



Report and recommendations of the Environmental Protection Authority



EP413 3D Seismic Acquisition Survey

Norwest Energy NL

Report 1530

October 2014

Assessment on Proponent Information Environmental Impact Assessment Process Timelines

Date	Progress stages	Time (weeks)
17 October 2013	Level of assessment set	
25 July 2014	Proponent's Final API document received by EPA	40 weeks
21 August 2014	EPA Meeting	4 weeks
1 October 2014	Provision of EPA report to the Minister for Environment	5 weeks
6 October 2014	Publication of EPA report (3 days after report to Minister)	3 days
20 October 2014	Close of appeals period	2 weeks

Timelines for an assessment may vary according to the complexity of the project and are usually agreed with the proponent soon after the level of assessment is determined.

In this case, the Environmental Protection Authority did meet its timeline objective (11 weeks), for the completion of the assessment and provision of a report to the Minister, following receipt of the proponent's final API document.



Dr Paul Vogel
Chairman

1 October 2014

ISSN 1836-0483 (Print)
ISSN 1836-0491 (Online)
Assessment No. 1993

Contents

	Page
1. Introduction and background	1
2. The proposal	2
3. Key environmental factors	2
4. Conclusions	4
5. Recommendations	5

Appendices

1. References
2. Assessment Table
3. Identified Decision-making Authorities
4. Recommended Environmental Conditions
5. Proponent's API documentation

This page is intentionally blank

1. Introduction and background

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for Environment on the proposal by Norwest Energy NL to undertake a 3D Seismic Acquisition Survey within exploration permit area EP413.

Section 44 of the *Environmental Protection Act 1986* (EP Act) requires the EPA to report to the Minister for Environment on the outcome of its assessment of a proposal. The report must set out:

- the key environmental factors identified in the course of the assessment; and
- the EPA's recommendations as to whether or not the proposal may be implemented, and, if the EPA recommends that implementation be allowed, the conditions and procedures to which implementation should be subject.

The EPA may include in the report any other advice and recommendations as it sees fit.

The proponent has submitted an Assessment on Proponent Information (API) document setting out the details of the proposal, potential environmental impacts and proposed commitments to manage those impacts.

The EPA considers that the proposal, as described, can be managed to meet the EPA's environmental objectives, subject to the EPA's recommended conditions being made legally binding.

This report provides the EPA advice and recommendations in accordance with section 44 of the EP Act.

2. The proposal

The EPA has considered the proposal by Norwest Energy NL to undertake a 3D seismic acquisition survey across a 10,600 hectare (ha) area within exploration permit area EP413 located north-west of Eneabba in the Midwest Region (see Figure 1). Exploration Permits are issued under the *Petroleum and Geothermal Energy Resources Act 1967*.

Norwest Energy referred this proposal to the EPA on 17 October 2013. The EPA set the level of assessment at API (Category A) on 9 December 2013.

The proposal involves the cutting and mulching of vegetation in a grid pattern of seismic lanes across the development envelope (see figure 1), which would include:

- up to 55 ha of high quality native vegetation within Beekeepers Nature Reserve; and
- up to 130 ha of high quality native vegetation on adjacent farmland.

The seismic survey would be carried out over a period of 12 weeks and the survey lanes would then be left undisturbed to naturally regenerate. The proponent proposes to monitor the quality of vegetation regrowth for three years and, if necessary, carry out remedial revegetation works.

Full proposal details are included in the proponent's API Document (Norwest Energy NL, 2014a) which is attached as Appendix 5.

The proposal has been declared a controlled action under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* because it involves impacts to vegetation which provides foraging habitat for the endangered Carnaby's Black Cockatoo. The proposal is under separate assessment by the Commonwealth through assessment by preliminary documentation.

A comprehensive description of the proposal is given in Schedule 1 of the recommended environmental conditions (Appendix 4).

3. Key environmental factors

The EPA identified the following key environmental factors as being relevant to the proposal and requiring detailed environmental impact assessment:

- (a) Flora and Vegetation;
- (b) Terrestrial Fauna;
- (c) Rehabilitation and Closure (Integrating factor); and
- (d) Offsets (Integrating factor).

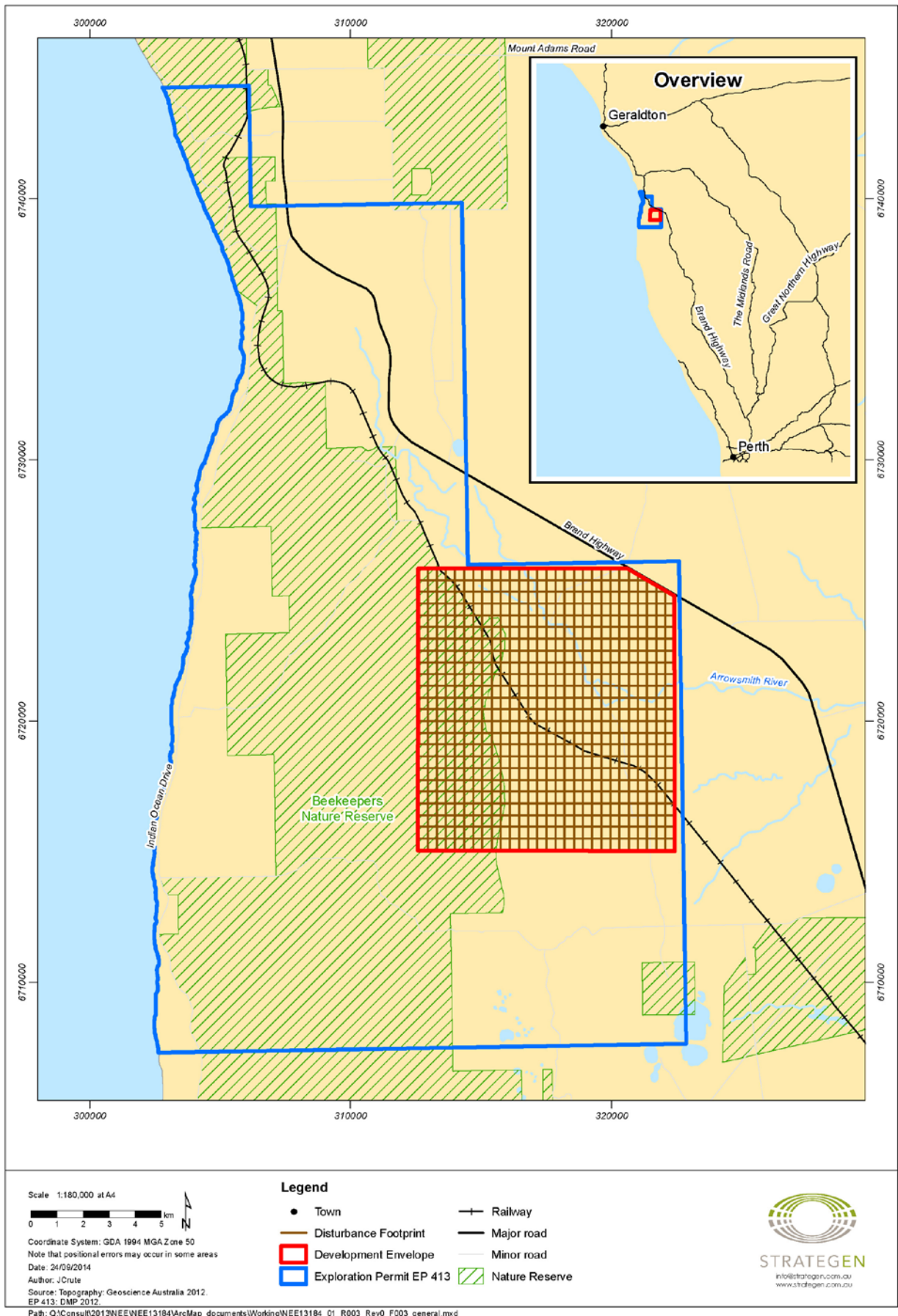


Figure 1: Development envelope and regional location

A summary of the EPA's assessment of these factors is shown in the Assessment Table in Appendix 2.

Preliminary environmental factors which the EPA determined not to be key environmental factors are discussed in the proponent's API document (Norwest Energy NL, 2014a). The EPA considers that impacts to these factors do not require management under Part IV of the EP Act.

Detailed discussion describing the environmental factors, including information contained in relevant environmental studies, outcomes of consultation, and the proponent's impact avoidance, minimisation and mitigation procedures are also contained in the proponent's API document.

4. Conclusions

The EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 4.

In coming to this conclusion the EPA had regard to the following points:

- The proponent has proposed environmental management measures, including lane clearing and rehabilitation procedures, and dieback and weed quarantine, as specified in the proponent's draft environmental management plan (EMP).
- Survey lanes have been positioned to avoid trees and conservation significant flora and will use a best practice vegetation clearing process (cutting and mulching) that optimises vegetation regrowth on the survey lanes.
- The Department of Parks and Wildlife advise that experience with surveys of this type (including previous seismic surveys in Beekeepers Nature Reserve) shows that the rehabilitation of survey lanes can be problematic. In addition, if third party access (four wheel drive vehicles, trail bikes) were to occur and/or dieback disease or weeds were to be introduced, there would be severe degradation of the conservation values of the vegetation.
- The EPA's view is that the proposal should be implemented in a manner that ensures that there are no significant residual impacts to flora and fauna, and that an offset should only be triggered as a contingency in the event that there is an ongoing significant residual impact (for example, impacts to vegetation as a result of the introduction of dieback). This approach puts the focus on the proponent to diligently implement the EMP to minimise and rectify any impacts in the first instance.

- The EPA recommends condition 6 which strengthens the rehabilitation procedures by requiring an EMP which, among other matters, requires the proponent to carry out remedial rehabilitation, if necessary, until such time as the disturbed areas are returned to a defined acceptable condition.
- Recommended condition 6 (5) requires “significant residual environmental impact” trigger criteria to be defined. If this criteria is not met after five years (rather than three years as proposed by the proponent), the requirement for an offset will be triggered.
- The requirement for the offset itself (recommended condition 7). If the offset is triggered, then the EPA’s view is that this should be focussed on management of the reserve and not on land acquisition.

5. Recommendations

The EPA submits the following recommendations to the Minister for Environment:

1. That the Minister notes that the proposal being assessed is to undertake a 3D Seismic Acquisition Survey within exploration permit area EP413;
2. That the Minister considers the report on the key environmental factors as set out in Section 3;
3. That the Minister notes that the EPA has concluded that the proposal can be managed to meet the EPA’s environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 4; and
4. That the Minister imposes the conditions and procedures recommended in Appendix 4 of this report.

This page is intentionally blank

Appendix 1

References

Norwest Energy NL 2014 (a), *EP413 3D Seismic Acquisition Survey: Assessment on Proponent Information – Environmental Review*, July 2014.

Norwest Energy NL 2014 (b), *EP413 3D Seismic Acquisition Survey: draft Environmental Management Plan*, July 2014.

Norwest Energy NL 2014 (c), *EP413 3D Seismic Acquisition Survey: Offsets Strategy*, July 2014.

Appendix 2

Assessment Table

Assessment Table

Factor	EPA Objective	Potentially Significant Impact (Without Mitigation)	Management Actions (Mitigation)	Regulation	Meets EPA Objective?
Vegetation and flora.	To maintain representation, diversity, viability and ecological function at the species, population and community level.	<p><u>Context</u></p> <ul style="list-style-type: none"> • Good quality intact native vegetation of high biodiversity value both within Beekeepers Nature Reserve and in areas outside the reserve. <p><u>Key Survey Findings</u></p> <ul style="list-style-type: none"> • Level 1 Biological Survey including desktop study and reconnaissance survey. Potential for conservation significant flora (Priority flora species). <p><u>Impacts</u></p> <ul style="list-style-type: none"> • Direct loss of vegetation from clearing. Up to 55 ha of high quality native vegetation within Beekeepers Nature Reserve; and up to 130 ha of high quality native vegetation on adjacent farmland. • Possible edge effects (degradation of vegetation along margins of seismic lanes, such as from desiccation). • If rehabilitation is unsuccessful there will be loss / degradation of vegetation and fauna habitat. • Indirect (and potentially ongoing) loss / degradation of vegetation should third party access occur or dieback or weeds be introduced). 	<p><u>Best Practice</u></p> <ul style="list-style-type: none"> • Seismic lanes to be prepared by cutting and mulching to minimise ground disturbance and optimise regeneration of vegetation. <p><u>Minimisation</u></p> <ul style="list-style-type: none"> • Minimisation of seismic lane widths. • Avoidance of trees and conservation-significant flora species. <p><u>Management</u></p> <ul style="list-style-type: none"> • Application of dieback and weed quarantine procedures. • Application of fire and feral animal control/management procedures. • Concealment and/or blocking of seismic lanes to prevent third party access. 	<p>The EPA has recommended condition 6 which requires the preparation of an Environmental Management Plan (EMP).</p> <p>This EMP will specify the methods, procedures and management to minimise the impacts on vegetation and flora.</p>	<p>Yes.</p> <p>The proposal has been designed and would be managed to avoid or minimise impacts on vegetation and flora.</p> <p>The EPA has recommended the EMP is a condition of approval.</p> <p>The proposal can be managed to meet the EPA's objective for Vegetation and Flora. There is potential for a significant residual impact if rehabilitation is unsuccessful and/or dieback and weeds are introduced.</p>

Factor	EPA Objective	Potentially Significant Impact (Without Mitigation)	Management Actions (Mitigation)	Regulation	Meets EPA Objective?
		<ul style="list-style-type: none"> There is potential for a significant residual impact on vegetation and flora if rehabilitation is unsuccessful and/or dieback and weeds are introduced. 			
Terrestrial fauna.	To maintain representation, diversity, viability and ecological function at the species, population and assemblage level.	<p><u>Context</u></p> <ul style="list-style-type: none"> Good quality intact native vegetation both within Beekeepers Nature Reserve and in areas outside the reserve provides habitat for Carnaby's Black Cockatoo, other bird species and other wildlife such as honey possums and reptiles. <p><u>Impacts</u></p> <ul style="list-style-type: none"> Direct loss / degradation of fauna habitat from clearing. Indirect (and potentially ongoing) loss / degradation of fauna habitat should third party access occur or dieback or weeds be introduced. Indirect loss/degradation of fauna habitat if dieback is introduced. Increased access to area by feral predators (foxes, cats) along the cleared seismic lanes causing increased mortality of native fauna. There is potential for a significant residual impact on fauna if rehabilitation is unsuccessful and/or dieback is introduced. 	<p><u>Management</u></p> <ul style="list-style-type: none"> Management measures as noted above to minimise impacts to fauna habitat. The proponent has undertaken to provide funding for control of feral predators. 	As above, the EMP required by condition 6 will specify the methods, procedures and management to minimise the impacts on native fauna and fauna habitat.	<p>Yes.</p> <p>The proposal has been designed and would be managed to avoid or minimise impacts on fauna.</p> <p>The EPA has recommended the EMP is a condition of approval.</p> <p>The proposal can be managed to meet the EPA's objectives for Terrestrial Fauna. There is potential for a significant residual impact if the proposal is not successfully rehabilitated, feral animal management is not successful and/or dieback is introduced.</p>

Factor	EPA Objective	Potentially Significant Impact (Without Mitigation)	Management Actions (Mitigation)	Regulation	Meets EPA Objective?
Rehabilitation and closure (Integrating factor).	To ensure that premises can be closed, decommissioned and rehabilitated in an ecologically sustainable manner, consistent with agreed outcomes and land uses, and without unacceptable liability to the state.	<u>Context</u> <ul style="list-style-type: none"> • There is potential for a significant residual impact if rehabilitation is unsuccessful and there is a loss / degradation of vegetation and fauna habitat. 	<u>Monitoring</u> <ul style="list-style-type: none"> • Baseline vegetation condition. • Success of lane access closure. • Regrowth of disturbed areas. • Weeds and dieback. <u>Management</u> <ul style="list-style-type: none"> • Remedial rehabilitation measures. 	<p>The EMP required by condition 6 will specify “completion criteria”, (developed in consultation with the Department of Parks and Wildlife) prior to seismic lane preparation.</p> <p>If the criteria are not met, the proponent must implement remedial rehabilitation measures.</p>	<p>Yes.</p> <p>The EPA’s view is that the proponent should diligently implement the proposal and the management proposed in the EMP, to minimise and rectify any impacts on the flora and vegetation.</p> <p>The proposal can be managed to meet the EPA’s objective for Rehabilitation and Closure provided there is a contingent offset in the event that the proposal is not successfully rehabilitated.</p>
Offsets (Integrating factor).	To counterbalance any significant residual environmental impacts or uncertainty through the application of offsets.	<u>Context</u> <ul style="list-style-type: none"> • There is potential for ongoing significant residual environmental impacts to flora and fauna if rehabilitation is unsuccessful, dieback or weeds are introduced and/or feral animal management is not successful. • If significant residual environmental impacts remain after reasonable rehabilitation and management measures are undertaken, the reserve Manager (Department of Parks and Wildlife) may be left with a future liability for reserve management. 		<p>The EMP required by condition 6 will specify “significant residual environmental impact” criteria (developed in consultation with the Department of Parks and Wildlife) prior to seismic lane preparation.</p> <p>The EPA has recommended condition 7 which requires an offset should a “significant residual environmental impact” be identified five years after commencement of the proposal.</p>	<p>Yes.</p> <p>An offset should only be triggered as a contingency in the event that there is an ongoing significant residual impact.</p>

Appendix 3

Identified Decision-making Authorities

Identified Decision-making Authorities

Section 44(2) of the *Environmental Protection Act 1986* (EP Act) specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This Appendix contains the EPA's recommended conditions and procedures.

Section 45(1) requires the Minister for Environment to consult with decision-making authorities (DMAs), and if possible, agree on whether or not the proposal may be implemented, and if so, to what conditions and procedures, if any, that implementation should be subject.

The following DMAs have been identified for this consultation:

Decision-making Authority	Approval
1. Minister for Mines and Petroleum	<i>Petroleum and Geothermal Energy Resources Act 1967</i>
2. Department of Mines and Petroleum	<i>Petroleum and Geothermal Energy Resources Act 1967</i>

Note: In this instance, agreement is only required with DMA No. 1 since this DMA is a Minister.

Appendix 4

Recommended Environmental Conditions

RECOMMENDED ENVIRONMENTAL CONDITIONS
STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(Environmental Protection Act 1986)

EP 413 3D SEISMIC ACQUISITION SURVEY

Proposal: The proposal is to undertake a 3D seismic acquisition survey across a 10,600 hectare area within exploration permit area EP413. The proposal comprises the following elements:

- Preparation of north-south and east-west vehicle access lanes by cutting vegetation above ground level and mulching greenstock with immediate replacement of mulch in-situ (also known as “raised blade roller mulching”).
- Laying source and receiver lines along lanes and insertion of geophones to a depth of 0.1 metres.
- Undertaking seismic analysis (generation of acoustic signal) using vibroseis trucks.
- Demobilising, rehabilitating and closing vehicular access to seismic lines, monitoring and, as required, remedial rehabilitation works.

Proponent: Norwest Energy NL
Australian Company Number 078 301 505

Proponent Address: PO Box 8260
Perth Business Centre WA 6849

Assessment Number: 1993

Report of the Environmental Protection Authority: 1530

Pursuant to section 45 of the *Environmental Protection Act 1986* it has been agreed that the proposal described and documented in Schedule 1 may be implemented and that the implementation of the proposal is subject to the following implementation conditions and procedures:

1 Proposal Implementation

- 1-1 When implementing the proposal, the proponent shall not exceed the authorised extent of the proposal as defined in Table 2 in Schedule 1, unless amendments to the proposal and the authorised extent of the proposal has been approved under the EP Act.

2 Contact Details

- 2-1 The proponent shall notify the CEO of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

3 Time Limit for Proposal Implementation

- 3-1 The proponent shall not commence implementation of the proposal after the expiration of five (5) years from the date of this Statement, and any commencement, within this five (5) year period, must be substantial.
- 3-2 Any commencement of implementation of the proposal, within five (5) years from the date of this Statement, must be demonstrated as substantial by providing the CEO with written evidence, on or before the expiration of five (5) years from the date of this Statement.

4 Compliance Reporting

- 4-1 The proponent shall prepare, submit and maintain a Compliance Assessment Plan to the CEO at least six (6) months prior to the first Compliance Assessment Report required by condition 4-6, or prior to implementation, whichever is sooner.
- 4-2 The Compliance Assessment Plan shall indicate:
- (1) the frequency of compliance reporting;
 - (2) the approach and timing of compliance assessments;
 - (3) the retention of compliance assessments;
 - (4) the method of reporting of potential non-compliances and corrective actions taken;
 - (5) the table of contents of Compliance Assessment Reports; and

- (6) public availability of Compliance Assessment Reports.
- 4-3 After receiving notice in writing from the CEO that the Compliance Assessment Plan satisfies the requirements of condition 4-2 the proponent shall assess compliance with conditions in accordance with the Compliance Assessment Plan required by condition 4-1.
- 4-4 The proponent shall retain reports of all compliance assessments described in the Compliance Assessment Plan required by condition 4-1 and shall make those reports available when requested by the CEO.
- 4-5 The proponent shall advise the CEO of any potential non-compliance within seven (7) days of that non-compliance being known.
- 4-6 The proponent shall submit to the CEO the first Compliance Assessment Report fifteen (15) months from the date of issue of this Statement addressing the twelve (12) month period from the date of issue of this Statement and then annually from the date of submission of the first Compliance Assessment Report, or as agreed in writing by the CEO.

The Compliance Assessment Report shall:

- (1) be endorsed by the proponent's Chief Executive Officer or a person delegated to sign on the Chief Executive Officer's behalf;
- (2) include a statement as to whether the proponent has complied with the conditions;
- (3) identify all potential non-compliances and describe corrective and preventative actions taken;
- (4) be made publicly available in accordance with the approved Compliance Assessment Plan; and
- (5) indicate any proposed changes to the Compliance Assessment Plan required by condition 4-1.

5 Public Availability of Data

- 5-1 Subject to condition 5-2, within a reasonable time period approved by the CEO of the issue of this Statement and for the remainder of the life of the proposal the proponent shall make publicly available, in a manner approved by the CEO, all validated environmental data (including sampling design, sampling methodologies, empirical data and derived information products (e.g. maps)) relevant to the assessment of this proposal and implementation of this Statement.
- 5-2 If any data referred to in condition 5-1 contains particulars of:

- (1) a secret formula or process; or
- (2) confidential commercially sensitive information;

the proponent may submit a request for approval from the CEO to not make this data publicly available. In making such a request the proponent shall provide the CEO with an explanation and reasons why the data should not be made publicly available.

6 Environmental Management Plan

6-1 The proponent shall ensure that the proposal is implemented in a manner that minimises impacts to native flora, vegetation and fauna, and that recovery of vegetation impacted by the proposal is not inhibited.

6-2 Prior to the commencement of seismic lane preparation, the proponent shall prepare an Environmental Management Plan on advice of the Department of Parks and Wildlife and submit it to the CEO.

Note: seismic lane preparation refers to rolling and/or cutting of vegetation.

The Environmental Management Plan shall:

- (1) specify management actions that will be implemented to ensure the management objective in condition 6-1 is achieved;
- (2) describe the minimal impact clearing process for seismic lanes;
- (3) describe procedures for avoiding trees, conservation significant flora, wetlands, streams and rivers;
- (4) describe procedures for dieback and weed quarantine and control, preventing third party access to seismic lanes, and for the control of feral predators and fire;
- (5) describe monitoring methodology to establish; baseline vegetation condition, lane access closure success, regrowth of the disturbed areas, and presence of weeds and/or dieback;
- (6) specify staged completion criteria for disturbed areas;
- (7) specify contingency plans including remedial rehabilitation procedures and lane access closure procedures should the staged completion criteria not be met; and
- (8) specify significant residual environmental impact trigger criteria for disturbed areas.

- 6-3 After receiving notice in writing from the CEO that the Environmental Management Plan satisfies the requirements of condition 6-2, the proponent shall:
- (1) implement the management actions and monitor in accordance with the requirements of the Environmental Management Plan; and
 - (2) continue to implement the management actions and monitor in accordance with the requirements of the Environmental Management Plan until the CEO has confirmed by notice in writing that it has been demonstrated that the objective in condition 6-1 has been met and therefore the implementation of the management actions and monitoring is no longer required.
- 6-4 In the event that the monitoring specified in condition 6-2(5) indicates that the staged completion criteria specified in condition 6-2(6) is not being met, the proponent shall:
- (1) immediately implement the contingency actions specified in condition 6-2(7) and continue implementation of those actions until the completion criteria is met or until the CEO has confirmed by notice in writing that implementation of the contingency actions is no longer required.
- 6-5 The proponent shall review and revise the Environmental Management Plan as and when directed by the CEO.
- 6-6 Revisions to the Environmental Management Plan may be approved by the CEO on advice of the Department of Parks and Wildlife.
- 6-7 The proponent shall implement the latest revision of the Environmental Management Plan required by condition 6-5 until advised otherwise by the CEO.

7 Offsets

- 7-1 If, five years after commencement of implementation of the proposal the CEO determines, in consultation with the Department of Parks and Wildlife, that monitoring required by condition 6-3 (5) indicates that implementation of the proposal has resulted in a significant residual environmental impact, the proponent shall prepare and implement an Offsets Strategy to the requirements of the CEO, in consultation with the Department of Parks and Wildlife.
- 7-2 The value of offset(s) to be provided shall be not less than \$200,000 AUD indexed to the Perth CPI.

Table 1: Summary of the Proposal

Proposal Title	EP 413 3D SEISMIC ACQUISITION SURVEY
Short Description	<p>The proposal is to undertake a 3D seismic acquisition survey across a 10,600 hectare area within exploration permit area EP413. The proposal comprises the following elements:</p> <ul style="list-style-type: none"> • Preparation of north-south and east-west vehicle access lanes by cutting vegetation above ground level and mulching greenstock with immediate replacement of mulch in-situ (also known as “raised blade roller mulching”). • Laying source and receiver lines along lanes and insertion of geophones to a depth of 0.1 metres. • Undertaking seismic analysis (generation of acoustic signal) using vibroseis trucks. • Demobilising, rehabilitating and closing vehicular access to seismic lines, monitoring and, as required, remedial rehabilitation works.

Table 2: Location and authorised extent of physical and operational elements

Column 1 Element	Column 2 Location	Column 3 Authorised Extent
Seismic lines	Beekeepers Nature Reserve (as shown in figure 1).	Up to 55 hectares.
Seismic lines	Native vegetation outside nature reserve (as shown in figure 1).	Up to 130 hectares.

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or his delegate.
CPI	Consumer Price Index
EPA	Environmental Protection Authority.

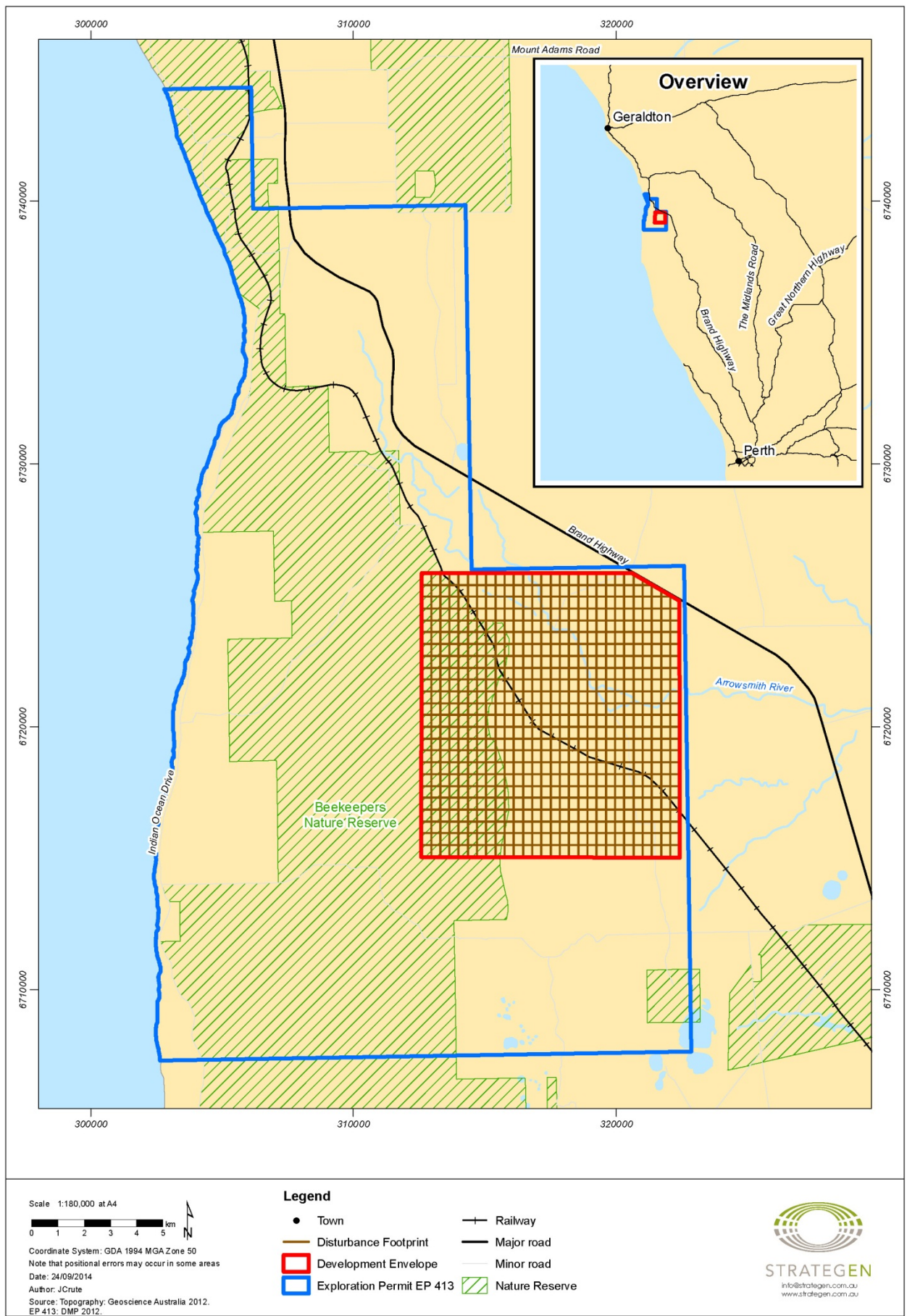


Figure 1: Development envelope and regional location

EP 413 3D SEISMIC ACQUISITION SURVEY

Coordinates that define the development envelope within exploration permit area EP413

Coordinates defining the 3D seismic acquisition survey (proposal) Development Envelope as shown in Figure 1 of the Ministerial Statement are held by the Office of the EPA, dated 1 October 2014.

Appendix 5

Proponent's API documentation

Provided on CD in hardcopies and available on the EPA's website