



## Environmental Protection Authority

**EPA REFERRAL  
FORM  
PROPONENT**

### **Referral of a Proposal by the Proponent to the Environmental Protection Authority under Section 38(1) of the *Environmental Protection Act 1986*.**

#### **PURPOSE OF THIS FORM**

Section 38(1) of the *Environmental Protection Act 1986* (EP Act) provides that where a development proposal is likely to have a significant effect on the environment, a proponent may refer the proposal to the Environmental Protection Authority (EPA) for a decision on whether or not it requires assessment under the EP Act. This form sets out the information requirements for the referral of a proposal by a proponent.

Proponents are encouraged to familiarise themselves with the EPA's *General Guide on Referral of Proposals* [see Environmental Impact Assessment/Referral of Proposals and Schemes] before completing this form.

A referral under section 38(1) of the EP Act by a proponent to the EPA must be made on this form. A request to the EPA for a declaration under section 39B (derived proposal) must be made on this form. This form will be treated as a referral provided all information required by Part A has been included and all information requested by Part B has been provided to the extent that it is pertinent to the proposal being referred. Referral documents are to be submitted in two formats – hard copy and electronic copy. The electronic copy of the referral will be provided for public comment for a period of 7 days, prior to the EPA making its decision on whether or not to assess the proposal.

#### **CHECKLIST**

Before you submit this form, please check that you have:

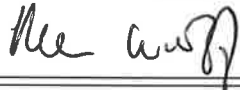
	Yes	No
Completed all the questions in Part A (essential).	Y	
Completed all applicable questions in Part B.	Y	
Included Attachment 1 – location maps.	Y	
Included Attachment 2 – additional document(s) the proponent wishes to provide (if applicable).	Y	
Included Attachment 3 – confidential information (if applicable).	N/A	
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but excluding confidential information.	Y	

Following a review of the information presented in this form, please consider the following question (a response is optional).

Do you consider the proposal requires formal environmental impact assessment?		
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Not sure
If yes, what level of assessment?		
<input type="checkbox"/> Assessment on Proponent Information	<input type="checkbox"/> Public Environmental Review	

**PROPONENT DECLARATION** (to be completed by the proponent)

I, **Keiran Wulff** declare that I am authorised on behalf of **Buru Energy** (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signature 	Name: Keiran Wulff
Position: Managing Director	Company: Buru Energy Limited
Date: 14/11/2013	

## PART A - PROPONENT AND PROPOSAL INFORMATION

(All fields of Part A must be completed for this document to be treated as a referral)

### 1 PROPONENT AND PROPOSAL INFORMATION

#### 1.1 Proponent

Name	Buru Energy Limited
Joint Venture parties (if applicable)	Mitsubishi Corporation
Australian Company Number (if applicable)	
Postal Address (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)	Level 2, 88 William Street Perth, WA, 6000
Key proponent contact for the proposal: <ul style="list-style-type: none"><li>• name</li><li>• address</li><li>• phone</li><li>• email</li></ul>	Damian Ogburn Chief Scientist Level 2, 88 William St, Perth WA, 6000 08 9215 1800 <a href="mailto:DamianOgburn@buruenergy.com">DamianOgburn@buruenergy.com</a>
Consultant for the proposal (if applicable): <ul style="list-style-type: none"><li>• name</li><li>• address</li><li>• phone</li><li>• email</li></ul>	

#### 1.2 Proposal

Title	Laurel Formation Tight Gas Pilot Exploration Program (TGS14)
Description	Buru Energy is proposing to undertake tight gas stimulation using hydraulic fracturing (HF) of four existing exploration wells (2 in the Yulleroo region & 2 in the Valhalla-Asgard region) in the Canning Basin area of Western Australia.
Extent (area) of proposed ground disturbance.	Nil. Activities will occur on existing well sites.
Timeframe in which the activity or development is proposed to occur (including start and finish dates where applicable).	1 April 2014 – 31 December 2014
Details of any staging of the proposal.	<p>The proposed activities will be sequentially undertaken at the four exploration well sites in the Canning Basin. The stages of work associated with HF activities are:</p> <ul style="list-style-type: none"><li>• Site Setup</li><li>• HF Operations</li><li>• Flowback Testing</li><li>• Monitoring, Care &amp; Maintenance</li></ul> <p>Site setup includes establishment of bunded storage areas for fuel storage in tanks, and mobilising equipment, personnel and supplies.</p> <p>HF operations will then occur at each site.</p>

	<p>Depending on the number of HF treatments at each well site (6-12), HF activities will take between 15 and 31 days to complete. HF equipment will then be demobilised from site. Flowback will commence after HF treatment. HF flowback will occur for 30-90 days to test the hydrocarbon flow rates.</p> <p>Following completion of testing, HF flowback water will be returned to the Laurel formation and the well site will be suspended.</p> <p>Monitoring of environmental values at each of the well sites will be ongoing.</p>
Is the proposal a strategic proposal?	No
<p>Is the proponent requesting a declaration that the proposal is a derived proposal?</p> <p>If so, provide the following information on the strategic assessment within which the referred proposal was identified:</p> <ul style="list-style-type: none"> <li>• title of the strategic assessment; and</li> <li>• Ministerial Statement number.</li> </ul>	No
<p>Please indicate whether, and in what way, the proposal is related to other proposals in the region.</p>	<p>Buru Energy produces oil from the Ungani field in the Canning Basin and also undertakes ongoing onshore exploration in the region.</p> <p>The Company's exploration and production activities are regulated by the DMP under the PGER Act 1967.</p> <p>The proposed HF activities will occur in the Yulleroo &amp; Valhalla-Asgard regions on exploration permit areas EP 391 R2, EP 436 R1, EP 371 R1 and EP 371.</p> <p>An Environment Plan for the Activities has been prepared and will be submitted to the DMP for assessment.</p>
<p>Does the proponent own the land on which the proposal is to be established? If not, what other arrangements have been established to access the land?</p>	<p>No</p> <p>In respect of Native Title, the Company has Heritage Protection Agreements in place with Traditional Owner groups on whose lands we operate. Further, prior to previous clearing of well sites for exploration activities, heritage surveys of the relevant areas were undertaken with the appropriate Traditional Owner groups.</p> <p>In respect of pastoral leases, the Company has access rights under law but ensures that it liaises with pastoralists for access arrangements and works closely with them to ensure minimal interference with pastoral activities from the Company's exploration activities.</p>
<p>What is the current land use on the property, and the extent (area in hectares) of the property?</p>	<p>The well sites are located on Pastoral Leases.</p> <p>The Yulleroo well sites are located on Roebuck Plains Station (297,200 Ha).</p> <p>The Valhalla North well site is located on Blina Station (257,600 Ha).</p>

	The Asgard well site is located on Noonkanbah Station (305,100 Ha).
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### 1.3 Location

Name of the Shire in which the proposal is located.	The Yulleroo region is located in the Shire of Broome The Valhalla-Asgard region is located in the Shire of Derby-West Kimberley
For urban areas: <ul style="list-style-type: none"> <li>• street address;</li> <li>• lot number;</li> <li>• suburb; and</li> <li>• nearest road intersection.</li> </ul>	
For remote localities: <ul style="list-style-type: none"> <li>• nearest town; and</li> <li>• distance and direction from that town to the proposal site.</li> </ul>	<b>Yulleroo Region:</b> Yulleroo 3: located 72 km east of Broome Yulleroo 4: located 72 km east of Broome <b>Valhalla-Asgard Region:</b> Valhalla North: located 90 km WNW of Fitzroy Crossing Asgard: located 56 km WSW of Fitzroy Crossing
Electronic copy of spatial data - GIS or CAD, geo-referenced and conforming to the following parameters: <ul style="list-style-type: none"> <li>• GIS: polygons representing all activities and named;</li> <li>• CAD: simple closed polygons representing all activities and named;</li> <li>• datum: GDA94;</li> <li>• projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA);</li> <li>• format: Arcview shapefile, Arcinfo coverages, Microstation or AutoCAD.</li> </ul>	Spatial data is enclosed

### 1.4 Confidential Information

Does the proponent wish to request the EPA to allow any part of the referral information to be treated as confidential?	No
If yes, is confidential information attached as a separate document in hard copy?	N/A

### 1.5 Government Approvals

Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.	No		
Is approval required from any Commonwealth or State Government agency or Local Authority for any part of the proposal? If yes, please complete the table below.	Yes		
Agency/Authority	Approval required	Application lodged Yes / No	Agency/Local Authority

			contact(s) for proposal
Department of Mines and Petroleum	Approval of TGS14 Environment Plan (EP) under PGER Act	EP has been submitted to DMP.	Joel Peters, Environmental Officer
	Approval of Works Program	Under Development.	
DMP Resources Safety Division, Petroleum Safety Branch	Safety of personnel during the TGS14 program will be managed in accordance with the Company's <i>Health and Safety Management System</i> (HSE-MS-001) and the service providers' Safety Management System. A bridging document will be prepared to bridging the two documents in accordance with the <i>PGER Act 1967</i> .	Under Development.	Peter Chessa Petroleum Safety, Resources Safety
Department of Environment Regulation	Advice on whether a works approval under Section V of the EP Act is required for the proposed HF activities.	Briefed DER on proposed activities.	Alan Sands DER
Department of Parks and Wildlife	Engagement regarding occurring of Bilbies in wider Yulleroo region	N/A	Murray Baker DPAW
Department of Water – Kimberley Region	Licences for water bore construction was previously issued under RIWI Act	Approval received prior to exploration well drilling at each of the well sites.	Chris Gunby Regional Manager, Kimberley
Department of Water – Kimberley Region	5C licence to abstract groundwater	Will be secured prior to abstraction of water from water bores.	Chris Gunby Regional Manager, Kimberley
Commonwealth Department of Environment	Ongoing engagement regarding proposed activities	N/A	Michael Ward. DoE

## PART B - ENVIRONMENTAL IMPACTS AND PROPOSED MANAGEMENT

### 2. ENVIRONMENTAL IMPACTS

Describe the impacts of the proposal on the following elements of the environment, by answering the questions contained in Sections 2.1-2.11:

- 2.1 flora and vegetation;
- 2.2 fauna;
- 2.3 rivers, creeks, wetlands and estuaries;
- 2.4 significant areas and/ or land features;
- 2.5 coastal zone areas;
- 2.6 marine areas and biota;
- 2.7 water supply and drainage catchments;
- 2.8 pollution;
- 2.9 greenhouse gas emissions;
- 2.10 contamination; and
- 2.11 social surroundings.

These features should be shown on the site plan, where appropriate.

For all information, please indicate:

- (a) the source of the information; and
- (b) the currency of the information.

#### 2.1 Flora and Vegetation

2.1.1 Do you propose to clear any native flora and vegetation as a part of this proposal?

[A proposal to clear native vegetation may require a clearing permit under Part V of the EP Act (Environmental Protection (Clearing of Native Vegetation) Regulations 2004)]. Please contact the Department of Environment and Conservation (DEC) for more information.

- (please tick)     Yes            **If yes**, complete the rest of this section.  
                          No                **If no**, go to the next section

2.1.2 How much vegetation are you proposing to clear (in hectares)?

2.1.3 Have you submitted an application to clear native vegetation to the DEC (unless you are exempt from such a requirement)?

- Yes                     No            **If yes**, on what date and to which office was the application submitted of the DEC?

2.1.4 Are you aware of any recent flora surveys carried out over the area to be disturbed by this proposal?

Yes

No

**If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

**If no**, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

2.1.5 Has a search of DEC records for known occurrences of rare or priority flora or threatened ecological communities been conducted for the site?

Yes

No

If you are proposing to clear native vegetation for any part of your proposal, a search of DEC records of known occurrences of rare or priority flora and threatened ecological communities will be required. Please contact DEC for more information.

2.1.6 Are there any known occurrences of rare or priority flora or threatened ecological communities on the site?

Yes

No

**If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

2.1.7 If located within the Perth Metropolitan Region, is the proposed development within or adjacent to a listed Bush Forever Site? (You will need to contact the Bush Forever Office, at the Department for Planning and Infrastructure)

Yes

No

**If yes**, please indicate which Bush Forever Site is affected (site number and name of site where appropriate).

2.1.8 What is the condition of the vegetation at the site?

## 2.2 Fauna

2.2.1 Do you expect that any fauna or fauna habitat will be impacted by the proposal?

(please tick)

Yes

**If yes**, complete the rest of this section.

No

**If no**, go to the next section.

2.2.2 Describe the nature and extent of the expected impact.



2.2.3 Are you aware of any recent fauna surveys carried out over the area to be disturbed by this proposal?

Yes

No

**If yes**, please attach a copy of any related survey reports and provide the date and name of persons / companies involved in the survey(s).

**If no**, please do not arrange to have any biological surveys conducted prior to consulting with the DEC.

2.2.4 Has a search of DEC records for known occurrences of Specially Protected (threatened) fauna been conducted for the site?

Yes

No

(please tick)

2.2.5 Are there any known occurrences of Specially Protected (threatened) fauna on the site?

Yes

No

**If yes**, please indicate which species or communities are involved and provide copies of any correspondence with DEC regarding these matters.

### 2.3 Rivers, Creeks, Wetlands and Estuaries

2.3.1 Will the development occur within 200 metres of a river, creek, wetland or estuary?

(please tick)

Yes

**If yes**, complete the rest of this section.

No

**If no**, go to the next section.

2.3.2 Will the development result in the clearing of vegetation within the 200 metre zone?

Yes

No

**If yes**, please describe the extent of the expected impact.

2.3.3 Will the development result in the filling or excavation of a river, creek, wetland or estuary?

Yes

No

**If yes**, please describe the extent of the expected impact.

2.3.4 Will the development result in the impoundment of a river, creek, wetland or estuary?

Yes

No

**If yes**, please describe the extent of the expected impact.

2.3.5 Will the development result in draining to a river, creek, wetland or estuary?

Yes

No

**If yes**, please describe the extent of the expected impact.

2.3.6 Are you aware if the proposal will impact on a river, creek, wetland or estuary (or its buffer) within one of the following categories? (please tick)

Conservation Category Wetland	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Perth's Bush Forever site	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Environmental Protection (Swan & Canning Rivers) Policy 1998	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
The management area as defined in s4(1) of the <i>Swan River Trust Act 1988</i>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure
Which is subject to an international agreement, because of the importance of the wetland for waterbirds and waterbird habitats (e.g. Ramsar, JAMBA, CAMBA)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Unsure

## 2.4 Significant Areas and/ or Land Features

2.4.1 Is the proposed development located within or adjacent to an existing or proposed National Park or Nature Reserve?

Yes

No

**If yes**, please provide details.

2.4.2 Are you aware of any Environmentally Sensitive Areas (as declared by the Minister under section 51B of the EP Act) that will be impacted by the proposed development?

Yes

No

**If yes**, please provide details.

2.4.3 Are you aware of any significant natural land features (e.g. caves, ranges etc) that will be impacted by the proposed development?

Yes

No

**If yes**, please provide details.

## 2.5 Coastal Zone Areas (Coastal Dunes and Beaches)

2.5.1 Will the development occur within 300metres of a coastal area?

- (please tick)     Yes    **If yes**, complete the rest of this section.  
                          No    **If no**, go to the next section.

2.5.2 What is the expected setback of the development from the high tide level and from the primary dune?

2.5.3 Will the development impact on coastal areas with significant landforms including beach ridge plain, cusped headland, coastal dunes or karst?

- Yes     No    **If yes**, please describe the extent of the expected impact.

2.5.4 Is the development likely to impact on mangroves?

- Yes     No    **If yes**, please describe the extent of the expected impact.

## 2.6 Marine Areas and Biota

2.6.1 Is the development likely to impact on an area of sensitive benthic communities, such as seagrasses, coral reefs or mangroves?

- Yes     No    **If yes**, please describe the extent of the expected impact.

2.6.2 Is the development likely to impact on marine conservation reserves or areas recommended for reservation (as described in *A Representative Marine Reserve System for Western Australia*, CALM, 1994)?

- Yes     No    **If yes**, please describe the extent of the expected impact.

2.6.3 Is the development likely to impact on marine areas used extensively for recreation or for commercial fishing activities?

- Yes     No    **If yes**, please describe the extent of the expected impact, and provide any written advice from relevant agencies (e.g. Fisheries WA).

## 2.7 Water Supply and Drainage Catchments

2.7.1 Are you in a proclaimed or proposed groundwater or surface water protection area?

(You may need to contact the Department of Water (DoW) for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

Yes       No      **If yes**, please describe what category of area.

2.7.2 Are you in an existing or proposed Underground Water Supply and Pollution Control area?

(You may need to contact the DoW for more information on the requirements for your location, including the requirement for licences for water abstraction. Also, refer to the DoW website)

Yes       No      **If yes**, please describe what category of area.

2.7.3 Are you in a Public Drinking Water Supply Area (PDWSA)?

(You may need to contact the DoW for more information or refer to the DoW website. A proposal to clear vegetation within a PDWSA requires approval from DoW.)

Yes       No      **If yes**, please describe what category of area.

2.7.4 Is there sufficient water available for the proposal?

(Please consult with the DoW as to whether approvals are required to source water as you propose. Where necessary, please provide a letter of intent from the DoW)

Yes       No      (please tick)

2.7.5 Will the proposal require drainage of the land?

Yes       No      **If yes**, how is the site to be drained and will the drainage be connected to an existing Local Authority or Water Corporation drainage system? Please provide details.

2.7.6 Is there a water requirement for the construction and/ or operation of this proposal?

(please tick)       Yes      **If yes**, complete the rest of this section.  
 No      **If no**, go to the next section.

2.7.7 What is the water requirement for the construction and operation of this proposal, in kilolitres per year?

31,000 kilolitres

2.7.8 What is the proposed source of water for the proposal? (e.g. dam, bore, surface water etc.)

Water will be sourced from bores on site. The taking of water will be licenced in accordance with the *Rights in Water and Irrigation Act 1914* (WA) as administered by the Department of Water.

## 2.8 Pollution

2.8.1 Is there likely to be any discharge of pollutants from this development, such as noise, vibration, gaseous emissions, dust, liquid effluent, solid waste or other pollutants?

(please tick)

Yes

**If yes**, complete the rest of this section.

No

**If no**, go to the next section.

2.8.2 Is the proposal a prescribed premise, under the Environmental Protection Regulations 1987?

(Refer to the EPA's *General Guide for Referral of Proposals to the EPA under section 38(1) of the EP Act 1986* for more information)

Yes

No

**If yes**, please describe what category of prescribed premise.

Based on the duration and design of the TGS14 program, the Company will not exceed the 5,000 tonnes of oil or gas production from wells specified under Section 38(1) of the EP Act.

2.8.3 Will the proposal result in gaseous emissions to air?

Yes

No

**If yes**, please briefly describe.

Proposal will involve the use of diesel fuel for power generation and associated with trucking and the flaring of gases during well flowback.

2.8.4 Have you done any modelling or analysis to demonstrate that air quality standards will be met, including consideration of cumulative impacts from other emission sources?

Yes

No

**If yes**, please briefly describe.

Due to the small scale and short duration of the proposed activities and the distance from nearest receptor, the proposed activities are not expected to have a significant impact on air quality. Further, recent international reviews of fugitive emissions from shale gas wells have shown emissions and human health risks from shale gas wells are low provided operations are properly run and regulated.

However, monitoring will be undertaken at one of the well sites using spectral based monitoring approaches to characterise emissions associated with the activities and confirm this low risk.

Please refer to Section 3.8 of Attachment 2 for further information.

2.8.5 Will the proposal result in liquid effluent discharge?

Yes

No

**If yes**, please briefly describe the nature, concentrations and receiving environment.

Liquid will be produced during well flowback. It is expected that at least 80% (and up to 99%) of liquid injected into the well during HF Treatment may be returned during flowback. Upon flowback, all liquid will be contained in triple-lined water retention reservoirs. Liners consist of 2 layers of 400 micron HDPE liners interleaved with Geotextile fabric (A34). Upon flowback, water will be characterised to understand reservoir properties and further inform treatment options in any future programs. Based on previous flowback results in Company HF operations conducted in 2010, the quality of the flowback is expected to be hypersaline but will not present a significant risk to the environment or human health.

At the completion of flowback, at least 80% (and up to 99%) of flowback will be reinjected to the formation from where it originated. The wells will then be suspended. Residual flowback (liquid slurry) remaining after re-injection will be trucked offsite to an approved facility for disposal.

Please refer to Sections 4.3 and 4.4 of Attachment 2 for further information regarding flowback management.

2.8.6 If there is likely to be discharges to a watercourse or marine environment, has any analysis been done to demonstrate that the State Water Quality Management Strategy or other appropriate standards will be able to be met?

Yes       No      **If yes, please describe.**

There will be no discharges to water as a result of the Activities. All water will be contained in triple lined water reservoirs upon flowback.

2.8.7 Will the proposal produce or result in solid wastes?

Yes       No      **If yes, please briefly describe the nature, concentrations and disposal location/ method.**

Following re-injection to formation, there may be residual solid wastes present in the water retention reservoir. Residual solid waste remaining after reinjection will be trucked offsite to an approved facility for disposal.

All putrescible, general and industrial wastes generated on site will be managed according to the Company *Waste Management and Monitoring Procedure* (HSE-PR-005). Putrescible waste will be stored at the camp site and well site in securely covered skips/bins to prevent fauna access, including feral fauna, and litter generation. All putrescible waste will be regularly removed from the Activity area for disposal at a licensed waste disposal facility.

General and industrial wastes will be stored on site in segregated areas. Where possible, industrial waste will be reused or recycled. If the waste cannot be reused or recycled, it will be removed from the Activity area for disposal at a licensed waste disposal facility in accordance with landfill operator requirements and the *Environmental Protection (Controlled Waste) Regulations 2004*, where applicable.

Please refer to Section 4.4.7 of Attachment 2 for further information regarding solid waste management.

2.8.8 Will the proposal result in significant off-site noise emissions?

Yes

No

**If yes**, please briefly describe.

2.8.9 Will the development be subject to the Environmental Protection (Noise) Regulations 1997?

Yes

No

**If yes**, has any analysis been carried out to demonstrate that the proposal will comply with the Regulations?

Please attach the analysis.

2.8.10 Does the proposal have the potential to generate off-site, air quality impacts, dust, odour or another pollutant that may affect the amenity of residents and other “sensitive premises” such as schools and hospitals (proposals in this category may include intensive agriculture, aquaculture, marinas, mines and quarries etc.)?

Yes

No

**If yes**, please describe and provide the distance to residences and other “sensitive premises”.

2.8.11 If the proposal has a residential component or involves “sensitive premises”, is it located near a land use that may discharge a pollutant?

Yes

No

Not Applicable

**If yes**, please describe and provide the distance to the potential pollution source

## 2.9 Greenhouse Gas Emissions

2.9.1 Is this proposal likely to result in substantial greenhouse gas emissions (greater than 100 000 tonnes per annum of carbon dioxide equivalent emissions)?

Yes

No

**If yes**, please provide an estimate of the annual gross emissions in absolute and in carbon dioxide equivalent figures.

As stated in Section 4.4 of Attachment 2, emission of CH<sub>4</sub> are not expected to exceed 5,000 m<sup>3</sup> per day from each well. All wells will be “green completed” to mitigate emission of CH<sub>4</sub> to the atmosphere during flowback. Therefore greenhouse gas emissions from all wells are approximately 130 tonnes of CO<sub>2</sub> equivalent based on a 90 day well flowback.

2.9.2 Further, if yes, please describe proposed measures to minimise emissions, and any sink enhancement actions proposed to offset emissions.

All wells will be “green completed” to mitigate emission of CH<sub>4</sub> to the atmosphere during flowback. Please refer to Section 4.4.4 of Attachment 2 for further information regarding “green completion”.

## 2.10 Contamination

2.10.1 Has the property on which the proposal is to be located been used in the past for activities which may have caused soil or groundwater contamination?

Yes       No       Unsure      **If yes, please describe.**

2.10.2 Has any assessment been done for soil or groundwater contamination on the site?

Yes       No      **If yes, please describe.**

All four well sites have previously been used for exploration drilling by the Company. As part of the Company's exploration drilling Activities, soil samples were collected and analysed from all well sites before and after drilling. No evidence of soil contamination has been detected.

As described in Section 7 of Attachment 2, a baseline monitoring program for groundwater in the vicinity of the four sites has been implemented since August 2012. No instances of groundwater contamination have been detected.

2.10.3 Has the site been registered as a contaminated site under the *Contaminated Sites Act 2003*? (on finalisation of the CS Regulations and proclamation of the CS Act)

Yes       No      **If yes, please describe.**

## 2.11 Social Surroundings

2.11.1 Is the proposal on a property which contains or is near a site of Aboriginal ethnographic or archaeological significance that may be disturbed?

Yes       No       Unsure      **If yes, please describe.**

Please refer to Section 3.12 of Attachment 2 for further information.

2.11.2 Is the proposal on a property which contains or is near a site of high public interest (e.g. a major recreation area or natural scenic feature)?

Yes       No      **If yes, please describe.**

2.11.3 Will the proposal result in or require substantial transport of goods, which may affect the amenity of the local area?

Yes       No      **If yes, please describe.**



### 3. PROPOSED MANAGEMENT

#### 3.1 Principles of Environmental Protection

3.1.1 Have you considered how your project gives attention to the following Principles, as set out in section 4A of the EP Act? (For information on the Principles of Environmental Protection, please see EPA Position Statement No. 7, available on the EPA website)

- |  |   |                             |
|--|---|-----------------------------|
| 1. The precautionary principle.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. The principle of intergenerational equity.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. The principle of the conservation of biological diversity and ecological integrity. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Principles relating to improved valuation, pricing and incentive mechanisms.        | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. The principle of waste minimisation.  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |

3.1.2 Is the proposal consistent with the EPA's Environmental Protection Bulletins/Position Statements and Environmental Assessment Guidelines/Guidance Statements (available on the EPA website)?

Yes       No

Please refer to Section 8 (Principles of Environmental Protection) of Attachment 2.

#### 3.2 Consultation

3.2.1 Has public consultation taken place (such as with other government agencies, community groups or neighbours), or is it intended that consultation shall take place?

Yes       No      **If yes**, please list those consulted and attach comments or summarise response on a separate sheet.

Please refer to Section 5 (Community Engagement) of Attachment 2.