

Our Ref: PR112836-1

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Date: 26th April 2012

Andrew Betts
QGC Pty Limited
GLADSTONE, QLD 4680

Dear Mr Betts,

RE: PRE-CLEARANCE SURVEY FOR PROPOSED SPOIL STOCKPILE AREA

1.0 Introduction

RPS Australia East Pty Ltd (RPS) has been commissioned by QGC Pty Limited (QGC) to undertake fauna spotting and handling service works, which includes a *Stage 1 pre-clearance survey* at the Queensland Curtis Liquefied Natural Gas (QCLNG) project site on Curtis Island.

Approximately 172ha of vegetation was cleared for the primary footprint of QCLNG between 2010 and 2011. Further clearing of a 2.4ha area is required for a spoil stockpile area. The Species Management Program for LNG Facility Construction Activities (SMP) identifies the processes and management actions aimed at reducing the impact on flora, fauna and significant habitats caused by vegetation clearing during the site preparation phase for the pre-clearing survey and for the fauna spotter-catcher.

This report outlines the methodology and results of the Stage 1 pre-clearance survey at the spoil stockpile site and recommendations for clearing protocols.

2.0 Scope & Objectives

The objective of the pre-clearance survey is to assist in mitigating potential impacts associated with clearing activities within the footprint of the proposed spoil stockpile area in accordance with the SMP. Specifically the pre-clearance survey is to report on:

- GPS location of hollow bearing trees (HBTs) and other habitat features;
- Identification and occurrence of conservation significant fauna (including Powerful Owl);
- Recommendations for spotter activities during and immediately prior to clearing operations.

3.0 Methodology

The pre-clearance survey was conducted at the proposed spoil stockpile area and in accordance with section 6.0 of the SMP.

The pre-clearance survey was completed as follows:

- RPS (two ecologists) conducted the pre-clearance survey in the early morning (start 08h00) of Thursday the 19th of April 2012;
- Weather conditions were suitable for the pre-clearance survey. Visibility was good and wind conditions calm;
- An approximate buffer of 20-50m (to the clearing area) was also surveyed;
- Potential habitats (including HBTs) were identified within the clearing area and were marked with pink spray paint labeled "H#";
- Potential refuge areas such as termite/ant nests, hollow logs on ground, trees with hollows/potential hollows were also identified;
- The GPS coordinates for all points of interest were recorded (and mapped); and
- Further practical action and clearing recommendations considered.

4.0 Results

The results from the Stage 1 pre-clearance survey are provided in **Appendix 1** and illustrated in the attached Figure (**Appendix 2**). Within the area surveyed (including the buffer) the following habitat features were identified/recorded:

- 15 HBTs (incorporating standing trees with hollows or potential hollows, "very large" trees and standing stags/dead trees).
- 20 trees with termitaria/nests (incorporating trees without obvious hollows but termitaria)
- 12 "large" fallen/felled timber with potential habitat. Smaller stags were also witnessed on site and were not flagged (treatment for ground habitat discussed below).

Of these, 11 trees recorded are outside (or potentially outside) the clearing footprint. This includes three HBTs, five trees with termitaria and three large logs on the ground (refer **Appendix 2**).

None of the termitaria displayed obvious signs (excavations/hollows) of use/occupation by vertebrate fauna.

A hollow which appeared inactive at the time of survey was located on the western boundary of the clearing area. A small ironbark immediately adjacent to the bank was flagged (H30).

No Powerful Owl nests were located within the spoil stockpile area. No trees with obvious large hollows were recorded and most trees have been marked/identified as a precautionary approach.

5.0 Recommendations

The HBT's should be treated with supervision during felling as per section 5.2.1 of the SMP which outlines the measures for *Handling of a Protected Species under the Nature Conservation Act 1992*. If a HBT is identified as a habitat tree it will be left standing overnight to encourage resident fauna to relocate into an adjacent habitat.

No termitaria sighted during the pre-clearance survey appeared active and it is therefore recommended that clearing proceed with caution. If the fauna spotter-catcher identifies an active termitaria (habitat tree) the same procedure as that of a HBT will be undertaken.

It is recommended that all stags within the proposed clearing perimeter are checked for fauna prior to the start of clearing. The fauna spotter-catcher will also need to verify that no fauna is present in the hollow to the west of the boundary (H30) and take appropriate action as per the SMP if the hollow appears active.

Immediately prior to clearing activities the fauna spotter should traverse the clearing area to check fallen timber, including the habitat features illustrated in **Appendix 1** and **Appendix 2**.

The fauna spotter should be present during clearing activities and must communicate with machinery operators to assist in mitigating potential impacts associated by these activities. Vegetation and spotter operations should refer to this document, including the **Appendices**.

If you require further information please do not hesitate to contact Cara Aspel on 07 4972 6211, or the undersigned on 07 3237 8890.

Yours sincerely
RPS



Dr Justin Watson
Technical Director - Ecology

Attachments:

Appendix 1 – Habitat Feature Identification & Clearing Protocol
Appendix 2 – GPS Locations of Potential HBTs & Habitat Features

Appendix I – Habitat Feature Identification & Clearing Protocol

Identification	Northing	Easting	Description
<p>Hollow Bearing Tree (HBT) - (incorporating standing trees with hollows or potential hollows, “very large” trees and standing stags/dead trees)</p> <p><i>Action: As per section 6.2 of the Species Management Program for LNG Facility Construction Activities (SMP): felling of HBTs will be supervised by an ecologist/fauna specialist, owing to the likelihood of arboreal fauna being present. If a HBT is determined by the ecologist to be a habitat tree, it will be left standing overnight to provide resident fauna with the opportunity to relocate on their own accord.</i></p> <p><i>During the tree felling phase, ecologists will work in close communication with the on-ground clearance crews. Once felled, ecologists will inspect all hollows and remove any fauna by hand. Any fauna captured will be bagged and placed in a dark, quiet, well ventilated environment until they can be relocated. Nocturnal species such as gliders and possums will be released at dusk, and not during daylight. Any injured animals will be taken to a veterinarian for treatment.</i></p>			
H3	7369767	316894	Large ironbark
H9	7369773	316951	Large stag
H15*	7369769	317001	Medium stag (outside area)
H16	7369781	316988	Small stag
H20*	7369756	316984	Double trunk ironbark with two termitarias
H21	7369736	316971	Large ironbark with scar
H26	7369752	316958	Large spotted gum
H28	7369711	316944	Stag medium and leaning. Stags on ground surrounding.
H32	7369721	316907	Large ironbark on ground (felled previously)
H35	7369696	316960	Three trunk ironbark with termitaria
H36	7369683	316953	Medium Stag
H37*	7369671	316957	Ironbark (dead) with some dead limbs and termitaria.
H40	7369683	316914	Medium stag
H41	7369686	316913	Small stag
H45	7369669	316892	Very large ironbark

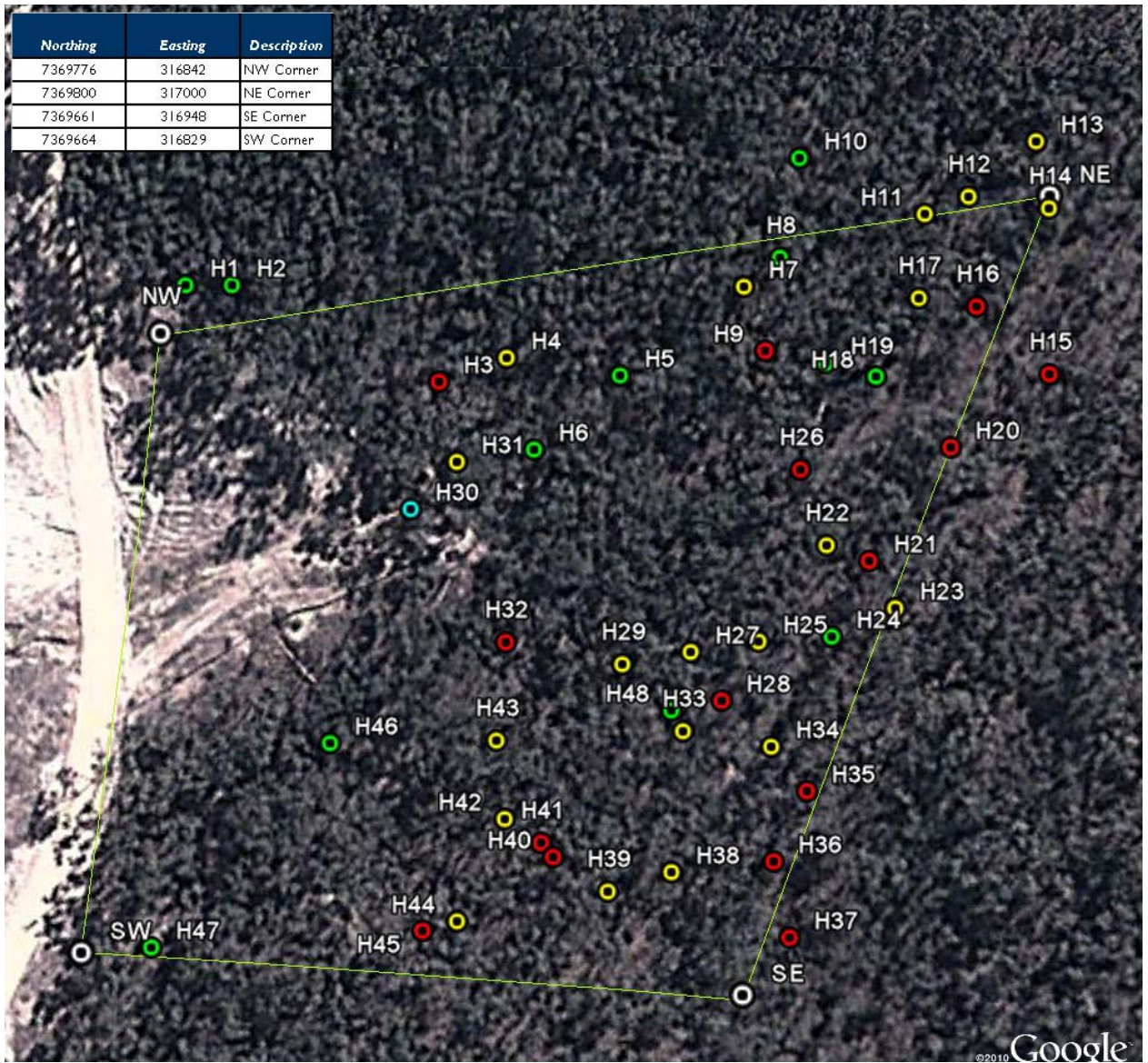
Identification	Northing	Easting	Description
Termitaria in tree – (incorporating trees without obvious hollows but termitaria)			
<i>Action: Fauna spotter-catcher to check tree prior to felling. Clearing to then proceed with caution in presence of spotter.</i>			
H4	7369772	316906	Small ironbark
H7	7369784	316948	Small ironbark
H11*	7369797	316978	Small ironbark
H12*	7369800	316986	Small ironbark
H13*	7369809	316997	Medium ironbark
H14*	7369798	317000	Medium ironbark
H17	7369782	316978	Small ironbark
H22	7369736	316962	Medium ironbark
H23*	7369728	316975	Small ironbark
H25	7369722	316950	Medium ironbark
H27	7369720	316939	Small ironbark
H29	7369717	316926	Eucalypt (stringy bark)
H31	7369753	316897	Small ironbark in gully
H33	7369706	316938	Medium ironbark with two termitaria
H34	7369703	316953	Small ironbark
H38	7369681	316935	Medium ironbark
H39	7369677	316924	Medium ironbark
H42	7369689	316906	Small ironbark
H43	7369703	316904	Small bloodwood
H44	7369671	316898	Small ironbark
Fallen Timber/Potential Habitats			
<i>Action: Fauna spotter-catcher to check potential fauna habitats morning prior to the commencement of clearing. Clearing to then proceed with caution</i>			
H1*	7369785	316846	Large stag
H2*	7369784	316856	Small clump of logs
H5	7369769	316926	Large stag
H6	7369755	316910	Large stag across drain

Identification	Northing	Easting	Description
H8	7369789	316953	Large stag
H10*	7369806	316957	Large stag, possibly outside of area
H18	7369768	316972	Medium stag in gully
H19	7369771	316962	Small stag in gully
H24	7369723	316964	Large stag on ground
H46	7369702	316874	Large stag/s in gully
H47	7369665	316842	Large stag
H48	7369709	316936	Large short stag
Other Potential Fauna Habitats			
<i>Action: Fauna spotter-catcher to check potential fauna habitats morning prior to the commencement of clearing.</i>			
H30	7369745	316887	Hollow in bank beneath small ironbark

Note:

* denotes outside or potentially outside clearing footprint and no action required

Appendix 2 – GPS Locations of Potential HBTs & Habitat Features



Note:
 Red symbols denote Hollow Bearing Trees (HBT)
 Yellow symbols denote trees with termitaria
 Green symbols denote fallen timber/potential habitats
 Blue symbol denotes excavation in bank