

**Warrego Energy PTY Ltd**  
**West Erregulla 3D Seismic Survey**  
EPBC 2013/7054 Compliance Report  
20 January 2015



To find the  
smartest  
solutions  
sometimes  
you need  
to dig  
deeper

# West Erregulla 3D Seismic Survey

Prepared for  
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## 1. Introduction

Warrego Energy Pty Ltd (Warrego Energy) is undertaking petroleum exploration activities in the West Erregulla Field, approximately 300 km north of Perth and located onshore in the North Perth Basin.

Warrego Energy has recently completed a three-dimensional (3D) seismic survey. As part of its approval for the 3D seismic survey under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), Warrego Energy is required to publish this report on its compliance with approval EPBC 2013/7054 in carrying out the seismic survey.

## 2. Compliance with EPBC 2013/7054

EPBC 2013/7054 was granted to Warrego Energy on 19 February 2014 after the Commonwealth Department of the Environment previously determined that the exploration activities were a controlled action. The approval was later amended on 3 April 2014 to remove condition 10a.

Table 1 reproduces the conditions of the approval (as amended) and sets out Warrego Energy's compliance with each condition for the 3D seismic survey. The condition text has in some instances been edited for brevity or omitted where not relevant to the 3D seismic survey. Explanatory notes not forming part of the approval are been provided in italics. Copies of the original approval are available from the Department of the Environment's website.

**Table 1 Compliance with EPBC 2013/7054**

Condition of EPBC 2013/7054	Compliance
<b>Project Area</b>	
1. <i>Note: condition defines the project area and is not a compliance item.</i>	
2. The person taking the action must provide a final project footprint to the department within 1 month of the completion of all project activities.	A final project footprint will be provided to the Department of the Environment once all project activities permitted under the approval have been completed.
<b>Project Activities</b>	
3. The person taking the action must conduct the 3D seismic survey entirely within Exploration Permit (EP) 469 within the project area.  <i>Note: 'project area' is defined by condition 1 and is depicted on Attachment A to the approval.</i>	An audit of vegetation clearing was conducted after clearing but before the 3D seismic survey commenced. The audit examined GPS logs from the clearing machinery and verified that all clearing occurred within the project area. Refer to Appendix 1.  GPS logs from vehicles involved in seismic data acquisition show that the seismic survey was conducted wholly within the project area.
4. Within 1 month of the completion of each project activity, the person taking the action must publish a report and maps verifying compliance with the conditions of this notice on their website for a period of at least 3 months. The department must be notified within one week of the information being placed on their website.	This report satisfies this condition and will remain on Warrego Energy's website for at least 3 months.  The Department of the Environment will be notified when this report has been published.

Condition of EPBC 2013/7054	Compliance
<p>5. The person taking the action will be permitted one drill well for the purposes of exploration (appraisal gas well).</p>	<p>Warrego Energy has not yet undertaken any activities relating to drilling.</p>
<p>6. The person taking the action must advise the department within 1 month of the completion of drilling if the well and the pad and drilling infrastructure are to be left in-situ.</p>	<p>Warrego Energy has not yet undertaken any activities relating to drilling.</p>
<b>Disturbance limits</b>	
<p>7. No more than 70 ha of native vegetation can be disturbed as a result of the project activities within the project area for the life of the project.</p>	<p>An audit of vegetation clearing was conducted after clearing but before the 3D seismic survey commenced. The audit examined GPS logs from the clearing machinery and verified that the total area cleared was 56.345 ha. Refer to Appendix 1.</p> <p>No other vegetation has been cleared in association with this approval.</p>
<b>Pre-clearance surveys</b>	
<p>8. The person taking the action must ensure surveying information is used that accurately locates and demarcates all areas of disturbance (from source lines, receiver points, drill pad and access tracks) and identifies areas which need to be avoided (including individual threatened flora species, and large tree species that may be utilised for foraging and roosting by the Carnaby's Black Cockatoo where possible) during vegetation clearance.</p>	<p>Locations of threatened flora were mapped during a flora and vegetation survey of the wider project area. A ground-truthing survey was then conducted immediately prior to vegetation clearance. The ground-truthing survey verified that the planned clearing for source lines and access tracks avoided the mapped locations of threatened flora (including an additional buffer) and large trees.</p>
<p>9. The person taking the action must engage a suitably qualified person to identify and record any individuals of the Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider (<i>Idiosoma nigrum</i>), found during pre-clearance surveys. The person taking the action must notify the department in writing within 1 month of any individuals being sighted, providing observations and GPS location(s) of the sighting.</p>	<p>A field survey for the Shield-backed Trapdoor Spider and Black Rugose Trapdoor Spider was carried out and a report provided to the Department of the Environment. No individuals of either species were sighted during the survey or have been sighted since.</p>
<p>10. a. <i>Note: condition was deleted on 3 April 2014.</i></p> <p>b. Vegetation clearing along access tracks and 3D seismic survey source lines must not be scraped to bare earth.</p>	<p>A raised roller mulching technique was used to clear native vegetation. Cleared vegetation was mulched and spread behind the clearing machinery. Raised roller mulching clearing leaves the rootstock intact.</p> <p>Refer to Plate 1 for an example of a track cleared using the raised roller mulching technique.</p>

Condition of EPBC 2013/7054	Compliance
<p>c. Known locations of Star Sun Orchid (<i>Thelymitra stellata</i>), the Sandplain Duck Orchid (<i>Paracaleana dixonii</i>), Yandanooka Mallee (<i>Eucalyptus crispata</i>), and Scaly Butt Mallee (<i>Eucalyptus leprophloia</i>) should be avoided.</p>	<p>Locations of threatened flora were mapped during a flora and vegetation survey of the wider project area. A ground-truthing survey was then conducted immediately prior to vegetation clearance. The ground-truthing survey verified that the planned clearing for source lines and access tracks avoided the mapped locations of threatened flora (including an additional buffer) and large trees.</p> <p>An audit of vegetation clearing was conducted after clearing but before the 3D seismic survey commenced. The audit examined GPS logs from the clearing machinery and verified that all clearing avoided known locations of Threatened flora.</p> <p>A map verifying that clearing avoided all known locations of threatened flora will be provided to the Department of the Environment, but has not been published in this report as locations of threatened flora are required to be kept confidential. This is a requirement of condition 8.5 of Warrego Energy's Permit To Take Declared Rare Flora under the <i>Wildlife Conservation Act 1950</i>.</p>
<p>d. If otherwise unknown locations of EPBC Act listed threatened species are identified during project activities, the person taking the action must record individuals and notify the Department in writing within 1 week of any individuals being sited, providing observations and GPS locations of the sites.</p>	<p>No additional locations of EPBC Act listed threatened species were identified during project activities.</p>
<p>e. The drill pad, access tracks and borrow pits should be located to avoid locations of threatened flora and, where possible, located on previously disturbed land.</p>	<p>Locations of threatened flora were mapped during a flora and vegetation survey of the wider project area. A ground-truthing survey was then conducted immediately prior to vegetation clearance. The ground-truthing survey verified that the planned clearing for source lines and access tracks avoided the mapped locations of threatened flora (including an additional buffer) and large trees.</p> <p>An audit of vegetation clearing was conducted after clearing but before the 3D seismic survey commenced. The audit examined GPS logs from the clearing machinery and verified that all clearing avoided known locations of Threatened flora. Refer to Appendix 1.</p> <p>Warrego Energy has not yet undertaken any activities relating to drilling (i.e. drill pad or borrow pits).</p>

Condition of EPBC 2013/7054	Compliance
<b>Environmental Management</b>	
<p>11. The person taking the action must prepare and submit an Environment Management Plan for the 3D seismic survey to the WA Department of Mines and Petroleum for approval. The approved Environment Management Plan must be provided to the Department within 2 weeks of approval.</p>	<p>The West Erregulla 3D Seismic Survey Environment Plan was approved by the Department of Mines and Petroleum. The current version (v8) was approved on 7 May 2014 and was subsequently provided to the Department of the Environment as the Environment Management Plan referred to in the approval conditions.</p>
<p>12. The Environment Management Plan must address impacts of project activities associated with the 3D seismic survey to EPBC Act listed threatened species and must include avoidance, mitigation and management measures to address these impacts.</p>	<p>Impacts of the project to EPBC Act listed threatened species were identified in the project's environmental risk assessment, which was a component of the Environment Plan. The risk assessment includes avoidance, mitigation and management measures to address these potential impacts.</p>
<p>13. The person taking the action must not commence the 3D seismic survey unless the Environment Management Plan has been approved by the WA Department of Mines and Petroleum. The Environment Management Plan for the 3D seismic survey must be implemented.</p>	<p>No part of the 3D seismic survey was commenced before the Environment Plan was first approved on 11 February 2014.</p> <p>The Department of Mines and Petroleum audited the 3D seismic survey against the Environment Plan in December 2014 and found one non-conformance, which has since been addressed.</p>
<p>14. <i>Note: conditions relate to appraisal drilling program.</i>            15.            16.</p>	<p>Warrego Energy has not yet undertaken any activities relating to drilling.</p>
<p>17. To offset the loss of habitat for the Carnaby's Black Cockatoo, within 12 months of the date of this approval, the person taking the action must provide written evidence to the Department that a legally binding conservation covenant has been registered over the offset area identified as the Proposed Offset Area at Attachment A. The conservation covenant must provide for the protection of no less than 543 ha of Carnaby's Black Cockatoo foraging habitat.</p>	<p>Warrego Energy is currently in the process of registering a conservation covenant over no less than 543 ha of Carnaby's Black Cockatoo foraging habitat. This process is subject to negotiations and agreements by several parties and agencies. Warrego Energy will provide written evidence to the Department of the Environment when it has received advice that the conservation covenant has been registered.</p>

Condition of EPBC 2013/7054	Compliance
<p><b>18.</b> The person taking the action must prepare and submit an Offset Plan for the offset area within 1 month of commencement of project activities. The Offset Plan must include, but not limited to:</p> <ul style="list-style-type: none"> <li>• A textual description and map clearly defining the location and boundaries of the offset area, as specified in this condition, which must be accompanied with the offset attributes and shapefile;</li> <li>• Milestones and objectives of the Offset Plan;</li> <li>• Details of rehabilitation measures for offset area. These details should include but not be limited to, commencement timeframes, species to be utilized, stocking rates, measures to be utilized to ensure success, success targets, contingency measures in the case of not meeting targets and monitoring requirements;</li> <li>• Details of management measures for the offset area including measures to exclude weeds, third party access, intrusion of agricultural activities/practices and feral animals from offset area;</li> <li>• Timeframes for the implementation and completion of the above measures or strategies;</li> <li>• Details of monitoring, reporting and contingency measures if performance indicators are not met; and</li> <li>• Roles and responsibilities of personnel associated with implementing each of the above measures.</li> </ul>	<p>An Offset Plan meeting the requirements of this condition was submitted to the Department of the Environment on 9 May 2014, which was prior to the commencement of project activities. The Department of the Environment acknowledged on 20 June 2014 its receipt of the Offset Plan. (The Department of the Environment was not required to approve the Offset Plan.)</p>
<p><b>19.</b> If condition 17 cannot be met, the person taking the action must provide another parcel or parcels of land similar to the offset area for approval in writing by the Department.</p>	<p>Warrego Energy is currently in the process of registering a conservation covenant over no less than 543 ha of Carnaby's Black Cockatoo foraging habitat in accordance with condition 17.</p>
<p><b>20.</b> The Offset Plan must be implemented.</p>	<p>The Offset Plan is being implemented as per condition 17. Management practices detailed in the Offset Plan will commence after a conservation covenant has been successfully registered.</p>
<p><b>Rehabilitation</b></p>	
<p><b>21.</b> The person taking the action must prepare and submit a Rehabilitation Plan detailing rehabilitation actions and monitoring criteria for the project area to the WA Department of Mines and Petroleum for approval. The approved Rehabilitation Plan must be provided to the Department within 2 weeks of approval.</p>	<p>A Rehabilitation Management Plan was approved by the Department of Mines and Petroleum on 29 December 2014. A copy of the approved Rehabilitation Management Plan was forwarded to the Department of the Environment on 6 January 2015.</p>
<p><b>22.</b> The Rehabilitation Plan must be implemented.</p>	<p>A Rehabilitation Management Plan was approved by the Department of Mines and Petroleum on 29 December 2014. The Rehabilitation Management Plan is now being implemented, following completion of the seismic survey activity on 20 December 2014.</p>



Condition of EPBC 2013/7054	Compliance
<p><b>23.</b> The proponent taking the action must commence rehabilitation monitoring 1 month after completion of project activities and then annually for a minimum of 2 years or until monitoring has shown all rehabilitation criteria provided in the Rehabilitation Plan have been met.</p>	<p>Rehabilitation monitoring was commenced on 16 January 2015.</p>
<p><b>General</b></p>	
<p><b>24.</b> Within 7 days after the commencement of the action, the person taking the action must advise the Department in writing of the actual date of commencement.</p>	<p>The Department of the Environment was notified of the commencement of project activities by email on 13 November 2014.</p>
<p><b>25.</b> The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the Environment Management Plan(s) for 3D Seismic Survey and Appraisal Drilling Program (if applicable) and Rehabilitation Plan required by this approval, and make them available upon request to the Department.</p>	<p>Records have been maintained throughout the duration of the seismic survey activities. Warrego Energy has conducted several internal audits to ensure that the Environment Plan is implemented and adhered to, including provisions contained within the Environment Plan for the keeping of records.</p>
<p><b>26.</b> Within three months of every 12 month anniversary of the commencement of the action, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published.</p>	<p>No reporting associated with this condition has been required at this stage as the 12-month anniversary has not been reached.</p>
<p><b>27.</b> Upon the direction of the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.</p>	<p>No independent audits have been requested by the Minister.</p>

Condition of EPBC 2013/7054	Compliance
<p><b>28.</b> If the person taking the action varies an approved Environment Management Plan, the person taking the action must provide to the department a revised Environment Management Plan within 2 weeks of the WA Department of Mines and Petroleum's approval. The varied activity shall not commence until the WA Department of Mines and Petroleum has approved the varied Environment Management Plan in writing. If the WA Department of Mines and Petroleum approves the revised Environment Management Plan, that Environment Management Plan must be submitted to the department within 2 weeks of the WA Department of Mines and Petroleum's approval and implemented in place of the Environment Management Plan originally approved.</p>	<p>The Environment Plan (v5) was initially approved by the Department of Mines and Petroleum on 11 February 2014. The Environment Plan was amended and the current version (v8) was approved on 7 May 2014. Both versions were provided to the Department of the Environment following approval by the Department of Mines and Petroleum.</p>
<p><b>29.</b> If the Minister believes that it is necessary or convenient for the better protection of an EPBC Act listed threatened species to do so, the Minister may request that the person taking the action make specified revisions to an Environment Management Plan specified in the conditions and in consultation with the WA Department of Mines and Petroleum. The person taking the action must comply with any such request. The person taking the action must submit the revised Environment Management Plan for the WA Department of Mines and Petroleum's written approval and submit to the department within 2 weeks of this approval. The revised approved Environment Management Plan must be implemented. Unless the WA Department of Mines and Petroleum has approved the revised Environment Management Plan, then the person taking the action must continue to implement the Environment Management Plan originally approved, as specified in the conditions.</p>	<p>No amendments to any Environment Management Plan have been requested by the Minister.</p>
<p><b>30.</b> If, at any time after 12 months from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the Minister.</p>	<p>The seismic survey was commenced within 12 months of the date of approval.</p>
<p><b>31.</b> Unless otherwise agreed to in writing by the Minister, the person taking the action must publish all approved management plans referred to in these conditions of approval on their website. Each management plan must be published on the website within 1 month of being approved.</p>	<p>An Environment Plan Summary approved by the Department of Mines and Petroleum is available on both Warrego Energy's and the Department of Mines and Petroleum's websites. Warrego Energy is currently seeking approval of the Minister under this condition to waive the requirement to publish the full unabridged Environment Plan.</p>

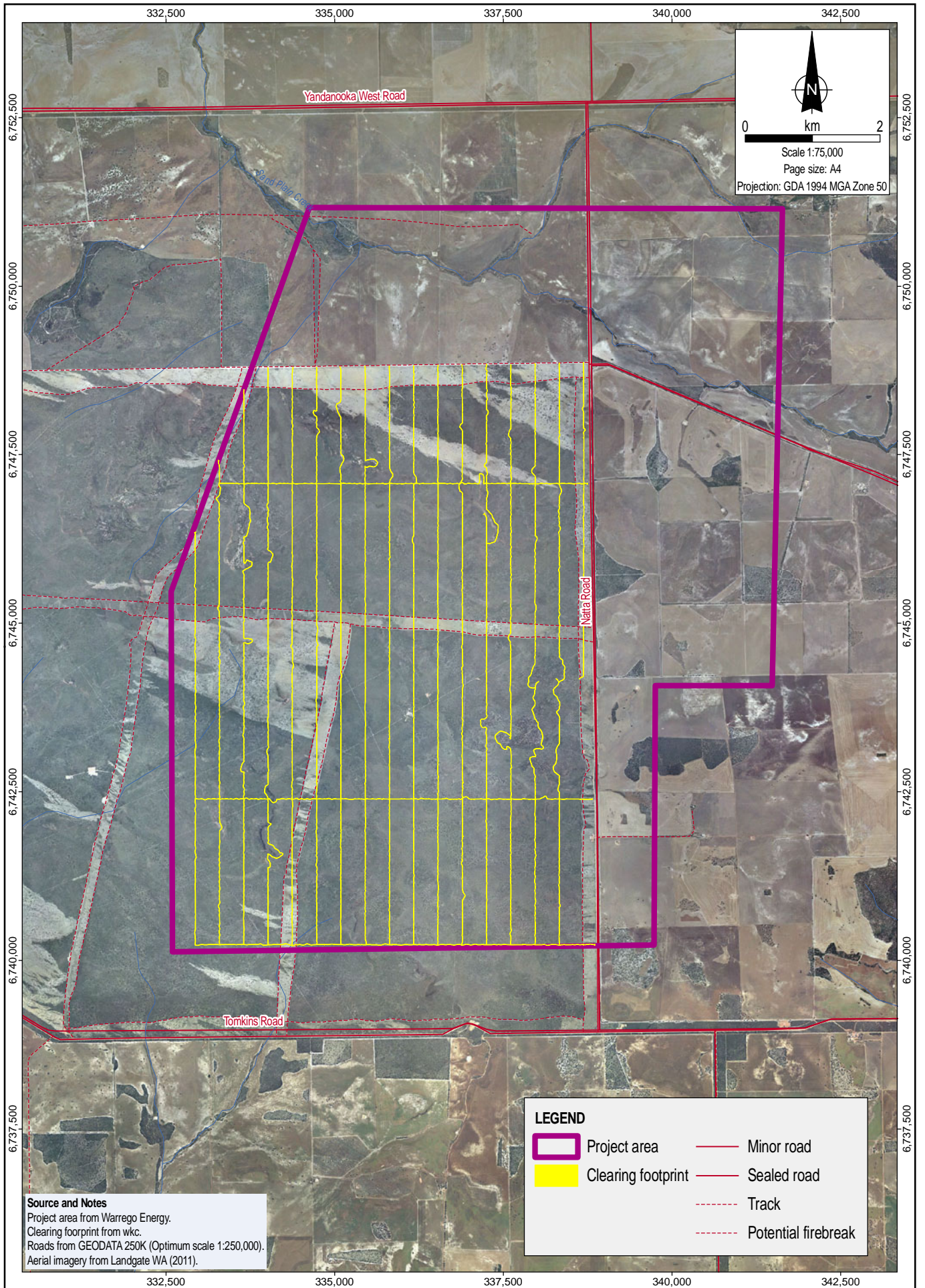



*Photo: wkc*

**Plate 1 Seismic line cleared using raised roller mulching technique**







## **Appendix A - Clearing footprint**





  
 0 km 2  
 Scale 1:75,000  
 Page size: A4  
 Projection: GDA 1994 MGA Zone 50

**LEGEND**

	Project area		Minor road
	Clearing footprint		Sealed road
			Track
			Potential firebreak

**Source and Notes**  
 Project area from Warrego Energy.  
 Clearing footprint from wkc.  
 Roads from GEODATA 250K (Optimum scale 1:250,000).  
 Aerial imagery from Landgate WA (2011).



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**Warrego Energy**  
**West Erregulla 3D Seismic Survey**



**Clearing footprint**

Figure No: **1**