carinatum</i>	Keeled Goosefoot	x			
<i>Chloris gayana</i>	Rhodes Grass	x	x	x	

Scientific Name	Common Name	6339- RM-49	6399- RM-45	6399- TP-97	TP- F230
<i>Chloris virgata</i>	Silky Topped Rhodes Grass		x	x	
<i>Chrysocephalum apiculatum</i>	Yellow Buttons	x	x	x	
<i>Cirsium vulgare</i>	Spear Thistle, Black Thistle	x			
<i>Commelina diffusa</i>	Wandering jew	x			
<i>Conyza bonariensis</i>	Fleabane	x	x	x	
<i>Corymbia citriodora</i>	Lemon scented gum	x			
<i>Crotalaria dissitiflora</i>	Grey Rattlepod	x			
<i>Crotalaria mitchellii</i>	Hairy RattlePod		x	x	
<i>Crotalaria novae-hollandiae</i>	New Holland Rattlepod		x	x	
<i>Cymbopogon refractus</i>	Barbwire Grass	x	x	x	
<i>Cynodon dactylon</i>	Green Couch	x	x	x	
<i>Cyperus gracilis</i>	Bunchy Sedge	x	x	x	x
<i>Desmodium varians</i>	Tree Foil				x
<i>Dianella caerulea</i>	Blue Flax-lily				x
<i>Dianella longifolia</i>	Dianella	x			
<i>Dichanthium sericeum</i>	Queensland Blue Grass				x
<i>Digitaria ammophila</i>	Digitaria	x	x	x	
<i>Digitaria brownii</i>	Tall Digitaria	x			
<i>Digitaria coenicola</i>	Digitaria		x	x	
<i>Dodonaea viscosa</i>	Sticky Hopbush	x			x
<i>Enteropogon acicularis</i>	Curly Windmill Grass	x			
<i>Enteropogon ramosus</i>	Twirly Windmill Grass	x			
<i>Eragrostis brownii</i>	Browns Lovegrass	x	x	x	
<i>Eragrostis elongata</i>	Clustered Lovegrass		x	x	
<i>Eragrostis eriopoda</i>	Woolly Butt	x			
<i>Eucalyptus melanophloia</i>	Silver Leaved Ironbark	x	x	x	x
<i>Eucalyptus populnea</i>	Poplar Box	x	x	x	x
<i>Eulalia aurea</i>	Silky Brown Top Grass		x	x	
<i>Eustrephus latifolia</i>	Wombat Berry	x			
<i>Gahnia aspera</i>	Gahnia	x			
<i>Geijera parviflora</i>	Wilga	x			x
<i>Glycine falcata</i>	Glycine	x			
<i>Glycine tomentella</i>	Hairy Glycine				x
<i>Gomphocarpus physocarpus</i>	Balloon Cotton Bush	x			
<i>Gomphrena celosioides</i>	Gomphrena Weed	x	x	x	
<i>Gonocarpus micranthus subsp. ramosissimus</i>	Gonocarpus	x			
<i>Goodenia fascicularis</i>	Goodenia	x			
<i>Goodenia grandiflora</i>	Goodenia				x

Scientific Name	Common Name	6339-RM-49	6399-RM-45	6399-TP-97	TP-F230
<i>Grewia latifolia</i>	Dysentery Plant	x			x
<i>Heteropogon contortus</i>	Black Spear Grass	x	x	x	x
<i>Hydrocotyle laxiflora</i>	Pennywort	x	x	x	x
<i>Hypochaeris microcephala</i> var. <i>albiflora</i>	White Flatweed				x
<i>Imperata cylindrica</i>	Blady Grass	x			
<i>Ixiolaena brevicompta</i>	Yellow Daisy	x			
<i>Juncus polyanthemos</i>	Sharp Rush	x			
<i>Juncus usitatus</i>	Juncus	x	x	x	
<i>Lepidium aficanum</i>	Pepper Cress				x
<i>Lomandra multiflora</i>	Lomandra		x	x	
<i>Macroptilium lathyroides</i>	Phasey bean	x			
<i>Maireana microphylla</i>	Small-leaf Bluebush		x	x	
<i>Megathurus maximus</i> var. <i>maximus</i>	Green Panic	x			
<i>Melinis repens</i>	Red Natal	x	x	x	
<i>Owenia acidula</i>	Emu Apple	x			
<i>Panicum decompositum</i>	Hairy Panic				x
<i>Panicum effusum</i>	Inquisitive Grass		x	x	
<i>Panicum laevinode</i>	Panic grass	x			
<i>Parsonsia lanceolata</i>	Monkey Rope				x
<i>Paspalum dilatatum</i>	Paspalum		x	x	
<i>Passiflora arizonica</i>	Passion flower				x
<i>Pennisetum ciliare</i>	Buffel Grass	x	x	x	
<i>Perotis rara</i>	Comet Grass	x			
<i>Petalostigma pubescens</i>	Quinine	x			
<i>Podolepis jaceoides</i>	Showy Copper Wire Daisy		x	x	
<i>Portulaca oleracea</i>	Pig Weed	x	x	x	
<i>Pterocaulon sphacelatum</i>	Apple Bush	x	x	x	
<i>Richardia brasiliensis</i>	Mexican clover	x			
<i>Santalum lanceolatum</i>	Sandalwood	x			
<i>Sclerolaena birchii</i>	Galvanised Burr	x			x
<i>Senna artemisioides</i>	Senna				x
<i>Sida cordifolia</i>	Flannel weed				x
<i>Sida subspicata</i>	Queensland Hemp	x	x	x	x
<i>Solanum ellipticum</i>	Potato Bush		x	x	x
<i>Solanum nigrum</i>	Black nightshade	x			
<i>Sonchus oleraceus</i>	Sow Thistle	x			x
<i>Sorghum halepense</i>	Johnson Grass		x	x	x

Scientific Name	Common Name	6339- RM-49	6399- RM-45	6399- TP-97	TP- F230
<i>Sporobolus creber</i>	Western Rats Tail Grass	x	x	x	
<i>Tagetes minuta</i>	Stinking Rodger	x			
<i>Themeda avenacea</i>	Wild Oats Grass		x	x	
<i>Themeda triandra</i>	Kangaroo Grass	x			
<i>Verbena rigida</i>	Veined Verbena				x
<i>Verbena tenuisecta</i>	Mayne's Curse	x	x	x	x
<i>Xanthium occidentale</i>	Noogoora Burr	x			



Aurecon Australia Pty Ltd

ABN 54 005 139 873

Level 14, 32 Turbot Street
Brisbane QLD 4000

Locked Bag 331
Brisbane QLD 4001
Australia

T +61 7 3173 8000

F +61 7 3173 8001

E brisbane@aurecongroup.com

W aurecongroup.com

Aurecon offices are located in:

Angola, Australia, Bahrain, Botswana,
China, Ethiopia, Hong Kong, Indonesia,
Lesotho, Libya, Malawi, Mozambique,
Namibia, New Zealand, Nigeria,
Philippines, Singapore, South Africa,
Swaziland, Tanzania, Thailand, Uganda,
United Arab Emirates, Vietnam.